EMISSIONS DATA FROM TWO SOW GESTATION BARNS AND ONE FARROWING ROOM IN NORTH CAROLINA

Final Report for Site NC4B

of the

National Air Emissions Monitoring Study

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Table of Contents

1. INTRODUCTION AND OBJECTIVES

1.1. Overview of NAEMS

The primary goals of the National Air Emissions Monitoring Study (NAEMS) were to: 1) quantify aerial pollutant emissions from dairy, pork, egg, and broiler production facilities, 2) provide reliable data for developing and validating emissions models for livestock and poultry production and for comparison with government regulatory thresholds, and 3) promote a national consensus on methods and procedures for measuring emissions from livestock operations. Emissions measurements were conducted at a total of 15 different barn monitoring sites and ten open source sites in the continental US.

The NAEMS was managed by Purdue University, in its role as Independent Research Contractor (IRC) to the Agricultural Air Research Council (AARC). Purdue selected equipment and methods in consultation with the U.S. EPA, and subcontracted with other universities to operate the monitoring sites. North Carolina State University (NCSU) installed maintained and calibrated equipment, collected samples, and conducted all other on-site activities. Purdue provided rapid feedback (generally within 2-4 business days) to catch aberrations in the data, and later conducted final processing of the data. Both NCSU and Purdue participated in review of the analyzed data.

The overall objective of this report is to present the quality-assured measurements of ammonia (NH_3), hydrogen sulfide (H_2S), particulate matter (PM) and volatile organic compounds (VOCs) from a sow operation in North Carolina. The specific objectives of the report are to:

1. Describe the farm, and the monitored buildings,
2. Describe the monitoring methods and quality assurance, and
3. Present tabulated daily averages of emissions.

2. CONFINED ANIMAL FEEDING OPERATION

2.1. Farm

The 2,000-hd gestation and farrowing farm (NC4B) was located in North Carolina and consisted of three barns and a lagoon built in 1995 (Figure 1). The farm was located in flat, mostly agricultural terrain, with occasional patches of wooded area. The only identifiable livestock or poultry facility near the farm was a six-house poultry operation approximately 1.6 km to the northeast.

The lagoon was located north of the buildings with a drainage swale separating it from the buildings. The north building was a 735-crate breeding/gestation building (barn 1) which will be referred to as a gestation barn in this report. The middle building was a 900-crate gestation barn (barn 2). The southernmost building was a 320-sow farrowing barn (barn 3) with 16 rooms (20 sow capacity per room). The distance between the barns was 12 m.

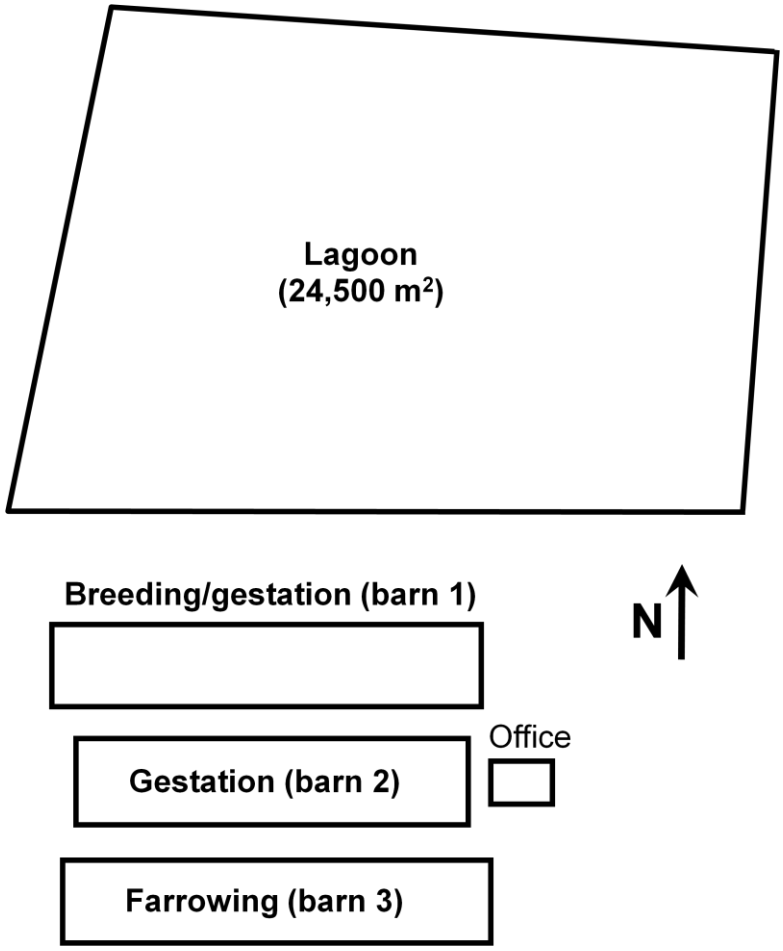

Figure 1. Farm layout showing the barns and lagoon.

2.2. Monitored Buildings

Emission monitoring was conducted at barns 1 and 2 and in room 15 of barn 3. Barn 1 was 153 m long and 17 m wide. Barn 2 was 138 m long and 18 m wide. Barn 3 was 152 m long and 17 m wide. Room 15 was 9 m wide and 16 m long. All buildings had sidewall heights of 2.4 m. The

Sows were kept in gestation crates, except when farrowing when they occupied one of 20 stalls in a farrowing room. Barn 2 had six rows of gestation crates whereas barn 1 had both crates and pens. Barn 1 had five rows of crates, three full rows and two partial rows, approximately 2/3 of the barn length. One of the original six rows of crates in barn 1 had been converted to pens. The balance of space not occupied by the partial rows of crates was occupied by pens.

Only two feed rations were fed at the site; a lactating sow ration in farrowing, and a gestating sow ration in the gestation barns. Genetics were SPG F1.

There was a half-day turnaround between sow batches in the farrowing rooms. Sows had litters within 24 to 72 h after arriving in the farrowing room. At weaning, the piglets were removed

from the barns and the sows returned to either barn 1 or barn 2. The farrowing rooms were power-washed between sow groups.

Barns 1 and 2 were tunnel-ventilated in warm and hot weather, and crossflow-ventilated in winter by slightly opening the sidewall curtains. Fans in both barns were single-speed, 122-cm diameter wall fans (Model AT481Z1CP, Aerotech, Lansing, MI).

Barn 1 had six fans in each endwall and barn 2 had eight fans in the west endwall (Figure 2). Ventilation air entered barn 1 through a 9 m by 2 m cooling pad (9 m x 2 m) on each sidewall in the center of the barns. Ventilation air entered barn 2 through an adjustable curtain on the east endwall. Barns 1 and 2 had seven and nine ventilation stages to control airflow and temperature (Tables 1 and 2).

Table 1. Fan numbers and ventilation stages for barn 1.

Stage	Quantity	ID of fans
1	2	4,10
2	4	3,4,9,10
3	6	3,4,5,9,10,11
4	8	2,3,4,5,8,9,10,11
5	10	1,2,3,4,5,7,8,9,10,11
6	12	1,2,3,4,5,6,7,8,9,10,11,12
7	12 + ECP	1,2,3,4,5,6,7,8,9,10,11,12+ EP

Table 2. Fan numbers and ventilation stages for barn 2.

Stage	Quantity	ID of fans
1	2	4,5 on timer 4.5/10 min
2	2	4,5 continuous
3	2+1=3	1,4,5
4	3+1=4	1,2,4,5
5	4+1=5	1,2,3,4,5
6	5+1=6	1,2,3,4,5,8
7	6+1=7	1,2,3,4,5,7,8
8	7+1=8	1,2,3,4,5,6,7,8
9	8+fogger	1,2,3,4,5,6,7,8 + foggers

Barn 3 was cross-ventilated by a total of three fans in the south wall (Figure 2). Air was cooled in hot weather by ten 1.8 m x 3 m evaporative pads in the outer wall, which admitted air into the common hallway (Figure 2). Each room had two 46-cm variable-speed wall fans (Aerotech Model AT18Z) (fans 1 and 3) and one single-speed 61-cm fan (Aerotech Model AT24Z) (fan 2) on its south sidewall. All fans had 0.25-kW single-phase motors. The farrowing room had five ventilation stages (Table 3).

The gestation barns had concrete slatted floors, and the farrowing barn had solid concrete in the walkways and wire mesh floors under the sows in the pens. Manure on the barn floors was cleaned as needed. Manure was transferred weekly from barns 1 and 2 and biweekly from barn 3 to the lagoon by pull-plug and lagoon water recharge. One barn was pulled at a time.

Wastewater from the barns combined into one outlet and entered into the lagoon through a single inlet at the lagoon's southwest corner.

Table 3. Fan numbers and ventilation stages for the farrowing room.

Stage	Quantity	ID of fans
1	1	3
2	1	3
3	2	1,3
4	2	1,3
5	3	1,2,3

2.3. Significant Events and Modifications

Several storms passed over the site during the monitoring period. In general, in the event of a power failure, a back-up generator at the site responded immediately. The back-up generator was tested weekly.

The farrowing barn ventilation control system failed on 3/1/09, and full ventilation control was restored on 3/2/09.

The pits in Barns 1 and 2 were treated for sludge buildup (with the commercial product "Pit Remedy") in May, 2008. This involved not pulling the plug to drain the barns' pits for approximately one month. A water line break occurred in June, 2008.

Between May 2008 and December 2008, the farm used a meshed feed that was not a conventional "pellet" type feed. Due to clogging problem in the feed bins, and increased mortality rates with the meshed feed, the farm then switched back to pelleted feed.

Otherwise, the animal genetics, manure management practices and general farm procedures were consistent throughout the two-year study period.

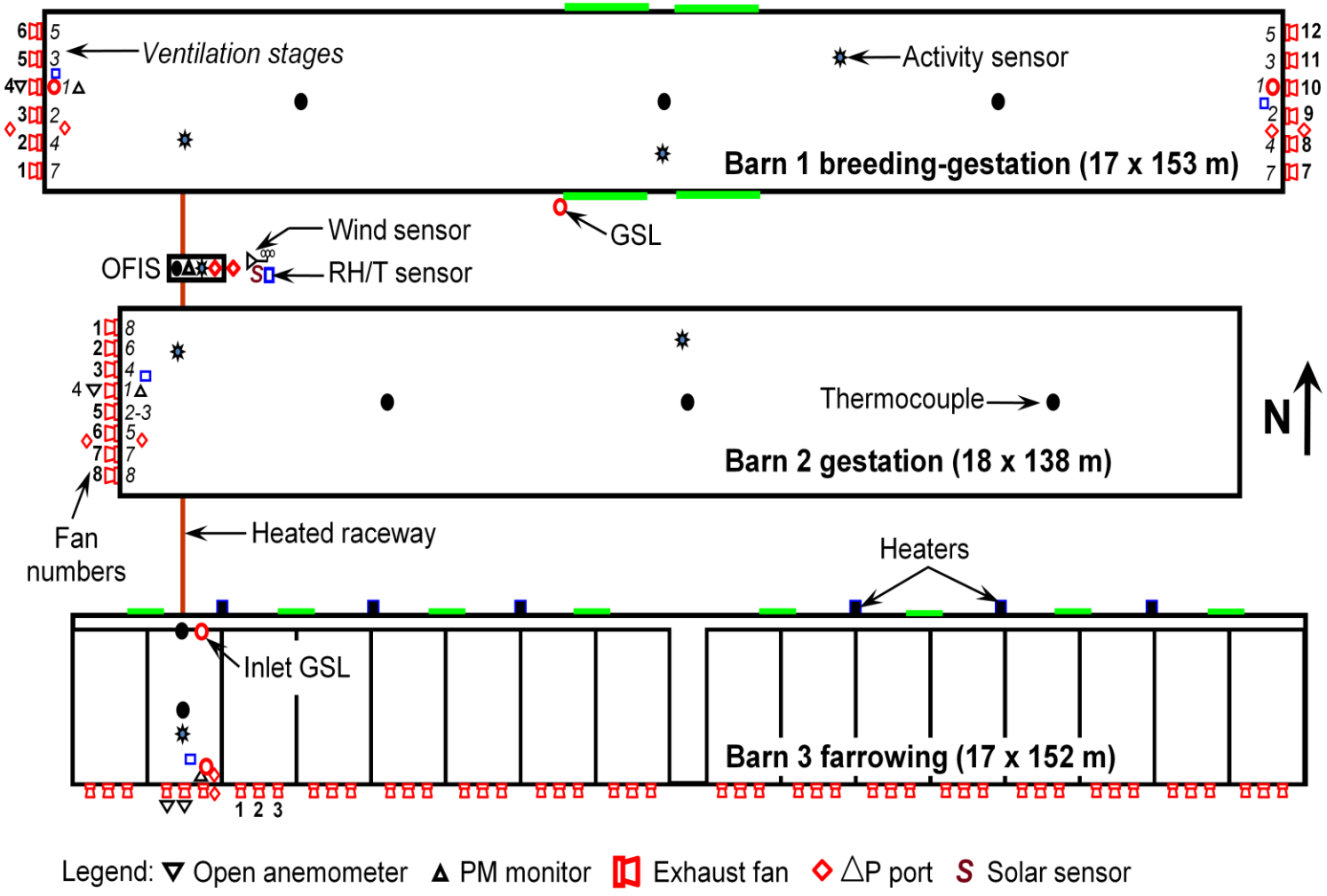

Figure 2. Floor plan of the barns, showing the sampling and measurement locations.

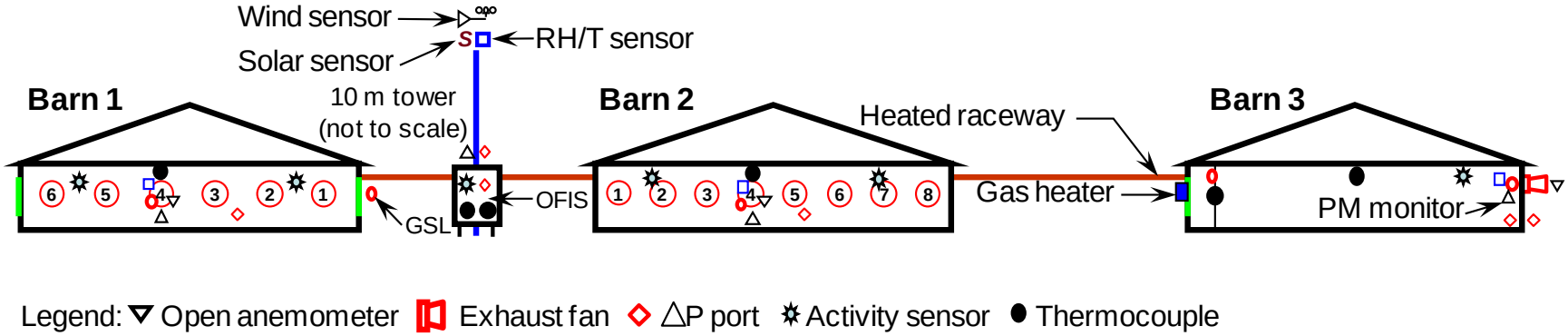

Figure 3. End view of the barns (from the west), showing part of the measurement locations.

3. MONITORING AND SAMPLING METHODS

3.1. General Approach

Aerial emission monitoring was conducted at all three barns. Equipment installation and preliminary testing began on 7/18/07, and took place through the fall of 2007. The site setup and equipment installation followed an approved site monitoring plan, a quality assurance project plan, and instrument or method-specific standard operating procedures.

The monitoring period began on 12/15/07 and concluded on 12/15/09. Target pollutants were NH_3, H_2S, PM (PM_{10}, TSP, and $PM_{2.5}$) and VOC. Appendix A lists the target pollutants, and all measured supporting variables and metadata. The monitoring scheme for the three buildings is shown in Figures 2 and 3, and the list of major instrumentation is included in Table 4.

Table 4. Major instrumentation.

Analyzer/Instrument	Serial number
INNOVA 1412 Multi-gas analyzer	710-204
TEI 450i H_2S analyzer	709220673
Environics 4040 dilutor	3916
TEOM 1	263770609
TEOM 2	265180702
TEI FH 62C14 (Beta Gauge)	E-1286

3.2. Instrument Shelter

The on-farm instrument shelter (OFIS) was located between the west ends of barns 1 and 2, slightly off-center towards barn 2 (Figure 2). The off-center positioning was necessary to avoid a drainage depression in this area, and to allow workers full access for mowing. Two heated raceways, approximately 3 and 8 m long, were set up to connect barns 2 and 1 to the OFIS. Another heated raceway, 12 m long, was set up between barns 2 and the farrowing barn. The raceways protected the sample lines and electrical cables, and prevented condensation inside the sampling tubing during cold weather. Additionally, all sampling lines within the three barns were insulated and heated along their full lengths to prevent condensation.

The OFIS was supplied with 240/120 VAC (50 A) + 120 VAC (50A) electric power by the farm. A copper ground rod was installed at the location of the OFIS, and connected to the OFIS ground.

The HVAC system of the OFIS maintained inside temperatures within the operating range for the analyzers, and created a positive pressure with a filtered outside air intake to minimize entry of unfiltered outside air. The temperature and differential static pressure in the OFIS were monitored with a thermocouple near the HVAC system and a pressure sensor. One set of gas analyzers in the OFIS measured gas concentrations as the gas sampling system (GSS) sequenced through all the gas sampling locations (GSLs). Vacuum pumps and controllers for the PM monitors were located in the OFIS. A personal computer collected all site monitoring data using a data acquisition and control program AirDAC.

3.3. Data Acquisition and Control System

The data acquisition and control system consisted of a personal computer, custom software (AirDAC) written in a commercial programming language (LabVIEW, National Instruments, Austin, TX), distributed I/O hardware (National Instruments FieldPoint modules), and Universal Serial Bus (USB) devices by National Instrument (NI) and Measurement Computing (MC, Norton, MA). The NI FieldPoint (FP) modules and MC USB) were selected and configured to acquire data for all the on-line measurement variables.

The 16-channel NI FP-DO-401 digital output module was used to control: 1) sequential switching of multiple gas sampling lines, 2) the raceway heating system, and 3) gas sampling system cooling fan. Serial communication (RS232) was used to acquire data from the multi-gas monitor and calibration variables (calibration time, gas concentration, etc.) from the gas dilutor. Voltage or current analog signals from various analyzers and sensors were connected to FP-AI-112 modules. Type T thermocouples were connected to FP-TC-120 modules. Digital signals from relays were connected to the MC USB DIO96H device. Voltage pulses from proximity sensors used to measure fan rotational speed were detected by the MC USB 4303 Counter.

AirDAC averaged the signals (after conversion to engineering units) over 15-s and 60-s intervals and recorded the means into two separate computer files. All real-time data were displayed in tabular and graphic forms for on-site or remote (pcAnywhere, Symantec, Mountain View, CA) viewing (Ni et al., 2009; Ni and Heber, 2010). Measurement alarms, data collection notifications, data files, graphs and statistics of the daily data sets, and modified configuration and fieldnote files were automatically emailed to several recipients after midnight.

Table 5. Data acquisition hardware configuration

Manufacturer and model	I/O type	# units	# channels/unit	Notes
NI FP-AI-112	Analog input	3	16	Single-ended, 16-bit
NI FP-TC-120	Thermocouple	2	8	
NI FP-DO-401	Digital output	1	16	2 A at 10-30 VDC
MC USB 4303 counter	Count input	3	10	
MC USB DIO 96H	Digital input	1	96	

3.4. Monitoring and Recording Farm and Building Operations

3.4.1. Animal Husbandry and Building Systems

Infrared motion sensors (activity sensors) were situated to monitor movement of animals and workers in the barns, and researcher presence in the OFIS. In the breeding/gestation barn (barn 1), one sensor monitored gilts, one sensor monitored the stalls, and another sensor measured worker entry/exit. In the gestation barn (barn 2), one sensor was at the west end of the barn to monitor animal activity, and one was centrally located to monitor animal and worker entry/exit. One sensor in the farrowing room monitored both animal and workers. Finally, one activity sensor monitored researchers in the OFIS.

The producer provided farm records of the number of piglets born and weaned, culled sows and sow mortalities, and total water consumption.

3.4.2. Environmental

Weather data was collected using a solar radiation shielded capacitance-type relative humidity and temperature probe (RH/T) (Model RHT-WM, Novus Automation, Porto Alegre, Brazil), a pyranometer (Model LI-200SL, LI-COR, Lincoln, NE) and a cup anemometer (Wind Sentry, RM Young, Traverse City, MI), which were mounted on a 10-m weather tower located just east of the OFIS between barns 1 and 2.

For the building environment conditions, RH/T probes were located at the inlets to fan 4 in barn 1, fan 4 in barn 2, and fan 3 in the farrowing room, the primary representative exhaust fans (PREFs) for the respective barns. Three Type T thermocouples (TCs) measured temperatures along the length of each of the two gestation barns, and at the inlet to the farrowing room. Thermocouples were also placed inside each heated raceway, and in the PM pump enclosure.

3.4.3. Building Airflow

Fan rotational speed was monitored using a magnetic Hall-effect sensors (speed sensor) installed on each fan. The speed sensors were mounted to detect the rotational speed in revolutions per minute (rpm) of either the fan shaft or the fan pulley. The digital signal from the speed sensor was converted into a frequency measurement with a counter module in the data acquisition system. Fan operation in all three barns was also monitored using auxiliary contacts of fan stage relays in 5-VDC circuits, in conjunction with digital inputs to the data acquisition system.

Static pressure was measured across all fan-containing walls of each barn with differential static pressure sensors (Model 260, Setra Systems, Boxborough, MA). Static pressure in the OFIS was measured with the same type of sensor, to ensure that positive pressure was maintained.

Impeller anemometers were placed downstream of fan 4 in both B1 and B2, and downstream of fans 2 and 3 (one 0.6-m and one 0.45-m) in the farrowing room. The impeller anemometers provided a back-up indication of fan operation, and at least one of each fan model-type was monitored and considered representative for other operating fans of the same type.

In-situ airflow measurements were conducted at the inlet side of each fan with 122-cm and 76-cm field-portable fan testers (Fan Assessment Numeration System or FANS, University of Kentucky, Lexington, KY) (Gates et al., 2004). The static pressure sensors were calibrated prior to the tests. In-field airflow measurements were collected during May (5/22-23), June (6/2 and 6/16-17) and December (12/21-22) of 2009. Summer tests generally covered two differential pressures; those in winter were conducted at four different pressures.

Each of the wall fans was tested multiple times. A total of 351 individual FANS runs were conducted. Most of these tests (330) were conducted on the 122-cm fans in the gestation barns, while the remainder was split evenly between the three fans in the farrowing room. All *in-situ* fan test data points for a single fan which were within ±5 rpm and ±3 Pa were averaged together, and used as single data points. This was done to avoid biasing the airflow curves with multiple, essentially identical, data points from the same fan. Data points which differed by more than 5 rpm and/or 3 Pa were retained as distinct points. The averaged field data was used to develop

equations that would calculate airflow as a function of differential pressure and fan rotational speed, and to assess the uncertainty in airflow predictions.

The airflow curves of the large (AT481Z1CP), medium (AT24ZCP) and small (AT18Z) Aerotech fans were obtained from the Bioenvironmental and Structural Systems (BESS) Lab at the University of Illinois at Urbana-Champaign (BESS tests 06260, 03032 and 98297, respectively). Each performance record consisted of airflow (Q1) measured at several static pressures (P1), and at a relatively constant speed (N1 = 1725, 1075 and 1625 rpm for large, medium and small fans, respectively).

For each fan type, the BESS fan curve was adjusted to the mean speed (N2) of the fan tests. The mean speeds were 552, 1069 and 1577 rpm for large, medium and small fan types, respectively. The new, speed-indexed baseline curves were derived using the first ($Q_2 = Q_1(N_2/N_1)$) and second ($\Delta P_2 = \Delta P_1(N_2/N_1)^{0.5}$) fan laws, where Q_2 is the speed-adjusted BESS fan curve at speed N_2. The speed-corrected airflow prediction model is $Q_4 = (a\Delta P_4 + b)\cdot(N_4/N_2)\cdot Q_2$, where ΔP_4 and N_4 are measured fan static pressure and speed. For a given test using the portable tester, the model is $Q_4 = (a\cdot\Delta P_3 + b)\cdot(N_3/N_2)\cdot Q_2$, where ΔP_3 and N_3 are the measured fan static pressure and speed during the fan test, and the fan degradation factor $k = a\cdot\Delta P_3 + b$. The values for the coefficients a and b were those which minimized the sum of square differences between Q_4 and Q_3 for all the valid fan tests within a speed regime or for a fan type. The resulting fan models are shown in Table .

Table 6. Fan airflow models.

Fan type	Reference speed (N_2)	Polynomial coef. of $Q_2=f(\Delta P_2)$ at speed N_2				Coefficients of k	
		a3	a2	a1	a0	a	b
Large	552	1.63E-05	5.53E-04	6.11E-02	1.12E+01	0.001	0.876
Medium	1069	4.88E-06	2.15E-04	1.53E-02	2.92E+00	0	0.8163
Small	1577	3.93E-07	6.93E-06	6.05E-03	1.99E+00	0	0.7984

Fans in barns 1 (two streams) and 2 (one stream) were assigned to a sampling stream based on their wall. The single stream in the farrowing room included all three of its fans. The airflow for each stream was calculated by summing the individual airflows for all fans in the stream.

3.4.4. Biomaterials Sampling Methods and Schedule

All analyses of biomaterials were conducted by an independent laboratory (Midwest Laboratories, Omaha, NE).

Water characteristics were evaluated based on analyses of two samples of the water provided to the animals.

For six consecutive weeks, feed samples were collected from feed bins in the farrowing room (1 sample/wk) and one of the gestation barns (1 sample/wk). The feed samples were analyzed for total nitrogen and dry matter content by Midwest Labs.

Full-depth manure profiles (loadout sampling) were collected six times in the gestation barns, five times in the farrowing room. Surface manure samples were collected once from each building. The full-depth profile samples were analyzed for total nitrogen and total solids, and the surface layer samples were analyzed for total solids, ammonia and pH by Midwest Labs.

3.5. Particulate Matter Monitoring

Real-time PM monitors (TEOM Model 1400a, Thermo Fisher Scientific, Waltham, MA) continuously sampled exhaust PM. TEOMs were located upstream of fan #4 in the west endwall of barn 1, fan #4 in the west endwall of barn 2, and fan #1 of the monitored room in the farrowing barn (Figure 2) for continuous monitoring of PM emitted from the barns. These three fans were designated as the primary representative exhaust fans (PREFs) for their respective barns. In each of the gestation barns, one pen in the second row from the north sidewall was emptied of gilts and used to protect the TEOM, which was located at the east end of that pen.

A beta attenuation PM monitor (Beta Gauge Model FH62C-14, Thermo Fisher Scientific, Franklin, MA) continuously measured inlet PM concentration. The Beta Gauge was located in the OFIS, with the inlet extending 1.8 m through and above the roof of the OFIS. The sampling location of this inlet PM monitor was very close to the ventilation inlet air that flowed through side baffles, and the possible contaminant sources (the closest exhaust fan and the lagoon), were more than 23 and 70 m away, respectively.

At any one time, the sampled PM size class was either PM_{10}, $PM_{2.5}$ or TSP at all three TEOMs and the Beta Gauge (Table 7). PM_{10} inlet heads on all PM monitors were replaced with $PM_{2.5}$ heads for three 13-19 d periods. The TSP inlet heads were placed on the TEOMs for six, 4-19 d periods. The PM_{10} concentration was measured at all other times.

3.6. Continuous Gas Sampling and Monitoring

Air samples for continuous gas measurements were collected from multiple gas sampling probes with a custom-designed gas sampling system (GSS). Each probe was connected to the GSS with Teflon tubing. The sampling lines were heated and wrapped with insulation at locations vulnerable to cold air to prevent condensation inside the tubes.

Exhaust gas concentrations were sampled at the inlet of the two stage-1 fans of barn 1 (fan #4 in the west endwall, and fan #10 in the east endwall), at the inlet of the single stage-1 fan of barn 2 (fan #4 in the west endwall), and at the inlet of the single stage-1 fan of the farrowing barn room #2 (fan #2 in the south wall) (Figures 2 and 3). Thus, all of the first-stage fans in all of the monitored rooms were sampled. Sampling probes were located about 0.5 m directly in front of the fan, at the same height as the fan hub. One inlet gas sample was collected, approximately 2 m from the south sidewall of barn 1, at the center of the SW cooling cell. A second inlet gas concentration was sampled at the air inlet inside the north sidewall of the farrowing room in the common hallway. Thus, there were a total of six gas-sampling locations at the site. Table 8 summarizes the sampling locations for the various analytes.

Table 7. Sampling schedule for PM_{10}, TSP and $PM_{2.5}$.

Time and day, m/d/y		Test duration, d		
Start	Stop	PM_{10}	TSP	$PM_{2.5}$
12/15/07	1/16/08	32.6		
1/16/08	1/31/08		14.9	
1/31/08	9/29/08	242.1		
9/29/08	10/5/08	5.9**		
9/29/08	10/5/08			5.9*
10/5/08	10/23/08			19.1
10/23/08	1/15/09	97.1		
1/15/09	1/19/09	4.2**		
1/15/09	1/19/09		4.2*	
1/19/09	1/23/09		3.8	
1/23/09	1/27/09		4.0**	
1/23/09	1/27/09	4.0*		
1/27/09	4/7/09	69.8		
4/7/09	4/21/09			14.0
4/21/09	4/28/09		7.0	
4/30/09	6/29/09	61.9		
6/29/09	7/11/09		11.8	
7/11/09	8/5/09	24.9		
8/5/09	8/6/09	1.1*		
8/5/09	8/6/09		1.1**	
8/6/09	8/25/09		19.0	
8/25/09	10/14/09	49.8		
10/14/09	10/27/09		13.0	
10/27/09	12/2/09	36.2		
12/2/09	12/15/09			13.0
	Total	614	70	46

*All except inlet
**Only inlet

One set of gas analyzers in the OFIS (Table 4) was sequenced through all six sampling locations (Table 8). The two inlet locations were monitored at least twice daily, originally with a 20-min sampling period. The inlet sampling period was increased to 30 min on 1/31/08. Statistical analysis demonstrated that these sampling times were sufficient for all gases to reach equilibrium at each location. Hydrogen sulfide was measured with a fluorescence H_2S analyzer (Model 450i, Thermo Fisher Scientific, Waltham, MA). Concentrations of NH_3 and CO_2 were measured with a photoacoustic infrared multi-gas monitor (INNOVA Model 1412, LumaSense Technologies, Ballerup, Denmark).

Instrumentation in the farrowing room, including the TEOM, RH/T sensor and gas sampling port, were either covered during power-washing between cycles, or temporarily removed from the room and replaced after the washing was completed.

Table 8. Analyte sampling locations.

Analyte	Stream ID	Sampling Location*	Sampling period, min
Gas (NH_3, H_2S, CO_2)	GSL-A	Barn 1 (Breeding) Fan 4	10
	GSL-B	Barn 1 (Breeding) Fan 10	10
	GSL-C	Barn 2 (Gestation) Fan 4	10
	GSL-D	Farrowing room Fan 2	10
	GSL-E	Inlet: 2 m from the S sidewall, at the center of the SW cooling cell of barn 1	30**
	GSL-F	Far Hallway: N air inlet of farrowing	30**
$PM_{2.5}$, PM_{10}, TSP	B1	TEOM located upstream of Fan 4	Continuous
	B2	TEOM located upstream of Fan 4	Continuous
	Farrowing	TEOM located upstream of Fan 2	Continuous
	Inlet	1.8 m above the roof of the OFIS	Continuous
VOC***	B1	Barn 1 (Breeding) Fan 4	1440
	B2	Barn 2 (Gestation) Fan 4	1440
	B3	Farrowing room Fan 2	1440

*Gas sampling probes were suspended from the ceiling at fan hub height (0.5 m from the hub).
**20 min prior to 1/31/08
***VOC samples were collected at fan hub height, within a 2-m radius of the fan.

3.7. VOC Sampling

Grab samples of VOC were collected at the PREFs (Table 8), using methodology based on methods TO-14 and TO-15. Sampling was conducted with 6-L stainless-steel canisters (TO-Can, Restek Corp, Bellefonte, PA), equipped with ¼″ bellows valves (Swagelok SS4H) and 207-kPa vacuum gauges. Sampling trains contained flow controllers (Veriflo Model 423XL, Parker-Hannifin Corp., Richmond, CA) with 2- to 4-sccm critical orifices and 7-µm in-line stainless steel filters. Flow controllers were pre-set to a constant flow rate of 3.4 $mL \cdot min^{-1}$. Canister sampling was conducted for 24 h, and canister pressures were recorded at the beginning and end of the sampling periods for the calculation of total sample volumes. Sampling was conducted seven times between 4/21/09 and 12/07/09, usually with duplicate samples collected at each sampled location. All canisters were cleaned and passed QC before sample collection.

Canister samples were analyzed at Purdue University's Trace Contaminant Laboratory. The canisters were pressurized to +207 kPa with ultrapure N_2, and transferred to TDS tubes (Carbotrap 300, Supelco, Bellefonte, PA). The pressurized canisters initially yielded sample flows of 50 mL min^{-1} during sample transfer to tubes. Canister heating was introduced when a canister pressure decreased to 13.8 kPa to ensure maximal transfer of nonvolatile components.

Samples were analyzed on a thermodesorption-gas chromatograph-mass spectrometer (TDS-GC-MS), consisting of a gas chromatograph (Model 6890, Agilent Technologies, Palo Alto, CA) coupled with a Model 5795 mass spectrometer detector (Agilent Model 5795) and equipped with a thermal desorption system (Model TDS-G, Gerstel, Baltimore, MD) and a cooled injection system (Gerstel CIS). The GC-MS passed a leak check prior to analyzing each set of samples. Compounds were separated on a 60 m x 0.25 mm x 1µm column. The detector utilized the full

scan mode covering masses from 27-270 Daltons in 8 scans/s. The MS quad hold temperature was 150ºC, and the MS source hold temperature was 230ºC. The analytical results were analyzed by ChemStation, and all integrations were manually checked. This method used an external standard compound for instrument monitoring and QA to avoid losses of low-molecular-weight analytes that would occur when purging solvent used with internal standard(s). All TDS tubes were cleaned with a tube conditioning system (Gerstel TC-2 TDS) for 3.5 h at 350ºC prior to each use.

Response curves were generated at both the beginning and the end of the VOC analysis period. The response curves of all chemical standards reach good linearity as 55% of the response curves had $R^2 > 99\%$ and over 98% had $R^2 > 95\%$. Toluene was used as an external standard that was analyzed during each batch of samples to assure quality. The relative bias and standard deviation of 97 toluene checks were -4.3% and 18.8%, respectively. The uncertainty of the mean of duplicate field samples was calculated as 27%, based on the toluene checks.

3.8. Documentation of Quality Assurance

3.8.1. Oversight, Maintenance, and Calibration

NCSU personnel (PI and/or Site Engineer) visited the site at least weekly. A total of 119 and 127 visits were made during years 1 and 2. Remote checks of the system were conducted each work day by the site personnel.

The Science Advisor audited the site on 1/31/08. The Environmental Protection Agency (EPA) conducted site audits on 2/6/09 and 12/18/09.

Various site maintenance and calibration activities were conducted by site personnel (Appendix B). Specific quality assurance tests of the GSS, gas analyzers and other sensors are discussed below.

3.8.2. Gas Sampling System

Two types of GSS leak tests were conducted. The first test examined GSS integrity, by briefly creating a “dead head” against the pump by closing all solenoid valves, while measuring exhaust airflow with a portable rotameter, and recording the leakage flow with the GSS mass flow meter. The second test consisted of monitoring GSS flow and pressure after manually setting AirDAC to sample from a particular GSL and plugging the GSL’s gas sampling probe. Preliminary tests indicated that GSS flow under dead-head conditions that were 10% or less (<0.4 L/min) of the normal GSS flow rate of 4.0 L/min was indicative of leak-free operation under normal GSS manifold vacuums of -4,000 to -10,000 Pa. Leak tests of the GSS itself were conducted three times; during which the GSS was observed to be leak-free. Systematic checking of all individual sampling lines was conducted on 1/2/09 and 9/16/09. No leaks were ever found in any line; thus, no data was invalidated for this reason.

3.8.3. Gas Analyzers

Gas measurements were evaluated using multipoint calibrations and zero and span checks (Appendix C). The gas concentration data output by the analyzers was adjusted to correct for bias introduced by the gas sampling and measurement system.

3.8.3.1. Correction of Ammonia Concentrations

A multipoint calibration (MPC) was conducted through the challenge line thirteen times (Table 9) using purified air (Cat. # AIO.OCE-T, CEM zero-grade, Praxair, Indianapolis, IN) and between four and eleven span concentrations, ranging from 2.0 to 45 ppm NH_3. The NH_3 was delivered using a 6-port gas dilutor (Model 4040, Environics, Tolland, CT). Each MPC was conducted with replication. The R^2 values of each MPC exceeded 0.936 (average = 0.983), indicating good linearity of instrument response to standard gas between 0 and 45 ppm.

Table 9. Multipoint calibration record and results for the NH_3 measurements.

Date	# points	Span concentration, ppm		R^2
		Minimum	Maximum	
3/7/08	4	15	45	0.995
3/18/08	4	13	44	0.997
5/15/08	4	15	45	0.995
7/17/08	4	9	27	0.985
11/4/08	9	4	27	0.993
12/18/08	9	4	27	0.993
1/18/09	5	3	9	0.976
1/20/09	11	3	6	0.936
1/22/09	10	3	6	0.949
5/15/09	9	4	27	0.996
5/16/09	6	2	11	0.995
6/26/09	5	2	11	0.975
10/1/09	5	2	11	0.996

Precision checks were conducted periodically using zero and span gases (Z/S checks), delivered via the dilutor through the challenge line, and responses were recorded to monitor changes in system performance over time. Span checks prior to 5/28/09 were conducted with 27 or 30 ppm of NH_3; for the remainder of the study span checks were conducted with 11 ppm of NH_3.

The average response of the analyzer to the zero and span gas applications (Appendix C) was assessed and the results were combined based on changes to the instrument or gas sampling system to create time-weighted linear correction models (Table 10). The models were used to correct instrument readout data. The measurement accuracy was assessed based on model-corrected zero and span checks (Table 10).

Table 10. Concentration correction and measurement accuracy for ammonia.

Start/end dates	# of checks		Linear model	Accuracy, % of span			
				Bias		Precision	
	Zero	Span		z	s	z	s
12/14/07-5/13/08	9	9	y = 1.1493x-0.826	-1.0	-0.8	0.9	2.6
5/13/08-7/1/08	4	4	y = 1.1946x-0.236	-0.1	-0.2	0.3	1.5
7/1/08-2/21/09	28	28	y = 1.3142x-0.263	0.2	4.4	0.9	4.0
2/21/09-5/22/09	17	17	y = 1.4944x-0.286	-0.3	-9.1	0.8	4.8
5/22/09-7/28/09	6	6	y = 2.0301x-0.098	-0.4	0.8	1.4	14.5
7/28/09-12/15/09	14	14	y = 1.1364x-0.105	-0.1	0.1	1.0	4.6
All	78	78					

3.8.3.2. Correction of Hydrogen Sulfide Concentrations

A MPC was conducted through the challenge line 13 times (Table 11) using purified air (Cat. # AIO.OCE-T, Praxair CEM zero air) and three to five span concentrations (Cat. # NI-HSR1E-AS, Praxair EPA Protocol Standard). Most MPCs were conducted with replication. The H_2S was delivered using a 6-port dilutor (Model 040, Environics, Tolland, CT). The R^2 values of each MPC exceeded 0.997, indicating excellent linearity of instrument response to standard gas between 0 and 5657 ppb.

Table 11. Multipoint calibration record and results for the H_2S measurements.

Date	# points	Span concentration, ppb		R^2
		Minimum	Maximum	
3/7/08	3	591	1790	0.999
3/18/08	3	588	1787	1.000
5/15/08	3	588	1788	1.000
7/17/08	3	594	1788	1.000
8/4/08	3	594	1788	1.000
8/14/08	3	594	1788	1.000
9/2/08	3	592	1786	1.000
11/4/08	3	592	1786	1.000
2/4/09	3	592	1786	1.000
2/8/09	5	592	3974	1.000
2/11/09	4	592	3874	1.000
6/25/09	4	128	894	0.997
10/1/09	4	128	894	1.000

Precision checks were conducted periodically using zero gas and span gases (Z/S checks), delivered via the dilutor through the challenge line, and responses were recorded to monitor changes in system performance over time. Span checks were conducted with 600 ppb of H_2S.

The average response of the analyzer to the zero and span gas applications was assessed, and the results were combined based on changes to the instrument or GSS to create linear correction models (Table 12). The measurement accuracy (Table 12) was assessed based on model-corrected zero and span checks (Appendix C).

Table 12. Concentration correction and measurement accuracy for H_2S.

Start/end dates	# of checks		Linear model	Measurement accuracy relative to span, %			
				Bias		Precision	
	Zero	Span		z	s	z	s
12/14/07-9/5/08	22	22	y = 0.8867x-2.386	-0.1	2.1	0.2	4.4
9/5/08-6/26/09	44	45	y = 1.0317x-2.545	-0.1	-0.2	0.3	1.3
6/26/09-12/15/09	19	19	y = 0.9527x-2.943	0.0	-0.4	0.4	0.9

3.8.4. Particulate Matter Monitors

The quality of the exhaust PM data was assessed through periodic mass verifications and flow and leak checks of the TEOMs. The mass verification criteria were that Ko actual be within ±2.5% of Ko audit. The criteria for total and main flows were 16.67±1.0 and 3.0±0.2 $L \cdot min^{-1}$, respectively. Leakage criteria were total (main + auxiliary) flow ≤ 0.62 $L \cdot min^{-1}$ and main flow ≤ $L \cdot min^{-1}$, respectively.

QA test results for the TEOMS in gestation barns 1 and 2, and for the farrowing room, are presented in Tables 14-16. Mass verifications were not conducted with the intended frequency, and two of the three TEOMs did have mass error results that were outside the 2.5% criterion. Flow and leak results were generally much less problematic. Only the Barn 2 TEOM experienced significant flow issues, which, in its case, required approximately six months of data to be invalidated.

Table14. Quality assurance tests of the barn 1 TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, $L \cdot min^{-1}$		Leak test flows, $L \cdot min^{-1}$	
			Main	Total	Main	Auxiliary
1/10/08	0	-	3.04	16.73	0.13	0.43
3/19/08	69	1.13	3.08	16.25	0.13	0.41
8/7/08	141	-	3.00	16.41	0.13	0.43
8/19/08	12	1.97	-	-	-	-
11/24/08	97	2.88	3.00	16.28	0.13	0.43
1/2/09	39	-	2.99	16.63	0.13	0.42
2/10/09	39	-	-	-	-	-
4/15/09	64	-	2.98	16.51	0.13	0.43
6/20/09	66	-	3.04	16.81	0.14	0.47
8/31/09	72	-	3.02	16.32	0.15	0.58
12/15/09	106	-	3.00	16.60	0.14	0.44

Table 15. Quality assurance tests of the barn 2 TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, L·min^{-1}		Leak test flows, L·min^{-1}	
			Main	Total	Main	Auxiliary
1/10/08	0	-	3.01	16.62	0.13	0.32
3/19/08	69	1.22	3.07	16.20	0.15	0.36
8/7/08	141	1.07	2.99	16.37	0.15	0.36
11/20/08	105	3.53	2.94	16.20	0.15	0.46
1/2/09	43	-	2.98	16.20	0.13	0.34
4/15/09	103	-	2.95	15.26	0.21	0.82
6/4/09	50	-	2.95	15.15	0.47	2.42
6/20/09	16	-	2.94	15.45	0.24	1.83
6/29/09	9	-	2.92	15.83	-	-
8/31/09	63	-	2.98	16.22	0.16	0.31
12/15/09	106	-	2.98	16.45	0.17	0.34
5/15/10	151	-	2.98	16.20	0.16	0.32

Table16. Quality assurance tests of the farrowing room TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, L·min^{-1}		Leak test flows, L·min^{-1}	
			Main	Total	Main	Auxiliary
1/10/08	0		3.07	16.75	0.14	0.15
3/20/08	70	0.19	3.08	16.65	0.14	0.13
4/24/08	35	-	-	-	-	-
5/7/08	13	-	-	-	-	-
8/26/08	111	-	-	-	-	-
8/28/08	2	-	-	-	-	-
9/7/08	10	-	-	-	-	-
9/19/08	12	-	2.99	16.62	-	-
11/18/08	60	0.33	3.01	16.48	0.13	0.24
4/15/09	148	-	3.02	16.31	0.12	0.27
6/20/09	66	-	3.01	16.43	0.11	0.18
8/31/09	72	-	3.82	17.33	-0.09	0.27

The TEOM measurements were also evaluated based on collocated measurements of two of the three TEOMs (from the gestation barns) at the conclusion of the study (May-June, 2010). The TEOMs were collocated at the PREF of B2. All three PM types were evaluated, with each PM type sampled from 4-9 d. The relative percentage difference between the hourly averages for each TEOM and their average measurement was calculated (Table 17). The differences in average PM_{10}, TSP and $PM_{2.5}$ concentrations for the two TEOMs over the collocation periods were 8.4%, 4.9 and <1%, respectively.

Table 17. TEOM collocation test results.

PM type	Average concentration, µg/m^3		Difference, %
	Barn 1 TEOM	Barn 2 TEOM	
PM_{10}	229	249	8.4
TSP	196	216	4.9
$PM_{2.5}$	19	19	<1

3.9. Data Analysis

3.9.1. Software

All emission data processing was conducted using custom software (CAPECAB, Fibre Recovery Systems, Inc., Calgary, AB). Data was carefully inspected and validated. If a datum was invalid for a known reason, the datum was marked (flagged) invalid and all calculations dependent on that datum were also invalid unless a substitution datum was identified.

If the QA/QC checks described above indicated a measurement bias, the data was corrected prior to calculating emissions. The CAPECAB program provided a robust method to inspect data, invalidate if necessary, and implement various corrections over specified time periods.

3.9.2. Data Substitution, Validation, Correction and Uncertainty

3.9.2.1. Pressure

All static pressures were corrected based on the zero-pressure check results. Since zero checks of the static pressure sensors were improperly recorded, readings of at least five minutes in duration under zero pressure conditions in a given barn were identified. Zero pressure conditions were defined as wind<0.25 $m \cdot s^{-1}$, and all fans off. The control charts (Figure 4) confirmed the validity of this approach, as most data points were within 1.0 Pa of zero. Each sensor was corrected by the observed offset during each interval.

Atmospheric pressure readings were obtained from the TEOM in Barn 1.

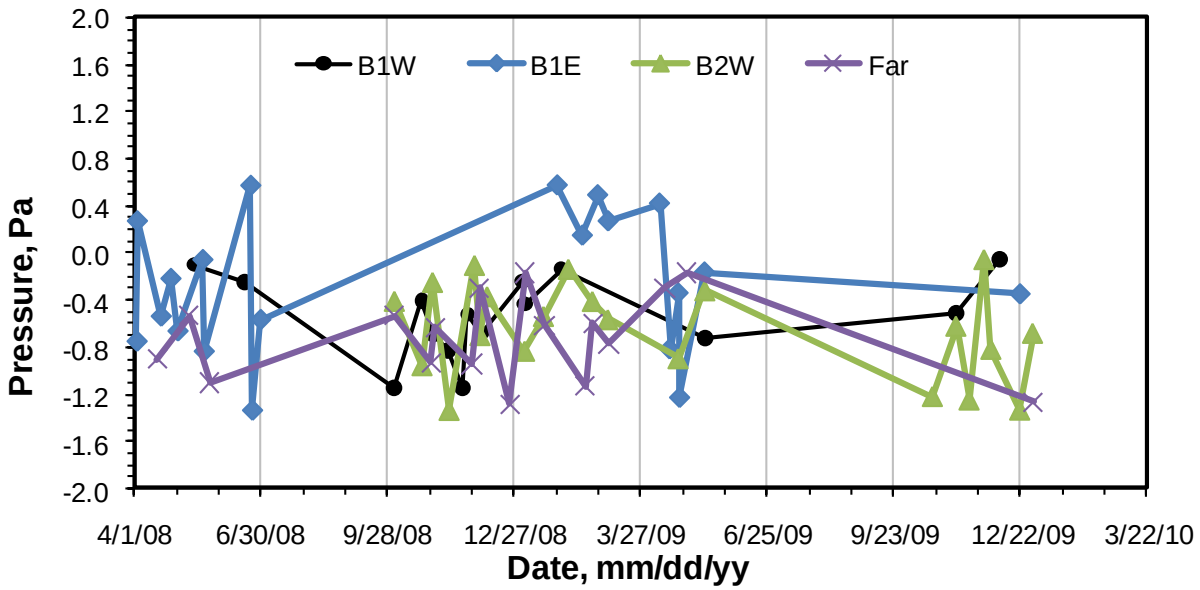

Figure 4. Barn static pressures under windless conditions with no operating fans.

3.9.2.2. Environmental Sensors

The average interior temperature for each gestation barn was the mean of the three thermocouple measurements taken along the central axis.

Barn relative humidity (RH) was provided by the OMNI/NOVUS RH/T sensor at the PREF in each barn, and RH was converted to humidity ratio using the standard conversion equations. Also, the INNOVA T_{dew} readings for each location were converted to RH.

Solar radiation data was corrected to account for the zero offset of the pyranometer. Overnight readings throughout the study were a consistent 10 $W \cdot m^{-2}$, which was used as the offset.

3.9.2.3. Fan Operation

The operational status and speed of each wall fan were monitored. Whenever possible, the fan operation status was calculated by the fan speed signal. Data from the current sensors were used whenever the fan speed sensors experienced failures. In those cases, the normal operating speed of the fan was substituted for the measured fan speed in airflow calculations.

3.9.2.4. Gas Concentrations

The first 7 min and 5 min of the 10-min exhaust gas concentration data were discarded for NH_3 and H_2S, respectively, because the system needed that much time to reach equilibrium after switching from one sampling location to another. Thus, the last three and five min of data of each sampling period were validated for NH_3 and H_2S, respectively.

Table 18 describes the time specified in the data processing software for gas concentration measurements to stabilize, based on gas and sampling location, and the maximum interval for interpolating between two valid concentration measurements for a sampling location.

Table 18. Gas concentration data validation and interpolation requirements.

Gas	Equilibration period, min		Maximum interpolation interval, min	
	Inlet	Exhaust	Inlet	Exhaust
NH_3	17	7	3000	300
H_2S	10	5	3000	300

Gas and water vapor concentrations, and sample relative humidity, temperature, pressure, flow rate, and flow direction were invalidated or automatically excluded during all gas analyzer MPCs and Z/S checks. Airflow rate, and gas and PM emission data were invalidated under conditions of positive barn static pressure, because barn airflow measurements required a negative or underpressure in the barn.

Gas concentration data were invalidated due to problems with the INNOVA 1412. The analyzer sustained two major chopper motor failures and several other minor issues, causing approximately 45 d of NH_3, CO2 and water-vapor concentration data to be lost or invalidated.

Standard gas concentrations were calculated on dry and moist bases with Eqns. 3-1 and 3-2, respectively.

$$C'' = \frac{C'}{(1-W)} \tag{3-1}$$

and

$$C' = \frac{P' \cdot c \cdot M}{R \cdot (273+T')} \tag{3-2}$$

Where:

C''	Dry standard mass concentration, dry basis (mg $d^{-1}sm^3$ or µg $d^{-1}sm^3$)
C'	Standard mass concentration, moist-air basis (mg sm^{-3} or µg sm^{-3})
P'	Standard pressure (1 atm)
T'	Standard temperature (20°C)
c	Volumetric concentration of gas (ppm or ppb)
M	Molecular weight of gas (g mol^{-1})
R	Universal Gas Constant (0.08206 L atm mol^{-1} $°K^{-1}$)
W	Humidity ratio

3.9.2.5. PM Concentrations

Prior to 2/16/08, the TEOM flow rates were internally adjusted to 16.7 L min^{-1} for standard conditions (25ºC and 1 atm), regardless of the surrounding conditions. The actual flow through the TEOM was verified by correcting for the surrounding conditions and confirming the flow was maintained between 15.7 and 17.7 L min^{-1}. PM concentration data was invalidated if the calculated flow was outside this range. The internal TEOM settings were changed on 2/16/08 to adjust the flow to 16.7 L min^{-1} based on actual rather than standard air density. Failed TEOM flow/leak checks resulted in the invalidation of 169 d of B2 PM data.

Dry standard PM concentrations were obtained by dividing raw concentrations by one minus the air humidity ratio.

3.9.3. Emission Calculations

3.9.3.1. Particulate Matter

PM emissions were calculated with Eqn. 3-3.

$$E = \left(Q_O \cdot P_O \cdot \left(\frac{273+20}{273+T_O} \right) \right) \cdot \left(c'_O - c'_i \right) \tag{3-3}$$

Where:

E	Net PM emission rate (µg s^{-1})
Q_0	Exhaust airflow rate at To (m^3 s^{-1})
P_0	Pressure of exhaust air (atm)
C_0'	PM concentration of exhaust air (µg m^{-3})
C_i'	Inlet PM concentration (µg m^{-3})
T_0	Temperature of exhaust air (°C)

3.9.3.2. Gases

Stream-specific gas emissions were determined as follows:

$$E = Q_O \cdot \frac{P_O \cdot M}{R \cdot (273 + T_O)} \cdot (c_O - c_i) \qquad (3\text{-}4)$$

Where:

E	Stream or barn emission rate (mg s^{-1} or µg s^{-1})
Q_O	Stream or barn outlet moist airflow rate at To (m^3 s^{-1})
P_O	Exhaust air pressure (atm)
M	Gas molecular weight (g mol^{-1})
R	Universal Gas Constant (0.08206 L atm/mol^{-1} °K^{-1})
T_O	Exhaust air temperature (°C)
c_o	Exhaust air concentration (ppm or ppb)
c_i	Air inlet concentration (ppm or ppb)

Building emissions were the summation of the stream emissions. Building emission was divided by variables (barn inventory, feed consumption) or constants (floor area) to normalize emissions to site-specific characteristics.

3.9.3.3. Volatile Organic Compounds

The total VOC concentration was multiplied by building airflow for the 24-h canister sampling period to yield an average emission rate. If two samples were successfully collected for a building at one sampling event, the average concentration was used in the calculation.

4. RESULTS

4.1. Farm Production Information

The farm production information, including inventory, pig mass and density are presented in Table E2 (Appendix E). Occupancy in the barns over the full duration of the study averaged 632 and 617 sows in gestation barns 1 and 2, respectively. The average sow mass in both the gestation and farrowing barns was estimated at 181 kg.

The monitoring period extended across 28 farrowing room batches. The average number of piglets in the farrowing room over the entire study period was 179. The piglet mass was assumed to increase linearly from 2 kg at birth to 9 kg at weaning.

4.2. Characteristics of Biomaterials

The pH, solids, TAN, and total N and S concentrations of the manure, solids and total N and S contents of the feed, and the nitrate/nitrite, total N, TKN, and sulfur contents of the water are presented in Appendix E.

Table D1 (Appendix D) summarizes the analyses of feed samples. A total of 54 separate feed samples across barns 1, 2 and the farrowing room were collected and analyzed. The nitrogen content of the feed ranged from 1.79 to 3.98% N (wet-basis).

The average TAN content of pit manure (both surface and loadout) ranged from 0.06% to 0.17% (Tables D2 & D3), while the average total N of the loadout manure ranged from 0.03% to 0.45%. Mean solids contents ranged from 0.6% to 19.5%, while pH varied between 6.57 and 7.59.

Water samples (Table D4) showed non-detectable nitrate/nitrite N and TKN on 5 of the 6 sampling events. The mean total sulfur concentrations in the water ranged from 0.97 to 1.90 $mg \cdot L^{-1}$.

4.3. Environmental Conditions

4.3.1. Ambient Conditions

According to historical climatic information (Table 19) daytime average high temperatures ranges from 12°C in the winter to 33°C in the summer. Average overnight lows range from 1°C in winter to 22°C in summer. Typical prevailing winds for the region are from the south and southwest except for the fall, when the winds are from the north.

Table 19. Monthly averages for weather conditions

Month	Temperature*,°C			Wind speed $km \cdot h^{-1}$	Wind direction
	High	Low	Mean		
January	12	1	6	8	WSW
February	14	2	8	10	WSW
March	19	6	12	10	W
April	24	10	17	10	SW
May	28	14	21	8	SW
June	31	19	25	8	WSW
July	33	22	27	5	SW
August	32	21	27	5	SW
September	29	18	23	5	NE
October	24	11	17	5	N
November	19	6	13	8	N
December	14	2	8	8	WSW
Annual Average	23	11	17		

* http://www.weather.com/weather/wxclimatology/monthly/USNC0271

Table E1 shows the daily average outdoor temperature, relative humidity, wind speed, wind direction, solar radiation and barometric pressure. The ADM temperature during the study was 19.4ºC, comparable to the annual average for the area. The DM wind speed ranged from 0.6 to 8.6 m s^{-1} (2.2 to 31.0 km h^{-1}), and the ADM was 2.4 m/s (8.6 km h^{-1}), essentially matching the historical annual average for the area.

4.3.2. Barn Conditions

The daily average indoor temperatures (average of all interior thermocouples) are plotted in Figure 5, and are presented along with RH in Table E3. The average temperatures for barns 1 and 2 and the farrowing room were 22.8±2.3, 24.6±2.1, and 25.5±1.5°C, respectively.

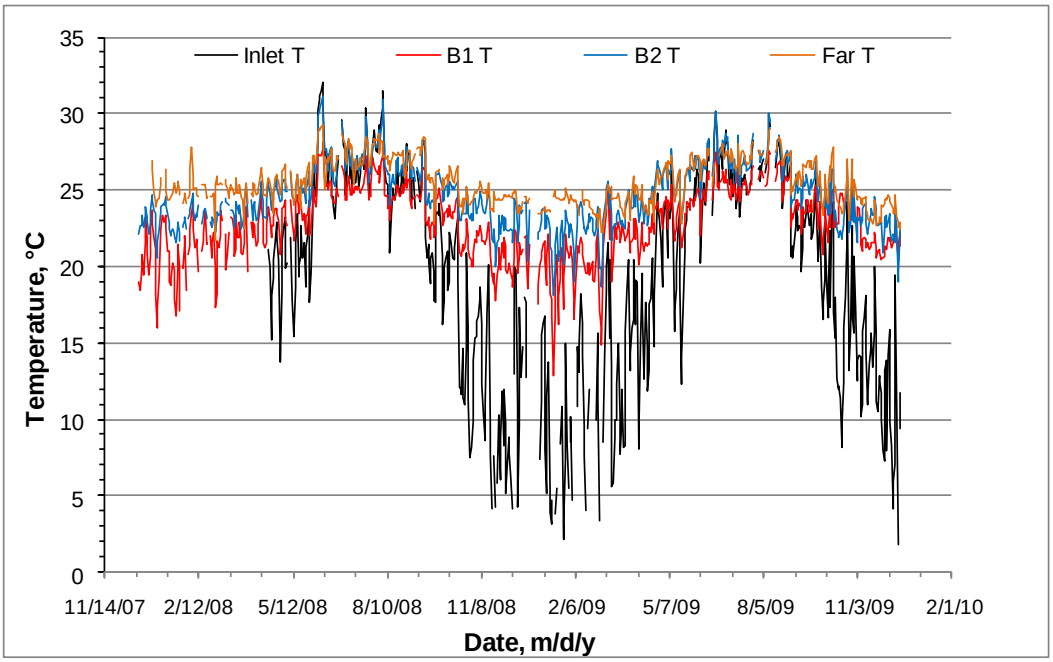

Figure 5. Inlet and indoor temperatures.

4.3.3. Ventilation Rate

The median static pressure differential was -20±12 Pa in barn 1, -16±8 Pa in barn 2, and -13±7 Pa in the farrowing room. Figure 6 demonstrates an increasing airflow rate with temperature. The dry standard ventilation rates of B1 and B2 ranged from approximately 0-3 m^3 s^{-1} in winter to 62 (B2) or 86 (B1) m^3 s^{-1} during the summer. The dry standard ventilation rate of the farrowing room ranged from 0 m^3 s^{-1} in winter to approximately 5 m^3 s^{-1} during the summer.

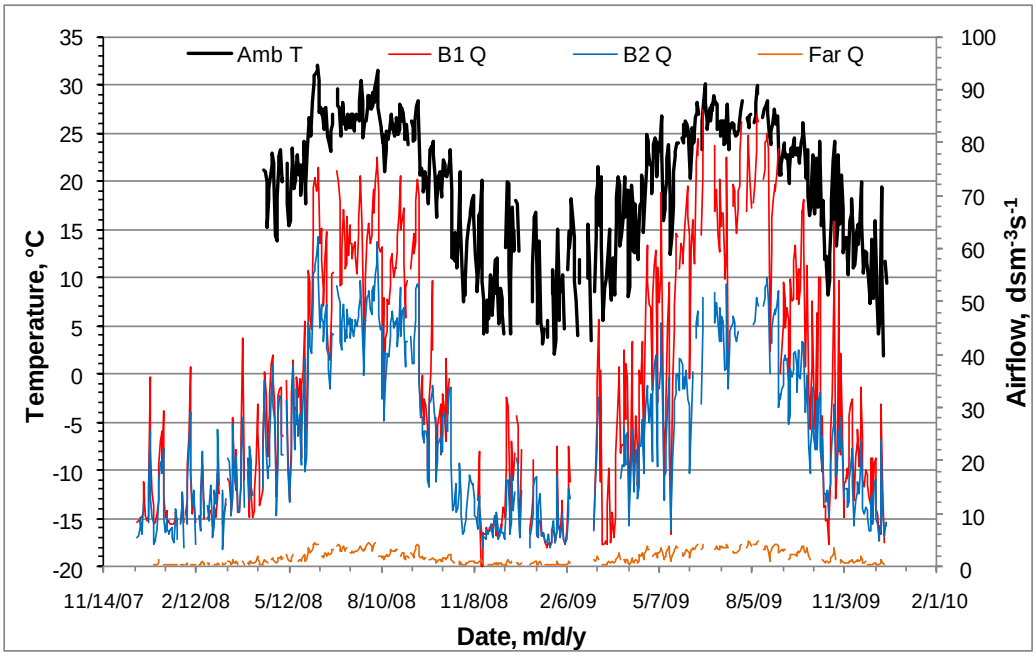

Figure 6. Daily mean inlet temperature (Amb T) and dry standard airflow rates.

4.4. Particulate Matter Concentration and Emission

4.4.1. PM_{10}

The DM inlet PM_{10} concentrations are given in Table E4, and ranged from -5 to 67 µg dsm^{-3}, whereas the DM barn 1, barn 2 and farrowing room PM_{10} exhaust concentrations ranged from 20 to 631, 17 to 767 and 50 to 1050 µg dsm^{-3}, respectively.

The ADM (±SD) inlet, barn 1, barn 2 and farrowing room PM_{10} concentrations were 13±9, 212±150, 309±190 and 334±225 µg dsm^{-3}, respectively.

The overall mean (±SD) PM_{10} emission rates (Table E5 and Figure 7) were 260±117 g d^{-1} (285±130 mg $d^{-1}hd^{-1}$ for barn 1, 406±205 g d^{-1} (459±230 mg $d^{-1}hd^{-1}$ for barn 2 and 30±16 g d^{-1} (1640±850 mg $d^{-1}sow^{-1}$) for the farrowing room. The ADM PM_{10} emissions tended to increase with piglet age in farrowing.

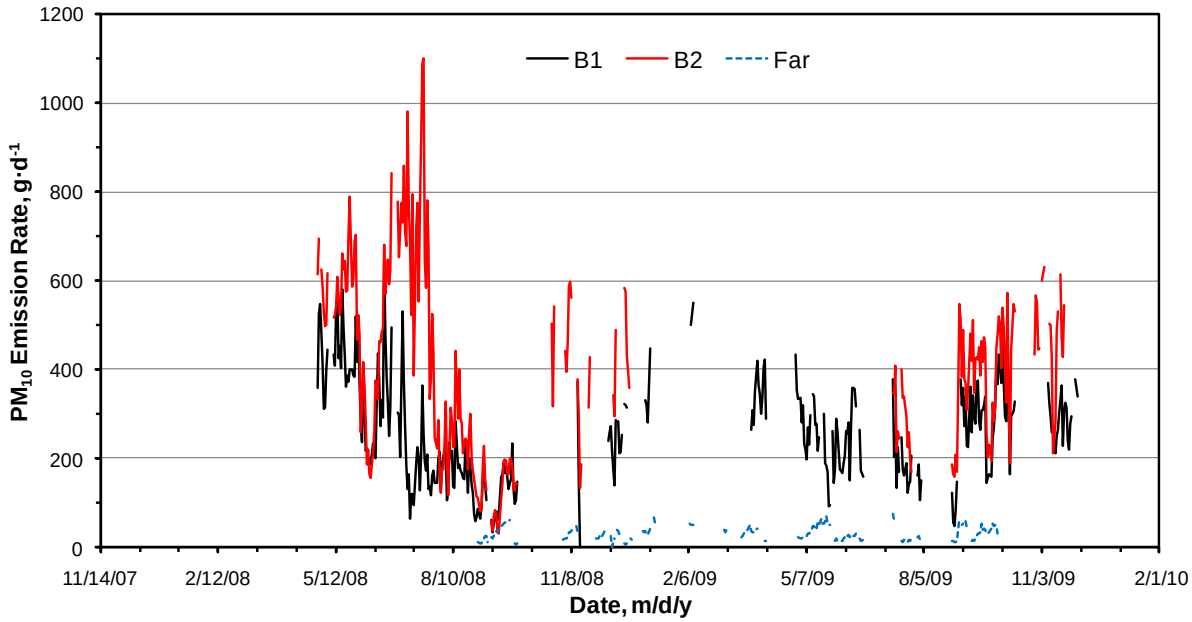

Figure 7. Daily mean PM_{10} emission rates.

4.4.2. $PM_{2.5}$

Daily mean concentrations of $PM_{2.5}$ (Table E4) ranged from -5 to 13 µg dsm^{-3} in the inlet air (n=37 d), -5 to 52 µg dsm^{-3} in barn 1 exhaust (n= 48 d), 16 to 57 µg dsm^{-3} in barn 2 exhaust (n= 35 d), and 15 to 68 µg dsm^{-3} in farrowing room exhaust air (n= 34 d).

The ADM (±SD) inlet, barn 1, barn 2 and farrowing room exhaust concentrations were 1±4, 27±11, 38±11 and 29±12 µg dsm^{-3}, respectively.

The overall mean (±SD) $PM_{2.5}$ emission rates (Table E6 and Figure 8) were 39±12 g d^{-1} (43±13 mg $d^{-1}hd^{-1}$) from barn 1, 48±23 g d^{-1} (54±26 mg $d^{-1}hd^{-1}$) from barn 2, and 2.8±1.1 g d^{-1} (147±56 mg $d^{-1}sow^{-1}$) from the farrowing room.

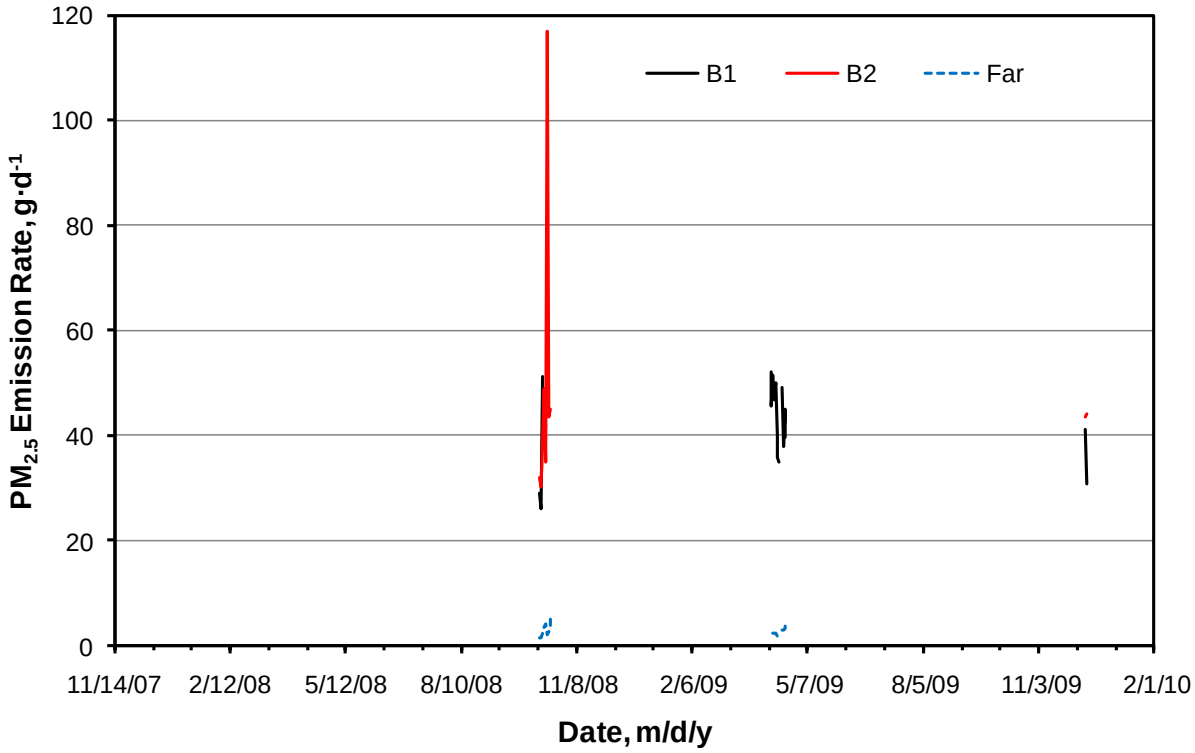

Figure 8. Daily mean $PM_{2.5}$ emission rates.

4.4.3 TSP

TSP concentration data are shown in Table E4. Daily mean TSP concentrations ranged from -3 to 46 µg dsm^{-3} in the inlet air (n=50 d), 27 to 1130 µg dsm^{-3} in barn 1 exhaust air (n=57 d), 52 to 1250 µg dsm^{-3} in barn 2 exhaust air (n=44 d) and from 65 to 1870 µg dsm^{-3} in exhaust air from the farrowing room (n=44 d).

The ADM (±SD) inlet, and barn 1, barn 2 and farrowing room exhaust concentrations were 18±11, 413±362, 431±388 and 573±436 µg dsm^{-3}, respectively.

The DM TSP emission rates (Table E7, Figure 9) ranged from 39 to 1500 g d^{-1} in the gestation barns and 11 to 191 g d^{-1} in the farrowing room. The overall mean TSP emission rates were 441±340 g d^{-1} (501±388 mg $d^{-1}hd^{-1}$) for barn 1 (n= 35 d), 542±298 g d^{-1} (613±339 mg $d^{-1}hd^{-1}$) for barn 2 (n= 32 d) and 96±60 g d^{-1} (5070±3140 mg $d^{-1}sow^{-1}$) for the farrowing room (n= 30 d).

4.5. VOC Concentrations and Emissions

The 20 most prevalent VOC detected in the canister samples accounted for 86% of the total quantified mass (Table 20). The most prevalent compound was iso-Propanol, which was 13% of the total mass.

Concentrations of total VOC in exhaust air ranged from 0.19 to 1.91 mg·m^{-3} in barn 1, 0.43 to 1.67 mg·m^{-3} in barn 2, and 0.23 to 1.30 mg·m^{-3} in the farrowing room. The mean total VOC concentrations were 0.88 ± 0.60 mg m^{-3} in barn 1, 0.77 ± 0.51 mg m^{-3} in barn 2 and 0.74 ± 0.51 mg m^{-3} in the farrowing room, respectively.

Total VOC emissions ($ng \cdot s^{-1}$) during each sampling period were determined by multiplying the mean building airflow rate ($m^3 \cdot s^{-1}$) by the total mass ($ng \cdot m^{-3}$) and converting to $kg \cdot d^{-1}$. The VOC emission rates of B1, B2, and Far (Table 21) ranged from 0.42 to 12.9, 0.39 to 2.71 and 0.08 to 0.55 $kg \cdot d^{-1}$, respectively. The mean VOC emission rates were 3.92 ± 4.60, 1.67 ± 0.85, and 0.21± 0.20 $kg \cdot d^{-1}$ or 5.71 ± 7.21, 1.84 ± 0.94 and 11.52 ± 10.31 $g \cdot d^{-1}$ hd^{-1}, respectively.

4.6. Hydrogen Sulfide Concentration and Emissions

The average daily mean (±SD) H_2S concentrations (Table E8) were approximately 6±14 (n=707) ppb in the inlet air, and 145±144 (n=679), 120±121 (n=675) and 1090±1070 (n=585) ppb in the exhausts of B1, B2 and Far, respectively.

Daily mean H_2S emissions from the gestation barns and farrowing room for the entire test period are tabulated in Table E9 and plotted in Figure 10. The ADM (±SD) H_2S emission rates from barn 1, barn 2 and the farrowing room were 294±236 (n=452), 240±212 (n=486) and 143±92 (n=447) g d^{-1}, respectively.

The ADM (±SD) sow-specific H_2S emission rates from the three buildings were 323±262, 271±238 and 7650±5160 mg $d^{-1}hd^{-1}$, respectively.

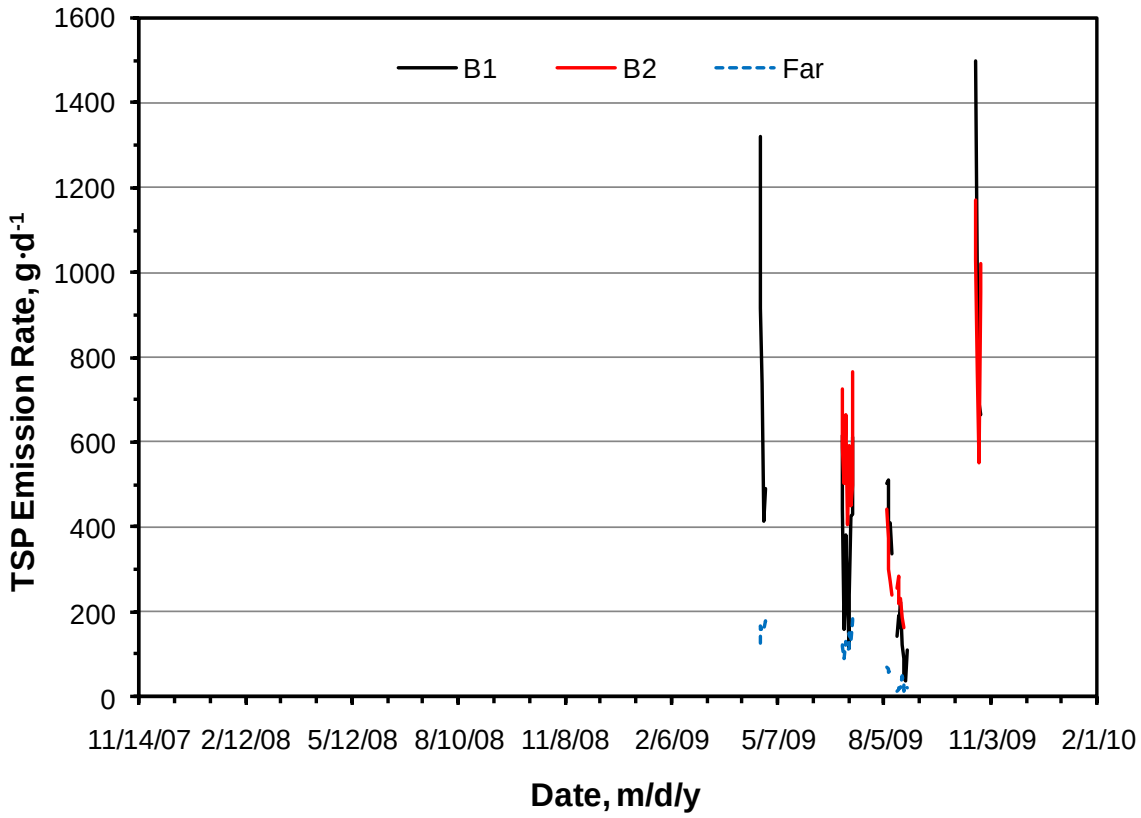

Figure 9. Daily mean TSP emission rates.

Table 20. Average concentration of 20 most prevalent VOCs.

Compound	Concentration, ng m^{-3}	% of total	Cumulative %
iso-Propanol	1.10E+05	13.12	13.1
Acetaldehyde	9.54E+04	11.40	24.5
2-Butanone	5.98E+04	7.15	31.7
Propanoic acid	5.17E+04	6.18	37.8
Acetic acid	4.68E+04	5.60	43.4
Pentane	4.09E+04	4.89	48.3
Dimethyl sulfide	3.84E+04	4.59	52.9
Pentanal	3.65E+04	4.37	57.3
2,3-Butanedione	3.32E+04	3.97	61.3
Butanal	2.35E+04	2.81	64.1
Hexanal	2.32E+04	2.77	66.8
4-Methyl-phenol	2.27E+04	2.72	69.6
Heptanal	2.02E+04	2.41	72.0
Butanoic acid	1.96E+04	2.34	74.3
Phenol	1.94E+04	2.32	76.6
Octanal	1.80E+04	2.15	78.8
Nonanal	1.68E+04	2.00	80.8
2-Pentanone	1.56E+04	1.87	82.6
Toluene	1.39E+04	1.66	84.3
1-Butanol	1.07E+04	1.28	85.6

Table 21. Emission of total VOC.

Day	# canisters			Concentration, $mg \cdot m^{-3}$			Airflow, $m^3 s^{-1}$			Emission, $kg \cdot d^{-1}$		
	B1	B2	Far	B1	B2	Far	B1	B2	Far	B1	B2	Far
4/21/09	1	1	1	1.19	0.68	1.12	32.1	23.7	2.14	3.31	1.40	0.21
5/12/09	2	2	2	0.81	1.67	0.78	26.5	18.8	1.86	1.85	2.71	0.12
6/25/09	2	2	0	0.54	0.43	N/A	84.1	54.3	N/A	3.90	2.02	N/A
7/4/09	2	0	2	0.19	N/A	0.23	70.9	N/A	3.96	1.14	N/A	0.08
7/11/09	0	2	2	N/A	0.45	0.27	N/A	46.6	4.32	N/A	1.83	0.10
8/4/09	2	0	2	1.91	N/A	1.30	78.4	N/A	4.89	12.9	N/A	0.55
12/7/09	2	2	0	0.62	0.62	N/A	7.90	7.26	N/A	0.42	0.39	N/A
Mean	1.57	1.29	1.29	0.88	0.77	0.74	50.0	30.1	3.43	3.92	1.67	0.21

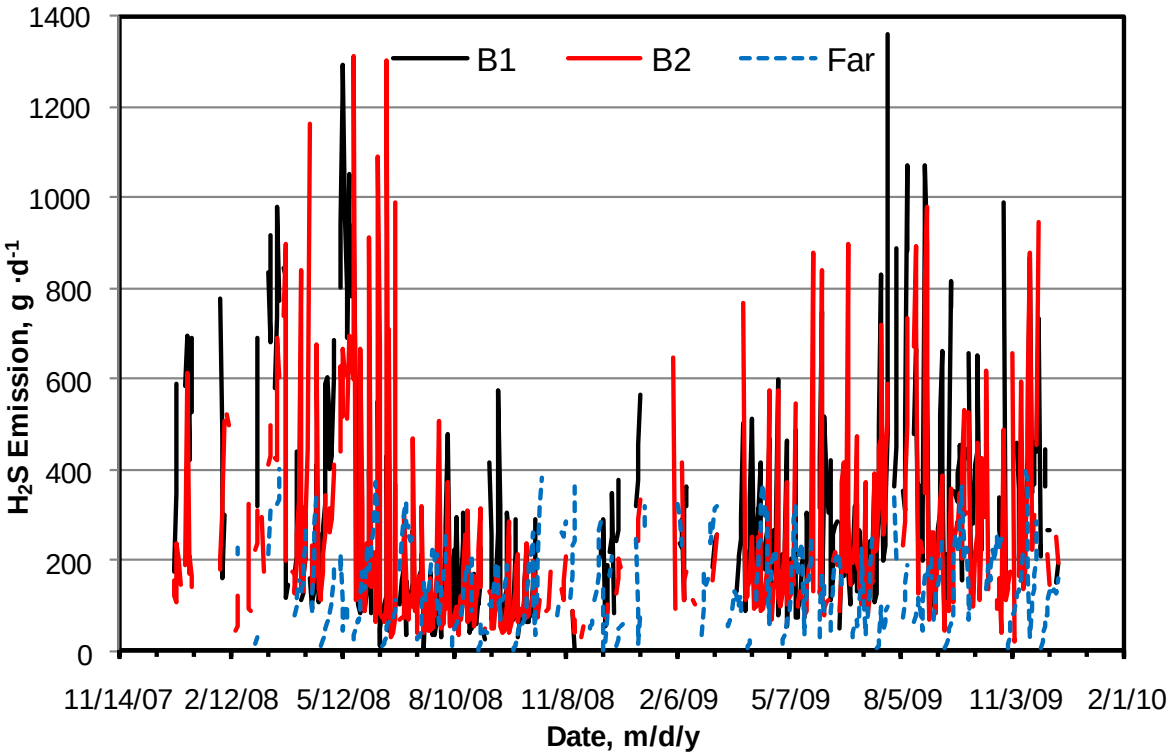

Figure 10. Daily mean H_2S emission rates.

4.7. Ammonia Concentration and Emissions

The ADM (±SD) NH_3 concentrations (Table E10) were approximately 0.5±0.4 (n=648) ppm in the inlet air, and 6.1±3.9 (n=623), 8.6±5.5 (n=618) and 2.5±1.4 (n=543) ppm in the exhausts of B1, B2 and Far, respectively.

Daily mean NH_3 emissions for the entire test period from the two gestation bans and the farrowing room are presented in Table E11 and plotted in Figure 11. The ADM (±SD) NH_3 emission rates from barn 1, barn 2 and the farrowing room were 5.9±2.1 (n=419), 7.2±2.6 (n=444) kg d^{-1} and 136±58 (n=410) g d^{-1}, respectively.

The ADM (±SD) sow-specific NH_3 emission rates for the three buildings were 6.46±2.35 (n=419), 8.18±2.95 (n=444) and 7.31±4.15 (n=394) g d^{-1} hd^{-1}, respectively.

4.8. Emission Data Completeness

Daily completeness data is summarized in Table 23. The number of complete data days (>75% valid required for reporting a daily mean) were calculated for emission measurements conducted from 12/15/07 to 12/14/09. The single most significant cause of invalid emissions data was positive ΔP in the barns. The quantity of PM_{10}, $PM_{2.5}$ and TSP emissions data for B2 was reduced by TEOM failures.

Table 23. Emissions data completeness.

Location	Days with >75% valid emission data				
	NH_3	H_2S	PM_{10}	$PM_{2.5}$	TSP
B1	419	452	315	20	35
B2	444	486	256	12	32
Far	410	447	181	21	30

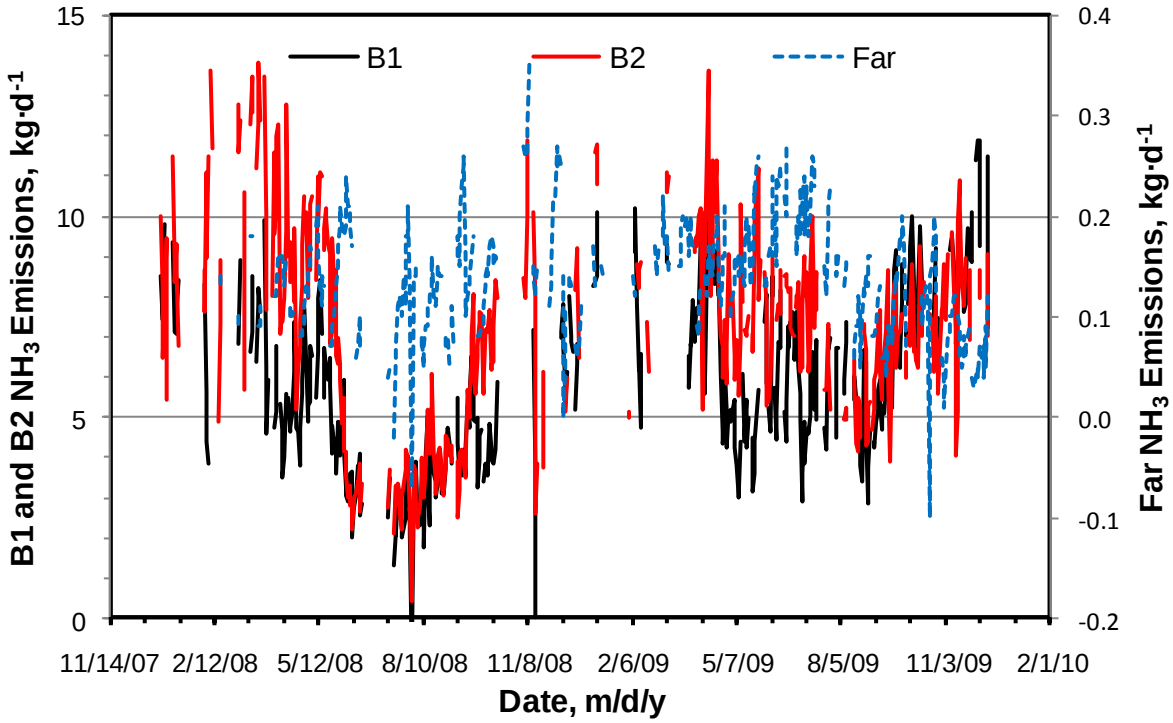

Figure 11. Daily mean NH_3 emission rates.

4.9. Reconciliation with Data Quality Objectives

The data quality objectives prior to the study were to measure gas and PM emissions from mechanically-ventilated buildings with total relative uncertainties of 27% and 32%, respectively.

4.9.1. Airflow

The overall average airflows for barn 1, barn 2 and the farrowing room were 33.9 ± 23.3 $dsm^3 s^{-1}$ (n=619), 25.2 ± 15.3 $dsm^3 s^{-1}$ (n=614), and 1.71 ± 1.24 $dsm^3 s^{-1}$ (n=559), respectively. This airflow represented an average of four fans operating in barns 1 and 2, at which condition the airflow measurement uncertainty was 10.0%, based on the fan models. The most common situation for the farrowing room was operation of one 0.45-m fan. The airflow uncertainty in the farrowing room under this condition was 33%, based on the fan models.

4.9.2. Gas Emissions

The bias and precision of NH_3 concentration measurements were derived from the NH_3 zero/span checks (Table 10) as compared with the NH_3 correction models. The bias and precision of NH_3 measurements were 0.3% and 2.3%, respectively.

The bias and precision of H_2S concentration measurements were derived from the H_2S zero and span checks (Table 12) as compared with the H_2S correction models. The bias and precision of H_2S measurements were 0.1% and 1.4%, respectively.

Based on these measurement errors calculated for concentrations and airflows, the uncertainties of NH_3 and H_2S emissions from the gestation barns were 20.2 and 19.9%, respectively. The worst-case uncertainties of NH_3 and H_2S emissions from the farrowing room (when only the 0.45-m PREF was running) were 64.9% and 64.8%, respectively.

4.9.3. PM Emissions

The precision of PM_{10}, TSP and $PM_{2.5}$ concentration measurements were 8.4, 4.9, and <1% based on collocation tests of two of the three TEOMs in B2 exhaust air.

The relative biases of the TEOMs were 1.0, 2.5, and 0.1% for B1, B2 and Far. The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from B1 were 25.7, 21.9, and 19.8%, respectively. The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from B2 were 25.8, 22.1, and 19.9%, respectively. The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from Far (assuming precisions equal to those of B1 and B2, and under the worst-case scenario with only the 0.45-m PREF running) were 66.8, 65.4 and 64.7%, respectively.

5. SUMMARY

The emissions of NH_3, H_2S, PM_{10}, TSP, $PM_{2.5}$ and VOCs from two gestation barns (B1 and B2) and one room in a 16-room farrowing barn at a breeding, gestation, and farrowing facility in North Carolina were measured during a two-year monitoring study. Manure was flushed weekly from each building, and the manure pits recharged with lagoon water. The buildings were tunnel-ventilated (gestation) or crossflow-ventilated (farrowing) with single-speed fans.

The overall average emission rates from B1 were 5.9 kg d^{-1} of NH_3, 294 g d^{-1} of H_2S, 260 g d^{-1} of PM_{10}, 39 g d^{-1} of $PM_{2.5}$, 441 g d^{-1} of TSP, and 3.92 kg d^{-1} of total VOC. The overall average emission rates from B2 were 7.2 kg d^{-1} of NH_3, 240 g d^{-1} of H_2S, 406 g d^{-1} of PM_{10}, 48 g d^{-1} of $PM_{2.5}$, 542 g d^{-1} of TSP, and 1.67 kg d^{-1} of total VOC. The overall average emission rates from Far were 136 g d^{-1} of NH_3, 143 g d^{-1} of H_2S, 30 g d^{-1} of PM_{10}, 2.8 g d^{-1} of $PM_{2.5}$, 96 g d^{-1} of TSP, and 0.21 kg d^{-1} of total VOC.

6. REFERENCES

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7. DEFINITIONS AND ACRONYMS

AirDAC	Air Data Acquisition and Control – computer program
ADM	Average daily mean
B1, B2	Gestation barns 1, 2
B3, Far	Farrowing room 15
BESS	Bioenvironmental and Structural Systems lab at University of Illinois
CAI	California Analytical Instruments
CAPECAB	Calculations of Air Pollutant Emissions from Confined Animal Buildings
CO_2	Carbon dioxide
DM	Daily mean
ΔP	Differential pressure
FANS	Fan Airflow Numeration System
GC-MS	Gas chromatograph mass spectrometer
GSL	Gas sampling location(s)
GSS	Gas sampling system
H_2S	Hydrogen sulfide
MDL	Minimum detection limit
MPC	Multipoint calibration
MS	Mass spectrometer
n	Number or count
NAEMS	National Air Emissions Monitoring Study
NCSU	North Carolina State University
NH_3	Ammonia
QA	Quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality control
OFIS	On farm instrument shelter
PM	Particulate matter
PREF	Primary representative exhaust fan
RH/T	Relative humidity/temperature
RH	Relative humidity
SD	Standard deviation
T_{dew}	Dew point temperature
TDS	Thermal desorption system
TEOM	Tapered element oscillating microbalance
TSP	Total suspended particulate
VOC	Volatile organic compounds
Z/S	Zero/span

APPENDIX A. MEASURMENT VARIABLE LIST

Table A1. Site measurement variables, instruments and sensors.

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
1	Date & time	---				---
2	Smpl loc#	---				---
3	Cal gas #	Environics	Rack			---
4	Cal gas, ppm	Environics	Rack			---
5	NH3, ppm	Innova 1412	Rack	6 GSLs		---
6	CO2, ppm	Innova 1412	Rack	6 GSLs		---
10	WV, Tdew	Innova 1412	Rack	11 GSL's		---
11	H2S, ppb	H2S analyzer	Rack	6 GSLs	1 - 800	FP-AI-112-1
12	SO2, ppb	H2S analyzer	Rack	6 GSLs	1 - 800	FP-AI-112-1
13	Smpl P, Pa	Setra 209 ΔP sensor	GSS	6 GSLs	0 - 14.7 psiv	FP-AI-112-1
14	Smpl Q, L/m	Mass flow	GSS	6 GSLs	0 - 10	FP-AI-112-1
15	Smpl RH, %	Humitter 50Y	GSS	6 GSLs	0 - 100	FP-AI-112-1
16	Smpl T, ºC	Humitter 50Y	GSS	6 GSLs	-40 - 60	FP-AI-112-1
17	Smpl dir, %t	Flow direction	GSS	6 GSLs		FP-AI-112-1
18	GSS T, ºC	AD 592D	GSS	GSS (0 & 70 ºC = 273 & 343 uA)	0 - 70	FP-AI-112-1
19	B1 PM, µg/m3	TEOM #1	B2	B2 Fan 4	-1000 - 9000	FP-AI-112-1
20	B1 Filter, %	TEOM #1	B2	B2 Fan 4	0 - 140	FP-AI-112-1
21	B1 Atm P, atm	TEOM #1	B2	B2 Fan 4	0.8 - 1.3	FP-AI-112-1
22	B2 PM, µg/m3	TEOM #2	B1	B1 Fan 3	-1000 - 9000	FP-AI-112-1
23	B2 Filter, %	TEOM #2	B1	B1 Fan 3	0 - 140	FP-AI-112-1
24	Far2 PM, µg/m3	TEOM #3	Far2	Far2 Fan2	-1000 - 9000	FP-AI-112-1
25	Far2 Filter, %	TEOM #3	Far2	Far2 Fan2	0 - 140	FP-AI-112-1
26	Amb PM, µg/m3	Beta Gauge	Amb	1.8 m above OFIS	-1000 - 9000	FP-AI-112-1
28	B1W dP, Pa	Setra 260 ΔP sensor #1	B1W	B1 W wall (sensor in OFIS)	-100 - 100	FP-AI-112-2
29	B1E dP, Pa	Setra 260 ΔP sensor #2	B1E	B1 E wall (sensor in barn)	-100 - 100	FP-AI-112-2
30	B2W dP, Pa	Setra 260 ΔP sensor #3	B2W	B2 W wall (sensor in OFIS)	-100 - 100	FP-AI-112-2
31	Far2S dP, Pa	Setra 260 ΔP sensor #4	Far2S	Far2 S wall (sensor in OFIS)	-100 - 100	FP-AI-112-2
32	OFIS dP, Pa	Setra 260 ΔP sensor #5	OFIS	Inside and outside of OFIS	-100 - 100	FP-AI-112-2
33	Wind D, deg	Wind monitor 05103-5	Roof	Roof tower	0 - 360	FP-AI-112-2
34	Wind V, m/s	Wind monitor 05103-5	Roof	Roof tower	0 - 60	FP-AI-112-2
35	Solar, W/m2	LI-200SL Pyranometer	Roof	Roof tower	0 - 1000	FP-AI-112-2

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
36	Amb RH, %	NOVUS RHT-WM #1	Roof	Roof tower or top of OFIS	0 - 100	FP-AI-112-2
37	Amb T, ºC	NOVUS RHT-WM #1	Roof	Roof tower or top of OFIS	0 - 100	FP-AI-112-2
38	B1W RH, %	NOVUS RHT-WM #2	B1W	B1 W wall	0 - 100	FP-AI-112-2
39	B1W T, ºC	NOVUS RHT-WM #2	B1W	B1 W wall	0 - 100	FP-AI-112-2
40	B1E RH, %	NOVUS RHT-WM #3	B1E	B1 E wall	0 - 100	FP-AI-112-2
41	B1E T, ºC	NOVUS RHT-WM #3	B1E	B1 E wall	0 - 100	FP-AI-112-2
42	B2W RH, %	NOVUS RHT-WM #4	B2W	B2 W wall	0 - 100	FP-AI-112-2
43	B2W T, ºC	NOVUS RHT-WM #4	B2W	B2 W wall	0 - 100	FP-AI-112-3
44	Far2S RH, %	NOVUS RHT-WM #5	Far2S	Far2 S wall	0 - 100	FP-AI-112-3
45	Far2S T, ºC	NOVUS RHT-WM #5	Far2S	Far2 S wall	0 - 100	FP-AI-112-3
46	B1 S Door Act, V	Activity sensor #1	B1N	B1 N side		FP-AI-112-3
47	B1W Stalls , V	Activity sensor #2	B1Mid	B1 Middle		FP-AI-112-3
48	B1E Stalls, V	Activity sensor #3	B1S	B1 S side		FP-AI-112-3
49	B2W Act , V	Activity sensor #4	B2N	B2 N side		FP-AI-112-3
50	B2Mid Act , V	Activity sensor #5	B2Mid	B2 Middle		FP-AI-112-3
52	Far2 Act , V	Activity sensor #7	Far2	Far2 Middle		FP-AI-112-3
53	OFIS Act , V	Activity sensor #8	OFIS	OFIS		FP-AI-112-3
54	B1W anemometer					FP-AI-112-3
55	B2W anemometer					FP-AI-112-3
56	B3F2 anemometer					FP-AI-112-3
57	B3F3 anemometer					FP-AI-112-3
59	B1W T, ºC	TC T type	B1W	B1 W end		FP-TC-120-1
60	B1Mid T, ºC	TC T type	B1Mid	B1 Middle		FP-TC-120-1
61	B2E T, ºC	TC T type	B2E	B1 E end		FP-TC-120-1
62	B2W T, ºC	TC T type	B2W	B2 W end		FP-TC-120-1
63	B2Mid T, ºC	TC T type	B2Mid	B2 Middle		FP-TC-120-1
64	B2E T, ºC	TC T type	B2E	B2 E end		FP-TC-120-1
65	Far2Inlet T, ºC	TC T type	Far2Inlet	Far2 Inlet		FP-TC-120-1
66	Far2 T, ºC	TC T type	Far2	Far2 Middle of room		FP-TC-120-1
67	RwyB1 T, ºC	TC T type	RwyB1	B1/OFIS raceway, center		FP-TC-120-2
68	RwyB1 HT, ºC	TC T type	RwyB1 HT	B1/OFIS raceway, center		FP-TC-120-2
69	RwyB2 T, ºC	TC T type	RwyB2	B2/OFIS raceway, center		FP-TC-120-2
70	RwyB2 HT, ºC	TC T type	RwyB2 HT	B2/OFIS raceway, center		FP-TC-120-2
71	RwyF T, ºC	TC T type	RwyF	B2/Far9 raceway, center		FP-TC-120-2

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
72	RwyF HT, ºC	TC T type	RwyF HT	B2/Far9 raceway, center		FP-TC-120-2
73	OFIS T, ºC	TC T type	OFIS	DAC panel		FP-TC-120-2
74	B1 RWY Mid W, T	TC T type	OFIS AC	Wall A/C Exhaust		FP-TC-120-2
75	B1F1, rpm	Fan speed sensor #1	B1F1	Fan shaft or support	0 - 10	USB-4303-1
76	B1F2, rpm	Fan speed sensor #2	B1F2	Fan shaft or support	0 - 10	USB-4303-1
77	B1F3, rpm	Fan speed sensor #3	B1F3	Fan shaft or support	0 - 10	USB-4303-1
78	B1F4, rpm	Fan speed sensor #4	B1F4	Fan shaft or support	0 - 10	USB-4303-1
79	B1F5, rpm	Fan speed sensor #5	B1F5	Fan shaft or support	0 - 10	USB-4303-1
80	B1F6, rpm	Fan speed sensor #6	B1F6	Fan shaft or support	0 - 10	USB-4303-1
81	B1F7, rpm	Fan speed sensor #7	B1F7	Fan shaft or support	0 - 10	USB-4303-1
82	B1F8, rpm	Fan speed sensor #8	B1F8	Fan shaft or support	0 - 10	USB-4303-1
83	B1F9, rpm	Fan speed sensor #9	B1F9	Fan shaft or support	0 - 10	USB-4303-1
84	B1F10, rpm	Fan speed sensor #10	B1F10	Fan shaft or support	0 - 10	USB-4303-1
85	B1F11, rpm	Fan speed sensor #11	B1F11	Fan shaft or support	0 - 10	USB-4303-2
86	B1F12, rpm	Fan speed sensor #12	B1F12	Fan shaft or support	0 - 10	USB-4303-2
87	B2F1, rpm	Fan speed sensor #13	B2F1	Fan shaft or support	0 - 10	USB-4303-2
88	B2F2, rpm	Fan speed sensor #14	B2F2	Fan shaft or support	0 - 10	USB-4303-2
89	B2F3, rpm	Fan speed sensor #15	B2F3	Fan shaft or support	0 - 10	USB-4303-2
90	B2F4, rpm	Fan speed sensor #16	B2F4	Fan shaft or support	0 - 10	USB-4303-2
91	B2F5, rpm	Fan speed sensor #17	B2F5	Fan shaft or support	0 - 10	USB-4303-2
92	B2F6, rpm	Fan speed sensor #18	B2F6	Fan shaft or support	0 - 10	USB-4303-2
93	B2F7, rpm	Fan speed sensor #19	B2F7	Fan shaft or support	0 - 10	USB-4303-2
94	B2F8, rpm	Fan speed sensor #20	B2F8	Fan shaft or support	0 - 10	USB-4303-2
95	FarF1, rpm	Fan speed sensor #21	FarF1	Fan shaft or support	0 - 10	USB-4303-3
96	FarF2, rpm	Fan speed sensor #22	FarF2	Fan shaft or support	0 - 10	USB-4303-3
97	FarF3, rpm	Fan speed sensor #23	FarF3	Fan shaft or support	0 - 10	USB-4303-3
105	B1Fstg1, %t	Barn controller	B1Fstg1	Barn control cabinet	on/off	DIO 96H/50
106	B1Fstg2, %t	Barn controller	B1Fstg2	Barn control cabinet	on/off	DIO 96H/50
107	B1Fstg3, %t	Barn controller	B1Fstg3	Barn control cabinet	on/off	DIO 96H/50
108	B1Fstg4, %t	Barn controller	B1Fstg4	Barn control cabinet	on/off	DIO 96H/50
109	B1Fstg5, %t	Barn controller	B1Fstg5	Barn control cabinet	on/off	DIO 96H/50
110	B1Fstg6, %t	Barn controller	B1Fstg6	Barn control cabinet	on/off	DIO 96H/50
111	B1Fstg7, %t	Barn controller	B1Fstg7	Barn control cabinet	on/off	DIO 96H/50
112	B2Fstg1, %t	Barn controller	B2Fstg1	Barn control cabinet	on/off	DIO 96H/50

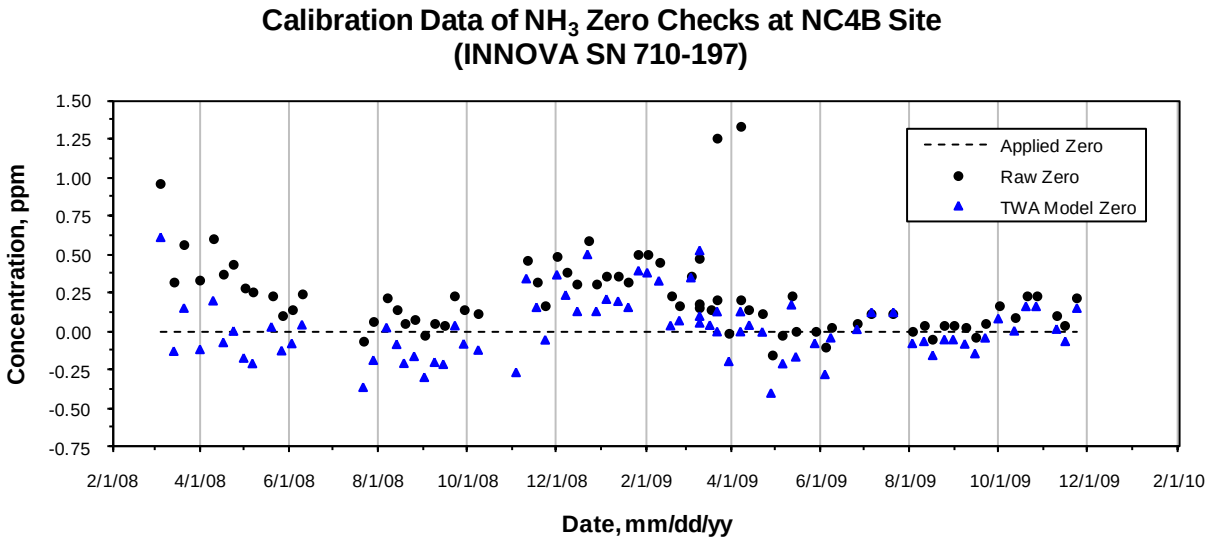
Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
113	B2Fstg2, %t	Barn controller	B2Fstg2	Barn control cabinet	on/off	DIO 96H/50
114	B2Fstg3, %t	Barn controller	B2Fstg3	Barn control cabinet	on/off	DIO 96H/50
115	B2Fstg4, %t	Barn controller	B2Fstg4	Barn control cabinet	on/off	DIO 96H/50
116	B2Fstg5, %t	Barn controller	B2Fstg5	Barn control cabinet	on/off	DIO 96H/50
117	B2Fstg6, %t	Barn controller	B2Fstg6	Barn control cabinet	on/off	DIO 96H/50
118	B2Fstg7, %t	Barn controller	B2Fstg7	Barn control cabinet	on/off	DIO 96H/50
119	B2Fstg8, %t	Barn controller	B2Fstg8	Barn control cabinet	on/off	DIO 96H/50
120	Far2Fstg1, %t	Barn controller	Far2Fstg1	Barn control cabinet	on/off	DIO 96H/50
121	Far2Fstg2, %t	Barn controller	Far2Fstg2	Barn control cabinet	on/off	DIO 96H/50
122	Far2Fstg3, %t	Barn controller	Far2Fstg3	Barn control cabinet	on/off	DIO 96H/50
123	Far2Fstg4, %t	Barn controller	Far2Fstg4	Barn control cabinet	on/off	DIO 96H/50
124	Far2Fstg5, %t	Barn controller	Far2Fstg5	Barn control cabinet	on/off	DIO 96H/50

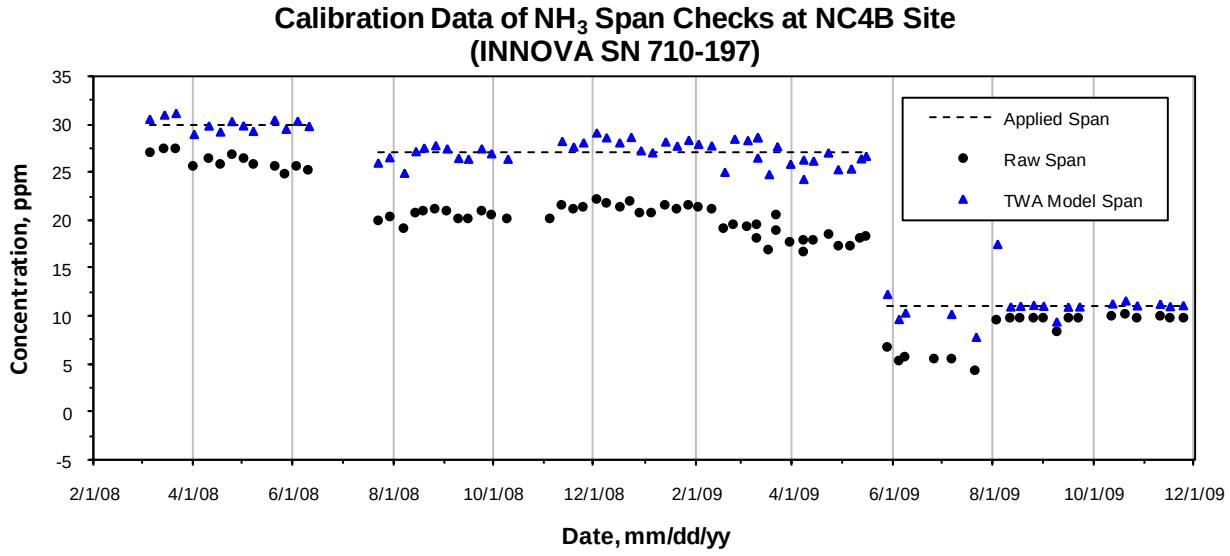
APPENDIX B. RECORD OF MAINTENANCE AND CALIBRATION.

Maintenance and Calibration Tasks	
Category	**Times completed**
Environment Sensing and Other	
Clean RH/T probe	18
Calibration check of RH/T probe	3
Calibration check of thermocouples	0
Performance check of weather station	3
Direction verification of wind indicator	1
Clean solar sensor	1
Check solar sensor with collocated sensor	0
Clean motion sensors	7
Air Flow Measurement System	
Fan test events	7
Zero check of pressure sensors (ΔP)	4
Multipoint calibration of pressures sensors (ΔP)	3
Drift & accuracy check of anemometer(s)	1
Particulate Matter Measurement System	
Clean TOEM screens	39
Check/clean TEOM inlet head(s)	43
Replace TEOM filters	55
Verify TEOM mass transducer calibration	0
Leak test of TEOM	7
Verify TEOM flow rate & MFC accuracy	12
Change TEOM in-line filters	4
Check/clean Beta Gauge inlet head	1
Check Beta Gauge airflow	0
Validate Beta Gauge mass w/foil set	1
Calibrate Beta Gauge mass & airflow	1
Gas Measurement System	
Clean/replace GSS membrane filters	11
Leak check of GSS	23
Calibration check of all lines	2
Replace GSS filters	0
Calibrate GSS pressure and flow sensors	0
Flow calibration/check MFC flow of Environics Dilutor	1
Precision check of Multigas Analyzer	72
Multipoint calibration of Multigas Analyzer	10
Precision check of TEC 450I	73
Multipoint calibration of TEC 450I	6

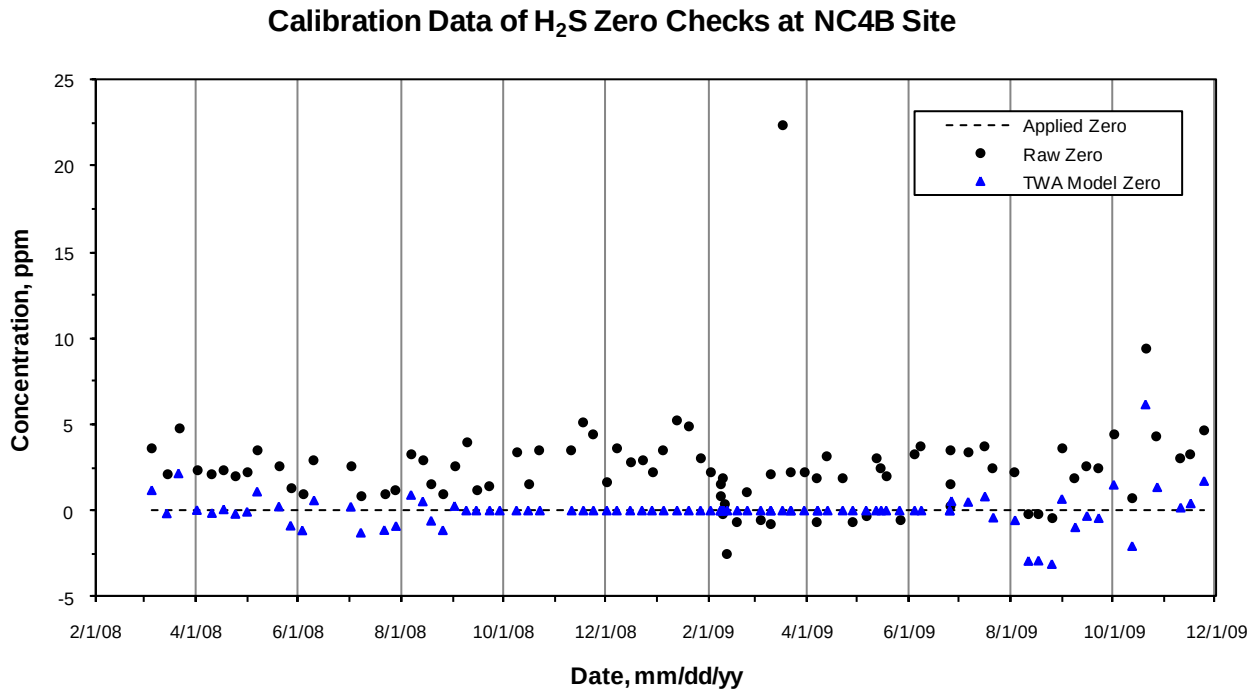
APPENDIX C. GAS ANALYZER CALIBRATIONS.

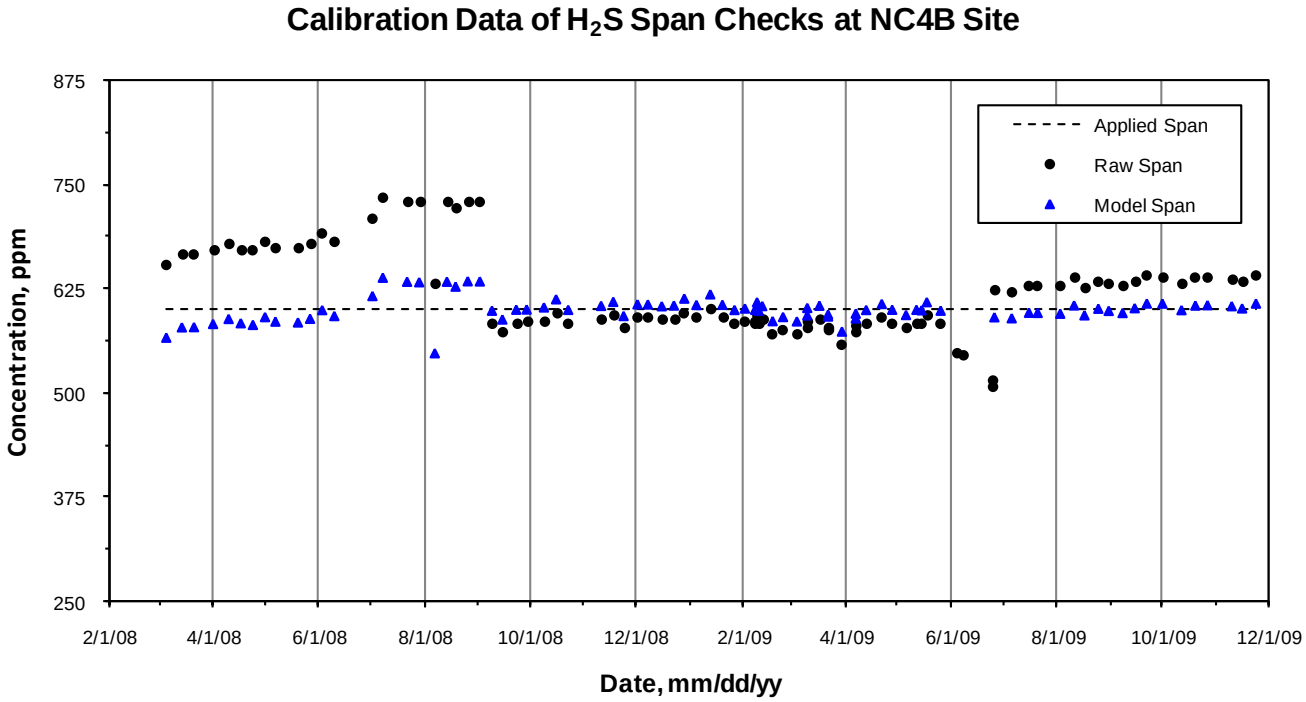
AMMONIA





HYDROGEN SULFIDE





APPENDIX D. BIOMATERIALS CHARACTERISTICS.

Table D1. Feed characteristics (mean ± SD).

Barn	Date	n	Percent (wet weight basis)		
			Nitrogen	Solids	Sulfur
BF	12/8/08	3	2.45 ± 1.10	85.6 ± 0.93	0.30 ± 0.17
BGF	1/20/09	1	1.79	86.0	0.20
Sow F	1/20/09	1	2.29	85.5	0.37
Piglet F	1/20/09	1	3.18	89.3	0.34
BG	4/7/09	1	1.79	86.3	0.07
Sow F	4/7/09	1	2.46	84.5	0.17
Piglet F	4/7/09	1	3.98	88.2	0.27
BG	7/2/09	1	1.88	86.9	0.17
Sow F	7/2/09	1	3.64	92.2	0.33
Piglet F	7/2/09	1	2.40	87.6	0.52
BG	9/30/09	1	1.89	87.5	0.20
Sow F	9/30/09	1	3.54	91.0	0.32
Piglet F	9/30/09	1	2.39	88.3	0.38
BF	4/16/10	39	3.18 ± 0.86	96.5 ± 1.99	0.33 ± 0.09

Table D2. Surface manure characteristics (mean ± SD).

Barn	Date	n	pH (SU)	Percent (wet weight basis)	
				Solids	Ammonia
1	1/27/09	13	7.51 ± 0.23	7.04 ± 8.92	0.17 ± 0.11
2	1/27/09	11	7.56 ± 0.28	9.98 ± 10.3	0.17 ± 0.11
3	1/27/09	2	7.09 ± 0.04	0.60 ± 0.26	0.06 ± 0.02

Table D3. Loadout manure characteristics (mean ± SD).

Barn	Date	n	pH (SU)	Percent (wet weight basis)			
				Nitrogen	Solids	Ammonia	Sulfur
1	4/7/09	6	7.34 ± 0.9	0.45 ± 0.14	18.6 ± 15.8	0.16 ± 0.08	0.16 ± 0.07
2	4/7/09	6	7.14 ± 0.10	0.33 ± 0.19	5.90 ± 4.80	0.13 ± 0.06	0.07 ± 0.05
3	4/7/09	1	7.17	0.03	0.30	0.03	0.01
1	4/8/09	12	7.42 ± 0.14	0.22 ± 0.16	5.30 ± 6.83	0.12 ± 0.08	0.06 ± 0.07
2	4/8/09	12	7.57 ± 0.11	0.29 ± 0.23	7.06 ± 10.1	0.14 ± 0.08	0.05 ± 0.05
3	4/8/09	4	6.57 ± 0.44	0.13 ± 0.05	0.93 ± 0.42	0.07 ± 0.04	0.01 ± 0.00
FA	6/22/09	9	6.93 ± 0.25	0.14 ± 0.07	1.33 ± 0.87	0.08 ± 0.03	0.02 ± 0.02
1	7/2/09	12	7.46 ± 0.20	0.41 ± 0.34	19.5 ± 19.8	0.18 ± 0.13	0.18 ± 0.19
2	7/2/09	12	7.50 ± 0.17	0.38 ± 0.31	16.9 ± 16.7	0.17 ± 0.14	0.10 ± 0.10
1	7/16/09	2	7.24 ± 0.05	0.27 ± 0.21	11.5 ± 15.6	0.13 ± 0.04	0.05 ± 0.05
2	7/16/09	2	7.26 ± 0.35	0.21 ± 0.17	9.91 ± 15.8	0.13 ± 0.06	0.01 ± 0.00
1	9/25/09	1	7.48	0.13	2.07	0.07	0.01
2	9/25/09	1	7.59	0.11	0.87	0.05	0.01
3	9/25/09	1	6.46	0.15	1.41	0.09	0.01
1	12/14/09	1	7.51	0.34	10.6	0.20	0.17
2	12/14/09	1	7.37	0.45	12.7	0.23	0.15
3	12/14/09	1	6.78	0.10	1.07	0.07	0.01

Table D4. Water characteristics (mean ± SD).

Barn	Date	n	mg/L			
			Nitrate/Nitrite	TKN	TKN + NO_3	Sulfur
1,2,3	12/8/08	3	-	2.05 ± 1.63	2.05 ± 1.63	1.90 ± 0.63
1,2,3	2/8/09	3	-	-	-	1.27 ± 0.12
1,2,3	4/1/09	3	-	-	0.60	0.97 ± 0.32
1,2,3	6/26/09	3	0.30	-	0.32 ± 0.28	1.20 ± 0.10
1,2,3	9/16/09	3	-	-	0.62 ± 0.05	1.27 ± 0.06
1,2,3	12/15/09	3	-	-	-	1.23 ± 0.06

APPENDIX E. DAILY MEANS.

Table E1. Weather variables.

Table E1. Daily means (SD) of weather at site NC4B for December, 2007

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W·m^{-2}	Atm P, kPa
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						101.0 (0.6)
16						
17						101.1 (0.4)
18						101.9 (0.1)
19						101.3 (0.2)
20						101.1 (0.1)
21						101.0 (0.1)
22						101.4 (0.1)
23						100.7 (0.3)
24						101.0 (0.2)
25						101.3 (0.2)
26						100.4 (0.2)
27						101.0 (0.2)
28						101.3 (0.2)
29						100.6 (0.1)
30						100.4 (0.3)
31						100.7 (0.3)
Avg						101.0
n	0	0	0	0	0	16
SD						0.4
Min						100.4
Max						101.9

Table E1. Daily means (SD) of weather at site NC4B for January, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1						100.5 (0.2)
2						101.2 (0.4)
3						102.8 (0.3)
4						102.9 (0.2)
5						102.1 (0.2)
6						101.7 (0.1)
7						101.7 (0.1)
8						101.4 (0.2)
9						100.8 (0.1)
10						100.7 (0.3)
11						99.9 (0.1)
12						100.4 (0.2)
13						100.4 (0.2)
14						100.4 (0.1)
15						100.7 (0.2)
16						101.5 (0.2)
17						100.7 (0.5)
18						100.8 (0.2)
19						100.6 (0.2)
20						101.6 (0.7)
21						102.9 (0.2)
22						101.5 (0.6)
23						100.7 (0.1)
24						100.5 (0.3)
25						102.0 (0.2)
26						
27						100.7 (0.1)
28						101.0 (0.2)
29						100.3 (0.3)
30						100.2 (0.6)
31						101.7 (0.2)
Avg						101.1
n	0	0	0	0	0	30
SD						0.8
Min						99.9
Max						102.9

Table E1. Daily means (SD) of weather at site NC4B for February, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1						
2						101.3 (0.2)
3						101.2 (0.1)
4						101.2 (0.1)
5						100.8 (0.2)
6						100.0 (0.3)
7						99.9 (0.2)
8						100.3 (0.2)
9						100.3 (0.2)
10						100.6 (0.1)
11						101.6 (0.2)
12						
13						
14						
15						101.3 (0.2)
16						101.2 (0.2)
17						100.6 (0.5)
18						99.6 (0.3)
19						100.6 (0.2)
20						100.8 (0.2)
21						
22						
23						100.1 (0.2)
24						100.9 (0.2)
25						100.4 (0.2)
26						99.2 (0.6)
27						99.6 (0.5)
28						101.3 (0.4)
29						101.9 (0.3)
Avg						100.6
n	0	0	0	0	0	23
SD						0.7
Min						99.2
Max						101.9

Table E1. Daily means (SD) of weather at site NC4B for March, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1						101.0 (0.2)
2						101.4 (0.2)
3						101.3 (0.2)
4						100.1 (0.5)
5						99.9 (0.4)
6						
7						
8						99.5 (0.6)
9						101.5 (0.3)
10						101.7 (0.3)
11						100.7 (0.4)
12						-624.8 (27090.0)
13						100.2 (0.1)
14						99.7 (0.4)
15						99.4 (0.3)
16						100.3 (0.8)
17						102.0 (0.2)
18						101.6 (0.4)
19						100.1 (0.5)
20						100.1 (0.7)
21						101.1 (0.2)
22						100.2 (0.3)
23						100.7 (0.1)
24						100.9 (0.2)
25						101.6 (0.2)
26						101.2 (0.2)
27						100.7 (0.3)
28						100.3 (0.1)
29						101.4 (0.4)
30						
31						
Avg						73.8
n	0	0	0	0	0	27
SD						137.0
Min						-624.8
Max						102.0

Table E1. Daily means (SD) of weather at site NC4B for April, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1						
2						101.2 (0.3)
3						101.5 (0.4)
4						100.4 (0.3)
5						100.1 (0.1)
6						100.4 (0.3)
7						100.9 (0.1)
8						101.1 (0.1)
9						101.0 (0.1)
10						100.8 (0.1)
11						100.3 (0.3)
12						99.6 (0.2)
13						99.7 (0.2)
14						100.3 (0.1)
15						100.8 (0.2)
16		43.0 (19.3)		18 (139)	334 (391)	101.2 (0.1)
17		41.6 (21.0)		278 (91)	330 (386)	100.9 (0.2)
18	21.1 (6.9)	39.5 (16.3)		237 (46)	318 (380)	100.6 (0.1)
19	21.0 (5.1)	52.9 (16.5)		205 (52)	283 (352)	100.3 (0.2)
20	20.0 (3.8)	65.1 (22.1)		203 (76)	195 (305)	99.9 (0.1)
21	15.2 (2.8)	80.2 (11.7)		6 (144)	136 (227)	100.1 (0.1)
22	18.1 (3.2)	77.2 (12.6)		37 (70)	191 (284)	100.3 (0.2)
23	19.2 (2.7)	76.9 (9.9)		45 (58)	155 (244)	100.7 (0.1)
24	20.4 (5.1)	67.0 (21.0)		64 (93)	263 (357)	101.0 (0.1)
25	21.6 (5.1)	61.9 (20.2)		221 (62)	284 (354)	100.8 (0.2)
26	22.9 (5.1)	62.0 (17.0)		230 (43)	297 (365)	100.6 (0.1)
27	21.9 (3.4)	74.0 (14.0)		200 (96)	187 (277)	100.5 (0.1)
28	20.4 (2.3)	80.8 (9.7)		206 (57)	119 (192)	99.9 (0.3)
29	14.3 (1.9)	56.0 (20.8)		302 (64)	339 (395)	100.1 (0.3)
30	13.7 (4.9)	52.4 (16.8)		360 (136)	334 (385)	100.7 (0.1)
Avg	19.2	62.0		269	251	100.5
n	13	15	0	15	15	29
SD	2.9	13.7		108	76	0.5
Min	13.7	39.5		6	119	99.6
Max	22.9	80.8		360	339	101.5

Table E1. Daily means (SD) of weather at site NC4B for May, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W·m^{-2}	Atm P, kPa
1	18.3 (6.0)	54.8 (16.7)		187 (54)	328 (379)	100.9 (0.2)
2	21.5 (4.8)	61.5 (17.0)		209 (54)	294 (362)	100.7 (0.1)
3	22.6 (4.3)	61.0 (19.0)		221 (58)	298 (366)	100.4 (0.2)
4	23.2 (4.5)	64.4 (20.0)		217 (75)	274 (364)	100.3 (0.1)
5	19.9 (3.1)	78.0 (13.1)		51 (93)	204 (317)	100.4 (0.1)
6	20.2 (4.3)	66.0 (18.9)		64 (102)	261 (345)	100.5 (0.1)
7					(346)	
8					(3)	
9					(331)	
10	21.9 (4.7)	66.7 (18.9)	3.00 (2.10)	7 (132)	324 (381)	99.6 (0.2)
11	17.6 (4.7)	76.3 (11.3)	3.82 (1.84)	93 (95)	153 (227)	99.0 (0.7)
12	15.4 (2.0)	65.2 (8.6)	5.25 (1.96)	311 (116)	124 (194)	99.1 (0.5)
13	15.8 (4.5)	53.2 (18.3)	3.24 (2.12)	5 (150)	360 (398)	100.6 (0.2)
14	18.7 (5.0)	53.8 (16.9)	1.71 (1.24)	226 (49)	289 (334)	100.8 (0.2)
15	21.6 (3.4)	68.0 (10.4)	1.94 (1.09)	226 (48)	203 (266)	100.4 (0.2)
16	23.5 (3.6)	69.8 (14.8)	3.83 (1.76)	259 (73)	241 (343)	99.4 (0.3)
17	19.3 (4.2)	49.5 (16.6)	2.33 (1.24)	286 (87)	335 (381)	99.7 (0.2)
18	20.1 (5.0)	64.6 (21.7)	2.83 (1.96)	243 (57)	312 (363)	99.1 (0.3)
19	20.7 (3.9)	58.3 (21.5)	2.55 (1.87)	266 (64)	349 (390)	99.4 (0.2)
20	22.7 (4.7)	66.0 (14.1)	2.77 (1.65)	238 (95)	210 (280)	98.9 (0.3)
21	20.6 (3.6)	65.2 (18.4)	1.57 (1.24)	305 (109)	303 (368)	99.1 (0.1)
22	21.1 (4.6)	51.6 (21.2)	2.09 (1.72)	282 (95)	363 (396)	99.7 (0.2)
23	21.6 (4.5)	55.1 (16.2)	1.66 (1.17)	52 (103)	289 (354)	100.2 (0.1)
24	18.6 (2.9)	72.7 (13.3)	2.08 (1.38)	39 (89)	151 (258)	100.3 (0.1)
25	21.2 (5.3)	55.5 (22.2)	1.19 (0.93)	128 (105)	352 (392)	100.7 (0.1)
26	22.0 (5.3)	56.1 (16.5)	1.83 (1.36)	201 (51)	356 (390)	100.7 (0.2)
27	24.1 (4.9)	62.2 (15.5)	2.18 (0.99)	221 (48)	341 (378)	100.5 (0.1)
28	17.6 (3.5)	82.8 (7.4)	3.19 (2.07)	17 (105)	54 (62)	100.8 (0.3)
29	19.5 (4.8)	59.1 (22.3)	2.23 (1.42)	69 (68)	336 (384)	101.0 (0.1)
30	23.4 (5.0)	69.1 (15.8)	1.68 (1.28)	176 (53)	314 (366)	100.8 (0.1)
31	26.3 (4.3)	72.1 (14.6)	2.05 (1.09)	217 (48)	304 (341)	100.3 (0.3)
Avg	20.7	63.5	2.50	245	276	100.1
n	28	28	22	28	28	28
SD	2.4	8.2	0.92	97	79	0.7
Min	15.4	49.5	1.19	5	54	98.9
Max	26.3	82.8	5.25	311	363	101.0

Table E1. Daily means (SD) of weather at site NC4B for June, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	26.5 (4.8)	69.4 (19.0)	2.02 (1.30)	241 (65)	292 (355)	100.0 (0.1)
2	25.2 (3.8)	59.1 (21.8)	2.44 (1.44)	25 (125)	339 (389)	100.2 (0.2)
3	24.6 (4.0)	65.4 (16.3)	2.39 (1.33)	160 (38)	267 (318)	100.4 (0.2)
4	28.1 (4.9)	69.2 (14.5)	2.54 (0.97)	206 (52)	303 (360)	100.1 (0.1)
5	30.2 (4.4)	63.0 (14.8)	2.03 (1.23)	235 (61)	297 (365)	100.5 (0.2)
6	30.9 (4.8)	61.6 (17.1)	1.85 (1.29)	235 (46)	324 (361)	100.8 (0.1)
7	31.2 (4.8)	59.7 (19.9)	1.61 (1.13)	239 (45)	343 (371)	100.8 (0.2)
8	31.5 (5.1)	58.9 (19.1)	1.32 (0.85)	232 (48)	306 (350)	100.5 (0.2)
9	32.0 (5.1)	55.9 (17.7)	1.55 (0.83)	238 (84)	307 (359)	100.3 (0.1)
10	30.5 (4.5)	59.8 (16.6)	1.68 (0.96)	218 (46)	329 (361)	100.3 (0.1)
11	27.2 (3.8)	74.4 (14.3)	1.72 (1.28)	109 (79)	215 (310)	100.5 (0.2)
12	27.6 (3.6)	62.4 (20.4)	2.39 (0.99)	95 (32)	277 (323)	101.0 (0.1)
13	26.7 (4.3)	61.4 (16.5)	2.27 (1.57)	107 (61)	333 (372)	101.0 (0.1)
14	26.9 (5.1)	66.6 (19.5)	1.80 (1.39)	189 (71)	317 (367)	100.5 (0.2)
15	25.4 (3.6)	76.3 (13.5)	1.23 (0.79)	236 (67)	235 (332)	100.1 (0.1)
16	27.5 (4.9)	65.7 (18.3)	1.48 (0.76)	217 (47)	324 (371)	99.9 (0.1)
17	27.7 (3.8)	59.2 (21.9)	2.18 (1.11)	311 (124)	301 (337)	99.7 (0.1)
18	24.6 (3.8)	43.8 (14.4)	2.44 (1.21)	11 (135)	352 (390)	99.9 (0.1)
19	24.6 (5.5)	48.9 (19.4)	1.31 (0.92)	273 (101)	344 (386)	100.1 (0.1)
20	24.0 (4.2)	65.4 (13.6)	1.38 (1.09)	207 (87)	237 (299)	100.5 (0.1)
21	23.1 (3.1)	75.2 (9.7)	1.68 (1.14)	130 (50)	173 (238)	100.6 (0.1)
22	25.1 (3.2)	76.0 (13.5)	1.50 (1.02)	185 (59)	216 (322)	100.3 (0.1)
23	25.8 (3.6)	71.7 (13.6)	1.47 (1.00)	217 (51)	253 (323)	100.3 (0.1)
24	27.0 (5.1)	58.0 (23.1)	1.71 (1.19)	311 (120)	347 (376)	100.8 (0.2)
25					(295)	
26					(0)	
27					(321)	
28	29.6 (4.4)	63.4 (19.5)	2.41 (1.33)	235 (47)	315 (366)	100.3 (0.1)
29	27.9 (3.5)	67.2 (14.5)	2.81 (1.28)	229 (52)	267 (309)	100.2 (0.1)
30	27.6 (3.3)	63.5 (17.9)	2.46 (1.14)	241 (47)	236 (308)	99.9 (0.1)
Avg	27.4	63.8	1.91	220	291	100.3
n	27	27	27	27	27	27
SD	2.4	7.5	0.45	73	47	0.3
Min	23.1	43.8	1.23	11	173	99.7
Max	32.0	76.3	2.81	311	352	101.0

Table E1. Daily means (SD) of weather at site NC4B for July, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	24.7 (3.3)	50.5 (13.1)	2.40 (1.66)	297 (62)	345 (371)	100.3 (0.2)
2	26.0 (5.8)	46.4 (19.0)	1.36 (1.18)	251 (80)	346 (384)	100.7 (0.1)
3	27.1 (5.3)	54.2 (20.2)	1.93 (1.36)	195 (50)	312 (358)	100.7 (0.1)
4	28.1 (4.5)	65.1 (18.7)	2.27 (1.42)	202 (46)	294 (363)	100.5 (0.2)
5	25.8 (3.3)	77.4 (13.3)	1.84 (1.53)	173 (58)	187 (290)	100.4 (0.1)
6	26.5 (4.3)	73.5 (16.8)	1.77 (1.18)	189 (64)	260 (332)	100.5 (0.1)
7	25.4 (3.2)	78.2 (12.1)	1.67 (1.04)	197 (50)	233 (277)	100.8 (0.1)
8	26.9 (3.5)	74.3 (13.1)	2.17 (1.55)	226 (46)	215 (287)	100.7 (0.1)
9	25.6 (3.8)	80.2 (10.0)	1.97 (1.11)	205 (53)	155 (179)	100.5 (0.1)
10	26.7 (4.1)	75.4 (16.9)	1.85 (0.97)	260 (93)	279 (343)	100.5 (0.1)
11	25.5 (2.1)	84.3 (7.9)	1.47 (1.19)	95 (102)	146 (199)	100.5 (0.1)
12	27.0 (4.0)	62.4 (19.6)	2.25 (1.73)	43 (109)	338 (369)	100.6 (0.1)
13	26.9 (5.1)	62.6 (16.5)	1.38 (1.10)	175 (70)	315 (364)	100.0 (0.2)
14	25.2 (2.7)	80.1 (9.4)	1.58 (0.98)	334 (123)	180 (228)	100.0 (0.1)
15	26.1 (3.3)	75.8 (15.9)	2.70 (1.61)	33 (109)	204 (298)	100.4 (0.2)
16	26.6 (4.2)	58.3 (17.1)	3.16 (2.00)	30 (104)	333 (374)	100.8 (0.1)
17	26.9 (5.1)	53.5 (16.2)	2.72 (2.04)	61 (72)	341 (373)	100.7 (0.1)
18	26.7 (3.8)	72.0 (13.2)	2.16 (1.53)	107 (46)	272 (357)	100.6 (0.1)
19	26.3 (2.7)	79.2 (10.9)	2.44 (1.45)	73 (68)	216 (269)	100.5 (0.1)
20	28.3 (3.7)	72.7 (15.2)	2.90 (1.47)	354 (147)	236 (290)	100.2 (0.1)
21	30.4 (4.3)	60.4 (14.4)	2.02 (1.15)	284 (89)	319 (361)	100.0 (0.1)
22	28.3 (5.2)	67.7 (16.3)	2.10 (2.34)	229 (68)	274 (366)	100.2 (0.1)
23	24.5 (3.2)	82.7 (8.4)	1.71 (1.17)	169 (62)	149 (236)	100.2 (0.1)
24	25.9 (3.6)	72.9 (16.6)	1.15 (0.85)	297 (100)	274 (358)	100.4 (0.2)
25	26.2 (3.5)	67.3 (16.3)	1.09 (0.81)	30 (128)	203 (259)	100.7 (0.1)
26	26.2 (3.6)	70.4 (15.8)	1.13 (1.08)	201 (69)	239 (285)	100.4 (0.2)
27	27.8 (3.4)	75.4 (11.9)	1.61 (0.99)	203 (52)	241 (304)	99.9 (0.1)
28	28.9 (4.0)	66.3 (19.9)	1.37 (0.89)	311 (118)	315 (364)	100.0 (0.1)
29	28.9 (3.9)	69.7 (14.2)	1.56 (0.91)	217 (45)	266 (304)	100.1 (0.1)
30	27.6 (3.9)	77.6 (13.5)	1.74 (0.94)	228 (43)	228 (298)	99.9 (0.2)
31	27.5 (3.9)	80.3 (12.2)		243 (61)	246 (335)	99.6 (0.1)
Avg	26.8	69.9	1.92	223	257	100.4
n	31	31	30	31	31	31
SD	1.3	9.7	0.52	91	59	0.3
Min	24.5	46.4	1.09	30	146	99.6
Max	30.4	84.3	3.16	354	346	100.8

Table E1. Daily means (SD) of weather at site NC4B for August, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	27.9 (3.8)	74.2 (14.9)		263 (49)	270 (338)	99.7 (0.1)
2	29.2 (4.0)	68.6 (14.2)		239 (50)	275 (339)	99.7 (0.1)
3	28.2 (4.3)	62.8 (15.6)		286 (103)	302 (350)	100.0 (0.2)
4	29.6 (3.9)	63.8 (13.9)		245 (77)	301 (356)	100.3 (0.1)
5	30.4 (4.0)	64.5 (18.8)		252 (49)	291 (342)	100.3 (0.1)
6	31.5 (3.8)	58.9 (17.4)		284 (66)	304 (341)	100.0 (0.1)
7	27.6 (3.8)	67.5 (15.7)		285 (94)	233 (317)	99.8 (0.1)
8	26.5 (3.9)	65.2 (21.0)		310 (123)	258 (320)	99.7 (0.1)
9	25.5 (4.1)	66.6 (13.7)		59 (112)	237 (305)	100.0 (0.1)
10	25.3 (3.3)	73.7 (14.5)		204 (55)	173 (215)	100.0 (0.1)
11	23.9 (4.8)	66.9 (21.0)		313 (114)	302 (356)	99.9 (0.1)
12	24.8 (4.8)	57.7 (17.5)		87 (98)	314 (359)	100.0 (0.1)
13	20.9 (1.1)	89.5 (3.0)		69 (96)	41 (47)	99.7 (0.1)
14	23.2 (3.9)	75.7 (16.2)		237 (90)	223 (296)	100.0 (0.2)
15	25.1 (4.6)	72.8 (17.3)		182 (83)	259 (324)	100.3 (0.1)
16	24.8 (3.4)	75.3 (15.5)		45 (111)	201 (243)	100.4 (0.1)
17	24.3 (2.4)	78.3 (11.5)		94 (76)	108 (128)	100.5 (0.1)
18	25.3 (4.1)	72.2 (16.2)	1.61 (1.28)	85 (64)	267 (333)	100.4 (0.1)
19	26.9 (4.6)	69.8 (18.4)	1.16 (0.89)	109 (96)	280 (339)	100.4 (0.1)
20	26.7 (4.2)	70.0 (18.5)	2.35 (1.87)	86 (64)	280 (336)	100.6 (0.1)
21	25.4 (3.3)	73.9 (14.1)	4.11 (1.42)	74 (16)	186 (256)	100.9 (0.1)
22	24.7 (3.8)	69.2 (13.1)	4.27 (1.72)	72 (21)	275 (326)	101.0 (0.1)
23	25.6 (3.8)	67.0 (15.4)	2.80 (1.33)	82 (36)	263 (322)	100.9 (0.2)
24	26.3 (4.6)	69.5 (18.7)	1.29 (0.86)	102 (78)	287 (352)	100.5 (0.2)
25	26.5 (3.7)	73.3 (16.4)	0.80 (0.71)	200 (70)	202 (260)	100.2 (0.1)
26	24.9 (1.6)	86.4 (5.7)	1.62 (1.17)	75 (90)	88 (109)	100.2 (0.1)
27	25.4 (1.6)	89.6 (4.5)	3.59 (1.09)	112 (35)	73 (103)	100.0 (0.1)
28	28.0 (2.6)	79.5 (13.0)	1.46 (1.16)	172 (61)	238 (327)	99.9 (0.1)
29	26.2 (3.3)	82.0 (12.4)	1.22 (1.02)	191 (86)	182 (276)	100.1 (0.1)
30	27.6 (4.0)	77.1 (15.1)	1.08 (0.91)	173 (76)	214 (288)	100.4 (0.1)
31	27.1 (3.6)	74.2 (11.0)	2.58 (1.83)	69 (79)	263 (321)	100.7 (0.1)
Avg	26.3	72.1	2.14	128	232	100.2
n	31	31	14	31	31	31
SD	2.1	7.7	1.12	87	71	0.4
Min	20.9	57.7	0.80	45	41	99.7
Max	31.5	89.6	4.27	313	314	101.0

Table E1. Daily means (SD) of weather at site NC4B for September, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	25.4 (3.5)	62.7 (20.5)	3.05 (1.61)	65 (28)	284 (335)	100.8 (0.1)
2	24.3 (5.1)	64.0 (20.7)	1.10 (1.16)	10 (128)	300 (351)	100.6 (0.2)
3	25.8 (5.1)	62.7 (18.7)	1.07 (1.06)	250 (60)	292 (339)	100.3 (0.1)
4	25.8 (4.9)	64.8 (17.5)	1.52 (1.03)	152 (59)	286 (338)	100.3 (0.1)
5	23.8 (2.0)	87.9 (5.6)	3.71 (2.03)	55 (36)	89 (117)	99.9 (0.3)
6						
7						
8	26.2 (4.1)	77.7 (15.7)	1.87 (1.81)	82 (74)	243 (311)	100.8 (0.1)
9	25.5 (3.1)	83.5 (10.2)	1.43 (1.07)	170 (76)	180 (269)	100.6 (0.1)
10	24.2 (0.7)	90.2 (3.4)	1.97 (1.30)	35 (115)	56 (78)	100.8 (0.2)
11	24.3 (2.3)	84.6 (9.7)	2.75 (1.03)	37 (84)	133 (190)	101.1 (0.1)
12	26.2 (3.8)	79.2 (14.7)	1.27 (0.78)	126 (68)	202 (297)	100.8 (0.2)
13	27.9 (3.6)	76.5 (14.4)	1.66 (1.27)	240 (44)	246 (313)	100.4 (0.1)
14	28.3 (3.2)	75.6 (14.6)	1.97 (1.16)	227 (48)	249 (313)	100.1 (0.2)
15	27.4 (2.9)	75.7 (10.4)	2.43 (1.00)	287 (114)	191 (260)	100.1 (0.1)
16	21.9 (1.4)	85.4 (6.9)	3.79 (1.57)	37 (77)	74 (120)	100.5 (0.2)
17	20.6 (2.2)	76.6 (12.9)	3.30 (1.36)	22 (118)	158 (227)	100.8 (0.1)
18	21.4 (4.0)	65.3 (16.2)	2.72 (1.64)	12 (150)	260 (319)	100.9 (0.1)
19	20.2 (3.1)	70.2 (13.2)	4.70 (2.05)	38 (43)	239 (309)	101.2 (0.1)
20	18.9 (3.0)	78.9 (5.1)	3.66 (1.07)	19 (115)	126 (192)	101.0 (0.1)
21	20.6 (2.5)	77.9 (9.4)	2.41 (1.19)	16 (143)	169 (234)	101.1 (0.1)
22	20.9 (2.3)	74.0 (14.0)	3.07 (1.39)	27 (101)	152 (190)	101.2 (0.1)
23	19.7 (2.8)	74.1 (12.3)	5.51 (1.52)	34 (54)	169 (215)	101.3 (0.1)
24	17.8 (2.4)	65.0 (10.9)	7.20 (1.75)	26 (85)	194 (273)	101.0 (0.2)
25	17.6 (1.8)	86.5 (6.4)	8.59 (2.02)	23 (103)	51 (67)	100.0 (0.3)
26	23.3 (1.7)	82.2 (8.9)	3.39 (1.80)	129 (33)	137 (178)	99.8 (0.2)
27	23.6 (3.2)	77.4 (14.2)	0.92 (0.74)	131 (72)	187 (279)	100.1 (0.1)
28	23.3 (2.8)	77.7 (10.7)	1.47 (1.34)	246 (44)	153 (237)	100.1 (0.1)
29	24.1 (3.5)	74.6 (14.4)	0.97 (0.85)	17 (125)	200 (271)	100.3 (0.1)
30	22.7 (2.3)	82.5 (8.0)	1.04 (0.76)		111 (151)	100.0 (0.2)
Avg	23.3	76.2	2.80	41	183	100.6
n	28	28	28	27	28	28
SD	2.9	7.8	1.84	88	70	0.4
Min	17.6	62.7	0.92	10	51	99.8
Max	28.3	90.2	8.59	287	300	101.3

Table E1. Daily means (SD) of weather at site NC4B for October, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	20.7 (3.1)	80.3 (9.0)	1.87 (1.41)	277 (77)	162 (232)	99.4 (0.2)
2	16.2 (4.0)	64.4 (17.8)	1.76 (1.30)	314 (114)	243 (307)	100.0 (0.1)
3	17.8 (5.3)	65.3 (20.9)	0.99 (1.06)	225 (72)	237 (299)	100.5 (0.2)
4	20.0 (5.4)	65.0 (18.7)	0.84 (0.82)	156 (73)	219 (285)	101.0 (0.1)
5	20.5 (5.5)	69.1 (19.4)	0.67 (0.73)	53 (109)	224 (290)	101.2 (0.1)
6	21.0 (5.3)	69.1 (19.5)	1.39 (1.26)	23 (126)	226 (289)	101.2 (0.1)
7	18.4 (2.7)	72.2 (14.6)	3.09 (1.64)	62 (33)	206 (268)	101.3 (0.1)
8	19.0 (4.9)	70.5 (11.3)	2.15 (0.98)	128 (33)	188 (266)	100.8 (0.2)
9	22.2 (3.3)	77.9 (11.8)	1.50 (0.75)	126 (34)	107 (144)	100.4 (0.1)
10	21.6 (1.5)	85.8 (6.6)	4.04 (1.65)	51 (22)	86 (140)	100.7 (0.1)
11	20.6 (1.3)	84.0 (6.5)	5.32 (1.03)	44 (21)	68 (102)	101.2 (0.2)
12	20.5 (3.0)	77.3 (8.9)	4.57 (1.33)	54 (26)	168 (231)	101.6 (0.1)
13	20.4 (4.5)	73.7 (16.3)	2.00 (1.23)	24 (124)	213 (278)	101.6 (0.2)
14	21.2 (6.0)	67.1 (22.1)	0.93 (0.94)	318 (125)	219 (282)	101.1 (0.2)
15	22.3 (6.4)	64.3 (19.8)	0.88 (0.93)	250 (64)	211 (273)	100.8 (0.1)
16	23.2 (4.9)	62.5 (14.5)	1.34 (1.46)	239 (43)	199 (265)	100.5 (0.1)
17	19.1 (3.0)	83.9 (6.3)	2.92 (1.99)	28 (114)	71 (107)	100.3 (0.1)
18	12.1 (0.9)	84.1 (8.9)	4.68 (1.29)	12 (146)	51 (77)	100.5 (0.1)
19	12.0 (2.7)	60.7 (12.6)	4.24 (1.96)	6 (160)	210 (275)	101.1 (0.2)
20	11.6 (5.1)	58.6 (19.4)	1.14 (0.91)	322 (126)	212 (277)	101.3 (0.2)
21	14.6 (5.8)	62.5 (15.3)	1.80 (1.71)	256 (78)	178 (247)	100.8 (0.2)
22	11.4 (2.9)	56.2 (13.4)	2.81 (1.84)	23 (128)	209 (275)	101.4 (0.2)
23	11.0 (4.3)	69.7 (13.7)	3.34 (1.78)	43 (69)	187 (260)	102.0 (0.1)
24	14.6 (2.7)	81.0 (5.3)	4.79 (1.42)	88 (27)	41 (60)	101.3 (0.4)
25	20.9 (2.9)	83.8 (8.6)	3.62 (1.81)	175 (66)	80 (136)	100.0 (0.2)
26	16.0 (3.5)	68.3 (12.7)	1.31 (1.01)	328 (130)	180 (248)	100.3 (0.1)
27	11.4 (4.5)	71.2 (13.6)	2.18 (1.82)	283 (107)	127 (206)	100.2 (0.2)
28	7.5 (3.8)	58.1 (18.6)	5.16 (1.74)	283 (18)	187 (255)	100.4 (0.2)
29	8.2 (4.5)	54.6 (15.5)	2.59 (2.05)	262 (31)	188 (251)	100.7 (0.2)
30	8.2 (4.3)	57.7 (19.2)	1.60 (1.54)	349 (138)	190 (253)	101.9 (0.3)
31	9.8 (6.6)	57.5 (25.2)	0.59 (0.61)	265 (99)	188 (251)	102.1 (0.2)
Avg	16.6	69.6	2.45	351	170	100.9
n	31	31	31	31	31	31
SD	4.9	9.4	1.44	118	58	0.6
Min	7.5	54.6	0.59	6	41	99.4
Max	23.2	85.8	5.32	349	243	102.1

Table E1. Daily means (SD) of weather at site NC4B for November, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	13.8 (6.7)	50.5 (18.6)	0.85 (0.89)	214 (45)	185 (248)	101.5 (0.2)
2	15.3 (6.6)	57.0 (21.9)	1.74 (1.46)	93 (68)	182 (244)	101.4 (0.1)
3	15.4 (0.7)	90.1 (2.1)	5.03 (0.98)	33 (61)	24 (27)	101.3 (0.2)
4	16.4 (0.8)	90.7 (3.1)	5.82 (1.14)	30 (65)	38 (60)	100.6 (0.2)
5	16.7 (1.3)	81.3 (9.5)	4.18 (1.73)	345 (157)	68 (113)	100.2 (0.1)
6	18.0 (4.5)	63.6 (15.9)	2.97 (1.93)	284 (40)	173 (233)	100.1 (0.1)
7	18.6 (5.0)	68.0 (17.1)	0.88 (0.82)	226 (72)	169 (229)	100.1 (0.2)
8	16.2 (2.7)	67.6 (15.9)	1.87 (1.00)	236 (44)	113 (177)	99.6 (0.2)
9	12.3 (4.2)	61.1 (16.8)	1.47 (1.61)	237 (85)	173 (234)	99.9 (0.2)
10	10.3 (3.8)	60.1 (15.9)	1.52 (1.18)	351 (140)	173 (234)	100.8 (0.2)
11	8.6 (4.1)	68.5 (14.8)	1.93 (1.45)	31 (119)	162 (221)	101.4 (0.1)
12	11.1 (4.1)	64.1 (16.2)	2.83 (1.21)	56 (27)	114 (177)	101.4 (0.2)
13	16.4 (3.3)	89.9 (3.5)	2.33 (1.34)	52 (107)	38 (57)	100.4 (0.3)
14	16.7 (1.9)	93.9 (0.7)	1.37 (1.07)	93 (104)	15 (25)	100.1 (0.2)
15	20.1 (4.2)	81.5 (10.5)	4.23 (2.08)	230 (58)	83 (123)	99.3 (0.2)
16	9.6 (2.3)	60.3 (12.1)	4.01 (2.43)	277 (29)	165 (226)	100.2 (0.4)
17	7.7 (3.3)	58.5 (13.5)	1.49 (1.10)	329 (130)	153 (215)	100.8 (0.2)
18	4.1 (1.7)	51.7 (9.0)	3.61 (1.70)	325 (96)	113 (185)	100.9 (0.2)
19		51.3 (10.8)	1.91 (1.26)	290 (90)	163 (222)	101.1 (0.3)
20	7.6 (4.8)	52.1 (11.5)	2.18 (1.75)	265 (91)	155 (214)	100.4 (0.1)
21	4.3 (1.8)	50.5 (17.3)	4.26 (1.85)	340 (149)	128 (214)	101.0 (0.5)
22		44.0 (10.3)	1.77 (1.27)	281 (69)	159 (219)	102.2 (0.1)
23	5.8 (4.2)	46.8 (18.2)	0.90 (0.83)	199 (58)	157 (216)	101.9 (0.1)
24	10.3 (4.8)	59.1 (20.2)	1.10 (0.94)	177 (56)	125 (177)	101.1 (0.5)
25	9.3 (2.4)	57.6 (22.1)	3.91 (2.13)	282 (36)	153 (214)	100.2 (0.2)
26	6.0 (3.4)	52.5 (14.0)	1.57 (1.52)	253 (51)	154 (211)	100.6 (0.1)
27	8.8 (5.5)	55.4 (13.3)	0.85 (0.67)	180 (45)	148 (203)	100.5 (0.1)
28	11.8 (5.0)	61.1 (16.2)	1.04 (0.83)	229 (52)	135 (199)	100.1 (0.1)
29	8.3 (1.3)	79.8 (12.0)	2.97 (1.42)	47 (75)	24 (24)	99.9 (0.2)
30	12.0 (4.1)	91.3 (2.3)	2.46 (1.53)	103 (97)	25 (30)	98.8 (0.4)
Avg	11.8	65.3	2.43	291	122	100.6
n	28	30	30	30	30	30
SD	4.5	14.7	1.35	104	55	0.8
Min	4.1	44.0	0.85	30	15	98.8
Max	20.1	93.9	5.82	351	185	102.2

Table E1. Daily means (SD) of weather at site NC4B for December, 2008

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	9.7 (2.1)	61.7 (14.3)	3.00 (1.84)	235 (48)	148 (209)	99.7 (0.6)
2	5.2 (2.3)	65.3 (11.6)	1.46 (1.26)	254 (52)	104 (173)	101.0 (0.2)
3	7.2 (4.1)	65.5 (17.2)	0.89 (0.78)	188 (61)	150 (208)	101.5 (0.1)
4	8.8 (5.1)	60.8 (17.6)	1.29 (1.31)	206 (48)	142 (201)	101.1 (0.2)
5	7.8 (1.9)	74.8 (7.7)	2.49 (1.74)	14 (137)	35 (40)	101.1 (0.1)
6	6.2 (4.2)	70.8 (13.5)	1.21 (1.01)	46 (122)	126 (191)	100.5 (0.3)
7	4.1 (2.2)	58.3 (22.5)	2.88 (2.12)	301 (82)	148 (205)	100.5 (0.5)
8		48.0 (14.9)	1.00 (0.66)	103 (83)	141 (195)	101.7 (0.2)
9	13.0 (6.2)	72.7 (7.1)	3.23 (1.52)	135 (24)	80 (126)	101.3 (0.3)
10	20.0 (2.0)	86.4 (5.2)	2.32 (0.97)	176 (42)	58 (78)	100.5 (0.2)
11	19.8 (2.1)	89.5 (2.9)	2.88 (1.70)	168 (67)	35 (52)	99.5 (0.5)
12	11.0 (3.1)	65.3 (16.1)	4.37 (2.31)	294 (60)	134 (196)	99.7 (0.7)
13	4.2 (2.6)	57.7 (13.4)	1.76 (1.36)	17 (140)	147 (201)	101.6 (0.3)
14	9.6 (5.8)	72.2 (7.2)	2.21 (1.01)	100 (34)	109 (157)	101.9 (0.1)
15	17.3 (2.7)	78.0 (7.3)	1.67 (0.97)	151 (30)	71 (102)	101.6 (0.1)
16	12.7 (2.6)	93.1 (1.0)	2.59 (1.88)	87 (87)	46 (62)	101.4 (0.1)
17	14.8 (4.4)	89.1 (5.6)	0.91 (0.79)	183 (96)	79 (115)	101.0 (0.1)
18						
19	18.0 (3.3)	81.9 (13.0)	2.47 (1.55)	210 (57)	77 (110)	100.4 (0.4)
20	17.6 (2.7)	80.8 (12.7)	1.86 (1.09)	242 (90)	99 (163)	100.1 (0.1)
21	12.7 (3.7)	72.8 (21.1)	3.94 (1.34)	254 (65)	52 (74)	99.6 (0.3)
22		41.8 (6.7)	3.72 (2.10)	305 (56)	148 (203)	101.4 (0.6)
23		53.4 (12.5)	2.26 (0.94)	63 (69)	134 (194)	102.4 (0.2)
24	14.5 (6.6)	75.4 (7.2)	2.16 (1.25)	162 (67)	79 (121)	101.5 (0.3)
25						
26						
27						
28						
29						
30	11.0 (4.6)	52.5 (19.3)	2.02 (1.23)	249 (57)	149 (203)	100.4 (0.2)
31						
Avg	11.7	69.5	2.28	193	104	100.9
n	21	24	24	24	24	24
SD	4.9	13.4	0.93	86	40	0.8
Min	4.1	41.8	0.89	14	35	99.5
Max	20.0	93.1	4.37	305	150	102.4

Table E1. Daily means (SD) of weather at site NC4B for January, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1		39.5 (8.4)	2.22 (1.46)	41 (129)	153 (208)	101.5 (0.1)
2		75.2 (10.3)	1.33 (1.02)	235 (84)	42 (52)	100.6 (0.3)
3	7.4 (4.0)	79.2 (16.4)	1.13 (0.81)	293 (101)	117 (184)	100.6 (0.1)
4	11.2 (3.0)	87.7 (4.4)	0.85 (0.77)	182 (84)	42 (68)	100.8 (0.1)
5	15.5 (1.6)	89.6 (3.9)	2.35 (1.76)	247 (58)	51 (76)	100.4 (0.2)
6	16.3 (1.8)	90.5 (3.1)	1.44 (0.90)	209 (88)	33 (45)	99.8 (0.2)
7	16.7 (3.9)	66.2 (14.8)	5.57 (3.13)	241 (64)	46 (69)	98.7 (0.4)
8	8.0 (2.4)	58.8 (8.4)	3.03 (1.72)	260 (48)	74 (101)	99.5 (0.2)
9	5.2 (3.1)	49.5 (12.8)	1.84 (1.27)	303 (102)	154 (208)	100.9 (0.3)
10	11.5 (6.7)	64.4 (8.6)	2.03 (1.36)	193 (54)	131 (189)	100.9 (0.4)
11	13.7 (2.2)	77.5 (10.1)	3.10 (1.05)	308 (127)	68 (117)	100.1 (0.1)
12	5.4 (2.3)	63.4 (10.4)	2.70 (1.52)	30 (137)	155 (209)	101.1 (0.3)
13	3.9 (0.9)	83.2 (7.6)	2.58 (0.72)	2 (127)	21 (21)	100.4 (0.4)
14	3.1 (2.0)	64.4 (16.6)	1.90 (1.24)	289 (110)	159 (215)	100.8 (0.3)
15	4.7 (3.0)	54.7 (17.5)	3.63 (1.83)	307 (126)	155 (209)	101.1 (0.4)
16		35.4 (6.7)	3.66 (1.51)	3 (168)	163 (221)	102.3 (0.2)
17		43.6 (15.3)	1.33 (1.06)	90 (98)	162 (220)	102.0 (0.4)
18	3.8 (1.6)	77.1 (14.7)	1.88 (1.07)	225 (48)	20 (22)	100.2 (0.5)
19	5.5 (3.4)	81.2 (12.4)	1.50 (1.38)	225 (57)	109 (156)	99.2 (0.2)
20			4.30 (2.59)	342 (139)	40 (54)	99.3 (0.5)
21			1.89 (1.29)	277 (55)	163 (223)	100.7 (0.2)
22			1.33 (0.79)	226 (46)	133 (197)	100.9 (0.1)
23	8.4 (5.0)	58.4 (11.2)	1.87 (0.92)	228 (35)	156 (216)	100.6 (0.2)
24	10.8 (1.9)	64.4 (18.1)	2.79 (1.63)	305 (122)	54 (68)	100.6 (0.3)
25	2.1 (1.2)	49.8 (9.9)	4.34 (1.41)	42 (51)	74 (113)	101.3 (0.1)
26	3.4 (1.7)	59.8 (8.5)	2.31 (0.83)	45 (80)	54 (70)	101.6 (0.1)
27	7.3 (2.1)	78.1 (5.9)	2.06 (1.17)	108 (84)	72 (104)	101.5 (0.2)
28	15.0 (5.3)	81.1 (11.1)	3.47 (2.35)	206 (68)	100 (154)	100.2 (0.5)
29	8.3 (2.4)	65.4 (12.1)	1.92 (1.40)	5 (138)	125 (185)	100.3 (0.1)
30	5.5 (3.1)	59.1 (21.2)	2.10 (1.60)	338 (121)	126 (182)	100.3 (0.1)
31		42.8 (11.0)	3.22 (1.73)	272 (50)	185 (244)	100.9 (0.2)
Avg	8.4	65.7	2.44	284	101	100.6
n	23	28	31	31	31	31
SD	4.5	15.3	1.06	108	51	0.8
Min	2.1	35.4	0.85	2	20	98.7
Max	16.7	90.5	5.57	342	185	102.3

Table E1. Daily means (SD) of weather at site NC4B for February, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	8.5 (4.9)	50.4 (12.6)	2.15 (1.12)	226 (50)	180 (237)	101.0 (0.2)
2	10.2 (4.2)	65.1 (11.2)	1.30 (0.90)	204 (42)	118 (161)	100.3 (0.4)
3	4.7 (2.0)	62.0 (21.2)	4.24 (2.39)	308 (104)	163 (235)	99.9 (0.2)
4		55.8 (23.9)	4.75 (1.96)	342 (148)	176 (246)	100.6 (0.5)
5		39.8 (8.7)	3.21 (1.75)	308 (84)	193 (252)	101.9 (0.2)
6		41.3 (15.1)	1.55 (1.10)	202 (44)	190 (246)	101.9 (0.2)
7	10.8 (6.6)	46.8 (12.7)	1.78 (0.93)	221 (45)	190 (247)	101.6 (0.2)
8	14.8 (5.3)	48.6 (10.5)	2.80 (2.27)	257 (32)	182 (239)	101.2 (0.1)
9	13.1 (3.7)	51.4 (18.2)	2.41 (1.48)	105 (77)	193 (256)	101.5 (0.2)
10	14.9 (4.6)	71.6 (11.9)	1.70 (0.89)	183 (52)	100 (148)	
11	18.2 (3.7)	66.0 (14.0)	2.99 (1.67)	222 (56)	141 (196)	
12	16.3 (2.8)	40.8 (16.8)	6.14 (2.54)	272 (16)	185 (236)	
13	14.2 (4.0)	32.8 (7.8)	3.87 (2.51)	278 (60)	203 (262)	
14	9.6 (2.2)	64.9 (12.6)	2.31 (1.60)	166 (80)	63 (79)	
15	7.6 (2.2)	56.5 (14.9)	3.33 (2.11)	33 (105)	188 (260)	
16	4.0 (1.7)	59.7 (12.0)	3.63 (1.62)	15 (143)	114 (183)	
17		45.9 (13.3)	1.70 (1.09)	327 (113)	211 (270)	
18	9.4 (4.6)	75.6 (12.0)	2.58 (1.18)	191 (55)	38 (54)	
19	11.9 (3.3)	61.1 (24.9)	4.83 (2.76)	283 (52)	183 (245)	
20		39.1 (9.8)	3.37 (1.97)	293 (46)	223 (283)	
21		47.2 (19.5)	1.88 (1.47)	140 (77)	223 (283)	
22	7.7 (3.0)	51.3 (17.6)	4.72 (3.25)	270 (62)	153 (239)	
23		41.3 (9.8)	3.21 (1.52)	312 (77)	223 (282)	
24		41.0 (11.7)	1.98 (1.51)	14 (139)	224 (281)	
25		48.8 (20.3)	0.99 (0.88)	129 (58)	181 (255)	
26	9.9 (4.4)	63.9 (11.1)	1.09 (0.78)	170 (46)	81 (96)	
27	15.6 (4.4)	59.7 (9.0)	2.45 (1.32)	180 (52)	162 (233)	
28	11.3 (3.3)	88.5 (6.2)	3.44 (2.49)	75 (84)	27 (27)	
Avg	11.2	54.2	2.87	245	161	101.1
n	19	28	28	28	28	9
SD	3.8	12.6	1.25	93	55	0.7
Min	4.0	32.8	0.99	14	27	99.9
Max	18.2	88.5	6.14	342	224	101.9

Table E1. Daily means (SD) of weather at site NC4B for March, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	3.4 (0.7)	92.6 (1.2)	6.00 (1.55)	42 (58)	21 (17)	
2		77.4 (10.0)	5.02 (2.00)	340 (141)	72 (125)	
3		51.3 (11.0)	3.77 (1.87)	10 (148)	246 (304)	
4		53.3 (21.0)	1.04 (0.88)	199 (89)	225 (280)	
5	8.5 (5.3)	49.3 (18.6)	1.70 (1.10)	189 (39)	246 (303)	101.9 (0.2)
6	14.3 (6.2)	58.0 (14.4)	2.49 (1.60)	221 (49)	234 (292)	101.3 (0.3)
7	18.4 (5.1)	58.7 (11.9)	1.99 (0.93)	237 (43)	233 (288)	101.0 (0.2)
8	20.0 (4.7)	56.4 (15.1)	3.32 (1.96)	242 (42)	238 (293)	100.5 (0.2)
9	21.5 (4.6)	43.1 (19.9)	3.73 (2.68)	275 (48)	253 (307)	100.4 (0.2)
10	15.3 (3.9)	58.4 (10.3)	4.18 (1.21)	104 (39)	229 (291)	101.1 (0.2)
11	20.4 (5.0)	65.5 (18.0)	2.35 (1.15)	199 (69)	198 (271)	100.8 (0.2)
12	13.5 (2.7)	36.4 (7.2)	5.50 (1.60)	48 (87)	216 (275)	101.4 (0.2)
13	5.6 (1.1)	74.8 (18.0)	5.29 (1.27)	39 (51)	36 (42)	101.4 (0.1)
14	5.8 (1.2)	93.4 (0.8)	3.34 (0.89)	49 (51)	33 (35)	101.1 (0.1)
15	8.8 (1.5)	93.4 (1.3)	1.77 (0.92)	22 (141)	37 (39)	100.8 (0.1)
16	9.9 (0.7)	93.0 (1.0)	2.68 (1.06)	34 (95)	43 (49)	101.0 (0.1)
17	10.0 (1.2)	85.8 (6.6)	4.30 (1.20)	22 (133)	72 (86)	101.1 (0.2)
18	12.3 (5.4)	65.5 (20.6)	0.95 (0.78)	31 (116)	263 (321)	101.2 (0.2)
19	15.0 (5.9)	60.2 (17.5)	2.96 (2.61)	257 (85)	243 (300)	100.6 (0.2)
20	10.2 (3.2)	62.6 (24.5)	4.36 (1.69)	31 (118)	254 (330)	101.1 (0.2)
21	7.7 (3.5)	57.2 (19.4)	3.31 (1.87)	43 (76)	273 (329)	101.9 (0.1)
22	9.8 (5.8)	54.6 (20.0)	1.16 (0.90)	77 (103)	261 (327)	101.7 (0.2)
23	12.0 (4.6)	56.4 (15.4)	2.35 (1.64)	70 (99)	261 (319)	101.3 (0.1)
24	8.2 (3.4)	49.7 (21.3)	4.06 (1.45)	80 (32)	250 (309)	101.6 (0.1)
25	8.3 (3.4)	57.2 (13.1)	3.08 (0.82)	94 (18)	88 (103)	101.4 (0.2)
26	15.7 (3.6)	85.7 (5.1)	2.82 (1.07)	167 (43)	86 (134)	100.5 (0.2)
27	18.4 (1.4)	87.0 (3.7)	1.84 (0.97)	175 (39)	73 (89)	100.1 (0.1)
28	20.4 (2.1)	85.2 (9.8)	2.06 (1.62)	197 (51)	125 (191)	99.7 (0.2)
29	19.5 (3.8)	62.8 (20.4)	5.08 (3.09)	240 (54)	239 (326)	99.0 (0.3)
30	13.2 (4.0)	51.0 (16.4)	3.44 (2.20)	293 (83)	289 (345)	100.1 (0.2)
31	14.3 (5.0)	57.1 (22.8)	2.01 (1.45)	111 (66)	230 (288)	100.6 (0.1)
Avg	12.9	65.6	3.16	64	180	100.9
n	28	31	31	31	31	27
SD	5.0	16.1	1.34	96	90	0.7
Min	3.4	36.4	0.95	10	21	99.0
Max	21.5	93.4	6.00	340	289	101.9

Table E1. Daily means (SD) of weather at site NC4B for April, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	16.0 (2.8)	81.0 (5.6)	2.23 (1.18)	120 (42)	90 (108)	100.2 (0.1)
2	16.5 (1.5)	91.7 (2.2)	2.79 (1.34)	111 (45)	45 (54)	99.7 (0.4)
3	20.4 (2.8)	62.4 (20.6)	4.97 (2.37)	246 (58)	263 (337)	98.6 (0.3)
4	16.2 (4.4)	45.9 (14.8)	3.25 (1.96)	267 (33)	295 (347)	99.9 (0.2)
5	19.1 (5.8)	53.1 (21.9)	1.95 (1.33)	200 (73)	282 (342)	99.8 (0.3)
6	19.0 (4.1)	61.0 (23.2)	5.34 (2.88)	251 (61)	181 (292)	98.5 (0.4)
7	8.0 (1.6)	45.8 (9.8)	5.95 (2.17)	280 (11)	182 (225)	99.2 (0.3)
8	9.1 (4.4)	48.2 (16.2)	4.06 (2.39)	250 (47)	297 (345)	99.9 (0.2)
9	15.2 (3.8)	44.4 (16.3)	2.89 (1.88)	253 (68)	298 (349)	100.0 (0.2)
10	19.5 (5.1)	60.7 (23.0)	3.05 (1.65)	198 (59)	258 (326)	100.2 (0.2)
11	17.3 (3.0)	67.3 (16.0)	4.33 (2.02)	307 (122)	205 (287)	99.8 (0.4)
12	12.8 (3.7)	51.1 (19.7)	2.38 (1.90)	12 (131)	316 (362)	100.9 (0.2)
13	12.6 (3.0)	73.8 (12.9)	2.51 (1.88)	129 (46)	77 (99)	100.7 (0.3)
14	17.7 (1.1)	86.5 (4.9)	2.04 (0.98)	162 (61)	78 (113)	99.5 (0.2)
15	14.7 (2.5)	77.2 (13.5)	3.76 (1.27)	358 (165)	182 (285)	99.9 (0.4)
16	11.8 (3.9)	49.9 (19.8)	5.54 (1.65)	32 (98)	306 (361)	101.0 (0.2)
17	13.2 (6.4)	42.9 (14.7)	1.67 (0.99)	19 (115)	315 (361)	101.4 (0.2)
18	17.5 (6.4)	46.1 (18.1)	2.27 (1.33)	251 (44)	310 (361)	100.8 (0.2)
19	17.9 (4.6)	60.7 (10.8)	2.01 (1.04)	225 (53)	179 (223)	100.3 (0.2)
20	20.6 (3.6)	72.6 (13.7)	2.73 (1.23)	195 (57)	192 (273)	99.6 (0.2)
21	18.8 (3.5)	60.0 (21.3)	2.35 (1.66)	250 (78)	283 (350)	99.5 (0.1)
22	14.7 (2.2)	44.2 (20.2)	5.10 (4.40)	257 (57)	294 (353)	99.9 (0.3)
23	18.1 (6.5)	43.7 (15.8)	2.53 (2.45)	242 (67)	318 (358)	100.6 (0.2)
24	21.4 (7.2)	65.1 (17.5)	1.97 (1.10)	155 (56)	274 (340)	101.1 (0.1)
25	24.8 (4.5)	66.0 (19.4)	2.18 (0.93)	224 (54)	300 (346)	101.4 (0.1)
26	24.1 (5.4)	62.1 (23.5)	1.83 (1.18)	232 (48)	315 (355)	101.5 (0.1)
27	23.1 (5.3)	60.1 (23.5)	1.69 (1.16)	203 (51)	314 (356)	101.7 (0.1)
28	21.7 (5.0)	62.4 (20.0)	1.75 (1.41)	223 (50)	315 (354)	101.5 (0.2)
29	21.6 (5.1)	64.1 (21.3)	2.15 (1.82)	249 (84)	278 (324)	101.3 (0.1)
30	18.7 (4.6)	78.0 (14.1)	2.57 (1.03)	119 (65)	204 (288)	101.3 (0.2)
Avg	17.4	60.9	2.99	229	241	100.3
n	30	30	30	30	30	30
SD	4.1	13.2	1.25	81	81	0.9
Min	8.0	42.9	1.67	12	45	98.5
Max	24.8	91.7	5.95	358	318	101.7

Table E1. Daily means (SD) of weather at site NC4B for May, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	22.5 (3.6)	72.7 (17.2)	2.56 (1.30)	220 (57)	228 (297)	100.7 (0.3)
2	23.8 (3.2)	64.7 (13.4)	2.62 (1.48)	231 (57)	243 (299)	100.2 (0.1)
3	24.4 (3.7)	66.7 (17.0)	2.60 (1.14)	221 (63)	250 (305)	100.1 (0.1)
4	24.0 (3.6)	68.4 (16.8)	3.04 (1.65)	229 (60)	225 (284)	100.2 (0.1)
5	20.5 (2.6)	86.6 (4.4)	1.97 (1.27)	158 (65)	112 (183)	100.3 (0.1)
6	24.0 (2.7)	74.4 (13.4)	2.51 (1.35)	196 (55)	219 (301)	100.3 (0.1)
7	23.1 (2.9)	78.8 (11.2)	2.44 (0.99)	210 (69)	206 (308)	100.0 (0.2)
8	24.0 (3.7)	76.5 (12.5)	1.94 (1.16)	207 (65)	237 (288)	99.9 (0.1)
9	26.7 (3.9)	64.0 (17.0)	2.86 (1.27)	248 (68)	317 (356)	99.8 (0.1)
10	22.8 (2.3)	58.8 (16.2)	1.96 (1.28)	331 (131)	261 (289)	100.3 (0.2)
11	15.8 (2.4)	75.0 (7.1)	3.45 (2.36)	37 (106)	83 (103)	100.5 (0.1)
12	17.1 (5.2)	65.3 (19.2)	1.57 (1.29)	18 (124)	316 (359)	100.9 (0.1)
13	18.5 (3.7)	62.0 (16.6)	3.60 (1.59)	96 (21)	282 (278)	101.3 (0.1)
14	20.1 (3.2)	84.3 (5.5)	3.32 (1.54)	121 (27)	166 (198)	101.1 (0.1)
15	22.4 (2.8)	82.1 (12.0)	2.41 (1.35)	124 (52)	215 (251)	100.9 (0.1)
16	23.7 (2.4)	79.2 (11.6)	2.04 (0.98)	203 (48)	238 (294)	100.6 (0.2)
17	18.6 (4.8)	85.7 (6.8)	4.21 (2.51)	310 (122)	129 (171)	100.3 (0.2)
18	12.3 (2.1)	74.0 (13.6)	5.26 (1.99)	41 (54)	172 (227)	101.0 (0.2)
19	14.1 (3.6)	58.9 (14.3)	5.89 (2.18)	48 (22)	282 (308)	101.4 (0.1)
20	17.5 (5.6)	73.8 (10.7)	4.80 (1.24)	58 (34)	278 (328)	101.4 (0.1)
21	21.0 (3.7)	65.7 (15.1)	3.51 (1.83)	88 (31)	328 (349)	101.2 (0.1)
22	22.5 (4.1)	71.1 (14.5)	2.25 (1.33)	107 (50)	287 (341)	100.9 (0.1)
23	23.0 (3.7)	73.8 (14.7)	2.10 (1.64)	123 (51)	245 (311)	100.8 (0.1)
24	23.9 (3.2)	74.4 (14.3)	2.24 (1.13)	143 (46)	241 (286)	100.5 (0.1)
25	23.9 (3.3)	74.4 (14.6)	2.36 (1.27)	139 (29)	259 (313)	100.3 (0.1)
26			2.59 (1.22)	130 (26)	170 (186)	100.2 (0.1)
27			1.85 (0.98)	58 (82)	297 (349)	99.9 (0.2)
28			1.51 (0.95)	194 (46)	248 (299)	99.7 (0.1)
29	24.5 (3.8)	76.8 (13.3)	2.13 (1.17)	226 (55)	261 (330)	99.5 (0.1)
30	24.0 (3.9)	64.0 (17.6)	1.89 (1.57)	309 (116)	324 (356)	99.7 (0.1)
31	25.8 (4.8)	61.5 (19.9)	1.78 (1.53)	256 (85)	320 (360)	99.8 (0.1)
Avg	21.6	71.9	2.75	161	240	100.4
n	28	28	31	31	31	31
SD	3.5	7.8	1.05	85	61	0.5
Min	12.3	58.8	1.51	18	83	99.5
Max	26.7	86.6	5.89	331	328	101.4

Table E1. Daily means (SD) of weather at site NC4B for June, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	24.6 (3.6)	72.8 (14.9)	2.34 (1.76)	90 (81)	262 (322)	100.4 (0.2)
2	26.3 (4.3)	69.3 (18.3)	1.54 (1.01)	206 (53)	330 (361)	100.5 (0.1)
3	25.9 (3.7)	70.7 (19.7)	2.01 (1.00)	219 (50)	289 (353)	100.3 (0.2)
4	25.0 (3.2)	75.1 (17.3)	1.64 (0.91)	203 (55)	222 (306)	100.0 (0.2)
5	24.1 (2.9)	79.4 (12.6)	2.37 (1.15)	219 (90)	213 (288)	99.5 (0.2)
6	20.2 (1.2)	87.1 (4.8)	2.72 (1.06)	53 (58)	71 (81)	100.1 (0.2)
7	23.4 (2.8)	79.9 (10.6)	2.17 (1.09)	97 (50)	215 (267)	100.4 (0.1)
8	25.5 (3.7)	76.3 (16.3)	1.33 (1.03)	167 (62)	280 (361)	100.2 (0.1)
9	24.8 (3.8)	80.5 (14.1)	1.88 (1.74)	198 (78)	217 (329)	100.0 (0.1)
10	24.0 (4.2)	76.7 (15.5)	1.52 (0.93)	214 (95)	284 (336)	100.0 (0.1)
11	26.5 (3.6)	74.8 (14.1)	1.58 (0.92)	196 (52)	267 (327)	99.8 (0.1)
12	27.2 (4.4)	71.6 (12.3)	1.94 (1.25)	248 (51)	295 (331)	99.6 (0.1)
13	28.2 (3.9)	66.6 (15.7)	1.51 (1.04)	266 (86)	283 (323)	99.7 (0.1)
14	26.9 (3.5)	70.7 (15.2)	2.36 (1.28)	19 (128)	274 (317)	100.0 (0.1)
15						
16						
17	23.3 (2.3)	83.0 (8.3)	2.91 (1.14)	103 (45)	160 (207)	100.5 (0.1)
18	26.3 (3.7)	78.8 (12.3)	1.33 (0.92)	193 (63)	230 (296)	99.9 (0.2)
19	28.3 (3.5)	69.5 (16.4)	1.76 (1.20)	285 (111)	309 (331)	99.7 (0.1)
20	30.1 (3.8)	65.0 (15.9)	2.52 (1.95)	259 (42)	292 (324)	
21	28.2 (2.7)	57.5 (13.7)	3.39 (1.46)	303 (95)	301 (358)	
22	26.2 (3.1)	60.1 (12.7)	2.33 (1.76)	335 (145)	338 (371)	
23	25.4 (3.3)	69.4 (16.1)	2.59 (1.44)	62 (100)	304 (347)	
24	26.9 (4.4)	66.2 (18.5)	1.29 (0.99)	291 (108)	285 (339)	
25	27.7 (4.5)	61.3 (20.7)	1.13 (0.72)	208 (98)	295 (340)	
26	26.3 (3.4)	75.7 (11.0)	2.01 (1.30)	211 (64)	254 (307)	
27	28.0 (4.3)	66.4 (15.6)	2.38 (1.38)	352 (128)	276 (311)	
28	27.3 (4.5)	57.1 (17.9)	0.98 (0.83)	251 (101)	310 (345)	
29	28.9 (3.9)	52.3 (18.7)	1.71 (1.20)	298 (110)	315 (351)	99.0 (0.1)
30	28.0 (5.0)	48.4 (18.7)	1.26 (1.01)	254 (101)	333 (362)	99.0 (0.1)
Avg	26.2	70.1	1.95	235	268	99.9
n	28	28	28	28	28	19
SD	2.0	9.2	0.58	84	56	0.4
Min	20.2	48.4	0.98	19	71	99.0
Max	30.1	87.1	3.39	352	338	100.5

Table E1. Daily means (SD) of weather at site NC4B for July, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	28.1 (4.8)	53.1 (17.4)	1.90 (1.31)	236 (76)	312 (352)	99.3 (0.1)
2	28.0 (3.9)	57.6 (19.5)	1.59 (1.25)	296 (111)	299 (348)	99.7 (0.1)
3	25.4 (3.3)	53.3 (14.0)	2.35 (1.20)	356 (164)	293 (339)	100.2 (0.1)
4	25.5 (4.5)	51.8 (14.8)	1.44 (1.18)	282 (96)	321 (357)	100.3 (0.1)
5	26.3 (3.0)	75.6 (10.6)	1.32 (0.93)	200 (55)	151 (199)	99.9 (0.2)
6	24.6 (1.4)	84.7 (5.6)	1.85 (1.07)	354 (112)	97 (146)	99.6 (0.1)
7	26.2 (3.5)	66.2 (20.2)	2.16 (1.05)	60 (74)	290 (338)	99.6 (0.1)
8	26.3 (3.8)	69.1 (18.8)	1.24 (0.98)	148 (90)	225 (287)	99.9 (0.1)
9	23.8 (2.1)	69.1 (13.1)	2.79 (1.04)	69 (23)	157 (223)	100.5 (0.3)
10	23.9 (3.8)	61.7 (15.1)	2.61 (1.37)	68 (42)	293 (336)	101.1 (0.1)
11	24.8 (4.3)	66.8 (13.4)	1.48 (0.97)	190 (71)	267 (328)	101.0 (0.2)
12	28.0 (4.3)	60.1 (10.8)	2.48 (0.98)	244 (61)	286 (335)	100.4 (0.2)
13	23.2 (1.3)	84.5 (6.6)	1.33 (0.84)	168 (86)	58 (64)	100.1 (0.1)
14	24.8 (3.8)	73.9 (17.8)	2.11 (1.71)	27 (121)	296 (353)	100.5 (0.2)
15	25.8 (4.3)	64.8 (23.5)	1.38 (0.76)	108 (60)	313 (353)	100.7 (0.1)
16	25.6 (3.4)	79.7 (12.6)	1.46 (0.86)	218 (58)	176 (256)	100.2 (0.2)
17	26.0 (4.5)	79.6 (15.0)	2.44 (1.67)	218 (62)	236 (286)	99.7 (0.2)
18	25.9 (2.9)	73.3 (16.2)	1.36 (1.01)	324 (124)		100.0 (0.2)
19	25.4 (3.3)	67.9 (12.9)	2.58 (1.11)	46 (88)		100.4 (0.1)
20	24.7 (2.6)	79.1 (14.6)	1.62 (0.85)	109 (61)	149 (193)	100.4 (0.1)
21	24.8 (4.0)	73.4 (18.1)	1.72 (1.04)	84 (88)	271 (342)	100.5 (0.1)
22	25.0 (3.7)	78.6 (13.0)	1.74 (1.46)	98 (62)	224 (296)	100.5 (0.1)
23	25.3 (2.7)	82.6 (10.5)	1.53 (1.16)	234 (92)	198 (283)	100.1 (0.1)
24	25.7 (3.1)	78.7 (11.1)	1.59 (1.25)	205 (102)	253 (307)	100.0 (0.1)
25	27.3 (3.6)	75.2 (12.7)	1.78 (1.31)	188 (56)	278 (332)	100.2 (0.1)
26	28.3 (3.7)	69.5 (16.0)	1.96 (0.93)	209 (66)	257 (305)	100.2 (0.1)
27						
28						
29			1.82 (1.04)	210 (56)		100.1 (0.1)
30			1.81 (0.81)	235 (50)		100.2 (0.1)
31	26.4 (4.2)	79.6 (13.9)	2.39 (1.58)	221 (54)	267 (338)	100.4 (0.1)
Avg	25.7	70.7	1.85	193	239	100.2
n	27	27	29	29	25	29
SD	1.3	9.5	0.44	90	70	0.4
Min	23.2	51.8	1.24	27	58	99.3
Max	28.3	84.7	2.79	356	321	101.1

Table E1. Daily means (SD) of weather at site NC4B for August, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	26.6 (2.7)	82.5 (9.6)	1.35 (0.74)	224 (75)	193 (274)	100.5 (0.1)
2	25.6 (1.7)	88.2 (6.2)	2.18 (1.08)	223 (50)	125 (186)	100.2 (0.1)
3	26.7 (2.9)	81.7 (11.8)	1.16 (1.00)	211 (80)	236 (322)	100.3 (0.1)
4	27.0 (3.7)	76.8 (16.2)	1.26 (1.04)	163 (83)	277 (337)	100.3 (0.1)
5						
6						
7	26.1 (3.6)	70.3 (18.3)	1.54 (0.95)	81 (80)	303 (347)	100.7 (0.2)
8	26.8 (4.3)	69.1 (15.2)	1.14 (0.87)	191 (72)	265 (319)	101.0 (0.1)
9	28.2 (4.6)	70.9 (14.9)	1.54 (1.11)	240 (54)	283 (332)	100.9 (0.2)
10	29.9 (4.6)	66.3 (15.5)	1.73 (1.06)	250 (43)	296 (336)	100.5 (0.2)
11	29.1 (4.2)	70.7 (15.0)	2.14 (1.20)	255 (59)		100.2 (0.1)
12						
13						
14						
15						
16	26.5 (3.1)	80.0 (13.7)	0.79 (0.67)	30 (113)	192 (248)	100.9 (0.1)
17	27.5 (3.6)	76.6 (15.4)	0.70 (0.60)	197 (95)	227 (291)	101.0 (0.1)
18	27.9 (3.4)	75.7 (14.0)	1.24 (0.85)	212 (51)	256 (308)	100.8 (0.1)
19	27.9 (3.7)	75.6 (15.9)	1.58 (1.06)	221 (52)	279 (336)	100.5 (0.1)
20	28.3 (3.4)	76.6 (14.3)	1.63 (0.94)	214 (53)	252 (327)	100.4 (0.1)
21	27.1 (1.9)	84.1 (7.4)	1.66 (0.94)	183 (48)	141 (183)	100.1 (0.2)
22	25.0 (3.5)	86.6 (10.8)	1.73 (1.62)	189 (74)	155 (249)	99.7 (0.1)
23	23.8 (2.9)	86.7 (8.3)	1.45 (0.93)	67 (102)	118 (169)	99.9 (0.1)
24	25.2 (3.6)	80.0 (13.6)	1.02 (0.83)	30 (123)	216 (296)	100.4 (0.1)
25	25.9 (3.7)	76.5 (15.0)			216 (286)	100.6 (0.1)
26	27.3 (4.3)	73.7 (18.0)			274 (334)	100.6 (0.1)
27	27.5 (4.2)	72.9 (17.7)			253 (311)	100.5 (0.1)
28	25.8 (2.7)	83.1 (12.3)			156 (230)	100.2 (0.2)
29	26.0 (2.4)	82.3 (11.5)			189 (286)	99.7 (0.1)
30	26.8 (2.9)	79.0 (12.4)			226 (304)	100.0 (0.1)
31	20.7 (1.0)	90.6 (2.0)	3.31 (1.43)	37 (82)	50 (73)	100.5 (0.2)
Avg	26.6	78.3	1.53	203	216	100.4
n	25	25	19	19	24	25
SD	1.8	6.3	0.57	76	64	0.4
Min	20.7	66.3	0.70	30	50	99.7
Max	29.9	90.6	3.31	255	303	101.0

Table E1. Daily means (SD) of weather at site NC4B for September, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	21.3 (2.5)	76.9 (13.0)	4.03 (1.42)	31 (71)	217 (309)	100.8 (0.1)
2	20.6 (2.9)	74.8 (10.0)	4.38 (1.41)	33 (62)	207 (255)	100.8 (0.1)
3	21.6 (2.6)	77.7 (7.3)	3.73 (1.51)	15 (133)	175 (222)	100.4 (0.1)
4	22.7 (4.0)	70.0 (19.0)	1.75 (1.38)	13 (141)	244 (311)	100.4 (0.1)
5	24.0 (4.7)	68.4 (16.2)	1.56 (1.30)	43 (110)	248 (303)	100.7 (0.1)
6	23.2 (3.4)	69.5 (15.1)	3.09 (1.95)	56 (40)	226 (283)	100.8 (0.1)
7	22.3 (1.2)	88.9 (3.1)	4.34 (1.11)	37 (55)	78 (107)	100.3 (0.2)
8	22.7 (1.9)	85.3 (7.2)	3.81 (1.33)	6 (160)	168 (257)	100.1 (0.1)
9	22.3 (3.4)	74.1 (16.4)	2.48 (1.45)	16 (143)	258 (321)	100.5 (0.1)
10	19.7 (1.6)	85.2 (5.2)	3.34 (1.27)	13 (141)	73 (83)	100.8 (0.1)
11	21.2 (3.0)	72.9 (11.7)	1.59 (1.06)	332 (130)	242 (301)	100.7 (0.2)
12	23.4 (4.5)	75.3 (14.2)	1.27 (1.01)	249 (79)	221 (283)	100.2 (0.2)
13	22.6 (3.4)	74.1 (15.2)	2.08 (1.60)	23 (122)	245 (311)	100.2 (0.1)
14	23.5 (4.8)	67.4 (19.3)	1.30 (1.19)	314 (120)	260 (318)	100.3 (0.1)
15	24.4 (4.6)	70.1 (17.2)	0.95 (0.79)	201 (52)	223 (281)	100.3 (0.1)
16	23.6 (1.9)	81.1 (6.6)	1.38 (0.99)	347 (115)	122 (182)	100.3 (0.1)
17	22.7 (1.8)	83.5 (9.1)	2.24 (1.10)	30 (120)	119 (165)	100.6 (0.1)
18	22.8 (3.0)	79.5 (12.3)	1.36 (0.88)	34 (121)	149 (178)	100.6 (0.1)
19	23.5 (3.3)	76.8 (13.7)	2.37 (1.50)	61 (76)	171 (245)	100.8 (0.1)
20	21.8 (3.5)	75.9 (14.7)	3.20 (1.20)	71 (20)	199 (252)	101.1 (0.1)
21	22.2 (4.1)	75.6 (14.3)	2.49 (1.18)	64 (38)	231 (292)	101.0 (0.1)
22	23.9 (1.5)	90.4 (3.9)	3.34 (1.22)	80 (25)	100 (124)	100.8 (0.1)
23	24.8 (2.4)	86.5 (9.3)	1.48 (1.07)	108 (78)	161 (259)	100.8 (0.1)
24	26.0 (3.7)	79.3 (12.9)	0.90 (0.79)	239 (87)	214 (285)	100.6 (0.2)
25	23.7 (3.6)	85.3 (7.9)	2.94 (2.16)	342 (121)	145 (217)	100.6 (0.2)
26	20.3 (1.3)	89.8 (3.7)	3.95 (1.25)	64 (53)	64 (96)	100.4 (0.4)
27	23.1 (2.3)	82.8 (11.9)	1.73 (1.46)	236 (60)	145 (235)	99.4 (0.1)
28	23.2 (4.4)	69.5 (16.8)	2.09 (1.34)	238 (62)	235 (292)	99.3 (0.3)
29	18.6 (3.2)	52.0 (11.7)	2.01 (1.63)	287 (40)	247 (304)	99.7 (0.2)
30	16.5 (4.0)	66.8 (14.7)	1.60 (1.25)	288 (90)	239 (296)	100.2 (0.1)
Avg	22.4	76.9	2.43	15	187	100.5
n	30	30	30	30	30	30
SD	1.9	8.2	1.04	120	59	0.4
Min	16.5	52.0	0.90	6	64	99.3
Max	26.0	90.4	4.38	347	260	101.1

Table E1. Daily means (SD) of weather at site NC4B for October, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	17.7 (4.7)	66.7 (14.0)	1.33 (0.98)	332 (119)	220 (286)	100.4 (0.1)
2	19.2 (4.2)	78.9 (12.9)	1.53 (1.15)	140 (40)	133 (183)	100.1 (0.2)
3	22.7 (3.6)	73.3 (16.9)	1.33 (1.22)	225 (52)	220 (283)	99.9 (0.1)
4	18.8 (3.1)	62.5 (15.6)	1.37 (1.23)	275 (69)	167 (221)	100.3 (0.2)
5	16.6 (0.7)	85.1 (8.5)	1.59 (1.00)	69 (90)	54 (71)	100.5 (0.2)
6	18.8 (1.9)	90.7 (4.3)	2.38 (1.18)	30 (107)	70 (106)	100.1 (0.1)
7	22.3 (4.0)	71.9 (19.2)	3.32 (1.76)	279 (87)	155 (233)	99.9 (0.2)
8	17.3 (3.9)	57.4 (15.2)	1.90 (1.59)	82 (97)	225 (282)	100.8 (0.2)
9	23.2 (6.1)	75.1 (10.5)	1.73 (1.24)	189 (68)	183 (244)	100.3 (0.3)
10	24.2 (2.6)	84.9 (7.3)	2.94 (1.60)	294 (108)	120 (202)	100.1 (0.2)
11	17.0 (2.1)	82.7 (7.1)	2.75 (1.45)	44 (54)	83 (121)	100.9 (0.2)
12	15.3 (0.6)	87.6 (4.0)	2.67 (1.01)	42 (89)	38 (41)	101.0 (0.1)
13	18.0 (4.2)	80.0 (15.2)	1.98 (1.26)	343 (147)	192 (267)	100.7 (0.1)
14	12.6 (2.1)	85.3 (7.1)	4.57 (1.15)	41 (72)	41 (50)	100.6 (0.2)
15	11.9 (1.9)	92.5 (2.2)	2.34 (1.17)	327 (135)	56 (70)	99.6 (0.3)
16	12.2 (1.4)	88.3 (4.0)	3.79 (1.25)	13 (133)	69 (91)	99.6 (0.2)
17	11.4 (2.5)	75.9 (12.0)	3.33 (1.16)	358 (169)	170 (257)	100.1 (0.1)
18	8.2 (1.1)	79.4 (3.8)	3.27 (1.21)	350 (161)	58 (66)	100.5 (0.3)
19	9.7 (3.9)	67.1 (17.0)	2.18 (1.70)	343 (138)	206 (267)	101.1 (0.1)
20	12.4 (6.4)	64.9 (21.5)	0.83 (0.83)	217 (53)	206 (266)	101.2 (0.1)
21	16.0 (6.1)	61.2 (20.8)	0.90 (0.67)	211 (58)	203 (262)	101.1 (0.1)
22	18.0 (6.4)	71.9 (14.8)	1.00 (1.00)	180 (75)	182 (249)	100.7 (0.2)
23	22.1 (4.1)	71.8 (17.2)	2.49 (1.70)	152 (33)	160 (223)	100.2 (0.2)
24	24.2 (2.9)	74.3 (11.4)	3.10 (1.12)	201 (60)	136 (184)	99.7 (0.2)
25	15.8 (2.5)	69.5 (7.7)	3.94 (1.37)	17 (131)	125 (170)	100.4 (0.3)
26	13.2 (1.7)	87.5 (7.3)	4.27 (1.25)	30 (78)	37 (46)	100.7 (0.1)
27	15.7 (1.2)	92.1 (2.9)	2.00 (1.06)	11 (128)	46 (61)	100.4 (0.2)
28	22.7 (2.9)	77.2 (16.4)	3.06 (2.14)	256 (52)	147 (216)	100.0 (0.2)
29	16.7 (2.4)	76.6 (8.5)	3.49 (1.23)	39 (97)	138 (210)	100.9 (0.2)
30	15.6 (1.8)	88.7 (5.1)	2.57 (1.18)	46 (61)	78 (108)	100.9 (0.2)
31	20.7 (2.9)	89.8 (3.9)	1.53 (1.02)	168 (76)	75 (97)	100.2 (0.2)
Avg	17.1	77.8	2.44	2	129	100.4
n	31	31	31	31	31	31
SD	4.3	9.7	1.00	120	62	0.5
Min	8.2	57.4	0.83	11	37	99.6
Max	24.2	92.5	4.57	358	225	101.2

Table E1. Daily means (SD) of weather at site NC4B for November, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	17.1 (4.4)	91.0 (1.8)	3.86 (2.29)	45 (102)	35 (51)	100.2 (0.2)
2	12.5 (1.4)	85.6 (5.6)	3.57 (1.44)	10 (146)	52 (73)	100.6 (0.1)
3	13.9 (4.5)	73.2 (18.3)	1.14 (0.91)	322 (125)	175 (235)	100.8 (0.1)
4	14.2 (4.1)	67.5 (11.6)	2.18 (1.55)	101 (96)	170 (228)	101.1 (0.2)
5	14.1 (3.5)	60.5 (23.7)	1.93 (1.50)	310 (88)	174 (234)	100.9 (0.1)
6	10.2 (4.1)	54.6 (17.2)	1.78 (1.61)	19 (138)	180 (239)	101.3 (0.1)
7	11.0 (6.1)	63.0 (21.6)	1.04 (0.93)	149 (69)	174 (231)	101.3 (0.2)
8	15.8 (6.1)	65.2 (22.3)	0.94 (1.01)	208 (67)	168 (224)	101.3 (0.1)
9	16.6 (5.8)	75.3 (13.9)	1.15 (0.96)	101 (62)	113 (174)	101.5 (0.1)
10	18.1 (1.9)	85.3 (8.2)	2.84 (1.43)	45 (71)	51 (69)	100.9 (0.3)
11	14.4 (1.4)	94.6 (0.8)	7.16 (1.67)	36 (60)	14 (12)	99.8 (0.3)
12	10.9 (1.4)	92.3 (3.1)	7.49 (1.84)	2 (165)	25 (26)	99.0 (0.1)
13	11.4 (1.0)	90.7 (2.7)	6.33 (1.70)	358 (172)	29 (33)	99.2 (0.2)
14	13.6 (1.3)	89.0 (3.8)	3.00 (1.79)	350 (160)	52 (66)	99.8 (0.2)
15	14.7 (4.2)	84.2 (14.1)	1.17 (0.97)	345 (141)	131 (199)	100.2 (0.1)
16	15.6 (5.1)	76.4 (17.7)	0.78 (0.99)	340 (110)	161 (219)	100.4 (0.1)
17	13.4 (2.2)	82.7 (8.9)	2.72 (1.73)	51 (30)	111 (161)	100.7 (0.1)
18	15.8 (2.3)	90.2 (3.5)	3.93 (1.17)	52 (65)	44 (70)	100.8 (0.1)
19	20.0 (2.3)	87.3 (8.8)	2.06 (1.32)	119 (72)	85 (147)	100.5 (0.1)
20	15.6 (1.7)	82.6 (11.0)	3.21 (1.51)	9 (150)	140 (210)	100.6 (0.1)
21	11.2 (2.1)	76.2 (12.1)	3.16 (1.93)	25 (88)	117 (164)	100.7 (0.1)
22	10.5 (3.1)	78.3 (11.7)	3.44 (1.66)	35 (92)	105 (164)	100.9 (0.1)
23	12.8 (0.8)	94.2 (0.6)	3.54 (1.50)	19 (142)	20 (22)	100.6 (0.1)
24	12.5 (0.9)	89.0 (4.8)	1.65 (1.02)	327 (121)	35 (48)	100.7 (0.1)
25	11.7 (0.7)	87.2 (3.9)	1.25 (1.16)	245 (50)	43 (52)	100.4 (0.1)
26	10.1 (2.3)	88.1 (6.4)	1.67 (1.89)	278 (82)	112 (172)	99.7 (0.3)
27	7.9 (2.6)	62.0 (13.4)	5.52 (2.42)	286 (43)	150 (204)	99.8 (0.2)
28	7.3 (3.7)	53.8 (10.7)	2.23 (1.51)	288 (69)	152 (206)	100.4 (0.1)
29	13.2 (5.4)	56.6 (14.2)	1.49 (0.92)	220 (46)	143 (201)	100.4 (0.1)
30	13.9 (3.8)	65.9 (12.7)	2.84 (1.37)	246 (75)	100 (152)	99.8 (0.3)
Avg	13.3	78.1	2.84	2	102	100.5
n	30	30	30	30	30	30
SD	2.8	12.6	1.77	129	56	0.6
Min	7.3	53.8	0.78	2	14	99.0
Max	20.0	94.6	7.49	358	180	101.5

Table E1. Daily means (SD) of weather at site NC4B for December, 2009

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	7.9 (3.5)	64.0 (17.8)	1.37 (1.03)	16 (122)	144 (202)	100.7 (0.2)
2	14.2 (5.0)	85.3 (8.5)	3.99 (1.85)	110 (53)	30 (35)	99.9 (0.6)
3	15.9 (2.7)	73.8 (9.7)	3.07 (1.36)	265 (66)	128 (189)	99.6 (0.4)
4	9.8 (2.6)	74.5 (7.7)	2.48 (1.06)	33 (126)	92 (142)	100.6 (0.1)
5	8.3 (2.5)	91.3 (3.0)	3.28 (1.60)	350 (150)	22 (23)	100.0 (0.3)
6	4.1 (1.9)	77.9 (10.4)	1.99 (1.55)	32 (124)	124 (174)	101.3 (0.2)
7	5.9 (3.1)	78.8 (7.5)	1.12 (0.83)	20 (131)	58 (78)	101.3 (0.1)
8	7.0 (1.8)	82.6 (6.7)	3.60 (1.77)	55 (87)	55 (77)	100.9 (0.4)
9	19.4 (3.6)	84.5 (8.0)	3.76 (1.51)	225 (60)	75 (126)	98.9 (0.3)
10	11.2 (3.6)	39.9 (5.9)	4.66 (1.62)	278 (16)	119 (192)	99.8 (0.5)
11	1.8 (1.0)	41.4 (10.4)	2.82 (1.81)	323 (101)	74 (99)	101.6 (0.4)
12		54.1 (11.6)	2.29 (1.40)	44 (104)	66 (88)	102.1 (0.2)
13	11.7 (4.4)	90.3 (4.2)	3.22 (1.21)	197 (91)	31 (39)	100.7 (0.4)
14	9.4 (1.9)	92.3 (3.1)	1.30 (0.83)	232 (76)	44 (55)	100.7 (0.1)
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Avg	9.7	73.6	2.78	156	76	100.6
n	13	14	14	14	14	14
SD	4.8	17.5	1.08	123	40	0.9
Min	1.8	39.9	1.12	16	22	98.9
Max	19.4	92.3	4.66	350	144	102.1

Table E2. Animal characteristics.

Table E2. Daily means (SD) of animal characteristics at site NC4B for December, 2007.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15	907	181	63	894	181	65	19	206	181	2.14	27.0
16	907	181	63	894	181	65	19	206	181	2.42	27.4
17	907	181	63	894	181	65	19	206	181	2.70	27.8
18	907	181	63	894	181	65	19	206	181	2.98	28.2
19	907	181	63	894	181	65	19	206	181	3.26	28.6
20	907	181	63	894	181	65	19	206	181	3.54	29.0
21	907	181	63	894	181	65	19	206	181	3.82	29.4
22	907	181	63	894	181	65	19	206	181	4.10	29.8
23	907	181	63	894	181	65	19	206	181	4.38	30.2
24	907	181	63	894	181	65	19	206	181	4.66	30.6
25	907	181	63	894	181	65	19	206	181	4.94	31.0
26	907	181	63	894	181	65	19	206	181	5.22	31.4
27	907	181	63	894	181	65	19	206	181	5.50	31.8
28	907	181	63	894	181	65	19	206	181	5.78	32.2
29	907	181	63	894	181	65	19	206	181	6.06	32.6
30	907	181	63	894	181	65	19	206	181	6.34	33.0
31	907	181	63	894	181	65	19	206	181	6.62	33.4
Avg	907	181	63	894	181	65	19	206	181	4.38	30.2
n	17	17	17	17	17	17	17	17	17	17	17
SD	0	0	0	0	0	0	0	0	0	1.37	2.0
Min	907	181	63	894	181	65	19	206	181	2.14	27.0
Max	907	181	63	894	181	65	19	206	181	6.62	33.4

Table E2. Daily means (SD) of animal characteristics at site NC4B for January, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	907	181	63	894	181	65	19	206	181	6.90	33.8
2	907	181	63	894	181	65	19	206	181	7.18	34.2
3	907	181	63	894	181	65	19	206	181	7.46	34.6
4	907	181	63	894	181	65	19	206	181	7.74	35.0
5	907	181	63	894	181	65	19	206	181	8.02	35.4
6	907	181	63	894	181	65	19	206	181	8.30	35.8
7	907	181	63	894	181	65	19	206	181	8.58	36.2
8	907	181	63	894	181	65	11	121	181	8.86	21.4
9	907	181	63	894	181	65	0	0	181	0.00	0.0
10	907	181	63	894	181	65	10	110	181	2.37	14.7
11	907	181	63	894	181	65	19	206	181	2.62	27.7
12	907	181	63	894	181	65	19	206	181	2.87	28.0
13	907	181	63	894	181	65	19	206	181	3.12	28.4
14	907	181	63	894	181	65	19	206	181	3.37	28.8
15	907	181	63	894	181	65	19	206	181	3.62	29.1
16	907	181	63	894	181	65	19	206	181	3.87	29.5
17	907	181	63	894	181	65	19	206	181	4.12	29.8
18	907	181	63	894	181	65	19	206	181	4.37	30.2
19	907	181	63	894	181	65	19	206	181	4.62	30.6
20	907	181	63	894	181	65	19	206	181	4.87	30.9
21	907	181	63	894	181	65	19	206	181	5.12	31.3
22	907	181	63	894	181	65	19	206	181	5.37	31.6
23	907	181	63	894	181	65	19	206	181	5.62	32.0
24	907	181	63	894	181	65	19	206	181	5.87	32.3
25	907	181	63	894	181	65	19	206	181	6.12	32.7
26	907	181	63	894	181	65	19	206	181	6.37	33.1
27	907	181	63	894	181	65	19	206	181	6.62	33.4
28	907	181	63	894	181	65	19	206	181	6.87	33.8
29	907	181	63	894	181	65	19	206	181	7.12	34.1
30	907	181	63	894	181	65	19	206	181	7.37	34.5
31	907	181	63	894	181	65	19	206	181	7.62	34.8
Avg	907	181	63	894	181	65	18	194	181	5.65	30.2
n	31	31	31	31	31	31	31	31	31	31	31
SD	0	0	0	0	0	0	4	42	0	1.97	7.0
Min	907	181	63	894	181	65	0	0	181	2.13	0.0
Max	907	181	63	894	181	65	19	206	181	8.86	36.2

Table E2. Daily means (SD) of animal characteristics at site NC4B for February, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	907	181	63	894	181	65	19	206	181	7.87	35.2
2	907	181	63	894	181	65	19	206	181	8.12	35.6
3	907	181	63	894	181	65	19	206	181	8.37	35.9
4	907	181	63	894	181	65	19	206	181	8.62	36.3
5	907	181	63	894	181	65	10	108	181	8.87	19.2
6	907	181	63	894	181	65	7	78	181	9.00	17.0
7	907	181	63	894	181	65	19	206	181	2.17	27.0
8	907	181	63	894	181	65	19	206	181	2.52	27.5
9	907	181	63	894	181	65	19	206	181	2.87	28.0
10	907	181	63	894	181	65	19	206	181	3.22	28.5
11	907	181	63	894	181	65	19	206	181	3.57	29.0
12	907	181	63	894	181	65	19	206	181	3.92	29.5
13	907	181	63	894	181	65	19	206	181	4.27	30.1
14	907	181	63	894	181	65	19	206	181	4.62	30.6
15	907	181	63	894	181	65	19	206	181	4.97	31.1
16	907	181	63	894	181	65	19	206	181	5.32	31.6
17	907	181	63	894	181	65	19	206	181	5.67	32.1
18	907	181	63	894	181	65	19	206	181	6.02	32.6
19	907	181	63	894	181	65	19	206	181	6.37	33.1
20	907	181	63	894	181	65	19	206	181	6.72	33.6
21	907	181	63	894	181	65	19	206	181	7.07	34.1
22	907	181	63	894	181	65	19	206	181	7.42	34.6
23	907	181	63	894	181	65	19	206	181	7.77	35.1
24	907	181	63	894	181	65	19	206	181	8.12	35.6
25	907	181	63	894	181	65	19	206	181	8.47	36.1
26	907	181	63	894	181	65	10	106	181	8.82	18.7
27	907	181	63	894	181	65	0	0	181	0.00	0.0
28	907	181	63	894	181	65	0	0	181	0.00	0.0
29	907	181	63	894	181	65	9	92	181	2.13	12.4
Avg	907	181	63	894	181	65	16	177	181	5.31	27.6
n	29	29	29	29	29	29	29	29	29	29	29
SD	0	0	0	0	0	0	6	61	0	2.78	10.1
Min	907	181	63	894	181	65	0	0	181	0.00	0.0
Max	907	181	63	894	181	65	19	206	181	8.87	36.3

Table E2. Daily means (SD) of animal characteristics at site NC4B for March, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	907	181	63	894	181	65	19	201	181	2.40	27.3
2	907	181	63	894	181	65	19	201	181	2.67	27.7
3	907	181	63	894	181	65	19	201	181	2.94	28.0
4	907	181	63	894	181	65	19	201	181	3.21	28.4
5	907	181	63	894	181	65	19	201	181	3.48	28.8
6	907	181	63	894	181	65	19	201	181	3.75	29.2
7	907	181	63	894	181	65	19	201	181	4.02	29.5
8	907	181	63	894	181	65	19	201	181	4.29	29.9
9	907	181	63	894	181	65	19	201	181	4.56	30.3
10	907	181	63	894	181	65	19	201	181	4.83	30.7
11	907	181	63	894	181	65	19	201	181	5.10	31.0
12	907	181	63	894	181	65	19	201	181	5.37	31.4
13	907	181	63	894	181	65	19	201	181	5.63	31.8
14	907	181	63	894	181	65	19	201	181	5.90	32.2
15	907	181	63	894	181	65	19	201	181	6.17	32.6
16	907	181	63	894	181	65	19	201	181	6.44	32.9
17	907	181	63	894	181	65	19	201	181	6.71	33.3
18	907	181	63	895	181	65	19	201	181	6.98	33.7
19	905	181	63	896	181	65	19	196	181	7.25	33.8
20	903	181	63	895	181	65	19	191	181	7.52	33.9
21	901	181	63	894	181	65	19	186	181	7.79	34.0
22	900	181	63	892	181	65	19	180	181	8.06	34.0
23	898	181	63	891	181	65	19	175	181	8.33	34.0
24	896	181	63	890	181	65	19	169	181	8.60	34.1
25	894	181	62	889	181	65	9	76	181	8.87	15.6
26	892	181	62	888	181	65	0	0	181	0.00	0.0
27	890	181	62	886	181	65	10	84	181	2.12	14.4
28	888	181	62	885	181	65	19	148	181	2.37	26.4
29	886	181	62	884	181	65	19	142	181	2.62	26.5
30	884	181	62	883	181	65	19	137	181	2.87	26.7
31	882	181	62	882	181	64	19	132	181	3.12	26.8
Avg	901	181	63	892	181	65	18	175	181	4.97	28.7
n	31	31	31	31	31	31	31	31	31	31	31
SD	8	0	1	4	0	0	4	47	0	2.26	7.0
Min	882	181	62	882	181	64	0	0	181	0.01	0.0
Max	907	181	63	896	181	65	19	201	181	8.87	34.1

Table E2. Daily means (SD) of animal characteristics at site NC4B for April, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	880	181	61	881	181	64	19	133	181	3.37	27.1
2	879	181	61	881	181	64	19	141	181	3.62	27.5
3	878	181	61	882	181	64	19	149	181	3.87	27.9
4	877	181	61	882	181	64	19	157	181	4.12	28.4
5	876	181	61	882	181	64	19	165	181	4.37	28.9
6	874	181	61	882	181	64	19	173	181	4.62	29.5
7	873	181	61	882	181	64	19	181	181	4.87	30.1
8	872	181	61	883	181	65	19	189	181	5.12	30.7
9	871	181	61	883	181	65	19	197	181	5.37	31.3
10	876	181	61	884	181	65	19	200	181	5.62	31.7
11	889	181	62	885	181	65	19	199	181	5.87	31.8
12	902	181	63	886	181	65	19	198	181	6.12	31.9
13	914	181	64	887	181	65	19	197	181	6.37	32.0
14	927	181	65	889	181	65	18	196	181	6.62	32.1
15	940	181	66	890	181	65	18	195	181	6.87	32.2
16	953	181	66	891	181	65	18	194	181	7.12	32.3
17	958	181	67	892	181	65	18	194	181	7.37	32.6
18	957	181	67	892	181	65	18	196	181	7.62	33.2
19	955	181	67	892	181	65	18	197	181	7.87	33.7
20	953	181	67	892	181	65	18	199	181	8.12	34.2
21	952	181	66	892	181	65	18	201	181	8.37	34.8
22	950	181	66	892	181	65	18	202	181	8.62	35.3
23	948	181	66	892	181	65	10	110	181	8.87	19.2
24	947	181	66	893	181	65	10	115	181	2.14	14.8
25	945	181	66	893	181	65	19	208	181	2.40	26.9
26	943	181	66	893	181	65	19	209	181	2.67	27.4
27	942	181	66	893	181	65	19	211	181	2.94	27.9
28	940	181	66	893	181	65	19	213	181	3.21	28.5
29	938	181	66	893	181	65	19	214	181	3.48	29.0
30	937	181	65	893	181	65	19	216	181	3.75	29.5
Avg	918	181	64	888	181	65	18	185	181	5.38	29.7
n	30	30	30	30	30	30	30	30	30	30	30
SD	34	0	2	5	0	0	2	29	0	2.00	4.2
Min	871	181	61	881	181	64	10	110	181	2.14	14.8
Max	958	181	67	893	181	65	19	216	181	8.87	35.3

Table E2. Daily means (SD) of animal characteristics at site NC4B for May, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	934	181	65	893	181	65	19		181	4.02	
2	930	181	65	893	181	65	19		181	4.29	
3	926	181	65	892	181	65	19		181	4.56	
4	922	181	64	892	181	65	19		181	4.83	
5	918	181	64	892	181	65	19		181	5.10	
6	914	181	64	892	181	65	19		181	5.37	
7	910	181	64	892	181	65			181	5.63	
8	907	181	63	891	181	65			181	5.90	
9	903	181	63	891	181	65			181	6.17	
10	899	181	63	891	181	65			181	6.44	
11	895	181	62	891	181	65			181	6.71	
12	891	181	62	891	181	65			181	6.98	
13	887	181	62	890	181	65			181	7.25	
14	883	181	62	890	181	65			181	7.52	
15	881	181	61	890	181	65	8		181	7.79	
16	881	181	61	889	181	65	8		181	8.06	
17	881	181	61	889	181	65	8		181	8.33	
18	881	181	61	889	181	65	8		181	8.60	
19	881	181	61	888	181	65	3		181	8.87	
20	886	181	62	888	181	65	9	19	181	2.16	12.2
21	896	181	63	888	181	65	18	56	181	2.48	23.9
22	906	181	63	888	181	65	18	84	181	2.80	24.8
23	916	181	64	888	181	65	19	111	181	3.11	25.7
24	926	181	65	888	181	65	19	139	181	3.43	26.8
25	936	181	65	888	181	65	19	167	181	3.75	28.0
26	946	181	66	888	181	65	19	194	181	4.07	29.3
27	950	181	66	888	181	65	19	208	181	4.39	30.3
28	947	181	66	888	181	65	19	208	181	4.70	30.7
29	945	181	66	887	181	65	19	208	181	5.02	31.2
30	942	181	66	887	181	65	19	208	181	5.34	31.6
31	939	181	66	887	181	65	19	207	181	5.66	32.1
Avg	912	181	64	890	181	65	16	151	181	5.46	27.2
n	31	31	31	31	31	31	23	12	31	31	12
SD	23	0	2	2	0	0	5	65	0	1.82	5.2
Min	881	181	61	887	181	65	3	19	181	2.16	12.2
Max	950	181	66	893	181	65	19	208	181	8.87	32.1

Table E2. Daily means (SD) of animal characteristics at site NC4B for June, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	937	181	65	886	181	65	19	207	181	5.98	32.5
2	934	181	65	886	181	65	19	207	181	6.30	33.0
3	930	181	65	886	181	65	19	207	181	6.61	33.4
4	924	181	64	887	181	65	19	206	181	6.93	33.8
5	918	181	64	888	181	65	19	205	181	7.25	34.2
6	912	181	64	888	181	65	19	204	181	7.57	34.6
7	905	181	63	889	181	65	19	203	181	7.89	35.0
8	899	181	63	890	181	65	19	202	181	8.20	35.4
9	893	181	62	891	181	65	19	201	181	8.52	35.8
10	890	181	62	891	181	65	10	110	181	8.84	19.9
11	891	181	62	891	181	65	0	0	181	0.00	0.0
12	892	181	62	890	181	65	10	111	181	2.13	14.4
13	893	181	62	890	181	65	19	210	181	2.39	27.4
14	894	181	62	890	181	65	19	212	181	2.65	27.8
15	895	181	63	889	181	65	19	215	181	2.91	28.3
16	896	181	63	889	181	65	19	218	181	3.17	28.7
17	897	181	63	889	181	65	19	221	181	3.43	29.2
18	898	181	63	888	181	65	19	224	181	3.69	29.7
19	910	181	64	888	181	65	19	222	181	3.94	30.0
20	931	181	65	887	181	65	19	217	181	4.20	30.3
21	953	181	67	886	181	65	19	212	181	4.46	30.5
22	975	181	68	885	181	65	19	207	181	4.72	30.7
23	996	181	70	884	181	65	19	202	181	4.98	30.9
24	1,010	181	70	884	181	65	19	199	181	5.24	31.2
25	1,000	181	70	885	181	65	19	198	181	5.50	31.5
26	997	181	70	887	181	65	19	197	181	5.76	31.8
27	993	181	69	888	181	65	19	196	181	6.02	32.1
28	989	181	69	890	181	65	19	195	181	6.28	32.4
29	985	181	69	891	181	65	19	194	181	6.54	32.7
30	981	181	68	893	181	65	19	193	181	6.80	33.0
Avg	934	181	65	888	181	65	18	193	181	5.30	29.7
n	30	30	30	30	30	30	30	30	30	30	30
SD	41	0	3	2	0	0	4	44	0	2.10	7.0
Min	890	181	62	884	181	65	0	0	181	0.01	0.0
Max	1010	181	70	893	181	65	19	224	181	8.84	35.8

Table E2. Daily means (SD) of animal characteristics at site NC4B for July, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	977	181	68	894	181	65	19	192	181	7.06	33.3
2	975	181	68	895	181	65	19	191	181	7.31	33.6
3	974	181	68	894	181	65	19	191	181	7.57	34.0
4	973	181	68	893	181	65	19	191	181	7.83	34.3
5	972	181	68	892	181	65	19	190	181	8.09	34.6
6	971	181	68	891	181	65	19	190	181	8.35	35.0
7	970	181	68	890	181	65	19	190	181	8.61	35.3
8	966	181	67	890	181	65	11	112	181	8.87	21.0
9	959	181	67	890	181	65	0	0	181	0.00	0.0
10	952	181	66	889	181	65	9	93	181	2.13	13.3
11	944	181	66	889	181	65	19	188	181	2.39	27.1
12	937	181	65	889	181	65	19	188	181	2.65	27.4
13	930	181	65	889	181	65	19	187	181	2.91	27.7
14	922	181	64	889	181	65	19	187	181	3.17	28.0
15	915	181	64	888	181	65	19	186	181	3.43	28.4
16	907	181	63	888	181	65	19	186	181	3.69	28.7
17	900	181	63	888	181	65	19	185	181	3.94	29.0
18	893	181	62	888	181	65	19	185	181	4.20	29.3
19	885	181	62	888	181	65	19	184	181	4.46	29.6
20	878	181	61	887	181	65	19	184	181	4.72	30.0
21	871	181	61	887	181	65	19	183	181	4.98	30.3
22	871	181	61	887	181	65	19	183	181	5.24	30.6
23	879	181	61	886	181	65	19	183	181	5.50	30.9
24	886	181	62	886	181	65	19	182	181	5.76	31.2
25	894	181	62	886	181	65	19	182	181	6.02	31.5
26	902	181	63	885	181	65	19	182	181	6.28	31.9
27	909	181	63	885	181	65	19	181	181	6.54	32.2
28	917	181	64	884	181	65	19	181	181	6.80	32.5
29	921	181	64	884	181	65	19	182	181	7.06	32.8
30	920	181	64	885	181	65	19	184	181	7.31	33.3
31	919	181	64	886	181	65	19	185	181	7.57	33.7
Avg	925	181	65	888	181	65	18	174	181	5.50	29.4
n	31	31	31	31	31	31	31	31	31	31	31
SD	35	0	2	3	0	0	4	38	0	2.20	6.9
Min	871	181	61	884	181	65	0	0	181	0.01	0.0
Max	977	181	68	895	181	65	19	192	181	8.87	35.3

Table E2. Daily means (SD) of animal characteristics at site NC4B for August, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	918	181	64	886	181	65	19	187	181	7.83	34.1
2	918	181	64	887	181	65	19	189	181	8.09	34.5
3	917	181	64	888	181	65	19	191	181	8.35	35.0
4	916	181	64	888	181	65	19	192	181	8.61	35.4
5	915	181	64	889	181	65	11	110	181	8.87	20.2
6	914	181	64	890	181	65	0	0	181	0.00	0.0
7	917	181	64	890	181	65	7	72	181	2.17	9.8
8	924	181	64	890	181	65	19	199	181	2.52	27.4
9	930	181	65	890	181	65	19	201	181	2.87	28.0
10	937	181	65	890	181	65	19	203	181	3.22	28.5
11	944	181	66	889	181	65	19	205	181	3.57	29.0
12	950	181	66	889	181	65	19	206	181	3.92	29.6
13	957	181	67	889	181	65	19	208	181	4.27	30.1
14	951	181	66	889	181	65	19	209	181	4.62	30.6
15	933	181	65	888	181	65	19	208	181	4.97	31.1
16	915	181	64	887	181	65	19	208	181	5.32	31.6
17	897	181	63	886	181	65	19	207	181	5.67	32.1
18	879	181	61	885	181	65	19	206	181	6.02	32.6
19	873	181	61	885	181	65	19	206	181	6.37	33.0
20	880	181	61	886	181	65	19	205	181	6.72	33.5
21	887	181	62	887	181	65	19	205	181	7.07	34.0
22	894	181	62	887	181	65	19	204	181	7.42	34.5
23	901	181	63	888	181	65	19	203	181	7.77	34.9
24	908	181	63	889	181	65	19	203	181	8.12	35.4
25	915	181	64	890	181	65	19	202	181	8.47	35.8
26	923	181	64	890	181	65	11	109	181	8.82	20.0
27	933	181	65	889	181	65	0	0	181	0.00	0.0
28	943	181	66	888	181	65	8		181	0.00	
29	953	181	67	887	181	65	19		181	0.00	
30	964	181	67	886	181	65	19		181	2.14	
31	974	181	68	885	181	65	19		181	2.42	
Avg	922	181	64	888	181	65	17	175	181	5.04	28.2
n	31	31	31	31	31	31	31	27	31	31	27
SD	25	0	2	2	0	0	5	60	0	2.88	9.8
Min	873	181	61	885	181	65	0	0	181	0.00	0.0
Max	974	181	68	890	181	65	19	209	181	8.87	35.8

Table E2. Daily means (SD) of animal characteristics at site NC4B for September, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	984	181	69	884	181	65	19		181	2.70	
2	989	181	69	883	181	65	19	46	181	2.98	24.9
3	990	181	69	884	181	65	19	69	181	3.26	25.5
4	991	181	69	884	181	65	19	94	181	3.54	26.2
5	991	181	69	885	181	65	19	118	181	3.82	27.1
6	992	181	69	886	181	65	19	142	181	4.10	28.0
7	993	181	69	886	181	65	19	167	181	4.38	29.0
8	994	181	69	887	181	65	19	191	181	4.66	30.1
9	993	181	69	887	181	65	19	203	181	4.94	30.9
10	991	181	69	887	181	65	19	203	181	5.22	31.3
11	988	181	69	888	181	65	19	203	181	5.50	31.7
12	986	181	69	888	181	65	19	203	181	5.78	32.1
13	984	181	69	888	181	65	19	203	181	6.06	32.5
14	981	181	68	889	181	65	19	203	181	6.34	32.9
15	977	181	68	889	181	65	19	203	181	6.62	33.3
16	972	181	68	888	181	65	19	202	181	6.90	33.6
17	967	181	67	887	181	65	19	202	181	7.18	34.0
18	961	181	67	887	181	65	19	201	181	7.46	34.4
19	956	181	67	886	181	65	19	201	181	7.74	34.7
20	950	181	66	886	181	65	19	200	181	8.02	35.1
21	945	181	66	885	181	65	19	200	181	8.30	35.4
22	940	181	66	884	181	65	19	199	181	8.58	35.8
23	930	181	65	884	181	65	10	101	181	8.86	18.3
24	916	181	64	884	181	65	0	0	181	0.00	0.0
25	902	181	63	884	181	65	9	93	181	2.13	12.5
26	889	181	62	884	181	65	19	200	181	2.39	27.3
27	875	181	61	884	181	65	19	201	181	2.65	27.6
28	861	181	60	884	181	65	19	201	181	2.91	28.0
29	858	181	60	884	181	65	19	201	181	3.17	28.4
30	867	181	61	883	181	65	19	202	181	3.43	28.7
Avg	954	181	67	886	181	65	18	167	181	4.99	28.6
n	30	30	30	30	30	30	30	29	30	30	29
SD	44	0	3	2	0	0	4	57	0	2.23	7.4
Min	858	181	60	883	181	65	0	0	181	0.01	0.0
Max	994	181	69	889	181	65	19	203	181	8.86	35.8

Table E2. Daily means (SD) of animal characteristics at site NC4B for October, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	876	181	61	883	181	65	19	202	181	3.69	29.1
2	885	181	62	882	181	64	19	203	181	3.94	29.5
3	894	181	62	882	181	64	19	203	181	4.20	29.9
4	903	181	63	881	181	64	19	203	181	4.46	30.2
5	912	181	64	881	181	64	19	204	181	4.72	30.6
6	921	181	64	880	181	64	19	204	181	4.98	31.0
7	930	181	65	880	181	64	19	204	181	5.24	31.4
8	939	181	66	879	181	64	19	205	181	5.50	31.8
9	941	181	66	879	181	64	19	204	181	5.76	32.1
10	935	181	65	880	181	64	19	203	181	6.02	32.4
11	929	181	65	881	181	64	19	201	181	6.28	32.7
12	924	181	64	882	181	64	19	200	181	6.54	33.0
13	918	181	64	883	181	65	19	199	181	6.80	33.3
14	912	181	64	884	181	65	19	197	181	7.06	33.6
15	906	181	63	885	181	65	19	196	181	7.31	33.9
16	898	181	63	886	181	65	19		181	7.57	
17	887	181	62	885	181	65	19		181	7.83	
18	876	181	61	885	181	65	19		181	8.09	
19	865	181	60	884	181	65	19		181	8.35	
20	854	181	60	883	181	65	19		181	8.61	
21	843	181	59	883	181	65	9		181	8.87	
22	832	181	58	882	181	64	0	0	181	0.00	0.0
23	841	181	59	882	181	64	11	9	181	2.13	13.3
24	870	181	61	881	181	64	19	35	181	2.39	24.5
25	900	181	63	881	181	64	19	58	181	2.65	25.0
26	930	181	65	881	181	64	19	81	181	2.91	25.6
27	959	181	67	880	181	64	19	103	181	3.17	26.2
28	966	181	67	880	181	64	19	120	181	3.43	26.8
29	949	181	66	879	181	64	19	131	181	3.69	27.3
30	933	181	65	878	181	64	19	142	181	3.94	27.8
31	916	181	64	877	181	64	19	153	181	4.20	28.4
Avg	905	181	63	882	181	64	18	154	181	5.17	28.0
n	31	31	31	31	31	31	31	25	31	31	25
SD	35	0	2	2	0	0	4	67	0	2.16	7.1
Min	832	181	58	877	181	64	0	0	181	0.01	0.0
Max	966	181	67	886	181	65	19	205	181	8.87	33.9

Table E2. Daily means (SD) of animal characteristics at site NC4B for November, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	899	181	63	876	181	64	19	164	181	4.46	29.0
2	883	181	62	875	181	64	19	175	181	4.72	29.7
3	866	181	60	874	181	64	19	186	181	4.98	30.4
4	859	181	60	874	181	64	19	191	181	5.24	30.9
5	860	181	60	873	181	64	19	190	181	5.50	31.2
6	861	181	60	872	181	64	19	189	181	5.76	31.5
7	862	181	60	871	181	64	19	189	181	6.02	31.8
8	863	181	60	870	181	64	19	188	181	6.28	32.1
9	864	181	60	869	181	64	19	187	181	6.54	32.4
10	865	181	60	868	181	63	19	186	181	6.80	32.7
11	859	181	60	868	181	63		195	181	7.06	
12	845	181	59	869	181	64		212	181	7.31	
13	831	181	58	869	181	64		230	181	7.57	
14	818	181	57	870	181	64		247	181	7.83	
15	804	181	56	871	181	64		265	181	8.09	
16	790	181	55	871	181	64		283	181	8.35	
17	776	181	54	872	181	64		300	181	8.61	
18	771	181	54	871	181	64	6	195	181	8.87	19.3
19	776	181	54	870	181	64	0	0	181	0.00	0.0
20	781	181	55	869	181	64	8	102	181	2.13	11.7
21	786	181	55	868	181	63	17	185	181	2.39	23.9
22	791	181	55	867	181	63	16	149	181	2.65	23.3
23	796	181	56	866	181	63	16	114	181	2.91	22.6
24	797	181	56	865	181	63	16	102	181	3.17	22.6
25	794	181	55	864	181	63	17	114	181	3.43	23.6
26	792	181	55	863	181	63	17	126	181	3.69	24.6
27	789	181	55	862	181	63	17	138	181	3.94	25.6
28	787	181	55	861	181	63	18	150	181	4.20	26.7
29	784	181	55	860	181	63	18	162	181	4.46	27.8
30	782	181	55	859	181	63	18	174	181	4.72	28.9
Avg	821	181	57	869	181	63	16	176	181	5.26	25.8
n	30	30	30	30	30	30	23	30	30	30	23
SD	39	0	3	4	0	0	5	58	0	2.16	7.4
Min	771	181	54	859	181	63	0	0	181	0.01	0.0
Max	899	181	63	876	181	64	19	300	181	8.87	32.7

Table E2. Daily means (SD) of animal characteristics at site NC4B for December, 2008.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	779	181	54	858	181	63	19	186	181	4.98	30.1
2	790	181	55	858	181	63	19	192	181	5.24	30.9
3	814	181	57	859	181	63	19	192	181	5.50	31.3
4	839	181	59	860	181	63	19	192	181	5.76	31.6
5	863	181	60	860	181	63	19	191	181	6.02	31.9
6	887	181	62	861	181	63	19	191	181	6.28	32.3
7	912	181	64	862	181	63	19	191	181	6.54	32.6
8	926	181	65	862	181	63	19	198	181	6.80	33.3
9	931	181	65	862	181	63	19	212	181	7.06	34.3
10	936	181	65	862	181	63	19	226	181	7.31	35.4
11	941	181	66	862	181	63	19	240	181	7.57	36.6
12	946	181	66	862	181	63	19	255	181	7.83	37.8
13	951	181	66	862	181	63	19	269	181	8.09	39.0
14	956	181	67	862	181	63	19	283	181	8.35	40.3
15	961	181	67	862	181	63	19	297	181	8.61	41.7
16	953	181	67	862	181	63	5	198	181	8.87	18.8
17	933	181	65	862	181	63	0	0	181	0.00	0.0
18	913	181	64	863	181	63	10	138	181	2.13	14.4
19	893	181	62	863	181	63	19	258	181	2.39	28.2
20	872	181	61	863	181	63	19	245	181	2.65	28.4
21	852	181	59	864	181	63	19	232	181	2.91	28.6
22	832	181	58	864	181	63	19	219	181	3.17	28.7
23	824	181	58	865	181	63	19	212	181	3.43	29.0
24	829	181	58	868	181	63	19	212	181	3.69	29.4
25	834	181	58	871	181	64	19	212	181	3.94	29.8
26	839	181	59	874	181	64	19	213	181	4.20	30.1
27	844	181	59	877	181	64	19	213	181	4.46	30.5
28	849	181	59	880	181	64	19	213	181	4.72	30.9
29	848	181	59	882	181	64	19	213	181	4.98	31.3
30	843	181	59	883	181	65	19	212	181	5.24	31.6
31	837	181	58	884	181	65	19	211	181	5.50	32.0
Avg	878	181	61	866	181	63	18	210	181	5.30	30.4
n	31	31	31	31	31	31	31	31	31	31	31
SD	53	0	4	8	0	1	4	50	0	2.12	7.6
Min	779	181	54	858	181	63	0	0	181	0.01	0.0
Max	961	181	67	884	181	65	19	297	181	8.87	41.7

Table E2. Daily means (SD) of animal characteristics at site NC4B for January, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	832	181	58	885	181	65	19	210	181	5.76	32.3
2	827	181	58	886	181	65	19	209	181	6.02	32.7
3	821	181	57	887	181	65	19	208	181	6.28	33.0
4	816	181	57	888	181	65	19	207	181	6.54	33.4
5	810	181	57	888	181	65	19	207	181	6.80	33.7
6	805	181	56	887	181	65	19	207	181	7.06	34.1
7	800	181	56	887	181	65	19	208	181	7.31	34.5
8	795	181	55	886	181	65	19	208	181	7.57	34.9
9	789	181	55	886	181	65	19	208	181	7.83	35.3
10	784	181	55	885	181	65	19	208	181	8.09	35.6
11	779	181	54	885	181	65	19	209	181	8.35	36.0
12	774	181	54	884	181	65	19	209	181	8.61	36.4
13	771	181	54	884	181	65	12	128	181	8.87	23.2
14	770	181	54	884	181	65	0	0	181	0.00	0.0
15	770	181	54	884	181	65	9		181	2.13	
16	769	181	54	884	181	65	19		181	2.39	
17	768	181	54	885	181	65	19		181	2.65	
18	768	181	54	885	181	65	19		181	2.91	
19	767	181	54	885	181	65	19		181	3.17	
20	773	181	54	885	181	65	19		181	3.43	
21	785	181	55	885	181	65	19		181	3.69	
22	797	181	56	885	181	65	19		181	3.94	
23	809	181	57	885	181	65	19		181	4.20	
24	822	181	57	885	181	65	19		181	4.46	
25	834	181	58	885	181	65	19		181	4.72	
26	846	181	59	885	181	65	19		181	4.98	
27	856	181	60	885	181	65	19	214	181	5.24	31.7
28	863	181	60	885	181	65	19	213	181	5.50	32.1
29	870	181	61	885	181	65	19	212	181	5.76	32.4
30	877	181	61	884	181	65	19	212	181	6.02	32.8
31	884	181	62	884	181	65	19	211	181	6.28	33.1
Avg	807	181	56	885	181	65	18	194	181	5.37	31.4
n	31	31	31	31	31	31	31	19	31	31	19
SD	35	0	2	1	0	0	4	49	0	2.13	7.9
Min	767	181	54	884	181	65	0	0	181	0.01	0.0
Max	884	181	62	888	181	65	19	214	181	8.87	36.4

Table E2. Daily means (SD) of animal characteristics at site NC4B for February, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	891	181	62	884	181	65	19	210	181	6.54	33.5
2	894	181	62	885	181	65	19	210	181	6.80	33.7
3	893	181	62	886	181	65	19	209	181	7.06	33.9
4	891	181	62	888	181	65	19	208	181	7.31	34.1
5	890	181	62	889	181	65	19	207	181	7.57	34.3
6	888	181	62	891	181	65	18	207	181	7.83	34.5
7	887	181	62	892	181	65	18	206	181	8.09	34.6
8	885	181	62	894	181	65	18	205	181	8.35	34.8
9	884	181	62	895	181	65	18	204	181	8.61	35.0
10	877	181	61	895	181	65	10	101	181	8.87	19.2
11	865	181	60	894	181	65	0	0	181	0.00	0.0
12	864	181	60	890	181	65	10	17	181	2.13	12.5
13	874	181	61	883	181	65	19	51	181	2.39	24.8
14	884	181	62	876	181	64	19	75	181	2.65	25.3
15	893	181	62	870	181	64	19	100	181	2.91	26.0
16	903	181	63	863	181	63	19	124	181	3.17	26.7
17	913	181	64	856	181	63	19	149	181	3.43	27.5
18	912	181	64	856	181	63	19	164	181	3.69	28.1
19	900	181	63	862	181	63	19	171	181	3.94	28.6
20	887	181	62	868	181	63	19	178	181	4.20	29.1
21	875	181	61	873	181	64	19	185	181	4.46	29.7
22	863	181	60	879	181	64	19	192	181	4.72	30.2
23	850	181	59	885	181	65	19	199	181	4.98	30.8
24	843	181	59	887	181	65	19	201	181	5.24	31.3
25	840	181	59	886	181	65	19	200	181	5.50	31.6
26	837	181	58	885	181	65	19	199	181	5.76	31.9
27	834	181	58	883	181	65	19	198	181	6.02	32.2
28	832	181	58	882	181	64	19	197	181	6.28	32.5
Avg	877	181	61	881	181	64	18	163	181	5.30	28.8
n	28	28	28	28	28	28	28	28	28	28	28
SD	23	0	2	11	0	1	4	61	0	2.23	7.5
Min	832	181	58	856	181	63	0	0	181	0.01	0.0
Max	913	181	64	895	181	65	19	210	181	8.87	35.0

Table E2. Daily means (SD) of animal characteristics at site NC4B for March, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	829	181	58	880	181	64	19	196	181	6.54	32.8
2	826	181	58	879	181	64	19	195	181	6.80	33.1
3	823	181	57	878	181	64	19	194	181	7.06	33.4
4	822	181	57	878	181	64	19	205	181	7.31	34.4
5	822	181	57	880	181	64	19	230	181	7.57	36.0
6	823	181	57	882	181	64	19	254	181	7.83	37.8
7	823	181	57	883	181	65	19	279	181	8.09	39.6
8	823	181	57	885	181	65	19	303	181	8.35	41.5
9	824	181	58	887	181	65	19	328	181	8.61	43.5
10	822	181	57	888	181	65	0	204	181	8.87	12.5
11	817	181	57	888	181	65	0	0	181	0.00	0.0
12	812	181	57	888	181	65	9	139	181	2.17	13.8
13	808	181	56	888	181	65	19	272	181	2.52	28.7
14	803	181	56	887	181	65	19	253	181	2.87	29.0
15	798	181	56	887	181	65	19	233	181	3.22	29.2
16	793	181	55	887	181	65	19	214	181	3.57	29.2
17	791	181	55	887	181	65	19	204	181	3.92	29.5
18	792	181	55	887	181	65	19	203	181	4.27	29.9
19	792	181	55	887	181	65	19	202	181	4.62	30.4
20	792	181	55	887	181	65	19	201	181	4.97	30.9
21	793	181	55	888	181	65	19	200	181	5.32	31.3
22	793	181	55	888	181	65	19	199	181	5.67	31.8
23	794	181	55	888	181	65	19	198	181	6.02	32.2
24	806	181	56	888	181	65	19	197	181	6.37	32.6
25	829	181	58	889	181	65	19	196	181	6.72	33.1
26	852	181	59	889	181	65	19	196	181	7.07	33.6
27	875	181	61	890	181	65	19	195	181	7.42	34.0
28	898	181	63	890	181	65	19	195	181	7.77	34.4
29	921	181	64	891	181	65	19	194	181	8.12	34.9
30	935	181	65	891	181	65	19	191	181	8.47	35.2
31	939	181	66	891	181	65	12	115	181	8.82	21.7
Avg	828	181	58	886	181	65	17	206	181	6.03	30.6
n	31	31	31	31	31	31	31	31	31	31	31
SD	41	0	3	4	0	0	5	56	0	2.25	8.4
Min	791	181	55	878	181	64	0	0	181	0.01	0.0
Max	939	181	66	891	181	65	19	328	181	8.87	43.5

Table E2. Daily means (SD) of animal characteristics at site NC4B for April, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	943	181	66	891	181	65	0	0	181	0.00	0.0
2	947	181	66	891	181	65	8	73	181	2.13	11.2
3	950	181	66	890	181	65	19	170	181	2.39	26.8
4	954	181	67	890	181	65	19	164	181	2.65	27.0
5	958	181	67	890	181	65	19	159	181	2.91	27.1
6	962	181	67	890	181	65	19	154	181	3.17	27.3
7	960	181	67	889	181	65	19	156	181	3.43	27.6
8	951	181	66	888	181	65	19	166	181	3.69	28.2
9	942	181	66	887	181	65	19	176	181	3.94	28.8
10	933	181	65	886	181	65	19	186	181	4.20	29.4
11	924	181	64	885	181	65	19	196	181	4.46	30.0
12	915	181	64	884	181	65	19	206	181	4.72	30.7
13	909	181	63	883	181	65	19	211	181	4.98	31.2
14	908	181	63	883	181	65	19	210	181	5.24	31.6
15	906	181	63	884	181	65	19	209	181	5.50	31.9
16	905	181	63	884	181	65	19	208	181	5.76	32.2
17	903	181	63	884	181	65	19	207	181	6.02	32.6
18	902	181	63	884	181	65	19	206	181	6.28	32.9
19	900	181	63	885	181	65	19	205	181	6.54	33.2
20	899	181	63	885	181	65	19	204	181	6.80	33.5
21	894	181	62	885	181	65	19	203	181	7.06	33.9
22	887	181	62	886	181	65	19	202	181	7.31	34.2
23	879	181	61	886	181	65	19	202	181	7.57	34.5
24	872	181	61	886	181	65	19	201	181	7.83	34.9
25	864	181	60	887	181	65	19	200	181	8.09	35.2
26	856	181	60	887	181	65	19	200	181	8.35	35.5
27	849	181	59	888	181	65	19	199	181	8.61	35.9
28	845	181	59	888	181	65	12	124	181	8.87	22.5
29	846	181	59	888	181	65	0	0	181	0.00	0.0
30	846	181	59	888	181	65	9	102	181	2.13	13.5
Avg	907	181	63	887	181	65	17	170	181	5.02	27.8
n	30	30	30	30	30	30	30	30	30	30	30
SD	37	0	3	2	0	0	5	56	0	2.41	9.3
Min	845	181	59	883	181	65	0	0	181	0.01	0.0
Max	962	181	67	891	181	65	19	211	181	8.87	35.9

Table E2. Daily means (SD) of animal characteristics at site NC4B for May, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	846	181	59	888	181	65	19	207	181	2.39	27.4
2	847	181	59	889	181	65	19	209	181	2.65	27.8
3	847	181	59	889	181	65	19	211	181	2.91	28.2
4	847	181	59	889	181	65	19	214	181	3.17	28.6
5	848	181	59	889	181	65	19	216	181	3.43	29.1
6	846	181	59	889	181	65	19	216	181	3.69	29.5
7	843	181	59	889	181	65	19	215	181	3.94	29.8
8	839	181	59	889	181	65	19	213	181	4.20	30.1
9	835	181	58	889	181	65	19	211	181	4.46	30.5
10	832	181	58	889	181	65	19	210	181	4.72	30.8
11	828	181	58	889	181	65	19	208	181	4.98	31.1
12	823	181	57	889	181	65	19	207	181	5.24	31.5
13	816	181	57	889	181	65	19	207	181	5.50	31.8
14	809	181	56	889	181	65	19	207	181	5.76	32.2
15	802	181	56	890	181	65	19	207	181	6.02	32.6
16	795	181	55	890	181	65	19	207	181	6.28	33.0
17	788	181	55	890	181	65	19	207	181	6.54	33.3
18	793	181	55	890	181	65	19	207	181	6.80	33.7
19	810	181	57	889	181	65	19	206	181	7.06	34.0
20	828	181	58	888	181	65	19	205	181	7.31	34.4
21	845	181	59	888	181	65	19	205	181	7.57	34.7
22	863	181	60	887	181	65	19	204	181	7.83	35.0
23	880	181	61	887	181	65	19	204	181	8.09	35.4
24	898	181	63	886	181	65	19	203	181	8.35	35.7
25	915	181	64	885	181	65	19	202	181	8.61	36.0
26	923	181	64	885	181	65	12	128	181	8.87	23.2
27	922	181	64	885	181	65	0	0	181	0.00	0.0
28	921	181	64	886	181	65	10	102	181	2.15	14.2
29	919	181	64	886	181	65	19	192	181	2.44	27.2
30	918	181	64	886	181	65	19	189	181	2.73	27.5
31	917	181	64	887	181	65	19	186	181	3.02	27.8
Avg	853	181	60	888	181	65	18	194	181	5.06	29.6
n	31	31	31	31	31	31	31	31	31	31	31
SD	43	0	3	1	0	0	4	43	0	2.25	6.9
Min	788	181	55	885	181	65	0	0	181	0.01	0.0
Max	923	181	64	890	181	65	19	216	181	8.87	36.0

Table E2. Daily means (SD) of animal characteristics at site NC4B for June, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	915	181	64	887	181	65	19	183	181	3.31	28.1
2	914	181	64	887	181	65	19	180	181	3.60	28.4
3	913	181	64	888	181	65	19	177	181	3.90	28.7
4	914	181	64	888	181	65	19	175	181	4.19	29.0
5	917	181	64	887	181	65	19	175	181	4.48	29.4
6	920	181	64	887	181	65	19	174	181	4.77	29.7
7	923	181	64	886	181	65	19	174	181	5.06	30.1
8	924	181	64	886	181	65		168	181	5.35	
9	921	181	64	886	181	65		155	181	5.65	
10	918	181	64	887	181	65		143	181	5.94	
11	916	181	64	887	181	65		130	181	6.23	
12	913	181	64	887	181	65		118	181	6.52	
13	910	181	64	887	181	65		106	181	6.81	
14	908	181	63	887	181	65		93	181	7.10	
15	905	181	63	888	181	65		81	181	7.40	
16	902	181	63	888	181	65		68	181	7.69	
17	901	181	63	888	181	65	6	62	181	7.98	11.0
18	900	181	63	888	181	65	6	61	181	8.27	11.0
19	899	181	63	889	181	65	6	60	181	8.56	11.1
20	898	181	63	889	181	65	3	30	181	8.85	5.6
21	897	181	63	889	181	65	0	0	181	0.00	0.0
22	896	181	63	890	181	65	0	0	181	0.00	0.0
23	894	181	62	890	181	65	9	36	181	2.16	11.7
24	891	181	62	890	181	65	18	92	181	2.48	24.6
25	887	181	62	890	181	65	18	116	181	2.80	25.5
26	883	181	62	890	181	65	19	141	181	3.11	26.5
27	880	181	61	890	181	65	19	165	181	3.43	27.6
28	876	181	61	890	181	65	19	189	181	3.75	28.8
29	875	181	61	890	181	65	19	200	181	4.07	29.6
30	877	181	61	890	181	65	19	198	181	4.39	30.0
Avg	903	181	63	888	181	65	14	122	181	4.93	21.2
n	30	30	30	30	30	30	21	30	30	30	21
SD	15	0	1	1	0	0	7	60	0	2.29	10.4
Min	875	181	61	886	181	65	0	0	181	0.00	0.0
Max	924	181	64	890	181	65	19	200	181	8.85	30.1

Table E2. Daily means (SD) of animal characteristics at site NC4B for July, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	879	181	61	890	181	65	19	197	181	4.70	30.4
2	881	181	62	890	181	65	19	195	181	5.02	30.7
3	884	181	62	889	181	65	19	193	181	5.34	31.1
4	886	181	62	889	181	65	19	192	181	5.66	31.5
5	888	181	62	889	181	65	19	190	181	5.98	31.8
6	889	181	62	889	181	65	19	180	181	6.30	31.8
7	889	181	62	889	181	65	19	161	181	6.61	31.3
8	889	181	62	889	181	65	19	142	181	6.93	30.8
9	889	181	62	890	181	65	19	123	181	7.25	30.1
10	889	181	62	890	181	65	19	104	181	7.57	29.4
11	888	181	62	890	181	65	19	85	181	7.89	28.6
12	888	181	62	890	181	65	19	66	181	8.20	27.7
13	888	181	62	890	181	65	19	47	181	8.52	26.7
14	888	181	62	891	181	65	10	17	181	8.84	13.3
15	888	181	62	891	181	65	0	0	181	0.00	0.0
16	896	181	63	891	181	65	11	14	181	2.13	14.1
17	913	181	64	891	181	65	19	52	181	2.40	24.8
18	930	181	65	891	181	65	19	86	181	2.67	25.5
19	947	181	66	890	181	65	19	120	181	2.94	26.4
20	964	181	67	890	181	65	19	155	181	3.21	27.4
21	971	181	68	890	181	65	19	173	181	3.48	28.1
22	967	181	67	890	181	65	19	175	181	3.75	28.5
23	963	181	67	891	181	65	19	177	181	4.02	28.9
24	959	181	67	891	181	65	19	179	181	4.29	29.3
25	954	181	67	891	181	65	19	182	181	4.56	29.7
26	950	181	66	892	181	65	19	184	181	4.83	30.1
27	946	181	66	892	181	65	19	186	181	5.10	30.5
28	946	181	66	892	181	65	19	187	181	5.37	30.9
29	949	181	66	892	181	65	19	186	181	5.63	31.2
30	952	181	66	892	181	65	19	186	181	5.90	31.6
31	956	181	67	892	181	65	19	185	181	6.17	31.9
Avg	918	181	64	890	181	65	18	139	181	5.20	27.5
n	31	31	31	31	31	31	31	31	31	31	31
SD	33	0	2	1	0	0	4	61	0	2.02	6.6
Min	879	181	61	889	181	65	0	0	181	0.01	0.0
Max	971	181	68	892	181	65	19	197	181	8.84	31.9

Table E2. Daily means (SD) of animal characteristics at site NC4B for August, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	959	181	67	892	181	65	19	185	181	6.44	32.2
2	962	181	67	892	181	65	19	184	181	6.71	32.5
3	961	181	67	892	181	65	19	184	181	6.98	32.9
4	954	181	67	891	181	65	19	184	181	7.25	33.2
5	948	181	66	890	181	65	19	184	181	7.52	33.5
6	941	181	66	889	181	65	19	184	181	7.79	33.9
7	935	181	65	888	181	65	19	184	181	8.06	34.2
8	928	181	65	887	181	65	19	184	181	8.33	34.6
9	922	181	64	886	181	65	19		181	8.60	
10	915	181	64	885	181	65	19		181	8.87	
11	909	181	63	884	181	65	19		181	0.00	
12	902	181	63	883	181	65	19		181	2.12	
13	895	181	62	882	181	64	19		181	2.37	
14	888	181	62	881	181	64	19		181	2.62	
15	881	181	61	880	181	64	19		181	2.87	
16	874	181	61	879	181	64	19	203	181	3.12	28.3
17	869	181	61	878	181	64	19	204	181	3.37	28.7
18	867	181	61	878	181	64	19	203	181	3.62	29.0
19	866	181	60	878	181	64	19	202	181	3.87	29.4
20	864	181	60	878	181	64	19	201	181	4.12	29.7
21	862	181	60	878	181	64	19	199	181	4.37	30.0
22	860	181	60	878	181	64	19	198	181	4.62	30.3
23	859	181	60	878	181	64	19	197	181	4.87	30.6
24	857	181	60	878	181	64	19	196	181	5.12	30.9
25	857	181	60	878	181	64	19	195	181	5.37	31.2
26	859	181	60	878	181	64	19	195	181	5.62	31.6
27	861	181	60	878	181	64	19	195	181	5.87	31.9
28	863	181	60	879	181	64	19	195	181	6.12	32.2
29	865	181	60	879	181	64	19	195	181	6.37	32.6
30	867	181	61	879	181	64	19	195	181	6.62	32.9
31	867	181	61	879	181	64	19	200	181	6.87	33.5
Avg	894	181	62	882	181	64	19	194	181	5.37	31.7
n	31	31	31	31	31	31	31	24	31	31	24
SD	37	0	3	5	0	0	0	7	0	2.15	1.8
Min	857	181	60	878	181	64	19	184	181	0.01	28.3
Max	962	181	67	892	181	65	19	204	181	8.87	34.6

Table E2. Daily means (SD) of animal characteristics at site NC4B for September, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	866	181	60	879	181	64	19	210	181	7.12	34.3
2	864	181	60	879	181	64	19	219	181	7.37	35.2
3	862	181	60	879	181	64	19	229	181	7.62	36.1
4	861	181	60	878	181	64	19	239	181	7.87	37.0
5	859	181	60	878	181	64	19	249	181	8.12	38.0
6	857	181	60	878	181	64	19	258	181	8.37	39.0
7	856	181	60	878	181	64	19	268	181	8.62	40.0
8	866	181	60	878	181	64	12	168	181	8.87	25.2
9	888	181	62	877	181	64	11	152	181	2.13	16.5
10	909	181	63	876	181	64	19	249	181	2.39	28.1
11	931	181	65	875	181	64	19	240	181	2.65	28.3
12	953	181	66	874	181	64	19	231	181	2.91	28.6
13	974	181	68	873	181	64	19	221	181	3.17	28.8
14	996	181	70	872	181	64	19	212	181	3.43	29.0
15	1,000	181	70	871	181	64	19	207	181	3.68	29.2
16	998	181	70	871	181	64	19	206	181	3.94	29.6
17	992	181	69	870	181	64	19	205	181	4.20	29.9
18	987	181	69	870	181	64	19	205	181	4.46	30.3
19	981	181	68	870	181	64	19	204	181	4.72	30.6
20	975	181	68	869	181	64	19	203	181	4.98	31.0
21	969	181	68	869	181	64	19	202	181	5.24	31.3
22	964	181	67	869	181	64	19	202	181	5.50	31.7
23	961	181	67	870	181	64	19	203	181	5.76	32.1
24	958	181	67	870	181	64	19	204	181	6.02	32.5
25	954	181	67	871	181	64	19	205	181	6.28	32.9
26	951	181	66	871	181	64	19	206	181	6.54	33.3
27	948	181	66	872	181	64	19	207	181	6.80	33.7
28	944	181	66	872	181	64	19	208	181	7.06	34.1
29	941	181	66	873	181	64	19	209	181	7.31	34.6
30	938	181	65	873	181	64	19	210	181	7.57	35.0
Avg	934	181	65	873	181	64	19	214	181	5.69	31.9
n	30	30	30	30	30	30	30	30	30	30	30
SD	50	0	3	3	0	0	2	23	0	2.00	4.5
Min	856	181	60	869	181	64	11	152	181	2.13	16.5
Max	1000	181	70	879	181	64	19	268	181	8.87	40.0

Table E2. Daily means (SD) of animal characteristics at site NC4B for October, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	934	181	65	874	181	64	19	211	181	7.83	35.4
2	931	181	65	874	181	64	19	212	181	8.09	35.8
3	927	181	65	875	181	64	19	213	181	8.35	36.3
4	924	181	65	875	181	64	19	214	181	8.61	36.7
5	921	181	64	876	181	64	8	89	181	8.87	15.4
6	917	181	64	876	181	64	0	0	181	0.00	0.0
7	914	181	64	877	181	64	0	0	181	0.00	0.0
8	911	181	64	877	181	64	0	0	181	0.00	0.0
9	907	181	63	878	181	64	0	0	181	0.00	0.0
10	904	181	63	878	181	64	11	128	181	2.18	16.0
11	901	181	63	879	181	64	19	221	181	2.55	27.8
12	898	181	63	879	181	64	19	220	181	2.92	28.4
13	895	181	62	878	181	64	19	218	181	3.29	28.9
14	892	181	62	878	181	64	19	217	181	3.66	29.4
15	889	181	62	878	181	64	19	215	181	4.03	29.9
16	886	181	62	877	181	64	19	213	181	4.39	30.4
17	883	181	62	877	181	64	19	211	181	4.76	30.9
18	880	181	61	877	181	64	19	210	181	5.13	31.4
19	877	181	61	876	181	64	19	208	181	5.50	31.9
20	875	181	61	877	181	64	19	207	181	5.87	32.4
21	874	181	61	878	181	64	19	207	181	6.24	32.9
22	874	181	61	880	181	64	19	206	181	6.61	33.4
23	874	181	61	881	181	64	19	206	181	6.97	33.9
24	873	181	61	882	181	64	19	206	181	7.34	34.4
25	873	181	61	884	181	65	19	205	181	7.71	34.9
26	872	181	61	885	181	65	19	205	181	8.08	35.4
27	876	181	61	886	181	65	19	204	181	8.45	35.9
28	884	181	62	887	181	65	8	85	181	8.82	15.1
29	892	181	62	887	181	65	11	118	181	2.13	15.7
30	900	181	63	887	181	65	19	201	181	2.39	27.3
31	908	181	63	888	181	65	19	200	181	2.65	27.6
Avg	896	181	63	879	181	64	15	169	181	4.95	25.9
n	31	31	31	31	31	31	31	31	31	31	31
SD	19	0	1	4	0	0	7	74	0	2.89	11.7
Min	872	181	61	874	181	64	0	0	181	0.00	0.0
Max	934	181	65	888	181	65	19	221	181	8.87	36.7

Table E2. Daily means (SD) of animal characteristics at site NC4B for November, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	916	181	64	888	181	65	19	199	181	2.91	27.9
2	924	181	64	889	181	65	19	198	181	3.17	28.3
3	931	181	65	889	181	65	19	196	181	3.43	28.6
4	939	181	66	890	181	65	19	195	181	3.68	28.9
5	947	181	66	890	181	65	19	194	181	3.94	29.3
6	955	181	67	890	181	65	19	193	181	4.20	29.6
7	963	181	67	891	181	65	19	192	181	4.46	29.9
8	971	181	68	891	181	65	19	191	181	4.72	30.2
9	979	181	68	892	181	65	19	190	181	4.98	30.5
10	983	181	69	892	181	65	19	189	181	5.24	30.8
11	984	181	69	892	181	65	19	190	181	5.50	31.2
12	985	181	69	893	181	65	19	191	181	5.76	31.6
13	985	181	69	893	181	65	19	192	181	6.02	32.0
14	986	181	69	893	181	65	19	193	181	6.28	32.4
15	987	181	69	894	181	65	19	194	181	6.54	32.8
16	984	181	69	894	181	65	19	195	181	6.80	33.1
17	979	181	68	893	181	65	19	195	181	7.06	33.5
18	974	181	68	893	181	65	19	194	181	7.31	33.8
19	969	181	68	893	181	65	19	194	181	7.57	34.1
20	963	181	67	892	181	65	19	194	181	7.83	34.5
21	958	181	67	892	181	65	19	194	181	8.09	34.8
22	953	181	67	892	181	65	19	193	181	8.35	35.2
23	948	181	66	891	181	65	19	193	181	8.61	35.5
24	944	181	66	891	181	65	8	80	181	8.87	14.8
25	942	181	66	891	181	65	11	103	181	2.13	15.5
26	940	181	66	890	181	65	19	170	181	2.37	26.7
27	938	181	65	890	181	65	19	161	181	2.62	26.9
28	937	181	65	890	181	65	19	151	181	2.87	27.0
29	935	181	65	890	181	65	19	142	181	3.12	27.0
30	933	181	65	889	181	65	19	133	181	3.37	27.0
Avg	958	181	67	891	181	65	18	180	181	5.26	29.8
n	30	30	30	30	30	30	30	30	30	30	30
SD	21	0	1	2	0	0	2	29	0	2.05	4.7
Min	916	181	64	888	181	65	8	80	181	2.13	14.8
Max	987	181	69	894	181	65	19	199	181	8.87	35.5

Table E2. Daily means (SD) of animal characteristics at site NC4B for December, 2009.

Day	Barn 1			Barn 2			Farrowing room 15				
	Inv., hd	Mass, kg	kg·m^{-2}	Inv., hd	Mass, kg	kg·m^{-2}	Sow inv.	Piglet inv.	Sow mass, kg	Piglet mass, kg	kg·m^{-2}
1	931	181	65	889	181	65	19	124	181	3.62	27.0
2	929	181	65	889	181	65	19	126	181	3.87	27.3
3	927	181	65	889	181	65	19	139	181	4.12	27.9
4	925	181	65	889	181	65	19	152	181	4.37	28.6
5	923	181	64	889	181	65	19	165	181	4.62	29.2
6	921	181	64	889	181	65	19	178	181	4.87	30.0
7	919	181	64	889	181	65	19	191	181	5.12	30.7
8	917	181	64	889	181	65	19	198	181	5.37	31.3
9	916	181	64	888	181	65	19	198	181	5.62	31.7
10	915	181	64	888	181	65	19	197	181	5.87	32.0
11	914	181	64	888	181	65	19	197	181	6.12	32.3
12	912	181	64	887	181	65	19	197	181	6.37	32.6
13	911	181	64	887	181	65	19	196	181	6.62	33.0
14	910	181	63	886	181	65	19	196	181	6.87	33.3
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
Avg	919	181	64	888	181	65	19	175	181	5.25	30.5
n	14	14	14	14	14	14	14	14	14	14	14
SD	7	0	1	1	0	0	0	29	0	1.05	2.2
Min	910	181	63	886	181	65	19	124	181	3.62	27.0
Max	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?

Table E3. Building environment.

Table E3. Daily means (SD) of environmental parameters at site NC4B for December, 2007.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15	20.7 (1.1)	60.7 (2.5)	-6.5 (7.0)	9.40 (8.61)	22.8 (0.8)	54.6 (3.5)	-2.2 (6.4)	6.24 (7.89)				
16												
17	19.0 (2.0)	51.7 (4.7)	-6.1 (7.4)	8.32 (8.44)	22.1 (1.6)	50.9 (6.2)	-6.1 (6.6)	5.42 (7.51)				
18	18.4 (2.5)	52.5 (6.7)	-6.3 (7.7)	8.50 (8.50)	22.7 (1.1)	53.0 (7.6)	-4.5 (8.0)	5.61 (7.57)				
19	20.0 (1.9)	56.8 (4.7)	-6.7 (7.6)	8.96 (8.45)	22.7 (0.7)	54.7 (5.4)	-6.0 (8.5)	7.46 (8.01)				
20	20.8 (2.1)	55.8 (6.5)	-7.1 (7.6)	9.31 (8.33)	23.3 (1.0)	52.9 (6.5)	-7.7 (9.0)	9.11 (8.28)				
21	19.4 (0.9)	60.4 (4.2)	-6.0 (6.5)	9.15 (8.24)	22.6 (0.7)	55.2 (5.6)	-4.0 (7.7)	6.14 (7.43)				
22	21.5 (2.0)	61.0 (3.0)	-7.6 (7.1)	10.60 (8.23)	23.2 (0.9)	56.6 (3.8)	-11.2 (9.0)	12.10 (8.43)				
23	23.2 (1.2)	67.0 (3.6)	-14.7 (10.9)	16.00 (10.60)	23.9 (0.6)	62.4 (3.8)						
24	21.9 (1.4)	56.9 (6.5)	-7.5 (7.5)	9.75 (8.12)	23.2 (0.9)	52.8 (5.6)						
25	20.9 (1.4)	54.2 (6.2)	-6.8 (7.3)	9.48 (8.29)	23.0 (0.8)	50.8 (5.7)	-8.9 (9.7)	9.21 (8.20)				
26	19.4 (1.1)	63.1 (3.7)	-5.6 (7.3)	8.63 (8.19)	22.1 (0.7)	59.1 (5.9)						
27	20.7 (1.9)	61.8 (3.5)	-7.7 (7.9)	9.47 (8.22)	22.8 (1.1)	56.2 (5.5)	-8.5 (9.5)	8.47 (8.13)				
28	22.7 (0.9)	61.4 (3.7)	-15.3 (9.3)	15.80 (8.08)	23.7 (0.7)	56.8 (4.0)	-15.3 (9.2)	15.00 (8.15)				
29	23.7 (0.7)	68.8 (2.8)	-30.1 (5.9)	35.60 (12.20)	24.7 (0.5)	64.6 (2.8)	-21.5 (3.5)	25.60 (6.53)	26.9 (0.5)	63.2 (1.9)		
30	22.8 (0.5)	71.4 (2.0)	-22.3 (8.8)	22.10 (6.38)	24.4 (0.5)	66.0 (2.8)	-18.9 (6.5)	13.10 (6.98)	26.3 (0.2)	64.9 (1.6)		
31	21.9 (1.0)	58.7 (7.9)	-11.6 (7.7)	14.10 (7.34)	23.7 (0.8)	54.3 (7.9)	-11.6 (9.9)	9.24 (8.42)	24.8 (0.8)	55.9 (5.0)		
Avg	21.1	60.1	-10.5	12.80	23.2	56.3	-9.7	10.20	26.0	61.3		
n	16	16	16	16	16	16	13	13	3	3	0	0
SD	1.5	5.4	6.8	6.95	0.7	4.4	5.6	5.27	0.9	3.9		
Min	18.4	51.7	-30.1	8.32	22.1	50.8	-21.5	5.42	24.8	55.9		
Max	23.7	71.4	-5.6	35.60	24.7	66.0	-2.2	25.60	26.9	64.9		

Table E3. Daily means (SD) of environmental parameters at site NC4B for January, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	21.1 (1.5)	51.9 (9.7)	-9.9 (8.4)	11.50 (8.18)	23.5 (0.9)	48.8 (8.3)	-10.5 (9.2)	8.46 (8.25)	24.2 (0.5)	51.2 (4.6)	-2.4 (5.6)	0.43 (0.47)
2	18.1 (1.9)	52.7 (5.7)	-6.0 (7.6)	8.15 (8.51)	21.7 (1.6)	52.8 (7.0)	-8.9 (7.0)	4.18 (7.09)	23.9 (0.2)	43.5 (2.6)	0.8 (4.9)	0.39 (0.39)
3	16.0 (1.9)	51.3 (4.6)	-5.6 (8.0)	8.33 (8.66)	20.5 (1.7)	51.7 (6.1)	-3.9 (6.6)	4.82 (7.37)	24.3 (0.3)	42.2 (1.9)	-2.2 (5.4)	0.43 (0.44)
4	17.3 (2.9)	53.4 (6.4)	-6.4 (7.9)	8.42 (8.51)	21.7 (1.7)	54.0 (7.9)	-4.0 (7.4)	5.18 (7.40)	24.3 (0.5)	46.8 (3.1)	-3.8 (5.3)	0.41 (0.43)
5	19.1 (2.7)	50.9 (6.0)	-7.7 (7.8)	9.76 (8.39)	22.3 (1.7)	49.8 (7.7)	-6.3 (8.9)	7.15 (8.06)	24.5 (0.5)	47.3 (2.5)	-4.0 (5.5)	0.43 (0.48)
6	22.3 (1.9)	56.2 (5.3)	-5.4 (7.8)	12.60 (8.65)	23.6 (1.0)	52.5 (5.3)	-12.9 (9.8)	12.60 (8.74)	25.4 (0.9)	51.9 (3.0)	-5.0 (5.7)	0.57 (0.60)
7	22.4 (1.4)	61.0 (5.7)	-14.2 (13.2)	19.20 (13.10)	23.9 (1.2)	57.4 (5.2)	-16.1 (9.0)	16.00 (8.67)	25.8 (0.8)	56.1 (3.1)	-5.9 (6.0)	1.28 (0.86)
8	23.3 (1.0)	63.0 (5.0)	-19.1 (11.8)	23.70 (14.10)	24.0 (0.8)	59.4 (4.5)	-18.3 (7.7)	19.50 (9.48)				
9	22.9 (0.8)	66.4 (2.8)	-22.2 (10.5)	25.70 (11.60)	24.1 (0.8)	61.6 (2.8)	-19.8 (6.5)	20.00 (7.96)				
10	22.9 (0.7)	62.2 (3.2)	-19.3 (11.3)	20.00 (8.48)	24.0 (0.6)	58.1 (3.4)	-18.2 (7.8)	17.70 (7.15)				
11	23.3 (0.5)	65.2 (5.4)	-30.4 (7.4)	29.30 (7.32)	24.6 (0.3)	61.4 (5.2)	-20.9 (4.4)	22.20 (4.80)	26.3 (0.2)	63.5 (3.2)	-4.8 (5.9)	0.43 (0.42)
12	22.5 (1.1)	58.2 (4.0)	-9.7 (7.4)	13.50 (7.81)	24.0 (0.5)	54.6 (4.0)	-13.3 (9.5)	8.84 (7.31)	24.9 (0.7)	57.9 (2.3)	-3.4 (5.4)	0.36 (0.39)
13	21.0 (1.2)	58.9 (2.8)	-5.8 (6.7)	9.32 (8.23)	23.4 (0.6)	56.1 (4.0)	-6.8 (9.0)	6.44 (7.99)	24.3 (0.2)	56.8 (1.8)	-2.9 (4.6)	0.36 (0.36)
14	21.0 (1.3)	55.4 (7.4)	-7.4 (6.9)	10.40 (8.22)	22.9 (0.8)	51.8 (8.2)	-9.5 (9.1)	9.14 (8.20)	24.4 (0.3)	52.6 (3.5)	-2.9 (4.6)	0.35 (0.35)
15	19.0 (2.1)	51.7 (7.3)	-5.7 (6.8)	8.67 (8.50)	22.5 (0.9)	50.8 (8.0)	-6.6 (8.3)	6.65 (8.00)	24.4 (0.4)	45.0 (3.0)	-2.5 (5.0)	0.35 (0.39)
16	18.8 (2.1)	50.8 (4.6)	-5.1 (6.7)	8.61 (8.64)	22.0 (0.9)	51.2 (6.4)	-5.5 (8.2)	6.63 (8.04)	24.6 (0.5)	44.6 (1.8)	-2.8 (4.2)	0.35 (0.33)
17	19.2 (1.1)	60.6 (5.9)	-5.5 (6.5)	8.36 (8.48)	22.2 (0.6)	57.4 (5.9)	-4.8 (8.2)	6.02 (7.82)	24.6 (0.3)	50.7 (3.0)	-2.2 (4.8)	0.35 (0.39)
18	20.2 (1.2)	63.4 (2.9)	-5.6 (6.7)	8.10 (8.30)	22.5 (0.7)	59.0 (4.4)	-7.4 (8.1)	6.98 (8.06)	24.8 (0.3)	52.7 (1.9)	-2.9 (4.8)	0.35 (0.39)
19	19.8 (1.7)	63.3 (2.6)	-4.9 (6.8)	8.14 (8.31)	22.1 (0.8)	59.2 (3.9)	-7.2 (8.8)	7.39 (8.18)	25.5 (0.5)	50.3 (4.5)	-3.1 (4.8)	0.42 (0.44)
20	17.9 (1.5)	56.4 (5.4)	-4.8 (6.7)	7.94 (8.33)	22.0 (0.7)	55.7 (4.2)	-6.0 (7.5)	5.47 (7.75)	25.5 (0.7)	42.0 (2.2)	-1.6 (4.6)	0.43 (0.44)
21	16.7 (2.6)	52.3 (3.8)	-4.6 (6.6)	8.00 (8.51)	21.6 (1.5)	54.2 (5.3)	-2.9 (6.9)	4.58 (7.34)	24.8 (0.6)	45.1 (2.1)	-2.5 (4.1)	0.36 (0.38)
22	19.8 (2.8)	55.9 (3.6)	-6.7 (7.0)	9.42 (8.46)	22.7 (1.1)	54.0 (4.2)	-9.1 (9.4)	9.09 (8.27)	25.2 (0.8)	50.4 (2.9)	-3.5 (5.0)	0.39 (0.40)
23	21.4 (1.2)	60.2 (3.6)	-7.2 (6.8)	10.30 (8.31)	22.9 (0.9)	55.7 (4.0)	-11.1 (8.7)	11.00 (8.14)	25.6 (0.4)	55.4 (2.0)	-3.6 (5.4)	0.40 (0.43)
24	20.0 (1.7)	57.4 (6.7)	-5.7 (6.8)	8.37 (8.37)	22.2 (0.8)	53.9 (7.3)	-8.8 (8.6)	8.47 (8.17)	25.0 (0.4)	54.6 (3.4)	-2.7 (5.2)	0.38 (0.39)
25	17.1 (2.0)	50.6 (3.6)	-4.4 (6.7)	7.66 (8.34)	21.7 (1.3)	50.6 (5.1)	-4.2 (7.1)	5.00 (7.34)	24.7 (0.3)	48.6 (2.1)	-2.5 (5.0)	0.37 (0.40)
26												
27	20.0 (2.0)	53.7 (5.5)	-5.5 (6.9)	8.45 (8.34)	22.6 (0.8)	51.8 (6.1)	-8.1 (8.8)	8.14 (8.10)	24.1 (0.2)	51.0 (2.2)	-3.4 (5.7)	0.41 (0.45)
28	19.9 (2.3)	54.1 (5.6)	-5.7 (6.7)	8.41 (8.36)	22.7 (0.8)	52.2 (7.2)	-7.5 (8.7)	8.08 (8.28)	24.1 (0.2)	49.7 (3.4)	-3.7 (5.2)	0.39 (0.41)
29	21.4 (1.9)	48.0 (7.0)	-8.6 (7.7)	11.30 (8.44)	23.0 (0.7)	45.9 (7.0)	-11.2 (9.0)	12.20 (8.56)	24.6 (0.6)	48.7 (3.1)	-3.5 (5.5)	0.47 (0.53)
30	22.0 (1.6)	49.2 (10.1)	-10.7 (8.8)	13.70 (8.34)	23.2 (0.8)	47.5 (10.9)	-14.0 (8.8)	14.20 (8.04)	24.8 (0.5)	50.8 (5.5)	-2.8 (5.7)	0.50 (0.53)
31	18.4 (1.2)	50.7 (3.3)	-4.9 (6.3)	8.46 (8.69)	22.4 (0.5)	49.5 (5.5)	-3.7 (7.6)	3.58 (6.81)	24.1 (0.2)	49.4 (1.6)	-3.9 (5.7)	0.40 (0.44)
Avg	20.2	56.2	-8.8	11.80	22.8	54.0	-9.6	9.52	24.8	50.3	-3.1	0.44
n	30	30	30	30	30	30	30	30	27	27	27	27
SD	2.0	5.1	6.1	5.71	0.9	4.0	5.0	4.99	0.6	5.0	1.2	0.17
Min	16.0	48.0	-30.4	7.66	20.5	45.9	-20.9	3.58	23.9	42.0	-5.9	0.35
Max	23.3	66.4	-4.4	29.30	24.6	61.6	-2.9	22.20	26.3	63.5	0.8	1.28

Table E3. Daily means (SD) of environmental parameters at site NC4B for February, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1												
2	20.8 (1.8)	56.2 (5.7)	-6.9 (6.9)	9.93 (8.39)	23.1 (0.8)	52.3 (6.3)	-10.5 (9.5)	10.60 (8.47)	24.5 (0.6)	54.0 (3.0)	-4.8 (5.7)	0.46 (0.49)
3	21.3 (2.0)	53.2 (8.8)	-10.0 (9.6)	12.60 (9.32)	23.5 (1.1)	50.3 (8.6)	-10.9 (9.5)	7.88 (7.43)	24.7 (0.6)	52.0 (5.3)	-4.8 (6.2)	0.65 (0.74)
4	22.5 (1.4)	60.1 (3.7)	-16.1 (12.7)	19.30 (13.70)	23.7 (0.7)	56.6 (3.9)	-15.1 (9.8)	15.90 (12.30)	26.4 (1.9)	58.8 (3.5)	-4.6 (5.1)	0.43 (0.50)
5	23.5 (1.0)	64.7 (7.2)	-19.2 (12.1)	24.60 (15.60)	24.2 (1.0)	61.3 (6.6)	-20.2 (5.6)	22.60 (8.43)	27.8 (0.7)			
6	24.2 (1.3)	61.5 (9.1)	-26.1 (10.3)	37.60 (21.10)	24.8 (1.3)	59.2 (8.1)	-22.8 (4.4)	29.10 (9.84)	25.9 (2.3)			
7	22.5 (1.1)	53.5 (6.7)	-15.4 (11.1)	16.80 (8.86)	23.7 (0.9)	48.9 (7.7)	-17.9 (7.5)	17.80 (7.41)	25.0 (0.7)	55.1 (6.0)	-3.4 (4.6)	0.31 (0.32)
8	21.2 (1.6)	54.8 (5.8)	-6.8 (6.5)	9.99 (8.33)	23.0 (1.0)	50.2 (5.8)	-11.9 (9.4)	11.50 (8.37)	25.1 (0.5)	48.1 (2.3)	-3.4 (5.0)	0.33 (0.37)
9	21.6 (2.1)	49.3 (10.1)	-12.3 (12.3)	13.70 (10.10)	23.4 (0.9)	46.8 (9.6)	-13.4 (9.5)	14.30 (9.54)	25.1 (0.8)	48.1 (5.0)	-3.5 (4.3)	0.35 (0.37)
10	21.8 (1.5)	40.7 (7.3)	-12.2 (10.9)	12.30 (8.68)	23.2 (1.0)	39.1 (7.4)	-17.4 (11.9)	13.80 (8.21)	24.7 (0.6)	43.4 (3.3)	-2.6 (4.5)	0.33 (0.34)
11	19.7 (1.8)	44.7 (5.2)	-4.5 (6.1)	8.25 (8.55)	24.0 (1.8)	50.5 (8.2)	-3.2 (6.7)	4.27 (6.81)	24.6 (0.5)	41.6 (1.7)	-2.6 (4.2)	0.29 (0.31)
12												
13												
14												
15	21.0 (2.1)	53.9 (6.7)	-6.5 (6.8)	9.39 (8.64)	22.8 (0.9)	52.7 (7.0)	-9.3 (9.2)	9.53 (8.37)	25.3 (0.4)	51.6 (3.8)	-4.2 (5.1)	0.36 (0.35)
16	21.7 (1.6)	54.0 (3.7)	-6.5 (6.2)	9.57 (8.49)	23.3 (0.7)	50.3 (4.2)	-8.4 (8.9)	6.62 (7.23)	25.4 (0.3)	53.0 (3.0)	-4.2 (5.0)	0.38 (0.35)
17	22.1 (2.6)	60.7 (4.3)	-11.7 (11.4)	13.50 (9.62)	23.6 (0.5)	58.4 (4.1)	-12.6 (10.4)	14.20 (11.90)	25.4 (0.6)	57.9 (3.0)	-7.9 (5.6)	0.59 (0.38)
18	23.7 (0.8)	63.3 (10.7)	-18.8 (11.4)	19.10 (8.39)	23.8 (0.5)	59.3 (10.2)	-20.0 (5.3)	21.70 (6.73)	25.3 (0.6)	62.1 (6.4)	-10.1 (3.1)	0.92 (0.27)
19	21.4 (1.5)	47.8 (7.5)	-7.3 (6.6)	8.90 (8.35)	23.2 (0.8)	45.7 (7.9)	-11.2 (9.6)	9.60 (8.21)	24.5 (0.2)	50.9 (4.6)	-5.1 (5.2)	0.44 (0.35)
20	21.5 (2.0)	48.2 (8.6)	-7.4 (6.9)	10.90 (8.40)	23.1 (0.8)	47.2 (9.5)	-11.3 (8.9)	12.30 (8.89)	24.6 (0.2)	50.0 (5.2)	-6.5 (4.8)	0.57 (0.37)
21												
22												
23	22.0 (1.4)	64.8 (2.8)	-6.3 (6.5)	9.40 (8.33)	22.9 (0.4)	61.9 (3.8)	-11.4 (8.9)	11.50 (7.89)	24.6 (0.2)	60.7 (2.2)	-8.1 (5.1)	0.57 (0.32)
24	20.5 (1.3)	55.5 (4.0)	-5.9 (7.5)	8.62 (8.43)	22.6 (0.8)	52.1 (4.5)	-6.9 (8.5)	8.58 (8.26)	24.6 (0.3)	54.8 (3.1)	-5.6 (5.5)	0.43 (0.34)
25	21.5 (1.9)	56.8 (5.1)	-9.2 (9.0)	10.30 (7.98)	23.2 (0.8)	53.1 (5.6)	-10.7 (9.2)	11.30 (8.63)	24.6 (0.2)	54.5 (3.4)	-7.2 (5.3)	0.53 (0.35)
26	22.2 (1.1)	64.4 (3.2)	-10.8 (9.2)	10.50 (7.65)	23.0 (0.6)	60.8 (3.7)	-14.9 (8.4)	15.40 (8.11)	24.8 (0.4)			
27	19.9 (1.7)	51.5 (4.9)	-6.5 (8.9)	8.18 (8.15)	22.5 (0.8)	51.5 (5.2)	-11.3 (7.3)	7.26 (8.08)	21.7 (5.1)			
28	17.3 (2.0)	55.2 (4.7)	-6.9 (9.2)	7.71 (8.19)	22.2 (1.2)	53.0 (6.4)	-6.4 (7.1)	5.54 (7.79)	25.3 (3.5)			
29	18.2 (2.7)	50.3 (8.3)	-9.0 (9.8)	8.80 (8.13)	23.2 (0.8)	49.8 (9.0)	-6.8 (8.4)	7.67 (8.35)	25.9 (1.0)			
Avg	21.4	55.0	-10.5	13.00	23.3	52.7	-12.4	12.60	25.0	52.7	-5.2	0.47
n	23	23	23	23	23	23	23	23	23	17	17	17
SD	1.6	6.4	5.3	6.70	0.6	5.5	4.8	5.83	1.0	5.4	2.1	0.16
Min	17.3	40.7	-26.1	7.71	22.2	39.1	-22.8	4.27	21.7	41.6	-10.1	0.29
Max	24.2	64.8	-4.5	37.60	24.8	61.9	-3.2	29.10	27.8	62.1	-2.6	0.92

Table E3. Daily means (SD) of environmental parameters at site NC4B for March, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	21.7 (2.0)	47.5 (7.9)	-14.0 (12.6)	11.40 (7.93)	23.6 (0.9)	45.4 (7.3)	-15.2 (10.6)	14.50 (8.92)	25.4 (0.6)	43.6 (2.7)	-3.0 (4.8)	0.30 (0.32)
2	21.2 (1.9)	46.4 (6.3)	-9.7 (9.4)	9.40 (8.08)	23.3 (0.8)	44.7 (6.7)	-10.7 (9.0)	11.70 (8.67)	25.4 (0.6)	41.4 (2.4)	-3.6 (4.6)	0.31 (0.34)
3	22.0 (2.4)	55.7 (4.4)	-22.9 (21.2)	12.70 (8.06)	23.5 (0.8)	53.2 (4.1)	-15.5 (9.0)	19.00 (11.20)	25.5 (0.4)	51.3 (5.3)	-5.1 (4.8)	0.37 (0.34)
4	23.7 (0.8)	63.6 (4.0)	-35.4 (21.4)	17.70 (8.74)	24.0 (0.9)	60.8 (3.3)	-20.2 (4.0)	26.00 (7.90)	25.5 (0.5)	61.7 (3.9)	-9.5 (5.7)	0.63 (0.36)
5	23.0 (0.8)	57.3 (6.1)	-20.4 (13.1)	13.70 (6.33)	24.2 (1.1)	54.6 (5.8)	-16.2 (7.8)	15.30 (7.69)	25.4 (0.3)	57.6 (6.3)	-6.1 (6.4)	0.43 (0.39)
6												
7												
8	22.1 (1.6)	60.2 (10.7)	-27.7 (15.0)	13.90 (6.70)	24.5 (0.6)	56.4 (9.8)	-14.3 (8.3)	14.40 (9.33)	25.7 (0.3)	56.4 (9.0)	-7.1 (5.6)	0.56 (0.39)
9	19.8 (1.7)	50.8 (6.1)	-9.0 (11.3)	8.02 (7.91)	24.2 (0.8)	52.7 (6.0)	-4.6 (6.1)	3.34 (6.33)	25.3 (0.3)	42.9 (2.6)	-3.7 (5.9)	0.35 (0.37)
10	20.8 (2.5)	51.2 (9.4)	-13.1 (11.5)	10.20 (7.68)	24.1 (0.7)	50.3 (10.1)	-8.9 (9.6)	9.21 (9.24)	25.1 (0.5)	44.3 (4.4)	-6.9 (6.3)	0.48 (0.39)
11	22.2 (1.3)	52.8 (7.3)	-16.4 (13.8)	11.70 (7.51)	24.0 (0.7)	49.9 (6.7)	-13.2 (9.1)	12.70 (7.94)	24.5 (0.3)	48.8 (4.5)	-8.1 (6.5)	0.52 (0.38)
12		48.1 (8.9)	-21.3 (18.5)			47.0 (8.5)	-21.1 (267.0)		24.8 (0.6)	46.7 (5.4)	-14.2 (267.0)	
13		47.1 (11.0)	-27.4 (20.6)			43.8 (10.4)	-15.4 (9.6)		25.3 (0.8)	45.0 (8.0)	-9.0 (5.5)	
14	23.2 (0.8)	48.6 (7.3)	-27.6 (19.7)	16.60 (8.71)	23.7 (0.7)	46.4 (6.0)	-17.9 (7.0)	20.30 (9.23)	25.0 (0.6)	46.7 (4.4)	-8.5 (4.2)	0.83 (0.39)
15	23.1 (0.8)	56.4 (7.2)	-29.7 (20.2)	16.00 (7.97)	23.7 (0.8)	54.0 (6.5)	-18.2 (6.5)	19.80 (8.05)	25.1 (0.6)	52.7 (4.3)	-10.0 (4.7)	0.85 (0.38)
16	22.3 (0.6)	57.6 (7.7)	-14.5 (10.9)	11.90 (7.06)	23.3 (0.6)	53.9 (7.3)	-16.1 (7.1)	14.90 (6.82)	24.7 (0.1)	53.7 (4.9)	-5.2 (6.1)	0.59 (0.33)
17	20.7 (1.4)	49.2 (4.9)	-10.8 (10.2)	9.72 (7.99)	22.6 (1.0)	46.3 (5.9)	-8.3 (8.4)	9.64 (8.47)	24.8 (0.3)	46.5 (4.7)	-4.7 (6.0)	0.41 (0.35)
18	21.1 (1.2)	55.3 (4.3)	-21.6 (17.3)	12.70 (7.18)	22.9 (0.7)	52.3 (4.6)	-13.3 (9.2)	13.80 (8.51)	24.8 (0.2)	52.1 (2.1)	-7.3 (5.1)	0.57 (0.34)
19	23.3 (1.5)	61.4 (5.4)	-41.9 (16.4)	28.00 (13.60)	24.2 (1.3)	59.1 (4.6)	-21.7 (5.4)	26.70 (9.28)	25.8 (1.1)	57.9 (3.5)	-7.6 (3.3)	1.15 (0.54)
20	21.9 (0.7)	51.1 (13.0)	-34.2 (18.5)	18.00 (6.75)	23.8 (0.6)	49.9 (10.8)	-18.7 (8.1)	17.50 (7.49)	24.8 (0.6)	50.4 (8.8)	-2.5 (7.3)	0.72 (0.38)
21	21.9 (1.1)	41.6 (9.8)	-26.0 (20.3)	14.30 (7.86)	23.4 (0.9)	41.1 (8.7)	-13.8 (8.9)	14.90 (9.12)	24.8 (0.3)	43.9 (6.4)	-8.0 (5.5)	0.62 (0.36)
22	22.9 (1.3)	46.6 (10.5)	-35.2 (19.3)	22.10 (11.80)	24.0 (1.1)	44.9 (9.2)	-16.8 (8.1)	20.90 (11.00)	25.4 (0.9)	46.7 (6.4)	-8.6 (4.2)	0.90 (0.43)
23	21.8 (0.8)	47.2 (6.4)	-15.6 (13.3)	11.40 (7.73)	23.1 (0.7)	45.4 (6.3)	-9.8 (8.1)	11.30 (8.19)	24.7 (0.2)	46.4 (4.1)	-6.9 (5.5)	0.55 (0.33)
24	20.9 (1.1)	51.3 (5.9)	-10.5 (10.7)	10.20 (8.00)	22.5 (0.7)	48.8 (6.6)	-9.5 (7.7)	10.80 (8.70)	24.6 (0.2)	48.9 (2.8)	-3.6 (6.0)	0.46 (0.35)
25	20.8 (1.5)	48.1 (9.0)	-12.1 (11.4)	10.10 (7.86)	22.8 (1.0)	46.2 (9.5)	-9.2 (8.1)	10.30 (8.38)	24.4 (0.4)			
26	21.6 (1.4)	47.0 (8.4)	-24.9 (19.6)	15.40 (8.41)	23.6 (1.3)	43.3 (8.1)	-13.6 (8.8)	15.80 (9.83)	22.4 (3.2)			
27	22.5 (1.6)	48.3 (9.2)	-34.9 (18.0)	24.10 (13.40)	24.4 (1.1)	44.9 (8.0)	-16.8 (8.1)	21.20 (11.20)	24.4 (0.8)			
28	23.9 (2.1)	52.2 (9.3)	-28.0 (18.3)	43.20 (24.30)	25.3 (1.5)	49.1 (8.6)	-20.9 (5.2)	28.10 (11.30)	25.5 (1.3)	50.4 (6.5)	-8.3 (5.7)	1.01 (0.83)
29	19.7 (1.7)	58.1 (3.7)	-11.2 (9.3)	16.40 (8.03)	23.2 (0.8)	53.1 (4.0)	-9.3 (9.1)	11.30 (8.76)	24.1 (0.4)	53.0 (2.5)	-3.0 (5.3)	0.34 (0.33)
30												
31												
Avg	21.9	51.9	-22.1	15.60	23.7	49.5	-14.4	15.70	24.9	49.5	-6.7	0.59
n	25	27	27	25	25	27	27	25	27	24	24	22
SD	1.1	5.3	9.3	7.36	0.6	4.9	4.4	5.82	0.7	5.2	2.7	0.23
Min	19.7	41.6	-41.9	8.02	22.5	41.1	-21.7	3.34	22.4	41.4	-14.2	0.30
Max	23.9	63.6	-9.0	43.20	25.3	60.8	-4.6	28.10	25.8	61.7	-2.5	1.15

Table E3. Daily means (SD) of environmental parameters at site NC4B for April, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1												
2	22.9 (0.8)	57.2 (12.3)	-36.5 (16.7)	17.80 (6.26)	24.3 (0.7)	54.1 (11.3)	-18.2 (6.4)	20.40 (6.47)	24.8 (0.2)	54.4 (10.4)	-8.6 (3.3)	0.72 (0.22)
3	21.9 (0.9)	59.2 (5.8)	-13.1 (10.4)	9.42 (7.57)	23.0 (0.4)	59.1 (7.7)	-11.6 (8.2)	12.60 (7.51)	24.6 (0.2)	54.5 (2.9)	-5.4 (5.8)	0.39 (0.32)
4	22.9 (1.1)	66.9 (2.6)	-34.9 (20.2)	19.40 (9.66)	23.9 (0.9)	63.6 (2.7)	-18.2 (7.1)	22.70 (10.20)	25.5 (0.8)	60.0 (2.5)	-8.7 (4.4)	0.94 (0.48)
5	22.7 (0.3)	74.0 (1.4)	-36.3 (12.9)	18.40 (2.74)	24.2 (0.4)	69.1 (2.6)	-15.4 (10.0)	20.20 (7.57)	25.4 (0.2)	66.6 (1.0)	-10.4 (1.5)	1.00 (0.09)
6	22.2 (0.7)	70.2 (3.6)	-20.3 (12.8)	13.80 (6.39)	23.8 (0.9)	64.7 (3.5)	-10.0 (8.2)	15.00 (7.16)	25.0 (0.2)	62.7 (3.3)	-9.6 (3.3)	0.76 (0.22)
7	21.3 (0.9)	64.9 (2.6)	-11.2 (10.8)	9.30 (7.85)	23.0 (0.4)	60.6 (3.8)	-11.3 (7.6)	13.30 (7.87)	24.7 (0.2)	57.5 (0.9)	-7.2 (5.6)	0.52 (0.31)
8	21.7 (1.2)	61.0 (3.2)	-12.6 (11.0)	10.40 (7.50)	23.2 (0.6)		-14.6 (6.9)		24.8 (0.2)	56.9 (2.1)	-6.9 (5.8)	0.53 (0.33)
9	22.8 (0.9)	63.4 (3.3)	-24.8 (18.2)	14.50 (7.26)	23.5 (0.8)		-18.0 (6.3)		25.0 (0.3)	59.0 (2.1)	-9.0 (4.6)	0.71 (0.31)
10	23.7 (0.9)	65.5 (5.1)	-27.9 (18.2)	19.60 (11.90)	24.3 (1.2)		-19.3 (6.2)		25.7 (1.0)	60.7 (4.0)	-11.2 (4.1)	0.95 (0.40)
11	24.7 (1.8)	62.9 (9.7)	-40.0 (17.6)	30.70 (16.40)	25.6 (1.8)		-23.1 (5.3)		26.5 (1.5)	59.3 (8.3)	-12.8 (4.7)	1.82 (1.35)
12	23.9 (1.3)	64.5 (4.2)	-42.5 (14.5)	25.40 (11.40)	25.0 (1.3)		-21.6 (3.8)		26.2 (1.1)	60.4 (2.8)	-9.9 (2.8)	1.42 (0.92)
13	23.0 (0.8)	50.0 (10.0)	-28.9 (19.5)	17.90 (7.43)	24.2 (0.7)		-18.1 (6.7)		25.2 (0.5)	49.1 (7.7)	-9.2 (3.3)	0.86 (0.27)
14	21.6 (1.0)	55.0 (4.6)	-9.9 (9.3)	11.40 (7.91)	23.2 (0.6)		-8.8 (6.8)		24.7 (0.2)	50.5 (3.7)	-7.0 (6.0)	0.47 (0.33)
15	21.2 (0.9)	48.8 (8.3)	-13.9 (13.4)	12.80 (7.65)	23.2 (0.8)		-9.4 (6.5)		24.7 (0.4)	48.4 (5.7)	-4.1 (5.9)	0.42 (0.33)
16	21.5 (1.4)	46.1 (9.5)	-22.5 (20.3)	14.40 (8.64)	23.1 (0.7)	43.5 (9.8)	-10.2 (8.3)	14.60 (9.99)	24.6 (0.2)	45.9 (6.6)	-5.8 (4.9)	0.50 (0.33)
17	22.8 (2.0)	44.4 (12.7)	-33.9 (22.1)	23.90 (14.90)	24.4 (1.6)	41.8 (11.5)	-15.1 (9.4)	21.00 (12.50)	25.1 (0.9)	43.8 (9.2)	-10.4 (6.8)	0.76 (0.50)
18	23.7 (2.3)	44.6 (9.1)	-38.0 (16.6)	33.40 (18.10)	25.6 (2.4)	39.6 (10.2)	-20.3 (9.7)	35.00 (20.00)	25.8 (1.7)	43.6 (8.0)	-20.3 (8.9)	1.39 (1.20)
19	23.9 (2.0)	51.7 (9.9)	-41.0 (12.7)	36.80 (17.90)	25.3 (1.6)	47.9 (9.2)	-20.7 (7.2)	32.30 (13.40)	25.8 (1.5)	49.1 (7.9)	-20.8 (6.4)	1.09 (0.64)
20	23.1 (1.3)	58.9 (13.0)	-40.8 (10.2)	32.50 (13.80)	24.8 (1.1)	54.2 (11.3)	-20.6 (4.6)	21.80 (4.59)	25.5 (0.9)	55.5 (9.1)	-20.9 (3.2)	1.10 (0.25)
21	21.9 (0.7)	65.3 (3.9)	-28.3 (13.6)	20.80 (5.50)	23.7 (0.7)	60.0 (4.2)	-14.9 (6.2)	16.50 (4.28)	24.8 (0.3)	60.9 (3.2)	-15.1 (4.4)	0.73 (0.37)
22	22.7 (1.0)	65.1 (4.7)	-36.9 (15.4)	24.80 (7.83)	24.2 (0.6)	60.8 (4.6)	-17.2 (4.6)	18.70 (3.62)	24.8 (0.4)			
23	22.7 (0.9)	66.7 (2.8)	-38.4 (10.8)	28.80 (9.55)	24.3 (0.7)	63.6 (4.0)	-20.3 (4.0)	19.00 (3.46)	23.5 (1.5)			
24	23.2 (1.7)	61.2 (9.1)	-37.0 (13.1)	32.30 (14.50)	24.8 (1.3)	57.5 (8.9)	-20.9 (5.8)	23.90 (9.23)	24.8 (1.3)			
25	23.8 (2.2)	57.5 (10.1)	-39.3 (12.7)	38.40 (18.80)	25.2 (1.7)	54.3 (10.0)	-22.8 (6.3)	32.30 (14.40)	25.8 (1.4)	54.8 (8.2)	-22.9 (5.2)	1.32 (0.90)
26	23.8 (1.7)	61.5 (5.1)	-42.2 (9.7)	40.00 (16.50)	25.9 (2.1)	55.2 (7.4)	-24.5 (5.5)	37.90 (16.60)	26.0 (1.5)	57.4 (4.4)	-24.5 (4.8)	1.53 (1.01)
27	23.5 (1.6)	68.2 (6.4)	-44.4 (6.1)	35.60 (13.00)	25.1 (1.2)	63.4 (5.4)	-23.6 (2.9)	30.20 (6.51)	25.8 (1.1)	63.1 (4.6)	-23.7 (2.0)	1.28 (0.55)
28	23.0 (0.9)	71.2 (4.9)	-43.2 (6.6)	31.00 (9.91)	24.7 (0.9)	66.3 (4.5)	-22.5 (3.2)	27.90 (5.62)	25.6 (0.7)	65.7 (4.0)	-22.7 (1.6)	1.10 (0.19)
29	21.3 (1.0)	52.0 (11.2)	-18.5 (10.9)	15.90 (5.93)	24.2 (0.7)	49.4 (10.4)	-16.4 (8.9)	13.30 (7.02)	24.7 (0.2)	50.6 (7.9)	-16.7 (5.1)	0.60 (0.39)
30	20.8 (1.6)	48.2 (6.9)	-17.0 (15.7)	13.20 (7.65)	24.2 (0.8)	48.4 (7.8)	-10.6 (10.0)	9.48 (7.96)	24.7 (0.2)	48.3 (5.5)	-10.8 (4.8)	0.63 (0.42)
Avg	22.7	59.5	-30.1	22.50	24.3	56.0	-17.2	21.80	25.2	55.3	-12.9	0.91
n	29	29	29	29	29	21	29	21	29	26	26	26
SD	1.0	8.2	11.1	9.41	0.8	8.2	4.7	7.86	0.6	6.4	6.3	0.37
Min	20.8	44.4	-44.4	9.30	23.0	39.6	-24.5	9.48	23.5	43.6	-24.5	0.39
Max	24.7	74.0	-9.9	40.00	25.9	69.1	-8.8	37.90	26.5	66.6	-4.1	1.82

Table E3. Daily means (SD) of environmental parameters at site NC4B for May, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	22.3 (2.1)	50.1 (6.9)	-30.5 (20.8)	22.40 (14.80)	24.4 (1.1)	49.2 (8.3)	-16.7 (10.1)	19.50 (13.20)	25.5 (1.2)	48.8 (6.1)	-16.7 (7.4)	1.14 (0.77)
2	23.8 (2.4)	54.6 (7.3)	-38.6 (18.5)	32.30 (18.00)	25.4 (1.5)	52.8 (7.6)	-21.2 (8.6)	28.70 (17.10)	26.2 (1.6)	53.3 (6.4)	-21.1 (6.4)	1.69 (1.14)
3	23.9 (2.0)	56.9 (7.5)	-41.3 (16.2)	33.50 (15.70)	25.7 (1.5)	53.0 (9.0)	-22.4 (7.2)	32.20 (16.80)	26.4 (1.5)	54.9 (7.5)	-22.5 (5.0)	1.74 (1.10)
4	24.3 (2.0)	59.7 (9.0)	-42.4 (15.8)	33.70 (15.10)	25.7 (1.3)	56.8 (8.5)	-24.0 (5.0)	31.60 (14.30)	26.7 (1.4)	57.2 (8.1)	-24.1 (3.7)	1.83 (1.12)
5	23.0 (1.5)	64.3 (4.5)	-31.0 (16.4)	25.00 (13.90)	24.9 (0.9)	61.9 (5.1)	-19.8 (6.1)	21.00 (9.01)	25.5 (0.9)	62.1 (4.4)	-20.1 (2.8)	1.43 (0.70)
6	22.7 (1.6)	58.0 (6.3)	-31.7 (18.6)	24.60 (12.90)	24.9 (0.8)	55.5 (7.1)	-18.7 (8.4)	21.10 (11.30)	25.1 (1.1)	57.2 (6.7)	-18.8 (5.4)	1.53 (0.76)
7												
8												
9												
10	24.3 (2.0)	59.8 (9.0)	-29.5 (14.2)	35.00 (24.30)	26.1 (1.6)	56.4 (10.6)	-18.1 (12.7)	31.20 (18.50)	26.2 (1.8)	57.7 (9.4)	-18.0 (11.4)	2.34 (1.51)
11	22.9 (1.3)	61.4 (5.8)	-21.6 (14.7)	20.00 (16.30)	24.6 (0.8)	58.6 (5.9)	-14.9 (9.5)	17.70 (12.40)	25.0 (1.2)	60.1 (4.5)	-14.4 (6.2)	1.39 (0.67)
12	22.0 (1.2)	54.3 (2.8)	-12.8 (8.4)	12.40 (6.90)	24.4 (0.6)	52.3 (3.8)	-17.0 (10.5)	12.30 (7.86)	24.0 (0.3)	54.0 (2.7)	-16.7 (6.5)	0.96 (0.15)
13	21.7 (1.7)	48.0 (7.3)	-16.6 (14.0)	14.30 (9.40)	24.1 (0.6)	46.9 (8.9)	-14.4 (9.8)	14.00 (9.70)	24.3 (0.6)	47.4 (7.1)	-14.0 (6.0)	0.97 (0.39)
14	22.8 (1.7)	48.5 (8.3)	-24.6 (14.7)	22.60 (13.90)	24.5 (0.7)	48.0 (9.0)	-17.3 (8.9)	20.50 (12.00)	24.3 (0.8)	51.8 (6.7)	-16.7 (6.7)	0.99 (0.42)
15	24.1 (1.3)	59.8 (5.0)	-29.1 (13.1)	32.70 (21.60)	25.1 (1.2)	58.3 (4.7)	-21.3 (5.7)	26.40 (10.80)	25.1 (1.4)	61.5 (4.6)	-20.8 (3.4)	1.73 (1.26)
16	24.7 (1.6)	64.8 (6.6)	-35.6 (11.9)	38.80 (20.40)	26.0 (2.1)	60.0 (7.9)	-23.1 (4.0)	38.00 (17.00)	26.0 (1.7)	65.6 (7.2)	-22.6 (3.1)	2.39 (1.60)
17	23.4 (1.3)	45.7 (8.9)	-24.0 (15.8)	23.60 (16.50)	24.8 (0.8)	44.5 (8.4)	-17.8 (7.3)	21.90 (11.60)	24.5 (1.1)			
18	24.1 (2.1)	52.7 (9.2)	-27.2 (17.8)	30.00 (23.80)	25.1 (1.4)	51.2 (8.6)	-18.5 (8.3)	26.90 (18.70)	25.0 (1.5)			
19	23.9 (1.6)	52.2 (10.4)	-26.6 (15.1)	29.70 (21.20)	25.1 (1.3)	49.9 (9.9)	-19.9 (6.7)	26.90 (15.00)	23.8 (2.3)			
20	24.2 (1.8)	61.6 (6.1)	-31.8 (13.9)	35.70 (21.10)	25.7 (2.0)	58.2 (5.1)	-22.2 (5.4)	33.60 (19.10)	25.7 (1.8)			
21	23.0 (1.5)	57.7 (7.4)	-28.9 (11.8)	31.90 (18.20)	24.8 (1.1)	54.7 (7.7)	-19.5 (6.4)	24.70 (11.50)	25.4 (1.1)	57.2 (7.2)	-11.0 (3.4)	1.09 (0.34)
22	23.5 (2.3)	48.4 (10.4)	-29.3 (14.9)	35.10 (23.00)	25.1 (1.5)	46.5 (10.6)	-20.0 (8.5)	28.60 (17.80)	25.8 (1.4)	48.2 (10.2)	-10.6 (4.3)	1.36 (0.85)
23	23.3 (2.0)	51.9 (7.6)	-32.0 (14.5)	35.40 (20.80)	25.0 (1.3)	50.1 (8.0)	-19.6 (6.7)	26.50 (12.30)	25.7 (1.2)	49.9 (7.3)	-11.7 (4.6)	1.37 (0.80)
24	22.1 (0.7)	60.8 (4.4)	-24.4 (12.0)	20.40 (8.07)	24.1 (0.4)	57.5 (4.9)	-17.5 (6.1)	19.20 (8.00)	24.8 (0.5)	57.4 (4.1)	-10.3 (3.2)	0.97 (0.26)
25	23.3 (2.1)	50.6 (9.8)	-31.2 (15.5)	34.00 (21.50)	25.0 (1.3)	48.2 (9.2)	-18.9 (8.4)	25.00 (13.60)	25.7 (1.3)	49.5 (9.2)	-12.2 (5.5)	1.32 (0.82)
26	23.3 (2.1)	54.4 (5.9)	-32.6 (14.3)	36.80 (21.10)	25.5 (1.7)	49.7 (7.1)	-20.5 (8.6)	32.00 (19.00)	26.5 (1.8)	50.5 (6.6)	-14.5 (8.0)	1.96 (1.52)
27	24.3 (1.9)	61.9 (3.5)	-36.3 (11.0)	46.40 (21.30)	26.2 (2.1)	57.0 (4.2)	-23.5 (6.7)	39.40 (19.50)	26.8 (1.6)	58.2 (3.4)	-16.0 (6.2)	2.16 (1.29)
28	22.0 (1.2)	65.1 (3.3)	-26.2 (13.4)	22.30 (11.00)	23.9 (0.5)	61.3 (4.8)	-14.5 (9.7)	17.80 (11.20)	25.3 (0.6)	62.1 (1.7)	-10.1 (3.4)	1.02 (0.34)
29	22.6 (1.7)	52.6 (9.5)	-26.6 (14.7)	27.80 (17.40)	24.5 (0.7)	50.8 (7.7)	-16.4 (8.6)	20.30 (11.90)	25.2 (1.0)	50.6 (8.8)	-11.2 (4.2)	1.44 (0.87)
30	24.0 (2.2)	64.8 (5.6)	-34.6 (13.7)	44.80 (21.80)	25.7 (2.0)	60.4 (5.3)	-22.0 (8.5)	36.30 (19.80)	26.2 (1.8)	62.5 (4.1)	-16.5 (6.5)	2.48 (1.54)
31	25.2 (1.9)	74.4 (2.6)	-42.7 (6.6)	56.00 (18.70)	26.9 (2.6)	68.6 (4.4)	-25.4 (4.7)	46.00 (16.20)	27.3 (1.4)	70.3 (2.3)	-18.3 (6.1)	3.39 (1.48)
Avg	23.4	57.0	-30.0	30.60	25.1	54.2	-19.5	26.40	25.5	56.2	-16.2	1.61
n	28	28	28	28	28	28	28	28	28	24	24	24
SD	0.9	6.5	6.9	9.39	0.7	5.6	2.8	7.84	0.9	5.9	4.2	0.59
Min	21.7	45.7	-42.7	12.40	23.9	44.5	-25.4	12.30	23.8	47.4	-24.1	0.96
Max	25.2	74.4	-12.8	56.00	26.9	68.6	-14.4	46.00	27.3	70.3	-10.1	3.39

Table E3. Daily means (SD) of environmental parameters at site NC4B for June, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	24.9 (1.8)	73.9 (4.1)	-40.4 (7.0)	53.60 (15.90)	27.0 (3.2)	66.1 (9.2)	-24.2 (5.2)	44.10 (14.40)	27.3 (1.1)	69.0 (3.1)	-16.9 (7.4)	2.96 (1.49)
2	24.3 (1.6)	63.5 (9.7)	-37.2 (7.7)	47.20 (15.00)	26.1 (2.0)	57.4 (11.5)	-24.1 (5.7)	41.60 (14.40)	26.8 (1.1)	57.7 (10.0)	-15.7 (6.0)	2.67 (1.37)
3	23.9 (1.6)	67.7 (3.2)	-38.6 (8.5)	44.60 (18.80)	26.1 (2.0)	60.0 (7.3)	-24.0 (5.0)	40.30 (17.00)	26.7 (1.3)	62.4 (5.5)	-16.8 (7.4)	2.85 (1.49)
4	26.2 (2.0)	76.3 (3.6)	-41.2 (5.5)	62.60 (16.70)	28.4 (3.3)	67.3 (5.9)	-25.8 (4.4)	50.60 (14.20)	28.2 (1.6)	71.6 (3.4)	-17.9 (5.7)	3.60 (1.46)
5	27.4 (2.1)	74.7 (6.3)	-42.6 (4.5)	71.60 (5.56)	29.8 (3.3)	65.4 (8.4)	-26.4 (4.7)	55.20 (11.30)	28.7 (1.5)	72.0 (2.9)	-20.9 (6.0)	4.24 (0.81)
6	27.3 (1.5)	75.7 (3.0)	-42.9 (3.9)	73.50 (4.64)	30.2 (3.4)	65.0 (9.2)	-27.5 (3.4)	56.00 (10.00)	29.0 (1.5)	72.1 (3.7)	-22.5 (5.9)	4.34 (0.76)
7	27.2 (1.2)	75.2 (4.9)	-44.0 (4.2)	73.20 (2.04)	30.3 (3.5)	63.6 (11.7)	-27.6 (2.9)	56.70 (8.86)	28.9 (1.4)	71.4 (5.5)	-21.6 (5.8)	4.23 (0.83)
8	27.2 (1.6)	75.3 (4.4)	-43.3 (5.1)	70.70 (4.92)	30.7 (3.7)	60.9 (12.9)	-19.1 (7.9)	58.70 (14.50)	29.1 (1.6)	71.2 (4.3)	-22.5 (5.8)	4.25 (0.78)
9	27.7 (1.3)	72.6 (3.9)	-43.5 (3.8)	73.50 (2.52)	31.2 (3.1)	62.7 (11.5)	-25.0 (8.6)	62.10 (5.46)	29.2 (1.3)	70.0 (4.5)	-23.0 (5.9)	4.13 (0.82)
10	28.1 (2.3)	66.9 (8.9)	-40.8 (3.8)	75.30 (3.92)	29.9 (3.2)	62.9 (9.1)	-27.0 (3.4)	54.20 (9.78)	28.6 (1.2)			
11	25.7 (1.8)	78.7 (1.9)	-37.8 (4.8)	60.90 (12.20)	27.6 (2.6)	70.9 (5.4)	-25.1 (4.3)	45.10 (12.20)	25.0 (1.0)			
12	25.6 (1.4)	70.1 (8.8)	-38.9 (6.1)	63.90 (12.60)	27.7 (2.3)	63.1 (10.4)	-25.5 (4.8)	49.60 (13.10)	26.0 (1.7)			
13	25.2 (2.0)	66.8 (4.1)	-39.6 (6.1)	57.60 (19.00)	27.2 (2.7)	60.8 (7.1)	-25.5 (4.8)	46.90 (16.30)	26.9 (1.3)	65.0 (2.9)	-18.3 (7.3)	1.97 (0.80)
14	25.4 (2.0)	70.3 (4.2)	-40.0 (7.5)	52.40 (21.20)	27.4 (3.1)	64.0 (8.2)	-25.3 (5.4)	45.90 (17.30)	27.1 (1.5)	68.3 (3.5)	-17.0 (7.0)	2.05 (0.95)
15	25.0 (1.5)	75.2 (3.1)	-39.8 (5.8)	49.20 (18.40)	26.2 (2.0)	70.1 (4.4)	-23.7 (5.0)	42.40 (14.30)	26.8 (1.1)	72.7 (2.2)	-15.5 (6.5)	1.76 (0.72)
16	25.6 (2.0)	72.0 (3.5)	-39.7 (6.7)	58.30 (18.00)	27.6 (3.0)	64.9 (7.1)	-25.1 (5.3)	47.70 (15.30)	27.3 (1.4)	70.0 (3.1)	-17.9 (6.8)	2.43 (1.44)
17	25.6 (1.5)	67.2 (12.7)	-39.7 (5.8)	63.10 (11.30)	27.8 (2.5)	59.7 (13.2)	-25.8 (4.9)	49.50 (12.90)	27.7 (0.8)	63.9 (10.5)	-18.9 (5.3)	2.30 (0.93)
18	24.6 (2.1)	46.9 (8.6)	-36.8 (7.3)	45.80 (19.00)	25.9 (2.0)	44.8 (8.9)	-23.5 (5.1)	41.20 (14.80)	26.8 (1.2)	45.9 (6.7)	-14.6 (5.6)	1.84 (1.02)
19	24.2 (2.3)	51.6 (7.2)	-32.3 (12.0)	40.20 (21.10)	26.2 (2.3)	48.5 (8.9)	-23.7 (6.7)	39.80 (19.80)	26.4 (1.5)	49.9 (7.3)	-16.5 (7.2)	2.47 (1.58)
20	24.2 (1.8)	62.2 (3.3)	-32.5 (10.3)	40.10 (22.20)	25.6 (2.2)	59.9 (4.4)	-22.3 (6.0)	37.40 (16.80)	26.2 (1.5)	60.6 (2.9)	-15.0 (7.6)	2.41 (1.51)
21	24.1 (1.6)	67.8 (5.5)	-33.2 (9.3)	39.00 (20.70)	25.2 (1.3)	65.6 (4.2)	-21.5 (4.3)	33.60 (11.40)	26.2 (1.5)	65.4 (3.5)	-15.0 (6.5)	2.33 (1.44)
22	24.9 (1.4)	73.0 (3.6)	-36.0 (5.9)	48.90 (17.30)	26.0 (1.9)	69.2 (5.3)	-24.5 (4.0)	42.80 (12.50)	26.9 (0.8)	70.0 (2.3)	-17.0 (6.4)	2.62 (1.32)
23	25.1 (1.7)	72.1 (3.5)	-38.5 (6.1)	55.10 (19.40)	26.7 (2.3)	67.1 (5.5)	-24.5 (5.2)	43.90 (14.50)	27.2 (1.3)	68.5 (3.3)	-18.2 (6.8)	3.15 (1.51)
24	24.6 (1.7)	65.6 (7.1)	-37.6 (5.9)	55.40 (18.90)	27.2 (3.0)	57.4 (11.9)	-24.8 (5.6)	43.70 (15.80)	27.0 (1.3)	60.6 (7.0)	-17.3 (7.0)	3.06 (1.55)
25												
26												
27												
28	26.6 (1.2)	73.9 (4.6)	-36.4 (6.0)	74.60 (4.70)	29.5 (3.4)	63.6 (12.0)	-25.4 (3.2)	52.90 (9.80)	28.7 (1.3)	69.0 (4.8)	-22.2 (5.6)	3.97 (0.90)
29	26.2 (1.2)	72.7 (3.5)	-36.3 (6.8)	72.50 (6.40)	28.2 (2.6)	65.7 (7.9)	-24.7 (3.5)	51.10 (10.60)	28.3 (1.2)	68.1 (3.7)	-21.6 (5.5)	4.07 (0.94)
30	25.6 (1.2)	71.2 (7.8)	-34.7 (6.6)	69.00 (8.67)	27.9 (2.2)	62.4 (9.7)	-24.2 (4.3)	49.70 (12.00)	28.0 (0.9)	65.2 (6.6)	-20.2 (5.2)	3.99 (0.95)
Avg	25.6	69.6	-38.7	58.90	27.8	62.6	-24.7	47.50	27.4	65.9	-18.5	3.07
n	27	27	27	27	27	27	27	27	27	24	24	24
SD	1.2	7.1	3.2	11.70	1.7	5.7	1.7	6.78	1.1	6.8	2.6	0.87
Min	23.9	46.9	-44.0	39.00	25.2	44.8	-27.6	33.60	25.0	45.9	-23.0	1.76
Max	28.1	78.7	-32.3	75.30	31.2	70.9	-19.1	62.10	29.2	72.7	-14.6	4.34

Table E3. Daily means (SD) of environmental parameters at site NC4B for July, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	24.4 (2.0)	53.1 (6.9)	-33.9 (7.9)	53.10 (18.90)	26.2 (2.0)	49.5 (7.8)	-22.6 (5.0)	42.60 (15.60)	27.1 (1.2)	51.4 (5.8)	-16.3 (6.4)	2.82 (1.39)
2	24.3 (2.3)	53.2 (5.7)	-33.3 (10.2)	53.20 (24.30)	26.9 (2.9)	47.9 (9.8)	-21.8 (7.6)	41.00 (20.30)	26.7 (1.6)	51.8 (6.3)	-16.6 (6.2)	3.02 (1.66)
3	25.0 (1.9)	61.4 (5.4)	-36.5 (8.2)	59.60 (21.90)	27.7 (3.0)	53.7 (10.4)	-22.0 (5.5)	45.90 (18.40)	27.2 (1.3)	58.4 (5.0)	-19.1 (7.9)	3.36 (1.52)
4	25.9 (1.6)	72.1 (5.4)	-38.8 (6.2)	67.40 (13.00)	28.2 (3.2)	63.8 (10.3)	-24.1 (4.1)	49.50 (12.50)	28.4 (1.2)	66.2 (4.5)	-22.1 (7.8)	3.70 (1.32)
5	24.9 (1.6)	78.0 (3.6)	-36.3 (5.5)	60.60 (12.90)	26.6 (2.2)	71.5 (5.7)	-22.8 (4.0)	42.60 (11.00)	27.7 (0.9)	71.4 (2.5)	-18.0 (6.6)	3.01 (1.19)
6	24.7 (1.9)	78.0 (3.8)	-37.6 (5.2)	56.10 (16.30)	27.1 (2.8)	69.5 (6.9)	-23.4 (4.8)	44.80 (14.70)	28.0 (1.2)	69.9 (3.2)	-20.3 (7.8)	3.19 (1.47)
7	24.7 (1.6)	77.4 (2.5)	-35.4 (5.9)	57.00 (20.20)	26.4 (1.8)	71.1 (4.6)	-22.5 (5.1)	43.00 (14.50)	27.8 (1.2)	70.3 (3.1)	-19.9 (6.8)	3.44 (1.55)
8	25.4 (1.7)	78.3 (4.7)	-35.6 (6.7)	65.90 (13.30)	27.4 (2.2)	71.0 (4.9)	-22.2 (6.3)	48.60 (14.10)	27.4 (1.5)			
9	24.8 (2.1)	79.6 (2.8)	-32.2 (8.0)	58.80 (18.60)	26.4 (2.3)	74.7 (2.9)	-18.3 (7.5)	45.70 (14.40)	25.4 (1.6)			
10	25.2 (2.0)	78.4 (4.4)	-31.9 (7.7)	64.40 (13.80)	26.9 (2.6)	72.8 (6.5)	-18.3 (6.9)	46.90 (12.30)	26.4 (1.6)			
11	25.1 (1.2)	81.0 (2.3)	-28.8 (7.3)	61.10 (11.10)	26.2 (1.3)	77.0 (3.3)	-15.9 (5.8)	43.10 (10.30)	27.0 (0.7)	76.3 (1.8)	-19.2 (5.0)	2.54 (1.16)
12	25.0 (2.0)	68.8 (7.1)	-31.0 (8.6)	60.80 (19.70)	26.9 (2.5)	64.3 (8.4)	-17.8 (7.4)	46.60 (15.10)	26.3 (1.2)	66.6 (6.4)	-19.5 (6.8)	2.67 (1.51)
13	25.2 (2.1)	67.1 (4.3)	-32.9 (8.5)	58.10 (23.30)	27.3 (2.8)	62.4 (5.9)	-18.3 (7.6)	45.40 (16.30)	26.5 (1.8)	66.7 (3.7)	-19.4 (8.1)	2.84 (1.58)
14	25.1 (1.9)	76.5 (4.8)	-30.0 (8.2)	60.20 (18.10)	26.2 (1.8)	73.3 (4.6)	-17.0 (7.0)	43.40 (13.00)	26.6 (1.1)	73.8 (3.3)	-17.5 (5.6)	2.70 (1.31)
15	24.8 (1.6)	77.3 (5.3)	-28.6 (7.9)	61.20 (14.10)	26.5 (2.0)	72.3 (6.5)	-17.6 (6.4)	45.80 (12.50)	27.1 (0.8)	71.2 (3.7)	-18.8 (6.2)	2.81 (1.43)
16	24.9 (2.1)	64.7 (6.9)	-30.4 (7.9)	58.60 (21.60)	26.7 (2.6)	60.6 (7.8)	-18.2 (7.3)	46.60 (16.00)	26.7 (1.2)	61.2 (5.9)	-19.5 (7.3)	2.98 (1.52)
17	25.1 (2.0)	61.5 (3.8)	-30.9 (9.6)	55.30 (25.10)	27.4 (3.2)	56.4 (7.6)	-17.4 (6.9)	45.20 (19.20)	26.6 (1.4)	59.6 (3.1)	-20.1 (8.2)	3.03 (1.59)
18	25.5 (2.1)	74.3 (2.7)	-33.7 (8.3)	62.40 (20.30)	27.0 (2.8)	70.1 (5.0)	-18.6 (7.1)	47.30 (15.70)	27.3 (1.5)	70.9 (2.6)	-21.1 (7.5)	3.19 (1.44)
19	25.6 (1.6)	78.8 (2.4)	-31.4 (8.5)	65.30 (14.40)	26.7 (1.9)	75.4 (4.3)	-18.6 (5.9)	48.30 (12.10)	27.5 (0.9)	74.5 (2.0)	-21.5 (6.3)	3.29 (1.36)
20	26.3 (1.4)	79.1 (5.1)	-32.3 (8.5)	72.10 (6.41)	28.3 (2.5)	71.8 (7.2)	-21.3 (6.4)	50.80 (11.80)	28.0 (1.3)	73.7 (3.6)	-23.0 (4.3)	3.86 (0.98)
21	27.2 (1.6)	73.3 (2.2)	-35.7 (7.6)	73.60 (5.93)	29.8 (3.3)	63.7 (7.4)	-22.0 (5.7)	53.90 (9.65)	28.5 (1.6)	70.0 (3.1)	-23.3 (3.9)	3.95 (0.97)
22	26.0 (2.3)	74.8 (3.5)	-33.6 (7.3)	64.70 (12.60)	28.3 (4.0)	66.6 (8.8)	-17.2 (6.8)	46.20 (12.20)	28.2 (1.9)	70.1 (4.2)	-20.9 (5.8)	3.21 (1.20)
23	24.3 (1.9)	78.3 (2.0)	-28.6 (7.2)	47.50 (16.00)	25.5 (2.1)	74.8 (2.1)	-14.2 (6.1)	38.10 (12.30)	26.7 (1.3)	73.9 (2.3)	-16.8 (5.8)	3.01 (1.47)
24	24.7 (1.9)	74.1 (5.8)	-31.5 (7.8)	41.10 (22.60)	26.1 (2.2)	70.2 (6.9)	-17.2 (7.6)	36.20 (14.90)	26.5 (1.1)	71.6 (4.0)	-18.3 (6.6)	3.22 (1.33)
25	24.6 (2.1)	70.7 (6.7)	-30.0 (8.5)	51.50 (18.00)	26.1 (2.2)	66.1 (8.3)	-18.0 (7.5)	46.60 (15.70)	26.7 (1.3)	67.0 (5.5)	-19.5 (7.4)	3.35 (1.44)
26	25.3 (2.3)	70.5 (6.5)	-32.4 (8.6)	54.20 (19.80)	26.4 (2.3)	67.4 (6.9)	-18.3 (7.5)	46.30 (16.10)	27.0 (1.3)	68.6 (4.3)	-20.6 (7.4)	3.58 (1.42)
27	27.1 (2.6)	74.7 (5.4)	-35.1 (7.1)	61.90 (11.50)	27.6 (2.4)	73.9 (4.5)	-19.5 (6.8)	50.80 (12.00)	28.0 (1.5)	74.7 (2.0)	-22.7 (6.5)	4.15 (0.82)
28	26.6 (1.9)	73.4 (7.5)	-36.4 (6.1)	64.90 (6.10)	28.2 (2.6)	67.8 (11.3)	-20.1 (6.1)	51.40 (10.90)	27.9 (1.0)	70.7 (6.3)	-23.1 (4.5)	4.45 (0.69)
29	26.6 (1.7)	76.7 (2.7)	-36.9 (6.4)	64.50 (5.92)	28.4 (2.8)	70.3 (6.5)	-19.8 (6.2)	51.90 (11.10)	28.4 (1.7)	72.5 (2.6)	-23.9 (5.2)	4.40 (0.68)
30	26.2 (2.0)	79.9 (2.8)	-36.6 (6.5)	61.00 (7.38)	27.8 (2.8)	74.2 (5.4)	-18.9 (6.8)	48.50 (12.30)	28.2 (1.8)	74.9 (2.6)	-20.5 (5.9)	4.10 (0.88)
31	26.1 (2.1)	82.1 (2.1)	-35.2 (6.3)	62.50 (9.81)	27.8 (3.0)	75.8 (4.8)	-18.4 (7.0)	47.70 (12.40)	28.3 (2.0)	76.5 (2.8)	-20.4 (6.0)	3.79 (0.93)
Avg	25.4	73.1	-33.3	60.00	27.1	67.7	-19.4	46.20	27.3	68.7	-20.1	3.34
n	31	31	31	31	31	31	31	31	31	28	28	28
SD	0.8	7.4	2.8	6.53	0.9	7.5	2.4	3.78	0.8	6.6	2.0	0.52
Min	24.3	53.1	-38.8	41.10	25.5	47.9	-24.1	36.20	25.4	51.4	-23.9	2.54
Max	27.2	82.1	-28.6	73.60	29.8	77.0	-14.2	53.90	28.5	76.5	-16.3	4.45

Table E3. Daily means (SD) of environmental parameters at site NC4B for August, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	26.0 (1.8)	78.4 (3.2)	-37.1 (7.2)	66.00 (13.20)	27.9 (2.8)	71.7 (6.8)	-20.2 (6.8)	52.00 (12.90)	28.2 (1.7)	74.3 (3.3)	-19.8 (5.3)	2.98 (0.58)
2	26.6 (1.8)	77.5 (3.0)	-37.2 (6.9)	71.30 (6.19)	28.9 (3.2)	69.4 (7.9)	-20.3 (7.0)	53.00 (12.30)	28.7 (1.7)	72.8 (3.0)	-22.0 (6.0)	3.74 (0.89)
3	25.5 (1.8)	71.7 (3.2)	-36.5 (6.8)	66.80 (11.50)	27.7 (2.7)	64.7 (7.2)	-19.8 (7.1)	50.20 (13.40)	27.4 (1.3)	68.4 (3.5)	-22.0 (6.8)	4.05 (1.06)
4	26.8 (1.6)	74.4 (3.3)	-38.9 (6.3)	72.70 (6.39)	28.9 (3.1)	67.0 (8.3)	-21.6 (6.4)	55.30 (11.60)	28.3 (1.5)	71.5 (3.7)	-22.9 (4.8)	4.36 (0.76)
5	27.2 (1.3)	75.8 (5.4)	-40.2 (3.9)	76.10 (1.76)	29.8 (3.2)	66.4 (11.8)	-22.6 (5.2)	57.50 (9.86)	28.1 (1.3)			
6	27.8 (1.3)	73.5 (4.8)	-41.9 (1.4)	77.20 (1.78)	30.9 (3.3)	62.7 (11.5)	-24.7 (2.9)	61.20 (5.41)	27.1 (1.4)			
7	25.9 (1.6)	72.3 (4.1)	-37.3 (5.0)	70.40 (9.67)	27.8 (2.9)	65.9 (7.6)	-19.2 (6.7)	50.30 (11.70)	27.3 (0.7)			
8	24.7 (1.7)	69.9 (7.7)	-35.1 (6.2)	60.20 (16.10)	26.7 (2.4)	63.4 (10.1)	-18.5 (7.7)	47.10 (15.20)	27.2 (0.8)	65.8 (6.6)	-15.1 (4.8)	1.88 (0.72)
9	24.6 (1.8)	68.6 (4.6)	-33.9 (7.1)	59.30 (19.50)	26.4 (2.1)	63.6 (5.6)	-17.2 (7.8)	44.60 (17.40)	27.0 (1.1)	65.3 (4.2)	-15.3 (4.6)	1.88 (0.81)
10	24.7 (1.9)	72.7 (6.7)	-34.5 (6.3)	60.40 (17.40)	26.1 (2.0)	68.1 (6.9)	-17.0 (7.6)	45.30 (15.70)	27.3 (1.1)	67.9 (5.2)	-16.3 (6.6)	2.08 (1.02)
11	23.8 (2.2)	65.6 (8.0)	-32.5 (7.5)	34.50 (32.20)	26.0 (2.2)	60.8 (9.2)	-16.4 (8.1)	31.60 (24.10)	26.7 (1.3)	61.9 (7.6)	-15.3 (6.1)	1.75 (0.95)
12	24.3 (2.1)	59.6 (7.5)	-31.4 (9.1)	50.60 (22.90)	26.0 (2.1)	56.5 (8.2)	-16.3 (7.5)	40.40 (20.00)	26.9 (1.3)	57.5 (6.0)	-15.3 (5.2)	1.79 (0.86)
13	23.0 (0.6)	75.0 (2.0)	-30.1 (5.5)	30.90 (8.01)	24.0 (0.4)	72.7 (2.3)	-10.9 (2.1)	27.60 (5.13)	26.2 (0.4)	69.5 (1.1)	-10.4 (1.7)	1.24 (0.13)
14	24.1 (2.1)	68.3 (6.1)	-31.4 (8.7)	43.10 (21.30)	25.3 (1.6)	65.4 (5.6)	-13.8 (6.1)	34.70 (15.70)	26.9 (1.3)	64.9 (5.4)	-14.7 (5.7)	1.79 (1.01)
15	24.6 (1.9)	70.3 (3.7)	-34.5 (7.4)	44.50 (28.80)	26.0 (2.5)	67.4 (5.4)	-17.3 (7.5)	39.10 (21.10)	27.3 (1.2)	66.9 (3.1)	-15.7 (7.6)	2.22 (1.31)
16	24.5 (2.0)	71.1 (6.1)	-34.9 (5.2)	50.40 (20.40)	25.6 (1.9)	68.7 (7.0)	-16.3 (6.2)	40.20 (14.00)	27.5 (1.1)	66.6 (5.1)	-15.5 (6.5)	2.08 (1.13)
17	24.4 (1.7)	71.2 (5.6)	-30.1 (6.1)	49.40 (19.10)	25.3 (1.4)	70.2 (5.6)	-15.2 (4.8)	39.60 (11.00)	27.4 (0.9)	67.7 (4.5)	-14.6 (5.0)	2.03 (0.90)
18	24.8 (2.0)	70.4 (3.6)	-32.4 (7.8)	53.10 (23.20)	26.2 (2.2)	67.7 (5.3)	-16.9 (7.0)	43.40 (17.70)	27.3 (1.0)	67.5 (3.3)	-16.4 (7.3)	2.64 (1.51)
19	25.3 (2.1)	71.3 (4.0)	-34.4 (8.2)	57.60 (21.90)	26.9 (2.7)	67.9 (6.8)	-18.3 (7.7)	46.10 (17.30)	27.2 (1.2)	69.4 (3.1)	-18.6 (7.8)	3.06 (1.47)
20	25.2 (2.0)	71.7 (5.2)	-34.1 (6.8)	59.10 (20.30)	27.1 (2.9)	67.3 (8.5)	-18.0 (6.8)	47.40 (15.90)	27.4 (1.1)	69.6 (3.4)	-16.5 (6.0)	2.88 (1.46)
21	24.9 (1.7)	71.9 (4.7)	-32.4 (7.2)	57.80 (18.80)	26.2 (2.1)	69.3 (5.6)	-17.3 (5.9)	48.10 (14.10)	27.5 (0.7)	68.1 (4.2)	-16.6 (6.2)	2.94 (1.46)
22	24.6 (2.2)	67.4 (3.6)	-32.5 (7.6)	54.50 (20.30)	25.9 (2.4)	64.7 (4.2)	-16.4 (6.8)	45.00 (16.90)	27.2 (1.2)	63.5 (2.8)	-16.5 (6.8)	2.92 (1.55)
23	24.8 (1.9)	67.2 (4.0)	-32.7 (7.5)	56.40 (19.50)	26.4 (2.3)	63.5 (6.2)	-17.0 (7.3)	46.30 (15.90)	27.3 (0.9)	64.0 (2.9)	-17.3 (6.4)	3.00 (1.46)
24	25.1 (1.9)	69.9 (4.8)	-34.9 (7.8)	56.20 (21.00)	26.6 (2.5)	66.1 (7.4)	-18.3 (7.1)	45.60 (16.20)	27.4 (1.2)	66.7 (3.7)	-17.8 (6.7)	3.15 (1.45)
25	25.3 (1.7)	73.6 (4.9)	-34.8 (7.1)	59.30 (19.70)	26.7 (2.2)	70.3 (6.6)	-18.2 (7.4)	47.00 (15.90)	27.6 (1.1)	69.8 (4.4)	-16.8 (5.8)	3.25 (1.42)
26	24.8 (1.1)	80.6 (2.3)	-31.2 (6.0)	62.20 (9.71)	25.9 (0.9)	76.6 (2.0)	-14.3 (4.2)	41.40 (7.29)	26.9 (0.7)			
27	25.4 (1.0)	83.4 (1.9)	-33.9 (5.7)	65.90 (8.14)	26.6 (0.8)	78.6 (2.7)	-16.9 (4.7)	45.40 (9.83)	25.8 (0.5)			
28	26.5 (1.0)	81.4 (3.7)	-38.9 (3.6)	73.60 (4.95)	27.8 (1.7)	76.6 (5.7)	-20.8 (5.3)	52.60 (9.32)	26.7 (1.2)			
29	25.1 (1.5)	80.8 (3.4)	-32.0 (6.7)	63.50 (10.70)	26.6 (2.2)	75.6 (5.2)	-16.6 (6.7)	43.50 (11.40)	27.2 (1.0)	77.0 (2.7)	-15.8 (6.4)	2.10 (1.21)
30	25.7 (1.7)	79.8 (3.3)	-36.0 (7.4)	65.30 (13.10)	27.3 (2.4)	74.7 (6.0)	-19.6 (6.3)	48.20 (12.10)	27.6 (1.2)	76.3 (2.7)	-17.9 (7.6)	2.54 (1.42)
31	25.7 (2.1)	77.1 (1.8)	-34.9 (6.4)	67.70 (14.00)	27.3 (2.5)	72.2 (3.7)	-19.1 (6.3)	48.80 (13.10)	27.6 (1.3)	73.0 (1.9)	-17.9 (7.8)	2.58 (1.49)
Avg	25.2	73.0	-34.6	59.20	26.9	68.2	-17.9	45.80	27.3	68.2	-16.9	2.60
n	31	31	31	31	31	31	31	31	31	25	25	25
SD	1.0	5.1	2.9	11.00	1.4	4.9	2.6	6.95	0.6	4.3	2.6	0.75
Min	23.0	59.6	-41.9	30.90	24.0	56.5	-24.7	27.60	25.8	57.5	-22.9	1.24
Max	27.8	83.4	-30.1	77.20	30.9	78.6	-10.9	61.20	28.7	77.0	-10.4	4.36

Table E3. Daily means (SD) of environmental parameters at site NC4B for September, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	24.3 (1.7)	65.0 (8.9)	-32.2 (6.6)	57.30 (16.50)	26.1 (2.0)	61.1 (9.9)	-17.4 (6.6)	44.90 (14.20)	26.8 (0.9)	61.8 (8.5)	-14.0 (5.3)	1.65 (0.66)
2	23.8 (2.1)	62.9 (5.7)	-31.3 (8.3)	46.80 (22.70)	25.7 (2.3)	59.5 (7.8)	-16.4 (8.2)	37.70 (20.30)	26.3 (1.4)	60.2 (6.3)	-13.4 (5.6)	1.43 (0.74)
3	24.4 (2.2)	65.3 (4.6)	-32.8 (8.0)	52.70 (22.20)	26.6 (2.8)	59.9 (8.1)	-17.8 (8.0)	42.40 (19.50)	26.8 (1.4)	62.3 (4.5)	-13.6 (4.7)	1.98 (1.15)
4	24.5 (2.2)	66.2 (4.8)	-34.1 (7.3)	53.80 (22.80)	26.5 (2.7)	62.4 (6.3)	-17.2 (7.8)	42.60 (18.90)	27.0 (1.4)	63.4 (3.8)	-14.8 (7.3)	2.00 (1.26)
5	24.6 (1.8)	78.0 (5.0)			25.6 (1.3)	75.0 (4.4)			27.4 (1.1)	71.6 (3.8)	-9.1 (4.9)	1.56 (0.56)
6												
7												
8	24.7 (2.1)	79.1 (3.2)	-32.8 (6.7)	56.30 (18.40)	26.5 (2.9)	73.6 (5.9)	-16.7 (6.3)	43.50 (16.10)	27.7 (1.1)	71.9 (2.7)	-17.2 (7.2)	2.53 (1.48)
9	24.6 (1.7)	80.9 (1.7)	-33.8 (6.2)	59.80 (15.20)	26.1 (2.0)	76.1 (3.1)	-16.6 (6.7)	38.20 (16.30)	27.8 (1.0)	73.7 (1.9)	-16.7 (6.1)	2.37 (1.29)
10	24.3 (0.5)	83.0 (1.7)	-30.9 (4.4)	62.80 (3.49)	25.6 (0.5)	78.9 (2.2)	-13.7 (2.3)	38.40 (3.41)	27.8 (0.2)	74.4 (0.8)	-13.2 (1.5)	1.78 (0.59)
11	24.3 (1.7)	78.4 (4.2)	-31.1 (5.6)	59.00 (12.70)	25.6 (1.2)	74.5 (3.8)	-15.1 (4.5)	42.30 (8.35)	27.3 (0.7)	71.4 (2.9)	-14.6 (5.2)	2.72 (1.30)
12	25.1 (1.8)	78.2 (3.6)	-34.5 (5.9)	61.40 (15.50)	26.5 (2.0)	74.0 (5.0)	-17.6 (6.7)	46.60 (13.00)	27.7 (1.0)	72.8 (3.0)	-17.5 (7.2)	3.09 (1.34)
13	26.2 (1.6)	79.5 (3.0)	-35.9 (6.8)	68.90 (11.20)	27.9 (2.5)	73.7 (6.6)	-19.8 (6.8)	52.20 (12.00)	28.3 (1.3)	75.0 (2.8)	-21.3 (6.9)	3.83 (1.17)
14	26.5 (1.2)	79.5 (3.4)	-35.5 (6.0)	73.10 (6.93)	28.2 (2.2)	73.7 (7.0)	-20.5 (6.3)	53.20 (11.00)	28.5 (1.2)	75.0 (3.4)	-21.6 (6.1)	4.13 (0.85)
15	26.2 (1.4)	77.7 (4.0)	-33.5 (5.7)	70.00 (10.40)	27.8 (2.1)	72.4 (4.4)	-20.7 (6.1)	52.20 (10.80)	28.4 (1.1)	72.3 (4.4)	-20.2 (6.5)	3.96 (0.92)
16	23.0 (0.6)	73.6 (3.2)	-29.8 (6.2)	35.80 (10.20)	24.4 (0.8)	71.4 (3.4)	-12.2 (2.2)	34.90 (4.20)	26.5 (0.5)	68.9 (2.7)	-11.4 (2.3)	1.80 (0.59)
17	22.7 (1.0)	65.2 (5.5)	-24.6 (8.3)	28.00 (10.90)	24.0 (0.7)	63.1 (5.5)	-10.3 (3.3)	28.30 (7.86)	25.7 (0.6)	62.9 (5.3)	-10.0 (2.2)	1.60 (0.55)
18	23.2 (2.2)	57.2 (7.6)	-26.0 (9.2)	36.00 (20.40)	24.8 (1.3)	55.7 (6.8)	-12.3 (6.0)	28.20 (15.60)	26.0 (1.3)	56.2 (7.2)	-11.1 (3.5)	1.92 (1.12)
19	22.7 (1.6)	58.6 (6.2)	-27.8 (10.7)	31.10 (13.80)	24.4 (0.8)	56.6 (6.0)	-10.1 (4.2)	24.90 (12.40)	25.7 (0.9)	57.1 (5.3)	-10.2 (2.7)	1.64 (0.70)
20	21.8 (1.2)	64.6 (3.1)	-23.4 (8.6)	26.80 (9.28)	23.8 (0.5)	62.1 (3.7)	-9.6 (4.4)	23.30 (11.30)	25.5 (0.9)	61.8 (1.7)	-11.2 (2.0)	1.29 (0.22)
21	22.6 (1.0)	65.9 (2.8)	-27.3 (6.7)	31.50 (13.00)	24.1 (0.6)	63.0 (2.6)	-10.5 (3.6)	25.50 (9.84)	25.8 (0.8)	62.9 (2.7)	-10.8 (2.3)	1.59 (0.59)
22	22.9 (1.0)	63.1 (6.7)	-27.7 (6.8)	30.30 (12.60)	24.3 (0.7)	60.7 (6.0)	-11.1 (2.8)	25.70 (8.79)	25.8 (0.7)	60.9 (5.9)	-10.5 (2.4)	1.66 (0.61)
23	22.7 (1.1)	60.7 (5.8)	-26.6 (7.9)	26.40 (11.70)	24.1 (0.7)	58.7 (5.9)	-9.4 (4.3)	24.00 (11.80)	25.2 (0.7)			
24	21.9 (1.1)	53.6 (5.9)	-22.4 (9.0)	18.80 (6.65)	23.9 (0.4)	51.8 (6.1)	-6.8 (4.0)	16.30 (10.20)	22.8 (2.7)			
25	22.1 (1.1)	68.8 (8.3)	-22.3 (12.2)	14.90 (5.33)	24.4 (0.5)	64.1 (6.5)	-11.5 (7.1)	14.90 (9.06)	24.4 (0.8)			
26	24.4 (0.9)	73.7 (4.2)	-49.3 (3.7)	31.60 (10.90)	26.0 (0.7)	68.8 (3.6)	-23.3 (2.3)	30.80 (4.15)	26.1 (0.8)	71.0 (3.3)	-12.0 (3.5)	1.24 (0.17)
27	24.5 (1.7)	70.4 (6.7)	-48.5 (4.3)	36.30 (14.80)	26.0 (1.4)	66.5 (5.9)	-24.2 (3.6)	31.30 (7.74)	26.2 (1.2)	67.7 (5.1)	-12.4 (5.0)	1.45 (0.65)
28	25.1 (1.8)	70.4 (5.9)	-28.8 (22.5)	54.00 (30.00)	26.1 (1.3)	65.8 (4.9)	-24.5 (2.9)	33.20 (9.71)	26.2 (1.2)	67.2 (3.7)	-12.6 (5.0)	1.48 (0.69)
29	25.1 (1.6)	69.8 (7.8)	-37.9 (20.7)	41.00 (13.20)	26.1 (1.5)	65.5 (6.2)	-25.7 (4.3)	34.00 (10.40)	26.4 (1.3)	65.6 (5.4)	-13.1 (6.3)	1.56 (0.73)
30	24.2 (1.0)	72.3 (3.3)	-62.8 (5.3)		25.6 (0.8)	69.0 (3.0)	-23.1 (2.6)	29.50 (5.35)		70.0 (2.7)	-11.4 (4.0)	1.28 (0.42)
Avg	24.0	70.1	-32.7	44.80	25.6	66.3	-16.1	34.80	26.5	67.1	-13.8	2.06
n	28	28	27	26	28	28	27	27	27	25	25	25
SD	1.3	7.8	8.7	16.50	1.2	7.0	5.3	10.30	1.3	5.7	3.5	0.84
Min	21.8	53.6	-62.8	14.90	23.8	51.8	-25.7	14.90	22.8	56.2	-21.6	1.24
Max	26.5	83.0	-22.3	73.10	28.2	78.9	-6.8	53.20	28.5	75.0	-9.1	4.13

Table E3. Daily means (SD) of environmental parameters at site NC4B for October, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	23.6 (1.5)	68.4 (6.2)	-44.2 (10.5)	28.20 (11.80)	25.2 (1.2)	65.5 (6.7)	-21.6 (5.7)	26.30 (9.59)	25.8 (1.1)	66.6 (4.9)	-10.0 (3.9)	1.22 (0.53)
2	22.7 (1.0)	55.5 (9.1)	-28.6 (17.4)	18.30 (8.38)	24.2 (0.9)	54.8 (7.1)	-13.6 (8.8)	16.00 (8.86)	25.0 (0.5)	54.5 (6.2)	-7.8 (5.0)	0.75 (0.42)
3	23.0 (1.5)	55.3 (10.2)	-33.2 (18.3)	22.20 (11.50)	24.4 (1.3)	53.6 (9.5)	-14.4 (9.0)	20.00 (11.50)	25.3 (0.8)	54.6 (7.3)	-8.8 (5.4)	0.86 (0.48)
4	23.5 (1.8)	56.9 (9.3)	-38.0 (16.9)	26.40 (13.30)	24.9 (1.5)	54.6 (8.5)	-16.7 (8.8)	22.90 (11.50)	25.7 (1.1)	55.2 (6.8)	-10.1 (5.1)	1.08 (0.62)
5	23.6 (2.1)	60.1 (8.6)	-39.5 (16.3)	28.30 (14.60)	25.2 (1.7)	56.9 (7.8)	-17.1 (8.9)	23.50 (11.60)	25.8 (1.2)	56.8 (6.2)	-11.0 (4.9)	1.26 (0.78)
6	23.8 (2.3)	60.9 (9.4)	-42.0 (13.4)	30.70 (15.50)	25.4 (1.7)	57.2 (8.5)	-18.3 (8.8)	24.70 (12.20)	26.0 (1.3)	56.6 (7.3)	-11.7 (5.6)	1.34 (0.82)
7	23.2 (0.9)	60.0 (7.2)	-37.8 (14.4)	21.20 (5.51)	24.6 (0.6)	57.2 (7.3)	-15.5 (6.5)	21.50 (7.81)	25.4 (0.6)	56.8 (5.6)	-10.5 (2.1)	1.03 (0.20)
8	23.3 (1.4)	60.7 (4.3)	-36.7 (15.6)	25.20 (12.60)	24.8 (1.2)	58.8 (4.6)	-15.6 (8.2)	21.80 (9.67)	25.9 (1.1)	58.2 (2.8)	-9.9 (3.9)	1.13 (0.49)
9	24.0 (1.5)	68.7 (5.1)	-45.1 (10.2)	32.40 (15.40)	25.6 (1.2)	65.4 (4.3)	-21.7 (6.2)	28.10 (8.41)	26.6 (1.1)	64.2 (3.7)	-11.8 (4.5)	1.65 (0.77)
10	23.2 (0.8)	73.7 (2.5)	-49.8 (3.8)	30.10 (6.45)	25.3 (0.7)	69.9 (2.4)	-22.2 (2.5)	28.90 (4.04)	26.2 (0.4)	68.4 (2.0)	-10.9 (2.7)	1.60 (0.60)
11	23.1 (0.6)	71.4 (3.5)	-51.5 (4.3)	23.70 (3.25)	25.0 (0.4)	67.6 (3.7)	-19.4 (3.9)	26.70 (5.10)	25.6 (0.5)	66.9 (3.3)	-10.2 (1.7)	1.44 (0.13)
12	23.6 (1.7)	66.6 (2.8)	-28.8 (23.5)	39.30 (25.30)	25.2 (0.8)	62.8 (3.3)	-18.7 (5.6)	26.50 (7.73)	25.6 (1.0)	62.6 (2.5)	-10.9 (3.1)	1.61 (0.71)
13	23.6 (2.0)	64.5 (7.8)	-33.9 (23.3)	28.60 (16.20)	25.0 (1.5)	60.6 (6.8)	-18.4 (7.8)	25.60 (10.60)	25.5 (1.3)	60.0 (5.6)	-11.1 (3.7)	1.73 (1.14)
14	23.6 (3.0)	59.5 (11.2)	-42.5 (13.9)	31.50 (16.30)	25.1 (2.1)	56.3 (9.8)	-18.8 (9.6)	28.30 (17.50)	25.7 (1.9)	55.9 (8.7)	-13.1 (5.9)	1.97 (1.54)
15	24.4 (3.5)	58.3 (10.4)	-43.8 (12.8)	35.50 (17.60)	25.4 (2.5)	58.7 (8.5)	-20.8 (9.0)	33.60 (18.90)	26.2 (2.4)	56.2 (7.3)	-13.3 (5.8)	2.23 (1.64)
16	24.6 (3.3)	58.2 (8.6)	-39.3 (11.3)		25.6 (2.3)	58.5 (7.2)	-28.8 (264.0)	33.90 (18.20)	26.6 (2.2)	56.4 (6.4)	-20.6 (264.0)	2.32 (1.58)
17	22.5 (0.8)	69.1 (2.5)	-28.0 (7.4)		24.3 (0.7)	66.5 (2.6)	-18.5 (7.2)	19.40 (5.69)	25.5 (0.8)	64.6 (1.7)	-10.1 (1.8)	1.32 (0.19)
18	20.9 (0.6)	64.6 (3.5)	-15.1 (3.4)		23.0 (0.4)	60.6 (3.6)	-6.4 (5.5)	10.60 (8.17)	23.9 (0.2)	60.9 (1.9)	-7.3 (3.7)	0.83 (0.25)
19	20.8 (0.9)	53.1 (6.3)	-15.1 (8.7)		23.0 (0.7)	51.0 (6.5)	-7.2 (6.4)	11.80 (8.34)	24.0 (0.3)	53.4 (4.6)	-7.0 (4.5)	0.77 (0.30)
20	20.7 (1.5)	52.4 (8.2)	-16.8 (12.4)		23.2 (0.9)	51.4 (8.7)	-8.1 (8.4)	12.10 (9.73)	23.9 (0.4)	51.5 (5.5)	-9.2 (4.2)	0.80 (0.31)
21	21.4 (2.0)	53.1 (7.3)	-20.0 (12.1)		23.8 (1.3)	51.6 (7.6)	-11.8 (9.5)	15.80 (11.30)	24.5 (1.1)			
22	21.0 (1.1)	50.1 (5.0)	-12.8 (9.2)		23.4 (0.9)	49.5 (5.0)	-6.5 (6.5)	10.10 (8.29)	23.4 (2.4)			
23	21.2 (1.0)	60.6 (5.2)	-8.0 (6.9)		23.5 (0.9)	53.8 (6.1)	-7.9 (7.8)	10.90 (8.82)	24.5 (0.4)			
24	22.0 (0.7)	63.6 (3.5)	-13.8 (8.2)		23.5 (0.4)	61.6 (4.6)	-11.6 (6.9)	14.30 (6.50)	24.3 (0.4)	60.1 (2.9)	-4.5 (5.0)	0.48 (0.41)
25	23.1 (1.2)	71.3 (4.6)	-32.2 (6.0)		25.1 (0.9)	67.9 (4.4)	-20.2 (5.4)	19.40 (4.93)	25.2 (0.8)	68.2 (3.9)	-10.8 (3.4)	1.01 (0.28)
26	22.0 (1.2)	58.6 (5.9)	-21.2 (9.4)		24.3 (0.8)	56.2 (5.3)	-13.8 (8.4)	13.50 (6.38)	24.5 (0.3)	58.4 (4.6)	-6.2 (5.9)	0.52 (0.40)
27	21.1 (1.2)	57.9 (5.3)	-14.9 (11.8)		23.5 (1.0)	55.6 (6.1)	-9.3 (8.7)	9.91 (7.99)	24.1 (0.4)	55.4 (5.5)	-3.5 (5.8)	0.42 (0.39)
28	20.5 (0.9)	51.4 (8.0)	-12.1 (8.9)		23.1 (1.1)	50.5 (8.5)	-8.0 (6.2)	6.22 (7.71)	24.0 (0.4)	49.0 (4.1)	-2.1 (5.6)	0.35 (0.38)
29	20.4 (1.1)	50.8 (7.5)	-12.6 (10.8)		23.4 (1.2)	51.6 (7.8)	-5.5 (6.3)	6.88 (7.92)	24.2 (0.4)	49.0 (2.8)	-4.4 (5.5)	0.39 (0.37)
30	20.0 (1.3)	52.4 (8.2)	-10.0 (9.0)		23.0 (1.3)	55.2 (6.8)	-4.5 (6.6)	7.50 (8.20)	24.2 (0.4)	48.3 (3.3)	-4.7 (5.5)	0.38 (0.38)
31	20.0 (1.6)	50.4 (11.2)	-14.6 (12.9)		23.0 (2.1)	50.9 (10.4)	-6.1 (7.3)	9.05 (8.34)	24.3 (0.4)	47.0 (5.4)	-6.3 (6.1)	0.47 (0.41)
Avg	22.4	59.9	-28.5	28.10	24.3	57.8	-14.4	18.90	25.1	57.7	-9.2	1.11
n	31	31	31	15	31	31	31	31	31	28	28	28
SD	1.4	6.7	13.2	5.35	0.9	5.7	6.1	8.05	0.9	5.9	3.6	0.56
Min	20.0	50.1	-51.5	18.30	23.0	49.5	-28.8	6.22	23.4	47.0	-20.6	0.35
Max	24.6	73.7	-8.0	39.30	25.6	69.9	-4.5	33.90	26.6	68.4	-2.1	2.32

Table E3. Daily means (SD) of environmental parameters at site NC4B for November, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	20.9 (2.1)	49.6 (11.2)	-18.3 (12.9)		24.3 (1.3)	49.1 (10.2)	-9.5 (10.3)	9.83 (8.05)	24.5 (0.6)	47.3 (7.0)	-8.0 (6.8)	0.59 (0.44)
2	21.8 (2.4)	50.9 (11.8)	-18.1 (11.8)		24.5 (1.4)	49.1 (11.2)	-11.7 (9.8)	13.40 (8.67)	24.9 (0.7)	47.4 (7.7)	-9.8 (7.1)	0.75 (0.48)
3	21.6 (0.4)	70.2 (1.8)	-18.8 (7.5)		23.5 (0.4)	66.4 (2.8)	-12.5 (5.3)	16.20 (4.51)	24.8 (0.1)	61.7 (1.9)	-10.5 (2.9)	0.83 (0.22)
4	22.3 (0.3)	70.9 (1.0)	-15.8 (5.2)		23.7 (0.4)	68.2 (1.3)	-13.9 (4.2)	17.30 (2.19)	24.9 (0.2)	64.7 (0.7)	-11.8 (2.2)	0.90 (0.13)
5	22.0 (0.5)	66.3 (4.4)	-21.3 (7.7)		23.9 (0.4)	63.4 (5.5)	-14.8 (6.4)	15.90 (4.39)	25.0 (0.2)	62.2 (3.0)	-10.1 (2.2)	0.88 (0.13)
6	22.7 (2.0)	59.1 (6.3)	-22.2 (10.3)		24.8 (1.4)	53.2 (7.2)	-14.7 (9.0)	15.20 (7.95)	25.4 (0.7)	54.9 (5.2)	-10.6 (4.3)	0.93 (0.38)
7	22.7 (1.9)	59.3 (8.7)	-22.2 (11.3)		24.9 (1.4)	55.6 (7.5)	-14.4 (8.8)	15.80 (7.91)	25.6 (0.9)	56.6 (5.7)	-13.0 (6.0)	0.99 (0.45)
8	22.0 (0.9)	58.6 (8.6)	-22.0 (9.9)		24.3 (0.6)	55.6 (8.2)	-11.2 (7.9)	12.90 (6.97)	25.1 (0.2)	57.1 (5.6)	-10.7 (3.5)	0.86 (0.25)
9	21.7 (1.0)	54.0 (8.1)	-15.1 (13.2)		24.1 (1.1)	51.4 (7.7)	-6.7 (7.4)	9.71 (8.12)	24.9 (0.3)	52.7 (5.0)	-8.3 (5.4)	0.66 (0.39)
10	21.7 (1.0)	53.6 (5.8)	-10.0 (10.0)		23.6 (0.9)	51.1 (6.3)	-5.3 (6.8)	9.38 (8.37)	24.8 (0.2)	51.5 (4.2)	-6.7 (5.6)	0.55 (0.39)
11	21.4 (1.2)	56.0 (5.1)	-7.1 (8.2)		23.5 (0.9)	52.8 (6.8)	-5.5 (7.0)	7.19 (8.07)	24.8 (0.2)	53.8 (3.0)	-6.2 (5.5)	0.52 (0.40)
12	21.5 (0.8)	54.7 (5.7)	-10.8 (7.4)	12.40 (8.06)	23.4 (0.7)	51.2 (6.0)	-7.5 (7.2)	10.10 (8.21)	24.9 (0.2)	53.8 (3.1)	-7.9 (4.9)	0.66 (0.36)
13	21.9 (0.7)	71.6 (6.1)	-22.2 (10.4)	21.70 (8.66)	24.1 (0.6)	69.0 (7.7)	-14.5 (8.9)	13.50 (6.52)	25.0 (0.5)	65.8 (5.4)	-12.2 (4.6)	1.03 (0.32)
14	22.1 (0.6)	74.7 (2.0)	-20.4 (7.6)	10.90 (10.10)	24.2 (0.3)	71.5 (2.3)	-13.9 (5.8)	11.50 (5.49)	24.5 (0.4)	68.9 (2.5)	-12.5 (2.1)	1.02 (0.12)
15	22.9 (1.3)	71.4 (8.1)	-30.1 (8.0)	0.00 (0.00)	25.0 (0.8)	66.3 (8.0)	-19.5 (6.9)	7.46 (2.38)	25.5 (0.9)	68.5 (6.4)	-13.7 (3.2)	1.46 (0.53)
16	21.1 (0.8)	54.6 (5.3)	-11.4 (8.9)	0.00 (0.00)	23.8 (0.9)	53.2 (5.6)	-8.1 (6.5)	3.56 (3.89)	23.9 (0.2)	54.6 (2.9)	-8.2 (5.4)	0.70 (0.34)
17	20.8 (0.9)	55.4 (5.1)	-8.3 (8.4)	6.34 (8.43)	23.4 (1.0)	54.7 (7.2)	-5.4 (6.5)	5.63 (6.99)	23.7 (0.3)	53.9 (2.5)	-7.9 (5.7)	0.63 (0.38)
18	19.4 (1.3)	51.4 (4.1)	-4.6 (7.4)	5.99 (7.98)	21.8 (1.3)	52.0 (5.9)	-4.8 (5.3)	5.46 (7.45)	23.8 (0.3)			
19	18.9 (1.8)	55.8 (4.2)	-4.7 (6.7)	6.05 (7.82)	21.5 (2.1)	53.5 (6.4)	-4.0 (5.5)	5.16 (7.32)	23.6 (3.5)			
20	19.5 (1.6)	60.5 (7.1)	-6.4 (7.1)	7.37 (8.06)	22.4 (2.0)	50.0 (8.2)	-5.7 (6.6)	6.79 (7.87)	24.9 (0.7)			
21	17.9 (1.6)	52.7 (6.0)	-4.7 (6.6)	5.97 (7.72)	21.1 (1.9)	50.1 (7.5)	-6.4 (6.4)	6.06 (7.59)	24.3 (0.5)	41.5 (4.7)	-1.0 (5.1)	0.37 (0.37)
22	17.8 (2.1)	53.6 (4.6)	-5.2 (6.8)	6.01 (7.82)	20.0 (2.4)	52.2 (6.2)	-5.0 (5.8)	6.44 (7.69)	24.4 (0.5)	42.6 (2.2)	-3.1 (4.8)	0.37 (0.38)
23	19.4 (1.9)	52.7 (7.5)	-6.7 (7.3)	7.40 (8.22)	21.5 (2.3)	51.2 (7.6)	-5.1 (6.5)	6.67 (7.78)	24.3 (0.4)	46.1 (2.2)	-3.5 (4.6)	0.36 (0.39)
24	20.1 (2.2)	55.1 (7.0)	-6.7 (7.1)	7.74 (8.24)	21.8 (2.4)	52.7 (7.9)	-5.8 (6.8)	7.95 (8.11)	24.5 (0.4)	48.2 (3.0)	-3.3 (4.3)	0.37 (0.37)
25	21.2 (1.3)	53.3 (8.0)	-7.5 (7.4)	7.91 (8.27)	23.3 (1.0)	51.2 (8.2)	-8.1 (7.3)	6.97 (7.87)	24.3 (0.3)	50.3 (5.0)	-1.9 (4.7)	0.35 (0.37)
26	19.8 (2.0)	53.9 (5.6)	-5.6 (6.6)	6.32 (7.89)	22.1 (1.4)	59.2 (5.9)	-4.4 (5.9)	5.44 (7.49)	24.4 (0.4)	49.7 (2.3)	-3.4 (4.4)	0.36 (0.36)
27	20.1 (2.1)	54.0 (6.0)	-7.1 (7.4)	7.82 (8.15)	22.2 (2.3)	55.1 (8.1)	-5.2 (6.8)	6.79 (7.88)	24.4 (0.3)	49.7 (3.5)	-5.1 (4.7)	0.44 (0.39)
28	21.5 (1.6)	55.4 (6.6)	-8.4 (8.4)	8.96 (8.61)	23.3 (1.5)	53.3 (7.6)	-7.7 (7.2)	9.45 (8.13)	24.4 (0.4)	51.5 (4.4)	-6.5 (5.6)	0.52 (0.41)
29	20.6 (1.0)	61.0 (3.3)	-4.7 (6.1)	5.86 (7.43)	22.3 (1.1)	58.6 (3.6)	-3.9 (6.4)	6.77 (7.84)	24.6 (0.1)	56.6 (1.9)	-4.3 (4.7)	0.37 (0.38)
30	21.9 (1.2)	67.5 (3.7)	-5.7 (6.8)	7.36 (7.92)	23.2 (1.0)	65.8 (4.2)	-7.2 (6.7)	10.10 (7.85)	24.7 (0.1)	61.6 (2.7)	-7.6 (5.0)	0.64 (0.39)
Avg	21.0	58.6	-12.4	7.48	23.2	56.2	-8.7	9.48	24.6	54.6	-7.7	0.67
n	30	30	30	19	30	30	30	30	30	27	27	27
SD	1.3	7.1	7.2	4.39	1.2	6.6	4.2	3.82	0.5	7.3	3.5	0.27
Min	17.8	49.6	-30.1	0.00	20.0	49.1	-19.5	3.56	23.6	41.5	-13.7	0.35
Max	22.9	74.7	-4.6	21.70	25.0	71.5	-3.9	17.30	25.6	68.9	-1.0	1.46

Table E3. Daily means (SD) of environmental parameters at site NC4B for December, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	21.3 (1.3)	56.4 (5.9)	-6.4 (7.1)	6.20 (7.69)	23.1 (1.1)	53.5 (7.2)	-4.5 (6.2)	7.46 (8.04)	24.7 (0.2)	54.0 (4.5)	-5.4 (5.2)	0.51 (0.40)
2	19.8 (1.7)	57.2 (4.3)	-5.2 (6.5)	5.90 (7.73)	22.5 (1.2)	58.7 (5.6)	-3.7 (5.9)	5.26 (7.30)	24.6 (0.2)	53.2 (2.5)	-5.5 (5.5)	0.40 (0.38)
3	19.6 (2.2)	57.8 (5.3)	-5.4 (6.9)	6.77 (8.15)	22.3 (1.2)	59.0 (8.3)	-3.7 (6.2)	5.64 (7.51)	24.6 (0.2)	51.1 (4.0)	-7.8 (5.2)	0.59 (0.39)
4	20.1 (1.5)	61.9 (5.6)	-7.3 (7.7)	8.06 (8.47)	22.3 (2.0)	54.1 (8.4)	-5.1 (6.5)	7.41 (8.05)	24.7 (0.2)	47.3 (4.5)	-9.5 (4.6)	0.73 (0.34)
5	20.2 (0.9)	62.6 (1.8)	-5.4 (6.9)	6.94 (8.22)	22.3 (0.9)	57.8 (3.8)	-4.7 (6.2)	6.48 (7.82)	24.6 (0.2)	56.9 (1.3)	-5.5 (5.5)	0.43 (0.39)
6	19.5 (0.9)	59.3 (4.7)	-9.6 (7.3)	11.10 (8.26)	22.4 (1.7)	57.6 (6.8)	-4.5 (6.6)	6.30 (7.76)	24.6 (0.2)	54.6 (2.5)	-6.8 (5.5)	0.50 (0.40)
7	19.1 (0.9)	56.0 (6.4)	-8.4 (7.1)	9.92 (8.45)	22.3 (1.2)	55.9 (6.9)	-5.2 (6.0)	5.11 (7.26)	24.5 (0.3)	51.7 (4.9)	-4.0 (5.7)	0.42 (0.38)
8	18.7 (1.3)	55.0 (6.5)	-7.9 (7.1)	9.43 (8.49)	21.6 (1.8)	55.3 (8.8)	-3.6 (6.5)	5.86 (7.70)	24.8 (0.6)	48.8 (6.3)	-4.8 (5.2)	0.24 (0.38)
9	20.5 (1.4)	61.8 (4.0)	-21.9 (13.6)	19.00 (9.87)	22.7 (2.0)	58.9 (5.1)	-8.8 (7.8)	11.60 (7.87)	24.8 (0.2)	50.8 (7.9)	-11.1 (5.0)	0.00 (0.00)
10	22.4 (0.8)	74.1 (2.4)	-31.5 (4.9)	31.90 (6.49)	24.5 (0.4)	71.6 (3.6)	-19.5 (5.3)	16.40 (2.09)	25.0 (0.7)	68.2 (3.2)	-12.4 (3.1)	0.65 (0.74)
11	22.2 (1.0)	77.3 (2.8)	-31.2 (6.5)	30.20 (6.20)	24.1 (0.6)	74.6 (3.6)	-20.1 (5.1)	16.40 (1.72)	24.9 (0.8)	70.5 (2.8)	-13.7 (4.2)	1.30 (0.22)
12	20.4 (0.9)	59.5 (8.0)	-15.0 (8.7)	15.80 (7.42)	22.7 (1.1)	56.3 (8.5)	-9.5 (7.0)	10.10 (8.05)	23.5 (0.3)	55.2 (6.1)	-6.6 (6.2)	0.67 (0.44)
13	19.5 (1.3)	56.2 (5.1)	-6.0 (7.1)	7.20 (8.14)	21.6 (1.8)	54.6 (6.4)	-3.5 (5.8)	6.00 (7.65)	23.7 (0.6)	45.5 (6.1)	-7.6 (6.2)	0.64 (0.53)
14	20.5 (1.1)	61.2 (3.4)	-13.7 (9.6)	13.60 (8.63)	22.7 (1.9)	57.5 (5.5)	-5.4 (6.8)	8.47 (8.13)	23.5 (0.2)	53.1 (2.8)	-8.9 (5.9)	0.67 (0.44)
15	21.5 (0.8)	67.1 (2.1)	-24.9 (9.2)	23.60 (7.03)	24.0 (0.5)	63.2 (2.9)	-13.7 (8.6)	17.20 (9.29)	23.9 (0.6)	61.9 (2.5)	-12.6 (4.9)	1.00 (0.38)
16	20.8 (0.6)	70.5 (3.3)	-14.8 (9.9)	16.30 (8.56)	23.4 (0.8)	66.4 (4.9)	-7.6 (7.7)	10.40 (8.27)	23.7 (0.2)			
17	21.1 (0.9)	71.0 (3.2)	-19.4 (10.5)	21.30 (9.62)	23.7 (0.7)	67.9 (4.9)	-11.4 (8.5)	14.20 (8.99)	24.2 (1.9)			
18												
19	21.9 (0.9)	69.6 (6.1)	-25.9 (10.0)	28.30 (11.10)	24.1 (0.6)	65.1 (5.8)	-16.1 (6.9)	20.40 (8.56)	24.6 (0.2)	65.6 (3.2)	-9.5 (6.3)	0.60 (0.46)
20	22.0 (0.9)	66.8 (5.3)	-24.4 (9.0)	26.60 (10.20)	24.2 (0.7)	63.8 (5.5)	-15.6 (6.8)	18.80 (7.05)	24.6 (0.2)	63.9 (4.1)	-10.0 (6.8)	0.57 (0.45)
21	20.9 (0.9)	64.3 (8.4)	-15.8 (9.8)	16.70 (8.22)	23.6 (0.6)	61.1 (9.0)	-10.4 (6.5)	12.00 (8.06)	24.3 (0.4)	61.5 (7.8)	-5.6 (6.2)	0.40 (0.44)
22	18.5 (1.3)	56.2 (4.0)	-3.9 (6.6)	5.94 (7.84)	20.4 (1.6)	55.5 (5.8)	-6.1 (5.3)	5.48 (7.48)	24.1 (0.5)	42.2 (2.5)	-2.9 (6.1)	0.40 (0.42)
23	18.9 (2.3)	57.4 (3.7)	-4.8 (6.7)	6.13 (7.97)	20.3 (2.7)	59.4 (7.0)	-2.7 (5.9)	5.46 (7.53)	24.2 (0.4)	44.9 (1.6)	-5.6 (5.9)	0.40 (0.42)
24	21.4 (1.1)	63.5 (3.9)	-25.4 (16.7)	22.10 (12.80)	23.7 (1.0)	62.5 (4.2)	-11.2 (8.5)	14.40 (9.21)	24.5 (0.4)	56.0 (4.9)	-9.3 (5.4)	0.77 (0.44)
25												
26												
27												
28												
29												
30	21.2 (1.1)	52.1 (9.9)	-12.6 (10.8)	12.80 (9.69)	23.5 (1.2)	51.9 (10.4)	-7.6 (7.9)	9.08 (8.24)	24.0 (0.5)	51.8 (6.3)	-7.1 (6.2)	0.53 (0.45)
31												
Avg	20.5	62.3	-14.5	15.10	22.8	60.1	-8.5	10.20	24.4	54.9	-7.8	0.56
n	24	24	24	24	24	24	24	24	24	22	22	22
SD	1.1	6.5	8.8	8.31	1.1	5.7	5.1	4.76	0.4	7.4	2.9	0.25
Min	18.5	52.1	-31.5	5.90	20.3	51.9	-20.1	5.11	23.5	42.2	-13.7	0.00
Max	22.4	77.3	-3.9	31.90	24.5	74.6	-2.7	20.40	25.0	70.5	-2.9	1.30

Table E3. Daily means (SD) of environmental parameters at site NC4B for January, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	17.5 (1.5)	58.4 (7.2)	-4.6 (6.2)	6.03 (7.68)	21.8 (1.7)	56.5 (7.3)	-1.8 (5.4)	3.67 (6.55)	23.4 (0.3)	47.0 (2.4)	-5.7 (6.5)	0.42 (0.45)
2	18.8 (1.8)	64.0 (3.1)	-6.0 (6.7)	7.39 (8.17)	22.2 (0.9)	63.1 (5.8)	-3.9 (6.5)	5.48 (7.32)	23.5 (0.2)	53.7 (2.5)	-6.6 (6.4)	0.47 (0.45)
3	20.1 (0.9)	62.6 (5.1)	-7.8 (7.3)	9.46 (8.47)	22.3 (1.3)	59.2 (6.6)	-5.8 (7.0)	7.52 (7.79)	23.5 (0.2)	54.9 (2.7)	-7.5 (6.6)	0.52 (0.45)
4	20.5 (0.6)	69.1 (3.7)	-11.7 (6.1)	13.80 (7.15)	23.0 (0.6)	64.6 (3.9)	-8.3 (7.4)	9.90 (7.74)	23.5 (0.2)	61.3 (3.3)	-8.7 (6.4)	0.62 (0.44)
5	20.9 (0.5)	72.5 (1.3)	-19.1 (8.3)	20.00 (5.09)	23.7 (0.5)	67.6 (2.6)	-14.1 (6.8)	14.90 (6.59)	23.6 (0.2)	64.9 (0.9)	-11.1 (5.3)	0.78 (0.39)
6	21.4 (0.6)	73.2 (1.5)	-16.1 (7.9)		23.8 (0.5)	68.9 (2.9)	-16.4 (6.6)	16.60 (5.89)	23.7 (0.3)	67.5 (2.0)	-12.1 (4.8)	0.87 (0.35)
7	21.7 (0.9)	61.7 (10.1)	-19.4 (10.6)		23.8 (1.0)	60.2 (9.6)	-17.6 (7.5)	16.90 (8.77)	23.9 (0.3)	62.2 (6.3)	-9.0 (4.1)	0.97 (0.36)
8	20.3 (1.1)	54.4 (5.1)	-4.9 (6.2)	5.82 (7.77)	22.4 (0.7)	59.7 (6.6)	-5.0 (6.0)	6.13 (7.56)	23.7 (0.2)	55.7 (2.0)	-5.9 (6.3)	0.49 (0.44)
9	18.8 (1.8)	52.6 (5.5)	-4.5 (6.7)	5.85 (7.87)	22.6 (1.0)	56.8 (8.3)	-3.9 (6.2)	5.37 (7.43)	23.6 (0.2)	52.0 (2.7)	-6.0 (6.4)	0.48 (0.44)
10	20.7 (2.4)	55.6 (5.0)	-7.4 (7.7)	8.47 (8.39)	23.3 (0.9)	57.5 (6.5)	-9.4 (8.2)	11.50 (8.46)	23.7 (0.3)	55.1 (1.9)	-8.7 (5.3)	0.78 (0.44)
11	22.1 (1.2)	60.9 (6.2)	-6.6 (7.3)	8.53 (8.36)	23.1 (0.7)	61.3 (6.8)	-11.7 (6.9)	13.60 (7.02)	23.7 (0.2)	60.7 (3.9)	-10.5 (5.2)	0.83 (0.37)
12	19.1 (1.3)	56.1 (3.8)	-4.2 (6.5)	5.89 (7.68)	22.5 (0.9)	57.1 (5.7)	-4.4 (6.4)	6.29 (7.70)	23.7 (0.3)	54.4 (2.2)	-5.7 (6.4)	0.48 (0.44)
13	18.2 (1.0)	61.1 (3.6)	-4.4 (6.2)	5.94 (7.54)	21.3 (1.1)	61.5 (4.9)	-4.1 (6.2)	5.92 (7.55)	23.6 (0.3)			
14	17.9 (1.5)	59.0 (3.7)	-3.9 (6.3)	5.99 (7.62)	21.0 (1.4)	58.8 (6.1)	-3.8 (5.8)	5.85 (7.54)				
15	16.7 (2.7)	59.8 (6.0)	-4.0 (6.3)	6.02 (7.69)	20.4 (2.3)	53.4 (8.1)	-4.8 (5.7)	6.48 (7.70)				
16	12.8 (1.6)	53.6 (3.4)	-2.6 (5.6)	4.64 (7.01)	18.1 (2.0)	54.8 (5.8)	-3.3 (4.4)	4.89 (7.05)	24.6 (0.6)	34.4 (1.6)	-3.8 (5.8)	0.39 (0.41)
17	16.8 (2.0)	59.5 (5.1)	-2.8 (5.0)	3.76 (6.21)	19.9 (2.0)	58.6 (7.8)	-2.8 (5.3)	4.36 (6.79)	25.0 (0.7)	37.4 (1.9)	-5.5 (6.2)	0.38 (0.41)
18	19.2 (1.4)	63.7 (5.2)	-2.7 (4.9)	3.68 (6.11)	21.4 (1.4)	60.3 (5.9)	-3.5 (5.7)	4.49 (6.74)	24.6 (0.5)	44.5 (4.4)	-4.4 (6.1)	0.39 (0.44)
19	20.8 (1.2)	65.3 (4.2)	-2.3 (5.7)	4.59 (6.81)	22.6 (1.1)	61.2 (5.6)	-5.1 (6.5)	6.13 (7.41)	24.5 (0.6)	48.3 (2.3)	-4.8 (6.1)	0.39 (0.41)
20	16.2 (1.9)	63.1 (2.9)	-0.3 (4.8)	3.75 (6.14)	20.3 (1.4)	63.7 (4.9)	-3.5 (4.8)	3.52 (6.26)	24.5 (0.5)	45.8 (1.7)	-3.3 (6.0)	0.38 (0.41)
21	18.1 (2.0)	65.4 (4.2)	-0.8 (4.8)	3.75 (6.18)	21.0 (1.5)	65.5 (5.2)	-3.0 (5.2)	3.88 (6.57)	24.5 (0.5)	45.0 (1.6)	-4.6 (6.2)	0.39 (0.41)
22	19.2 (1.9)	59.4 (7.4)	-2.2 (5.7)	4.39 (6.91)	20.7 (2.1)	62.0 (6.3)	-3.3 (6.0)	4.82 (7.18)	24.4 (0.5)	44.2 (1.8)	-4.8 (6.0)	0.41 (0.41)
23	20.2 (1.8)	56.3 (4.8)	-6.0 (7.1)	6.93 (8.17)	22.1 (2.0)	55.6 (6.7)	-5.1 (6.6)	6.87 (7.77)	24.4 (0.4)	48.1 (3.0)	-4.7 (6.1)	0.41 (0.43)
24	21.2 (1.2)	58.8 (7.5)	-5.0 (7.0)	6.80 (8.12)	23.0 (0.7)	55.0 (7.6)	-7.0 (6.8)	8.65 (7.90)	24.3 (0.4)	52.9 (4.8)	-4.5 (5.9)	0.39 (0.41)
25	17.2 (0.7)	53.9 (3.3)	-3.2 (5.6)	5.06 (7.72)	20.1 (0.9)	52.1 (4.7)	-2.1 (5.5)	4.55 (6.78)	24.5 (0.5)	44.0 (3.1)	-5.3 (6.0)	0.44 (0.43)
26	19.3 (1.8)	58.6 (4.9)	-2.8 (5.8)	4.56 (7.26)	21.8 (1.4)	56.4 (6.2)	-3.1 (5.8)	4.61 (6.90)	24.4 (0.4)	47.8 (4.6)	-4.8 (5.8)	0.41 (0.42)
27	20.9 (1.0)	60.9 (2.6)	-4.8 (6.7)	6.36 (7.99)	22.7 (0.6)	58.0 (4.2)	-4.8 (6.7)	6.61 (7.67)	24.6 (0.3)	55.6 (2.4)	-4.4 (4.6)	0.48 (0.45)
28	22.1 (1.4)	65.3 (4.1)	-19.3 (14.0)	22.60 (16.20)	23.7 (1.1)	61.9 (4.6)	-14.8 (9.6)	17.20 (10.90)	25.1 (0.6)	61.0 (1.8)	-7.4 (4.7)	0.90 (0.51)
29	21.1 (0.9)	66.4 (5.9)	-4.5 (7.5)	7.62 (8.31)	23.0 (0.8)	55.9 (4.4)	-5.9 (6.8)	7.40 (7.83)	24.7 (0.2)	56.1 (2.7)	-4.7 (5.2)	0.49 (0.45)
30	20.8 (0.8)	59.5 (9.0)	-3.6 (7.2)	7.21 (8.26)	22.7 (0.9)	55.9 (8.3)	-5.5 (6.4)	6.35 (7.61)	24.4 (0.3)	54.3 (4.1)	-3.4 (5.8)	0.39 (0.44)
31	20.5 (1.0)	54.3 (6.7)	-4.6 (6.9)	6.29 (8.00)	21.9 (1.5)	53.8 (6.9)	-5.6 (5.9)	5.33 (7.34)	24.1 (0.3)	50.4 (2.7)	-3.4 (6.3)	0.38 (0.45)
Avg	19.4	60.8	-6.2	7.29	22.0	59.3	-6.2	7.61	24.1	52.1	-6.1	0.53
n	31	31	31	29	31	31	31	31	29	28	28	28
SD	2.0	5.2	5.2	4.35	1.3	4.1	4.2	4.03	0.5	7.8	2.3	0.18
Min	12.8	52.6	-19.4	3.68	18.1	52.1	-17.6	3.52	23.4	34.4	-12.1	0.38
Max	22.1	73.2	-0.3	22.60	23.8	68.9	-1.8	17.20	25.1	67.5	-3.3	0.97

Table E3. Daily means (SD) of environmental parameters at site NC4B for February, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	20.9 (0.9)	52.3 (7.7)	-9.5 (9.9)	10.60 (9.36)	22.4 (1.5)	51.7 (7.5)	-5.7 (6.8)	7.65 (7.95)	24.5 (0.3)	50.8 (3.6)	-5.5 (6.1)	0.50 (0.46)
2	21.3 (0.8)	57.9 (5.0)	-10.9 (9.5)	12.40 (9.02)	22.8 (0.8)	55.9 (5.7)	-8.4 (8.1)	9.87 (8.31)	24.7 (0.3)	54.7 (2.4)	-5.0 (6.1)	0.41 (0.44)
3	20.4 (1.4)	55.9 (6.2)	-3.3 (6.5)	5.02 (7.44)	22.2 (1.1)	55.0 (7.1)	-6.1 (6.0)	5.05 (7.21)	24.4 (0.4)	50.0 (3.1)	-2.1 (6.0)	0.41 (0.42)
4	17.9 (1.4)	54.7 (5.4)	-1.6 (5.9)	4.15 (7.12)	20.9 (1.3)	56.2 (6.9)	-4.3 (4.7)	4.49 (6.85)	24.3 (0.3)	47.7 (5.0)	-1.1 (5.9)	0.40 (0.42)
5	16.5 (1.3)	54.2 (3.9)	-2.0 (6.1)	4.19 (7.19)	19.0 (1.4)	63.1 (7.9)	-3.7 (4.9)	4.48 (7.05)	24.2 (0.3)	46.5 (3.3)	-2.0 (5.8)	0.39 (0.42)
6	19.0 (2.0)	51.0 (9.1)	-4.8 (7.1)	6.62 (8.21)	20.9 (2.6)	54.1 (10.0)	-3.2 (5.7)	5.16 (7.31)	24.3 (0.4)	49.8 (3.8)	-4.5 (5.5)	0.44 (0.43)
7	20.8 (1.2)	47.6 (8.8)	-14.0 (13.5)	14.40 (11.60)	22.9 (1.6)	49.1 (9.0)	-8.3 (9.0)	9.98 (9.06)	23.9 (0.6)	47.8 (5.2)	-8.8 (6.2)	0.76 (0.46)
8	21.3 (1.7)	48.3 (6.9)	-18.9 (13.2)	22.80 (17.10)	23.9 (1.0)	49.2 (6.8)	-12.1 (10.5)	14.60 (11.70)	24.0 (1.0)	48.9 (4.5)	-11.1 (6.9)	0.91 (0.47)
9	20.9 (1.1)	49.3 (9.7)	-16.0 (12.5)	16.10 (10.00)	23.6 (0.7)	50.0 (9.2)	-11.0 (9.5)	12.80 (9.17)	23.6 (0.4)	49.3 (6.3)	-9.2 (5.3)	0.82 (0.41)
10	21.2 (1.1)	59.3 (5.6)	-18.9 (12.2)		23.8 (0.8)	57.9 (5.4)	-12.8 (9.0)		23.3 (0.6)			
11	21.9 (1.6)	59.7 (6.8)	-28.1 (9.7)		24.2 (1.1)	56.7 (5.9)	-18.2 (7.2)					
12	21.4 (1.3)	48.6 (10.0)	-26.1 (11.1)		23.8 (1.1)	44.8 (10.4)	-20.6 (10.6)		25.0 (0.4)			
13	20.8 (1.4)	40.8 (7.8)	-20.4 (12.1)		23.5 (1.1)	42.1 (7.6)	-15.1 (9.7)		24.3 (0.3)	46.4 (4.8)	-2.6 (5.8)	
14	20.1 (0.8)	57.2 (5.6)	-10.2 (6.0)		22.4 (0.6)	54.8 (4.7)	-7.1 (6.1)		24.0 (0.3)	55.7 (3.3)	-2.2 (3.7)	
15	20.1 (0.9)	53.7 (6.1)	-5.9 (6.7)		22.6 (0.9)	52.5 (7.4)	-5.1 (5.9)		24.4 (0.3)	53.0 (3.4)	-2.4 (4.6)	
16	19.6 (0.7)	55.3 (3.5)	-2.2 (5.6)		22.1 (0.8)	55.4 (5.4)	-3.3 (5.2)		24.3 (0.2)	52.9 (2.1)	-2.0 (4.8)	
17	19.6 (1.1)	53.0 (6.9)	-3.6 (6.1)		22.7 (1.0)	54.6 (9.0)	-3.4 (5.7)		24.4 (0.2)	50.9 (2.9)	-3.0 (4.7)	
18	20.2 (0.7)	62.5 (5.8)	-8.6 (6.7)		22.5 (0.8)	60.9 (7.2)	-6.4 (6.6)		24.4 (0.2)	57.9 (2.2)	-4.0 (5.2)	
19	20.2 (0.9)	56.5 (11.7)	-11.9 (8.5)		23.4 (0.9)	58.2 (9.3)	-12.0 (8.3)		24.2 (0.2)	53.9 (7.0)	-4.2 (6.5)	
20	19.4 (1.3)	51.1 (5.4)	-2.9 (5.1)		22.9 (0.8)	55.3 (7.9)	-5.0 (5.6)		23.9 (0.2)	43.6 (5.3)	-3.6 (6.5)	
21	19.9 (1.6)	52.6 (8.7)	-3.6 (5.7)		23.2 (0.7)	54.5 (11.0)	-3.3 (6.2)		23.8 (0.2)	43.4 (3.7)	-6.0 (5.5)	
22	20.3 (1.2)	51.4 (6.9)	-6.2 (7.5)		23.1 (0.8)	51.6 (7.5)	-8.8 (10.1)		23.7 (0.3)	47.9 (5.3)	-1.7 (6.3)	
23	19.1 (1.3)	53.1 (5.4)	-1.9 (4.9)		22.3 (0.9)	55.6 (7.7)	-4.2 (5.4)		23.5 (0.3)	42.5 (2.0)	-3.2 (6.0)	
24	19.0 (1.8)	51.9 (4.7)	-1.8 (5.0)		22.0 (1.3)	54.1 (8.2)	-3.0 (5.5)		23.5 (0.6)	38.5 (7.3)	-7.7 (6.0)	
25	20.5 (1.5)	53.4 (8.2)	-3.9 (5.9)		22.5 (1.1)	54.9 (9.4)	-4.0 (6.4)		23.2 (0.3)	43.4 (5.0)	-6.1 (5.7)	
26	21.5 (0.9)	62.7 (5.8)	-3.8 (6.0)		22.9 (0.6)	55.8 (6.4)	-6.7 (6.7)		23.3 (0.6)	44.8 (5.7)	-11.0 (4.4)	
27	22.3 (0.8)	55.5 (5.1)	-16.0 (13.5)		23.9 (1.0)	54.0 (4.2)	-14.5 (8.8)		23.5 (0.8)	51.9 (3.4)	-11.0 (5.4)	
28	21.0 (1.1)	65.4 (4.0)	-6.2 (6.9)		22.8 (0.7)	63.9 (4.7)	-8.4 (7.6)		22.6 (0.2)	59.5 (2.7)	-11.1 (4.2)	
Avg	20.3	54.1	-9.4	10.70	22.7	54.3	-8.0	8.23	24.0	49.3	-5.2	0.56
n	28	28	28	9	28	28	28	9	27	25	25	9
SD	1.2	5.1	7.5	6.03	1.1	4.6	4.7	3.57	0.5	5.0	3.3	0.20
Min	16.5	40.8	-28.1	4.15	19.0	42.1	-20.6	4.48	22.6	38.5	-11.1	0.39
Max	22.3	65.4	-1.6	22.80	24.2	63.9	-3.0	14.60	25.0	59.5	-1.1	0.91

Table E3. Daily means (SD) of environmental parameters at site NC4B for March, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	17.1 (0.8)	63.2 (2.3)	0.2 (4.4)		19.9 (0.9)	62.0 (4.3)	-1.5 (5.2)		23.8 (0.4)	43.0 (2.6)	-13.1 (1.8)	
2	16.0 (1.0)	60.3 (2.5)	0.1 (5.0)		19.9 (1.1)	60.4 (4.6)	-4.0 (4.2)		22.4 (0.6)	42.7 (2.6)	-6.2 (5.5)	
3	14.9 (1.7)	53.9 (2.9)	-1.0 (5.4)		18.7 (1.9)	55.3 (5.0)	-3.0 (4.3)		22.2 (0.2)	40.8 (2.4)	-6.8 (5.7)	
4	19.6 (2.4)	58.6 (5.1)	-2.1 (5.2)		21.2 (1.9)	60.2 (9.1)	-2.6 (5.6)		22.2 (0.2)	42.7 (4.1)	-10.6 (4.8)	
5	21.1 (1.6)	52.7 (9.8)	-4.9 (6.6)	7.11 (8.17)	23.0 (0.8)	56.0 (9.4)	-4.1 (6.6)	6.85 (7.96)	22.5 (0.5)	39.0 (4.0)	-13.2 (3.3)	1.20 (0.31)
6	22.5 (1.2)	53.2 (8.0)	-16.4 (14.6)	17.30 (13.20)	23.8 (1.1)	52.6 (7.7)	-11.1 (8.9)	15.70 (11.20)	23.2 (1.3)	48.8 (3.9)	-12.9 (5.7)	1.11 (0.47)
7	23.6 (1.6)	54.6 (6.8)	-20.9 (13.2)	28.00 (20.10)	24.6 (1.5)	53.3 (5.9)	-16.3 (8.0)	22.20 (11.20)	24.0 (2.0)	52.6 (4.1)	-22.1 (14.5)	1.63 (0.84)
8	23.9 (2.1)	52.8 (9.5)	-25.3 (11.4)	34.90 (20.40)	25.1 (1.7)	51.8 (8.1)	-18.2 (7.1)	25.80 (11.10)	24.8 (2.4)	51.7 (6.9)	-26.3 (16.4)	1.98 (0.98)
9	25.0 (2.8)	44.7 (14.2)	-16.5 (13.2)	46.50 (35.30)	25.6 (2.2)	45.2 (12.9)	-21.4 (8.5)	31.80 (16.90)	25.4 (2.2)	48.2 (10.4)	-19.1 (11.5)	1.20 (0.52)
10	21.8 (2.1)	53.2 (7.4)	-14.3 (13.9)	16.10 (12.60)	23.8 (1.0)	52.1 (5.4)	-14.4 (7.6)		24.8 (0.5)			
11	23.9 (2.2)	58.2 (9.5)	-25.1 (10.9)	37.10 (23.30)	25.1 (2.0)	58.2 (9.9)	-19.5 (5.4)					
12	22.2 (0.8)	49.5 (5.7)	-7.6 (6.7)	9.37 (8.59)	23.3 (0.6)	42.2 (5.0)	-11.4 (7.5)		25.2 (0.7)			
13	19.0 (1.1)	56.9 (6.0)	-2.0 (5.0)	4.23 (6.95)	21.7 (0.9)	55.6 (6.4)	-1.4 (4.9)		24.4 (0.3)	56.8 (2.4)	-3.0 (5.2)	0.29 (0.39)
14	20.4 (1.3)	63.7 (2.7)	-1.8 (5.1)	4.20 (6.81)	22.6 (0.9)	62.3 (4.2)	-2.2 (5.2)		24.5 (0.2)	56.8 (1.4)	-4.0 (5.5)	0.33 (0.41)
15	22.7 (0.8)	65.9 (2.8)	-1.2 (5.7)	4.49 (6.97)	22.8 (0.5)	63.6 (3.5)	-5.2 (5.7)		24.5 (0.2)	58.5 (1.3)	-5.8 (6.6)	0.44 (0.47)
16	22.8 (0.7)	66.5 (2.4)	-0.7 (5.8)	4.95 (7.27)	22.7 (0.5)	63.9 (3.1)	-6.4 (6.4)		24.5 (0.2)	59.4 (1.5)	-6.5 (6.4)	0.50 (0.46)
17	21.8 (0.6)	63.3 (3.3)	0.1 (5.8)	4.19 (7.11)	22.8 (0.4)	60.9 (4.7)	-5.3 (5.6)		24.5 (0.2)	58.0 (1.9)	-5.4 (6.7)	0.48 (0.48)
18	22.3 (0.9)	57.0 (7.8)	-8.8 (10.7)	11.40 (9.81)	23.3 (0.9)	55.5 (8.4)	-9.5 (9.1)		24.5 (0.3)	52.0 (5.2)	-9.5 (6.5)	0.75 (0.51)
19	22.9 (1.1)	53.4 (9.4)	-16.1 (15.3)	18.60 (16.50)	23.7 (1.0)	54.7 (8.6)	-12.8 (9.1)		24.8 (0.8)	50.2 (4.7)	-11.8 (6.8)	1.06 (0.68)
20	22.2 (0.7)	53.3 (8.9)	-3.6 (6.6)	5.78 (7.80)	23.0 (0.7)	51.8 (10.1)	-6.4 (6.2)		24.1 (0.3)	50.2 (6.4)	-7.4 (6.5)	0.64 (0.48)
21	21.6 (1.1)	53.5 (5.9)	-2.6 (5.6)	4.43 (6.82)	22.9 (0.8)	51.3 (8.5)	-3.7 (5.8)		23.9 (0.3)	48.3 (4.0)	-8.0 (6.5)	0.64 (0.48)
22	22.2 (1.0)	53.2 (9.7)	-7.0 (7.8)	8.66 (8.46)	22.7 (1.0)	50.9 (9.8)	-8.9 (8.6)		23.8 (0.3)	46.3 (5.1)	-10.6 (5.8)	0.85 (0.46)
23	22.9 (0.9)	53.9 (7.2)	-8.3 (8.4)	10.30 (8.98)	23.0 (1.0)	51.2 (7.8)	-10.6 (8.7)		23.8 (0.4)	48.2 (3.9)	-10.5 (5.1)	0.92 (0.43)
24	22.3 (1.0)	51.1 (8.2)	-4.1 (6.0)	5.32 (7.53)	22.7 (0.7)	48.6 (8.8)	-4.1 (6.1)		23.3 (0.3)	46.1 (5.5)	-9.3 (5.6)	0.81 (0.44)
25	21.7 (1.3)	57.0 (4.8)	-7.4 (7.1)	9.30 (8.57)	22.5 (0.6)	54.8 (4.8)	-4.1 (5.8)		23.1 (0.2)	48.7 (4.1)	-10.8 (4.2)	0.95 (0.34)
26	21.8 (0.7)	72.1 (5.1)	-20.6 (11.1)	21.20 (8.36)	23.7 (0.7)	64.5 (3.7)	-14.6 (7.8)		24.1 (0.7)	62.4 (4.0)	-11.1 (2.6)	1.34 (0.28)
27	22.0 (0.5)	73.7 (1.3)	-28.2 (7.5)	27.70 (5.06)	24.2 (0.5)	68.1 (1.7)	-19.2 (4.3)		24.5 (0.4)	67.5 (1.8)	-12.2 (2.4)	1.59 (0.43)
28	22.7 (1.0)	74.1 (4.1)	-30.0 (3.5)	35.40 (10.30)	24.8 (0.8)	68.6 (3.8)	-19.9 (2.9)		24.9 (0.6)	69.8 (3.6)	-14.8 (2.9)	2.41 (1.04)
29	22.9 (1.8)	57.8 (14.3)	-31.2 (7.6)	37.70 (15.40)	25.0 (1.1)	54.9 (11.9)	-19.9 (5.2)		24.9 (1.1)	56.3 (10.9)	-12.1 (4.1)	2.43 (1.37)
30	20.9 (1.2)	49.8 (8.9)	-21.2 (10.8)	21.50 (8.50)	23.9 (0.8)	49.6 (8.4)	-12.2 (8.5)		23.0 (0.6)	47.1 (6.0)	-10.2 (3.8)	1.17 (0.27)
31	21.5 (1.3)	50.4 (12.1)	-20.8 (12.6)	22.30 (12.30)	24.0 (1.0)	50.2 (11.0)	-11.8 (8.4)	16.50 (9.33)	23.5 (0.8)			
Avg	21.6	57.5	-11.3	17.00	23.1	55.8	-9.9	19.80	24.0	51.6	-10.9	1.07
n	31	31	31	27	31	31	31	6	30	27	27	23
SD	2.2	7.1	10.1	12.50	1.6	6.3	6.3	7.97	0.9	7.6	5.1	0.59
Min	14.9	44.7	-31.2	4.19	18.7	42.2	-21.4	6.85	22.2	39.0	-26.3	0.29
Max	25.0	74.1	0.2	46.50	25.6	68.6	-1.4	31.80	25.4	69.8	-3.0	2.43

Table E3. Daily means (SD) of environmental parameters at site NC4B for April, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	21.7 (0.8)	65.2 (3.3)	-24.5 (10.6)	23.10 (5.96)	23.8 (0.8)	64.0 (6.3)	-16.1 (7.0)	19.30 (6.24)	24.8 (3.2)			
2	21.9 (0.4)	71.1 (1.7)	-22.8 (9.1)	23.00 (5.95)	23.9 (0.5)	70.6 (3.8)	-16.4 (4.9)	18.70 (4.90)	25.9 (1.4)			
3	23.1 (1.8)	56.6 (12.6)	-33.7 (6.1)	41.00 (15.00)	25.1 (1.1)	55.3 (12.0)	-20.8 (5.2)	26.20 (7.47)	25.2 (0.8)	58.0 (9.9)	-12.6 (5.2)	1.34 (0.68)
4	21.8 (1.4)	45.7 (9.5)	-24.5 (10.6)	27.90 (15.30)	23.9 (0.9)	46.4 (9.0)	-16.4 (7.7)	19.30 (9.88)	24.7 (0.4)	50.6 (7.0)	-7.2 (7.3)	0.60 (0.54)
5	23.1 (2.6)	48.7 (12.7)	-27.8 (11.2)	38.40 (25.20)	24.7 (1.9)	48.6 (11.3)	-18.5 (7.7)	24.60 (12.10)	25.4 (1.4)	50.6 (10.1)	-11.6 (8.6)	1.38 (1.42)
6	22.5 (1.7)	55.8 (15.5)	-32.7 (8.1)	35.60 (13.90)	24.7 (1.3)	53.8 (14.6)	-22.0 (5.4)	25.10 (10.20)	25.2 (0.8)	56.1 (12.7)	-10.4 (6.3)	1.24 (0.71)
7	20.1 (0.7)	46.9 (5.8)	-13.8 (7.3)	13.80 (7.07)	23.0 (0.6)	47.3 (7.4)	-11.0 (7.5)	7.55 (7.87)	24.4 (0.3)	49.0 (3.4)	-2.0 (5.9)	0.31 (0.41)
8	20.1 (0.8)	47.8 (7.2)	-14.4 (10.7)	14.20 (8.60)	22.9 (0.8)	48.4 (9.2)	-8.8 (7.7)	9.28 (8.11)	24.5 (0.2)	48.1 (5.0)	-5.3 (5.8)	0.47 (0.46)
9	21.1 (1.4)	48.5 (8.6)	-20.4 (10.7)	21.00 (9.58)	23.6 (0.9)	44.9 (9.5)	-14.8 (9.1)	16.90 (9.63)	24.4 (0.3)	47.0 (6.5)	-6.6 (6.3)	0.66 (0.50)
10	22.9 (2.5)	52.5 (13.3)	-28.9 (10.6)	42.30 (24.90)	25.0 (1.8)	51.1 (11.7)	-18.5 (7.2)	25.80 (11.50)	25.3 (1.4)	51.1 (9.6)	-12.7 (7.3)	1.78 (1.46)
11	21.7 (1.2)	58.1 (8.9)	-28.6 (8.3)	30.10 (10.20)	24.3 (1.1)	55.3 (8.2)	-19.8 (6.2)	22.90 (6.88)	24.4 (0.6)	55.5 (7.0)	-9.5 (4.0)	1.10 (0.38)
12	21.0 (1.1)	49.4 (9.7)	-17.2 (13.6)	17.70 (9.77)	23.0 (0.8)	48.8 (8.8)	-12.5 (8.7)	14.10 (8.42)	23.8 (0.3)	45.4 (6.3)	-9.5 (5.8)	0.80 (0.47)
13	21.1 (0.8)	60.0 (5.4)	-14.0 (8.0)	16.40 (6.75)	22.8 (0.6)	58.1 (5.4)	-12.5 (7.0)	15.40 (7.17)	23.6 (0.2)	55.4 (3.8)	-10.0 (5.4)	0.84 (0.42)
14	21.6 (0.5)	70.4 (2.9)	-30.0 (6.4)	28.50 (4.65)	24.0 (0.6)	66.7 (2.4)	-20.4 (3.6)	21.90 (3.37)	24.0 (0.3)	66.9 (2.7)	-13.7 (2.0)	1.25 (0.10)
15	21.3 (0.6)	63.9 (5.9)	-18.7 (10.2)	22.70 (6.74)	23.3 (0.9)	59.7 (6.4)	-17.1 (5.9)	18.80 (5.51)	23.6 (0.3)	59.7 (4.8)	-9.7 (4.2)	1.00 (0.36)
16	21.4 (0.8)	48.3 (9.9)	-13.0 (14.8)	15.30 (11.50)	22.7 (0.7)	49.3 (9.6)	-10.9 (7.5)	12.90 (8.38)	23.3 (0.2)	47.0 (7.3)	-7.2 (5.9)	0.77 (0.48)
17	21.4 (1.3)	46.0 (9.1)	-20.7 (14.3)	21.60 (12.90)	23.4 (1.2)	46.4 (9.8)	-13.4 (9.4)	15.10 (9.69)	23.4 (0.7)	44.5 (6.0)	-10.5 (5.5)	1.02 (0.59)
18	22.6 (2.3)	44.5 (11.1)	-26.2 (12.2)	36.90 (22.90)	24.5 (1.7)	43.9 (10.1)	-16.9 (8.4)	23.00 (12.70)	24.4 (1.7)	44.6 (8.3)	-13.4 (7.0)	2.13 (1.71)
19	22.2 (1.5)	54.7 (5.9)	-28.3 (9.0)	34.60 (15.30)	24.3 (1.1)	52.4 (5.4)	-17.5 (6.5)	22.80 (9.28)	24.1 (1.2)	52.7 (3.8)	-13.2 (3.4)	2.00 (1.17)
20	23.5 (1.8)	63.2 (6.8)	-31.9 (6.5)	42.50 (20.10)	25.2 (1.5)	60.3 (6.1)	-21.4 (3.4)	27.80 (7.28)	24.9 (1.5)	61.5 (5.8)	-14.1 (4.8)	2.61 (1.38)
21	22.7 (1.4)	53.6 (12.7)	-28.0 (9.3)	34.00 (14.80)	25.0 (1.2)	51.9 (11.3)	-19.8 (4.2)	24.50 (7.02)	24.1 (1.3)	53.1 (10.3)	-13.4 (3.8)	2.24 (1.37)
22	22.1 (0.7)	46.0 (11.7)	-22.7 (13.7)	21.20 (9.44)	23.7 (1.1)	45.1 (10.4)	-20.3 (11.4)	17.60 (6.69)	22.9 (0.5)	45.8 (10.1)	-8.0 (4.3)	1.23 (0.25)
23	23.7 (2.0)	46.3 (10.4)	-21.9 (13.7)	32.50 (23.80)	25.0 (2.3)	44.0 (10.2)	-18.0 (9.0)	24.20 (13.50)	24.4 (2.0)	44.3 (8.3)	-14.0 (6.1)	2.40 (1.79)
24	23.9 (2.1)	62.5 (6.0)	-20.3 (9.3)	49.60 (31.30)	25.9 (2.5)	57.7 (6.6)	-15.6 (6.8)	30.60 (14.90)	25.3 (2.4)	59.6 (6.0)	-18.1 (6.9)	2.99 (1.68)
25	24.2 (2.1)	66.1 (6.7)	-20.9 (3.8)	60.70 (25.30)	26.9 (2.3)	59.9 (7.7)	-14.0 (3.9)	34.20 (12.50)	26.4 (2.0)	64.2 (7.1)	-19.8 (6.5)	3.75 (1.15)
26	23.9 (2.1)	60.7 (8.2)	-19.0 (6.8)	53.70 (28.50)	26.7 (2.5)	55.4 (9.8)	-13.9 (4.9)	32.00 (14.80)	26.2 (1.9)	60.0 (8.5)	-19.0 (7.1)	3.32 (1.43)
27	23.6 (2.3)	57.4 (10.0)	-17.7 (7.0)	49.60 (29.50)	26.3 (2.3)	53.5 (10.3)	-11.3 (8.7)	27.20 (22.60)	25.4 (1.6)	59.0 (8.1)	-17.4 (6.3)	3.14 (1.57)
28	23.8 (2.7)	54.9 (9.0)	-17.7 (8.2)	48.80 (32.70)	25.9 (1.8)	52.8 (8.9)	-13.7 (7.6)	32.70 (20.80)	25.9 (2.2)			
29	23.6 (2.8)	55.5 (10.6)	-17.8 (8.0)	47.50 (31.80)	25.7 (1.7)	53.3 (9.6)	-13.3 (7.3)	31.50 (19.60)	25.9 (1.2)			
30	22.5 (1.7)	63.0 (4.7)	-13.0 (8.0)	33.30 (23.50)	25.0 (0.9)	60.2 (5.3)	-15.3 (12.2)	19.70 (12.10)	25.9 (0.6)			
Avg	22.3	55.4	-22.4	32.60	24.5	53.5	-16.0	22.10	24.7	53.2	-11.6	1.61
n	30	30	30	30	30	30	30	30	30	25	25	25
SD	1.1	7.7	6.0	12.70	1.2	6.7	3.4	6.69	0.9	6.5	4.3	0.95
Min	20.1	44.5	-33.7	13.80	22.7	43.9	-22.0	7.55	22.9	44.3	-19.8	0.31
Max	24.2	71.1	-13.0	60.70	26.9	70.6	-8.8	34.20	26.4	66.9	-2.0	3.75

Table E3. Daily means (SD) of environmental parameters at site NC4B for May, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	23.7 (2.2)	64.5 (7.1)	-18.0 (6.2)	50.50 (27.90)	25.9 (1.6)	60.4 (7.3)	-22.1 (8.6)	32.60 (16.10)	26.1 (1.4)	64.3 (6.3)	-13.7 (5.5)	1.94 (1.20)
2	24.2 (1.9)	62.3 (5.9)	-20.9 (5.0)	56.90 (24.50)	26.3 (1.8)	57.3 (6.7)	-25.2 (6.3)	37.80 (14.60)	26.5 (1.3)	61.2 (4.6)	-15.8 (6.0)	2.30 (1.25)
3	24.3 (2.0)	65.3 (6.9)	-21.3 (5.2)	59.60 (25.70)	26.7 (2.0)	59.8 (7.1)	-26.5 (5.7)	39.80 (15.40)	26.7 (1.2)	63.2 (5.5)	-16.6 (6.0)	2.49 (1.31)
4	24.6 (2.0)	64.3 (8.0)	-20.1 (5.6)	58.00 (27.00)	26.6 (1.9)	59.8 (7.5)	-26.0 (7.3)	38.40 (15.60)	26.8 (1.2)	63.0 (5.9)	-16.4 (5.5)	2.57 (1.34)
5	22.4 (1.0)	74.1 (4.3)	-15.0 (4.7)	31.00 (11.20)	25.0 (0.6)	67.8 (2.9)	-20.6 (9.6)	19.00 (7.06)	25.7 (0.8)	69.8 (2.6)	-13.6 (3.7)	1.65 (0.68)
6	24.4 (1.7)	70.3 (7.4)	-18.1 (3.4)	56.60 (22.00)	26.4 (1.5)	64.6 (7.0)	-27.3 (5.5)	33.90 (14.30)	26.9 (1.1)	67.6 (5.9)	-15.9 (5.1)	2.53 (1.34)
7	23.8 (1.9)	72.0 (5.6)	-17.5 (4.0)	49.90 (23.90)	26.0 (1.3)	66.2 (4.3)	-26.1 (5.9)	33.60 (11.70)	26.7 (1.1)	68.5 (3.8)	-15.9 (5.8)	2.48 (1.31)
8	24.6 (2.1)	70.7 (5.0)	-19.7 (9.3)	55.70 (28.40)	26.6 (1.7)	65.6 (4.9)	-23.7 (8.4)	37.90 (15.80)	27.0 (1.5)	68.6 (3.6)	-18.3 (6.9)	3.13 (1.41)
9	25.4 (1.7)	68.5 (6.8)	-21.8 (8.5)	70.50 (20.80)	27.7 (2.4)	61.5 (7.5)	-26.5 (3.9)	45.90 (12.90)	27.2 (1.1)	67.9 (4.4)	-19.1 (5.1)	3.46 (1.25)
10	23.5 (1.4)	56.3 (10.6)	-18.6 (5.0)	43.30 (18.50)	25.5 (0.8)	54.3 (9.3)	-28.2 (7.6)	30.70 (8.15)	26.1 (0.8)	55.7 (9.1)	-15.7 (4.7)	2.48 (1.13)
11	21.7 (0.7)	60.3 (5.7)	-6.5 (5.6)	12.80 (7.73)	24.2 (0.7)	57.9 (6.4)	-8.0 (6.6)	12.40 (8.37)	24.2 (0.5)	59.3 (4.0)	-10.4 (3.2)	1.18 (0.33)
12	22.0 (1.3)	53.9 (7.3)	-11.7 (8.9)	21.90 (16.30)	24.7 (0.8)	53.4 (8.1)	-14.3 (11.6)	17.00 (11.10)	24.5 (0.9)	54.3 (7.0)	-11.1 (5.3)	1.50 (0.93)
13	22.5 (1.6)	53.4 (7.3)	-14.1 (8.1)	27.90 (17.00)	24.7 (0.8)	52.9 (6.8)	-14.6 (13.1)	18.00 (10.40)	24.7 (1.1)	53.6 (6.4)	-13.0 (3.4)	1.91 (0.86)
14	23.2 (1.2)	68.4 (4.5)	-14.9 (7.2)	31.60 (17.80)	25.0 (0.7)	66.5 (4.8)	-19.0 (10.9)	22.90 (10.50)	25.2 (1.2)	68.3 (3.3)	-14.3 (4.2)	2.44 (1.18)
15	23.9 (1.8)	69.9 (5.0)	-15.6 (5.2)	46.00 (26.40)	25.7 (1.2)	67.1 (4.4)	-22.4 (8.2)	30.60 (11.80)	26.0 (1.4)	70.6 (4.8)	-16.9 (6.5)	3.16 (1.34)
16	24.3 (1.8)	71.3 (5.6)	-17.5 (4.3)	53.60 (22.10)	26.2 (1.3)	67.0 (4.8)	-27.2 (6.0)	35.80 (10.80)	26.4 (1.6)	70.7 (5.7)	-18.5 (5.2)	3.74 (1.04)
17	22.6 (1.6)	67.7 (7.0)	-10.3 (8.4)	28.70 (23.00)	24.7 (1.4)	64.7 (6.1)	-18.0 (12.6)	21.00 (14.00)	24.7 (1.4)	68.4 (5.5)	-12.5 (5.6)	2.55 (1.31)
18	21.5 (1.0)	57.2 (6.1)	-1.2 (5.3)	6.12 (7.87)	23.0 (1.2)	55.2 (7.6)	-2.2 (5.4)	6.79 (8.22)	22.8 (0.2)	57.1 (4.9)	-10.4 (2.6)	1.13 (0.21)
19	21.2 (0.8)	49.7 (6.8)	-7.1 (7.7)	11.60 (10.10)	23.0 (1.2)	48.9 (7.3)	-3.3 (5.8)	9.43 (8.71)	23.1 (0.7)	50.1 (4.9)	-10.1 (3.8)	1.15 (0.38)
20	22.0 (2.1)	59.7 (5.4)	-14.6 (9.6)	34.90 (26.60)	23.9 (1.6)	58.5 (5.6)	-13.6 (11.9)	20.40 (14.20)	24.2 (1.5)	60.1 (4.3)	-11.5 (4.8)	2.40 (1.69)
21	22.9 (2.5)	58.4 (6.2)	-17.5 (6.1)	44.80 (26.10)	25.3 (1.3)	56.1 (5.9)	-16.9 (11.6)	27.10 (16.90)	25.2 (1.8)	58.3 (6.5)	-14.9 (6.6)	2.93 (1.53)
22	23.4 (2.6)	63.7 (5.3)	-15.7 (8.1)	49.30 (26.50)	25.8 (1.6)	60.1 (5.0)	-18.3 (10.3)	31.20 (17.90)	25.9 (2.0)	63.5 (5.1)	-16.8 (7.1)	3.33 (1.50)
23	23.5 (2.7)	67.2 (6.7)	-14.8 (6.5)	56.30 (24.60)	26.0 (1.5)	62.6 (5.4)	-20.2 (10.0)	32.70 (16.70)	26.1 (1.7)	66.3 (5.1)	-17.5 (6.7)	3.41 (1.45)
24	24.2 (2.3)	68.7 (6.5)	-19.0 (6.1)	62.80 (26.50)	26.2 (1.5)	64.2 (5.2)	-21.4 (7.4)	36.20 (15.10)	26.4 (1.8)	67.9 (5.8)	-18.4 (6.2)	3.79 (1.18)
25	24.1 (2.3)	69.2 (6.0)	-19.3 (6.4)	62.10 (25.70)	26.4 (1.7)	64.2 (5.6)	-22.0 (8.4)	36.40 (16.00)	26.5 (1.8)	68.2 (5.5)	-19.6 (7.4)	3.63 (1.26)
26	23.7 (1.4)	74.1 (4.4)			25.6 (0.9)	69.3 (3.7)	-23.0 (6.0)	33.30 (8.82)	26.3 (1.3)			
27	24.5 (2.3)	68.0 (7.7)	-28.8 (7.1)	56.30 (21.00)	26.7 (1.9)	62.8 (8.2)	-23.0 (8.1)	39.40 (16.10)	27.3 (1.8)			
28	24.4 (2.0)	74.4 (4.6)	-25.1 (7.6)	61.00 (18.80)	26.4 (1.8)	68.7 (4.7)	-23.8 (6.3)	38.80 (13.50)	27.5 (1.1)			
29	24.1 (2.2)	74.4 (3.7)	-18.8 (4.5)	59.30 (25.50)	26.5 (2.3)	67.8 (5.0)	-23.6 (5.4)	37.90 (15.10)	26.7 (1.4)	72.2 (3.4)	-16.7 (6.9)	2.52 (1.39)
30	23.9 (2.5)	62.6 (8.1)	-19.2 (5.6)	57.20 (25.50)	26.2 (1.7)	58.3 (8.0)	-25.7 (10.0)	33.40 (14.50)	26.2 (1.2)	62.1 (6.3)	-15.5 (5.8)	2.03 (1.09)
31	24.6 (2.3)	65.7 (6.0)	-22.2 (5.4)	62.90 (25.60)	27.3 (2.6)	59.4 (8.4)	-26.0 (10.1)	35.90 (15.00)	26.7 (1.2)	63.9 (4.0)	-17.5 (5.7)	2.34 (0.97)
Avg	23.5	65.4	-16.8	46.00	25.7	61.4	-20.6	29.90	25.9	63.7	-15.2	2.51
n	31	31	30	30	31	31	31	31	31	28	28	28
SD	1.0	6.6	5.4	16.90	1.1	5.2	6.6	9.71	1.2	5.8	2.7	0.76
Min	21.2	49.7	-28.8	6.12	23.0	48.9	-28.2	6.79	22.8	50.1	-19.6	1.13
Max	25.4	74.4	-1.2	70.50	27.7	69.3	-2.2	45.90	27.5	72.2	-10.1	3.79

Table E3. Daily means (SD) of environmental parameters at site NC4B for June, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	24.4 (2.3)	72.7 (5.0)	-20.1 (5.8)	63.10 (21.30)	26.3 (2.4)	67.6 (5.9)	-28.4 (7.6)	33.60 (11.10)	26.7 (1.1)	68.3 (3.7)	-16.9 (6.2)	2.40 (1.36)
2	24.9 (2.1)	71.9 (6.4)	-21.2 (7.9)	67.80 (19.70)	27.3 (2.8)	65.8 (8.1)	-29.9 (7.4)	37.00 (11.80)	27.3 (1.3)	68.8 (4.7)	-19.5 (6.9)	3.10 (1.52)
3	25.1 (1.8)	71.4 (7.4)	-22.1 (3.9)	71.90 (18.40)	26.9 (2.3)	65.9 (9.9)	-22.5 (11.5)	31.60 (12.40)	27.2 (0.9)	68.8 (4.8)	-17.5 (4.6)	2.89 (1.32)
4	24.8 (1.9)	72.8 (7.1)	-20.9 (3.9)	66.20 (19.70)	26.5 (2.0)	68.2 (7.8)	-26.7 (7.4)	31.60 (12.30)	27.2 (0.9)	69.0 (5.5)	-18.2 (5.9)	2.96 (1.30)
5	24.4 (1.9)	74.5 (4.9)	-21.7 (4.3)	62.60 (20.60)	26.1 (1.9)	68.9 (5.7)	-25.7 (6.2)	30.30 (12.90)	26.9 (0.9)	71.3 (3.1)	-17.0 (5.2)	2.68 (1.21)
6	22.0 (0.7)	73.7 (1.4)	-20.4 (3.2)	35.50 (8.24)	24.5 (0.4)	68.5 (1.8)	-23.0 (7.5)	17.60 (2.00)	25.6 (0.4)	68.4 (1.3)	-12.5 (1.9)	1.61 (0.43)
7	24.3 (2.1)	72.1 (4.8)	-23.6 (4.1)	60.30 (23.30)	25.9 (1.5)	67.9 (4.0)	-28.5 (8.6)	26.50 (9.62)	26.8 (1.3)	68.3 (3.9)	-17.8 (6.0)	3.10 (1.39)
8	25.0 (2.0)	74.6 (4.5)	-24.0 (4.0)	65.50 (24.50)	26.9 (2.1)	69.7 (6.0)	-29.5 (7.3)	35.90 (15.50)	27.0 (1.2)	73.2 (4.2)	-20.1 (6.3)	3.30 (1.30)
9	24.8 (1.9)	76.5 (3.4)	-22.5 (4.5)	63.60 (20.40)	26.6 (2.2)	71.2 (5.5)	-26.8 (6.3)	36.70 (9.64)	26.8 (1.4)	74.5 (3.5)	-19.5 (5.7)	3.41 (1.10)
10	24.2 (2.2)	72.1 (4.6)	-22.4 (5.1)	57.10 (26.20)	26.3 (1.9)	67.6 (6.6)	-25.7 (11.1)		26.6 (1.4)	69.9 (3.9)	-16.2 (5.4)	3.22 (1.50)
11	25.4 (1.9)	76.1 (3.6)	-24.1 (4.4)	74.00 (17.90)	27.3 (2.3)	70.8 (5.3)	-30.4 (7.1)	43.20 (12.50)	27.3 (1.5)	74.2 (3.4)	-19.5 (7.2)	3.90 (0.89)
12	26.0 (2.3)	75.0 (1.7)	-24.6 (4.4)	76.20 (22.10)	28.0 (2.9)	68.6 (4.5)	-29.9 (6.4)	46.00 (14.10)	27.7 (2.1)	73.7 (2.0)	-20.8 (6.8)	3.92 (1.22)
13	26.2 (1.6)	74.1 (3.8)	-24.9 (3.7)	80.80 (12.30)	28.4 (2.8)	66.9 (7.8)	-30.4 (7.9)	48.10 (9.39)	27.7 (1.4)	72.0 (3.8)	-23.1 (5.3)	4.30 (0.79)
14	25.7 (1.8)	73.9 (3.9)	-23.9 (3.6)	77.50 (16.70)	27.5 (2.3)	68.6 (6.5)	-30.9 (8.2)	45.40 (11.20)	27.2 (1.3)	71.4 (4.1)	-21.2 (5.6)	4.19 (0.87)
15												
16												
17	24.3 (1.8)	74.4 (3.1)	-21.5 (4.3)	62.50 (21.70)	25.9 (1.4)	70.1 (3.3)	-28.1 (11.5)	30.60 (6.19)	25.2 (1.3)	75.7 (3.7)	-15.8 (4.9)	3.22 (1.23)
18	25.5 (2.1)	78.1 (2.0)	-20.3 (3.7)	73.60 (20.70)	27.3 (2.3)	73.2 (4.3)	-23.9 (4.4)	44.90 (14.10)	26.4 (1.8)	79.0 (1.9)	-20.7 (6.5)	3.66 (1.42)
19	26.4 (1.5)	75.8 (4.2)	-21.4 (3.6)	86.00 (12.40)	28.3 (2.3)	70.3 (7.9)	-27.4 (5.4)	50.80 (9.89)	26.7 (1.3)	76.9 (4.7)	-22.0 (5.1)	4.22 (0.85)
20	27.5 (1.2)	75.3 (3.6)	-24.1 (3.8)		30.2 (3.1)	66.3 (9.6)	-26.0 (4.3)					
21	26.5 (0.7)	65.9 (4.2)	-24.1 (2.9)		28.6 (2.1)	59.8 (7.4)	-24.6 (3.9)					
22	25.2 (1.7)	64.7 (4.7)	-21.9 (3.5)		27.0 (2.1)	59.9 (6.1)	-23.8 (5.7)					
23	25.0 (1.9)	69.7 (5.7)	-21.4 (3.5)		26.7 (2.1)	63.9 (7.0)	-23.2 (5.8)					
24	25.5 (2.2)	69.9 (4.7)	-23.6 (4.1)		27.6 (2.5)	63.7 (7.2)	-29.6 (6.7)		27.2 (1.5)	68.2 (5.3)		
25	25.6 (2.2)	67.6 (6.6)	-23.5 (4.3)		27.8 (2.6)	62.7 (9.0)	-27.1 (6.8)		27.6 (1.4)	65.6 (6.1)		
26	25.8 (1.8)	75.0 (4.2)	-21.1 (5.1)		27.2 (2.6)	69.9 (5.0)	-22.7 (7.6)		27.9 (1.5)	71.9 (4.0)	-23.3 (9.7)	
27	26.2 (2.0)	72.7 (3.2)	-22.1 (5.3)		28.3 (2.9)	65.8 (5.5)	-26.3 (9.0)		28.0 (1.1)	69.7 (3.2)	-22.7 (5.6)	
28	25.5 (1.9)	63.0 (5.1)	-21.3 (5.9)		27.8 (2.6)	58.4 (8.3)	-26.4 (8.8)		27.0 (1.1)	64.0 (5.1)	-19.3 (7.2)	
29	26.3 (1.2)	62.7 (7.1)	-21.7 (5.0)	79.60 (11.90)	28.7 (2.9)	56.1 (10.9)	-25.5 (7.5)	51.70 (8.10)	27.5 (0.9)	63.2 (5.2)	-22.1 (4.5)	3.12 (0.95)
30	25.5 (2.0)	56.9 (6.1)	-21.3 (5.7)	67.00 (27.90)	28.3 (3.1)	51.9 (9.7)	-26.8 (8.3)	46.10 (15.90)	27.3 (1.2)	58.1 (5.0)	-19.9 (8.0)	3.07 (1.28)
Avg	25.3	71.5	-22.3	67.90	27.3	66.0	-26.8	38.20	27.0	70.2	-19.4	3.28
n	28	28	28	19	28	28	28	18	24	24	22	19
SD	1.0	4.9	1.4	10.80	1.1	4.9	2.5	9.06	0.6	4.5	2.6	0.65
Min	22.0	56.9	-24.9	35.50	24.5	51.9	-30.9	17.60	25.2	58.1	-23.3	1.61
Max	27.5	78.1	-20.1	86.00	30.2	73.2	-22.5	51.70	28.0	79.0	-12.5	4.30

Table E3. Daily means (SD) of environmental parameters at site NC4B for July, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	25.7 (1.8)	61.8 (5.1)	-21.5 (5.8)	70.70 (20.80)	28.5 (3.5)	54.9 (9.3)	-24.9 (7.5)	48.70 (12.60)	27.6 (1.4)	61.1 (4.6)	-19.4 (6.1)	3.41 (1.36)
2	25.4 (1.6)	65.9 (7.5)	-21.3 (5.6)	71.20 (21.10)	28.0 (3.0)	59.2 (10.7)	-25.6 (7.6)	49.90 (10.40)	27.6 (1.2)	64.0 (6.5)	-22.2 (6.1)	3.72 (1.07)
3	24.6 (1.9)	56.0 (6.8)	-18.4 (5.4)	62.40 (22.80)	26.4 (2.1)	53.5 (6.8)	-25.8 (8.6)	46.00 (13.10)	27.1 (1.1)	54.9 (5.7)	-20.0 (7.3)	3.26 (1.29)
4	24.4 (2.1)	55.6 (4.9)	-19.0 (6.0)	59.20 (27.50)	26.7 (2.6)	52.3 (7.2)	-25.5 (9.1)	42.40 (17.00)	26.8 (1.5)	55.5 (4.4)	-19.3 (8.6)	3.35 (1.43)
5	25.7 (1.9)	74.5 (4.8)	-22.6 (5.5)	73.20 (22.50)	27.1 (2.1)	70.7 (5.7)	-26.4 (6.4)	48.80 (11.60)	27.7 (1.5)	72.0 (4.3)	-24.5 (7.2)	3.91 (1.10)
6	24.8 (1.2)	78.1 (2.6)	-19.1 (3.9)	64.20 (14.90)	26.1 (1.0)	73.4 (3.0)	-24.4 (5.9)	42.50 (5.45)	27.2 (0.8)	74.6 (3.6)	-21.0 (5.5)	3.38 (0.77)
7	25.2 (1.6)	68.2 (8.3)	-19.0 (4.9)	66.60 (19.80)	26.8 (2.1)	64.1 (9.1)	-25.7 (8.7)	47.10 (10.30)	27.1 (1.3)	65.6 (8.5)	-21.0 (6.1)	3.86 (0.96)
8	25.3 (1.8)	70.4 (6.7)	-20.5 (5.3)	66.80 (23.40)	27.0 (2.6)	65.8 (8.9)	-26.9 (8.0)	46.40 (11.90)	26.6 (1.4)	71.2 (5.1)	-17.4 (5.6)	3.63 (1.08)
9	24.4 (1.7)	65.2 (8.3)	-17.3 (4.6)	57.30 (18.30)	25.5 (1.4)	62.9 (8.0)	-22.7 (8.5)	37.00 (6.60)	26.2 (1.2)	64.1 (7.2)	-16.0 (6.3)	3.43 (0.94)
10	24.5 (2.3)	58.8 (5.9)	-18.1 (5.5)	54.30 (28.70)	26.0 (2.0)	56.4 (6.6)	-24.3 (8.9)	36.90 (13.70)	26.3 (1.7)	58.6 (6.3)	-18.2 (8.0)	3.41 (1.45)
11	24.9 (2.2)	64.6 (3.7)	-19.3 (6.0)	59.20 (28.90)	26.5 (2.2)	61.8 (3.9)	-26.2 (9.1)	37.50 (13.60)	26.7 (1.8)	64.4 (3.0)	-19.7 (8.0)	3.57 (1.45)
12	26.4 (1.8)	67.9 (3.2)	-23.2 (6.2)	77.10 (18.40)	28.6 (3.3)	59.6 (6.1)	-20.5 (9.3)	53.40 (14.60)	28.0 (1.9)	65.5 (2.0)	-22.6 (7.4)	4.18 (0.81)
13	24.2 (1.2)	75.4 (2.6)	-18.1 (2.4)	39.50 (28.50)	25.2 (0.7)	72.2 (2.2)	-22.4 (4.9)	33.50 (12.60)	26.0 (0.8)	74.2 (3.5)	-17.4 (4.8)	3.53 (0.88)
14	24.7 (2.1)	71.2 (6.1)	-18.6 (4.4)		26.1 (2.1)	67.1 (6.5)	-26.8 (7.7)	42.10 (14.00)	27.5 (2.6)			
15	24.9 (1.9)	65.0 (9.4)	-19.0 (4.7)		26.6 (2.3)	61.6 (10.1)	-24.8 (8.6)	44.30 (13.30)	27.5 (1.5)			
16	25.5 (1.8)	76.0 (3.8)	-19.6 (5.3)		26.7 (2.5)	72.0 (5.4)	-22.8 (5.7)	45.30 (10.50)	27.6 (1.0)			
17	25.4 (2.3)	77.7 (3.3)	-19.1 (7.1)	68.00 (19.20)	27.2 (3.2)	71.3 (6.2)	-20.4 (6.0)	45.90 (12.80)	27.3 (1.7)	76.7 (2.9)	-18.3 (7.7)	2.75 (1.49)
18	25.7 (1.7)	72.1 (7.3)	-19.9 (5.2)	72.00 (16.60)	26.7 (1.8)	68.2 (6.9)	-25.0 (7.6)	47.20 (9.70)	27.0 (0.8)	71.8 (5.8)	-18.8 (6.1)	2.54 (1.09)
19	25.3 (1.9)	67.6 (6.1)	-18.6 (6.3)	70.70 (18.90)	26.6 (2.0)	64.3 (6.0)	-25.5 (7.6)	46.10 (10.90)	26.7 (1.2)	67.6 (5.1)	-19.1 (6.6)	2.52 (1.25)
20	25.3 (1.4)	72.9 (7.4)	-16.9 (6.7)	68.80 (16.10)	26.2 (1.7)	69.4 (7.7)	-23.0 (8.2)	43.70 (9.86)	26.8 (1.0)	73.0 (6.2)	-18.5 (5.6)	2.44 (1.21)
21	24.7 (2.1)	69.7 (6.0)	-16.8 (6.6)	62.70 (22.40)	26.3 (2.2)	65.8 (6.6)	-23.5 (6.9)	42.30 (13.10)	26.7 (1.1)	69.1 (4.8)	-18.3 (7.1)	2.58 (1.31)
22	25.0 (2.1)	74.2 (3.2)	-19.3 (6.1)	67.60 (23.70)	26.5 (2.2)	69.9 (4.1)	-24.0 (7.8)	44.40 (12.60)	26.8 (1.2)	73.7 (3.2)	-17.9 (6.7)	2.79 (1.30)
23	25.4 (1.5)	77.5 (3.5)	-17.7 (7.0)	70.70 (16.70)	26.5 (1.9)		-22.4 (7.3)		27.3 (1.0)	75.9 (2.7)	-18.6 (6.5)	2.92 (1.22)
24	25.3 (1.9)	75.7 (3.3)	-19.2 (4.8)	71.70 (15.40)	26.8 (2.0)		-22.4 (6.4)		27.0 (1.2)	75.1 (2.9)	-22.1 (9.3)	3.07 (1.07)
25	26.2 (1.9)	76.1 (3.8)	-22.8 (5.2)	77.80 (17.20)	27.9 (2.5)		-25.4 (6.9)		27.9 (1.6)	75.6 (3.4)	-24.1 (4.9)	3.70 (1.20)
26	26.6 (1.2)	73.9 (3.8)	-23.7 (4.6)	84.00 (10.40)	28.7 (2.6)		-19.7 (3.3)		28.1 (1.2)	73.2 (3.9)	-24.5 (4.2)	4.14 (0.86)
27												
28												
29			-23.7 (6.4)				-25.6 (6.7)				-19.5 (7.8)	
30			-23.0 (5.3)				-24.1 (7.0)				-21.6 (7.3)	
31	25.7 (2.2)	78.7 (2.6)	-21.6 (4.7)	67.00 (14.50)	27.6 (3.2)	72.7 (6.4)	-21.9 (5.3)		27.6 (1.9)	76.5 (2.7)	-19.3 (6.4)	3.67 (0.90)
Avg	25.2	70.0	-19.9	66.80	26.8	64.7	-24.1	44.10	27.1	68.9	-20.0	3.32
n	27	27	29	24	27	23	29	22	27	24	26	24
SD	0.6	6.6	2.0	8.75	0.9	6.3	1.9	4.63	0.5	6.6	2.2	0.50
Min	24.2	55.6	-23.7	39.50	25.2	52.3	-26.9	33.50	26.0	54.9	-24.5	2.44
Max	26.6	78.7	-16.8	84.00	28.7	73.4	-19.7	53.40	28.1	76.7	-16.0	4.18

Table E3. Daily means (SD) of environmental parameters at site NC4B for August, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	26.1 (1.6)	80.3 (2.2)	-24.0 (3.2)	81.30 (12.10)	27.3 (1.8)	77.0 (3.4)	-26.0 (4.9)		27.6 (1.2)	79.2 (1.9)	-23.4 (6.5)	4.12 (0.85)
2	26.0 (1.1)	82.2 (1.8)	-21.8 (3.1)	80.50 (7.54)	26.8 (1.3)	80.0 (2.4)	-23.7 (4.4)		27.3 (1.0)	80.5 (1.5)	-24.7 (2.3)	4.72 (0.30)
3	26.2 (1.3)	79.8 (3.5)	-21.1 (4.7)	72.70 (11.00)	27.3 (1.9)	76.9 (5.1)	-23.8 (7.2)		27.4 (1.4)	78.9 (2.7)	-24.9 (4.0)	4.60 (0.51)
4	25.8 (1.8)	77.9 (3.9)	-22.6 (4.6)	67.60 (16.40)	27.6 (2.5)	72.5 (7.9)	-24.0 (6.7)	49.60 (9.48)	27.4 (1.5)	76.8 (4.0)	-23.5 (8.0)	3.96 (0.93)
5												
6												
7	25.2 (1.7)	70.9 (6.2)	-19.3 (4.3)	68.50 (20.20)	26.7 (2.2)	67.3 (8.8)	-24.1 (7.6)	45.70 (11.90)	26.7 (1.5)	70.5 (6.8)	-20.8 (6.0)	4.05 (0.91)
8	25.4 (2.0)	71.6 (2.9)	-20.9 (5.1)	72.40 (21.60)	27.3 (2.8)	66.0 (6.6)	-24.7 (7.5)	46.40 (13.30)	26.9 (1.8)	71.8 (2.9)	-22.0 (6.5)	4.05 (1.00)
9	26.4 (2.2)	75.2 (2.4)	-23.3 (5.0)	78.50 (18.40)	28.6 (3.3)	68.1 (7.8)	-24.7 (6.3)	50.80 (11.00)	28.1 (2.1)	74.2 (2.8)	-23.5 (5.9)	4.17 (0.82)
10	27.6 (1.6)	74.7 (2.5)	-24.1 (4.7)	85.10 (9.64)	30.0 (3.5)	65.9 (9.3)	-24.2 (5.5)	50.40 (6.22)	28.8 (1.9)	74.0 (3.4)	-25.1 (3.7)	4.53 (0.59)
11	27.4 (1.6)	75.8 (2.4)	-24.0 (3.7)	83.80 (17.30)	29.5 (3.2)	68.4 (8.8)	-25.4 (4.6)	49.20 (11.30)	29.0 (1.8)	73.9 (3.5)	-26.1 (2.5)	4.67 (0.31)
12												
13												
14												
15												
16	25.6 (1.7)	78.3 (3.4)	-21.0 (5.0)	73.00 (20.40)	26.9 (2.0)	76.2 (6.0)	-25.2 (8.2)	49.10 (9.26)	27.5 (0.8)	76.9 (3.5)	-21.0 (5.6)	3.10 (1.35)
17	26.1 (1.9)	78.1 (3.7)	-20.5 (4.3)	74.90 (15.80)	27.6 (2.4)	74.4 (7.6)	-25.2 (7.6)	50.70 (8.84)	27.8 (1.0)	77.0 (3.2)	-21.9 (5.1)	3.27 (1.32)
18	26.7 (1.4)	77.9 (3.5)	-21.6 (4.8)	80.00 (11.30)	28.3 (2.6)	73.0 (7.8)	-21.4 (6.2)	52.70 (8.17)	28.1 (1.3)	76.7 (3.1)	-22.8 (4.0)	3.70 (0.92)
19	26.7 (1.5)	77.5 (3.4)	-22.1 (4.8)	80.30 (14.10)	28.4 (2.7)	72.9 (9.3)	-24.5 (5.3)	53.20 (8.13)	28.2 (1.3)	76.3 (3.6)	-21.9 (4.7)	3.78 (1.02)
20	26.8 (1.1)	79.4 (2.1)	-21.8 (5.1)	81.80 (11.30)	28.6 (2.6)	74.3 (8.3)	-25.3 (5.3)	54.60 (6.32)	28.5 (1.2)	77.2 (3.2)	-23.0 (4.1)	3.78 (0.92)
21	26.9 (0.9)	80.9 (1.7)	-22.1 (3.8)	78.70 (10.60)	27.7 (1.5)	79.5 (3.4)	-24.1 (4.0)	50.30 (9.74)	28.2 (0.8)	79.9 (1.2)	-23.4 (3.8)	2.90 (1.49)
22	25.1 (2.0)	80.0 (3.0)	-18.8 (4.2)	42.00 (24.10)	26.5 (2.3)	78.7 (5.5)	-19.0 (8.5)	36.30 (8.37)	27.3 (1.3)	78.3 (2.9)	-19.8 (4.8)	1.11 (0.04)
23	24.2 (1.8)	78.1 (2.2)	-18.4 (3.5)	40.40 (35.40)	25.6 (1.5)	78.5 (4.3)	-18.4 (10.7)		26.6 (1.0)	76.6 (1.9)	-17.9 (5.3)	2.55 (1.36)
24	24.8 (2.0)	75.8 (2.9)	-18.9 (4.4)	60.10 (23.80)	26.0 (2.2)	74.2 (5.4)	-22.8 (8.2)	42.20 (11.80)	26.7 (1.1)	75.5 (2.7)	-18.7 (5.5)	3.12 (1.28)
25	25.4 (2.1)	74.3 (3.5)	-20.0 (4.5)	65.70 (25.10)	26.7 (2.5)	72.3 (6.7)	-25.2 (7.3)	45.00 (12.00)	27.0 (1.2)	74.5 (3.5)	-20.9 (5.9)	3.51 (1.38)
26	25.9 (1.9)	74.6 (4.0)	-20.5 (4.4)	69.40 (23.00)	27.4 (2.7)	70.9 (9.3)	-26.0 (7.0)	47.10 (11.90)	27.3 (1.5)	75.1 (4.0)	-21.4 (6.1)	3.95 (1.14)
27	25.6 (1.6)	76.2 (3.3)	-20.3 (4.7)	72.20 (17.70)	27.6 (3.0)	70.8 (9.8)	-23.3 (7.3)	48.60 (9.78)	27.4 (1.6)	75.0 (4.3)	-21.8 (6.2)	4.07 (0.89)
28	25.6 (1.6)	79.0 (3.3)	-18.8 (4.5)	70.80 (15.90)	26.7 (2.1)	76.7 (5.9)	-21.1 (6.2)	47.40 (9.32)	27.2 (1.2)	77.9 (2.8)	-22.0 (5.2)	4.05 (0.91)
29	25.8 (1.3)	78.2 (3.9)	-19.9 (4.5)	73.90 (13.90)	26.9 (1.8)	75.1 (7.1)	-23.0 (5.6)	49.20 (7.19)	27.4 (1.0)	77.7 (2.9)	-22.5 (4.0)	4.31 (0.83)
30	26.2 (1.4)	77.4 (3.3)	-20.9 (4.8)	78.80 (13.30)	27.5 (2.3)	74.2 (7.0)	-23.3 (6.2)	51.90 (7.31)	27.6 (1.3)	77.5 (3.2)	-24.4 (4.7)	3.76 (1.68)
31	22.6 (0.6)	74.4 (2.9)	-14.7 (2.8)		23.9 (0.6)	73.6 (2.2)	-21.4 (5.4)	29.90 (4.65)	24.7 (0.5)	75.9 (1.7)	-14.9 (2.0)	2.56 (0.66)
Avg	25.8	77.1	-20.9	72.20	27.3	73.5	-23.6	47.60	27.5	76.3	-22.1	3.70
n	25	25	25	24	25	25	25	21	25	25	25	25
SD	1.0	2.7	2.1	11.10	1.2	4.0	2.0	5.58	0.8	2.3	2.4	0.80
Min	22.6	70.9	-24.1	40.40	23.9	65.9	-26.0	29.90	24.7	70.5	-26.1	1.11
Max	27.6	82.2	-14.7	85.10	30.0	80.0	-18.4	54.60	29.0	80.5	-14.9	4.72

Table E3. Daily means (SD) of environmental parameters at site NC4B for September, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	23.4 (1.5)	63.5 (5.2)	-14.7 (3.8)		24.4 (1.3)	63.6 (6.1)	-23.1 (5.6)	32.70 (9.69)	25.2 (1.0)	66.2 (6.2)	-16.1 (4.5)	2.87 (1.36)
2	23.1 (1.5)	61.4 (3.1)	-14.7 (4.5)	36.30 (18.80)	24.3 (1.1)	61.5 (3.8)	-18.9 (6.3)	31.50 (11.50)	24.9 (1.0)	64.2 (3.6)	-14.3 (3.2)	2.78 (1.34)
3	23.6 (1.5)	64.7 (2.6)	-14.6 (5.0)	41.10 (20.10)	24.4 (1.2)	66.4 (3.0)	-22.3 (6.1)	33.50 (8.92)	25.3 (1.0)	66.9 (2.3)	-15.1 (4.0)	3.06 (1.38)
4	24.2 (2.4)	58.9 (8.7)	-16.9 (5.1)	46.00 (29.60)	25.2 (1.8)	59.2 (9.5)	-21.8 (8.4)	34.30 (16.10)	25.8 (1.8)	62.3 (9.2)	-17.4 (6.1)	3.00 (1.48)
5	24.3 (2.4)	62.9 (3.8)	-16.8 (4.7)	53.50 (28.50)	26.0 (2.3)	61.4 (4.3)	-21.4 (9.6)	38.60 (17.80)	25.7 (1.9)	66.3 (4.7)	-18.1 (6.5)	3.12 (1.42)
6	24.3 (2.1)	61.9 (5.7)	-17.0 (4.5)	50.50 (26.40)	25.6 (2.1)	60.7 (7.2)	-23.3 (6.4)	40.00 (14.60)	26.1 (1.7)	63.6 (6.8)	-18.9 (6.2)	3.31 (1.40)
7	23.7 (0.8)	74.8 (2.3)	-16.9 (2.3)	44.90 (10.10)	24.8 (0.8)	74.7 (2.0)	-22.4 (4.9)	38.90 (5.18)	25.3 (0.7)	75.7 (1.8)	-17.1 (3.3)	3.37 (0.82)
8	24.1 (1.5)	72.3 (3.4)	-16.4 (2.2)	48.70 (18.70)	25.1 (1.2)	71.6 (3.8)	-21.2 (5.9)	39.10 (7.63)	26.2 (1.5)			
9	23.9 (2.2)	62.5 (7.6)	-16.2 (4.5)	46.70 (27.10)	25.0 (1.7)	61.9 (7.9)	-22.4 (7.2)	34.70 (11.80)	25.6 (1.1)			
10	22.1 (0.7)	67.9 (3.5)	-13.8 (3.6)	27.40 (9.47)	23.8 (0.5)	66.5 (2.7)	-20.7 (6.4)	26.80 (6.04)	25.2 (0.5)	69.1 (2.3)	-11.6 (2.5)	1.20 (0.24)
11	22.8 (2.0)	60.3 (4.9)	-17.0 (4.9)	40.90 (21.50)	24.5 (1.2)	59.3 (5.1)	-20.8 (7.8)	28.80 (10.80)	25.7 (1.0)	62.6 (4.3)	-14.0 (4.1)	1.54 (0.71)
12	23.9 (2.5)	66.7 (4.6)	-18.0 (4.6)	54.40 (27.60)	25.9 (2.2)	64.8 (5.6)	-21.3 (9.1)	37.40 (17.80)	26.7 (1.5)	66.8 (2.8)	-18.2 (5.9)	2.24 (1.35)
13	23.4 (2.6)	64.3 (7.2)	-18.0 (4.4)	50.20 (26.60)	25.2 (1.7)	62.1 (7.4)	-22.6 (7.4)	35.60 (14.00)	26.6 (1.3)	62.6 (6.2)	-17.4 (5.9)	2.30 (1.34)
14	23.6 (2.6)	61.5 (5.8)	-18.0 (4.6)	50.50 (27.50)	25.6 (2.2)	59.1 (7.6)	-23.2 (8.8)	37.00 (18.40)	26.5 (1.4)	61.0 (6.1)	-16.7 (6.2)	2.18 (1.28)
15	24.3 (2.4)	64.8 (4.5)	-18.5 (4.3)	57.70 (26.30)	26.0 (2.4)	63.1 (7.0)	-22.0 (8.9)	40.10 (17.70)	26.6 (1.3)	65.7 (2.8)	-18.2 (5.8)	2.28 (1.17)
16	24.3 (1.6)	71.8 (3.4)	-18.9 (3.2)	60.70 (18.70)	25.3 (1.2)	71.0 (3.3)	-21.1 (5.8)	40.50 (10.00)	26.9 (0.7)	69.5 (2.6)	-18.2 (3.8)	2.41 (0.81)
17	23.7 (1.4)	72.0 (4.5)	-16.9 (3.0)	52.90 (16.70)	24.7 (1.0)	71.9 (4.6)	-21.1 (6.5)	37.70 (7.04)	26.9 (0.6)	68.9 (3.6)	-16.7 (3.5)	2.08 (0.69)
18	23.6 (2.0)	68.4 (4.9)	-18.0 (4.2)	50.30 (21.30)	25.0 (1.4)	67.3 (4.9)	-21.3 (7.0)	32.90 (8.86)	26.5 (1.0)	67.2 (3.8)	-17.3 (5.0)	2.60 (1.34)
19	24.4 (2.3)	67.2 (5.1)	-18.2 (4.0)	56.20 (26.20)	25.7 (2.0)	66.2 (5.5)	-24.1 (7.1)	40.70 (15.80)	26.9 (1.3)	66.1 (4.7)	-18.8 (6.1)	2.89 (1.42)
20	23.6 (2.2)	63.8 (5.3)	-20.3 (6.7)	49.60 (26.70)	25.1 (1.7)	62.2 (6.2)	-21.1 (8.2)	36.10 (15.60)	26.4 (1.4)	62.8 (5.7)	-16.9 (5.8)	2.59 (1.42)
21	23.6 (2.2)	65.2 (4.5)	-17.3 (4.8)	52.20 (26.40)	25.5 (1.8)	62.7 (6.0)	-20.0 (8.6)	35.30 (14.70)	26.4 (1.5)	63.9 (4.5)	-17.4 (6.4)	2.84 (1.41)
22	24.9 (1.5)	78.8 (2.1)	-19.1 (4.2)	67.10 (17.00)	25.8 (1.1)	78.0 (1.8)	-24.5 (6.0)	41.10 (4.44)	27.0 (1.1)	76.1 (1.8)	-21.0 (4.6)	3.71 (0.93)
23	25.0 (1.4)	79.3 (2.0)	-18.8 (4.7)	66.70 (15.90)	26.1 (1.6)	77.6 (3.6)	-23.8 (7.1)	42.30 (6.23)	27.0 (1.1)	76.7 (2.2)	-19.4 (5.4)	3.63 (0.90)
24	25.4 (2.3)	76.9 (2.2)	-21.3 (5.4)	69.10 (23.10)	26.9 (2.4)	73.0 (5.1)	-24.5 (7.5)	42.00 (10.60)	27.2 (1.6)	74.8 (2.6)	-21.9 (6.3)	3.85 (1.24)
25	24.5 (2.4)	76.7 (3.7)	-19.1 (4.7)	60.90 (22.10)	25.8 (2.1)	74.2 (4.8)	-21.6 (7.0)	39.90 (9.38)	26.7 (1.4)	74.2 (3.4)	-18.3 (5.9)	3.28 (1.20)
26	22.5 (1.0)	73.4 (2.7)	-17.0 (2.8)	37.60 (8.87)	24.2 (0.5)	71.1 (2.6)	-21.6 (4.9)	29.10 (5.32)	25.2 (0.4)	71.7 (2.7)	-13.9 (1.6)	2.44 (0.68)
27	24.2 (2.1)	71.9 (7.5)	-18.5 (4.0)	53.80 (22.80)	25.3 (1.5)	69.8 (7.5)	-24.3 (5.8)	35.90 (8.14)	26.1 (1.4)	71.9 (6.7)	-17.9 (4.7)	3.41 (1.11)
28	24.0 (2.7)	63.2 (9.1)	-18.6 (5.6)	56.90 (28.90)	25.8 (2.1)	60.5 (8.7)	-20.2 (7.7)	36.10 (15.20)	26.2 (1.9)	63.5 (7.4)	-16.6 (4.9)	3.25 (1.50)
29	21.8 (2.0)	46.3 (7.7)	-14.3 (4.8)	33.00 (17.50)	24.0 (0.9)	44.3 (7.4)	-14.1 (9.3)	22.70 (13.60)	24.1 (1.1)	49.9 (6.3)	-12.3 (2.3)	1.96 (1.00)
30	20.8 (2.0)	52.5 (6.7)	-12.1 (5.9)	25.80 (14.10)	23.6 (0.8)	49.8 (7.0)	-12.1 (10.0)	17.70 (12.00)	23.3 (0.8)	56.8 (5.9)	-11.0 (2.9)	1.40 (0.80)
Avg	23.7	66.5	-17.2	49.70	25.2	65.2	-21.4	35.30	26.0	66.7	-16.8	2.70
n	30	30	30	29	30	30	30	30	30	28	28	28
SD	0.9	7.3	2.0	10.70	0.8	7.4	2.6	5.65	0.9	5.9	2.5	0.68
Min	20.8	46.3	-21.3	25.80	23.6	44.3	-24.5	17.70	23.3	49.9	-21.9	1.20
Max	25.4	79.3	-12.1	69.10	26.9	78.0	-12.1	42.30	27.2	76.7	-11.0	3.85

Table E3. Daily means (SD) of environmental parameters at site NC4B for October, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	21.9 (2.2)	54.5 (6.7)	-21.5 (12.4)	30.70 (17.60)	23.9 (1.4)	53.2 (7.2)	-23.7 (16.0)	22.30 (12.40)	23.9 (1.3)			
2	22.9 (1.3)	64.5 (7.0)	-26.9 (9.5)	37.60 (16.90)	23.9 (1.6)	62.3 (6.4)	-29.7 (12.2)	25.80 (8.29)	24.8 (1.2)			
3	23.9 (2.1)	64.1 (8.5)	-31.8 (4.2)	50.00 (20.10)	25.6 (1.9)	61.6 (9.5)	-35.9 (6.9)	33.70 (9.03)	26.0 (2.0)			
4	22.4 (1.5)	54.5 (9.7)	-29.1 (7.7)	33.80 (13.00)	23.9 (1.2)	53.0 (9.6)	-33.5 (8.7)	24.20 (4.50)	24.3 (1.0)			
5	21.5 (0.5)	67.4 (4.5)	-27.0 (7.8)	25.90 (5.69)	23.3 (0.4)	65.5 (4.4)	-35.1 (8.8)	22.00 (2.71)	24.1 (1.4)			
6	22.4 (0.8)	73.3 (1.7)	-29.9 (5.6)	29.40 (5.31)	24.1 (0.6)	70.1 (1.6)	-35.8 (7.0)	25.30 (3.55)	25.5 (0.4)			
7	23.8 (2.3)	64.8 (12.0)	-31.8 (3.9)	47.90 (21.90)	25.5 (2.3)	61.8 (11.6)	-34.7 (6.3)	31.20 (7.22)	26.6 (1.4)			
8	22.6 (1.2)	50.9 (8.6)	-24.2 (10.2)	27.20 (11.00)	23.5 (1.1)	49.0 (8.2)	-26.4 (10.4)	22.00 (6.62)	25.6 (0.6)			
9	24.9 (2.1)	68.6 (5.2)	-28.9 (8.7)	54.70 (27.60)	26.3 (2.8)	65.9 (5.9)	-29.6 (10.0)	31.70 (11.90)	27.4 (1.7)			
10	25.0 (1.6)	75.5 (2.6)	-32.4 (2.2)	54.70 (17.20)	26.4 (1.8)	73.0 (5.0)	-33.0 (4.6)	32.90 (4.05)	27.8 (0.9)			
11	22.6 (0.7)	65.7 (2.6)	-22.7 (8.0)	22.20 (6.18)	23.7 (0.6)	63.3 (2.9)	-27.8 (11.6)	21.60 (3.16)	25.6 (0.3)			
12	22.6 (0.5)	66.6 (1.4)	-17.6 (5.0)	18.00 (3.78)	23.0 (0.4)	64.8 (2.0)	-23.3 (11.2)	19.30 (4.17)	24.9 (0.3)			
13	23.1 (1.2)	63.1 (6.5)	-24.2 (8.6)	28.30 (15.10)	23.7 (1.3)	61.3 (6.4)	-25.7 (12.9)	24.50 (8.77)	25.2 (0.8)	62.4 (4.3)	-11.8 (4.9)	1.27 (0.72)
14	22.8 (0.6)	63.4 (2.0)	-8.8 (8.2)	11.10 (8.01)	22.5 (0.7)	60.5 (2.6)	-12.0 (9.9)	13.90 (8.06)	24.3 (0.3)	60.0 (1.5)	-9.8 (4.4)	0.85 (0.36)
15	22.8 (0.5)	66.1 (2.8)	-7.7 (6.4)	11.60 (7.10)	22.1 (0.5)	65.3 (4.2)	-10.6 (8.1)	13.70 (7.55)	24.1 (0.2)	62.4 (1.4)	-9.5 (5.1)	0.81 (0.36)
16	23.9 (0.7)	63.4 (3.3)	-2.7 (4.8)	8.60 (8.03)	21.9 (1.0)	62.1 (3.8)	-7.1 (7.8)	12.30 (8.16)	24.0 (0.2)	61.7 (1.4)	-11.0 (4.2)	0.86 (0.33)
17	24.8 (0.6)	57.1 (5.6)	-2.7 (4.5)	8.87 (7.95)	22.3 (0.7)	54.3 (5.8)	-13.7 (11.8)	14.40 (8.60)	23.9 (0.3)	56.3 (3.7)	-10.5 (5.0)	0.83 (0.39)
18	24.7 (0.7)	59.8 (3.9)	0.4 (3.2)	4.14 (6.43)	21.8 (0.6)	56.4 (4.4)	-6.1 (6.8)	9.40 (8.37)	23.6 (0.3)	56.9 (1.7)	-7.9 (6.1)	0.64 (0.45)
19	24.8 (0.6)	55.3 (7.1)	-1.7 (3.8)	8.17 (8.25)	22.0 (1.0)	51.2 (7.8)	-14.8 (14.9)	13.60 (9.57)	23.4 (0.3)	52.7 (4.7)	-10.8 (5.5)	0.79 (0.41)
20	24.1 (0.9)	52.6 (10.5)	-6.3 (8.2)	15.60 (15.00)	22.8 (1.8)	51.0 (10.0)	-25.7 (24.5)	15.60 (10.50)	23.6 (0.8)	51.4 (7.1)	-14.2 (6.8)	1.11 (0.71)
21	23.6 (1.0)	50.0 (10.1)	-7.9 (7.7)	25.30 (22.00)	23.1 (1.9)	50.6 (9.9)	-25.6 (19.8)	19.20 (11.20)	24.0 (1.2)	51.8 (7.9)	-15.9 (8.4)	1.66 (1.28)
22	24.4 (1.4)	58.6 (6.9)	-9.7 (7.8)	32.40 (27.50)	24.0 (2.0)	57.7 (6.3)	-30.8 (17.5)	24.50 (13.80)	24.7 (1.9)	57.9 (5.0)	-24.0 (15.7)	2.02 (1.34)
23	24.9 (1.9)	59.7 (8.8)	-13.7 (5.4)	51.70 (29.40)	25.4 (2.0)	60.1 (8.7)	-37.9 (12.2)	27.00 (7.13)	25.9 (2.1)	61.1 (7.4)	-32.8 (16.0)	2.72 (1.19)
24	25.5 (2.3)	64.1 (6.1)	-16.9 (1.6)	65.00 (21.10)	26.5 (1.5)	65.4 (4.4)	-44.1 (5.1)	30.50 (5.73)	27.0 (2.1)	65.2 (5.7)	-41.2 (10.8)	3.39 (0.66)
25	23.2 (0.6)	56.9 (5.5)	-9.4 (6.9)	20.70 (10.80)	23.1 (0.9)	55.8 (5.6)	-28.3 (13.8)	20.60 (6.05)	23.6 (0.6)	56.8 (4.8)	-15.5 (3.6)	1.47 (0.47)
26	23.8 (0.7)	65.1 (5.6)	-4.4 (3.9)	12.90 (7.68)	22.2 (0.4)	63.3 (5.2)	-18.2 (9.7)	16.80 (6.22)	23.0 (0.3)	62.4 (4.2)	-14.0 (1.2)	1.21 (0.12)
27	23.6 (0.5)	69.2 (1.5)	-8.4 (3.2)	18.70 (4.15)	22.8 (0.4)	68.4 (1.6)	-32.1 (12.8)	20.10 (4.40)	24.4 (1.2)			
28	24.6 (1.8)	65.7 (11.6)	-16.4 (3.7)	53.80 (21.30)	25.7 (1.8)	65.8 (11.1)	-43.0 (12.0)	25.90 (6.29)	27.0 (0.9)			
29	23.0 (0.4)	60.8 (4.1)	-10.6 (5.5)	24.40 (10.00)	23.1 (0.8)	61.5 (4.1)	-30.3 (12.1)	21.60 (5.10)	25.7 (0.9)			
30	23.1 (0.8)	66.5 (2.5)	-8.8 (4.4)	21.20 (6.88)	22.9 (0.5)	66.6 (2.7)	-28.3 (11.1)	22.50 (5.91)	24.6 (0.2)	64.0 (1.8)	-13.0 (4.7)	0.82 (0.33)
31	23.5 (0.8)	73.6 (3.0)	-13.4 (3.6)	40.20 (16.10)	24.7 (1.2)	73.4 (2.6)	-33.6 (7.3)	28.10 (3.06)	25.7 (1.1)	71.9 (2.9)	-28.1 (10.8)	1.20 (0.20)
Avg	23.6	62.6	-16.0	28.90	23.7	61.1	-27.0	22.10	25.0	59.7	-16.9	1.35
n	31	31	31	31	31	31	31	31	31	16	16	16
SD	1.0	6.4	10.2	16.20	1.4	6.4	9.7	6.30	1.3	5.2	9.3	0.74
Min	21.5	50.0	-32.4	4.14	21.8	49.0	-44.1	9.40	23.0	51.4	-41.2	0.64
Max	25.5	75.5	0.4	65.00	26.5	73.4	-6.1	33.70	27.8	71.9	-7.9	3.39

Table E3. Daily means (SD) of environmental parameters at site NC4B for November, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	22.8 (0.7)	70.4 (6.3)	-8.9 (6.3)	26.70 (18.40)	22.9 (2.7)	70.8 (5.1)	-22.4 (16.5)	21.70 (10.60)	25.1 (0.8)	69.0 (6.1)	-20.5 (11.7)	1.00 (0.42)
2	23.2 (0.8)	63.5 (3.3)	-2.2 (3.4)	9.19 (8.10)	21.5 (1.8)	63.5 (4.2)	-8.6 (9.1)	12.90 (8.62)	24.4 (0.2)	62.2 (1.4)	-8.3 (6.0)	0.57 (0.43)
3	23.9 (0.9)	56.9 (8.5)	-5.5 (6.4)	15.70 (14.10)	23.2 (1.1)	55.7 (8.4)	-16.5 (13.3)	14.80 (9.04)	24.6 (0.3)	58.3 (4.6)	-10.7 (6.9)	0.66 (0.43)
4	23.8 (0.9)	55.1 (5.5)	-5.3 (6.4)	16.10 (15.40)	23.0 (1.0)	54.7 (5.9)	-15.0 (13.1)	14.80 (9.19)	24.6 (0.4)	56.1 (3.0)	-10.7 (6.3)	0.73 (0.45)
5	22.6 (1.4)	52.8 (10.6)	-6.1 (6.1)	18.40 (15.30)	23.2 (1.1)	49.5 (11.8)	-16.4 (13.9)	14.70 (9.48)	24.5 (0.4)	53.3 (8.2)	-9.6 (5.7)	0.70 (0.44)
6	21.4 (1.2)	48.9 (7.6)	-5.8 (6.4)	16.70 (13.60)	22.7 (0.9)	47.8 (8.2)	-10.8 (12.1)	11.30 (9.82)	24.1 (0.3)	48.9 (5.7)	-8.9 (6.1)	0.61 (0.44)
7	21.0 (1.0)	50.8 (9.4)	-15.0 (13.3)	19.30 (12.30)	23.0 (1.0)	51.1 (9.7)	-12.6 (14.5)	12.10 (10.20)	24.0 (0.4)	49.5 (6.1)	-11.0 (6.2)	0.72 (0.46)
8	21.8 (1.8)	52.8 (10.5)	-21.1 (12.4)	28.50 (18.40)	23.8 (1.4)	51.4 (10.3)	-16.8 (15.4)	16.30 (11.40)	24.5 (1.2)	51.7 (6.5)	-16.7 (10.8)	0.93 (0.47)
9	21.9 (1.7)	59.9 (4.7)	-24.5 (11.7)	30.70 (16.10)	24.0 (1.3)	59.1 (5.2)	-20.6 (14.9)	18.80 (10.10)	24.5 (1.2)	58.6 (3.7)	-17.6 (9.6)	1.04 (0.44)
10	21.8 (1.0)	67.3 (3.5)	-32.0 (2.0)	31.70 (5.05)	24.1 (0.7)	66.7 (3.3)	-24.8 (11.6)	22.30 (6.09)	24.6 (0.8)	65.7 (2.9)	-19.5 (5.8)	1.26 (0.18)
11	21.2 (0.6)	69.9 (1.6)	-23.7 (11.1)	23.70 (6.65)	22.8 (0.6)	69.4 (3.1)	-14.2 (10.0)	15.60 (8.13)	23.8 (0.3)	66.8 (1.4)	-13.0 (1.8)	1.09 (0.10)
12	21.3 (0.4)	65.9 (2.1)	-8.7 (6.5)	12.40 (7.23)	22.1 (0.6)	67.1 (3.7)	-7.0 (5.9)	7.83 (8.09)	23.3 (0.2)	63.4 (1.4)	-4.2 (5.6)	0.64 (0.45)
13	21.6 (0.4)	65.4 (2.3)	-8.6 (4.8)	12.60 (6.36)	22.2 (0.6)	65.4 (3.3)	-7.5 (6.3)	8.77 (8.21)	23.1 (0.2)	63.0 (0.8)	-4.5 (5.8)	0.61 (0.46)
14	21.1 (0.5)	66.6 (1.4)	-19.9 (10.4)	20.80 (6.17)	22.9 (0.5)	64.7 (3.0)	-10.6 (7.1)	12.60 (7.35)	23.0 (0.2)	63.9 (1.3)	-10.4 (3.7)	0.90 (0.29)
15	21.3 (1.2)	64.6 (5.0)	-20.9 (11.3)	23.60 (10.20)	23.5 (1.3)	62.6 (5.4)	-20.0 (19.6)	14.10 (8.61)	23.1 (0.6)	62.1 (3.1)	-14.2 (5.9)	1.14 (0.65)
16	21.5 (1.4)	60.6 (6.7)	-19.8 (11.7)	25.80 (14.60)	23.8 (1.3)	58.8 (6.7)	-18.3 (15.0)	16.10 (10.70)	23.1 (0.9)	58.9 (4.9)	-14.8 (8.5)	1.21 (0.84)
17	21.5 (1.1)	64.5 (3.3)	-17.0 (11.7)	18.70 (8.24)	23.3 (0.6)	60.0 (4.5)	-14.5 (11.9)	13.60 (8.58)	22.8 (0.3)	60.2 (2.2)	-12.9 (4.9)	0.91 (0.37)
18	21.6 (0.5)	69.5 (3.6)	-25.6 (10.6)	24.90 (7.47)	23.4 (0.6)	68.7 (5.5)	-23.8 (12.3)	19.40 (7.15)	23.2 (0.5)	67.5 (3.8)	-14.0 (2.8)	1.21 (0.30)
19	22.2 (1.1)	73.8 (3.3)	-30.4 (5.1)	33.70 (10.90)	24.6 (0.6)	69.8 (2.9)	-13.7 (3.9)	23.50 (6.63)	24.4 (0.8)	71.5 (2.5)	-20.3 (7.6)	1.99 (0.93)
20	21.2 (0.8)	65.1 (5.8)	-24.5 (7.6)	24.70 (6.99)	23.8 (0.6)	61.8 (5.0)	-12.6 (5.3)	16.70 (6.82)	23.3 (0.4)	63.1 (4.1)	-12.7 (2.2)	1.23 (0.19)
21	20.6 (1.0)	60.8 (4.6)	-15.0 (7.2)	16.30 (6.40)	22.9 (0.6)	56.5 (5.4)	-8.7 (6.9)	10.90 (8.08)	22.7 (0.2)	58.1 (3.4)	-11.6 (4.9)	0.82 (0.37)
22	21.0 (1.0)	61.4 (4.1)	-13.6 (7.7)	15.00 (7.22)	22.7 (0.6)	57.8 (4.6)	-7.8 (7.2)	10.00 (8.20)	22.8 (0.2)	57.7 (2.6)	-10.9 (4.9)	0.82 (0.38)
23	21.1 (0.6)	70.8 (2.5)	-17.5 (6.0)	18.30 (4.91)	22.8 (0.6)	68.4 (5.3)	-9.6 (7.5)	11.10 (7.75)	22.9 (0.2)	65.9 (2.5)	-12.9 (1.7)	1.03 (0.07)
24	20.9 (0.5)	68.6 (2.0)	-18.3 (3.5)	18.20 (2.62)	23.0 (0.6)	64.7 (3.2)	-10.1 (7.5)	11.20 (7.84)	23.2 (0.5)			
25	20.4 (0.6)	67.2 (1.5)	-17.1 (5.2)	17.40 (4.22)	22.8 (0.7)	64.1 (3.5)	-9.2 (7.6)	10.50 (8.04)	22.9 (1.6)			
26	20.5 (0.8)	65.9 (3.1)	-15.2 (9.3)	15.20 (7.95)	22.9 (0.9)	62.9 (4.1)	-8.7 (7.7)	9.18 (8.07)	24.0 (0.6)	64.2 (2.4)	-3.8 (5.0)	0.23 (0.35)
27	20.5 (1.0)	54.7 (5.2)	-13.2 (9.4)	12.80 (8.41)	20.9 (3.3)	52.9 (6.6)	-8.1 (7.5)	6.67 (7.94)	23.9 (0.3)	58.1 (2.0)	-2.9 (4.1)	0.23 (0.29)
28	20.7 (1.0)	53.0 (5.5)	-10.6 (9.9)	11.60 (9.01)	22.5 (1.2)	52.2 (6.6)	-6.9 (8.5)	6.88 (7.72)	24.1 (0.3)	56.2 (2.0)	-3.8 (4.6)	0.23 (0.34)
29	21.3 (1.3)	51.1 (8.1)	-18.9 (11.5)	20.50 (13.00)	23.2 (1.0)	50.2 (8.4)	-11.9 (9.8)	12.60 (9.60)	24.3 (0.4)	54.7 (5.6)	-8.2 (7.4)	0.40 (0.45)
30	21.2 (1.1)	55.5 (4.2)	-20.9 (11.3)	20.30 (9.16)	23.3 (0.9)	53.1 (4.7)	-13.2 (8.8)	13.70 (8.53)	24.5 (0.2)	58.6 (3.2)	-7.4 (6.6)	0.45 (0.44)
Avg	21.6	61.8	-16.2	20.00	23.0	60.1	-13.4	13.70	23.8	60.3	-11.3	0.83
n	30	30	30	30	30	30	30	30	30	28	28	28
SD	0.9	6.9	7.5	6.17	0.7	6.8	5.1	4.29	0.7	5.6	4.9	0.38
Min	20.4	48.9	-32.0	9.19	20.9	47.8	-24.8	6.67	22.7	48.9	-20.5	0.23
Max	23.9	73.8	-2.2	33.70	24.6	70.8	-6.9	23.50	25.1	71.5	-2.9	1.99

Table E3. Daily means (SD) of environmental parameters at site NC4B for December, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}	T, °C	RH, %	ΔP, Pa	Q, dsm^3s^{-1}
1	21.1 (1.0)	55.8 (5.9)	-9.5 (9.0)	10.60 (8.56)	22.6 (0.9)	54.0 (7.4)	-7.9 (9.7)	7.87 (8.07)	24.4 (0.3)	56.5 (4.3)	-5.6 (5.5)	0.30 (0.38)
2	21.9 (0.9)	68.5 (8.0)	-20.3 (13.1)	19.50 (10.20)	22.9 (1.0)	66.3 (8.4)	-12.7 (9.1)	15.60 (8.97)	24.7 (0.3)	64.5 (7.0)	-11.1 (6.8)	0.71 (0.47)
3	21.7 (0.8)	66.6 (5.0)	-20.2 (10.3)	20.30 (7.84)	23.5 (0.8)	59.9 (6.7)	-14.8 (7.7)	16.70 (7.83)	24.5 (0.2)	61.7 (5.5)	-11.4 (5.7)	0.75 (0.42)
4	21.9 (0.7)	60.7 (2.7)	-7.2 (6.8)	11.00 (8.45)	22.4 (0.8)	57.9 (4.1)	-6.1 (7.6)	8.92 (8.25)	24.2 (0.2)	56.1 (1.7)	-7.8 (6.1)	0.49 (0.44)
5	21.2 (1.2)	65.4 (4.5)	-5.7 (7.3)	9.93 (8.61)	21.7 (1.5)	63.3 (5.1)	-6.0 (7.1)	7.96 (8.16)	24.0 (0.3)	59.3 (2.1)	-6.1 (6.6)	0.45 (0.44)
6	21.6 (0.9)	62.5 (2.9)	-2.4 (5.9)	5.23 (7.62)	21.9 (1.3)	61.5 (5.3)	-2.8 (7.2)	4.84 (7.39)	23.8 (0.3)	54.9 (2.3)	-6.7 (6.0)	0.40 (0.42)
7	21.8 (0.9)	63.2 (3.6)	-4.5 (6.6)	7.80 (8.56)	22.1 (1.0)	61.6 (5.5)	-4.1 (7.6)	6.14 (7.85)	23.5 (0.2)	55.0 (1.5)	-7.9 (6.2)	0.47 (0.45)
8	22.1 (0.8)	62.9 (2.3)	-3.3 (5.6)	6.06 (7.94)	21.5 (1.1)	59.9 (3.8)	-3.9 (7.7)	6.88 (8.08)	23.4 (0.3)	55.7 (1.6)	-8.2 (6.0)	0.52 (0.45)
9	22.7 (0.6)	71.1 (3.9)	-29.3 (10.5)	30.70 (10.80)	24.1 (1.0)	67.7 (4.4)	-17.5 (6.8)	23.90 (9.14)	24.7 (0.9)	67.9 (3.6)	-15.8 (4.5)	1.30 (0.36)
10	21.7 (0.6)	47.7 (3.3)	-14.9 (10.4)	14.60 (8.31)	22.5 (1.4)	48.4 (5.7)	-10.0 (6.9)	10.60 (7.99)	23.2 (0.3)	49.3 (3.5)	-9.2 (5.4)	0.73 (0.42)
11	20.3 (1.1)	54.6 (4.5)	-2.3 (5.0)	4.36 (7.18)	19.0 (1.5)	53.7 (5.8)	-3.8 (6.8)	6.03 (7.79)	22.9 (0.3)	47.7 (2.7)	-6.2 (6.2)	0.48 (0.44)
12	21.4 (1.1)	59.7 (4.9)	-1.7 (4.8)	4.37 (7.29)	19.6 (1.8)	56.1 (6.5)	-2.7 (7.3)	5.68 (7.66)	22.6 (0.3)	49.7 (2.4)		
13	22.2 (0.7)	67.7 (6.0)			22.3 (1.4)	64.5 (7.0)	-6.6 (8.0)	8.33 (8.16)	22.9 (0.4)	62.0 (6.3)		
14	21.3 (1.8)	68.0 (2.7)	-5.6 (6.0)	9.62 (8.48)	22.5 (0.9)	64.7 (3.8)	-5.5 (8.3)	7.72 (8.17)	22.5 (0.3)	61.0 (1.2)		
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Avg	21.6	62.5	-9.8	11.85	22.0	60.0	-7.5	9.80	23.7	57.2	-8.7	0.60
n	14	14	13	13	14	14	14	14	14	14	11	11
SD	0.6	6.4	8.7	7.69	1.3	5.5	4.6	5.35	0.8	5.9	3.0	0.27
Min	20.3	47.7	-29.3	4.36	19.0	48.4	-17.5	4.84	22.5	47.7	-15.8	0.30
Max	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?

Table E4. Particulate matter concentrations.

Table E4. Daily means (SD) of PM concentration at site NC4B for December, 2007.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15		463 (198)	604 (248)									
16												
17		592 (277)	696 (337)									
18		519 (250)	651 (274)									
19		457 (334)	563 (325)									
20		464 (283)	573 (275)									
21		395 (288)	506 (330)									
22		342 (245)	436 (256)									
23		267 (252)	337 (236)									
24		409 (328)	537 (325)									
25		411 (410)	542 (442)									
26		419 (308)	473 (467)									
27		462 (323)	564 (306)									
28		330 (183)	441 (206)									
29		159 (92)	237 (106)									
30		193 (85)	263 (108)									
31		385 (166)	482 (192)									
Avg		392.0	494.0									
n	0	16	16	0	0	0	0	0	0	0	0	0
SD		110.0	125.0									
Min		159.0	237.0									
Max		592.0	696.0									

Table E4. Daily means (SD) of PM concentration at site NC4B for January, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1		426 (210)	561 (219)	666 (209)								
2		530 (253)	672 (340)	792 (308)								
3		536 (252)	595 (282)	801 (302)								
4		502 (269)	612 (292)	817 (297)								
5		463 (292)	557 (332)	721 (315)								
6		392 (252)	423 (281)	562 (252)								
7		295 (299)	329 (246)	455 (246)								
8		209 (187)	294 (220)									
9		206 (193)	269 (219)									
10		363 (202)	388 (210)									
11		309 (153)	338 (110)	135 (61)								
12		473 (229)	531 (189)	194 (65)								
13		508 (227)	626 (269)	300 (83)								
14		565 (294)	599 (274)	407 (189)								
15		631 (280)	677 (262)	445 (103)								
16												
17										1130 (751)	1250 (664)	976 (419)
18										969 (597)	1120 (538)	1060 (491)
19										911 (590)	1060 (440)	1050 (504)
20										984 (597)	1150 (574)	1130 (548)
21										1100 (749)	1200 (910)	1360 (707)
22										988 (810)	1050 (749)	1390 (728)
23										932 (697)	914 (725)	1870 (1350)
24												
25												
26												
27												
28												
29												
30												
31												
Avg		427.0	498.0	525.0						1000.0	1110.0	1260.0
n	0	15	15	12	0	0	0	0	0	7	7	7
SD		124.0	138.0	229.0						76.9	103.0	288.0
Min		206.0	269.0	135.0						911.0	914.0	976.0
Max		631.0	677.0	817.0						1130.0	1250.0	1870.0

Table E4. Daily means (SD) of PM concentration at site NC4B for February, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1												
2		46 (43)	52 (32)	53 (46)								
3		52 (49)	55 (36)	59 (56)								
4		48 (51)	50 (33)	50 (71)								
5		111 (90)	148 (115)									
6		262 (154)	284 (164)									
7		456 (267)	523 (213)	332 (94)								
8		511 (267)	623 (238)	346 (108)								
9		517 (256)	580 (307)	360 (129)								
10		556 (300)	624 (341)	386 (196)								
11		560 (369)	678 (433)	553 (219)								
12												
13												
14												
15		490 (244)	634 (279)	505 (269)								
16		468 (224)	600 (213)	462 (223)								
17		416 (271)	554 (376)	410 (267)								
18		275 (146)	340 (161)	227 (178)								
19		505 (267)	641 (271)	558 (284)								
20		473 (332)	599 (374)	529 (234)								
21												
22												
23		349 (330)	462 (268)	569 (220)								
24		379 (237)	607 (334)	802 (275)								
25		575 (1000)	653 (439)	756 (295)								
26		446 (618)	513 (265)									
27		512 (215)	629 (276)									
28		479 (287)	767 (292)									
29		473 (305)	686 (293)									
Avg		389.0	491.0	409.0								
n	0	23	23	17	0	0	0	0	0	0	0	0
SD		169.0	217.0	216.0								
Min		46.3	50.3	50.3								
Max		575.0	767.0	802.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for March, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1		428 (293)	549 (276)	187 (172)								
2		496 (267)	589 (297)	206 (171)								
3		471 (520)	483 (331)	193 (167)								
4		299 (234)	328 (224)	186 (118)								
5		327 (245)	396 (264)	287 (153)								
6												
7												
8		240 (238)	382 (258)	230 (230)								
9		463 (370)	721 (431)	417 (255)								
10		412 (333)	634 (470)	396 (286)								
11		389 (282)	587 (356)	423 (238)								
12		468 (228)	577 (273)	488 (228)								
13		386 (302)	499 (337)	430 (221)								
14		375 (227)	467 (271)	423 (193)								
15		304 (192)	425 (252)	414 (182)								
16		323 (136)	443 (222)	487 (175)								
17		479 (293)	612 (340)	696 (288)								
18		407 (322)	550 (373)	650 (312)								
19		261 (192)	390 (282)	437 (297)								
20		452 (186)	516 (224)	590 (268)								
21		551 (270)	660 (268)	651 (230)								
22		405 (249)	523 (291)	539 (243)								
23		482 (242)	628 (279)	731 (246)								
24		535 (242)	633 (301)	815 (330)								
25		518 (273)	666 (319)									
26		476 (368)	580 (368)									
27		369 (330)	493 (387)									
28		266 (255)	362 (280)	117 (128)								
29		290 (252)	472 (272)	174 (118)								
30												
31												
Avg		403.0	525.0	424.0								
n	0	27	27	24	0	0	0	0	0	0	0	0
SD		87.7	102.0	194.0								
Min		240.0	328.0	117.0								
Max		551.0	721.0	815.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for April, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1												
2		343 (111)	426 (151)	163 (92)								
3		456 (231)	589 (482)	305 (118)								
4		290 (206)	377 (245)	187 (121)								
5		197 (106)	303 (153)	129 (93)								
6		263 (95)	410 (153)	210 (155)								
7		396 (179)	529 (233)	281 (157)								
8		400 (191)		326 (200)								
9		352 (253)		300 (180)								
10		285 (240)		288 (197)								
11		215 (198)		219 (215)								
12		254 (186)		229 (165)								
13		410 (190)		400 (166)								
14		531 (260)		632 (217)								
15		465 (202)		547 (186)								
16		440 (267)	610 (326)	522 (182)								
17		324 (250)	531 (367)	407 (250)								
18		262 (231)	399 (267)	321 (337)								
19		228 (152)	361 (209)	295 (202)								
20		185 (95)	329 (150)	288 (162)								
21		230 (102)	411 (175)	353 (270)								
22		174 (96)	344 (183)									
23		181 (100)	299 (174)									
24		218 (115)	349 (167)									
25		226 (126)	329 (176)									
26		191 (130)	277 (172)									
27		180 (103)	253 (154)									
28	18 (5)	173 (94)	281 (130)									
29	26 (7)	370 (133)	558 (217)									
30	26 (10)	428 (243)	641 (368)									
Avg	23.5	299.0	410.0	320.0								
n	3	29	21	20	0	0	0	0	0	0	0	0
SD	3.9	104.0	116.0	126.0								
Min	18.1	173.0	253.0	129.0								
Max	26.4	531.0	641.0	632.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for May, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	29 (49)	354 (253)	506 (417)									
2	29 (7)	246 (166)	346 (219)									
3	30 (13)	193 (161)	283 (186)									
4	26 (6)	178 (144)	257 (198)									
5	25 (8)	248 (134)	321 (153)									
6	28 (7)	318 (267)	389 (211)									
7												
8												
9												
10	25 (8)	273 (521)	281 (403)									
11	16 (8)	330 (226)	398 (265)									
12	14 (14)	413 (187)	503 (213)									
13	16 (11)	405 (302)	513 (292)									
14	22 (5)	319 (294)	402 (366)									
15	21 (5)	258 (178)	303 (211)									
16	20 (9)	198 (128)	224 (112)									
17	15 (8)	398 (257)	423 (235)									
18	28 (23)	347 (243)	372 (220)									
19	27 (9)	291 (198)	362 (199)									
20	37 (15)	234 (188)	299 (272)									
21	27 (7)	235 (188)	321 (189)									
22	27 (7)	244 (212)	390 (250)									
23	23 (8)	239 (210)	414 (258)									
24	14 (9)	261 (162)	370 (198)									
25	15 (8)	233 (233)	356 (272)									
26	14 (6)	226 (254)	357 (292)									
27	14 (8)	191 (256)	286 (259)									
28	6 (7)	223 (88)	291 (128)									
29	9 (5)	278 (165)	359 (248)									
30	10 (6)	172 (170)	220 (181)									
31	16 (8)	92 (55)	105 (86)									
Avg	20.7	264.0	345.0									
n	28	28	28	0	0	0	0	0	0	0	0	0
SD	7.5	74.2	88.0									
Min	5.6	92.2	105.0									
Max	37.1	413.0	513.0									

Table E4. Daily means (SD) of PM concentration at site NC4B for June, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	17 (8)	74 (32)	109 (71)									
2	16 (8)	123 (69)	141 (80)									
3	22 (8)	141 (130)	164 (125)									
4	29 (23)	82 (74)	114 (97)									
5	26 (10)	60 (47)	72 (58)									
6	24 (8)	56 (23)	71 (46)									
7	20 (5)	52 (27)	55 (40)									
8	26 (7)	58 (30)	62 (56)									
9	38 (13)	74 (43)	80 (76)									
10	33 (8)	67 (38)	90 (50)									
11	50 (38)	92 (76)	143 (125)									
12	67 (59)	130 (74)	155 (91)									
13	23 (9)	137 (102)	125 (86)									
14	22 (8)	136 (91)	149 (62)									
15	16 (8)	102 (71)	144 (55)									
16	20 (8)	105 (70)	151 (76)									
17	19 (5)	77 (36)	136 (59)									
18	20 (6)	221 (148)	237 (147)									
19	39 (32)	267 (253)	272 (214)									
20	27 (9)	200 (152)	228 (98)									
21	16 (10)	173 (160)	258 (120)									
22	20 (7)	98 (64)	177 (89)									
23	19 (7)	108 (82)	185 (84)									
24	25 (7)	145 (85)	252 (94)									
25												
26												
27												
28	25 (5)	72 (27)	194 (132)									
29	25 (16)	75 (30)	174 (75)									
30	22 (10)	58 (31)	184 (77)									
Avg	26.2	111.0	153.0									
n	27	27	27	0	0	0	0	0	0	0	0	0
SD	11.0	53.4	60.2									
Min	15.9	52.1	54.7									
Max	67.0	267.0	272.0									

Table E4. Daily means (SD) of PM concentration at site NC4B for July, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	24 (42)	140 (142)	244 (156)									
2	23 (11)	205 (196)	283 (198)									
3	25 (10)	132 (110)	258 (123)									
4	21 (9)	68 (28)	181 (81)									
5	14 (6)	49 (31)	182 (107)									
6	19 (12)	53 (33)	244 (137)									
7	18 (15)	65 (51)	211 (103)									
8	13 (8)	27 (22)	169 (81)									
9	12 (6)	44 (40)	149 (92)									
10	16 (7)	39 (25)	206 (321)									
11	14 (6)	33 (20)	111 (73)									
12	26 (7)	70 (46)	201 (110)									
13	26 (6)	101 (92)	244 (142)									
14	20 (9)	69 (49)	164 (96)									
15	18 (8)	44 (28)	189 (115)									
16	29 (11)	87 (81)	248 (174)									
17	25 (18)	150 (136)	318 (164)									
18	7 (5)	66 (43)	263 (117)									
19	9 (8)	48 (21)	158 (93)									
20	16 (9)	44 (16)	143 (78)									
21	35 (9)	69 (23)	196 (160)									
22	43 (32)	67 (34)	209 (152)									
23	19 (12)	57 (35)	128 (82)									
24	20 (7)	54 (19)	146 (90)									
25	20 (8)	62 (31)	161 (95)									
26	21 (8)	64 (29)	140 (110)									
27	20 (6)	48 (19)	81 (70)									
28	21 (9)	47 (23)	73 (103)									
29	24 (22)	60 (29)	91 (105)									
30	18 (12)	59 (17)	62 (28)									
31	22 (10)	48 (12)	55 (20)									
Avg	20.5	69.9	178.0									
n	31	31	31	0	0	0	0	0	0	0	0	0
SD	7.0	37.8	65.9									
Min	7.1	26.6	54.9									
Max	43.3	205.0	318.0									

Table E4. Daily means (SD) of PM concentration at site NC4B for August, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	22 (8)	57 (18)	65 (25)									
2	26 (6)	60 (22)	68 (33)									
3	18 (6)	59 (26)	75 (39)									
4	27 (6)	61 (19)	102 (63)									
5	35 (26)	51 (37)	69 (75)									
6	37 (13)	56 (28)	59 (47)									
7	19 (10)	58 (24)	75 (43)									
8	17 (8)	60 (45)	102 (39)									
9	19 (8)	83 (81)	122 (109)									
10	18 (6)	52 (31)	88 (54)									
11	14 (7)	97 (61)	142 (99)									
12	17 (11)	120 (105)	173 (121)									
13	13 (5)	83 (30)	137 (60)									
14	13 (5)	86 (65)	179 (105)									
15	15 (7)	80 (52)	116 (84)									
16	27 (14)	73 (32)	107 (43)									
17	31 (9)	74 (32)	98 (43)									
18	22 (8)	70 (50)	104 (78)									
19	15 (8)	69 (34)	85 (48)									
20	14 (8)	59 (26)	79 (33)									
21	19 (8)	49 (18)	67 (27)									
22	6 (6)	59 (33)	84 (44)									
23	4 (6)	50 (29)	86 (41)									
24	6 (6)	46 (31)	70 (47)									
25	7 (5)	38 (26)	59 (43)									
26	7 (7)	21 (10)	51 (22)									
27	10 (8)	20 (11)	47 (35)									
28	15 (7)	25 (9)	41 (23)									
29	15 (9)	32 (10)	49 (25)	76 (30)								
30	21 (10)	35 (13)	45 (28)	69 (30)								
31	20 (7)	37 (13)	45 (30)	74 (36)								
Avg	17.6	58.8	86.7	72.9								
n	31	31	31	3	0	0	0	0	0	0	0	0
SD	8.1	21.9	35.2	2.8								
Min	4.3	19.9	40.8	69.1								
Max	36.7	120.0	179.0	75.5								

Table E4. Daily means (SD) of PM concentration at site NC4B for September, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	11 (6)	46 (25)	60 (34)	136 (54)								
2	23 (18)	89 (55)	116 (88)	205 (69)								
3	33 (16)	77 (54)	91 (73)	211 (79)								
4	18 (7)	52 (38)	70 (58)	191 (79)								
5	11 (8)	29 (29)	50 (45)	108 (79)								
6												
7												
8	19 (7)	34 (18)	37 (37)	136 (69)								
9	12 (10)	21 (25)	31 (41)	133 (80)								
10	12 (8)	22 (11)	33 (25)	169 (77)								
11	12 (8)	26 (14)	37 (24)	164 (78)								
12	9 (8)	27 (18)	31 (33)	168 (93)								
13	12 (5)	23 (10)	21 (19)	126 (83)								
14	9 (8)	20 (11)	17 (20)	120 (62)								
15	11 (11)	38 (20)	36 (26)	146 (78)								
16	8 (5)	65 (24)	55 (13)	325 (134)								
17	10 (5)	102 (57)	94 (46)	398 (173)								
18	16 (5)	103 (68)	127 (80)	420 (285)								
19	7 (5)	94 (69)	124 (76)	461 (207)								
20	5 (4)	88 (64)	113 (86)	516 (249)								
21	6 (5)	71 (52)	97 (67)	450 (220)								
22	9 (7)	74 (33)	109 (48)	435 (199)								
23	10 (6)	98 (56)	121 (65)									
24	6 (5)	156 (71)	146 (80)									
25	-2 (6)	103 (96)	116 (83)									
26	-1 (4)	40 (27)	49 (23)	67 (36)								
27	9 (8)	49 (30)	66 (30)	69 (31)								
28	20 (6)	59 (35)	76 (41)	84 (37)								
29	15 (7)											
30	24 (10)					42 (6)	39 (6)	22 (7)				
Avg	11.9	61.6	73.8	228.0								
n	28	26	26	23	0	1	1	1	0	0	0	0
SD	7.2	34.4	38.1	141.0								
Min	-1.7	20.3	16.8	67.0								
Max	32.6	156.0	146.0	516.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for October, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	22 (8)					36 (9)	36 (10)	23 (9)				
2	9 (6)					32 (16)	36 (21)	16 (6)				
3	14 (7)					34 (16)	40 (21)	20 (10)				
4	18 (7)					34 (15)	39 (20)	25 (10)				
5						38 (15)	41 (18)	34 (18)				
6						40 (19)	46 (24)	38 (16)				
7						33 (17)	38 (19)	34 (20)				
8						24 (17)	29 (23)	29 (21)				
9						17 (11)	21 (14)	17 (13)				
10					3 (5)	15 (7)	16 (10)	15 (8)				
11					6 (6)	19 (8)	20 (10)	19 (8)				
12					1 (4)	17 (10)	20 (13)	19 (11)				
13					1 (5)	17 (9)	23 (16)	23 (13)				
14					4 (5)	22 (11)	30 (18)	33 (21)				
15					8 (5)	25 (14)	26 (31)	38 (24)				
16					10 (6)	52 (37)	45 (34)	30 (23)				
17					13 (10)	36 (13)	39 (21)	36 (30)				
18					0 (5)	27 (6)	38 (11)	48 (20)				
19					0 (4)	32 (9)	48 (18)	64 (24)				
20					2 (4)	35 (13)	54 (26)	68 (23)				
21					7 (5)	36 (16)	52 (27)					
22					1 (4)	34 (13)	49 (23)					
23												
24	10 (6)	313 (188)	397 (205)	148 (75)								
25	18 (17)	147 (99)	223 (108)	76 (60)								
26	14 (8)	288 (129)	417 (151)	175 (71)								
27	13 (7)	330 (164)	478 (188)	202 (68)								
28	4 (5)	328 (180)	555 (252)	281 (86)								
29	7 (5)	302 (195)	580 (306)	285 (107)								
30	11 (6)	291 (253)	541 (515)	310 (117)								
31	14 (11)	245 (152)	528 (200)	273 (121)								
Avg	12.9	280.0	465.0	219.0	4.2	29.7	35.6	31.4				
n	12	8	8	8	13	22	22	20	0	0	0	0
SD	5.0	56.3	110.0	76.9	4.0	9.2	10.8	14.4				
Min	3.6	147.0	223.0	75.6	0.1	14.5	15.6	14.7				
Max	22.3	330.0	580.0	310.0	12.6	52.4	53.8	67.6				

Table E4. Daily means (SD) of PM concentration at site NC4B for November, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	18 (9)	207 (148)	499 (248)	256 (140)								
2	20 (8)	208 (172)	471 (240)	283 (163)								
3	19 (7)	168 (79)	327 (173)	270 (107)								
4	2 (6)	141 (91)	263 (118)	241 (108)								
5	9 (5)	197 (103)	329 (147)	298 (108)								
6	14 (11)	243 (137)	461 (197)	401 (143)								
7	14 (7)	262 (164)	443 (217)	418 (168)								
8	11 (6)	282 (129)	433 (166)	468 (132)								
9	16 (5)	395 (164)	526 (215)	622 (212)								
10	12 (7)	413 (182)	519 (195)	758 (281)								
11	15 (5)	387 (207)	515 (227)	758 (266)								
12	16 (6)	318 (229)	447 (276)	662 (258)								
13	4 (6)	214 (114)	294 (187)	420 (194)								
14	5 (5)	129 (58)	265 (115)									
15	5 (6)	100 (60)	218 (104)									
16	1 (5)	286 (128)	511 (169)									
17	5 (5)	332 (173)	513 (206)	847 (554)								
18	2 (4)	321 (161)	504 (205)									
19		292 (201)	521 (235)									
20	15 (9)	267 (209)	599 (249)									
21	3 (8)	239 (132)	529 (154)	197 (80)								
22		284 (138)	556 (207)	257 (81)								
23	9 (5)	289 (191)	555 (222)	346 (94)								
24	10 (8)	334 (226)	529 (307)	340 (105)								
25	6 (5)	295 (93)	487 (208)	365 (125)								
26	9 (8)	357 (140)	467 (378)	467 (147)								
27	17 (5)	364 (191)	487 (289)	470 (169)								
28	18 (6)	345 (193)	504 (270)	413 (185)								
29	14 (8)	336 (183)	490 (276)	461 (166)								
30	1 (5)	260 (213)	381 (285)	395 (190)								
Avg	10.2	276.0	455.0	434.0								
n	28	30	30	24	0	0	0	0	0	0	0	0
SD	6.0	78.4	96.5	173.0								
Min	0.6	100.0	218.0	197.0								
Max	19.6	413.0	599.0	847.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for December, 2008.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	4 (4)	306 (216)	463 (324)	426 (211)								
2	5 (5)	386 (192)	598 (306)	531 (201)								
3	6 (6)	301 (140)	554 (212)	565 (207)								
4	11 (5)	232 (204)	541 (237)	557 (229)								
5	9 (7)	191 (83)	490 (204)	640 (201)								
6	6 (5)	213 (117)	501 (217)	639 (214)								
7	4 (5)	238 (114)	516 (218)	696 (254)								
8		254 (160)	566 (290)	969 (538)								
9	4 (6)	153 (116)	461 (234)	513 (223)								
10	2 (7)	71 (80)	242 (142)	258 (151)								
11	-1 (9)	55 (53)	205 (137)	182 (106)								
12	-2 (6)	182 (95)	454 (163)	464 (218)								
13	2 (6)	285 (149)	605 (278)	609 (272)								
14	4 (5)	230 (170)	539 (331)	564 (237)								
15	8 (10)	122 (99)	356 (206)	325 (325)								
16	0 (6)	120 (117)	357 (185)									
17	0 (6)	142 (256)	356 (255)									
18												
19	6 (6)	154 (62)	353 (163)	156 (47)								
20	9 (5)	163 (68)	363 (127)	148 (48)								
21	1 (6)	210 (90)	404 (155)	210 (78)								
22		360 (129)	602 (243)	403 (97)								
23		347 (167)	501 (290)	420 (123)								
24	3 (5)	205 (214)	438 (293)	278 (171)								
25												
26												
27												
28												
29												
30	4 (6)	190 (72)	674 (231)	571 (172)								
31												
Avg	4.0	213.0	464.0	460.0								
n	21	24	24	22	0	0	0	0	0	0	0	0
SD	3.4	84.9	115.0	200.0								
Min	-2.4	54.9	205.0	148.0								
Max	11.2	386.0	674.0	969.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for January, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1		185 (102)	675 (282)	722 (222)								
2		258 (118)		684 (284)								
3	4 (8)	346 (129)		559 (194)								
4	14 (6)	280 (173)		531 (215)								
5	6 (5)	185 (83)		395 (171)								
6	5 (5)			353 (137)								
7	0 (6)			486 (233)								
8	1 (5)	467 (229)		886 (304)								
9	3 (9)	517 (215)		1050 (361)								
10	4 (7)	454 (267)		822 (363)								
11	2 (5)	372 (203)		646 (274)								
12	5 (6)	491 (250)		869 (439)								
13	8 (6)	441 (259)										
14	6 (7)	408 (278)										
15	4 (4)											
16										837 (289)		320 (163)
17										881 (281)		346 (169)
18	6 (8)									832 (381)		349 (156)
19										824 (418)		370 (192)
20									46 (63)	814 (350)		567 (200)
21									16 (5)	894 (468)		936 (208)
22									11 (6)	967 (440)		1210 (422)
23									19 (6)			
24		513 (179)		386 (131)					14 (6)			
25		544 (179)		444 (171)					7 (7)			
26		555 (237)		534 (216)					11 (6)			
27		464 (210)		531 (188)								
28	7 (9)	321 (254)		346 (210)								
29	3 (5)	404 (285)		574 (214)								
30	5 (8)	508 (248)		658 (276)								
31		550 (332)		702 (282)								
Avg	5.0	413.0		609.0					17.7	864.0		586.0
n	17	20	1	20	0	0	0	0	7	7	0	7
SD	3.0	114.0		189.0					12.0	50.3		326.0
Min	-0.2	185.0		346.0					7.3	814.0		320.0
Max	13.5	555.0		1050.0					45.8	967.0		1210.0

Table E4. Daily means (SD) of PM concentration at site NC4B for February, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	7 (4)	515 (378)		688 (319)								
2	10 (6)	500 (314)		792 (281)								
3	-3 (6)	483 (130)		948 (383)								
4		458 (201)		895 (349)								
5		473 (190)		968 (454)								
6		501 (230)		944 (393)								
7	24 (7)	428 (284)		682 (336)								
8	26 (8)	340 (254)		590 (339)								
9	13 (8)	366 (246)		575 (331)								
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Avg	12.8	452.0		787.0								
n	6	9	0	9	0	0	0	0	0	0	0	0
SD	9.8	58.2		149.0								
Min	-2.5	340.0		575.0								
Max	25.9	515.0		968.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for March, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1												
2												
3												
4												
5	1 (5)	393 (156)		381 (196)								
6	12 (9)	310 (174)		362 (221)								
7	20 (5)	255 (157)		323 (208)								
8		219 (145)		281 (191)								
9		225 (175)		371 (382)								
10		239 (206)										
11		208 (169)										
12		307 (232)										
13		345 (176)										
14		317 (146)										
15		302 (180)										
16	0 (5)	257 (193)										
17	1 (6)	312 (121)										
18	2 (6)	318 (158)		313 (155)								
19	11 (7)	285 (181)		286 (141)								
20	3 (5)	333 (143)		414 (133)								
21	9 (7)	363 (154)		462 (154)								
22	6 (7)	339 (181)		423 (185)								
23	13 (6)	322 (206)		471 (248)								
24	6 (6)	381 (208)		527 (206)								
25	9 (8)	401 (294)		569 (265)								
26	8 (7)	165 (113)		338 (159)								
27	12 (9)	143 (70)		248 (119)								
28	8 (6)	106 (51)		187 (104)								
29	14 (18)	146 (89)		227 (123)								
30	4 (8)	234 (128)		411 (217)								
31	12 (6)	220 (135)										
Avg	7.9	276.0		366.0								
n	19	27	0	18	0	0	0	0	0	0	0	0
SD	5.2	77.7		99.9								
Min	-0.1	106.0		187.0								
Max	19.9	401.0		569.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for April, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	4 (5)	187 (130)										
2	-2 (4)	152 (94)										
3	16 (12)	129 (96)		100 (55)								
4	17 (8)	224 (145)		206 (90)								
5	12 (7)	200 (155)		193 (105)								
6	14 (10)	138 (131)		151 (71)								
7												
8					0 (4)	38 (20)		26 (16)				
9					6 (7)	33 (14)		32 (17)				
10					1 (5)	20 (17)		20 (14)				
11					-3 (4)	17 (9)		20 (14)				
12					-1 (5)	30 (17)		29 (12)				
13					1 (5)	28 (22)		26 (19)				
14					-1 (4)	13 (9)		15 (16)				
15					2 (5)	22 (16)		23 (19)				
16					0 (4)	32 (21)		34 (17)				
17					4 (6)	34 (23)		40 (22)				
18					7 (6)	26 (20)		32 (18)				
19					2 (4)	23 (24)		25 (15)				
20					0 (5)	15 (13)		20 (11)				
21												
22									39 (42)	716 (301)		1250 (566)
23									36 (30)	566 (489)		1090 (734)
24									27 (14)	357 (384)		828 (677)
25									17 (8)	131 (129)		512 (318)
26									17 (11)	218 (263)		677 (485)
27									18 (10)	250 (275)		766 (574)
28												
29	16 (10)	198 (150)										
30	16 (9)	221 (168)										
Avg	11.4	181.0		163.0	1.3	25.4		26.2	25.6	373.0		853.0
n	8	8	0	4	13	13	0	13	6	6	0	6
SD	6.4	34.7		41.6	2.7	7.4		6.6	9.0	205.0		247.0
Min	-1.7	129.0		99.7	-3.2	13.4		15.1	17.3	131.0		512.0
Max	16.7	224.0		206.0	6.7	37.6		39.6	39.1	716.0		1250.0

Table E4. Daily means (SD) of PM concentration at site NC4B for May, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	16 (7)	133 (97)		164 (87)								
2	14 (7)	108 (82)		127 (61)								
3	17 (5)	93 (73)		128 (61)								
4	13 (7)	101 (68)		131 (82)								
5	8 (6)	123 (104)		173 (98)								
6	10 (6)	67 (56)		132 (69)								
7	8 (5)	71 (58)		142 (75)								
8	15 (8)	116 (101)		166 (114)								
9	19 (9)	67 (55)		135 (73)								
10	10 (7)	114 (91)		189 (100)								
11	6 (6)	271 (128)		390 (131)								
12	5 (6)	277 (232)		409 (242)								
13	9 (6)	224 (216)		345 (220)								
14	7 (11)	170 (198)		234 (158)								
15	-1 (7)	111 (115)		179 (129)								
16	0 (6)	64 (82)		164 (101)								
17	3 (6)	148 (125)		291 (201)								
18	1 (4)	414 (196)		639 (252)								
19	3 (6)	388 (203)		515 (199)								
20	4 (6)	231 (251)		388 (331)								
21	13 (18)	113 (109)		266 (133)								
22	13 (16)	106 (147)		284 (150)								
23	11 (16)	70 (88)		230 (163)								
24	5 (6)	34 (41)		159 (94)								
25	4 (6)	36 (46)		171 (107)								
26		35 (39)										
27		69 (75)										
28		42 (48)										
29	10 (8)	53 (44)		89 (34)								
30	10 (6)	89 (85)		124 (38)								
31	13 (6)	82 (91)		87 (30)								
Avg	8.8	130.0		230.0								
n	28	31	0	28	0	0	0	0	0	0	0	0
SD	5.2	95.5		132.0								
Min	-0.8	33.7		86.9								
Max	19.2	414.0		639.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for June, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	18 (8)	65 (52)		91 (36)								
2	16 (12)	55 (132)		77 (37)								
3	8 (5)	37 (52)		74 (40)								
4	5 (6)	43 (57)		88 (44)								
5	3 (5)	47 (45)		103 (46)								
6	1 (5)	91 (59)		146 (51)								
7	2 (6)	62 (54)		110 (57)								
8	2 (7)	59 (64)		105 (51)								
9	10 (10)	43 (51)		93 (52)								
10	3 (6)	77 (109)		123 (81)								
11	12 (8)	68 (49)		94 (48)								
12	19 (9)	80 (36)		105 (81)								
13	12 (7)	63 (31)		83 (49)								
14	12 (5)	61 (30)		98 (56)								
15												
16												
17	6 (5)	60 (38)		92 (72)								
18	10 (8)	42 (26)		60 (28)								
19	20 (10)	41 (19)		62 (24)								
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30									42 (56)	225 (220)	273 (258)	524 (276)
Avg	9.2	58.4		94.3								
n	17	17	0	17	0	0	0	0	1	1	1	1
SD	6.0	14.8		20.5								
Min	0.8	37.2		59.6								
Max	19.6	91.2		146.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for July, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1									31 (18)	122 (120)	193 (187)	450 (243)
2									25 (15)	57 (47)	148 (94)	311 (160)
3									12 (9)	96 (96)	194 (139)	471 (242)
4									19 (10)	178 (230)	273 (260)	522 (312)
5									23 (6)	75 (83)	136 (136)	374 (197)
6									21 (11)	44 (24)	173 (73)	426 (196)
7									20 (7)	75 (79)	174 (110)	464 (197)
8									44 (47)	122 (82)	160 (167)	455 (193)
9									14 (8)	107 (55)	175 (108)	617 (237)
10									11 (5)	198 (155)	317 (262)	718 (347)
11												
12	17 (7)	78 (27)	111 (85)	235 (138)								
13	9 (8)	68 (18)	130 (40)	221 (102)								
14	15 (12)	82 (42)	155 (96)									
15	50 (62)	94 (49)	127 (80)									
16	20 (7)	70 (44)	95 (58)									
17	12 (8)	45 (19)	83 (52)									
18		47 (24)	87 (43)	67 (42)								
19	16 (6)	64 (41)	127 (86)	86 (38)								
20	15 (9)	46 (27)	107 (48)	70 (22)								
21	16 (7)	54 (37)	134 (96)	94 (31)								
22	12 (9)	54 (45)	105 (91)	70 (49)								
23	9 (7)	31 (21)		54 (28)								
24	15 (6)	41 (25)		77 (39)								
25	17 (6)	41 (21)		70 (42)								
26	18 (7)	47 (23)		71 (33)								
27												
28												
29												
30												
31	11 (7)	40 (25)	70 (54)	86 (42)								
Avg	16.7	56.3	111.0	100.0					22.0	108.0	194.0	481.0
n	15	16	12	12	0	0	0	0	10	10	10	10
SD	9.5	17.2	23.6	58.2					9.3	47.4	53.9	110.0
Min	8.8	30.6	70.2	53.7					11.3	43.8	136.0	311.0
Max	50.4	93.9	155.0	235.0					44.2	198.0	317.0	718.0

Table E4. Daily means (SD) of PM concentration at site NC4B for August, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	7 (6)	34 (21)	62 (50)	77 (38)								
2	13 (8)	27 (24)	58 (44)	56 (33)								
3	12 (7)	37 (26)	64 (57)	59 (34)								
4		43 (32)	74 (66)	88 (59)								
5												
6												
7									21 (8)	115 (47)	143 (83)	217 (89)
8									22 (7)	113 (46)	139 (108)	211 (96)
9									21 (8)	82 (30)	99 (58)	187 (85)
10									33 (13)	89 (27)	98 (63)	185 (89)
11									26 (7)	70 (24)	82 (41)	
12												
13												
14												
15												
16									10 (7)	34 (23)	75 (51)	65 (35)
17									14 (10)	41 (27)	82 (55)	73 (35)
18									18 (6)	41 (16)	71 (47)	85 (35)
19									7 (6)	39 (24)	61 (52)	78 (47)
20									14 (12)	32 (21)	56 (35)	180 (392)
21									14 (4)	27 (22)	52 (39)	118 (86)
22									13 (8)	35 (28)	63 (42)	128 (95)
23									13 (7)	45 (38)	95 (86)	154 (112)
24									27 (13)	53 (37)	127 (106)	121 (100)
25												
26	12 (8)	39 (43)	71 (82)	56 (106)								
27	12 (7)	22 (27)	57 (64)	51 (89)								
28	20 (12)	30 (25)	65 (59)	53 (67)								
29	23 (9)	36 (30)	73 (55)	55 (96)								
30	22 (7)	44 (24)	66 (52)	68 (74)								
31	12 (7)	114 (64)	155 (92)	195 (146)								
Avg	14.8	42.6	74.5	75.9					18.1	58.3	88.8	139.0
n	9	10	10	10	0	0	0	0	14	14	14	13
SD	5.0	24.6	27.4	41.2					6.9	29.0	28.9	51.9
Min	7.4	22.4	57.1	51.3					7.1	27.1	51.6	65.3
Max	22.6	114.0	155.0	195.0					32.8	115.0	143.0	217.0

Table E4. Daily means (SD) of PM concentration at site NC4B for September, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	10 (4)	186 (127)	222 (93)	318 (170)								
2	7 (5)	187 (158)	241 (162)									
3	9 (5)	143 (125)	168 (127)	259 (200)								
4	15 (9)	162 (122)	221 (122)	249 (133)								
5	17 (8)	132 (121)	193 (173)									
6	13 (5)	131 (106)	147 (102)	245 (172)								
7	2 (8)	69 (58)	98 (60)	160 (113)								
8	-1 (5)	64 (48)	109 (57)									
9	14 (7)	140 (109)	196 (100)									
10	8 (8)	145 (116)	211 (127)	151 (28)								
11	15 (26)	149 (103)	257 (152)	158 (51)								
12	18 (9)	123 (112)	191 (186)	112 (62)								
13	3 (7)	95 (91)	169 (119)	121 (61)								
14	10 (11)	137 (142)	196 (177)	168 (90)								
15	18 (13)	129 (110)	178 (164)	186 (95)								
16	20 (14)	85 (49)	159 (88)	176 (86)								
17	12 (6)	79 (41)	139 (72)	204 (84)								
18	9 (5)	95 (53)	188 (91)	251 (200)								
19	9 (7)	98 (69)	158 (102)	177 (88)								
20	10 (7)	120 (87)	202 (123)	214 (92)								
21	7 (12)	120 (103)	206 (161)	193 (117)								
22	1 (6)	29 (18)	77 (39)	97 (76)								
23	0 (6)	29 (19)	59 (51)	102 (73)								
24	4 (7)	42 (33)	80 (86)	125 (104)								
25	9 (9)	48 (35)	72 (52)	168 (107)								
26	6 (6)	88 (60)	145 (100)	256 (125)								
27	7 (6)	75 (44)	109 (71)	175 (96)								
28	16 (6)	117 (95)	161 (161)	235 (221)								
29	17 (6)	208 (138)	283 (193)	344 (230)								
30	9 (9)	210 (136)	316 (234)	311 (268)								
Avg	9.8	114.0	172.0	198.0								
n	30	30	30	26	0	0	0	0	0	0	0	0
SD	5.5	48.2	61.2	65.5								
Min	-0.9	29.1	59.1	97.1								
Max	19.9	210.0	316.0	344.0								

Table E4. Daily means (SD) of PM concentration at site NC4B for October, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	7 (8)	213 (146)	318 (208)									
2	8 (6)	168 (116)	265 (164)									
3	14 (8)	119 (94)	171 (96)									
4	18 (6)	194 (111)	293 (132)									
5	6 (7)	166 (98)	269 (117)									
6	4 (6)	124 (90)	205 (100)									
7	10 (7)	108 (110)	148 (122)									
8	6 (8)	228 (155)	326 (158)									
9	10 (5)	130 (130)	190 (192)									
10	10 (13)	51 (61)	81 (78)									
11	2 (5)	152 (106)	247 (119)									
12	4 (5)	196 (131)	336 (122)									
13	11 (10)	180 (130)	299 (158)									
14												
15									2 (4)	478 (310)	654 (416)	
16									5 (13)	537 (423)	660 (303)	
17									-1 (4)	571 (420)	740 (356)	
18									-3 (4)	650 (485)	846 (410)	
19									9 (7)	700 (444)	842 (474)	
20									18 (10)	692 (449)	830 (453)	
21									15 (9)	585 (353)	727 (451)	
22									16 (13)	564 (395)	618 (444)	
23									7 (7)	353 (465)	377 (240)	
24									11 (6)	147 (95)	242 (193)	
25									6 (5)	394 (285)	539 (281)	
26									3 (6)	478 (434)	674 (368)	
27												
28	10 (7)		216 (103)									
29	7 (5)		332 (174)									
30	8 (6)	230 (109)	314 (143)									
31	6 (6)	122 (109)	197 (132)									
Avg	8.2	159.0	247.0						7.3	513.0	646.0	
n	17	15	17	0	0	0	0	0	12	12	12	0
SD	3.7	48.4	72.0						6.5	151.0	177.0	
Min	1.9	51.4	80.8						-2.8	147.0	242.0	
Max	17.6	230.0	336.0						18.0	700.0	846.0	

Table E4. Daily means (SD) of PM concentration at site NC4B for November, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	3 (6)	147 (96)	193 (74)									
2	12 (5)	309 (139)	317 (119)									
3	14 (7)	307 (181)	413 (182)									
4	17 (8)	329 (232)	420 (246)									
5	13 (6)	278 (232)	419 (202)									
6	9 (5)	319 (227)	515 (258)									
7	11 (7)	270 (201)	490 (268)									
8	15 (10)	201 (96)	403 (182)									
9	14 (8)	175 (133)	339 (184)									
10	4 (7)	113 (75)	268 (123)									
11	-5 (4)	113 (84)	269 (122)									
12	-5 (5)	168 (69)	282 (166)									
13	-4 (4)	170 (93)	310 (159)									
14	-3 (4)	136 (77)	360 (154)									
15	0 (6)	144 (124)	370 (184)									
16	7 (7)	167 (126)	430 (219)									
17	11 (6)	204 (127)	441 (190)									
18	11 (9)	170 (193)	297 (182)									
19	5 (7)	92 (169)	233 (109)									
20	6 (5)	145 (64)	350 (110)									
21	9 (5)	210 (114)	448 (151)									
22	10 (5)	212 (143)	468 (208)									
23	6 (8)	149 (103)	319 (194)									
24	-1 (5)	134 (99)	377 (149)									
25	1 (5)	175 (140)	416 (163)									
26	3 (6)	192 (73)	419 (158)									
27	-1 (5)	260 (101)	436 (161)									
28	8 (6)	275 (133)	540 (222)									
29	7 (6)	228 (145)	479 (239)									
30	5 (7)	193 (116)	440 (216)									
Avg	6.0	200.0	382.0									
n	30	30	30	0	0	0	0	0	0	0	0	0
SD	6.1	65.2	84.0									
Min	-5.2	92.3	193.0									
Max	16.6	329.0	540.0									

Table E4. Daily means (SD) of PM concentration at site NC4B for December, 2009.

Day	PM_{10} Concentration, µg·dsm^{-3}				$PM_{2.5}$ Concentration, µg·dsm^{-3}				TSP Concentration, µg·dsm^{-3}			
	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15	Inlet	B1	B2	Far15
1	1 (10)	263 (239)	489 (228)									
2												
3					-4 (3)	-5 (78)	34 (12)					
4					-1 (4)	20 (89)	50 (21)					
5					-4 (6)	12 (78)	38 (18)					
6					0 (5)	31 (95)	57 (24)					
7					0 (4)	48 (72)	53 (31)					
8					0 (5)	32 (21)	50 (30)					
9					-5 (5)	11 (7)	20 (20)					
10					-4 (5)	21 (10)	33 (32)					
11					-5 (4)	27 (11)	44 (26)					
12						34 (53)	48 (37)					
13					-5 (4)	15 (14)	31 (28)					
14					-2 (7)	18 (25)	38 (28)					
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Avg					-2.6	21.9	41.3					
n	1	1	1	0	11	12	12	0	0	0	0	0
SD					2.1	13.0	10.4					
Min					-5.4	-4.8	19.6					
Max					0.2	47.7	56.7					

Table E5. PM10 emissions.

Table E5. Daily means (SD) of PM10 emissions at site NC4B for April, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28	358 (184)	138 (71)	381 (195)	1050 (538)	613 (294)	247 (119)	686 (330)	1890 (909)				
29	526 (250)	202 (96)	560 (266)	1540 (733)	694 (425)	279 (171)	777 (476)	2140 (1310)				
30	547 (334)	210 (128)	584 (356)	1610 (982)								
Avg	477	183	508	1400	653	263	732	2020				
n	3	3	3	3	2	2	2	2	0	0	0	0
SD	85	33	91	250	41	16	45	125				
Min	358	138	381	1050	613	247	686	1890				
Max	547	210	584	1610	694	279	777	2140				

Table E5. Daily means (SD) of PM10 emissions at site NC4B for May, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	483 (333)	186 (128)	517 (357)	1430 (983)	624 (487)	251 (196)	699 (545)	1930 (1500)				
2	414 (202)	159 (78)	445 (217)	1230 (598)	587 (256)	236 (103)	657 (286)	1810 (789)				
3	310 (256)	119 (98)	334 (276)	922 (760)	530 (271)	213 (109)	594 (303)	1640 (836)				
4	315 (228)	121 (88)	342 (247)	942 (680)	498 (306)	200 (123)	558 (343)	1540 (946)				
5	398 (282)	153 (109)	433 (307)	1190 (847)	501 (257)	202 (104)	561 (288)	1550 (795)				
6	445 (360)	171 (138)	487 (393)	1340 (1080)	618 (333)	249 (134)	693 (374)	1910 (1030)				
7												
8												
9												
10	433 (743)	166 (286)	481 (825)	1330 (2270)	517 (286)	208 (115)	580 (321)	1600 (885)				
11	408 (300)	157 (115)	455 (335)	1260 (924)	522 (352)	210 (142)	586 (395)	1610 (1090)				
12	535 (305)	206 (117)	601 (342)	1660 (943)	541 (410)	218 (165)	607 (460)	1670 (1270)				
13	564 (482)	217 (185)	635 (544)	1750 (1500)	608 (435)	245 (175)	683 (489)	1880 (1350)				
14	425 (378)	163 (145)	481 (427)	1330 (1180)	563 (536)	227 (216)	633 (603)	1740 (1660)				
15	452 (253)	174 (97)	513 (287)	1410 (792)	521 (304)	210 (122)	586 (342)	1620 (942)				
16	402 (179)	155 (69)	457 (204)	1260 (561)	545 (211)	219 (85)	613 (237)	1690 (654)				
17	581 (287)	223 (110)	660 (326)	1820 (897)	661 (304)	266 (123)	744 (342)	2050 (944)				
18	494 (329)	190 (127)	560 (374)	1540 (1030)	625 (304)	252 (122)	703 (342)	1940 (942)				
19	432 (263)	166 (101)	491 (298)	1350 (822)	645 (336)	260 (135)	726 (378)	2000 (1040)				
20	362 (415)	139 (159)	409 (469)	1130 (1290)	576 (981)	232 (395)	649 (1100)	1790 (3040)				
21	386 (282)	148 (108)	431 (315)	1190 (869)	578 (354)	233 (143)	651 (399)	1790 (1100)				
22	373 (407)	143 (156)	412 (449)	1140 (1240)	696 (451)	280 (182)	783 (508)	2160 (1400)				
23	400 (377)	154 (145)	437 (412)	1210 (1130)	790 (519)	318 (209)	890 (585)	2450 (1610)				
24	399 (300)	153 (115)	431 (324)	1190 (894)	587 (363)	236 (146)	661 (409)	1820 (1130)				
25	386 (454)	148 (175)	413 (486)	1140 (1340)	603 (428)	243 (172)	679 (482)	1870 (1330)				
26	382 (708)	147 (272)	404 (749)	1110 (2060)	690 (476)	278 (191)	777 (536)	2140 (1480)				
27	520 (1310)	200 (504)	548 (1380)	1510 (3810)	702 (892)	283 (359)	791 (1000)	2180 (2770)				
28	416 (202)	160 (78)	439 (213)	1210 (588)	468 (243)	188 (98)	527 (274)	1450 (756)				
29	507 (222)	195 (86)	537 (235)	1480 (649)	522 (347)	210 (140)	588 (391)	1620 (1080)				
30	369 (242)	142 (93)	392 (257)	1080 (707)	481 (272)	194 (109)	542 (306)	1490 (844)				
31	284 (121)	109 (47)	302 (129)	832 (354)	258 (186)	104 (75)	291 (210)	801 (578)				
Avg	424	163	466	1280	573	231	645	1780				
n	28	28	28	28	28	28	28	28	0	0	0	0
SD	72	28	84	230	96	39	109	299				
Min	284	109	302	832	258	104	291	801				
Max	581	223	660	1820	790	318	890	2450				

Table E5. Daily means (SD) of PM10 emissions at site NC4B for June, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	236 (131)	91 (50)	252 (140)	695 (385)	315 (244)	127 (98)	356 (275)	981 (758)				
2	406 (297)	156 (114)	434 (318)	1200 (877)	418 (292)	168 (118)	471 (330)	1300 (909)				
3	326 (479)	125 (184)	350 (516)	965 (1420)	367 (301)	148 (121)	415 (339)	1140 (935)				
4	216 (316)	83 (122)	233 (342)	643 (943)	287 (339)	115 (136)	323 (382)	891 (1050)				
5	221 (259)	85 (100)	241 (282)	664 (778)	187 (247)	75 (99)	210 (278)	580 (767)				
6	199 (149)	77 (57)	219 (164)	603 (451)	218 (232)	88 (93)	246 (261)	677 (720)				
7	201 (173)	77 (67)	222 (192)	611 (528)	163 (203)	66 (82)	183 (228)	504 (629)				
8	187 (187)	72 (72)	207 (208)	572 (574)	156 (291)	63 (117)	176 (327)	484 (900)				
9	232 (263)	89 (101)	260 (294)	716 (810)	213 (369)	86 (149)	240 (414)	660 (1140)				
10	212 (258)	82 (99)	239 (290)	657 (799)	261 (254)	105 (102)	292 (285)	806 (785)				
11	200 (442)	77 (170)	224 (496)	619 (1370)	375 (562)	151 (226)	422 (631)	1160 (1740)				
12	331 (253)	127 (97)	371 (284)	1020 (782)	359 (413)	145 (166)	403 (463)	1110 (1280)				
13	437 (220)	168 (85)	489 (247)	1350 (680)	333 (187)	134 (75)	375 (210)	1030 (580)				
14	375 (181)	144 (70)	419 (202)	1160 (558)	465 (267)	187 (108)	523 (301)	1440 (829)				
15	271 (170)	104 (65)	303 (190)	834 (523)	462 (285)	186 (115)	520 (320)	1430 (883)				
16	331 (175)	127 (67)	370 (195)	1020 (538)	484 (259)	195 (104)	545 (291)	1500 (802)				
17	292 (185)	112 (71)	326 (206)	897 (568)	492 (286)	198 (115)	554 (322)	1530 (889)				
18	638 (396)	245 (152)	710 (441)	1960 (1220)	682 (405)	275 (163)	768 (456)	2120 (1260)				
19	477 (617)	183 (237)	525 (679)	1450 (1870)	570 (448)	229 (180)	642 (505)	1770 (1390)				
20	383 (309)	147 (119)	412 (333)	1140 (919)	607 (395)	244 (159)	685 (446)	1890 (1230)				
21	324 (242)	125 (93)	341 (255)	939 (704)	647 (283)	261 (114)	731 (320)	2010 (882)				
22	250 (200)	96 (77)	257 (205)	708 (565)	592 (393)	238 (158)	669 (444)	1840 (1220)				
23	315 (267)	121 (103)	317 (269)	873 (741)	623 (417)	251 (168)	705 (472)	1940 (1300)				
24	495 (342)	190 (132)	493 (341)	1360 (939)	842 (499)	339 (201)	953 (565)	2630 (1560)				
25												
26												
27												
28	304 (162)	117 (62)	307 (163)	847 (451)	778 (556)	313 (224)	874 (624)	2410 (1720)				
29	297 (184)	114 (71)	302 (186)	832 (513)	654 (335)	263 (135)	733 (376)	2020 (1040)				
30	204 (182)	79 (70)	208 (185)	573 (511)	710 (430)	286 (173)	795 (481)	2190 (1330)				
Avg	310	119	334	922	454	183	511	1410				
n	27	27	27	27	27	27	27	27	0	0	0	0
SD	107	41	117	324	194	78	219	604				
Min	187	72	207	572	156	63	176	484				
Max	638	245	710	1960	842	339	953	2630				

Table E5. Daily means (SD) of PM10 emissions at site NC4B for July, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	368 (527)	142 (203)	377 (540)	1040 (1490)	774 (749)	312 (302)	866 (838)	2390 (2310)				
2	531 (335)	204 (129)	545 (343)	1500 (946)	730 (418)	294 (168)	816 (467)	2250 (1290)				
3	371 (273)	143 (105)	381 (280)	1050 (772)	859 (533)	346 (215)	961 (597)	2650 (1640)				
4	269 (175)	103 (67)	276 (179)	762 (494)	712 (445)	286 (179)	797 (499)	2200 (1370)				
5	182 (187)	70 (72)	187 (192)	515 (530)	679 (575)	273 (231)	761 (644)	2100 (1780)				
6	131 (132)	50 (51)	134 (136)	370 (376)	982 (813)	395 (327)	1100 (912)	3040 (2510)				
7	165 (167)	64 (64)	170 (173)	469 (476)	767 (603)	309 (243)	862 (677)	2380 (1870)				
8	63 (131)	24 (51)	65 (136)	180 (375)	689 (486)	277 (196)	774 (546)	2130 (1510)				
9	118 (157)	45 (60)	123 (163)	339 (451)	522 (355)	210 (143)	587 (399)	1620 (1100)				
10	119 (161)	46 (62)	125 (169)	344 (466)	794 (1080)	320 (434)	893 (1210)	2460 (3340)				
11	93 (109)	36 (42)	99 (115)	272 (317)	386 (377)	155 (152)	434 (424)	1200 (1170)				
12	189 (219)	73 (84)	202 (233)	557 (643)	718 (566)	289 (228)	807 (637)	2230 (1760)				
13	225 (272)	87 (105)	242 (293)	668 (807)	774 (510)	311 (205)	870 (573)	2400 (1580)				
14	202 (195)	78 (75)	219 (211)	602 (581)	552 (476)	222 (192)	621 (536)	1710 (1480)				
15	127 (172)	49 (66)	139 (188)	382 (518)	756 (660)	304 (266)	851 (743)	2340 (2050)				
16	206 (332)	79 (128)	227 (366)	624 (1010)	914 (899)	368 (362)	1030 (1010)	2840 (2790)				
17	364 (440)	140 (169)	404 (489)	1110 (1350)	1090 (780)	439 (314)	1230 (879)	3380 (2420)				
18	255 (84)	98 (32)	286 (94)	787 (258)	1100 (747)	445 (301)	1240 (842)	3430 (2320)				
19	191 (83)	73 (32)	216 (94)	594 (258)	641 (460)	258 (185)	722 (519)	1990 (1430)				
20	173 (69)	67 (26)	197 (78)	543 (216)	584 (441)	235 (177)	658 (497)	1810 (1370)				
21	209 (136)	80 (52)	240 (155)	660 (428)	781 (880)	314 (354)	881 (992)	2430 (2730)				
22	131 (212)	50 (82)	151 (243)	415 (671)	682 (758)	275 (305)	770 (855)	2120 (2360)				
23	135 (100)	52 (39)	154 (114)	424 (315)	334 (240)	134 (97)	377 (271)	1040 (747)				
24	116 (80)	45 (31)	131 (90)	360 (248)	380 (306)	153 (123)	429 (345)	1180 (952)				
25	162 (106)	62 (41)	181 (119)	500 (327)	525 (405)	211 (163)	593 (457)	1640 (1260)				
26	173 (100)	66 (38)	191 (110)	528 (304)	438 (516)	177 (208)	495 (583)	1370 (1610)				
27	144 (87)	55 (34)	158 (96)	436 (265)	247 (306)	99 (123)	279 (346)	769 (953)				
28	143 (143)	55 (55)	156 (155)	430 (428)	221 (458)	89 (184)	250 (518)	688 (1430)				
29	199 (212)	77 (82)	217 (231)	597 (636)	287 (496)	115 (200)	324 (561)	893 (1550)				
30	214 (86)	82 (33)	233 (94)	642 (258)	174 (94)	70 (38)	197 (106)	542 (293)				
31	129 (79)	50 (30)	140 (86)	387 (236)	121 (76)	49 (31)	136 (86)	376 (237)				
Avg	197	76	212	584	620	250	697	1920				
n	31	31	31	31	31	31	31	31	0	0	0	0
SD	96	37	99	274	256	103	287	791				
Min	63	24	65	180	121	49	136	376				
Max	531	204	545	1500	1100	445	1240	3430				

Table E5. Daily means (SD) of PM10 emissions at site NC4B for August, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	184 (71)	71 (27)	201 (77)	553 (212)	177 (92)	71 (37)	200 (104)	551 (285)				
2	203 (124)	78 (48)	222 (135)	611 (372)	176 (144)	71 (58)	199 (163)	547 (448)				
3	218 (119)	84 (46)	237 (129)	654 (356)	231 (156)	93 (63)	260 (176)	718 (484)				
4	209 (123)	80 (48)	228 (135)	629 (371)	327 (264)	131 (106)	368 (297)	1010 (819)				
5	106 (295)	41 (114)	116 (323)	320 (889)	187 (406)	75 (164)	210 (457)	580 (1260)				
6	130 (152)	50 (58)	142 (166)	392 (457)	116 (237)	47 (96)	130 (267)	359 (735)				
7	236 (144)	91 (55)	257 (157)	710 (433)	221 (195)	89 (79)	249 (219)	685 (604)				
8	199 (256)	76 (98)	215 (277)	593 (764)	314 (147)	126 (59)	353 (165)	973 (455)				
9	217 (194)	83 (74)	233 (208)	643 (575)	287 (168)	115 (68)	322 (188)	888 (519)				
10	136 (99)	53 (38)	146 (106)	402 (292)	226 (138)	91 (56)	254 (155)	699 (427)				
11	133 (154)	51 (59)	141 (163)	389 (450)	225 (144)	91 (58)	253 (162)	698 (446)				
12	284 (230)	109 (89)	299 (243)	825 (669)	442 (422)	178 (170)	497 (475)	1370 (1310)				
13	179 (70)	69 (27)	187 (73)	515 (202)	289 (147)	116 (59)	325 (166)	896 (457)				
14	187 (128)	72 (49)	196 (134)	540 (369)	401 (190)	161 (77)	451 (214)	1240 (590)				
15	171 (148)	66 (57)	183 (158)	504 (435)	291 (223)	117 (90)	327 (251)	902 (693)				
16	167 (140)	64 (54)	183 (154)	504 (424)	277 (178)	111 (72)	312 (201)	860 (555)				
17	155 (105)	60 (41)	173 (118)	478 (325)	212 (115)	85 (47)	239 (130)	659 (359)				
18	152 (167)	58 (64)	173 (190)	476 (524)	237 (209)	95 (84)	268 (237)	738 (652)				
19	233 (163)	90 (63)	267 (187)	736 (515)	244 (189)	98 (76)	275 (214)	759 (589)				
20	190 (60)	73 (23)	216 (68)	596 (188)	240 (96)	97 (39)	271 (109)	747 (299)				
21	122 (66)	47 (25)	138 (74)	379 (204)	175 (110)	71 (44)	198 (124)	545 (341)				
22	199 (91)	77 (35)	223 (102)	614 (282)	260 (127)	105 (51)	293 (143)	806 (393)				
23	181 (76)	69 (29)	201 (84)	553 (232)	299 (147)	120 (59)	336 (166)	927 (458)				
24	142 (70)	54 (27)	156 (77)	430 (212)	204 (118)	82 (48)	229 (133)	631 (366)				
25	122 (71)	47 (27)	134 (78)	369 (214)	173 (107)	70 (43)	194 (120)	535 (330)				
26	75 (52)	29 (20)	81 (56)	224 (154)	154 (83)	62 (33)	173 (93)	478 (256)				
27	59 (57)	23 (22)	64 (61)	175 (167)	133 (105)	54 (42)	150 (118)	413 (325)				
28	67 (77)	26 (30)	71 (82)	196 (225)	114 (109)	46 (44)	128 (122)	354 (337)				
29	87 (71)	34 (27)	91 (74)	252 (204)	112 (104)	45 (42)	126 (117)	347 (323)	10 (6)	68 (40)	512 (300)	
30	65 (83)	25 (32)	67 (87)	185 (238)	79 (117)	32 (47)	90 (132)	247 (364)	8 (5)	57 (35)	435 (268)	
31	90 (67)	35 (26)	93 (69)	255 (190)	84 (105)	34 (42)	95 (119)	263 (327)	9 (5)	64 (36)	485 (274)	
Avg	158	61	172	474	223	90	251	691	9	63	478	
n	31	31	31	31	31	31	31	31	3	3	3	0
SD	56	22	62	170	85	34	95	262	1	4	32	
Min	59	23	64	175	79	32	90	247	8	57	435	
Max	284	109	299	825	442	178	497	1370	10	68	512	

Table E5. Daily means (SD) of PM10 emissions at site NC4B for September, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	154 (115)	59 (44)	157 (116)	432 (321)	178 (137)	72 (55)	201 (155)	555 (426)	17 (9)	119 (60)	901 (457)	
2	183 (201)	71 (77)	185 (203)	511 (559)	229 (323)	92 (130)	259 (366)	715 (1010)	21 (10)	143 (71)	1090 (535)	2950 (1410)
3	141 (164)	54 (63)	142 (165)	392 (456)	149 (188)	60 (76)	169 (213)	465 (588)	26 (12)	179 (84)	1360 (635)	3510 (1640)
4	104 (122)	40 (47)	105 (123)	290 (340)	127 (146)	51 (59)	143 (165)	395 (454)	25 (16)	176 (109)	1330 (827)	3350 (2070)
5									12 (7)	80 (52)	609 (391)	1490 (964)
6												
7												
8	62 (100)	24 (38)	62 (101)	172 (277)	57 (164)	23 (66)	64 (185)	177 (510)	21 (13)	145 (88)	1100 (668)	2410 (1460)
9	32 (128)	12 (49)	32 (129)	88 (354)	37 (141)	15 (57)	42 (159)	114 (438)	20 (14)	141 (96)	1070 (728)	2280 (1550)
10	52 (52)	20 (20)	52 (52)	144 (144)	68 (72)	28 (29)	77 (82)	212 (225)	24 (13)	163 (88)	1230 (667)	2600 (1410)
11	60 (59)	23 (23)	61 (59)	168 (164)	83 (85)	33 (34)	93 (96)	257 (264)	31 (15)	215 (106)	1630 (803)	3400 (1670)
12	79 (80)	31 (31)	81 (81)	222 (222)	75 (142)	30 (57)	85 (160)	234 (440)	37 (21)	253 (144)	1920 (1090)	3950 (2240)
13	61 (62)	23 (24)	62 (63)	170 (174)	32 (87)	13 (35)	36 (98)	100 (269)	33 (19)	229 (134)	1730 (1020)	3520 (2070)
14	70 (80)	27 (31)	72 (81)	198 (223)	29 (101)	12 (41)	33 (113)	91 (312)	39 (22)	269 (153)	2040 (1160)	4090 (2330)
15	159 (138)	61 (53)	163 (141)	449 (389)	107 (147)	43 (59)	120 (165)	331 (455)	44 (25)	307 (173)	2330 (1310)	4610 (2600)
16	163 (51)	63 (20)	167 (53)	462 (145)	141 (45)	57 (18)	158 (50)	436 (138)	50 (27)	347 (189)	2630 (1430)	5160 (2810)
17	188 (113)	72 (43)	195 (117)	536 (321)	194 (113)	78 (45)	218 (127)	602 (350)	53 (27)	367 (184)	2780 (1390)	5390 (2700)
18	167 (100)	64 (39)	174 (104)	479 (288)	198 (97)	80 (39)	223 (109)	614 (301)	55 (30)	380 (205)	2880 (1560)	5540 (2990)
19	181 (197)	70 (76)	189 (206)	522 (569)	194 (100)	78 (40)	219 (113)	604 (312)	57 (27)	393 (184)	2980 (1400)	5660 (2650)
20	155 (97)	60 (37)	163 (102)	449 (281)	165 (108)	66 (43)	186 (122)	513 (336)	55 (22)	381 (151)	2890 (1150)	5430 (2160)
21	131 (81)	50 (31)	139 (86)	382 (237)	164 (88)	66 (35)	185 (99)	510 (273)	59 (32)	410 (221)	3110 (1670)	5780 (3120)
22	143 (72)	55 (28)	153 (77)	421 (211)	200 (84)	81 (34)	226 (95)	624 (261)	61 (34)	423 (237)	3210 (1800)	5910 (3310)
23	154 (92)	59 (36)	166 (99)	457 (273)	197 (98)	79 (39)	222 (110)	613 (304)				
24	234 (99)	90 (38)	255 (107)	703 (296)	184 (143)	74 (58)	208 (162)	573 (445)				
25	134 (127)	52 (49)	148 (140)	408 (386)	130 (117)	52 (47)	147 (133)	404 (366)				
26	96 (59)	37 (23)	108 (66)	298 (181)	128 (59)	51 (24)	144 (67)	398 (184)	7 (4)	50 (25)	376 (191)	909 (462)
27	105 (79)	40 (30)	120 (90)	330 (248)	145 (77)	59 (31)	164 (87)	453 (240)	7 (3)	46 (23)	349 (175)	834 (417)
28	148 (154)	57 (59)	172 (179)	474 (492)	141 (91)	57 (37)	160 (103)	441 (283)	7 (4)	50 (27)	380 (203)	896 (477)
29												
30												
Avg	126	49	133	366	134	54	151	417	33	229	1740	3620
n	25	25	25	25	25	25	25	25	23	23	23	22
SD	51	19	54	149	58	23	65	180	18	123	933	1650
Min	32	12	32	88	29	12	33	91	7	46	349	834
Max	234	90	255	703	229	92	259	715	61	423	3210	5910

Table E5. Daily means (SD) of PM10 emissions at site NC4B for October, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24					503 (279)	202 (112)	570 (317)	1570 (874)				
25					317 (150)	128 (60)	360 (170)	991 (469)	5 (5)	34 (36)	258 (275)	684 (730)
26					543 (245)	219 (99)	617 (278)	1700 (767)				
27												
28					323 (424)	130 (171)	367 (482)	1010 (1330)				
29												
30												
31												
Avg					421	170	478	1320				
n	0	0	0	0	4	4	4	4	1	1	1	1
SD					103	41	116	321				
Min					317	128	360	991				
Max					543	219	617	1700				

Table E5. Daily means (SD) of PM10 emissions at site NC4B for November, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2									17 (11)	115 (77)	872 (586)	1940 (1300)
3					441 (257)	177 (103)	504 (293)	1390 (809)	19 (9)	129 (64)	980 (488)	2130 (1060)
4					395 (185)	159 (74)	452 (211)	1250 (582)	19 (9)	130 (61)	985 (461)	2100 (986)
5					457 (232)	184 (94)	524 (266)	1440 (733)	22 (9)	155 (63)	1170 (476)	2480 (1010)
6					590 (298)	238 (120)	677 (341)	1870 (940)	32 (12)	221 (81)	1680 (617)	3510 (1290)
7					597 (290)	240 (117)	686 (333)	1890 (919)	34 (13)	235 (92)	1780 (695)	3690 (1440)
8					560 (253)	225 (102)	643 (291)	1770 (802)	36 (12)	250 (83)	1890 (632)	3890 (1300)
9									44 (20)	304 (137)	2310 (1040)	4690 (2120)
10												
11												
12									47 (23)	328 (161)		
13	372 (220)	143 (85)	447 (264)	1230 (727)	378 (279)	152 (112)	435 (321)	1200 (884)	37 (16)	254 (114)		
14	148 (153)	57 (59)	181 (186)	499 (513)	294 (207)	119 (83)	339 (238)	933 (655)				
15	0 (0)	0 (0)	0 (0)	0 (0)	132 (79)	53 (32)	152 (91)	419 (251)				
16					186 (185)	75 (75)	214 (213)	590 (587)				
17												
18					275 (381)	111 (153)	316 (437)	871 (1200)				
19												
20												
21					314 (365)	127 (147)	362 (421)	999 (1160)				
22					429 (443)	173 (178)	495 (511)	1360 (1410)				
23												
24												
25					373 (428)	150 (172)	432 (495)	1190 (1360)				
26												
27									20 (17)	140 (117)	1170 (973)	2740 (2290)
28									20 (16)	135 (111)	1100 (907)	2530 (2090)
29									19 (18)	130 (125)	1040 (999)	2340 (2250)
30									24 (17)	164 (117)	1280 (911)	2840 (2020)
Avg	173	67	209	577	387	156	445	1230	28	192	1350	2910
n	3	3	3	3	14	14	14	14	14	14	12	12
SD	153	59	184	506	135	55	155	428	10	69	431	815
Min	0	0	0	0	132	53	152	419	17	115	872	1940
Max	372	143	447	1230	597	240	686	1890	47	328	2310	4690

Table E5. Daily means (SD) of PM10 emissions at site NC4B for December, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1												
2									24 (22)	164 (150)	1240 (1140)	2650 (2430)
3									30 (21)	207 (146)	1570 (1110)	3320 (2340)
4									35 (21)	241 (146)	1830 (1110)	3810 (2320)
5									32 (23)	225 (162)	1700 (1230)	3520 (2530)
6	240 (185)	92 (71)	270 (210)	745 (580)					32 (26)	224 (182)	1700 (1380)	3470 (2820)
7	258 (221)	99 (85)	283 (243)	780 (669)								
8	272 (255)	105 (98)	294 (275)	810 (759)					26 (50)	178 (346)	1350 (2630)	2690 (5210)
9	216 (178)	83 (68)	232 (191)	640 (527)					0 (0)	0 (0)	0 (3)	0 (6)
10	176 (217)	68 (84)	188 (232)	519 (641)	342 (216)	138 (87)	397 (251)	1090 (690)	10 (19)	72 (130)	546 (982)	1010 (1820)
11	138 (147)	53 (57)	146 (156)	404 (431)	295 (208)	119 (84)	342 (241)	944 (665)	20 (12)	136 (80)	1030 (609)	1870 (1100)
12	286 (175)	110 (67)	302 (185)	834 (511)	489 (361)	197 (145)	567 (419)	1560 (1150)				
13									38 (29)	262 (201)	1990 (1530)	3360 (2580)
14	283 (250)	109 (96)	297 (262)	817 (721)					36 (26)	252 (181)	1910 (1370)	3120 (2250)
15	212 (205)	82 (79)	221 (214)	609 (590)	557 (344)	224 (139)	646 (399)	1780 (1100)	27 (30)	187 (211)	1420 (1600)	2260 (2550)
16	214 (206)	82 (79)	224 (215)	618 (594)								
17	252 (435)	97 (167)	270 (464)	744 (1280)	509 (395)	205 (159)	590 (458)	1630 (1260)				
18												
19	322 (103)	124 (40)	361 (117)	996 (322)	582 (215)	234 (87)	675 (249)	1860 (687)	7 (6)	48 (43)	364 (322)	852 (754)
20	320 (152)	123 (58)	367 (173)	1010 (476)	576 (193)	232 (78)	667 (223)	1840 (616)	6 (6)	45 (39)	338 (297)	784 (690)
21	315 (146)	121 (56)	369 (172)	1020 (473)	432 (309)	174 (124)	500 (358)	1380 (987)	9 (9)	64 (64)	485 (481)	1120 (1110)
22					357 (440)	144 (177)	413 (509)	1140 (1400)				
23									19 (17)	130 (117)	989 (886)	2250 (2020)
24	294 (285)	113 (110)	355 (344)	979 (949)					16 (12)	111 (86)	839 (648)	1890 (1460)
25												
26												
27												
28												
29												
30									31 (22)	212 (155)	1600 (1180)	3340 (2460)
31												
Avg	253	97	279	768	460	185	533	1470	22	153	1160	2290
n	15	15	15	15	9	9	9	9	18	18	18	18
SD	52	20	65	180	102	41	118	326	11	79	596	1120
Min	138	53	146	404	295	119	342	944	0	0	0	0
Max	322	124	369	1020	582	234	675	1860	38	262	1990	3810

Table E5. Daily means (SD) of PM10 emissions at site NC4B for January, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2									36 (33)	251 (227)	1900 (1720)	3840 (3470)
3									32 (26)	222 (182)	1680 (1380)	3360 (2750)
4	331 (246)	127 (95)	406 (301)	1120 (831)					35 (24)	242 (168)	1830 (1270)	3630 (2520)
5	319 (196)	123 (75)	394 (242)	1090 (666)					28 (19)	192 (131)	1460 (995)	2850 (1950)
6	280 (169)	107 (65)	347 (210)	957 (579)					27 (16)	187 (109)	1420 (825)	2740 (1590)
7	446 (290)	171 (112)	557 (362)	1540 (999)					42 (22)	290 (155)	2200 (1180)	4200 (2240)
8												
9												
10									65 (35)	452 (243)	3430 (1840)	6340 (3420)
11									53 (27)	370 (188)	2800 (1420)	5130 (2600)
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28	503 (360)	193 (138)	583 (418)	1610 (1150)					27 (18)	190 (127)	1440 (961)	2960 (1980)
29												
30												
31												
Avg	376	144	457	1260					38	266	2020	3890
n	5	5	5	5	0	0	0	0	9	9	9	9
SD	84	32	94	260					12	86	650	1120
Min	280	107	347	957					27	187	1420	2740
Max	503	193	583	1610					65	452	3430	6340

Table E5. Daily means (SD) of PM10 emissions at site NC4B for February, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3												
4												
5												
6												
7									54 (30)	372 (208)	2920 (1640)	5360 (3010)
8	500 (359)	192 (138)	565 (406)	1560 (1120)					50 (30)	345 (206)	2730 (1630)	4950 (2960)
9	551 (433)	212 (166)	623 (489)	1720 (1350)					50 (31)	343 (215)	2740 (1720)	4910 (3080)
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Avg	525	202	594	1640					51	353	2800	5080
n	2	2	2	2	0	0	0	0	3	3	3	3
SD	25	10	29	80					2	13	89	205
Min	500	192	565	1560					50	343	2730	4910
Max	551	212	623	1720					54	372	2920	5360

Table E5. Daily means (SD) of PM10 emissions at site NC4B for March, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3												
4												
5									38 (20)	267 (142)	2020 (1070)	3700 (1960)
6									34 (24)	238 (163)	1800 (1240)	3150 (2170)
7	431 (205)	166 (79)	523 (250)	1440 (688)					37 (24)	259 (170)	1970 (1290)	3270 (2130)
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18									21 (14)	147 (96)	1110 (727)	2450 (1600)
19									24 (14)	168 (95)	1270 (717)	2760 (1560)
20									31 (18)	217 (124)	1640 (942)	3520 (2010)
21									33 (22)	231 (149)	1750 (1130)	3690 (2380)
22									34 (21)	236 (144)	1790 (1090)	3720 (2270)
23									39 (25)	270 (171)	2040 (1300)	4190 (2670)
24									44 (24)	308 (166)	2330 (1260)	4720 (2550)
25									49 (25)	341 (176)	2590 (1330)	5150 (2660)
26	264 (178)	102 (69)	310 (211)	855 (581)					37 (17)	258 (119)	1960 (904)	3850 (1780)
27	309 (163)	119 (63)	354 (188)	975 (518)					32 (17)	221 (117)	1670 (883)	3250 (1720)
28	274 (131)	105 (51)	306 (147)	843 (406)					34 (20)	238 (136)	1800 (1030)	3450 (1980)
29	349 (264)	134 (101)	379 (286)	1040 (788)					39 (25)	269 (174)	2040 (1320)	3850 (2490)
30	420 (224)	161 (86)	449 (239)	1240 (660)					40 (21)	280 (146)	2120 (1100)	3980 (2070)
31	363 (223)	140 (86)	387 (238)	1070 (656)								
Avg	344	132	387	1070					36	247	1870	3670
n	7	7	7	7	0	0	0	0	16	16	16	16
SD	61	24	72	198					7	46	348	648
Min	264	102	306	843					21	147	1110	2450
Max	431	166	523	1440					49	341	2590	5150

Table E5. Daily means (SD) of PM10 emissions at site NC4B for April, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	343 (226)	132 (87)	364 (240)	1000 (661)								
2	299 (198)	115 (76)	316 (210)	872 (579)								
3	332 (311)	128 (119)	349 (327)	963 (901)					8 (6)	58 (39)	442 (298)	1090 (734)
4	403 (273)	155 (105)	422 (286)	1160 (789)								
5	422 (311)	162 (120)	440 (325)	1210 (895)					14 (10)	99 (69)	749 (519)	1820 (1260)
6	289 (437)	111 (168)	301 (455)	828 (1250)					13 (6)	88 (42)	666 (321)	1610 (776)
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29	432 (218)	166 (84)	510 (257)	1410 (709)								
30	353 (279)	136 (107)	418 (330)	1150 (910)								
Avg	359	138	390	1080					12	82	619	1510
n	8	8	8	8	0	0	0	0	3	3	3	3
SD	51	20	66	181					3	17	130	307
Min	289	111	301	828					8	58	442	1090
Max	432	166	510	1410					14	99	749	1820

Table E5. Daily means (SD) of PM10 emissions at site NC4B for May, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	333 (224)	128 (86)	394 (265)	1080 (731)					23 (16)	160 (114)	1210 (861)	2920 (2070)
2	337 (276)	130 (106)	398 (326)	1100 (898)					18 (9)	128 (62)	968 (473)	2300 (1120)
3	280 (297)	108 (114)	330 (350)	911 (965)					20 (12)	141 (84)	1070 (639)	2490 (1490)
4	318 (280)	122 (108)	376 (330)	1040 (910)					22 (21)	155 (148)	1170 (1120)	2700 (2580)
5	232 (173)	89 (66)	274 (204)	755 (562)					21 (10)	143 (70)	1090 (530)	2470 (1210)
6	218 (260)	84 (100)	258 (308)	710 (848)					23 (14)	156 (98)	1180 (744)	2650 (1660)
7	196 (196)	75 (75)	232 (232)	640 (640)					25 (14)	171 (96)	1290 (726)	2860 (1600)
8	268 (249)	103 (96)	319 (297)	880 (818)					31 (18)	217 (122)	1640 (923)	3590 (2020)
9	231 (369)	89 (142)	277 (442)	763 (1220)					32 (20)	219 (142)	1660 (1070)	3590 (2330)
10	298 (217)	114 (83)	358 (261)	987 (719)					35 (18)	240 (125)	1820 (950)	3890 (2030)
11									40 (14)	277 (95)	2100 (723)	4450 (1530)
12	343 (318)	132 (122)	417 (386)	1150 (1060)					47 (23)	323 (157)	2450 (1190)	5130 (2510)
13	338 (327)	130 (126)	414 (401)	1140 (1100)					47 (24)	327 (166)	2480 (1250)	5140 (2600)
14	275 (290)	106 (112)	340 (358)	937 (987)					39 (23)	268 (162)	2030 (1220)	4160 (2510)
15	277 (336)	107 (129)	346 (420)	953 (1160)					42 (28)	294 (197)	2230 (1490)	4520 (3020)
16	216 (386)	83 (148)	272 (486)	749 (1340)					54 (40)	375 (278)	2840 (2100)	5690 (4210)
17	247 (237)	95 (91)	313 (301)	862 (829)					49 (29)	342 (203)	2590 (1540)	5130 (3050)
18									63 (25)	439 (173)	3320 (1310)	6510 (2580)
19									52 (19)	360 (131)	2730 (993)	5290 (1930)
20	300 (322)	115 (124)	363 (391)	1000 (1080)					54 (27)	374 (188)	2840 (1430)	5450 (2740)
21	188 (252)	72 (97)	223 (299)	615 (823)					57 (32)	396 (223)	3000 (1690)	5710 (3200)
22	183 (393)	70 (151)	213 (457)	587 (1260)					69 (38)	477 (260)	3620 (1970)	6810 (3710)
23	168 (251)	65 (97)	191 (286)	527 (789)					54 (31)	371 (216)	2810 (1640)	5250 (3060)
24	91 (197)	35 (76)	101 (219)	279 (603)					49 (35)	340 (242)	2580 (1830)	4760 (3380)
25	93 (230)	36 (89)	102 (252)	282 (694)					49 (32)	339 (221)	2570 (1670)	4700 (3060)
26												
27	262 (385)	101 (148)	284 (418)	783 (1150)								
28	145 (250)	56 (96)	158 (271)	435 (748)								
29	175 (233)	67 (90)	190 (253)	523 (698)					15 (7)	102 (45)	775 (342)	1880 (827)
30	290 (423)	112 (163)	316 (461)	872 (1270)					19 (9)	129 (62)	980 (466)	2350 (1110)
31	262 (466)	101 (179)	285 (508)	787 (1400)					14 (7)	96 (49)	726 (372)	1720 (881)
Avg	243	94	287	791					38	263	1990	4080
n	27	27	27	27	0	0	0	0	28	28	28	28
SD	70	27	87	240					16	109	827	1420
Min	91	35	101	279					14	96	726	1720
Max	343	132	417	1150					69	477	3620	6810

Table E5. Daily means (SD) of PM10 emissions at site NC4B for June, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1	216 (276)	83 (106)	236 (302)	651 (831)					13 (8)	90 (53)	679 (402)	1590 (944)
2	175 (592)	67 (228)	192 (647)	529 (1780)					13 (9)	87 (63)	658 (479)	1530 (1110)
3	166 (387)	64 (149)	182 (424)	501 (1170)					14 (11)	97 (79)	732 (598)	1680 (1370)
4	189 (388)	73 (149)	207 (425)	571 (1170)					19 (13)	134 (91)	1020 (692)	2310 (1570)
5	206 (286)	79 (110)	225 (312)	619 (860)					22 (11)	151 (79)	1140 (600)	2570 (1350)
6	261 (148)	100 (57)	284 (161)	782 (443)					20 (9)	140 (61)	1060 (462)	2350 (1030)
7	255 (254)	98 (98)	276 (275)	762 (758)					26 (14)	177 (97)	1340 (734)	2940 (1610)
8	280 (414)	108 (159)	304 (449)	837 (1240)					28 (18)	192 (123)		
9	151 (325)	58 (125)	164 (353)	451 (974)					23 (15)	158 (103)		
10	269 (564)	104 (217)	293 (614)	808 (1690)					28 (18)	191 (127)		
11	357 (348)	137 (134)	390 (381)	1080 (1050)					27 (18)	185 (125)		
12	358 (200)	138 (77)	393 (219)	1080 (604)					25 (22)	171 (154)		
13	356 (228)	137 (88)	391 (250)	1080 (690)					25 (17)	176 (119)		
14	317 (215)	122 (83)	349 (237)	962 (652)					30 (21)	207 (143)		
15												
16												
17	264 (210)	101 (81)	293 (233)	807 (643)					20 (17)	141 (116)	3390 (2790)	6440 (5310)
18	173 (133)	67 (51)	193 (148)	531 (407)					14 (8)	94 (55)	2250 (1320)	4250 (2500)
19	159 (136)	61 (52)	177 (151)	488 (416)					16 (10)	108 (66)	2590 (1590)	4860 (2990)
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Avg	244	94	267	737					21	147	1490	3050
n	17	17	17	17	0	0	0	0	17	17	10	10
SD	70	27	77	211					6	39	886	1540
Min	151	58	164	451					13	87	658	1530
Max	358	138	393	1080					30	207	3390	6440

Table E5. Daily means (SD) of PM10 emissions at site NC4B for July, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	378 (149)	145 (58)	425 (168)	1170 (464)	346 (248)	139 (100)	388 (278)	1070 (766)	75 (39)	520 (268)	3940 (2030)	9370 (4810)
13	203 (157)	78 (61)	228 (177)	629 (488)	343 (157)	138 (63)	385 (177)	1060 (487)	61 (28)	426 (191)	3230 (1450)	7960 (3550)
14	256 (171)	98 (66)	288 (192)	795 (529)	407 (222)	164 (90)	457 (249)	1260 (688)				
15	134 (438)	52 (168)	151 (493)	417 (1360)	214 (349)	86 (141)	240 (392)	661 (1080)				
16	225 (156)	87 (60)	251 (175)	693 (483)	262 (175)	105 (70)	294 (196)	811 (540)				
17	170 (124)	65 (48)	186 (135)	513 (373)	245 (180)	99 (73)	275 (202)	757 (557)				
18												
19	246 (178)	95 (68)	260 (188)	716 (518)	401 (254)	161 (102)	451 (285)	1240 (786)	14 (8)	94 (55)	712 (413)	1780 (1030)
20	175 (181)	67 (70)	182 (187)	501 (517)	336 (177)	135 (71)	377 (199)	1040 (550)	12 (7)	82 (51)	617 (387)	1480 (927)
21	161 (212)	62 (82)	166 (219)	458 (603)	340 (249)	137 (100)	382 (280)	1050 (771)	16 (9)	110 (63)	835 (481)	1960 (1120)
22	189 (178)	73 (68)	196 (184)	540 (507)	295 (244)	119 (98)	331 (274)	913 (755)	11 (9)	76 (60)	577 (456)	1340 (1060)
23	122 (147)	47 (57)	126 (153)	349 (422)	226 (213)	91 (86)	253 (239)	698 (658)	10 (7)	69 (51)	525 (388)	1200 (886)
24	141 (153)	54 (59)	147 (160)	404 (440)	258 (264)	104 (106)	290 (296)	799 (817)	15 (10)	105 (69)	798 (525)	1800 (1180)
25	146 (148)	56 (57)	153 (156)	421 (429)	199 (219)	80 (88)	223 (246)	614 (677)	15 (11)	103 (76)	778 (574)	1730 (1280)
26	206 (173)	79 (67)	217 (182)	597 (502)	169 (217)	68 (87)	190 (243)	523 (671)	18 (11)	126 (77)	957 (581)	2100 (1270)
27												
28												
29												
30												
31	160 (147)	61 (56)	167 (154)	461 (423)					23 (14)	158 (97)	1200 (738)	2480 (1530)
Avg	194	75	210	578	289	116	324	893	25	170	1290	3020
n	15	15	15	15	14	14	14	14	11	11	11	11
SD	63	24	73	201	72	29	81	224	21	146	1110	2700
Min	122	47	126	349	169	68	190	523	10	69	525	1200
Max	378	145	425	1170	407	164	457	1260	75	520	3940	9370

Table E5. Daily means (SD) of PM10 emissions at site NC4B for August, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	185 (158)	71 (61)	192 (165)	530 (454)					24 (13)	166 (87)	1260 (659)	2580 (1350)
2	104 (162)	40 (62)	109 (168)	299 (463)					18 (13)	123 (87)	931 (656)	1890 (1330)
3	150 (167)	58 (64)	156 (174)	431 (480)					18 (13)	128 (92)	971 (694)	1950 (1390)
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26	121 (234)	46 (90)	141 (272)	388 (750)	186 (265)	75 (107)	211 (301)	582 (830)	13 (38)	87 (262)	655 (1990)	1370 (4150)
27	54 (202)	21 (78)	63 (235)	174 (648)	164 (291)	66 (117)	187 (331)	515 (912)	13 (35)	89 (239)	673 (1810)	1390 (3750)
28	47 (197)	18 (76)	54 (228)	150 (629)	158 (268)	64 (108)	179 (305)	495 (840)	10 (25)	72 (174)	542 (1320)	1110 (2690)
29	84 (227)	32 (87)	97 (262)	268 (722)	209 (257)	84 (103)	237 (292)	654 (805)	11 (39)	79 (272)	598 (2060)	1210 (4170)
30	147 (186)	57 (71)	170 (214)	469 (590)	168 (241)	68 (97)	191 (274)	526 (755)	13 (27)	90 (190)	681 (1440)	1360 (2880)
31					346 (213)	139 (86)	394 (243)	1090 (669)	39 (36)	271 (247)	2050 (1870)	4030 (3680)
Avg	112	43	123	339	205	83	233	643	18	123	929	1880
n	8	8	8	8	6	6	6	6	9	9	9	9
SD	45	17	47	129	65	26	74	205	9	60	452	878
Min	47	18	54	150	158	64	179	495	10	72	542	1110
Max	185	71	192	530	346	139	394	1090	39	271	2050	4030

Table E5. Daily means (SD) of PM10 emissions at site NC4B for September, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1					547 (178)	220 (72)	623 (202)	1720 (557)	66 (40)	458 (279)	3470 (2120)	6680 (4080)
2	379 (200)	146 (77)	438 (232)	1210 (639)	512 (211)	206 (85)	583 (241)	1610 (663)				
3	319 (205)	123 (79)	370 (237)	1020 (655)	382 (235)	154 (95)	434 (267)	1200 (737)	50 (26)	350 (178)	2650 (1350)	4860 (2490)
4	358 (215)	138 (83)	416 (249)	1150 (687)	488 (180)	196 (73)	555 (205)	1530 (566)	53 (30)	369 (209)	2800 (1580)	4990 (2810)
5	273 (239)	105 (92)	318 (279)	875 (768)	377 (268)	152 (108)	429 (305)	1180 (840)				
6	338 (302)	130 (116)	394 (352)	1090 (970)	369 (244)	148 (98)	420 (278)	1160 (767)	58 (42)	404 (289)	3060 (2190)	5180 (3710)
7	227 (144)	87 (55)	265 (168)	731 (464)	307 (156)	123 (63)	349 (178)	963 (490)	43 (26)	298 (180)	2260 (1370)	3730 (2270)
8	225 (154)	87 (59)	260 (179)	717 (493)	354 (170)	142 (68)	403 (194)	1110 (534)				
9	360 (302)	138 (116)	406 (341)	1120 (939)	481 (222)	194 (89)	548 (253)	1510 (698)				
10	258 (208)	99 (80)	285 (230)	785 (635)	420 (202)	169 (81)	479 (231)	1320 (636)	15 (4)	102 (26)	771 (193)	1810 (451)
11	341 (242)	131 (93)	367 (262)	1010 (721)	510 (258)	205 (104)	583 (295)	1610 (812)	18 (7)	123 (48)	931 (364)	2170 (845)
12	294 (345)	113 (133)	309 (363)	852 (999)	346 (320)	139 (129)	396 (366)	1090 (1010)	13 (8)	92 (55)	698 (413)	1610 (954)
13	279 (288)	107 (111)	287 (295)	790 (814)	423 (242)	170 (98)	485 (278)	1340 (765)	20 (12)	142 (80)	1070 (608)	2460 (1390)
14	368 (584)	141 (225)	370 (586)	1020 (1610)	428 (457)	172 (184)	491 (524)	1350 (1440)	24 (17)	169 (120)	1280 (913)	2910 (2080)
15	376 (361)	144 (139)	374 (359)	1030 (990)	423 (569)	170 (229)	486 (654)	1340 (1800)	29 (18)	204 (122)	1540 (927)	3480 (2090)
16	284 (183)	109 (70)	284 (183)	783 (504)	451 (284)	181 (114)	518 (326)	1430 (899)	29 (13)	202 (92)	1530 (700)	3410 (1560)
17	265 (104)	102 (40)	267 (105)	737 (290)	387 (159)	156 (64)	445 (183)	1230 (505)	33 (15)	229 (103)	1740 (781)	3820 (1720)
18	308 (146)	119 (56)	312 (148)	861 (408)	464 (174)	187 (70)	533 (200)	1470 (552)	54 (67)	374 (468)	2830 (3550)	6180 (7740)
19	309 (155)	119 (59)	315 (157)	867 (434)	417 (178)	168 (72)	479 (204)	1320 (563)	38 (21)	264 (144)	2000 (1090)	4310 (2350)
20	319 (170)	123 (65)	327 (174)	902 (480)	472 (178)	190 (72)	543 (205)	1500 (566)	43 (26)	297 (180)	2250 (1360)	4800 (2900)
21	338 (340)	130 (131)	348 (351)	960 (968)	450 (321)	181 (129)	518 (369)	1430 (1020)	40 (31)	277 (214)	2100 (1620)	4420 (3410)
22	143 (90)	55 (35)	148 (94)	407 (258)	259 (129)	104 (52)	298 (149)	822 (410)	29 (20)	202 (139)	1530 (1060)	3180 (2200)
23	156 (106)	60 (41)	162 (110)	447 (304)	203 (165)	82 (67)	234 (190)	644 (523)	30 (21)	210 (143)	1590 (1080)	3280 (2230)
24	165 (128)	63 (49)	172 (134)	474 (368)	231 (280)	93 (113)	265 (322)	730 (887)	33 (25)	228 (172)	1730 (1310)	3510 (2660)
25	159 (144)	61 (55)	166 (151)	459 (415)	193 (160)	78 (64)	221 (183)	610 (505)	40 (25)	280 (172)	2120 (1300)	4250 (2610)
26	245 (159)	94 (61)	257 (167)	709 (461)	326 (198)	131 (80)	375 (227)	1030 (625)	51 (24)	356 (163)	2700 (1230)	5340 (2450)
27	268 (166)	103 (64)	283 (176)	780 (484)	282 (164)	113 (66)	323 (189)	891 (520)	47 (29)	325 (202)	2460 (1530)	4820 (2990)
28	317 (300)	122 (115)	336 (318)	926 (876)	312 (350)	126 (141)	358 (402)	987 (1110)	49 (56)	341 (389)	2590 (2950)	5010 (5690)
29	400 (226)	154 (87)	425 (240)	1170 (662)	448 (308)	180 (124)	514 (353)	1420 (974)	47 (31)	329 (218)	2490 (1650)	4760 (3150)
30	366 (195)	141 (75)	391 (208)	1080 (572)	477 (394)	192 (159)	547 (451)	1510 (1240)	30 (23)	205 (163)	1550 (1230)	2930 (2330)
Avg	291	112	312	860	391	158	448	1230	38	263	1990	4000
n	29	29	29	29	30	30	30	30	26	26	26	26
SD	71	27	79	217	93	37	105	291	14	95	717	1250
Min	143	55	148	407	193	78	221	610	13	92	698	1610
Max	400	154	438	1210	547	220	623	1720	66	458	3470	6680

Table E5. Daily means (SD) of PM10 emissions at site NC4B for October, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	434 (405)	167 (156)	465 (434)	1280 (1200)	520 (278)	209 (112)	595 (319)	1640 (878)				
2	412 (227)	158 (87)	442 (244)	1220 (673)	503 (216)	202 (87)	575 (247)	1590 (682)				
3	368 (399)	142 (154)	397 (431)	1090 (1190)	402 (181)	162 (73)	459 (207)	1270 (570)				
4	463 (289)	178 (111)	501 (312)	1380 (860)	539 (201)	217 (81)	616 (230)	1700 (635)				
5	373 (261)	143 (100)	405 (283)	1120 (781)	497 (221)	200 (89)	567 (253)	1560 (696)				
6	295 (240)	114 (92)	322 (261)	887 (721)	420 (187)	169 (75)	479 (213)	1320 (588)				
7	284 (449)	109 (173)	311 (491)	858 (1350)	324 (292)	131 (117)	370 (333)	1020 (917)				
8	455 (311)	175 (119)	499 (341)	1380 (940)	572 (277)	230 (111)	652 (316)	1800 (870)				
9	326 (422)	125 (162)	360 (465)	991 (1280)	338 (332)	136 (134)	385 (378)	1060 (1040)				
10	163 (343)	63 (132)	180 (379)	496 (1040)	189 (225)	76 (91)	215 (256)	593 (706)				
11	294 (234)	113 (90)	326 (259)	899 (715)	444 (202)	179 (82)	506 (230)	1390 (635)				
12	305 (250)	117 (96)	340 (278)	938 (766)	547 (216)	220 (87)	623 (245)	1720 (676)				
13	328 (259)	126 (100)	367 (290)	1010 (799)	531 (229)	214 (92)	604 (261)	1670 (718)				
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28					434 (188)	175 (76)	489 (211)	1350 (583)				
29					566 (281)	228 (113)	639 (317)	1760 (874)				
30					549 (195)	221 (78)	619 (220)	1710 (605)				
31					444 (270)	179 (109)	500 (304)	1380 (839)				
Avg	346	133	378	1040	460	185	523	1440				
n	13	13	13	13	17	17	17	17	0	0	0	0
SD	80	31	85	234	100	40	114	313				
Min	163	63	180	496	189	76	215	593				
Max	463	178	501	1380	572	230	652	1800				

Table E5. Daily means (SD) of PM10 emissions at site NC4B for November, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1					448 (186)	180 (75)	504 (210)	1390 (578)				
2												
3					601 (294)	242 (118)	676 (330)	1860 (910)				
4					617 (428)	249 (172)	694 (481)	1910 (1330)				
5					631 (377)	254 (152)	709 (424)	1950 (1170)				
6												
7												
8	369 (122)	142 (47)	379 (126)	1050 (348)								
9	324 (167)	125 (64)	331 (171)	913 (470)	502 (224)	202 (90)	563 (251)	1550 (692)				
10	293 (189)	113 (73)	298 (192)	822 (530)	500 (253)	201 (102)	561 (284)	1550 (782)				
11	258 (282)	99 (108)	263 (287)	724 (790)	429 (318)	173 (128)	480 (356)	1320 (981)				
12	258 (153)	99 (59)	263 (155)	724 (428)	210 (264)	85 (106)	235 (296)	648 (816)				
13	211 (115)	81 (44)	214 (117)	590 (322)	281 (276)	113 (111)	314 (309)	866 (853)				
14	249 (175)	96 (67)	252 (177)	695 (489)	484 (267)	195 (108)	542 (299)	1490 (824)				
15	263 (244)	101 (94)	267 (247)	735 (682)	531 (294)	214 (118)	595 (329)	1640 (908)				
16	302 (196)	116 (75)	306 (199)	844 (549)								
17	331 (203)	127 (78)	338 (207)	931 (570)	615 (295)	247 (119)	688 (330)	1900 (909)				
18	364 (629)	140 (242)	373 (646)	1030 (1780)	471 (321)	190 (129)	527 (359)	1450 (991)				
19	229 (454)	88 (175)	236 (468)	651 (1290)	428 (180)	172 (72)	480 (201)	1320 (555)				
20	305 (187)	117 (72)	316 (194)	871 (536)	545 (228)	219 (92)	610 (256)	1680 (705)				
21	326 (194)	126 (75)	341 (203)	939 (559)								
22	315 (233)	121 (90)	331 (244)	912 (674)								
23	238 (192)	92 (74)	251 (202)	693 (557)	431 (320)	174 (129)	484 (359)	1330 (991)				
24	218 (189)	84 (73)	231 (200)	638 (552)								
25	278 (262)	107 (101)	295 (278)	814 (765)								
26	294 (122)	113 (47)	312 (130)	861 (358)								
27					322 (362)	130 (146)	361 (407)	996 (1120)				
28												
29	377 (213)	145 (82)	403 (228)	1110 (629)								
30	340 (192)	131 (74)	365 (206)	1010 (568)	617 (383)	248 (154)	694 (430)	1910 (1190)				
Avg	292	112	303	836	481	194	540	1490				
n	21	21	21	21	18	18	18	18	0	0	0	0
SD	48	19	52	143	117	47	132	363				
Min	211	81	214	590	210	85	235	648				
Max	377	145	403	1110	631	254	709	1950				

Table E6. PM2.5 emissions.

Table E6. Daily means (SD) of PM2.5 emissions at site NC4B for October, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1												
2												
3												
4												
5												
6												
7												
8												
9												
10	29 (17)	11 (7)	31 (18)	86 (50)	32 (25)	13 (10)	36 (29)	100 (79)	1.48 (1.16)	10 (8)	78 (61)	159 (124)
11	26 (14)	10 (5)	28 (15)	77 (41)	30 (20)	12 (8)	34 (22)	94 (62)	1.51 (1.05)	11 (7)	80 (55)	161 (111)
12	51 (33)	20 (13)	56 (36)	153 (100)	39 (24)	16 (10)	44 (27)	122 (75)	2.24 (1.22)	16 (9)	118 (64)	236 (129)
13					39 (28)	16 (11)	45 (32)	123 (87)	2.58 (1.69)	18 (12)	136 (89)	269 (177)
14	39 (34)	15 (13)	42 (38)	116 (103)	49 (42)	20 (17)	55 (47)	152 (130)	3.40 (2.60)	24 (18)	179 (137)	352 (269)
15	42 (31)	16 (12)	46 (35)	128 (95)	35 (66)	14 (27)	39 (75)	108 (207)	4.05 (5.97)	28 (42)	213 (314)	424 (619)
16					117 (170)	47 (69)	132 (192)	364 (530)	1.93 (3.70)	13 (26)	102 (195)	
17					44 (37)	18 (15)	49 (41)	135 (114)	2.69 (3.37)	19 (23)	141 (177)	
18					45 (29)	18 (12)	51 (33)	141 (91)	3.72 (1.68)	26 (12)	196 (88)	
19									4.93 (1.99)	34 (14)	260 (105)	
20									5.21 (2.13)	36 (15)	274 (112)	
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Avg	37.3	14.4	41	112	47.7	19.2	54	149	3.07	21.3	161	266
n	5	5	5	5	9	9	9	9	11	11	11	6
SD	9.1	3.5	10	28	25.2	10.1	28	78	1.24	8.6	65	96
Min	25.9	10.0	28	77	30.1	12.1	34	94	1.48	10.3	78	159
Max	51.2	19.7	56	153	117.0	47.1	132	364	5.21	36.1	274	424

Table E6. Daily means (SD) of PM2.5 emissions at site NC4B for April, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1												
2												
3												
4												
5												
6												
7												
8	52 (32)	20 (12)	55 (34)	151 (93)								
9	46 (23)	18 (9)	49 (24)	134 (67)								
10	52 (39)	20 (15)	55 (42)	153 (115)					2.22 (1.84)	15 (13)	117 (97)	262 (217)
11	47 (19)	18 (7)	51 (21)	139 (57)					2.17 (1.34)	15 (9)	114 (71)	251 (155)
12	50 (24)	19 (9)	55 (27)	151 (73)					2.40 (1.50)	17 (10)	126 (79)	271 (170)
13	40 (35)	15 (13)	44 (38)	121 (105)					1.82 (1.68)	13 (12)	96 (89)	202 (187)
14	36 (24)	14 (9)	39 (26)	108 (72)					1.77 (1.75)	12 (12)	93 (92)	194 (193)
15	35 (29)	13 (11)	39 (32)	106 (87)					1.81 (1.76)	13 (12)	95 (93)	197 (192)
16												
17	49 (40)	19 (15)	54 (44)	150 (122)					2.99 (2.13)	21 (15)	157 (112)	319 (228)
18	38 (51)	15 (19)	42 (56)	115 (154)					2.87 (2.12)	20 (15)	151 (111)	302 (223)
19	45 (42)	17 (16)	50 (47)	138 (129)					3.23 (1.78)	23 (12)	170 (94)	338 (186)
20	40 (51)	15 (20)	44 (57)	122 (156)					3.74 (2.37)	26 (16)	197 (125)	387 (245)
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Avg	44.0	16.9	48	132					2.50	17.4	132	272
n	12	12	12	12	0	0	0	0	10	10	10	10
SD	5.9	2.3	6	17					0.64	4.5	34	61
Min	34.9	13.4	39	106					1.77	12.3	93	194
Max	52.0	20.0	55	153					3.74	25.9	197	387

Table E6. Daily means (SD) of PM2.5 emissions at site NC4B for December, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3	0 (158)	0 (61)	0 (171)	1 (471)	58 (20)	24 (8)	66 (23)	181 (63)				
4												
5												
6												
7												
8												
9	41 (25)	16 (10)	45 (27)	124 (75)	44 (36)	18 (15)	49 (41)	135 (113)				
10	31 (22)	12 (8)	34 (24)	92 (66)	44 (51)	18 (21)	50 (58)	137 (159)				
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Avg	24.0	9.2	26	72	48.6	19.6	55	151				
n	3	3	3	3	3	3	3	3	0	0	0	0
SD	17.4	6.7	19	52	6.8	2.8	8	21				
Min	0.2	0.1	0	1	43.5	17.5	49	135				
Max	41.1	15.8	45	124	58.3	23.5	66	181				

Table E7. TSP emissions.

Table E7. Daily means (SD) of TSP emissions at site NC4B for April, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22	1320 (616)	508 (237)	1490 (693)	4100 (1910)					127 (60)	884 (418)	6700 (3170)	12900 (6120)
23	915 (859)	352 (330)	1040 (976)	2870 (2690)					167 (98)	1160 (681)	8760 (5160)	16700 (9850)
24	738 (941)	284 (362)	847 (1080)	2330 (2970)					153 (102)	1060 (711)	8050 (5390)	15200 (10200)
25	414 (664)	159 (255)	478 (768)	1320 (2120)					160 (114)	1110 (789)	8410 (5980)	15800 (11200)
26	489 (1040)	188 (400)	571 (1220)	1570 (3350)					178 (152)	1230 (1050)	9350 (7990)	17400 (14800)
27	489 (1110)	188 (428)	576 (1310)	1590 (3620)					176 (143)	1230 (996)	9290 (7550)	17100 (13900)
28												
29												
30												
Avg	728	280	833	2300					160	1110	8430	15900
n	6	6	6	6	0	0	0	0	6	6	6	6
SD	316	121	350	964					17	118	897	1500
Min	414	159	478	1320					127	884	6700	12900
Max	1320	508	1490	4100					178	1230	9350	17400

Table E7. Daily means (SD) of TSP emissions at site NC4B for June, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30	617 (644)	237 (248)	703 (734)	1940 (2020)	725 (1010)	292 (406)	815 (1130)	2250 (3120)	121 (91)	843 (628)	6390 (4760)	14100 (10500)
Avg												
n	1	1	1	1	1	1	1	1	1	1	1	1
SD												
Min												
Max												

Table E7. Daily means (SD) of TSP emissions at site NC4B for July, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1	442 (494)	170 (190)	503 (562)	1390 (1550)	589 (509)	237 (205)	662 (572)	1830 (1580)	117 (73)	813 (507)	6160 (3840)	13400 (8350)
2	160 (265)	62 (102)	182 (301)	500 (830)	504 (380)	203 (153)	566 (427)	1560 (1180)	89 (50)	619 (346)	4690 (2620)	10100 (5640)
3	322 (377)	124 (145)	365 (427)	1000 (1180)	645 (479)	260 (193)	725 (539)	2000 (1490)	130 (93)	900 (644)	6820 (4880)	14500 (10300)
4	381 (512)	147 (197)	431 (578)	1190 (1590)	663 (452)	267 (182)	746 (508)	2060 (1400)	128 (73)	888 (504)	6730 (3820)	14100 (8000)
5	217 (278)	84 (107)	245 (313)	675 (864)	405 (347)	163 (140)	456 (391)	1260 (1080)	110 (53)	765 (365)	5800 (2770)	12000 (5750)
6	114 (129)	44 (50)	128 (145)	354 (401)	559 (262)	225 (105)	629 (294)	1730 (811)	116 (56)	807 (390)	6120 (2950)	12700 (6140)
7	239 (368)	92 (142)	269 (414)	742 (1140)	593 (413)	239 (166)	666 (465)	1840 (1280)	151 (78)	1050 (543)	7940 (4120)	16700 (8680)
8	425 (490)	164 (189)	479 (552)	1320 (1520)	452 (800)	182 (322)	508 (900)	1400 (2480)	130 (69)	902 (476)	6830 (3610)	14700 (7780)
9	430 (291)	165 (112)	484 (327)	1330 (902)	499 (328)	201 (132)	561 (368)	1550 (1010)	179 (81)	1240 (563)	9430 (4270)	20700 (9390)
10	614 (531)	236 (204)	691 (598)	1910 (1650)	764 (464)	308 (187)	859 (521)	2370 (1440)	191 (99)	1330 (685)	10100 (5190)	22600 (11700)
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Avg	335	129	378	1040	567	228	638	1760	134	932	7060	15100
n	10	10	10	10	10	10	10	10	10	10	10	10
SD	145	56	164	452	102	41	114	315	30	207	1570	3680
Min	114	44	128	354	405	163	456	1260	89	619	4690	10100
Max	614	236	691	1910	764	308	859	2370	191	1330	10100	22600

Table E7. Daily means (SD) of TSP emissions at site NC4B for August, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}	g·d^{-1}	mg·d^{-1} m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1} AU^{-1}
1												
2												
3												
4												
5												
6												
7	502 (227)	193 (87)	538 (243)	1480 (670)	443 (299)	178 (120)	498 (337)	1370 (928)	70 (37)	487 (256)	3690 (1940)	7110 (3740)
8	511 (164)	196 (63)	550 (177)	1520 (487)	373 (223)	150 (90)	420 (251)	1160 (691)	66 (32)	456 (223)	3460 (1690)	6590 (3220)
9	399 (181)	154 (70)	433 (197)	1190 (542)	300 (180)	121 (72)	339 (203)	934 (559)	58 (26)	404 (183)	3060 (1380)	
10	409 (206)	157 (79)	447 (225)	1230 (621)	271 (227)	109 (91)	306 (256)	844 (706)	60 (34)	413 (234)	3130 (1770)	
11	336 (176)	129 (68)	369 (193)	1020 (533)	238 (153)	96 (62)	269 (173)	742 (478)				
12												
13												
14												
15												
16	144 (182)	55 (70)	164 (208)	453 (574)	255 (181)	103 (73)	290 (206)	800 (567)	13 (11)	93 (75)	704 (572)	1640 (1330)
17	189 (213)	73 (82)	218 (245)	600 (676)	285 (252)	115 (101)	325 (287)	895 (790)	16 (12)	112 (86)	846 (650)	1940 (1490)
18	162 (141)	62 (54)	186 (163)	514 (449)	220 (188)	88 (76)	250 (215)	690 (592)	21 (14)	149 (94)	1130 (714)	2560 (1620)
19	222 (168)	85 (65)	256 (194)	707 (535)	231 (220)	93 (88)	264 (250)	726 (689)	22 (15)	152 (104)	1150 (790)	2580 (1770)
20	121 (163)	46 (63)	140 (188)	385 (519)	188 (171)	76 (69)	214 (195)	591 (538)	51 (102)	354 (706)	2680 (5350)	5970 (11900)
21	92 (174)	35 (67)	106 (202)	292 (556)	162 (192)	65 (77)	184 (218)	508 (602)	28 (32)	192 (221)	1460 (1680)	3210 (3690)
22	47 (100)	18 (38)	55 (116)	150 (320)	161 (147)	65 (59)	184 (167)	506 (461)	11 (10)	79 (67)	596 (505)	1300 (1100)
23	39 (127)	15 (49)	45 (149)	125 (409)					26 (24)	179 (167)	1360 (1270)	2930 (2730)
24	111 (183)	43 (71)	129 (214)	357 (590)	304 (277)	122 (111)	346 (315)	954 (869)	22 (26)	151 (178)	1150 (1350)	2450 (2880)
25												
26												
27												
28												
29												
30												
31												
Avg	234	90	260	716	264	106	299	825	36	248	1880	3480
n	14	14	14	14	13	13	13	13	13	13	13	11
SD	159	61	169	465	77	31	86	238	21	144	1090	1970
Min	39	15	45	125	161	65	184	506	11	79	596	1300
Max	511	196	550	1520	443	178	498	1370	70	487	3690	7110

Table E7. Daily means (SD) of TSP emissions at site NC4B for October, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15					907 (655)	365 (264)	1030 (746)	2850 (2060)				
16												
17					1100 (588)	444 (237)	1260 (670)	3460 (1850)				
18												
19												
20												
21					1170 (802)	473 (323)	1340 (914)	3690 (2520)				
22	1500 (1990)	578 (765)	1720 (2280)	4740 (6280)	1030 (581)	413 (234)	1170 (661)	3220 (1820)				
23	984 (869)	378 (334)	1130 (995)	3110 (2740)	765 (358)	308 (144)	869 (407)	2390 (1120)				
24	693 (553)	266 (212)	794 (633)	2190 (1740)	553 (414)	223 (167)	627 (470)	1730 (1300)				
25	664 (381)	255 (146)	761 (436)	2100 (1200)	954 (540)	384 (217)	1080 (611)	2970 (1680)				
26					1020 (610)	411 (245)	1150 (689)	3180 (1900)				
27												
28												
29												
30												
31												
Avg	961	369	1100	3030	938	378	1070	2940				
n	4	4	4	4	8	8	8	8	0	0	0	0
SD	337	129	385	1060	186	75	212	586				
Min	664	255	761	2100	553	223	627	1730				
Max	1500	578	1720	4740	1170	473	1340	3690				

Table E8. Hydrogen sulfide concentrations.

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for December, 2007.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet,	ppb	µg·dsm^{-3}
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15	3.9 (1.4)		277 (26)	396 (37)	189 (29)	270 (42)			
16	5.5 (4.7)								
17	4.8 (1.9)		307 (136)	438 (195)	271 (64)	387 (91)			
18	6.8 (2.3)		377 (325)	538 (465)	619 (464)	886 (665)			
19	11.1 (15.8)		167 (225)	238 (322)	169 (90)	242 (128)			
20	5.2 (6.5)		123 (58)	176 (83)	113 (34)	162 (49)			
21	1.8 (0.7)		136 (26)	195 (38)	117 (18)	167 (25)			
22	1.3 (0.6)		146 (42)	209 (61)	110 (29)	158 (41)			
23	1.7 (1.2)		133 (54)	191 (77)	106 (35)	152 (50)			
24	7.1 (6.9)		295 (88)	423 (127)	220 (48)	315 (69)			
25	5.6 (4.2)		322 (75)	460 (108)	167 (23)	239 (33)			
26	5.9 (4.3)		408 (100)	583 (143)	221 (59)	316 (84)			
27	6.2 (5.0)		461 (377)	660 (541)	407 (510)	581 (728)			
28	1.8 (1.7)		84 (24)	120 (34)	92 (69)	132 (98)			
29	1.7 (1.4)		49 (20)	70 (29)	41 (8)	59 (11)			
30	2.7 (1.8)		134 (42)	193 (60)	76 (17)	109 (24)			
31	3.4 (2.4)		291 (76)	418 (108)	179 (80)	257 (114)			
Avg	4.5		232	332	194	277			
n	17	0	16	16	16	16	0	0	0
SD	2.53		121	173	139	199			
Min	1.3		49	70	41	59			
Max	11.1		461	660	619	886			

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for January, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	4.9 (2.0)		321 (61)	458 (87)	178 (45)	255 (65)	69 (24)	934 (400)	1330 (570)
2	5.1 (2.2)		393 (62)	560 (89)	281 (49)	402 (70)	125 (208)	1990 (383)	2840 (547)
3	9.4 (8.1)		474 (260)	676 (371)	413 (226)	590 (324)	254 (273)	2450 (392)	3490 (559)
4	4.7 (2.5)		232 (50)	331 (71)	182 (69)	260 (99)	780 (309)	3150 (270)	4500 (384)
5	6.1 (3.0)		228 (28)	325 (40)	86 (25)	123 (36)	726 (336)	2990 (358)	4270 (508)
6	4.7 (2.2)		225 (39)	322 (56)	76 (17)	109 (24)	523 (216)	2560 (493)	3670 (706)
7	5.6 (2.8)		246 (124)	352 (177)	93 (30)	134 (44)	461 (230)	2970 (771)	4250 (1110)
8	4.3 (1.2)		242 (132)	347 (190)	251 (385)	360 (552)	343 (245)		
9	7.9 (13.0)		148 (54)	213 (77)	81 (34)	116 (48)	93 (21)		
10	1.8 (1.6)		211 (43)	304 (61)	91 (23)	131 (32)	27 (15)		
11	1.0 (0.7)		147 (17)	211 (25)	62 (8)	90 (11)	17 (7)	79 (23)	113 (33)
12	2.5 (1.2)		346 (91)	495 (130)	145 (49)	208 (70)	50 (19)	231 (52)	331 (74)
13	3.8 (1.3)		388 (42)	556 (60)	203 (42)	291 (61)	54 (24)	283 (36)	405 (52)
14	5.8 (4.8)		449 (99)	642 (141)	212 (63)	303 (90)	121 (63)	443 (93)	633 (132)
15	4.7 (2.7)		624 (573)	892 (819)	598 (560)	856 (802)	214 (101)	675 (80)	963 (115)
16	3.6 (2.5)		262 (88)	373 (126)	185 (111)	264 (159)	340 (119)	899 (130)	1280 (187)
17	2.9 (1.6)		258 (19)	368 (27)	102 (14)	146 (21)	316 (200)	1220 (143)	1740 (205)
18	2.3 (0.8)		291 (19)	416 (27)	114 (12)	162 (18)	508 (212)	1720 (202)	2470 (290)
19	3.7 (1.0)		318 (26)	455 (37)	144 (29)	207 (41)	321 (293)	1880 (264)	2680 (379)
20	3.5 (1.4)		340 (24)	485 (34)	194 (46)	277 (66)	155 (154)	1970 (423)	2810 (601)
21	4.4 (2.3)		352 (50)	502 (71)	246 (42)	352 (60)	527 (370)	2780 (345)	3960 (493)
22	5.8 (5.2)		290 (90)	415 (129)	208 (75)	298 (107)	864 (257)	3170 (218)	4520 (311)
23	4.8 (2.3)		399 (157)	570 (224)	184 (32)	263 (45)	805 (441)	3790 (330)	5430 (470)
24	8.8 (4.2)		629 (560)	901 (803)	416 (363)	595 (519)	810 (632)	4300 (217)	6150 (303)
25	4.0 (1.1)		190 (31)	271 (45)	126 (29)	180 (41)	1120 (923)	4540 (97)	6480 (139)
26	7.7 (2.3)						2400 (385)		
27	8.4 (6.7)		226 (30)	322 (43)	125 (32)	178 (46)	1320 (1020)	4610 (1)	6580 (5)
28	7.5 (5.7)		261 (49)	373 (70)	177 (45)	253 (64)	860 (987)	2020 (2070)	2890 (2950)
29	4.2 (1.9)		308 (292)	440 (417)	283 (275)	405 (393)	102 (50)	365 (117)	521 (168)
30	6.1 (7.0)		172 (65)	246 (92)	98 (34)	141 (49)	397 (623)	1210 (504)	1730 (722)
31	5.6 (3.9)		239 (24)	341 (34)	115 (33)	164 (48)	261 (119)	2010 (256)	2860 (366)
Avg	5.02		307	439	189	270	483	2050	2920
n	31	0	30	30	30	30	31	27	27
SD	2.02		118	168	116	166	487	1330	1900
Min	1.0		147	211	62	90	17	79	113
Max	9.4		629	901	598	856	2400	4610	6580

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for February, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	4.1 (1.4)						499 (315)		
2	5.9 (2.4)		351 (66)	502 (94)	176 (63)	252 (91)	925 (264)	3300 (480)	4710 (685)
3	12.8 (7.8)		322 (103)	460 (147)	176 (61)	252 (87)	479 (236)	3460 (621)	4950 (889)
4	10.9 (6.2)		295 (136)	423 (195)	149 (63)	214 (90)	1870 (1150)	3990 (769)	5720 (1100)
5	6.7 (1.5)		158 (119)	227 (172)	129 (45)	185 (64)	2290 (846)		
6	3.2 (1.1)		49 (25)	70 (36)	104 (41)	149 (59)	783 (937)		
7	6.1 (6.5)		120 (55)	172 (79)	247 (119)	354 (170)	55 (15)	140 (84)	201 (120)
8	6.5 (3.4)		144 (79)	205 (113)	379 (137)	542 (195)	61 (18)	195 (84)	279 (121)
9	2.5 (0.7)		101 (32)	144 (46)	295 (142)	422 (203)	97 (36)	307 (77)	439 (109)
10	1.8 (1.1)		144 (49)	206 (70)	305 (139)	435 (198)	158 (48)	506 (122)	722 (175)
11	6.2 (4.6)		269 (152)	383 (217)	902 (862)	1290 (1240)	271 (94)	586 (164)	836 (234)
12									
13									
14									
15	10.5 (3.8)		241 (114)	344 (163)	418 (772)	599 (1110)	345 (419)	2580 (476)	3690 (681)
16	6.1 (4.0)		224 (59)	321 (84)	49 (12)	69 (18)	9 (6)	3380 (474)	4830 (675)
17	3.4 (1.2)		280 (194)	401 (278)	51 (31)	73 (44)	10 (11)	2920 (1140)	4180 (1630)
18	3.9 (1.0)		113 (45)	162 (64)	50 (18)	72 (25)	10 (5)	2050 (705)	2930 (1000)
19	10.9 (9.5)		251 (180)	358 (258)	158 (82)	225 (116)	37 (31)	4220 (547)	6030 (782)
20	4.2 (1.7)		102 (75)	146 (108)	86 (35)	123 (51)	37 (72)	3670 (842)	5240 (1200)
21	2.0 (0.4)						31 (15)		
22	2.5 (1.2)						12 (6)		
23	4.0 (0.9)		159 (36)	228 (51)	118 (39)	169 (56)	12 (12)	3760 (670)	5390 (955)
24	3.3 (0.4)		272 (92)	388 (131)	136 (34)	195 (48)	8 (8)	4460 (187)	6370 (266)
25	3.2 (0.8)		286 (109)	409 (156)	140 (38)	200 (54)	39 (33)	3900 (742)	5570 (1060)
26	3.9 (2.0)		324 (310)	465 (445)	148 (78)	212 (111)	54 (68)		
27	0.8 (0.4)		166 (102)	238 (146)	102 (16)	146 (23)	49 (47)		
28	2.8 (2.9)		218 (80)	311 (114)	111 (25)	158 (35)	14 (13)		
29	2.2 (2.7)		170 (63)	244 (91)	113 (40)	164 (58)	20 (13)		
Avg	5.02		207	296	197	283	314	2550	3650
n	26	0	23	23	23	23	26	17	17
SD	3.09		83	118	179	257	567	1530	2190
Min	0.8		49	70	49	69	8	140	201
Max	12.8		351	502	902	1290	2290	4460	6370

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for March, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	2.7 (0.9)		141 (43)	202 (61)	93 (28)	132 (40)	6 (6)	124 (65)	177 (92)
2	2.1 (0.8)		227 (34)	325 (49)	135 (47)	193 (67)	3 (3)	225 (58)	322 (83)
3	3.0 (0.8)		183 (90)	261 (129)	113 (68)	162 (98)	29 (35)	308 (112)	441 (161)
4	3.4 (0.6)		150 (96)	222 (137)	83 (34)	121 (50)	5 (2)	366 (146)	532 (213)
5	9.6 (2.1)		378 (230)	543 (333)	167 (38)	240 (55)	3 (2)	517 (136)	737 (192)
6	2.6 (2.1)						10 (8)		
7	1.7 (0.4)						25 (12)		
8	6.4 (3.7)		558 (344)	798 (489)	206 (98)	295 (140)	6 (4)	1210 (541)	1740 (769)
9	8.7 (4.5)		694 (113)	988 (164)	388 (88)	553 (129)	12 (12)	1770 (156)	2520 (227)
10	10.2 (5.8)		641 (308)	916 (441)	334 (158)	479 (227)	13 (7)	1760 (372)	2510 (534)
11	5.6 (2.9)		561 (143)	809 (203)	262 (90)	377 (128)	5 (2)	1810 (423)	2590 (612)
12	17.4 (51.9)		492 (223)	718 (314)	304 (105)	439 (152)	10 (5)	1830 (508)	2640 (729)
13	28.5 (25.3)		467 (305)	666 (440)	240 (183)	344 (264)	14 (11)	1610 (626)	2290 (898)
14	3.9 (1.3)		442 (225)	632 (322)	185 (91)	265 (130)	12 (7)	1970 (462)	2810 (664)
15	5.1 (1.4)		364 (189)	521 (271)	195 (83)	279 (119)	6 (2)	2940 (808)	4220 (1160)
16	7.6 (2.0)		494 (119)	707 (170)	268 (73)	384 (104)	10 (4)	3750 (677)	5370 (969)
17	6.2 (6.1)		579 (182)	828 (261)	375 (105)	535 (150)	22 (21)	2530 (1970)	3610 (2810)
18	3.1 (1.0)		536 (130)	766 (185)	342 (135)	489 (193)	8 (4)	855 (196)	1220 (282)
19	2.6 (1.0)		233 (173)	334 (248)	151 (85)	217 (121)	57 (90)	1200 (406)	1710 (582)
20	60.3 (69.6)		424 (212)	606 (302)	285 (116)	407 (166)	3 (1)	2630 (875)	3760 (1240)
21	7.3 (2.5)		548 (284)	783 (405)	380 (162)	543 (233)	6 (5)	3640 (718)	5200 (1030)
22	7.6 (3.6)		360 (226)	515 (324)	290 (165)	415 (237)	16 (9)	3160 (1130)	4510 (1610)
23	3.6 (2.4)		568 (134)	811 (192)	461 (93)	659 (133)	9 (5)	4520 (132)	6460 (190)
24	6.7 (2.2)		679 (265)	969 (379)	480 (126)	685 (180)	11 (7)	4580 (60)	6540 (86)
25	3.7 (1.6)		642 (156)	917 (223)	566 (191)	808 (273)	24 (18)		
26	4.5 (2.2)		453 (230)	647 (329)	407 (212)	582 (303)	656 (902)		
27	16.1 (18.5)		415 (550)	594 (787)	364 (183)	521 (262)	7 (5)		
28	1.7 (1.4)		39 (32)	56 (46)	81 (76)	117 (109)	1 (1)	114 (63)	163 (91)
29	0.1 (0.2)		71 (25)	101 (35)	91 (20)	131 (29)	5 (5)	458 (162)	655 (231)
30									
31									
Avg	8.35		420	601	268	384	34	1830	2610
n	29	0	27	27	27	27	29	24	24
SD	11.4		185	264	131	187	118	1360	1940
Min	0.1		39	56	81	117	1	114	163
Max	60.3		694	988	566	808	656	4580	6540

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for April, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1									
2	0.6 (0.5)		59 (43)	85 (62)	67 (18)	96 (25)	3 (4)	717 (219)	1030 (311)
3	1.3 (0.5)		139 (46)	199 (66)	87 (19)	125 (27)	1 (2)	1110 (145)	1600 (207)
4	4.9 (3.4)		89 (66)	129 (97)	60 (31)	86 (46)	4 (2)	720 (287)	1030 (424)
5	3.6 (2.6)		94 (29)	135 (42)	76 (16)	110 (23)	3 (4)	781 (116)	1120 (166)
6	1.5 (0.5)		237 (115)	339 (165)	119 (22)	170 (31)	2 (2)	1190 (215)	1720 (307)
7	2.7 (1.0)		294 (108)	421 (155)	172 (73)	246 (105)	5 (2)	1850 (330)	2660 (472)
8	4.1 (3.6)		296 (461)	424 (661)	421 (634)		9 (11)	2100 (582)	3020 (833)
9	1.2 (0.6)		64 (94)	91 (134)	63 (22)		1 (2)	1440 (341)	2060 (489)
10	1.1 (0.4)		57 (25)	82 (36)	50 (19)		7 (7)	1340 (410)	1920 (588)
11	2.3 (0.7)		65 (46)	94 (66)	45 (18)		4 (2)	1180 (554)	1700 (796)
12	4.7 (2.1)		76 (40)	116 (57)	65 (21)		4 (2)	1550 (649)	2380 (885)
13	10.9 (16.6)		162 (77)	232 (110)	125 (41)		3 (1)	2640 (629)	3780 (904)
14	1.8 (1.5)		315 (213)	450 (305)	227 (68)		4 (4)	2080 (1890)	2980 (2700)
15	12.1 (12.2)		394 (622)	568 (894)	483 (330)		16 (13)	724 (172)	1030 (246)
16	1.1 (0.6)		102 (116)	145 (166)	155 (81)	221 (115)	13 (10)	1070 (248)	1520 (356)
17	1.5 (1.4)		46 (29)	66 (42)	85 (75)	122 (107)	3 (3)	1010 (368)	1450 (527)
18	4.4 (1.6)	6.3 (2.3)	48 (42)	69 (60)	48 (35)	69 (50)	5 (6)	1060 (522)	1510 (746)
19	2.5 (0.9)	3.5 (1.3)	46 (32)	65 (46)	52 (31)	74 (44)	3 (1)	1510 (682)	2160 (977)
20	3.2 (1.9)	4.6 (2.7)	64 (32)	91 (46)	70 (22)	100 (32)	6 (5)	2150 (614)	3080 (881)
21	8.2 (2.9)	11.7 (4.2)	151 (46)	216 (66)	127 (45)	183 (65)	14 (19)	3890 (576)	5580 (826)
22	18.0 (16.9)	25.8 (24.2)	178 (183)	256 (263)	318 (338)	456 (486)	10 (12)		
23	0.5 (0.5)	0.7 (0.8)	35 (15)	51 (21)	60 (24)	86 (35)	11 (19)		
24	1.4 (3.1)	2.1 (4.5)	54 (32)	78 (45)	45 (23)	64 (33)	0 (2)		
25	4.7 (5.4)	6.7 (7.7)	86 (70)	123 (100)	43 (23)	62 (33)	4 (5)	106 (57)	151 (82)
26	1.6 (1.4)	2.3 (2.0)	73 (50)	105 (72)	47 (23)	68 (32)	2 (2)	196 (119)	281 (171)
27	1.1 (1.1)	1.5 (1.6)	74 (27)	106 (39)	62 (25)	90 (36)	2 (4)	198 (97)	285 (139)
28	2.6 (1.3)	3.7 (1.8)	99 (29)	142 (41)	79 (19)	114 (27)	3 (3)	257 (82)	369 (118)
29	1.9 (1.0)	2.7 (1.4)	286 (81)	410 (116)	213 (93)	305 (133)	1 (1)	674 (128)	965 (182)
30	3.3 (2.4)	4.7 (3.4)	334 (139)	478 (199)	291 (117)	417 (168)	8 (6)	922 (264)	1320 (379)
Avg	3.75	5.87	138	199	129	155	5	1250	1800
n	29	13	29	29	29	21	29	26	26
SD	3.88	6.37	104	149	114	111	4	829	1190
Min	0.5	0.7	35	51	43	62	0	106	151
Max	18.0	25.8	394	568	483	456	16	3890	5580

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for May, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	2.9 (1.4)	4.1 (2.1)	269 (207)	386 (296)	181 (143)	259 (205)	7 (3)	716 (384)	1030 (551)
2	5.5 (2.4)	7.9 (3.6)	163 (123)	242 (178)	106 (75)	157 (109)	5 (3)	544 (257)	780 (380)
3	3.7 (1.1)	5.3 (1.6)	161 (118)	231 (169)	105 (86)	151 (124)	4 (3)	629 (258)	903 (371)
4	5.6 (2.5)	8.0 (3.6)	169 (118)	243 (170)	98 (53)	140 (76)	7 (4)	648 (269)	931 (387)
5	2.9 (2.6)	4.2 (3.7)	272 (156)	391 (224)	171 (80)	245 (115)	6 (4)	1040 (359)	1500 (516)
6	3.3 (3.1)	4.7 (4.5)	319 (227)	457 (327)	191 (120)	274 (173)	6 (7)	1180 (506)	1690 (727)
7									
8									
9									
10	8.2 (6.1)	11.7 (8.8)	350 (291)	503 (418)	165 (107)	237 (153)	5 (2)	889 (436)	1280 (626)
11	4.4 (2.3)	6.4 (3.3)	488 (249)	701 (358)	348 (204)	499 (293)	5 (4)	1470 (579)	2110 (831)
12	21.0 (16.6)	30.0 (23.7)	713 (315)	1030 (452)	378 (110)	544 (159)	9 (2)	977 (905)	1420 (1300)
13	7.4 (3.6)	10.5 (5.1)	711 (395)	1020 (567)	419 (205)	600 (295)	7 (3)	413 (115)	592 (165)
14	5.7 (3.5)	8.1 (5.0)	488 (393)	700 (564)	318 (232)	456 (333)	84 (107)	978 (891)	1400 (1280)
15	3.1 (0.9)	4.4 (1.3)	306 (219)	439 (315)	210 (109)	302 (157)	3 (1)	455 (200)	653 (288)
16	4.2 (1.3)	6.0 (1.8)	231 (189)	332 (271)	136 (62)	196 (89)	8 (4)	445 (187)	640 (269)
17	5.1 (1.6)	7.1 (2.1)	516 (369)	760 (532)	323 (202)	474 (291)	5 (3)		
18	6.5 (1.9)	9.3 (2.7)	425 (286)	610 (411)	305 (203)	438 (291)	4 (1)		
19	8.9 (3.7)	12.7 (5.3)	406 (288)	584 (415)	257 (163)	369 (235)	15 (17)		
20	6.3 (3.0)	9.0 (4.3)	302 (229)	436 (328)	211 (107)	303 (154)	10 (6)		
21	4.5 (1.9)	6.4 (2.7)	340 (240)	489 (346)	237 (122)	341 (176)	17 (26)	217 (193)	312 (278)
22	6.8 (3.2)	9.6 (4.6)	403 (375)	577 (539)	400 (350)	574 (502)	14 (6)	251 (128)	360 (183)
23	5.5 (8.4)	7.9 (12.0)	249 (342)	357 (491)	49 (38)	71 (54)	4 (3)	355 (178)	509 (255)
24	2.0 (1.4)	2.9 (2.0)	62 (59)	89 (84)	68 (54)	98 (78)	2 (2)	573 (188)	823 (270)
25	2.3 (2.9)	3.3 (4.1)	46 (50)	66 (72)	52 (41)	75 (59)	3 (4)	516 (319)	739 (459)
26	3.0 (2.3)	4.3 (3.2)	33 (29)	48 (41)	56 (51)	80 (73)	5 (4)	454 (244)	651 (350)
27	4.4 (1.0)	6.3 (1.5)	61 (93)	88 (133)	135 (132)	193 (190)	3 (1)	595 (297)	856 (426)
28	5.0 (2.4)	7.2 (3.5)	58 (48)	84 (69)	106 (78)	152 (112)	6 (5)	1430 (523)	2050 (750)
29	5.5 (4.4)	7.8 (6.3)	47 (30)	68 (43)	53 (30)	76 (43)	3 (3)	1010 (579)	1450 (832)
30	3.4 (2.0)	4.8 (2.9)	30 (24)	43 (34)	36 (33)	52 (48)	6 (5)	612 (331)	879 (476)
31	3.1 (1.5)	4.4 (2.1)	26 (8)	38 (12)	33 (10)	48 (14)	4 (3)	492 (115)	709 (165)
Avg	5.35	7.64	273	393	184	264	9	704	1010
n	28	28	28	28	28	28	28	24	24
SD	3.46	4.95	195	281	117	169	15	337	484
Min	2.0	2.9	26	38	33	48	2	217	312
Max	21.0	30.0	713	1030	419	600	84	1470	2110

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for June, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	2.1 (1.6)	3.0 (2.3)	36 (10)	52 (14)	46 (18)	67 (25)	10 (9)	711 (195)	1020 (280)
2	1.2 (1.2)	1.7 (1.8)	46 (12)	67 (17)	32 (12)	46 (18)	3 (2)	690 (205)	991 (296)
3	13.9 (15.1)	19.8 (21.5)	92 (74)	132 (105)	191 (302)	273 (435)	6 (1)	638 (276)	918 (397)
4	1.6 (1.2)	2.3 (1.7)	14 (4)	20 (6)	26 (17)	37 (24)	3 (2)	531 (158)	766 (226)
5	1.2 (0.8)	1.7 (1.1)	18 (6)	26 (8)	31 (10)	44 (15)	3 (1)	432 (49)	624 (70)
6	2.2 (0.9)	3.2 (1.4)	24 (4)	35 (5)	32 (12)	47 (17)	5 (2)	498 (63)	719 (91)
7	3.5 (1.4)	5.0 (2.0)	25 (3)	36 (4)	25 (9)	36 (12)	3 (1)	675 (95)	974 (136)
8	5.8 (2.3)	8.3 (3.3)	28 (5)	40 (7)	17 (10)	24 (15)	4 (3)	719 (100)	1040 (143)
9	4.5 (1.9)	6.5 (2.8)	33 (5)	47 (7)	26 (14)	37 (21)	9 (9)	575 (270)	831 (390)
10	5.2 (1.6)	7.5 (2.3)	65 (66)	94 (95)	149 (256)	216 (370)	9 (6)		
11	9.6 (9.4)	13.8 (13.5)	11 (6)	16 (9)	122 (229)	176 (331)	54 (76)		
12	0.6 (0.7)	0.8 (1.1)	7 (4)	11 (5)	15 (4)	21 (6)	4 (4)		
13	1.7 (0.8)	2.5 (1.1)	18 (13)	25 (19)	16 (9)	24 (13)	5 (3)	63 (33)	91 (47)
14	3.2 (1.5)	4.6 (2.2)	25 (16)	36 (24)	18 (9)	26 (13)	4 (2)	85 (49)	123 (70)
15	4.0 (1.9)	5.8 (2.7)	27 (16)	39 (22)	19 (8)	27 (12)	2 (2)	108 (44)	156 (63)
16	4.5 (3.4)	6.5 (4.9)	25 (14)	36 (20)	22 (6)	32 (9)	4 (3)	140 (68)	202 (98)
17	5.2 (2.8)	7.4 (4.1)	59 (86)	85 (124)	200 (315)	289 (454)	5 (8)	207 (53)	298 (76)
18	4.7 (1.2)	6.7 (1.7)	16 (11)	24 (15)	22 (10)	31 (15)	4 (3)	319 (106)	457 (152)
19	8.1 (6.0)	11.6 (8.6)	37 (36)	53 (51)	131 (165)	188 (236)	6 (5)	338 (231)	485 (331)
20	2.1 (2.2)	3.0 (3.1)	30 (25)	43 (36)	14 (9)	20 (12)	3 (2)	288 (120)	414 (172)
21	3.6 (2.9)	5.2 (4.2)	29 (23)	41 (32)	13 (11)	18 (16)	4 (3)	326 (148)	469 (213)
22	3.7 (1.8)	5.4 (2.6)	17 (11)	24 (16)	11 (4)	16 (6)	5 (5)	268 (86)	386 (123)
23	2.6 (0.7)	3.7 (1.0)	21 (13)	30 (18)	17 (5)	24 (7)	6 (6)	275 (118)	396 (169)
24	5.6 (6.3)	8.0 (9.0)	68 (125)	97 (180)	168 (236)	242 (340)	21 (12)	366 (148)	526 (213)
25									
26									
27									
28	3.1 (1.4)	4.5 (2.1)	15 (4)	21 (5)	14 (4)	20 (6)	3 (1)	376 (74)	543 (107)
29	2.1 (1.0)	3.0 (1.4)	20 (5)	29 (7)	14 (5)	21 (8)	4 (2)	503 (100)	726 (144)
30	2.4 (1.0)	3.4 (1.5)	26 (7)	37 (9)	15 (4)	21 (6)	3 (3)	637 (150)	917 (217)
Avg	3.99	5.73	31	44	52	75	7	407	586
n	27	27	27	27	27	27	27	24	24
SD	2.83	4.04	19	28	60	86	10	205	295
Min	0.6	0.8	7	11	11	16	2	63	91
Max	13.9	19.8	92	132	200	289	54	719	1040

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for July, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet,	ppb	µg·dsm^{-3}
1	3.0 (3.1)	4.2 (4.5)	47 (34)	67 (49)	63 (89)	91 (127)	5 (6)	1090 (514)	1560 (737)
2	9.1 (6.8)	13.1 (9.8)	17 (13)	25 (19)	35 (60)	50 (86)	6 (6)	1300 (820)	1860 (1180)
3	4.8 (4.6)	6.9 (6.6)	28 (28)	41 (40)	28 (35)	40 (50)	6 (4)	901 (569)	1290 (818)
4	3.7 (2.7)	5.3 (3.8)	14 (2)	21 (3)	16 (5)	23 (8)	5 (3)	690 (293)	995 (422)
5	3.5 (2.0)	5.1 (2.9)	20 (3)	28 (5)	19 (6)	27 (9)	4 (3)	775 (265)	1120 (382)
6	3.8 (1.4)	5.5 (2.0)	24 (7)	35 (10)	25 (10)	36 (14)	2 (2)	769 (364)	1110 (523)
7	7.5 (4.6)	10.9 (6.6)	34 (13)	49 (18)	27 (7)	38 (11)	5 (2)	746 (347)	1080 (500)
8	2.0 (2.2)	2.9 (3.1)	34 (28)	49 (40)	68 (91)	98 (132)	4 (3)		
9	1.9 (1.2)	2.7 (1.8)	17 (5)	25 (7)	19 (12)	28 (17)	7 (6)		
10	1.5 (0.9)	2.1 (1.3)					1 (1)		
11	2.8 (2.5)	4.0 (3.6)	13 (4)	19 (6)	11 (5)	16 (7)	1 (1)	82 (29)	118 (42)
12	1.7 (2.3)	2.4 (3.3)	22 (9)	31 (13)	23 (10)	33 (14)	0 (2)	119 (51)	171 (74)
13	5.7 (2.6)	8.4 (3.6)	40 (32)	59 (47)	35 (13)	51 (18)	7 (3)	116 (48)	168 (70)
14	6.1 (5.5)	8.8 (7.9)	34 (13)	48 (19)	23 (25)	34 (35)	2 (2)	160 (57)	231 (81)
15	1.7 (2.5)	2.5 (3.7)	35 (44)	49 (64)	58 (69)	75 (93)	1 (1)	304 (96)	444 (140)
16	0.8 (1.8)	1.1 (2.5)	11 (10)	16 (14)	12 (3)	17 (5)	0 (1)	446 (159)	641 (228)
17	9.6 (16.9)	13.8 (24.3)	23 (22)	32 (31)	19 (9)	27 (12)	0 (2)	550 (308)	790 (443)
18	2.1 (8.8)	3.0 (12.7)	26 (23)	38 (33)	23 (7)	33 (11)	4 (5)	366 (179)	527 (257)
19	0.8 (0.9)	1.2 (1.4)	17 (11)	25 (16)	14 (4)	20 (5)	1 (3)	353 (166)	509 (239)
20	7.2 (8.2)	10.3 (11.7)	15 (5)	22 (8)	15 (11)	21 (16)	5 (3)	296 (69)	427 (99)
21	7.5 (5.0)	10.9 (7.2)	21 (5)	30 (7)	14 (6)	20 (9)	5 (7)	349 (109)	504 (157)
22	16.1 (13.4)	23.2 (19.2)	34 (24)	50 (35)	39 (53)	56 (77)	6 (5)	503 (188)	726 (271)
23	3.9 (2.8)	5.7 (4.0)	12 (7)	17 (11)	14 (4)	20 (6)	7 (3)	734 (317)	1060 (456)
24	1.6 (1.6)	2.3 (2.3)	11 (10)	17 (14)	17 (8)	24 (12)	1 (2)	643 (274)	933 (395)
25	1.2 (2.2)	1.7 (3.2)	12 (10)	18 (14)	15 (7)	22 (11)	3 (5)	581 (268)	838 (386)
26	9.3 (7.1)	13.3 (10.3)	18 (15)	26 (21)	26 (9)	37 (13)	8 (4)	563 (273)	810 (393)
27	4.3 (2.3)	6.2 (3.4)	13 (3)	19 (4)	28 (11)	41 (16)	6 (3)	425 (70)	614 (101)
28	4.3 (1.5)	6.2 (2.1)	20 (9)	29 (13)	38 (19)	55 (27)	6 (6)	234 (206)	337 (298)
29	3.2 (1.7)	4.7 (2.4)	25 (30)	36 (42)	72 (97)	103 (139)	3 (2)	105 (29)	152 (42)
30	2.0 (1.6)	2.9 (2.3)	6 (2)	9 (3)	12 (3)	18 (4)	1 (2)	262 (70)	378 (101)
31	2.5 (2.2)	3.6 (3.2)	12 (8)	17 (12)	12 (3)	17 (5)	3 (2)	314 (54)	455 (78)
Avg	4.36	6.28	22	32	27	39	4	492	709
n	31	31	30	30	30	30	31	28	28
SD	3.34	4.8	10	14	17	24	2	300	431
Min	0.8	1.1	6	9	11	16	0	82	118
Max	16.1	23.2	47	67	72	103	8	1300	1860

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for August, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	3.2 (2.2)	4.7 (3.2)	18 (7)	26 (10)	14 (6)	21 (9)	6 (8)	419 (56)	605 (81)
2	5.9 (3.2)	8.6 (4.6)	20 (6)	29 (9)	15 (10)	21 (14)	11 (5)	389 (55)	562 (78)
3	1.8 (0.7)	2.6 (1.1)	30 (13)	44 (19)	23 (11)	33 (16)	3 (2)	406 (164)	585 (236)
4	5.0 (3.6)	7.2 (5.1)	34 (7)	50 (9)	17 (7)	25 (10)	12 (6)	493 (182)	711 (263)
5	3.7 (1.3)	5.3 (1.8)	56 (67)	81 (97)	52 (95)	75 (138)	3 (2)		
6	4.5 (2.5)	6.4 (3.7)	16 (12)	23 (17)	12 (5)	17 (7)	2 (1)		
7	2.3 (1.5)	3.3 (2.1)	10 (3)	14 (5)	11 (4)	16 (6)	1 (1)		
8	3.3 (2.2)	4.8 (3.1)	14 (6)	20 (8)	14 (7)	20 (10)	1 (1)	59 (25)	84 (36)
9	2.3 (1.1)	3.4 (1.6)	25 (15)	36 (22)	16 (7)	22 (10)	6 (7)	181 (98)	260 (142)
10	2.2 (0.9)	3.2 (1.4)	36 (14)	52 (21)	12 (7)	18 (11)	4 (3)	175 (70)	252 (101)
11	4.6 (2.7)	6.6 (3.9)	57 (42)	83 (60)	36 (18)	52 (26)	3 (3)	330 (108)	474 (155)
12	1.9 (2.0)	2.7 (2.9)	92 (181)	132 (260)	28 (23)	41 (33)	4 (3)	310 (130)	445 (187)
13	3.3 (2.2)	4.8 (3.2)	21 (8)	30 (11)	14 (4)	20 (6)	2 (3)	495 (123)	713 (178)
14	0.5 (0.8)	0.8 (1.1)	27 (10)	38 (14)	15 (6)	22 (8)	9 (11)	448 (193)	646 (277)
15	1.9 (0.9)	2.8 (1.2)	33 (25)	48 (36)	24 (12)	35 (18)	5 (4)	371 (166)	534 (239)
16	1.0 (1.3)	1.4 (1.9)	28 (15)	40 (22)	16 (6)	23 (9)	1 (1)	422 (161)	608 (232)
17	0.2 (0.9)	0.3 (1.3)	45 (27)	66 (39)	23 (5)	34 (7)	3 (3)	469 (174)	679 (250)
18	4.9 (5.7)	7.1 (8.2)	64 (37)	93 (54)	39 (14)	56 (20)	4 (5)	543 (255)	782 (366)
19	6.8 (4.9)	9.8 (7.1)	53 (61)	76 (87)	49 (44)	71 (63)	7 (4)	563 (265)	812 (382)
20	1.2 (1.0)	1.8 (1.5)	15 (11)	22 (16)	14 (7)	20 (10)	3 (5)	665 (296)	959 (427)
21	3.5 (3.4)	5.1 (4.9)	40 (67)	58 (97)	45 (65)	65 (94)	1 (2)	602 (283)	868 (408)
22	-0.2 (0.5)	-0.3 (0.7)	7 (4)	11 (6)	14 (5)	20 (8)	0 (1)	668 (314)	961 (451)
23	-0.7 (0.4)	-1.0 (0.6)	7 (5)	10 (7)	13 (6)	19 (8)	2 (6)	659 (297)	947 (428)
24	2.5 (2.2)	3.6 (3.2)	13 (8)	18 (12)	19 (8)	28 (11)	5 (7)	656 (318)	944 (458)
25	1.8 (1.1)	2.5 (1.6)	19 (12)	28 (18)	27 (10)	39 (15)	1 (2)	387 (474)	558 (682)
26	1.3 (2.3)	1.8 (3.4)	25 (39)	37 (56)	30 (35)	44 (51)	1 (2)		
27	0.0 (0.9)	0.0 (1.4)	13 (38)	19 (55)	10 (8)	14 (11)	12 (15)		
28	2.5 (1.7)	3.7 (2.5)	9 (3)	12 (4)	19 (12)	28 (17)	4 (3)		
29	0.7 (1.1)	1.0 (1.6)	15 (4)	22 (6)	25 (12)	36 (18)	1 (2)	12 (6)	17 (9)
30	3.0 (4.8)	4.3 (6.9)	16 (5)	23 (7)	36 (21)	51 (30)	5 (5)	29 (11)	42 (16)
31	2.8 (3.6)	4.1 (5.1)	23 (15)	33 (22)	50 (22)	72 (32)	1 (2)	63 (30)	91 (43)
Avg	2.51	3.62	28	41	24	34	4	392	566
n	31	31	31	31	31	31	31	25	25
SD	1.78	2.57	19	28	12	18	3	202	291
Min	-0.7	-1.0	7	10	10	14	0	12	17
Max	6.8	9.8	92	132	52	75	12	668	961

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for September, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	-0.4 (0.5)	-0.6 (0.6)	38 (27)	55 (38)	24 (7)	35 (10)	1 (2)	344 (660)	496 (950)
2	1.6 (1.9)	2.2 (2.7)	68 (73)	102 (106)			7 (10)	232 (88)	
3	6.6 (11.0)	9.5 (15.9)	16 (8)	23 (12)	17 (12)	24 (17)	9 (11)	232 (129)	334 (185)
4	5.7 (7.2)	8.2 (10.3)	11 (7)	16 (11)	14 (6)	20 (8)	6 (6)	254 (133)	365 (191)
5	1.6 (1.1)	2.4 (1.6)	12 (6)	17 (8)	8 (4)	12 (6)	0 (0)	221 (90)	318 (130)
6	1.8 (0.3)						2 (1)		
7	2.1 (1.3)						9 (9)		
8	1.7 (1.6)	2.5 (2.3)	67 (25)	96 (36)	25 (10)	36 (14)	4 (4)	415 (163)	598 (235)
9	1.7 (1.2)	2.4 (1.7)	42 (30)	61 (43)	29 (35)	42 (50)	3 (3)	412 (165)	595 (238)
10	3.0 (2.5)	4.3 (3.6)	12 (8)	17 (12)	13 (6)	19 (9)	1 (2)	528 (135)	762 (194)
11	1.1 (0.5)	1.5 (0.8)	15 (5)	22 (7)	10 (3)	15 (5)	0 (0)	480 (147)	692 (211)
12	2.1 (1.3)	3.1 (1.9)	27 (10)	39 (15)	19 (10)	27 (14)	3 (3)	524 (188)	756 (271)
13	2.7 (1.0)	4.0 (1.4)	22 (5)	31 (7)	28 (11)	40 (15)	5 (5)	428 (130)	618 (188)
14	3.7 (1.2)	5.3 (1.8)	31 (7)	45 (10)	28 (12)	40 (17)	4 (2)	379 (41)	548 (59)
15	2.8 (0.9)	4.0 (1.3)	64 (25)	93 (36)	25 (21)	36 (30)	5 (3)	274 (297)	395 (429)
16	0.3 (0.6)	0.4 (0.9)	67 (68)	97 (99)	20 (22)	29 (31)	1 (1)	327 (101)	471 (145)
17	1.2 (1.2)	1.8 (1.8)	29 (28)	42 (40)	16 (9)	23 (13)	1 (0)	599 (176)	861 (254)
18	1.0 (1.0)	1.4 (1.5)	22 (16)	32 (23)	16 (10)	23 (15)	1 (1)	593 (239)	852 (344)
19	0.3 (0.4)	0.5 (0.6)	33 (18)	47 (26)	18 (11)	25 (16)	0 (0)	694 (199)	995 (287)
20	0.3 (0.5)	0.4 (0.8)	44 (27)	64 (39)	30 (27)	43 (38)	0 (1)	949 (207)	1360 (296)
21	1.2 (1.3)	1.7 (1.8)	46 (31)	66 (44)	40 (32)	57 (46)	2 (4)	908 (254)	1310 (365)
22	0.8 (1.0)	1.2 (1.4)	109 (96)	156 (138)	52 (31)	75 (44)	0 (1)	976 (235)	1400 (338)
23	0.3 (0.5)	0.4 (0.7)	107 (120)	153 (172)	110 (170)	158 (245)	0 (1)		
24	-0.4 (0.6)	-0.5 (0.8)	37 (52)	53 (75)	21 (7)	31 (10)	24 (38)		
25	-0.2 (0.4)	-0.3 (0.6)	50 (22)	72 (31)	32 (9)	46 (13)	1 (1)		
26	1.3 (1.3)	1.9 (1.9)	22 (8)	31 (12)	21 (4)	31 (5)	5 (3)	11 (5)	16 (7)
27	4.1 (6.6)	5.9 (9.5)	30 (14)	44 (20)	29 (8)	42 (11)	4 (5)	38 (19)	55 (27)
28	4.9 (4.3)	7.1 (6.1)	43 (21)	62 (30)	40 (13)	57 (18)	3 (2)	76 (45)	110 (64)
29	1.2 (1.6)	1.8 (2.3)	61 (34)	88 (49)	46 (13)	66 (19)	9 (9)	81 (34)	117 (49)
30	8.2 (4.5)	11.7 (6.4)	78 (105)	113 (151)	70 (76)	101 (109)	12 (7)	163 (67)	234 (97)
Avg	2.08	3	43	62	30	43	4	406	594
n	30	28	28	28	27	27	30	25	24
SD	2.04	3.03	26	38	21	30	5	266	387
Min	-0.4	-0.6	11	16	8	12	0	11	16
Max	8.2	11.7	109	156	110	158	24	976	1400

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for October, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	5.6 (5.7)	8.1 (8.2)	17 (8)	24 (11)	27 (9)	38 (14)	1 (2)	285 (130)	410 (187)
2	2.1 (2.2)	3.1 (3.1)	33 (21)	48 (31)	45 (14)	65 (21)	2 (2)	608 (173)	871 (248)
3	5.5 (3.1)	7.9 (4.4)	40 (24)	57 (34)	46 (29)	66 (41)	10 (11)	594 (252)	851 (361)
4	8.8 (5.5)	12.7 (7.9)	39 (27)	56 (39)	41 (20)	59 (29)	9 (6)	521 (256)	747 (367)
5	4.5 (6.2)	6.5 (8.9)	44 (25)	63 (36)	50 (25)	72 (36)	9 (6)	559 (277)	802 (398)
6	1.5 (2.1)	2.2 (3.1)	50 (28)	72 (39)	59 (38)	85 (54)	4 (4)	596 (335)	855 (480)
7	1.1 (0.4)	1.6 (0.6)	87 (118)	125 (169)	86 (95)	124 (137)	2 (4)	754 (238)	1080 (341)
8	1.6 (0.9)	2.3 (1.3)	29 (29)	41 (42)	30 (11)	43 (16)	4 (1)	1030 (429)	1480 (614)
9	1.1 (0.4)	1.6 (0.6)	22 (9)	31 (13)	24 (4)	35 (6)	7 (3)	965 (411)	1390 (590)
10	1.2 (0.4)	1.7 (0.5)	23 (8)	33 (11)	27 (4)	38 (5)	1 (1)	1050 (287)	1510 (414)
11	1.2 (0.4)	1.8 (0.5)	30 (7)	43 (11)	33 (6)	48 (8)	1 (1)	1210 (170)	1740 (243)
12	0.7 (0.5)	1.1 (0.7)	39 (25)	57 (36)	42 (14)	61 (20)	1 (0)	1510 (517)	2170 (742)
13	4.9 (9.6)	7.0 (13.8)	86 (90)	124 (129)	67 (30)	97 (43)	1 (1)	890 (1040)	1280 (1490)
14	14.5 (12.0)	20.8 (17.1)	126 (200)	181 (287)	68 (43)	97 (62)	2 (2)	231 (133)	331 (191)
15	8.0 (7.2)	11.5 (10.3)	59 (139)	84 (199)	33 (15)	47 (22)	14 (29)	479 (337)	688 (484)
16	5.9 (6.5)	8.5 (9.3)	30 (16)	43 (22)	38 (18)	54 (25)	6 (3)	643 (327)	932 (467)
17	5.3 (4.8)	7.6 (6.8)	54 (29)	78 (42)	37 (14)	53 (20)	2 (2)	1210 (420)	1730 (602)
18	1.9 (1.0)	2.7 (1.4)	117 (35)	168 (51)	68 (9)	97 (13)	2 (1)	2910 (398)	4170 (571)
19	1.7 (0.6)	2.4 (0.9)	144 (54)	206 (77)	77 (19)	109 (27)	3 (2)	3600 (474)	5140 (679)
20	3.8 (4.6)	5.4 (6.6)	178 (85)	254 (122)	110 (34)	157 (49)	7 (7)	3590 (677)	5130 (969)
21	14.3 (11.8)	21.1 (16.8)	174 (280)	256 (407)	128 (88)	185 (128)	11 (10)		
22	-0.2 (1.5)	-0.3 (2.2)	88 (201)	126 (287)	47 (9)	67 (13)	139 (210)		
23	0.3 (0.5)	0.5 (0.7)	84 (36)	119 (51)	52 (15)	74 (21)	0 (0)		
24	1.5 (0.9)	2.1 (1.3)	108 (64)	154 (91)	47 (14)	68 (19)	1 (1)	80 (67)	115 (96)
25	2.8 (0.4)	4.0 (0.6)	42 (16)	61 (23)	43 (14)	62 (20)	4 (2)	64 (27)	92 (39)
26	3.2 (3.0)	4.5 (4.2)	81 (25)	117 (36)	101 (43)	145 (61)	1 (1)	224 (89)	321 (127)
27	8.3 (7.6)	11.8 (10.9)	157 (77)	225 (110)	171 (66)	245 (94)	5 (4)	312 (63)	446 (90)
28	5.7 (6.1)	8.1 (8.7)	236 (363)	337 (519)	283 (241)	406 (346)	4 (3)	385 (91)	549 (130)
29	1.2 (0.5)	1.6 (0.7)	46 (26)	66 (37)	80 (14)	115 (20)	73 (117)	455 (123)	650 (176)
30	1.0 (0.9)	1.4 (1.3)	45 (13)	64 (18)	86 (17)	124 (25)	5 (4)	572 (102)	817 (145)
31	7.5 (5.7)	10.7 (8.1)	54 (22)	76 (31)	93 (44)	134 (63)	6 (7)	656 (148)	936 (212)
Avg	4.08	5.85	76	109	69	99	11	928	1330
n	31	31	31	31	31	31	31	28	28
SD	3.71	5.36	54	78	51	73	27	917	1310
Min	-0.2	-0.3	17	24	24	35	0	64	92
Max	14.5	21.1	236	337	283	406	139	3600	5140

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for November, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	16.2 (15.3)	23.1 (21.8)	63 (30)	90 (43)	105 (48)	150 (69)	11 (8)	869 (281)	1240 (402)
2	3.6 (4.7)	5.2 (6.7)	63 (36)	91 (52)	110 (70)	159 (101)	7 (11)	904 (408)	1300 (582)
3	1.3 (0.7)	1.9 (0.9)	72 (7)	104 (9)	118 (15)	169 (22)	1 (1)	1090 (183)	1560 (263)
4	0.8 (0.5)	1.2 (0.7)					1 (0)		
5	1.2 (0.3)	1.7 (0.5)	44 (72)	63 (103)	67 (16)	97 (22)	2 (2)	2380 (170)	3420 (243)
6	2.5 (0.7)	3.6 (1.0)	53 (34)	77 (49)	64 (25)	92 (36)	2 (1)	2270 (735)	3250 (1050)
7	4.5 (1.9)	6.4 (2.7)	95 (69)	136 (98)	81 (29)	116 (41)	5 (2)	2260 (812)	3240 (1160)
8	4.3 (2.2)	6.2 (3.1)	82 (37)	117 (53)	114 (29)	163 (42)	8 (9)	2600 (527)	3730 (752)
9	5.1 (2.7)	7.3 (3.9)	189 (116)	271 (166)	175 (50)	251 (71)	23 (17)	2970 (735)	4250 (1050)
10	3.6 (1.7)	5.1 (2.4)	258 (143)	368 (205)	195 (59)	279 (84)	8 (7)	1800 (1720)	2570 (2460)
11	4.3 (2.8)	6.0 (4.0)	305 (405)	437 (581)	346 (191)	495 (274)	5 (2)	338 (139)	483 (198)
12	1.1 (0.9)	1.6 (1.3)	79 (121)	113 (173)	81 (56)	117 (80)	8 (10)	1130 (305)	1610 (437)
13	1.3 (0.9)	1.9 (1.3)	35 (11)	50 (15)	46 (12)	67 (17)	1 (1)	1330 (412)	1910 (589)
14	3.5 (1.8)	5.0 (2.5)	64 (23)	92 (33)	59 (13)	85 (19)	4 (4)	1850 (241)	2650 (346)
15	2.8 (1.0)	4.0 (1.5)	50 (34)	72 (49)	47 (21)	67 (29)	2 (2)	1460 (618)	2100 (882)
16	2.7 (0.8)	3.8 (1.1)	229 (158)	328 (226)	132 (22)	189 (32)	9 (8)	3540 (352)	5060 (504)
17	2.9 (0.6)	4.1 (0.8)	299 (184)	439 (268)	147 (27)	211 (39)	17 (12)		
18	0.5 (0.9)	0.7 (1.3)	186 (141)	261 (201)	246 (187)	350 (265)	6 (4)		
19	1.8 (1.7)		76 (76)	107 (106)	87 (31)	123 (43)	17 (24)		
20	2.1 (1.2)	2.8 (1.5)	92 (72)	132 (103)	139 (279)	199 (400)	9 (7)		
21	0.8 (0.5)	1.2 (0.8)	91 (20)	130 (28)	36 (8)	51 (11)	4 (3)	65 (37)	93 (52)
22	1.1 (0.6)		123 (23)	176 (33)	51 (7)	72 (9)	13 (8)	174 (32)	249 (45)
23	4.8 (2.4)	6.8 (3.4)	162 (38)	231 (54)	67 (15)	96 (22)	23 (15)	299 (53)	427 (75)
24	2.7 (1.7)	4.2 (2.5)	175 (159)	250 (227)	70 (12)	100 (17)	18 (18)	530 (94)	758 (136)
25	1.7 (0.9)	2.4 (1.3)	168 (265)	240 (380)	171 (108)	245 (154)	6 (3)	777 (115)	1110 (164)
26	6.2 (4.7)	9.1 (6.9)	64 (43)	91 (61)	78 (26)	112 (37)	13 (10)	877 (110)	1250 (158)
27	7.2 (5.3)	10.3 (7.6)	66 (19)	94 (28)	49 (15)	70 (21)	20 (10)	844 (161)	1210 (229)
28	11.8 (9.2)	16.8 (13.1)	94 (29)	135 (42)	66 (26)	94 (37)	15 (12)	817 (162)	1170 (232)
29	4.5 (3.0)	6.4 (4.3)	143 (36)	205 (52)	82 (15)	118 (21)	4 (3)	1070 (152)	1540 (217)
30	4.6 (1.6)	6.6 (2.3)	153 (21)	220 (30)	73 (15)	104 (21)	6 (3)	979 (249)	1400 (357)
Avg	3.71	5.54	123	176	107	153	9	1330	1900
n	30	28	29	29	29	29	30	25	25
SD	3.27	4.74	75	108	67	96	6	892	1280
Min	0.5	0.7	35	50	36	51	1	65	93
Max	16.2	23.1	305	439	346	495	23	3540	5060

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for December, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	4.0 (1.9)	5.6 (2.6)	255 (116)	365 (167)	103 (25)	147 (36)	19 (12)	1500 (325)	2140 (465)
2	3.9 (1.1)	5.5 (1.5)	272 (181)	389 (259)	301 (324)	431 (465)	18 (13)	1870 (197)	2680 (282)
3	3.2 (1.7)	5.2 (2.3)	113 (181)	161 (259)	70 (18)	99 (26)	94 (120)	1770 (370)	2530 (529)
4	5.8 (2.3)	8.3 (3.2)	99 (27)	141 (38)	47 (8)	67 (12)	8 (3)	1930 (591)	2760 (846)
5	4.1 (1.2)	5.8 (1.7)	181 (40)	259 (58)	49 (8)	70 (12)	12 (20)	3830 (648)	5470 (924)
6	2.2 (0.7)	3.1 (1.0)	143 (53)	204 (76)	69 (10)	99 (15)	38 (42)	4300 (572)	6150 (818)
7	4.8 (2.7)	6.7 (3.8)	150 (44)	214 (62)	114 (31)	163 (45)	21 (29)	4970 (424)	7090 (605)
8	2.7 (1.2)		160 (49)	229 (70)	148 (37)	212 (53)	68 (53)	2640 (2340)	3770 (3350)
9	2.4 (0.5)	3.4 (0.7)	130 (163)	186 (233)	153 (163)	219 (233)	8 (2)	162 (79)	232 (113)
10	4.6 (1.7)	6.7 (2.4)	19 (5)	27 (7)	41 (10)	60 (14)	7 (6)	381 (294)	548 (422)
11	2.5 (0.9)	3.6 (1.4)	28 (10)	41 (15)	42 (6)	60 (9)	3 (1)	497 (239)	715 (345)
12	2.2 (0.8)	3.1 (1.2)	100 (50)	143 (72)	75 (15)	108 (22)	2 (2)	1760 (511)	2520 (731)
13	1.4 (0.5)	2.0 (0.7)	158 (33)	226 (47)	131 (25)	187 (36)	10 (14)	2150 (578)	3070 (826)
14	2.1 (0.6)	3.0 (0.9)	130 (55)	185 (78)	125 (58)	179 (83)	12 (19)	1940 (394)	2780 (561)
15	4.5 (2.1)	6.4 (3.1)	95 (35)	135 (50)	90 (25)	129 (36)	32 (50)	1780 (651)	2550 (933)
16	3.4 (1.8)	4.8 (2.6)	126 (93)	181 (133)	183 (136)	263 (196)	4 (4)		
17	2.5 (2.4)	3.5 (3.4)	34 (17)	49 (24)	62 (25)	89 (36)	8 (10)		
18	0.8 (0.5)						5 (1)		
19	2.0 (0.7)	2.8 (1.0)	81 (40)	116 (58)	53 (17)	76 (24)	3 (2)	146 (47)	209 (67)
20	2.1 (0.8)	3.0 (1.1)	96 (44)	138 (63)	74 (24)	106 (35)	4 (5)	384 (145)	551 (207)
21	3.4 (1.0)	4.9 (1.4)	194 (92)	278 (131)	150 (55)	215 (78)	3 (3)	767 (114)	1100 (161)
22	6.5 (5.5)		433 (377)	618 (539)	224 (21)	319 (31)	9 (5)	787 (131)	1120 (187)
23	2.4 (0.7)		405 (468)	578 (669)	399 (330)	571 (472)	11 (7)	902 (107)	1290 (153)
24	2.3 (0.5)	3.3 (0.7)	83 (96)	119 (137)	82 (45)	118 (64)	55 (71)	745 (454)	1070 (650)
25									
26									
27									
28									
29									
30	5.9 (2.6)	8.4 (3.8)	361 (291)	516 (416)	526 (707)	753 (1010)	27 (13)	4710 (875)	6730 (1250)
31	3.1 (0.4)						52 (25)		
Avg	3.25	4.72	160	229	138	198	21	1810	2590
n	26	21	24	24	24	24	26	22	22
SD	1.41	1.81	109	155	117	167	23	1430	2040
Min	0.8	2.0	19	27	41	60	2	146	209
Max	6.5	8.4	433	618	526	753	94	4970	7090

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for January, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	2.9 (1.1)		197 (44)	282 (63)	99 (23)	142 (33)	23 (16)	4660 (492)	6650 (698)
2	5.6 (2.0)						23 (11)		
3	3.7 (0.1)	5.3 (0.1)					11 (2)		
4	6.6 (3.3)	9.4 (4.7)	188 (87)	269 (124)	144 (31)	207 (45)	5 (6)	2820 (544)	4040 (775)
5	3.4 (0.5)	4.9 (0.7)	152 (85)	216 (122)	127 (24)	183 (34)	6 (3)	964 (1060)	1380 (1520)
6	4.2 (1.5)	6.1 (2.2)	200 (83)	306 (129)	140 (24)	201 (35)	4 (2)	129 (55)	185 (78)
7	7.8 (5.1)	11.1 (7.2)	262 (101)	433 (116)	190 (69)	272 (98)	13 (14)	696 (430)	999 (617)
8	5.6 (2.0)	8.0 (2.8)	513 (604)	734 (865)	724 (762)	1040 (1090)	14 (9)	1830 (295)	2610 (421)
9	12.5 (9.9)	18.4 (14.0)	119 (33)	170 (47)	166 (40)	237 (57)	10 (8)	2700 (323)	3860 (462)
10	7.0 (4.4)	10.0 (6.2)	148 (63)	212 (89)	123 (55)	176 (78)	19 (15)	2650 (701)	3790 (999)
11	3.6 (1.1)	5.2 (1.6)	194 (97)	278 (139)	121 (24)	173 (34)	3 (2)	2960 (673)	4240 (958)
12	3.0 (1.3)	4.3 (1.8)	420 (181)	601 (259)	294 (102)	421 (146)	10 (10)	4130 (508)	5900 (724)
13	2.0 (1.1)	2.8 (1.5)	337 (444)	482 (636)	548 (583)	785 (837)	11 (10)		
14	3.9 (1.6)	5.6 (2.2)	136 (116)	195 (165)	107 (20)	153 (28)	18 (17)		
15	1.9 (0.8)	2.6 (1.2)	144 (56)	205 (81)	86 (16)	122 (24)	10 (10)		
16	2.0 (0.7)		239 (48)	341 (68)	98 (30)	140 (43)	5 (4)	87 (37)	124 (53)
17	2.2 (0.9)		257 (31)	367 (44)	155 (28)	222 (39)	32 (16)	248 (64)	353 (91)
18	3.6 (1.2)	5.0 (1.7)	304 (48)	435 (69)	205 (27)	294 (39)	6 (4)	399 (121)	572 (174)
19	3.1 (1.5)	4.3 (2.2)	333 (128)	481 (184)	256 (50)	367 (72)	15 (5)	636 (164)	911 (238)
20	4.1 (1.0)						21 (12)	709 (132)	1010 (188)
21	4.2 (1.7)		434 (229)	620 (328)	323 (69)	463 (99)	43 (33)	1010 (270)	1450 (387)
22	5.4 (1.4)		656 (654)	928 (953)	823 (1040)	1180 (1500)	21 (12)	907 (115)	1300 (165)
23	0.6 (1.6)	0.9 (2.3)	82 (23)	118 (32)	115 (39)	165 (56)	19 (20)	1340 (231)	1910 (332)
24	-1.0 (0.7)	-1.5 (1.0)	109 (35)	156 (50)	106 (21)	152 (31)	0 (2)	2050 (361)	2940 (515)
25	0.0 (1.3)	0.1 (1.8)	127 (12)	181 (18)	186 (23)	265 (33)	10 (11)	2340 (310)	3340 (444)
26	0.1 (0.9)	0.1 (1.3)	186 (98)	265 (140)	268 (71)	383 (102)	8 (9)	2750 (530)	3930 (761)
27	-0.5 (0.5)	-0.7 (0.8)	367 (508)	525 (727)	499 (546)	715 (784)	8 (6)	3280 (450)	4700 (645)
28	-0.7 (1.1)	-1.0 (1.5)	121 (211)	174 (303)	81 (42)	117 (60)	52 (95)	2280 (996)	3280 (1430)
29	0.4 (1.2)	0.6 (1.7)	207 (106)	297 (152)	145 (31)	208 (44)	5 (11)	3890 (528)	5560 (756)
30	0.5 (1.4)	0.7 (2.0)	312 (94)	447 (134)	178 (33)	255 (47)	18 (22)	4870 (358)	6960 (510)
31	1.1 (1.5)		341 (109)	487 (155)	247 (35)	354 (50)	14 (17)	5250 (185)	7490 (266)
Avg	3.19	4.45	253	364	234	335	15	2140	3060
n	31	23	28	28	28	28	31	26	26
SD	2.85	4.61	134	190	187	268	11	1520	2170
Min	-1.0	-1.5	82	118	81	117	0	87	124
Max	12.5	18.4	656	928	823	1180	52	5250	7490

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for February, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	2.4 (1.9)	3.5 (2.7)	229 (84)	327 (120)	247 (60)	353 (87)	17 (16)	4550 (700)	6500 (1000)
2	2.7 (2.0)	3.8 (2.9)	279 (110)	398 (158)	289 (106)	414 (153)	26 (34)	2320 (2500)	3320 (3580)
3	7.6 (4.0)	10.8 (5.7)	608 (761)	869 (1090)	724 (748)	1040 (1070)	3 (4)	431 (205)	617 (292)
4	-0.1 (1.9)		199 (199)	284 (284)	143 (55)	204 (79)	0 (1)	1030 (466)	1470 (667)
5	-1.0 (2.3)		227 (67)	324 (96)	135 (35)	194 (51)	11 (16)	1700 (428)	2420 (612)
6	0.0 (0.9)		198 (70)	282 (100)	140 (30)	201 (43)	23 (23)	2950 (515)	4210 (737)
7	-0.8 (0.7)	-1.2 (1.0)	182 (105)	261 (151)	146 (50)	209 (71)	22 (30)	3080 (863)	4400 (1230)
8	5.6 (3.6)	7.9 (5.2)	124 (79)	178 (113)	144 (97)	206 (139)	10 (9)	2780 (1560)	3970 (2230)
9	-0.3 (1.7)	-0.5 (2.4)	105 (36)	150 (51)	105 (30)	151 (43)	4 (4)	2030 (459)	2910 (658)
10	-0.2 (1.2)		118 (115)		181 (225)		7 (5)		
11	-0.8 (0.7)		30 (9)		38 (8)		5 (13)		
12	-1.1 (1.1)		119 (68)		69 (24)		-2 (1)		
13	5.6 (8.7)		152 (67)		110 (39)		-1 (2)	132 (65)	
14	0.6 (1.0)		164 (48)		193 (40)		3 (3)	217 (34)	
15	1.8 (1.8)		233 (92)		246 (50)		2 (5)	346 (89)	
16	3.2 (2.4)		298 (112)		321 (46)		5 (5)	656 (302)	
17	4.6 (4.1)		440 (426)		564 (706)		13 (13)	903 (198)	
18	1.1 (0.7)		95 (76)		131 (68)		31 (38)	1250 (395)	
19	-0.2 (0.7)		64 (33)		83 (17)		-1 (1)	1350 (386)	
20	1.0 (0.9)		226 (54)		164 (42)		3 (4)	1820 (531)	
21	0.8 (0.9)		224 (80)		216 (44)		29 (23)	1250 (262)	
22	0.3 (0.9)		190 (65)		222 (35)		5 (9)	1370 (235)	
23	0.8 (0.9)		669 (665)		466 (272)		15 (13)	1960 (354)	
24	0.9 (2.2)		389 (313)		355 (216)		23 (21)	2310 (805)	
25	3.1 (2.8)		130 (100)		105 (37)		183 (230)	2120 (1970)	
26	0.1 (0.9)		136 (54)		77 (23)		4 (4)	320 (191)	
27	-0.2 (1.2)		128 (78)		72 (29)		3 (2)	713 (254)	
28	-0.4 (0.5)		138 (71)		132 (47)		1 (4)	1420 (345)	
Avg	1.33	4.06	218	341	208	330	16	1560	3310
n	28	6	28	9	28	9	28	25	9
SD	2.21	4.26	146	200	155	263	34	1040	1640
Min	-1.1	-1.2	30	150	38	151	-2	132	617
Max	7.6	10.8	669	869	724	1040	183	4550	6500

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for March, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	-0.4 (1.0)		172 (39)		173 (20)		0 (1)	796 (150)	
2	-0.5 (0.7)		389 (472)		162 (23)		1 (3)	1310 (409)	
3	1.4 (1.5)		277 (235)		339 (371)		2 (4)	2430 (428)	
4	1.0 (1.0)		148 (142)		126 (43)		101 (125)	2660 (1010)	
5	-0.2 (1.1)	-0.1 (1.6)	101 (34)	144 (49)	90 (31)	129 (44)	9 (7)	1690 (497)	2410 (710)
6	1.6 (2.8)	2.3 (4.0)	84 (48)	121 (69)	69 (33)	99 (48)	8 (11)	2070 (795)	2970 (1140)
7	0.7 (1.4)	1.0 (2.0)	78 (48)	112 (69)	63 (27)	90 (39)	1 (3)	1700 (786)	2430 (1130)
8	0.0 (0.6)	0.0 (0.8)	79 (47)	114 (68)	74 (39)	106 (56)	2 (2)	1570 (648)	2240 (929)
9	2.2 (0.8)	3.1 (1.2)	94 (85)	135 (122)	87 (46)	125 (66)	26 (36)	2700 (1850)	3860 (2640)
10	8.1 (9.4)	11.6 (13.4)	231 (343)	331 (493)			5 (4)		
11	0.3 (1.6)	0.4 (2.2)	35 (22)	49 (32)	48 (28)	69 (41)	90 (139)		
12	0.4 (0.9)	0.6 (1.3)	145 (59)	208 (84)	59 (14)	84 (20)	-1 (1)		
13	1.8 (0.9)	2.5 (1.3)	227 (32)	325 (46)	122 (23)	175 (33)	3 (5)	235 (73)	336 (104)
14	0.6 (1.6)	0.8 (2.3)	180 (30)	258 (44)	154 (32)	220 (46)	2 (5)	376 (51)	538 (72)
15	1.2 (0.8)	1.7 (1.1)			151 (21)	217 (31)	-1 (1)		
16	5.6 (4.3)	7.9 (6.1)	286 (137)	409 (197)	150 (21)	215 (30)	1 (1)	727 (241)	1040 (346)
17	10.8 (9.6)	15.4 (13.7)	326 (442)	468 (634)	248 (212)	355 (305)	2 (1)	809 (88)	1160 (126)
18	2.2 (2.5)	3.1 (3.5)	68 (39)	97 (56)	88 (31)	126 (45)	8 (7)	660 (275)	944 (395)
19	4.7 (3.3)	6.7 (4.7)	62 (42)	88 (60)	68 (29)	98 (42)	7 (8)	468 (220)	670 (316)
20	1.3 (0.8)	1.8 (1.2)	107 (34)	154 (48)	110 (26)	157 (38)	2 (1)	662 (95)	948 (137)
21	2.1 (0.5)	2.9 (0.8)	167 (44)	239 (63)	151 (37)	217 (53)	4 (4)	745 (100)	1070 (142)
22	2.1 (0.9)	3.0 (1.3)	186 (92)	272 (131)	169 (50)	241 (71)	12 (6)	820 (121)	1170 (173)
23	0.8 (1.8)	1.2 (2.6)	187 (105)	267 (151)	179 (72)	256 (104)	11 (12)	821 (223)	1170 (321)
24	10.8 (10.3)	15.3 (14.6)	393 (631)	563 (902)	361 (386)	517 (553)	10 (13)	1140 (418)	1630 (598)
25	0.1 (1.0)	0.1 (1.4)	58 (37)	83 (53)	77 (26)	110 (37)	7 (26)	959 (382)	1370 (548)
26	1.0 (0.8)	1.4 (1.1)	49 (20)	71 (28)	44 (18)	64 (26)	1 (1)	709 (294)	1020 (421)
27	1.9 (3.0)	2.8 (4.3)	61 (20)	88 (29)	45 (13)	65 (19)	2 (1)	508 (100)	730 (143)
28	1.1 (0.6)	1.6 (0.8)	51 (10)	73 (15)	43 (12)	62 (17)	2 (1)	426 (159)	613 (228)
29	1.1 (0.8)	1.5 (1.1)	64 (30)	92 (42)	59 (24)	85 (35)	0 (1)	521 (233)	748 (333)
30	11.3 (7.2)	16.1 (10.2)	131 (53)	188 (76)	136 (52)	194 (74)	5 (8)	719 (805)	1030 (1150)
31	2.6 (4.2)	3.7 (6.0)	205 (311)	293 (445)	355 (638)	510 (916)	3 (3)	35 (34)	50 (48)
Avg	2.5	4.02	155	202	133	176	11	1050	1310
n	31	27	30	26	30	26	31	27	23
SD	3.27	4.8	99	132	88	121	23	716	885
Min	-0.5	-0.1	35	49	43	62	-1	35	50
Max	11.3	16.1	393	563	361	517	101	2700	3860

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for April, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	-0.3 (0.3)	-0.5 (0.5)	32 (10)	46 (14)	49 (20)	70 (28)	150 (213)	-1 (1)	-1 (1)
2	0.3 (0.9)	0.5 (1.2)	43 (7)	62 (10)	49 (10)	70 (14)	2 (2)	9 (12)	14 (18)
3	0.5 (0.9)	0.7 (1.3)	34 (16)	48 (22)	41 (16)	59 (23)	0 (1)	41 (23)	59 (33)
4	11.0 (13.8)	15.7 (19.7)	82 (42)	118 (61)	82 (42)	118 (60)	1 (2)	162 (67)	231 (96)
5	4.9 (6.2)	7.1 (8.8)	78 (52)	111 (75)	70 (47)	100 (67)	2 (2)	187 (111)	268 (159)
6	1.4 (0.7)	1.9 (1.0)	84 (30)	120 (43)	67 (31)	96 (44)	2 (4)	288 (180)	412 (257)
7	3.8 (3.6)	5.4 (5.1)	226 (166)	323 (237)	240 (184)	344 (263)	9 (10)	976 (252)	1390 (360)
8	-0.2 (1.0)	-0.3 (1.5)	80 (68)	114 (98)	72 (24)	102 (34)	33 (35)	1130 (326)	1610 (467)
9	1.0 (0.9)	1.4 (1.2)	87 (43)	125 (61)	48 (14)	69 (21)	7 (8)	1100 (311)	1570 (444)
10	2.4 (1.7)	3.4 (2.4)	72 (46)	103 (66)	39 (20)	56 (28)	4 (2)	755 (426)	1080 (611)
11	0.4 (0.9)	0.5 (1.4)	75 (25)	108 (36)	56 (21)	81 (31)	0 (1)	1130 (478)	1620 (683)
12	2.2 (1.3)	3.2 (1.8)	151 (81)	216 (116)	131 (45)	188 (65)	4 (7)	1890 (512)	2700 (732)
13	1.2 (2.4)	1.7 (3.4)	146 (60)	209 (86)	118 (57)	169 (81)	18 (9)	2230 (701)	3190 (1000)
14	3.3 (1.7)	4.7 (2.4)	113 (142)	163 (204)	96 (88)	138 (127)	5 (5)	1580 (143)	2270 (205)
15	2.7 (2.4)	3.8 (3.4)	56 (46)	80 (65)	41 (8)	58 (12)	1 (1)	2610 (821)	3740 (1170)
16	3.0 (2.1)	4.3 (2.9)	98 (50)	141 (72)	58 (16)	82 (23)	0 (1)	3430 (980)	4910 (1400)
17	10.5 (18.5)	14.9 (26.4)	91 (52)	129 (74)	71 (32)	102 (46)	7 (6)	2700 (1160)	3860 (1660)
18	3.8 (5.6)	5.4 (8.0)	72 (42)	102 (60)	63 (38)	90 (55)	6 (5)	1980 (1400)	2820 (2000)
19	4.9 (4.0)	6.9 (5.8)	79 (34)	113 (49)	75 (35)	107 (50)	6 (5)	1660 (874)	2380 (1250)
20	2.7 (1.8)	3.9 (2.6)	73 (26)	105 (38)	62 (20)	88 (29)	6 (6)	748 (841)	1070 (1210)
21	2.7 (2.5)	3.9 (3.6)	121 (115)	173 (164)	191 (220)	274 (316)	8 (8)	291 (169)	416 (242)
22	18.0 (4.9)	25.6 (7.0)	62 (33)	88 (48)	76 (18)	109 (26)	12 (11)	817 (275)	1170 (393)
23	15.8 (13.7)	22.6 (19.6)	79 (51)	113 (73)	48 (31)	68 (44)	9 (8)	1120 (708)	1600 (1010)
24	6.5 (10.8)	9.3 (15.4)	76 (62)	109 (88)	49 (30)	71 (44)	2 (1)	976 (786)	1400 (1120)
25	0.2 (1.0)	0.3 (1.4)	39 (20)	56 (29)	39 (17)	56 (25)	2 (2)	467 (173)	672 (249)
26	1.4 (1.6)	2.0 (2.3)	61 (42)	87 (60)	50 (29)	73 (42)	2 (1)	625 (297)	899 (427)
27	5.4 (1.8)	7.7 (2.6)	85 (61)	122 (87)	60 (33)	87 (48)	7 (4)	679 (342)	974 (491)
28	4.5 (3.9)	6.5 (5.5)	129 (121)	185 (174)	174 (258)	250 (372)	10 (6)	510 (549)	732 (788)
29	4.1 (5.4)	5.9 (7.8)	27 (20)	39 (28)	44 (30)	63 (44)	4 (9)	0 (1)	-1 (2)
30	1.3 (0.9)	1.8 (1.3)	64 (52)	92 (74)	44 (20)	63 (29)	1 (1)	24 (29)	35 (41)
Avg	3.97	5.67	84	120	77	110	11	1000	1440
n	30	30	30	30	30	30	30	30	30
SD	4.38	6.24	40	57	48	68	27	888	1270
Min	-0.3	-0.5	27	39	39	56	0	-1	-1
Max	18.0	25.6	226	323	240	344	150	3430	4910

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for May, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	0.8 (1.4)	1.1 (2.0)	43 (28)	62 (40)	39 (19)	56 (27)	0 (1)	81 (35)	117 (50)
2	1.1 (2.4)	1.6 (3.4)	42 (28)	60 (40)	44 (17)	63 (24)	1 (2)	119 (57)	171 (81)
3	1.7 (1.1)	2.5 (1.5)	39 (24)	56 (35)	53 (20)	76 (29)	2 (2)	129 (53)	185 (76)
4	2.0 (1.7)	2.8 (2.5)	50 (42)	72 (60)	55 (20)	79 (29)	1 (1)	174 (88)	250 (126)
5	4.2 (0.7)	6.0 (0.9)	165 (291)	237 (419)	183 (231)	264 (333)	2 (1)	327 (127)	470 (182)
6	1.3 (1.8)	1.9 (2.6)	11 (6)	15 (8)	32 (18)	46 (26)	2 (1)	262 (97)	377 (139)
7	0.6 (0.6)	0.8 (0.9)	38 (39)	55 (56)	32 (15)	46 (21)	3 (2)	313 (144)	451 (208)
8	3.0 (2.6)	4.3 (3.7)	63 (72)	91 (104)	35 (16)	50 (23)	2 (2)	422 (192)	608 (276)
9	2.3 (2.0)	3.3 (2.8)	21 (8)	30 (11)	38 (9)	54 (13)	3 (2)	496 (239)	714 (345)
10	1.1 (0.7)	1.5 (1.1)	48 (35)	69 (50)	42 (14)	60 (20)	1 (2)	758 (320)	1090 (461)
11	6.6 (2.5)	9.4 (3.5)	253 (172)	363 (247)	105 (36)	151 (51)	5 (3)	2090 (847)	3000 (1210)
12	6.6 (5.7)	9.5 (8.2)	267 (335)	384 (481)	255 (329)	366 (473)	4 (2)	2380 (1750)	3420 (2510)
13	0.9 (0.7)	1.3 (1.0)	43 (60)	62 (91)	62 (57)	90 (85)	1 (2)	953 (495)	1360 (742)
14	0.9 (0.8)	1.3 (1.2)	30 (26)	43 (37)	39 (23)	56 (33)	2 (1)	706 (347)	1010 (498)
15	0.2 (0.4)	0.3 (0.6)	25 (20)	37 (28)	31 (10)	46 (14)	8 (5)	597 (220)	868 (317)
16	1.2 (0.7)	1.7 (1.0)	24 (17)	35 (24)	33 (9)	48 (13)	3 (2)	494 (81)	711 (117)
17	9.3 (6.2)	13.3 (8.8)	148 (141)	212 (202)	67 (32)	97 (46)	2 (1)	1030 (623)	1480 (893)
18	9.8 (3.5)	14.0 (5.0)	322 (145)	465 (210)	123 (26)	177 (38)	6 (5)	1390 (1560)	2050 (2250)
19	3.5 (4.5)	5.0 (6.4)	220 (309)	316 (443)	150 (119)	214 (171)	0 (1)	255 (99)	365 (142)
20	-0.5 (0.6)	-0.7 (0.8)	31 (51)	45 (74)	34 (24)	49 (34)	34 (50)	472 (357)	676 (512)
21	-0.8 (0.6)	-1.1 (0.9)	43 (55)	62 (79)	30 (18)	43 (26)	1 (3)	423 (223)	607 (320)
22	0.7 (1.5)	1.0 (2.1)	92 (90)	132 (130)	46 (29)	66 (41)	5 (4)	468 (233)	672 (334)
23	2.1 (1.4)	3.0 (2.0)	54 (43)	77 (61)	57 (34)	82 (50)	9 (4)	468 (244)	673 (351)
24	1.4 (1.2)	2.1 (1.7)	45 (33)	65 (47)	55 (29)	79 (41)	8 (5)	449 (153)	645 (220)
25	2.0 (1.3)	2.9 (1.8)	52 (41)	75 (58)	64 (40)	92 (58)	7 (6)	632 (219)	910 (316)
26	2.8 (1.2)		46 (34)	66 (49)	203 (243)	293 (351)	9 (3)	364 (290)	523 (418)
27	1.3 (1.0)		22 (10)	31 (15)	33 (17)	47 (24)	4 (5)	0 (1)	-1 (1)
28									
29									
30									
31	13.0 (18.1)	18.6 (26.0)	77 (55)	110 (79)	51 (31)	74 (45)	18 (13)	142 (66)	205 (94)
Avg	2.82	4.13	83	119	71	102	5	586	843
n	28	26	28	28	28	28	28	28	28
SD	3.24	4.81	83	119	58	83	7	549	790
Min	-0.8	-1.1	11	15	30	43	0	0	-1
Max	13.0	18.6	322	465	255	366	34	2380	3420

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for June, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	10.0 (11.2)	14.4 (16.2)	70 (25)	100 (36)	41 (17)	59 (24)	9 (5)	394 (396)	567 (570)
2	2.6 (1.6)	3.8 (2.3)	85 (88)	122 (127)	171 (210)	247 (303)	6 (3)	606 (389)	873 (560)
3	3.0 (0.6)	4.3 (0.9)	16 (4)	23 (6)	36 (14)	53 (19)	4 (2)	318 (200)	474 (296)
4	5.1 (1.9)	7.2 (2.7)	54 (46)	78 (66)	27 (10)	39 (14)	4 (2)	266 (66)	383 (95)
5	3.2 (0.9)	4.5 (1.3)	79 (41)	114 (59)	31 (12)	44 (17)	4 (2)	491 (192)	707 (276)
6	1.6 (0.7)	2.3 (1.0)	96 (32)	137 (46)	50 (14)	73 (20)	3 (1)	735 (132)	1060 (190)
7	2.9 (1.4)	4.1 (2.0)	52 (24)	74 (34)	42 (17)	61 (24)	5 (7)	476 (182)	685 (261)
8	4.6 (1.4)	6.7 (2.1)					11 (7)		
9	3.0 (0.9)	4.4 (1.3)	58 (58)	83 (84)	149 (172)	216 (249)	8 (5)	112 (58)	162 (83)
10	3.8 (1.1)	5.5 (1.6)	30 (37)	43 (54)	39 (32)	56 (47)	4 (2)	274 (188)	394 (271)
11	4.6 (0.8)	6.7 (1.2)	22 (4)	31 (6)	39 (14)	57 (20)	6 (2)	279 (100)	403 (145)
12	6.0 (2.1)	8.6 (3.1)	36 (13)	53 (19)	43 (14)	61 (20)	4 (2)	340 (66)	490 (95)
13	3.9 (2.1)	5.6 (3.0)	32 (8)	46 (11)	40 (9)	58 (12)	8 (5)	390 (55)	562 (80)
14	4.3 (2.2)	6.1 (3.2)	37 (17)	53 (25)	39 (12)	56 (17)	3 (1)	412 (59)	594 (85)
15	2.5 (0.4)						7 (2)		
16	1.6 (0.7)						2 (1)		
17	1.6 (0.9)	2.2 (1.3)	10 (5)	14 (8)	26 (13)	38 (19)	9 (11)	538 (234)	776 (337)
18	3.8 (2.9)	5.4 (4.2)	24 (12)	35 (17)	32 (15)	46 (22)	5 (4)	391 (190)	564 (274)
19	6.9 (6.7)	9.9 (9.6)	35 (14)	50 (20)	63 (29)	91 (42)	9 (10)	290 (38)	418 (54)
20	10.7 (7.7)		26 (4)		68 (35)		9 (9)		
21	3.9 (4.3)		22 (5)		55 (21)		4 (2)		
22	4.9 (3.4)		40 (26)		38 (13)		127 (257)		
23	10.2 (10.3)		47 (46)		160 (266)		5 (3)		
24	3.4 (2.1)		25 (15)		52 (83)		4 (5)		
25	6.1 (2.5)		21 (11)		33 (9)		18 (12)		
26	5.3 (0.5)		24 (8)				4 (2)		
27	2.7 (1.1)		22 (16)		35 (14)		3 (2)	93 (52)	
28	4.3 (1.2)		45 (48)		41 (19)		9 (6)	134 (70)	
29	8.6 (2.3)	12.3 (3.3)	41 (20)	58 (28)	45 (19)	64 (27)	8 (3)	174 (89)	250 (128)
30	6.4 (5.4)	9.2 (7.8)	62 (57)	89 (82)	87 (120)	125 (172)	11 (6)	228 (144)	328 (208)
Avg	4.7	6.49	41	67	57	80	10	347	538
n	30	19	27	18	26	18	30	20	18
SD	2.46	3.13	22	34	40	57	22	163	217
Min	1.6	2.2	10	14	26	38	2	93	162
Max	10.7	14.4	96	137	171	247	127	735	1060

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for July, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	5.4 (4.0)	7.8 (5.8)	24 (33)	35 (47)	37 (13)	53 (19)	7 (3)	155 (63)	223 (90)
2	12.0 (8.7)	17.2 (12.5)	31 (22)	44 (32)	39 (19)	56 (27)	5 (2)	170 (44)	244 (64)
3	5.0 (2.8)	7.2 (4.0)	49 (33)	70 (48)	30 (9)	42 (12)	3 (1)	282 (66)	405 (94)
4	6.0 (5.8)	8.6 (8.4)	61 (60)	88 (87)	34 (12)	49 (18)	5 (5)	441 (193)	632 (277)
5	7.4 (2.2)	10.6 (3.2)	31 (23)	45 (32)	24 (7)	35 (10)	9 (6)	493 (135)	710 (195)
6	4.0 (1.7)	5.8 (2.4)	33 (19)	48 (28)	28 (12)	41 (17)	4 (1)	306 (236)	441 (341)
7	4.4 (2.4)	6.3 (3.5)	38 (38)	55 (54)	66 (76)	95 (110)	5 (5)	83 (21)	119 (30)
8	3.6 (3.0)	5.2 (4.4)	17 (9)	25 (12)	30 (30)	44 (43)	9 (5)	141 (35)	203 (51)
9	2.0 (0.4)	2.8 (0.6)	19 (10)	27 (14)	21 (7)	30 (10)	2 (1)	196 (77)	282 (111)
10	3.1 (0.8)	4.5 (1.1)	44 (38)	63 (54)	26 (15)	37 (22)	5 (5)	301 (150)	432 (215)
11	4.6 (1.6)	6.6 (2.3)	52 (50)	75 (71)	35 (18)	51 (25)	7 (4)	357 (156)	514 (224)
12	4.3 (1.3)	6.2 (1.9)	32 (11)	46 (16)	35 (9)	51 (14)	5 (3)	363 (50)	523 (71)
13	6.6 (2.7)	9.5 (3.9)	67 (30)	95 (43)	44 (12)	64 (17)	5 (1)	615 (156)	883 (228)
14	4.7 (3.8)	6.7 (5.4)	83 (101)	121 (146)	78 (61)	113 (89)	8 (6)		
15	2.4 (1.7)	3.4 (2.4)	24 (22)	41 (41)	43 (14)	61 (20)	135 (272)		
16	5.3 (2.2)	7.7 (3.1)	25 (18)	41 (30)	43 (14)	62 (21)	5 (3)		
17	6.2 (2.8)	9.0 (4.0)	35 (13)	50 (18)	49 (20)	71 (29)	5 (3)	26 (15)	38 (22)
18	5.8 (2.2)	8.4 (3.2)	42 (10)	61 (15)	60 (19)	86 (27)	5 (2)	48 (14)	70 (21)
19	4.2 (2.0)	6.1 (2.8)	64 (26)	93 (37)	81 (19)	117 (27)	3 (1)	123 (147)	177 (212)
20	7.6 (4.2)	10.9 (6.1)	111 (37)	159 (54)	94 (16)	135 (23)	10 (6)	351 (525)	507 (758)
21	11.2 (6.6)	16.1 (9.5)	104 (85)	149 (122)	165 (195)	238 (280)	8 (5)	227 (157)	327 (226)
22	2.1 (1.0)	3.0 (1.4)	28 (8)	40 (12)	46 (39)	66 (56)	5 (3)	174 (112)	250 (161)
23	4.2 (1.0)	6.0 (1.5)	31 (6)	45 (8)	54 (13)		6 (3)	209 (172)	302 (248)
24	6.2 (3.0)	8.9 (4.4)	44 (15)	63 (21)	76 (16)		5 (2)	263 (106)	379 (153)
25	7.6 (4.1)	11.0 (5.9)	57 (11)	82 (16)	85 (28)		8 (4)	238 (95)	344 (137)
26	4.0 (0.7)	5.8 (1.1)	135 (20)	195 (29)	107 (19)		6 (3)	196 (39)	282 (56)
27	6.8 (1.4)						7 (2)		
28	7.3 (0.8)						11 (1)		
29	9.5 (0.6)		35 (16)		33 (9)		11 (2)	624 (140)	
30	16.4 (7.2)		46 (16)		46 (12)		6 (2)	838 (104)	
31	4.1 (3.2)	5.9 (4.6)	47 (13)	68 (19)	58 (17)	83 (25)	7 (3)	761 (138)	1100 (197)
Avg	5.93	7.67	49	71	54	73	10	307	391
n	31	27	29	27	29	23	31	26	24
SD	3	3.34	28	41	30	44	23	207	245
Min	2.0	2.8	17	25	21	30	2	26	38
Max	16.4	17.2	135	195	165	238	135	838	1100

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for August, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	1.1 (1.1)	1.6 (1.6)	45 (9)	65 (13)	42 (8)	61 (12)	2 (3)	414 (89)	598 (127)
2	1.6 (2.0)	2.4 (2.9)	91 (20)	132 (28)	50 (11)	72 (17)	3 (3)	359 (52)	519 (75)
3	7.3 (12.9)	10.6 (18.6)					3 (2)		
4	11.3 (8.1)	16.3 (11.7)	75 (71)	108 (102)	68 (68)	99 (98)	4 (4)	202 (93)	291 (135)
5	3.4 (1.9)						1 (2)		
6	7.3 (3.1)						1 (1)		
7	0.6 (1.0)	0.9 (1.5)	49 (26)	71 (37)	41 (13)	59 (18)	2 (5)	151 (24)	217 (35)
8	1.3 (1.8)	1.9 (2.6)	42 (23)	60 (33)	49 (15)	71 (22)	2 (2)	213 (43)	307 (62)
9	2.7 (1.2)	3.9 (1.7)	58 (17)	83 (25)	58 (21)	83 (30)	0 (2)	289 (31)	416 (45)
10	3.2 (2.3)	4.6 (3.3)	106 (16)	154 (23)	82 (19)	118 (27)	2 (2)	337 (39)	487 (56)
11	6.3 (3.4)	9.1 (4.9)	88 (41)	128 (59)	120 (122)	174 (177)	2 (1)		
12									
13									
14									
15									
16	1.0 (2.4)	1.5 (3.4)	59 (22)	85 (32)	105 (29)	152 (42)	1 (4)	194 (73)	280 (105)
17	0.5 (1.5)	0.7 (2.2)	75 (22)	109 (32)	138 (30)	198 (43)	5 (4)	214 (76)	313 (110)
18	2.9 (1.0)	4.2 (1.5)	60 (50)	87 (72)	126 (106)	182 (154)	8 (9)	204 (25)	294 (36)
19	1.5 (1.6)	2.2 (2.3)	25 (4)	36 (6)	21 (5)	30 (8)	2 (2)	227 (31)	328 (44)
20	0.5 (0.8)	0.7 (1.2)	37 (7)	53 (10)	30 (8)	43 (11)	4 (4)	253 (34)	365 (49)
21	2.1 (1.2)	3.0 (1.8)	27 (8)	39 (12)	39 (10)	57 (15)	10 (0)	248 (36)	359 (52)
22	2.2 (1.6)	3.2 (2.4)	68 (50)	98 (72)	44 (17)	64 (25)	6 (3)	320 (153)	462 (219)
23	-0.5 (1.3)	-0.7 (1.8)	92 (42)	132 (60)	24 (10)	34 (14)	0 (2)	395 (148)	570 (213)
24	0.3 (1.7)	0.4 (2.5)	139 (46)	201 (67)	63 (29)	91 (41)	1 (3)	505 (218)	727 (314)
25	6.4 (5.2)	9.2 (7.6)	161 (66)	234 (96)	147 (39)	210 (55)	6 (4)	449 (221)	656 (322)
26	5.2 (2.5)	7.4 (3.7)	128 (62)	185 (90)	167 (30)	240 (43)	10 (5)	401 (175)	579 (252)
27	10.3 (15.6)	14.8 (22.4)	87 (75)	125 (108)	89 (80)	129 (115)	11 (5)	340 (52)	491 (75)
28	6.1 (19.4)	8.9 (28.0)	15 (10)	22 (14)	17 (4)	25 (6)	2 (2)	396 (72)	571 (104)
29	1.1 (1.5)	1.6 (2.2)	13 (4)	19 (6)	26 (8)	37 (12)	3 (3)	394 (85)	569 (123)
30	-0.8 (0.8)	-1.1 (1.1)	21 (5)	31 (6)	37 (12)	53 (18)	9 (11)	347 (73)	500 (104)
31	-0.6 (0.9)	-0.9 (1.2)					14 (14)		
Avg	3.13	4.26	68	98	69	99	4	312	450
n	27	25	23	23	23	23	27	22	22
SD	3.22	4.67	39	57	44	63	4	95	137
Min	-0.8	-1.1	13	19	17	25	0	151	217
Max	11.3	16.3	161	234	167	240	14	505	727

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for September, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	0.3 (1.4)	0.4 (2.0)	120 (119)	172 (171)	69 (70)	100 (101)	-1 (1)	218 (86)	314 (124)
2	-0.5 (0.8)	-0.7 (1.2)	33 (33)	48 (47)	25 (15)	35 (21)	-1 (1)	418 (197)	601 (284)
3	-0.8 (1.3)	-1.2 (1.8)	39 (20)	56 (29)	30 (7)	43 (10)	0 (1)	448 (220)	643 (316)
4	-0.5 (1.9)	-0.7 (2.7)	70 (41)	101 (59)	58 (20)	83 (29)	1 (2)	497 (243)	715 (349)
5	0.2 (1.8)	0.3 (2.6)	78 (59)	112 (84)	76 (30)	109 (44)	1 (2)	532 (243)	765 (349)
6	0.2 (1.1)	0.2 (1.6)	118 (74)	169 (106)	70 (15)	100 (21)	0 (1)	579 (250)	832 (360)
7	-1.1 (1.2)	-1.5 (1.7)	122 (29)	176 (42)	78 (16)	112 (23)	0 (2)	611 (143)	881 (206)
8	0.7 (1.3)	0.9 (1.9)	80 (72)	114 (103)	51 (46)	74 (67)	5 (7)		
9	13.1 (14.3)	18.7 (20.5)	25 (18)	36 (26)	24 (10)	34 (14)	0 (2)		
10	0.1 (1.1)	0.1 (1.6)	62 (24)	88 (34)	25 (10)	36 (14)	1 (3)	24 (11)	35 (16)
11	1.6 (4.0)	2.3 (5.8)	59 (35)	85 (51)	36 (18)	52 (26)	4 (10)	91 (50)	130 (71)
12	18.0 (14.3)	25.8 (20.6)	51 (39)	74 (55)	46 (24)	66 (34)	9 (15)	160 (77)	230 (111)
13	1.5 (2.9)	2.2 (4.1)	95 (73)	137 (105)	56 (31)	81 (44)	1 (2)	225 (95)	324 (136)
14	5.0 (3.6)	7.1 (5.1)	182 (91)	262 (130)	97 (43)	140 (62)	12 (19)	279 (128)	402 (184)
15	6.8 (3.0)	9.7 (4.2)	188 (274)	270 (394)	92 (66)	132 (94)	13 (13)	321 (128)	461 (184)
16	9.5 (10.3)	13.6 (14.8)	33 (32)	47 (46)	37 (63)	54 (91)	12 (14)	301 (166)	433 (239)
17	-0.9 (0.6)	-1.3 (0.9)	60 (27)	86 (39)	48 (14)	68 (21)	1 (3)	859 (301)	1240 (434)
18	-0.6 (1.0)	-0.9 (1.4)	67 (33)	96 (47)	67 (14)	96 (21)	0 (2)	962 (401)	1380 (577)
19	-0.4 (1.1)	-0.6 (1.6)	62 (36)	90 (52)	61 (20)	87 (28)	1 (2)	858 (383)	1230 (551)
20	-0.5 (0.7)	-0.7 (1.1)	89 (56)	128 (81)	69 (25)	99 (37)	0 (1)	872 (394)	1250 (567)
21	-0.7 (1.1)	-1.0 (1.6)	93 (64)	133 (92)	90 (36)	129 (52)	-1 (2)	808 (411)	1160 (591)
22	3.4 (4.3)	4.8 (6.2)	62 (49)	90 (71)	63 (52)	91 (75)	0 (1)	655 (118)	945 (171)
23	4.5 (6.1)	6.5 (8.8)	23 (7)	33 (9)	42 (13)	61 (18)	5 (6)	805 (105)	1160 (151)
24	7.6 (4.8)	10.9 (6.9)	56 (35)	81 (50)	82 (27)	118 (39)	9 (8)	816 (467)	1180 (671)
25	1.0 (1.7)	1.4 (2.5)	70 (56)	101 (80)	106 (17)	154 (24)	5 (6)	664 (297)	956 (425)
26	0.3 (1.2)	0.4 (1.7)	105 (45)	152 (65)	85 (9)	122 (13)	1 (2)	739 (306)	1060 (440)
27	5.4 (3.8)	7.7 (5.4)	84 (41)	121 (59)	78 (23)	112 (33)	5 (7)	606 (280)	872 (402)
28	8.2 (5.2)	11.7 (7.5)	147 (71)	211 (102)			4 (6)	723 (732)	1040 (1050)
29	5.1 (2.7)	7.2 (3.9)	205 (161)	293 (230)	219 (265)	314 (380)	3 (4)	371 (212)	530 (304)
30	2.8 (3.5)	4.0 (5.0)	81 (41)	116 (58)	66 (37)	94 (54)	12 (15)	1010 (599)	1440 (859)
Avg	2.97	4.26	85	123	67	96	3	552	794
n	30	30	30	30	29	29	30	28	28
SD	4.54	6.52	46	66	36	52	4	273	392
Min	-1.1	-1.5	23	33	24	34	-1	24	35
Max	18.0	25.8	205	293	219	314	13	1010	1440

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for October, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	8.2 (10.3)	11.7 (14.8)	110 (51)	158 (74)			8 (11)		
2	5.4 (4.0)	7.7 (5.7)	83 (46)	118 (66)	66 (49)	95 (70)	7 (5)		
3	22.4 (16.4)	32.1 (23.6)	79 (35)	114 (50)	47 (19)	68 (27)	10 (9)		
4	10.5 (5.7)	15.0 (8.1)	121 (45)	174 (64)	89 (45)	127 (64)	8 (8)		
5	2.9 (5.3)	4.2 (7.6)	140 (24)	201 (34)	98 (14)	141 (21)	3 (4)		
6	2.1 (2.1)	3.0 (3.1)	180 (219)	258 (315)	152 (142)	219 (204)	1 (1)		
7	3.0 (2.4)	4.3 (3.5)	56 (25)	81 (36)	46 (13)	66 (18)	2 (2)		
8	11.1 (13.0)	15.9 (18.5)	107 (49)	153 (70)	56 (24)	80 (34)	9 (10)		
9	6.3 (5.0)	9.1 (7.1)	64 (55)	92 (78)	78 (25)	112 (36)	6 (5)		
10	2.8 (2.4)	4.1 (3.4)	58 (32)	84 (46)	107 (22)	154 (31)	5 (8)		
11	-0.1 (0.8)	-0.2 (1.2)	142 (38)	204 (54)	113 (42)	162 (60)	0 (1)		
12	1.0 (1.3)	1.5 (1.8)	192 (30)	276 (43)	129 (46)	185 (65)	2 (3)		
13	3.4 (2.7)	4.8 (3.9)	191 (151)	274 (217)	219 (242)	314 (348)	10 (6)	1030 (455)	1480 (653)
14	1.6 (0.9)	2.3 (1.2)	154 (66)	221 (94)	65 (11)	93 (15)	3 (3)	1800 (419)	2580 (601)
15	2.4 (1.5)	3.5 (2.1)	118 (37)	169 (53)	68 (17)	97 (24)	2 (1)	1730 (441)	2480 (633)
16	4.0 (2.1)	5.7 (3.0)	167 (56)	240 (81)	108 (47)	154 (68)	3 (2)	1450 (178)	2080 (256)
17	3.0 (1.5)	4.3 (2.2)	296 (179)	424 (258)	115 (42)	165 (60)	3 (2)	1750 (340)	2510 (488)
18	5.9 (2.5)	8.5 (3.6)	617 (232)	886 (332)	204 (39)	292 (55)	3 (2)	2340 (226)	3350 (325)
19	121.0 (77.6)	173.0 (110.0)	402 (187)	576 (269)	188 (87)	270 (125)	8 (4)	2200 (470)	3150 (675)
20	169.0 (118.0)	241.0 (167.0)	328 (189)	470 (271)	341 (399)	487 (571)	15 (8)	2210 (875)	3170 (1260)
21	15.2 (14.6)	21.7 (20.8)	114 (103)	163 (147)	70 (45)	100 (64)	55 (55)	1860 (991)	2660 (1420)
22	16.4 (14.4)	23.4 (20.6)	111 (71)	157 (102)	56 (39)	80 (56)	6 (4)	1430 (898)	2050 (1290)
23	7.8 (4.9)	11.2 (7.1)	103 (96)	148 (137)	46 (27)	66 (39)	8 (2)	843 (425)	1210 (610)
24	5.6 (0.7)	8.1 (1.1)	42 (15)	61 (21)	49 (11)	71 (16)	9 (7)	571 (66)	822 (96)
25	103.0 (127.0)	147.0 (181.0)	256 (294)	367 (421)	127 (33)	182 (47)	4 (4)	1530 (237)	2190 (339)
26	119.0 (85.6)	170.0 (122.0)	723 (739)	1040 (1060)	153 (60)	219 (86)	2 (2)	1850 (226)	2650 (324)
27	4.2 (2.4)	6.0 (3.4)	429 (604)	616 (868)	194 (93)	279 (134)	6 (2)		
28	3.9 (3.3)	5.6 (4.7)	30 (18)	42 (26)	45 (15)	64 (22)	21 (39)		
29	2.3 (4.1)	3.2 (5.9)	72 (15)	103 (21)	45 (13)	65 (19)	2 (3)		
30	0.2 (0.9)	0.3 (1.3)	86 (22)	124 (32)	50 (16)	72 (22)	0 (1)	64 (37)	92 (53)
31	2.7 (2.4)	3.9 (3.4)	56 (30)	80 (44)	44 (13)	64 (18)	5 (4)	92 (21)	132 (31)
Avg	21.5	30.7	181	260	106	151	7	1420	2040
n	31	31	31	31	30	30	31	16	16
SD	42.3	60.2	162	233	68	97	10	690	989
Min	-0.1	-0.2	30	42	44	64	0	64	92
Max	169.0	241.0	723	1040	341	487	55	2340	3350

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for November, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	48.2 (57.4)	68.9 (82.0)	171 (145)	245 (207)	80 (27)	115 (39)	6 (3)	327 (170)	469 (243)
2	88.9 (81.1)	127.0 (116.0)	479 (231)	688 (332)	144 (40)	207 (57)	12 (8)	931 (718)	1340 (1030)
3	44.7 (32.1)	63.8 (45.8)	403 (358)	578 (514)	314 (228)	450 (327)	10 (9)	1040 (258)	1500 (371)
4	74.7 (61.2)	107.0 (87.2)	167 (174)	239 (250)	74 (27)	106 (38)	6 (6)	1140 (359)	1630 (515)
5	72.0 (78.4)	103.0 (112.0)	196 (117)	281 (167)	66 (22)	95 (32)	4 (3)	1240 (334)	1780 (480)
6	77.1 (121.0)	110.0 (172.0)	310 (163)	443 (234)	123 (59)	175 (85)	21 (21)	1630 (365)	2330 (523)
7	40.3 (36.5)	57.4 (52.0)	258 (157)	368 (225)	148 (73)	212 (104)	24 (19)	1660 (496)	2370 (710)
8	11.2 (7.2)	16.0 (10.3)	153 (88)	219 (126)	142 (76)	204 (108)	23 (18)	1350 (514)	1940 (736)
9	30.6 (37.9)	43.9 (54.3)	141 (108)	202 (155)	138 (85)	198 (122)	12 (15)	1280 (551)	1830 (788)
10	2.9 (1.4)	4.2 (2.0)	91 (34)	131 (49)	192 (164)	275 (236)	6 (9)	1070 (205)	1540 (292)
11	0.6 (1.2)	0.9 (1.7)	68 (9)	98 (13)	77 (24)	111 (34)	1 (1)	1690 (315)	2430 (451)
12	5.5 (4.3)	7.8 (6.2)	160 (142)	230 (204)	141 (67)	203 (96)	2 (1)	2860 (540)	4100 (773)
13	2.4 (2.9)	3.5 (4.2)	171 (112)	244 (160)	146 (36)	209 (52)	1 (1)	3280 (250)	4710 (358)
14	3.3 (1.3)	4.7 (1.8)	122 (26)	174 (38)	151 (45)	217 (65)	2 (3)	3470 (425)	4980 (608)
15	5.6 (5.6)	8.0 (7.9)	173 (61)	248 (87)	209 (96)	300 (137)	9 (12)	3170 (1080)	4540 (1550)
16	60.5 (90.9)	86.5 (130.0)	247 (121)	354 (173)	343 (144)	492 (206)	22 (16)	2340 (2410)	3350 (3450)
17	7.5 (20.7)	10.8 (29.5)	331 (183)	475 (263)	404 (309)	580 (444)	2 (2)	268 (84)	384 (120)
18	-0.3 (0.9)	-0.4 (1.2)	119 (40)	171 (58)	90 (15)	130 (22)	0 (2)	628 (291)	902 (418)
19	0.5 (1.8)	0.8 (2.5)	92 (40)	132 (57)	77 (10)	111 (14)	2 (4)	516 (118)	742 (170)
20	4.1 (5.4)	5.8 (7.8)	128 (28)	184 (40)	142 (33)	204 (47)	1 (2)	922 (245)	1320 (350)
21	2.1 (4.6)	2.9 (6.6)	224 (146)	321 (209)	258 (99)	370 (141)	0 (1)	1680 (238)	2410 (340)
22	11.2 (14.4)	16.0 (20.5)	229 (131)	328 (187)	296 (99)	423 (141)	4 (9)	2020 (373)	2900 (533)
23	1.7 (1.7)	2.4 (2.5)	198 (117)	284 (167)	256 (65)	367 (93)	0 (2)	2240 (222)	3210 (318)
24	3.1 (2.4)	4.5 (3.4)	318 (310)	456 (445)	506 (633)	727 (908)	8 (10)		
25	0.1 (1.1)	0.1 (1.6)	94 (84)	134 (121)	120 (32)	172 (45)	170 (207)		
26	3.4 (2.7)	4.9 (3.9)	115 (39)	164 (56)	191 (46)	273 (66)	2 (2)	218 (77)	312 (110)
27	7.3 (11.5)	10.4 (16.3)	165 (63)	236 (91)	181 (43)	259 (61)	4 (3)	597 (277)	852 (395)
28	21.4 (19.3)	30.4 (27.4)	248 (104)	355 (149)	234 (52)	335 (74)	11 (12)	1390 (239)	1980 (341)
29	29.7 (32.0)	42.3 (45.6)	182 (89)	260 (128)	232 (105)	332 (150)	22 (43)	1270 (351)	1810 (502)
30	11.5 (13.3)	16.4 (19.0)	193 (76)	276 (109)	195 (73)	279 (105)	3 (3)	1510 (631)	2160 (903)
Avg	22.4	31.9	198	284	189	271	13	1490	2140
n	30	30	30	30	30	30	30	28	28
SD	27.1	38.7	93	134	102	146	30	882	1260
Min	-0.3	-0.4	68	98	66	95	0	218	312
Max	88.9	127.0	479	688	506	727	170	3470	4980

Table E8. Daily mean (SD) of H2S concentrations at site NC4B for December, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	Inlet, ppb	ppb	µg·dsm^{-3}
1	22.6 (25.8)	32.2 (36.7)	598 (767)	855 (1100)	558 (392)	798 (560)	12 (9)	2130 (337)	3040 (483)
2	5.2 (6.7)	7.4 (9.6)	109 (89)	156 (127)	121 (85)	174 (122)	2 (2)	1570 (621)	2250 (886)
3	8.9 (7.9)	12.7 (11.2)	121 (67)	173 (96)	77 (27)	111 (39)	2 (2)	1540 (449)	2210 (640)
4	25.8 (24.7)	36.8 (35.2)	296 (130)	423 (186)	142 (30)	203 (42)	9 (20)	2220 (377)	3180 (539)
5	30.1 (12.0)	42.9 (17.1)	263 (107)	377 (153)	165 (29)	236 (42)	2 (4)	2200 (330)	3160 (470)
6	108.0 (53.2)	153.0 (75.7)	434 (177)	621 (253)	310 (71)	444 (101)	17 (9)	2790 (806)	4000 (1160)
7	36.9 (27.8)	52.5 (39.6)	409 (120)	586 (172)	385 (88)	552 (126)	7 (5)	2290 (192)	3270 (275)
8	62.1 (35.6)	88.4 (50.7)	519 (455)	743 (652)	693 (985)	993 (1410)	7 (7)	2080 (194)	2980 (277)
9	4.8 (3.5)	7.0 (5.2)	48 (21)	69 (31)	90 (31)	131 (45)	2 (1)	850 (318)	1230 (466)
10	22.3 (23.1)	31.8 (32.8)	159 (99)	227 (141)	157 (25)	224 (36)	3 (3)	1800 (434)	2570 (620)
11	27.7 (17.2)	39.1 (25.3)	306 (61)	437 (88)	221 (34)	315 (49)	10 (7)	2840 (449)	4050 (644)
12	82.3 (27.1)		313 (36)	448 (52)	271 (49)	387 (71)	22 (13)	3630 (328)	5190 (470)
13	15.3 (17.7)	21.8 (25.1)					6 (4)	3090 (939)	4430 (1340)
14	7.5 (4.5)	10.8 (6.4)					6 (1)	2370 (2420)	3400 (3460)
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
Avg	32.8	41.3	298	426	266	381	8	2240	3210
n	14	13	12	12	12	12	14	14	14
SD	29.6	38.8	163	234	185	265	6	679	969
Min	4.8	7.0	48	69	77	111	2	850	1230
Max	108.0	153.0	598	855	693	993	22	3630	5190

Table E8. Hydrogen sulfide emissions.

Table E9. Daily mean (SD) of H2S emissions at site NC4B for December, 2007.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-}$	$mg \cdot d^{-1} m^{2}$
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22					197 (77)	220 (87)	606 (238)	79 (31)				
23	271 (102)	299 (113)	824 (310)	104 (39)								
24												
25												
26												
27												
28	173 (49)	191 (54)	527 (148)	67 (19)	154 (108)	173 (121)	476 (334)	62 (44)				
29	186 (52)	205 (58)	565 (159)	71 (20)	121 (25)	136 (28)	374 (78)	49 (10)				
30	347 (98)	382 (108)	1050 (299)	133 (38)	109 (53)	122 (60)	337 (165)	44 (22)				
31	590 (179)	650 (198)	1790 (545)	227 (69)	238 (218)	267 (244)	735 (672)	96 (88)				
Avg	313	345	952	120	164	183	506	66				
n	5	5	5	5	5	5	5	5	0	0	0	0
SD	152	167	461	58	48	54	148	19				
Min	173	191	527	67	109	122	337	44				
Max	590	650	1790	227	238	267	735	96				

Table E9. Daily mean (SD) of H2S emissions at site NC4B for January, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^2$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^2$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-}$	$mg \cdot d^{-1} m^2$
1					201 (164)	224 (183)	618 (505)	81 (66)				
2					143 (245)	160 (274)	441 (755)	58 (99)				
3												
4												
5												
6												
7	586 (210)	646 (231)	1780 (637)	225 (81)	187 (56)	209 (62)	576 (172)	75 (22)				
8	695 (495)	766 (546)	2110 (1500)	267 (190)	613 (860)	686 (962)	1890 (2650)	247 (346)				
9	419 (113)	462 (125)	1270 (343)	161 (43)	170 (69)	191 (77)	526 (212)	69 (28)				
10	534 (121)	589 (134)	1620 (369)	205 (47)	209 (76)	234 (85)	644 (235)	84 (31)				
11	527 (115)	581 (126)	1600 (349)	203 (44)	167 (35)	187 (40)	515 (109)	67 (14)				
12	688 (212)	759 (234)	2090 (644)	265 (82)	139 (111)	156 (124)	429 (341)	56 (45)				
13												
14												
15												
16												
17												
18					122 (113)	136 (127)	375 (349)	49 (46)				
19												
20												
21												
22												
23					300 (150)	335 (168)	924 (464)	121 (61)				
24												
25												
26												
27												
28												
29												
30	341 (148)	376 (163)	1040 (449)	131 (57)	195 (97)	218 (108)	601 (298)	79 (39)				
31												
Avg	541	597	1650	208	222	249	685	90				
n	7	7	7	7	11	11	11	11	0	0	0	0
SD	121	133	367	46	132	147	406	53				
Min	341	376	1040	131	122	136	375	49				
Max	695	766	2110	267	613	686	1890	247				

Table E9. Daily mean (SD) of H2S emissions at site NC4B for February, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2												
3					181 (160)	202 (179)	558 (492)	73 (64)				
4	777 (559)	857 (617)	2360 (1700)	299 (215)	201 (145)	225 (163)	619 (449)	81 (59)				
5	471 (482)	519 (532)	1430 (1470)	181 (185)	311 (76)	348 (85)	960 (235)	125 (31)				
6	160 (75)	177 (83)	487 (227)	62 (29)	327 (102)	366 (114)	1010 (315)	132 (41)				
7	300 (198)	330 (218)	911 (602)	115 (76)	509 (204)	569 (228)	1570 (629)	205 (82)				
8												
9					523 (237)	585 (265)	1610 (732)	211 (96)				
10					499 (298)	558 (334)	1540 (920)	201 (120)				
11												
12												
13												
14												
15												
16					44 (41)	49 (46)	134 (127)	18 (17)				
17					54 (35)	61 (39)	167 (109)	22 (14)	211 (94)	11100 (4960)	22800 (10300)	1460 (655)
18	249 (80)	275 (88)	757 (244)	96 (31)	119 (52)	134 (58)	368 (160)	48 (21)	226 (56)	11900 (2970)	24100 (5930)	1570 (392)
19												
20									298 (97)	15700 (5080)	30800 (10000)	2070 (670)
21												
22												
23									313 (98)	16500 (5130)	31000 (9680)	2170 (677)
24												
25									313 (103)	16500 (5430)	30100 (9950)	2170 (717)
26					323 (253)	361 (283)	996 (779)	130 (102)				
27					90 (103)	101 (116)	279 (319)	36 (42)				
28					88 (106)	99 (118)	272 (325)	36 (43)				
29												
Avg	391	432	1190	150	252	281	775	101	272	14300	27800	1890
n	5	5	5	5	13	13	13	13	5	5	5	5
SD	218	240	662	84	170	190	524	68	44	2340	3550	309
Min	160	177	487	62	44	49	134	18	211	11100	22800	1460
Max	777	857	2360	299	523	585	1610	211	313	16500	31000	2170

Table E9. Daily mean (SD) of H2S emissions at site NC4B for March, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1					176 (64)	197 (71)	542 (196)	71 (26)				
2												
3					222 (100)	249 (112)	685 (308)	90 (40)	18 (13)	925 (692)	2170 (1630)	122 (91)
4	320 (180)	352 (198)	971 (546)	123 (69)	238 (60)	266 (67)	734 (185)	96 (24)	28 (16)	1460 (864)	3380 (2010)	192 (114)
5	692 (442)	763 (487)	2100 (1340)	266 (170)	310 (143)	347 (159)	957 (439)	125 (57)				
6												
7												
8	923 (558)	1020 (615)	2810 (1690)	355 (214)	295 (179)	330 (200)	909 (552)	119 (72)	93 (59)	4870 (3110)	10700 (6820)	642 (410)
9					174 (303)	195 (339)	536 (934)	70 (122)				
10												
11					465 (183)	520 (204)	1430 (563)	187 (74)				
12												
13												
14	833 (393)	918 (433)	2530 (1190)	320 (151)	411 (150)	460 (168)	1270 (462)	166 (60)	211 (44)	11100 (2310)	22700 (4700)	1460 (305)
15	682 (346)	752 (381)	2070 (1050)	262 (133)	431 (145)	482 (162)	1330 (446)	174 (58)	311 (58)	16400 (3070)	33100 (6210)	2160 (405)
16	917 (284)	1010 (313)	2790 (862)	352 (109)	499 (230)	559 (257)	1540 (709)	201 (93)				
17												
18												
19	580 (302)	641 (333)	1770 (919)	223 (116)	424 (176)	473 (196)	1300 (540)	171 (71)	158 (37)	8310 (1930)	16200 (3760)	1100 (255)
20	738 (374)	817 (414)	2250 (1140)	284 (144)	419 (254)	468 (285)	1290 (784)	168 (102)				
21	979 (525)	1090 (582)	2990 (1600)	376 (202)	690 (321)	772 (359)	2130 (990)	278 (129)	322 (79)	17000 (4170)	32900 (8090)	2240 (550)
22	774 (374)	861 (415)	2370 (1140)	298 (144)	605 (280)	678 (314)	1870 (865)	244 (113)	331 (68)	17400 (3580)	33700 (6950)	2300 (473)
23									403 (90)	21200 (4740)	41100 (9190)	2800 (626)
24					673 (466)	757 (524)	2090 (1440)	271 (188)				
25												
26	846 (412)	949 (461)	2620 (1270)	325 (158)	736 (397)	829 (447)	2290 (1230)	296 (160)				
27	827 (1220)	929 (1370)	2560 (3760)	318 (467)	899 (571)	1010 (644)	2800 (1770)	362 (230)				
28	118 (45)	133 (51)	368 (140)	46 (17)	199 (133)	225 (151)	621 (415)	80 (54)	12 (4)	611 (222)	1530 (556)	81 (29)
29	146 (38)	165 (43)	455 (118)	56 (15)								
30												
31												
Avg	670	742	2050	257	437	490	1350	176	188	9920	19800	1310
n	14	14	14	14	18	18	18	18	10	10	10	10
SD	271	300	827	104	207	234	644	83	140	7370	14200	972
Min	118	133	368	46	174	195	536	70	12	611	1530	81
Max	979	1090	2990	376	899	1010	2800	362	403	21200	41100	2800

Table E9. Daily mean (SD) of H2S emissions at site NC4B for April, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2	124 (106)	141 (121)	389 (334)	48 (41)	174 (61)	197 (70)	543 (192)	70 (25)	64 (15)	3360 (801)	8050 (1890)	443 (106)
3					168 (57)	190 (64)	524 (177)	68 (23)				
4	170 (120)	194 (136)	533 (376)	65 (46)	128 (56)	146 (64)	401 (176)	52 (23)	77 (18)	4040 (948)	9380 (2210)	534 (125)
5	210 (65)	240 (74)	661 (205)	81 (25)	195 (45)	221 (51)	609 (141)	79 (18)	96 (10)	5050 (531)	11500 (1170)	666 (70)
6	441 (222)	505 (255)	1390 (702)	170 (86)	256 (66)	290 (75)	801 (206)	103 (27)	115 (18)	6070 (968)	13600 (2130)	801 (128)
7					328 (170)	371 (192)	1020 (530)	132 (68)	153 (48)	8040 (2510)	17600 (5450)	1060 (331)
8					838 (1310)	949 (1480)	2620 (4080)	337 (526)				
9	113 (176)	130 (202)	358 (558)	43 (68)	134 (49)	151 (55)	417 (152)	54 (20)	133 (29)	7020 (1550)	14800 (3290)	926 (204)
10	124 (53)	141 (60)	389 (166)	48 (20)	131 (33)	148 (38)	407 (104)	53 (13)	151 (25)	7950 (1340)	16500 (2780)	1050 (176)
11	166 (67)	186 (76)	514 (210)	64 (26)	155 (32)	176 (36)	484 (98)	63 (13)	187 (31)	9940 (1670)	20400 (3400)	1300 (217)
12	203 (62)	225 (68)	620 (188)	78 (24)	219 (44)	248 (50)	683 (137)	88 (18)	239 (36)	12800 (1930)	26000 (3860)	1660 (247)
13	319 (135)	349 (147)	961 (404)	122 (52)	289 (101)	326 (114)	898 (313)	116 (41)	272 (36)	14700 (1920)	29500 (3860)	1890 (247)
14					444 (172)	500 (193)	1380 (533)	179 (69)				
15					1160 (953)	1310 (1070)	3600 (2950)	468 (384)				
16	162 (207)	170 (218)	468 (602)	62 (80)								
17	94 (45)	99 (47)	271 (129)	36 (17)	230 (218)	258 (245)	711 (675)	93 (88)	89 (28)	4920 (1560)	9430 (2990)	616 (196)
18	108 (67)	113 (70)	312 (194)	42 (26)	134 (50)	150 (56)	414 (154)	54 (20)	121 (65)	6690 (3580)	12700 (6780)	841 (451)
19	133 (52)	140 (54)	385 (149)	51 (20)	164 (50)	183 (56)	506 (153)	66 (20)	197 (63)	10800 (3440)	20300 (6430)	1370 (435)
20	190 (56)	200 (59)	550 (162)	73 (22)	172 (44)	192 (49)	530 (134)	69 (18)	278 (53)	15200 (2870)	28200 (5270)	1930 (365)
21	343 (92)	360 (97)	993 (266)	132 (35)	244 (103)	274 (115)	754 (318)	98 (41)	341 (177)	18600 (9640)	34100 (17700)	2370 (1230)
22	410 (454)	431 (478)	1190 (1320)	158 (175)	677 (698)	759 (782)	2090 (2160)	273 (281)				
23	109 (34)	115 (36)	316 (99)	42 (13)	138 (54)	155 (60)	426 (167)	56 (22)				
24	161 (61)	170 (64)	467 (178)	62 (23)	111 (40)	125 (45)	343 (123)	45 (16)				
25	254 (109)	269 (115)	740 (317)	98 (42)	128 (29)	144 (33)	397 (90)	52 (12)	12 (6)	650 (319)	1560 (763)	84 (41)
26	257 (97)	272 (103)	751 (284)	99 (37)	175 (35)	196 (40)	540 (109)	70 (14)	26 (11)	1410 (588)	3340 (1400)	183 (76)
27	271 (49)	288 (52)	793 (143)	104 (19)	213 (59)	239 (66)	659 (182)	86 (24)	27 (8)	1410 (419)	3300 (986)	184 (55)
28	325 (53)	345 (56)	952 (155)	125 (20)	258 (52)	289 (58)	796 (161)	104 (21)	33 (8)	1770 (399)	4070 (904)	232 (52)
29	591 (177)	630 (188)	1740 (519)	227 (68)	343 (176)	384 (197)	1060 (544)	138 (71)	49 (34)	2590 (1770)	5860 (4000)	340 (233)
30	603 (264)	643 (282)	1770 (776)	232 (101)					65 (47)	3430 (2450)	7640 (5470)	452 (323)
Avg	245	265	730	94	282	317	875	113	130	6980	14200	901
n	24	24	24	24	27	27	27	27	21	21	21	21
SD	142	153	420	55	239	269	741	96	91	4950	9170	631
Min	94	99	271	36	111	125	343	45	12	650	1560	84
Max	603	643	1770	232	1160	1310	3600	468	341	18600	34100	2370

Table E9. Daily mean (SD) of H2S emissions at site NC4B for May, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	507 (334)	542 (357)	1490 (983)	195 (128)	315 (199)	353 (223)	972 (615)	127 (80)	73 (39)	3870 (2050)		509 (270)
2	403 (184)	433 (198)	1190 (544)	155 (71)	263 (109)	295 (122)	813 (337)	106 (44)	83 (19)	4360 (977)		573 (128)
3	428 (174)	462 (188)	1270 (518)	164 (67)	290 (133)	325 (149)	895 (410)	117 (53)	107 (25)	5660 (1320)		741 (172)
4	449 (209)	487 (227)	1340 (625)	173 (81)	290 (86)	325 (96)	895 (265)	117 (35)	115 (20)	6120 (1040)		799 (135)
5	601 (255)	654 (278)	1800 (766)	231 (98)	390 (132)	437 (148)	1210 (408)	157 (53)	158 (23)	8420 (1230)		1100 (159)
6	684 (385)	748 (421)	2060 (1160)	263 (148)	408 (174)	458 (195)	1260 (537)	164 (70)	183 (35)	9790 (1870)		1270 (243)
7												
8												
9												
10	801 (470)	891 (522)	2460 (1440)	308 (181)	441 (147)	495 (165)	1360 (454)	177 (59)	181 (22)			1260 (153)
11	941 (442)	1050 (493)	2900 (1360)	362 (170)	625 (369)	702 (414)	1940 (1140)	252 (148)	212 (38)			1470 (260)
12	1250 (679)	1410 (763)	3880 (2100)	482 (261)	516 (336)	580 (378)	1600 (1040)	208 (135)	112 (105)			781 (730)
13	1290 (778)	1450 (876)	4000 (2410)	495 (299)	665 (378)	747 (425)	2060 (1170)	268 (152)	46 (18)			318 (125)
14	961 (648)	1090 (733)	3000 (2020)	369 (249)	606 (315)	681 (354)	1880 (977)	244 (127)	93 (80)			648 (553)
15	798 (351)	906 (399)	2500 (1100)	307 (135)					72 (15)	8940 (1820)		497 (101)
16	690 (311)	783 (353)	2160 (973)	265 (120)	511 (96)	575 (108)	1580 (296)	206 (39)	97 (22)	12100 (2690)		675 (150)
17	1050 (600)	1200 (681)	3300 (1880)	405 (231)	692 (313)	778 (353)	2140 (972)	278 (126)				
18	901 (425)	1020 (482)	2820 (1330)	346 (163)	693 (284)	780 (320)	2150 (882)	279 (114)				
19	875 (482)	993 (547)	2740 (1510)	336 (185)	616 (207)	694 (232)	1910 (641)	248 (83)				
20	782 (343)	883 (387)	2430 (1070)	301 (132)	631 (128)	711 (144)	1960 (398)	254 (52)				
21	859 (363)	959 (405)	2640 (1120)	330 (139)	596 (180)	671 (203)	1850 (558)	240 (72)	25 (21)	1390 (1150)	3680 (3060)	176 (145)
22	940 (643)	1040 (713)	2860 (1970)	361 (247)	1310 (1510)	1470 (1700)	4060 (4690)	526 (608)	33 (10)	1800 (521)	4630 (1320)	230 (67)
23	540 (770)	591 (843)	1630 (2320)	208 (296)	112 (70)	126 (79)	348 (218)	45 (28)	48 (12)	2580 (645)	6450 (1650)	332 (83)
24	130 (116)	140 (126)	386 (347)	50 (45)	139 (106)	157 (119)	432 (329)	56 (43)	68 (17)	3620 (931)	8740 (2210)	469 (121)
25	100 (89)	107 (95)	296 (262)	39 (34)	111 (64)	125 (73)	345 (200)	45 (26)	63 (25)	3370 (1310)	7860 (3120)	439 (170)
26	85 (50)	89 (53)	246 (145)	33 (19)	127 (70)	143 (79)	394 (218)	51 (28)	76 (17)	4040 (901)	9030 (2000)	531 (119)
27	210 (288)	221 (303)	608 (834)	81 (111)	668 (836)	752 (941)	2070 (2590)	269 (336)	121 (28)	6350 (1480)	13800 (3210)	837 (195)
28	113 (83)	120 (88)	330 (241)	44 (32)	311 (396)	351 (446)	967 (1230)	125 (159)	174 (50)	9170 (2600)	19700 (5530)	1210 (344)
29	94 (53)	100 (56)	276 (153)	36 (20)	99 (48)	112 (55)	308 (150)	40 (20)	138 (41)	7250 (2180)	15400 (4660)	957 (287)
30	90 (28)	95 (29)	262 (81)	34 (11)	90 (44)	101 (50)	279 (137)	36 (18)	136 (34)	7170 (1760)	14900 (3670)	946 (232)
31	130 (25)	139 (27)	382 (75)	50 (10)	159 (53)	180 (60)	495 (166)	64 (22)	189 (63)	9930 (3340)	20400 (6810)	1310 (440)
Avg	597	664	1830	229	432	486	1340	174	108	6100	11300	753
n	28	28	28	28	27	27	27	27	24	19	11	24
SD	368	418	1150	142	271	305	840	109	52	2990	5550	362
Min	85	89	246	33	90	101	279	36	25	1390	3680	176
Max	1290	1450	4000	495	1310	1470	4060	526	212	12100	20400	1470

Table E9. Daily mean (SD) of H2S emissions at site NC4B for June, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	195 (30)	208 (32)	574 (87)	75 (11)	238 (105)	268 (118)	739 (326)	96 (42)	231 (79)	12200 (4150)	24700 (8410)	1610 (548)
2	232 (47)	248 (50)	684 (137)	89 (18)	146 (49)	165 (55)	455 (151)	59 (20)	200 (64)	10500 (3390)	21100 (6760)	1390 (447)
3	397 (445)	427 (478)	1180 (1320)	153 (171)	910 (1490)	1030 (1680)	2830 (4640)	366 (600)	179 (45)	9410 (2360)	18600 (4640)	1240 (311)
4	81 (19)	88 (21)	243 (57)	31 (7)	141 (64)	159 (72)	438 (198)	57 (26)	214 (61)	11200 (3190)	21900 (6170)	1480 (421)
5	137 (43)	150 (47)	413 (130)	53 (17)	207 (93)	234 (104)	644 (287)	84 (37)	226 (41)	11900 (2170)	22900 (4140)	1570 (286)
6	181 (30)	199 (33)	548 (92)	70 (12)	217 (111)	244 (125)	673 (345)	87 (45)	268 (58)	14100 (3040)	26900 (5740)	1860 (401)
7	175 (27)	193 (30)	532 (82)	67 (10)	152 (75)	171 (85)	472 (233)	61 (30)	355 (88)	18700 (4620)	35200 (8620)	2470 (609)
8	169 (32)	188 (36)	519 (98)	65 (12)	64 (67)	72 (76)	199 (209)	26 (27)	371 (54)	19500 (2820)	36400 (5210)	2580 (372)
9	227 (43)	254 (48)	700 (133)	87 (16)	161 (115)	181 (129)	499 (356)	65 (46)	286 (147)	15100 (7720)	27800 (14300)	1990 (1020)
10	551 (610)	619 (685)	1710 (1890)	212 (234)	1090 (1970)	1220 (2220)	3360 (6110)	437 (795)				
11	11 (63)	13 (71)	35 (195)	4 (24)	669 (1260)	751 (1420)	2070 (3910)	269 (509)				
12	47 (19)	53 (22)	146 (60)	18 (7)	84 (28)	94 (31)	259 (86)	34 (11)				
13	81 (38)	90 (42)	249 (116)	31 (15)	71 (22)	80 (24)	219 (67)	29 (9)	12 (3)	647 (147)	1560 (353)	85 (19)
14	99 (34)	110 (38)	304 (106)	38 (13)	69 (21)	77 (24)	213 (66)	28 (9)	16 (4)	863 (210)	2040 (500)	114 (28)
15	101 (46)	113 (51)	312 (140)	39 (18)	66 (33)	74 (38)	204 (103)	26 (13)	20 (5)	1050 (277)	2450 (639)	139 (37)
16	121 (33)	135 (37)	372 (102)	47 (13)	103 (42)	115 (47)	318 (131)	41 (17)	32 (9)	1670 (475)	3840 (1080)	221 (63)
17	430 (709)	480 (790)	1320 (2180)	165 (273)	1300 (2040)	1460 (2290)	4020 (6320)	522 (820)	54 (18)	2850 (954)	6440 (2140)	376 (126)
18	46 (33)	51 (36)	140 (100)	18 (13)	75 (31)	85 (35)	233 (96)	30 (13)	63 (23)	3300 (1190)	7340 (2650)	435 (158)
19	109 (227)	120 (250)	332 (688)	42 (87)	708 (1010)	798 (1140)	2200 (3140)	285 (407)	66 (18)	3490 (928)	7670 (2040)	461 (122)
20	80 (39)	86 (42)	236 (116)	31 (15)	43 (17)	48 (19)	133 (51)	17 (7)	66 (16)	3480 (813)	7580 (1770)	459 (107)
21	67 (52)	71 (55)	196 (153)	26 (20)	28 (42)	32 (48)	88 (131)	11 (17)	71 (14)	3720 (750)	8050 (1620)	491 (99)
22	59 (34)	61 (35)	168 (97)	23 (13)	38 (20)	43 (22)	118 (62)	15 (8)	73 (15)	3860 (766)	8280 (1640)	509 (101)
23	95 (33)	95 (34)	263 (93)	37 (13)	73 (25)	83 (28)	228 (78)	30 (10)	88 (19)	4620 (974)	9860 (2070)	609 (128)
24	365 (724)	363 (720)	1000 (1980)	140 (278)	990 (1430)	1120 (1620)	3090 (4460)	399 (576)	112 (25)	5870 (1340)	12400 (2820)	775 (176)
25												
26												
27												
28	102 (31)	104 (31)	286 (86)	39 (12)	69 (19)	78 (22)	214 (60)	28 (8)	179 (29)	9410 (1540)	19100 (3100)	1240 (204)
29	154 (34)	156 (35)	431 (96)	59 (13)	75 (25)	84 (28)	231 (76)	30 (10)	246 (43)	12900 (2260)	26100 (4510)	1710 (298)
30	185 (44)	188 (45)	519 (124)	71 (17)	72 (19)	80 (21)	221 (58)	29 (8)	301 (44)	15900 (2300)	31700 (4560)	2090 (304)
Avg	167	180	496	64	291	327	902	117	155	8180	16200	1080
n	27	27	27	27	27	27	27	27	24	24	24	24
SD	128	140	386	49	367	413	1140	148	110	5800	10800	766
Min	11	13	35	4	28	32	88	11	12	647	1560	85
Max	551	619	1710	212	1300	1460	4020	522	371	19500	36400	2580

Table E9. Daily mean (SD) of H2S emissions at site NC4B for July, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	248 (192)	254 (197)	700 (542)	95 (74)	300 (451)	336 (504)	925 (1390)	121 (181)	303 (60)	16000 (3140)	31600 (6220)	2100 (415)
2	35 (22)	36 (22)	99 (62)	13 (8)	164 (470)	184 (525)	506 (1450)	66 (189)	330 (53)	17400 (2810)	34100 (5490)	2290 (370)
3	157 (248)	162 (255)	445 (702)	61 (95)	152 (276)	170 (309)	470 (851)	61 (111)	275 (28)	14500 (1450)	28100 (2830)	1910 (191)
4	76 (24)	78 (25)	216 (69)	29 (9)	70 (32)	78 (36)	215 (100)	28 (13)	275 (57)	14500 (3020)	27800 (5790)	1910 (398)
5	110 (23)	113 (24)	313 (66)	42 (9)	79 (36)	89 (40)	245 (111)	32 (15)	256 (49)	13500 (2570)	25700 (4900)	1780 (339)
6	120 (27)	123 (28)	339 (76)	46 (10)	123 (77)	138 (87)	381 (239)	50 (31)	241 (43)	12700 (2240)	24000 (4230)	1680 (296)
7	149 (42)	153 (44)	423 (120)	57 (16)	95 (51)	107 (57)	295 (158)	38 (21)	252 (47)	13300 (2480)	24800 (4620)	1750 (327)
8	265 (269)	274 (278)	755 (767)	102 (103)	467 (704)	524 (791)	1450 (2180)	188 (283)				
9	109 (37)	114 (39)	313 (108)	42 (14)	88 (43)	99 (49)	274 (134)	36 (18)				
10												
11	73 (23)	77 (24)	212 (66)	28 (9)	42 (27)	47 (30)	129 (83)	17 (11)	23 (7)	1190 (344)	2890 (831)	157 (45)
12	129 (31)	138 (33)	381 (90)	50 (12)	134 (100)	150 (112)	414 (309)	54 (40)	31 (8)	1640 (395)	3940 (955)	216 (52)
13	167 (69)	180 (74)	496 (203)	64 (27)	163 (77)	183 (87)	505 (240)	66 (31)	31 (9)	1620 (487)	3850 (1150)	214 (64)
14	177 (67)	192 (72)	530 (200)	68 (26)	102 (195)	115 (220)	317 (606)	41 (79)	46 (14)	2420 (718)	5700 (1680)	320 (95)
15	213 (273)	232 (298)	640 (820)	82 (105)	317 (465)	357 (523)	985 (1440)	128 (187)	96 (35)	5070 (1820)	11800 (4200)	669 (240)
16	55 (24)	60 (27)	166 (73)	21 (9)	63 (24)	71 (27)	195 (73)	25 (10)	138 (35)	7250 (1850)	16700 (4230)	957 (244)
17	4 (132)	4 (147)	11 (405)	1 (51)	40 (105)	46 (118)	125 (325)	16 (42)	151 (37)	7920 (1960)	18000 (4460)	1050 (258)
18	131 (74)	147 (83)	405 (228)	50 (29)	129 (92)	146 (104)	402 (287)	52 (37)	114 (14)	6020 (732)	13500 (1620)	794 (97)
19	117 (48)	132 (54)	363 (148)	45 (18)	75 (17)	84 (19)	232 (52)	30 (7)	119 (16)	6240 (853)	13900 (1900)	823 (113)
20	71 (45)	81 (51)	222 (141)	27 (17)	42 (108)	48 (121)	131 (334)	17 (43)	132 (23)	6970 (1220)	15300 (2660)	920 (161)
21	118 (61)	136 (70)	375 (193)	46 (24)	43 (49)	49 (55)	134 (152)	17 (20)	158 (26)	8330 (1340)	18100 (2910)	1100 (177)
22	175 (267)	201 (307)	555 (847)	67 (103)	158 (402)	179 (453)	492 (1250)	64 (162)	172 (41)	9060 (2170)	19500 (4670)	1200 (286)
23	36 (29)	40 (33)	111 (92)	14 (11)	48 (33)	54 (37)	149 (103)	19 (13)	224 (65)	11800 (3410)	25200 (7230)	1560 (450)
24	50 (44)	57 (50)	156 (136)	19 (17)	68 (46)	77 (52)	211 (145)	27 (19)	221 (57)	11600 (2990)	24600 (6330)	1530 (394)
25	51 (32)	58 (36)	159 (100)	20 (12)	80 (48)	90 (54)	249 (150)	32 (19)	198 (36)	10400 (1870)	21800 (3910)	1380 (247)
26	36 (43)	40 (48)	110 (133)	14 (17)	106 (103)	120 (116)	331 (321)	43 (41)	201 (31)	10600 (1610)	22000 (3340)	1400 (213)
27	68 (31)	75 (34)	206 (93)	26 (12)	163 (114)	184 (129)	508 (355)	66 (46)	212 (28)	11200 (1460)	22900 (2970)	1470 (193)
28	123 (64)	134 (70)	371 (192)	47 (25)	224 (157)	254 (177)	700 (489)	90 (63)	113 (83)	5970 (4350)	12100 (8870)	787 (574)
29	175 (240)	190 (261)	524 (720)	67 (93)	508 (760)	575 (859)	1580 (2370)	205 (306)	56 (20)	2970 (1060)	5960 (2110)	392 (140)
30	30 (16)	33 (17)	90 (48)	12 (6)	62 (23)	70 (25)	193 (70)	25 (9)	130 (41)	6830 (2150)	13600 (4270)	902 (284)
31	67 (57)	73 (62)	201 (170)	26 (22)	51 (23)	58 (26)	159 (73)	21 (9)	144 (26)	7570 (1370)	14800 (2690)	999 (181)
Avg	111	120	330	43	139	156	430	56	166	8730	17900	1150
n	30	30	30	30	30	30	30	30	28	28	28	28
SD	65	69	189	25	116	131	361	47	85	4470	8470	590
Min	4	4	11	1	40	46	125	16	23	1190	2890	157
Max	265	274	755	102	508	575	1580	205	330	17400	34100	2290

Table E9. Daily mean (SD) of H2S emissions at site NC4B for August, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	113 (51)	123 (55)	340 (152)	44 (20)	76 (49)	85 (55)	235 (152)	31 (20)	152 (19)	8000 (985)	15500 (1880)	1060 (130)
2	130 (53)	142 (58)	391 (160)	50 (20)	56 (71)	63 (80)	175 (220)	23 (29)	174 (28)	9160 (1450)	17500 (2710)	1210 (191)
3	231 (75)	252 (82)	695 (227)	89 (29)	129 (67)	145 (75)	401 (206)	52 (27)	186 (29)	9760 (1530)	18400 (2890)	1290 (202)
4	276 (80)	301 (88)	831 (242)	106 (31)	90 (68)	102 (77)	280 (211)	36 (27)	267 (120)	14000 (6290)	26100 (11700)	1850 (830)
5	478 (611)	522 (667)	1440 (1840)	184 (235)	370 (758)	416 (853)	1150 (2350)	149 (305)				
6	106 (120)	116 (131)	320 (362)	41 (46)	57 (47)	64 (53)	177 (147)	23 (19)				
7	60 (36)	66 (40)	181 (110)	23 (14)	53 (28)	59 (31)	163 (86)	21 (11)				
8	67 (27)	73 (30)	200 (82)	26 (11)	63 (39)	71 (44)	196 (122)	25 (16)	12 (5)	638 (250)	1530 (594)	84 (33)
9	127 (34)	136 (37)	376 (101)	49 (13)	74 (57)	83 (64)	228 (177)	30 (23)	35 (10)	1830 (535)	4310 (1270)	241 (71)
10	222 (53)	237 (57)	652 (156)	85 (20)	48 (24)	54 (27)	149 (75)	19 (10)	37 (6)	1960 (308)	4530 (701)	258 (41)
11	103 (100)	109 (106)	301 (292)	40 (39)	78 (50)	88 (56)	243 (154)	32 (20)	51 (10)	2680 (520)	6100 (1170)	354 (69)
12	293 (610)	309 (643)	851 (1770)	113 (235)	100 (74)	112 (83)	309 (228)	40 (30)	57 (13)	3000 (700)	6700 (1560)	396 (92)
13	56 (20)	59 (21)	162 (58)	22 (8)	35 (14)	39 (16)	108 (43)	14 (6)	75 (14)	3920 (733)	8590 (1590)	517 (97)
14	110 (56)	116 (59)	321 (163)	43 (22)	59 (33)	67 (37)	184 (102)	24 (13)	80 (12)	4190 (613)	9030 (1340)	553 (81)
15	100 (70)	107 (74)	296 (204)	39 (27)	119 (120)	134 (135)	370 (373)	48 (48)	78 (13)	4080 (673)	8640 (1410)	538 (89)
16	129 (43)	141 (47)	388 (128)	50 (16)	69 (20)	78 (23)	214 (63)	28 (8)	89 (14)	4680 (738)	9760 (1530)	617 (97)
17	244 (95)	272 (108)	750 (297)	94 (37)	110 (22)	124 (25)	343 (70)	44 (9)	103 (18)	5440 (939)	11200 (1900)	718 (124)
18	304 (92)	346 (103)	952 (285)	117 (35)	173 (100)	196 (113)	539 (311)	70 (40)	132 (20)	6960 (1060)	14100 (2120)	918 (140)
19	203 (190)	233 (218)	643 (602)	78 (73)	254 (338)	287 (382)	791 (1050)	102 (136)	167 (29)	8790 (1520)	17500 (3010)	1160 (201)
20	84 (25)	95 (28)	263 (78)	32 (9)	65 (22)	74 (25)	203 (68)	26 (9)	190 (41)	9980 (2160)	19700 (4260)	1320 (286)
21	216 (366)	244 (413)	672 (1140)	83 (141)	310 (519)	350 (585)	965 (1610)	125 (209)	173 (31)	9090 (1620)	17600 (3140)	1200 (214)
22	40 (12)	45 (13)	123 (36)	15 (4)	70 (20)	78 (22)	216 (61)	28 (8)	185 (25)	9730 (1320)	18600 (2490)	1280 (174)
23	44 (17)	49 (18)	135 (51)	17 (6)	80 (53)	90 (60)	248 (164)	32 (21)	197 (30)	10400 (1590)	19600 (2990)	1370 (209)
24	50 (23)	56 (25)	153 (69)	19 (9)	99 (71)	111 (79)	306 (218)	40 (28)	203 (33)	10700 (1750)	19900 (3240)	1410 (231)
25	104 (53)	114 (58)	314 (158)	40 (20)	149 (88)	167 (99)	461 (273)	60 (36)	87 (80)	4590 (4230)	8480 (7820)	606 (558)
26	169 (239)	183 (260)	505 (717)	65 (92)	165 (230)	185 (259)	510 (714)	66 (93)				
27	101 (302)	108 (324)	299 (893)	39 (116)	52 (44)	59 (50)	161 (137)	21 (18)				
28	56 (34)	60 (36)	164 (99)	22 (13)	118 (94)	133 (106)	366 (292)	47 (38)				
29	114 (35)	120 (37)	331 (101)	44 (14)	144 (111)	162 (125)	447 (344)	58 (45)	3 (1)	134 (60)		18 (8)
30	101 (36)	105 (37)	288 (103)	39 (14)	224 (190)	253 (215)	697 (593)	90 (77)	8 (5)	415 (254)		55 (34)
31	149 (67)	153 (69)	421 (189)	57 (26)	314 (213)	355 (241)	979 (664)	127 (86)	15 (6)	796 (299)		105 (39)
Avg	148	161	444	57	123	138	381	49	110	5800	12900	765
n	31	31	31	31	31	31	31	31	25	25	22	25
SD	96	106	291	37	85	96	265	34	73	3850	6370	509
Min	40	45	123	15	35	39	108	14	3	134	1530	18
Max	478	522	1440	184	370	416	1150	149	267	14000	26100	1850

Table E9. Daily mean (SD) of H2S emissions at site NC4B for September, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	228 (95)	232 (97)	640 (267)	88 (37)	141 (74)	159 (84)	439 (231)	57 (30)	59 (111)	3130 (5850)		413 (772)
2												
3	45 (66)	46 (67)	126 (184)	17 (25)	39 (66)	44 (75)	121 (206)	16 (27)	41 (9)	2150 (458)	5560 (1200)	283 (61)
4	27 (23)	27 (23)	75 (64)	10 (9)	50 (47)	56 (53)	155 (145)	20 (19)	46 (10)	2440 (539)	6130 (1360)	321 (71)
5									39 (10)	2040 (528)	4970 (1310)	269 (70)
6												
7												
8	413 (53)	416 (54)	1150 (148)	159 (21)	130 (83)	146 (93)	403 (257)	52 (33)	102 (18)	5380 (920)	11800 (1970)	710 (121)
9	257 (172)	259 (173)	713 (476)	99 (66)	123 (136)	138 (153)	381 (421)	49 (55)	99 (19)	5190 (1010)	11100 (2150)	685 (133)
10	66 (59)	67 (60)	184 (164)	26 (23)	49 (26)	55 (29)	151 (80)	20 (10)	109 (17)	5720 (886)	12000 (1850)	754 (117)
11	94 (36)	96 (36)	263 (99)	36 (14)	47 (12)	53 (13)	147 (36)	19 (5)	142 (37)	7490 (1940)	15600 (4010)	988 (256)
12	161 (39)	163 (40)	450 (109)	62 (15)	105 (87)	118 (98)	325 (269)	42 (35)	176 (49)	9260 (2550)	19000 (5230)	1220 (337)
13	154 (36)	157 (37)	432 (102)	59 (14)	169 (91)	190 (102)	524 (283)	68 (37)	189 (43)	9930 (2250)	20200 (4540)	1310 (296)
14	261 (70)	266 (71)	732 (196)	100 (27)	164 (100)	184 (112)	508 (309)	66 (40)	192 (39)	10100 (2070)	20300 (4110)	1330 (272)
15	576 (270)	590 (277)	1630 (763)	222 (104)	153 (169)	172 (190)	474 (524)	62 (68)	118 (112)	6210 (5900)	12300 (11700)	820 (779)
16	319 (373)	328 (383)	904 (1060)	123 (143)	88 (98)	99 (111)	274 (305)	36 (40)	71 (24)	3710 (1250)	7280 (2440)	490 (164)
17	80 (85)	83 (87)	229 (241)	31 (33)	52 (37)	58 (42)	160 (116)	21 (15)	112 (28)	5890 (1470)	11400 (2840)	778 (193)
18	55 (27)	57 (28)	158 (78)	21 (10)	41 (17)	46 (19)	127 (53)	17 (7)	114 (19)	5980 (979)	11500 (1880)	790 (129)
19	88 (37)	92 (39)	253 (106)	34 (14)	46 (22)	51 (24)	142 (67)	18 (9)	125 (19)	6600 (999)	12500 (1890)	871 (132)
20	116 (58)	123 (61)	338 (167)	45 (22)	67 (43)	76 (49)	209 (134)	27 (17)	147 (13)	7710 (682)	14500 (1280)	1020 (90)
21	134 (69)	142 (73)	390 (201)	52 (27)	98 (57)	111 (64)	305 (177)	39 (23)	163 (23)	8600 (1190)	16000 (2210)	1140 (157)
22	302 (222)	322 (236)	887 (651)	116 (85)	147 (73)	166 (83)	459 (229)	59 (30)	187 (30)	9830 (1600)	18100 (2920)	1300 (211)
23	252 (261)	270 (279)	743 (769)	97 (100)	284 (442)	322 (500)	886 (1380)	114 (178)				
24	73 (97)	79 (106)	218 (292)	28 (37)	42 (22)	47 (25)	130 (70)	17 (9)				
25	97 (42)	108 (47)	297 (129)	37 (16)	58 (38)	66 (43)	180 (119)	23 (15)				
26	67 (19)	75 (21)	207 (58)	26 (7)	76 (14)	86 (16)	237 (45)	31 (6)	2 (1)	83 (42)	201 (101)	11 (6)
27	103 (30)	117 (34)	324 (94)	40 (12)	93 (20)	105 (23)	289 (64)	37 (8)	6 (3)	291 (135)	694 (322)	38 (18)
28	217 (82)	253 (96)	697 (264)	84 (31)	134 (32)	151 (36)	417 (100)	54 (13)	11 (4)	575 (228)	1360 (539)	76 (30)
29	289 (112)	336 (131)	927 (361)	111 (43)	179 (54)	203 (61)	560 (167)	72 (22)	14 (3)	710 (180)	1650 (420)	94 (24)
30					214 (257)	242 (291)	666 (803)	86 (104)	23 (7)	1190 (392)	2730 (898)	157 (52)
Avg	179	188	518	69	107	121	333	43	95	5010	10300	661
n	25	25	25	25	26	26	26	26	24	24	23	24
SD	129	134	369	50	61	69	191	25	62	3240	6300	428
Min	27	27	75	10	39	44	121	16	2	83	201	11
Max	576	590	1630	222	284	322	886	114	192	10100	20300	1330

Table E9. Daily mean (SD) of H2S emissions at site NC4B for October, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	30 (18)	34 (21)	95 (57)	12 (7)	63 (21)	71 (24)	196 (66)	25 (8)	37 (11)	1950 (579)	4430 (1300)	258 (76)
2	67 (38)	76 (43)	208 (118)	26 (15)	91 (29)	103 (33)	285 (90)	37 (12)	64 (20)	3340 (1040)	7480 (2330)	441 (137)
3	73 (35)	81 (39)	224 (107)	28 (13)	87 (44)	99 (50)	272 (137)	35 (18)	60 (21)	3170 (1120)	7010 (2490)	418 (148)
4	71 (48)	78 (54)	216 (148)	27 (19)	79 (34)	90 (39)	248 (107)	32 (14)	60 (20)	3130 (1060)	6830 (2330)	413 (141)
5	109 (34)	119 (38)	328 (104)	42 (13)	115 (39)	131 (44)	361 (121)	46 (16)	70 (20)	3680 (1050)	7920 (2270)	485 (139)
6	152 (34)	165 (37)	455 (103)	58 (13)	147 (61)	167 (70)	459 (192)	59 (25)	77 (24)	4050 (1250)	8630 (2680)	535 (165)
7	213 (337)	229 (362)	631 (999)	82 (129)	236 (261)	268 (297)	738 (818)	95 (105)	92 (19)	4830 (1020)	10200 (2130)	638 (135)
8	63 (57)	67 (61)	184 (167)	24 (22)	74 (17)	84 (19)	231 (53)	30 (7)	132 (32)	6950 (1690)	14400 (3530)	918 (223)
9	64 (12)	68 (13)	187 (34)	25 (5)	78 (16)	89 (18)	244 (50)	31 (6)	160 (31)	8430 (1610)	17300 (3300)	1110 (212)
10	73 (19)	78 (20)	214 (56)	28 (7)	91 (15)	104 (17)	286 (47)	37 (6)	189 (21)	9920 (1120)	20200 (2280)	1310 (148)
11	76 (20)	82 (21)	225 (58)	29 (8)	104 (21)	118 (23)	325 (64)	42 (8)	215 (23)	11300 (1210)	22800 (2390)	1490 (159)
12	148 (67)	160 (73)	440 (200)	57 (26)	125 (25)	142 (28)	392 (77)	51 (10)	261 (27)	13700 (1440)	27500 (2890)	1810 (191)
13					200 (151)	226 (171)	623 (470)	80 (61)	115 (126)	6070 (6640)	12100 (13200)	801 (877)
14	289 (550)	317 (603)	873 (1660)	111 (212)	157 (129)	178 (146)	490 (402)	63 (52)	36 (11)	1870 (559)	3670 (1090)	247 (74)
15	128 (314)	141 (346)	388 (953)	49 (121)	87 (29)	98 (33)	269 (91)	35 (12)	81 (28)	4280 (1460)	8340 (2880)	565 (192)
16					115 (52)	130 (59)	357 (161)	46 (21)	130 (25)	6820 (1290)		901 (170)
17					73 (31)	82 (35)	227 (97)	29 (13)	187 (34)	9860 (1770)		1300 (234)
18					111 (56)	126 (64)	347 (176)	45 (23)	317 (56)	16700 (2950)		2200 (390)
19									380 (69)	20000 (3640)		2640 (480)
20									383 (79)	20200 (4170)		2660 (551)
21												
22												
23												
24					90 (28)	102 (32)	281 (87)	36 (11)				
25					94 (28)	107 (31)	295 (87)	38 (11)	7 (2)	382 (131)	1010 (344)	50 (17)
26					176 (81)	199 (92)	549 (253)	71 (33)				
27												
28					228 (419)	259 (476)	714 (1310)	92 (169)				
29												
30												
31												
Avg	111	121	333	43	119	135	372	48	145	7650	11200	1010
n	14	14	14	14	22	22	22	22	21	21	16	21
SD	68	74	203	26	49	56	154	20	108	5690	7130	751
Min	30	34	95	12	63	71	196	25	7	382	1010	50
Max	289	317	873	111	236	268	738	95	383	20200	27500	2660

Table E9. Daily mean (SD) of H2S emissions at site NC4B for November, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2									76 (36)	3990 (1900)	8880 (4230)	527 (250)
3					248 (45)	284 (52)	783 (143)	100 (18)	114 (34)	5980 (1760)	13000 (3790)	789 (233)
4												
5					138 (43)	158 (49)	435 (135)	56 (17)	263 (31)	13900 (1620)	29300 (3390)	1830 (213)
6					114 (56)	130 (64)	359 (176)	46 (22)	253 (63)	13300 (3310)	27800 (6960)	1750 (436)
7					155 (53)	178 (61)	490 (167)	62 (21)	255 (67)	13400 (3510)	27900 (7290)	1770 (463)
8					206 (62)	237 (71)	654 (197)	83 (25)	283 (55)	14900 (2890)	30500 (5940)	1960 (382)
9									279 (97)	14700 (5120)	29800 (10400)	1940 (676)
10												
11												
12									115 (45)			798 (309)
13	87 (17)	105 (21)	288 (58)	33 (7)	86 (29)	99 (33)	274 (92)	35 (12)	166 (36)			1150 (248)
14	85 (87)	103 (106)	284 (292)	33 (33)	88 (45)	101 (52)	278 (142)	35 (18)	232 (22)			1610 (155)
15	0 (0)	0 (0)	0 (0)	0 (0)	38 (20)	44 (23)	120 (64)	15 (8)	240 (63)			1660 (439)
16					66 (62)	76 (71)	210 (196)	27 (25)	361 (82)			2510 (572)
17												
18					190 (337)	218 (386)	602 (1060)	77 (135)				
19												
20												
21					31 (35)	35 (40)	97 (110)	12 (14)				
22					52 (49)	60 (56)	164 (155)	21 (20)				
23												
24												
25					174 (241)	201 (279)	554 (770)	70 (97)				
26												
27									51 (38)	2920 (2160)	6860 (5080)	351 (260)
28									55 (36)	3090 (2030)	7110 (4690)	379 (249)
29									60 (50)	3330 (2780)	7510 (6280)	418 (350)
30									80 (41)	4320 (2220)	9540 (4920)	553 (283)
Avg	57	69	191	22	122	140	386	49	180	8520	18000	1250
n	3	3	3	3	13	13	13	13	16	11	11	16
SD	40	49	135	16	67	76	211	27	98	5100	10200	681
Min	0	0	0	0	31	35	97	12	51	2920	6860	351
Max	87	105	288	33	248	284	783	100	361	14900	30500	2510

Table E9. Daily mean (SD) of H2S emissions at site NC4B for December, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2									111 (86)	5860 (4550)	12500 (9700)	773 (600)
3									131 (79)	6920 (4150)	14600 (8760)	913 (547)
4									166 (81)	8730 (4270)	18200 (8890)	1150 (564)
5									266 (170)	14000 (8940)	29000 (18400)	1850 (1180)
6	224 (141)	252 (158)	694 (437)	86 (54)					283 (198)	14900 (10400)	30500 (21400)	1970 (1380)
7	209 (145)	229 (160)	632 (440)	80 (56)								
8	228 (166)	246 (180)	677 (495)	88 (64)					136 (207)	7160 (10900)	14300 (21800)	945 (1440)
9	291 (442)	312 (475)	861 (1310)	112 (170)					0 (0)	0 (1)	0 (2)	0 (0)
10	53 (17)	57 (18)	157 (50)	21 (7)	75 (22)	87 (26)	241 (70)	30 (9)	18 (25)	970 (1340)	1790 (2470)	128 (176)
11	92 (31)	98 (33)	270 (92)	36 (12)	81 (15)	94 (18)	258 (49)	33 (6)	76 (33)	3990 (1760)	7190 (3150)	527 (232)
12	187 (83)	198 (87)	546 (241)	72 (32)	104 (68)	121 (78)	333 (216)	42 (27)				
13									171 (107)	8990 (5640)	15200 (9540)	1190 (744)
14	217 (113)	227 (119)	626 (327)	84 (44)					164 (95)	8630 (4990)	14100 (8170)	1140 (658)
15	249 (110)	259 (115)	715 (316)	96 (42)	191 (53)	222 (61)	612 (168)	77 (21)	210 (90)	11100 (4760)	17500 (7430)	1460 (628)
16	346 (312)	362 (327)	998 (900)	133 (120)								
17	83 (32)	89 (34)	245 (94)	32 (12)	116 (39)	135 (46)	371 (125)	47 (16)				
18												
19	240 (54)	269 (59)	741 (163)	92 (21)	128 (24)	148 (28)	408 (78)	52 (10)	10 (8)	533 (441)	1240 (1030)	70 (58)
20	267 (70)	306 (80)	844 (221)	103 (27)	162 (41)	188 (47)	519 (130)	65 (16)	23 (21)	1230 (1100)	2860 (2540)	163 (145)
21	376 (141)	441 (168)	1220 (463)	144 (54)	203 (138)	235 (160)	647 (441)	82 (56)	47 (42)	2470 (2220)	5700 (5110)	326 (293)
22					183 (211)	212 (244)	585 (673)	74 (85)				
23									55 (46)	2920 (2400)	6640 (5450)	385 (316)
24	179 (182)	216 (220)	597 (605)	69 (70)					59 (43)	3100 (2260)	6970 (5090)	409 (298)
25												
26												
27												
28												
29												
30									339 (230)	17900 (12100)	37200 (25200)	2360 (1600)
31												
Avg	216	238	655	83	138	160	442	56	126	6630	13100	875
n	15	15	15	15	9	9	9	9	18	18	18	18
SD	87	98	271	34	46	53	145	18	98	5150	10300	679
Min	53	57	157	21	75	87	241	30	0	0	0	0
Max	376	441	1220	144	203	235	647	82	339	17900	37200	2360

Table E9. Daily mean (SD) of H2S emissions at site NC4B for January, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2												
3												
4	321 (170)	394 (208)	1080 (574)	123 (66)					248 (132)	13000 (6930)	25800 (13700)	1720 (914)
5	378 (257)	466 (316)	1290 (872)	145 (99)	244 (82)	275 (92)	757 (254)	98 (33)	92 (122)	4830 (6430)	9490 (12600)	638 (848)
6	455 (175)	566 (218)	1560 (600)	175 (67)	290 (66)	327 (75)	902 (206)	117 (27)	13 (7)	700 (394)	1350 (759)	92 (52)
7	565 (149)	706 (187)	1950 (515)	217 (57)	332 (176)	375 (198)	1030 (547)	134 (71)	84 (60)	4420 (3170)	8460 (6060)	584 (418)
8												
9												
10									275 (93)	14500 (4910)	26800 (9110)	1910 (648)
11					211 (87)	239 (99)	659 (272)	85 (35)	321 (106)	16900 (5560)	30900 (10100)	2230 (734)
12												
13												
14												
15												
16					75 (94)	85 (106)	234 (292)	30 (38)				
17									15 (13)	790 (691)		104 (91)
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28	223 (339)	258 (394)	712 (1080)	86 (130)	159 (66)	179 (75)	495 (207)	64 (27)	246 (119)	13000 (6240)	26700 (12900)	1710 (823)
29												
30												
31					197 (236)	223 (267)	615 (737)	79 (95)				
Avg	388	478	1320	149	216	243	671	87	162	8520	18500	1120
n	5	5	5	5	7	7	7	7	8	8	7	8
SD	116	152	419	45	79	89	244	32	116	6100	10800	804
Min	223	258	712	86	75	85	234	30	13	700	1350	92
Max	565	706	1950	217	332	375	1030	134	321	16900	30900	2230

Table E9. Daily mean (SD) of H2S emissions at site NC4B for February, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2												
3					645 (1280)	728 (1440)	2010 (3980)	260 (515)				
4					91 (134)	102 (150)	282 (415)	37 (54)				
5												
6												
7									323 (97)	17600 (5300)	32300 (9750)	2240 (675)
8	238 (145)	269 (163)	741 (450)	92 (56)					295 (166)	16200 (9090)	29500 (16600)	2050 (1150)
9	226 (57)	256 (64)	706 (178)	87 (22)					230 (60)	12700 (3290)	22800 (5920)	1590 (413)
10	288 (282)	329 (321)	906 (884)	111 (108)	415 (514)	464 (574)	1280 (1580)	167 (207)				
11	112 (31)	130 (36)	358 (100)	43 (12)	110 (31)	123 (35)	338 (95)	44 (12)				
12	339 (179)	392 (207)	1080 (570)	130 (69)	155 (55)	174 (62)	480 (170)	62 (22)				
13	360 (129)	413 (149)	1140 (409)	139 (50)	176 (101)	200 (114)	551 (315)	71 (41)				
14	321 (109)	363 (123)	1000 (340)	123 (42)								
15												
16												
17												
18												
19	117 (45)	130 (51)	358 (139)	45 (17)	110 (77)	127 (90)	351 (247)	44 (31)				
20					104 (136)	120 (157)	331 (432)	42 (55)				
21									86 (66)	4540 (3450)	10100 (7680)	600 (455)
22					222 (196)	252 (223)	695 (614)	89 (79)				
23												
24									233 (94)	12200 (4960)	25800 (10500)	1620 (654)
25												
26									35 (22)	1850 (1150)	3820 (2370)	244 (152)
27	228 (105)	273 (125)	752 (345)	88 (40)	158 (37)	179 (41)	494 (114)	64 (15)	90 (29)	4740 (1530)	9700 (3130)	625 (202)
28									169 (48)	8910 (2500)	18100 (5050)	1180 (330)
Avg	248	284	782	95	219	247	681	88	183	9860	19000	1270
n	9	9	9	9	10	10	10	10	8	8	8	8
SD	85	97	268	33	168	189	521	68	98	5410	9650	680
Min	112	130	358	43	91	102	282	37	35	1850	3820	244
Max	360	413	1140	139	645	728	2010	260	323	17600	32300	2240

Table E9. Daily mean (SD) of H2S emissions at site NC4B for March, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1									144 (18)	7590 (931)	15300 (1900)	1000 (123)
2					97 (137)	110 (156)	303 (429)	39 (55)	160 (43)	8420 (2260)	16800 (4470)	1110 (298)
3												
4									282 (145)	14900 (7630)	28600 (14700)	1960 (1010)
5									239 (48)	12600 (2520)	23000 (4460)	1660 (333)
6									269 (85)	14200 (4450)	24700 (7960)	1870 (587)
7	185 (67)	224 (81)	618 (224)	71 (26)	154 (40)	175 (45)	481 (124)	62 (16)	272 (64)	14300 (3350)	23900 (5700)	1890 (443)
8	237 (62)	288 (75)	794 (206)	91 (24)	201 (63)	227 (71)	626 (196)	81 (25)	316 (73)	16600 (3850)	26400 (6060)	2190 (508)
9	255 (105)	310 (128)	855 (353)	98 (41)	255 (62)	288 (69)	793 (191)	103 (25)	319 (161)	16800 (8450)	25400 (12600)	2220 (1120)
10												
11	104 (36)	127 (44)	350 (120)	40 (14)								
12												
13												
14												
15												
16									58 (44)	3050 (2320)	6890 (5240)	403 (307)
17												
18									59 (35)	3100 (1830)	6840 (4050)	410 (242)
19									53 (25)	2790 (1320)	6060 (2890)	369 (175)
20									67 (31)	3510 (1610)	7500 (3450)	463 (213)
21									71 (39)	3740 (2040)	7870 (4290)	493 (269)
22												
23									93 (39)	4900 (2020)	10000 (4160)	646 (267)
24									133 (70)	7010 (3690)	14200 (7470)	925 (487)
25									120 (56)	6320 (2950)	12600 (5890)	834 (389)
26	132 (59)	155 (69)	427 (190)	51 (23)					113 (37)	5960 (1950)	11700 (3860)	786 (258)
27	200 (48)	228 (55)	629 (152)	77 (18)					97 (20)	5100 (1030)	9890 (1970)	673 (135)
28	207 (26)	231 (30)	635 (82)	80 (10)					111 (25)	5820 (1320)	11100 (2510)	768 (174)
29	248 (50)	269 (53)	743 (145)	96 (19)					122 (23)	6400 (1180)	12100 (2230)	845 (156)
30	295 (89)	315 (95)	869 (262)	113 (34)					89 (107)	4700 (5610)	8820 (10500)	620 (741)
31	503 (826)	536 (881)	1480 (2430)	193 (318)	765 (1260)	858 (1420)	2370 (3910)	308 (508)				
Avg	237	268	740	91	294	331	914	118	152	7990	14700	1050
n	10	10	10	10	5	5	5	5	21	21	21	21
SD	104	107	294	40	241	270	744	97	89	4660	7280	615
Min	104	127	350	40	97	110	303	39	53	2790	6060	369
Max	503	536	1480	193	765	858	2370	308	319	16800	28600	2220

Table E9. Daily mean (SD) of H2S emissions at site NC4B for April, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	87 (19)	92 (20)	254 (55)	34 (7)	113 (36)	127 (40)	350 (110)	46 (14)				
2	121 (30)	128 (32)	353 (88)	47 (12)	113 (26)	127 (29)	351 (80)	46 (10)				
3	148 (26)	156 (27)	430 (75)	57 (10)	120 (30)	135 (33)	371 (91)	48 (12)	6 (2)	298 (112)	735 (276)	39 (15)
4	183 (76)	192 (80)	530 (220)	71 (29)	139 (83)	156 (94)	430 (258)	56 (34)	11 (7)	552 (365)	1350 (893)	73 (48)
5	227 (64)	237 (67)	653 (184)	87 (25)	156 (63)	176 (71)	484 (196)	63 (26)	18 (9)	924 (499)	2240 (1210)	122 (66)
6	332 (71)	345 (73)	950 (202)	127 (27)	169 (64)	190 (72)	523 (198)	68 (26)	39 (23)	2060 (1220)	4970 (2940)	271 (161)
7	512 (388)	533 (404)	1470 (1110)	197 (149)	253 (373)	284 (419)	784 (1160)	102 (150)				
8	158 (140)	166 (147)	458 (405)	61 (54)	93 (68)	105 (77)	289 (212)	38 (28)				
9	228 (112)	242 (119)	668 (328)	88 (43)	103 (27)	116 (30)	320 (83)	42 (11)				
10	250 (50)	268 (53)	739 (146)	96 (19)	99 (29)	112 (33)	309 (91)	40 (12)	111 (36)	5860 (1880)	13200 (4260)	774 (248)
11	254 (45)	275 (49)	758 (135)	98 (17)	147 (33)	166 (38)	457 (104)	59 (13)	144 (52)	7560 (2710)	16600 (5900)	998 (358)
12	313 (125)	343 (137)	944 (377)	120 (48)	252 (89)	285 (100)	786 (276)	101 (36)	194 (88)	10200 (4630)	22000 (9940)	1350 (611)
13	309 (137)	340 (151)	938 (416)	119 (53)	227 (103)	257 (117)	709 (322)	92 (42)	237 (106)	12500 (5570)	26400 (11800)	1650 (735)
14	417 (585)	459 (644)	1270 (1780)	160 (225)	266 (286)	302 (324)	831 (893)	107 (115)	243 (16)	12800 (836)	26800 (1700)	1690 (110)
15	141 (97)	155 (107)	428 (294)	54 (37)	88 (23)	99 (25)	273 (70)	35 (9)	335 (106)	17600 (5580)	36400 (11500)	2320 (736)
16					92 (50)	104 (56)	287 (154)	37 (20)	366 (152)	19300 (8020)	39400 (16400)	2540 (1060)
17	179 (94)	198 (104)	545 (286)	69 (36)	115 (55)	130 (62)	358 (172)	46 (22)	304 (143)	16000 (7510)	32400 (15300)	2110 (990)
18	232 (49)	257 (54)	708 (149)	89 (19)	140 (50)	159 (56)	438 (156)	57 (20)	292 (116)	15400 (6080)	30800 (12200)	2030 (802)
19	265 (34)	295 (38)	812 (104)	102 (13)	181 (45)	205 (51)	564 (141)	73 (18)	304 (65)	16000 (3420)	31800 (6810)	2110 (451)
20	320 (56)	356 (62)	982 (171)	123 (22)	188 (35)	213 (39)	586 (108)	76 (14)	145 (137)	7620 (7200)	15000 (14200)	1010 (951)
21	468 (538)	523 (601)	1440 (1660)	180 (207)	573 (662)	647 (748)	1780 (2060)	231 (267)	58 (15)	3070 (795)	5980 (1540)	405 (105)
22	101 (54)	114 (61)	314 (169)	39 (21)	137 (55)	155 (62)	427 (170)	55 (22)	118 (29)	6190 (1510)	11900 (2880)	817 (199)
23	172 (114)	196 (130)	540 (358)	66 (44)	67 (44)	76 (50)	210 (137)	27 (18)	194 (60)	10200 (3160)	19500 (6050)	1350 (417)
24	265 (58)	304 (67)	839 (184)	102 (23)	143 (78)	161 (88)	445 (243)	58 (31)	213 (52)	11200 (2740)	21200 (5220)	1480 (362)
25	240 (52)	278 (60)	766 (166)	92 (20)	141 (30)	159 (33)	439 (92)	57 (12)	200 (51)	10500 (2700)	19800 (5070)	1390 (356)
26	265 (63)	309 (73)	852 (202)	102 (24)	158 (46)	178 (52)	490 (143)	64 (19)	213 (45)	11200 (2380)	20800 (4410)	1480 (314)
27	294 (82)	347 (96)	956 (264)	113 (31)	160 (65)	181 (73)	498 (201)	65 (26)	201 (35)	10600 (1820)	19500 (3360)	1400 (240)
28	596 (761)	705 (901)	1940 (2480)	229 (293)	575 (746)	648 (840)	1790 (2310)	232 (300)				
29	80 (38)	95 (45)	261 (125)	31 (15)	116 (49)	130 (55)	359 (151)	47 (20)				
30	131 (74)	155 (87)	426 (240)	50 (28)	98 (34)	110 (38)	303 (105)	39 (14)				
Avg	251	278	766	97	174	196	541	70	179	9440	19000	1250
n	29	29	29	29	30	30	30	30	22	22	22	22
SD	123	140	385	47	118	133	367	48	105	5540	11100	731
Min	80	92	254	31	67	76	210	27	6	298	735	39
Max	596	705	1940	229	575	648	1790	232	366	19300	39400	2540

Table E9. Daily mean (SD) of H2S emissions at site NC4B for May, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	179 (42)	211 (49)	583 (136)	69 (16)	126 (24)	142 (27)	392 (75)	51 (10)	16 (7)	838 (381)	2020 (912)	111 (50)
2	213 (71)	251 (84)	692 (231)	82 (27)	175 (29)	196 (33)	541 (91)	70 (12)	27 (6)	1400 (329)	3320 (775)	185 (43)
3	209 (53)	247 (62)	680 (172)	80 (20)	222 (50)	250 (56)	689 (154)	90 (20)	33 (10)	1710 (501)	4000 (1160)	226 (66)
4	235 (65)	277 (77)	764 (212)	90 (25)	224 (59)	252 (66)	694 (182)	90 (24)	44 (12)	2330 (604)	5370 (1380)	308 (80)
5	462 (836)	545 (987)	1500 (2720)	178 (322)	373 (393)	420 (442)	1160 (1220)	150 (158)	57 (10)	3000 (545)	6820 (1250)	396 (72)
6	54 (14)	64 (17)	176 (46)	21 (5)	104 (31)	117 (35)	322 (97)	42 (13)	69 (19)	3650 (1010)	8170 (2250)	482 (133)
7	184 (129)	218 (153)	602 (422)	71 (50)	115 (27)	129 (30)	356 (83)	46 (11)	77 (16)	4070 (856)	9010 (1880)	537 (113)
8	201 (136)	239 (162)	659 (447)	77 (52)	128 (30)	144 (34)	397 (93)	52 (12)	133 (25)	6970 (1330)	15300 (2870)	920 (175)
9	146 (31)	175 (37)	483 (102)	56 (12)	194 (45)	219 (51)	603 (139)	78 (18)	184 (47)	9700 (2490)	21000 (5410)	1280 (329)
10	182 (78)	218 (94)	602 (259)	70 (30)	147 (35)	165 (40)	456 (110)	59 (14)	196 (45)	10300 (2380)	22100 (5120)	1360 (314)
11					175 (84)	197 (94)	542 (259)	70 (34)	292 (92)	15400 (4820)	32600 (10100)	2030 (636)
12	487 (761)	591 (924)	1630 (2550)	187 (293)	543 (674)	611 (758)	1680 (2090)	219 (271)	317 (170)	16700 (8940)	35000 (18900)	2200 (1180)
13	72 (108)	88 (132)	243 (364)	28 (41)					175 (36)	9230 (1900)	19100 (3970)	1220 (250)
14	73 (41)	90 (51)	247 (140)	28 (16)	96 (38)	108 (42)	298 (116)	39 (15)	170 (37)	8930 (1940)	18300 (3960)	1180 (256)
15	93 (31)	116 (38)	320 (105)	36 (12)	109 (24)	122 (26)	337 (73)	44 (9)	205 (43)	10800 (2280)	21800 (4580)	1420 (300)
16	114 (59)	144 (74)	397 (205)	44 (23)	132 (21)	149 (24)	410 (66)	53 (9)	222 (43)	11700 (2260)	23300 (4510)	1540 (298)
17	197 (192)	250 (245)	690 (675)	76 (74)	118 (69)	133 (77)	366 (213)	48 (28)	236 (39)	12400 (2060)	24500 (4030)	1640 (272)
18									183 (205)	9640 (10800)	18900 (21200)	1270 (1420)
19									36 (13)	1890 (672)	3670 (1300)	250 (89)
20	73 (99)	88 (120)	243 (329)	28 (38)	76 (33)	85 (37)	235 (101)	31 (13)	94 (48)	4960 (2530)	9520 (4870)	654 (334)
21	147 (134)	174 (157)	479 (432)	57 (52)	86 (29)	97 (33)	267 (90)	35 (12)	122 (42)	6400 (2180)	12200 (4150)	844 (288)
22	304 (157)	353 (184)	974 (506)	117 (60)	146 (88)	164 (99)	453 (274)	59 (36)	155 (45)	8160 (2370)	15400 (4430)	1080 (313)
23	230 (76)	261 (87)	720 (241)	88 (29)	183 (53)	207 (60)	570 (165)	74 (21)	157 (30)	8280 (1570)	15400 (2920)	1090 (207)
24	230 (76)	256 (85)	706 (234)	88 (29)	198 (42)	224 (48)	617 (131)	80 (17)	196 (50)	10300 (2630)	19100 (4850)	1360 (347)
25	250 (100)	274 (109)	754 (301)	96 (38)	248 (209)	281 (236)	774 (649)	100 (84)	258 (57)	13600 (3020)	24900 (5530)	1790 (399)
26					878 (1070)	992 (1210)	2730 (3340)	353 (432)				
27	117 (39)	127 (42)	349 (117)	45 (15)	130 (40)	147 (45)	406 (123)	53 (16)				
28												
29												
30												
31	312 (136)	340 (149)	937 (410)	120 (53)	133 (93)	150 (105)	414 (290)	54 (38)	32 (8)	1680 (437)	3980 (1030)	222 (58)
Avg	198	233	643	76	202	228	628	82	142	7460	15200	984
n	24	24	24	24	25	25	25	25	26	26	26	26
SD	108	127	351	42	169	191	525	68	86	4510	9020	595
Min	54	64	176	21	76	85	235	31	16	838	2020	111
Max	487	591	1630	187	878	992	2730	353	317	16700	35000	2200

Table E9. Daily mean (SD) of H2S emissions at site NC4B for June, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	423 (109)	463 (119)	1280 (329)	163 (42)	125 (61)	141 (69)	387 (189)	50 (25)	86 (67)	4520 (3530)	10600 (8220)	597 (465)
2	746 (1020)	816 (1110)	2250 (3070)	287 (391)	839 (1110)	945 (1250)	2610 (3440)	338 (446)	172 (43)	9040 (2270)	21000 (5310)	1190 (300)
3	107 (24)	118 (26)	324 (71)	41 (9)	127 (60)	143 (68)	395 (186)	51 (24)	94 (28)	4930 (1470)	11300 (3400)	651 (194)
4	374 (302)	410 (329)	1130 (908)	144 (116)	76 (24)	85 (27)	235 (75)	30 (10)	89 (31)	4680 (1610)	10600 (3630)	617 (212)
5	518 (200)	565 (219)	1560 (604)	199 (77)	90 (24)	102 (27)	280 (75)	36 (10)	144 (45)	7580 (2370)	17000 (5310)	1000 (313)
6	389 (97)	423 (106)	1170 (291)	150 (37)	106 (29)	119 (33)	329 (90)	43 (12)	143 (28)	7520 (1450)	16700 (3230)	993 (191)
7	304 (59)	329 (64)	907 (177)	117 (23)	112 (22)	126 (25)	348 (68)	45 (9)	155 (35)	8180 (1850)	18000 (4030)	1080 (244)
8												
9	418 (417)	454 (453)	1250 (1250)	161 (160)	736 (1000)	831 (1130)	2290 (3110)	296 (403)	43 (16)			295 (112)
10	113 (124)	123 (135)	340 (372)	44 (48)					85 (46)			591 (317)
11	154 (49)	168 (54)	463 (148)	59 (19)	197 (124)	222 (140)	612 (387)	79 (50)	129 (35)			897 (243)
12	256 (45)	280 (49)	773 (135)	98 (17)	197 (75)	222 (84)	613 (232)	79 (30)	157 (43)			1090 (300)
13	274 (58)	301 (64)	829 (177)	105 (23)	216 (68)	243 (76)	671 (211)	87 (27)	205 (40)			1420 (274)
14	287 (78)	316 (85)	872 (235)	110 (30)	188 (45)	212 (51)	584 (140)	76 (18)	209 (34)			1450 (234)
15												
16												
17	50 (16)	56 (18)	153 (50)	19 (6)	89 (39)	100 (44)	275 (121)	36 (16)	202 (110)	33700 (18300)	64000 (34700)	1400 (761)
18	202 (133)	224 (148)	619 (409)	78 (51)	173 (137)	195 (155)	536 (426)	70 (55)	145 (20)	24200 (3410)	45700 (6400)	1010 (142)
19	287 (113)	319 (126)	879 (347)	110 (44)	372 (219)	418 (247)	1150 (680)	150 (88)	146 (25)	24400 (4090)	45700 (7640)	1020 (171)
20	167 (84)	186 (94)	512 (258)	64 (32)	417 (262)	469 (294)	1290 (811)	168 (105)				
21	192 (63)	214 (70)	589 (193)	74 (24)	361 (195)	406 (219)	1120 (604)	145 (78)				
22	255 (118)	285 (131)	786 (362)	98 (45)	172 (46)	193 (52)	533 (143)	69 (19)				
23	248 (390)	277 (435)	764 (1200)	95 (150)	896 (1600)	1010 (1790)	2770 (4950)	361 (643)				
24	173 (132)	194 (148)	534 (409)	66 (51)	294 (602)	330 (677)	910 (1860)	118 (242)				
25	102 (51)	115 (57)	316 (158)	39 (20)	147 (51)	165 (58)	454 (159)	59 (21)				
26	145 (60)	165 (69)	454 (189)	56 (23)								
27	150 (51)	170 (58)	470 (159)	58 (20)	202 (114)	227 (128)	626 (352)	81 (46)	31 (8)	1640 (406)	3890 (961)	214 (53)
28	200 (90)	229 (103)	630 (284)	77 (35)	193 (119)	217 (134)	598 (368)	78 (48)	39 (8)	2060 (413)	4720 (958)	271 (54)
29	320 (207)	366 (237)	1010 (653)	123 (80)	238 (148)	268 (166)	739 (457)	96 (59)	59 (21)	3080 (1100)	6860 (2460)	406 (146)
30	324 (339)	370 (387)	1020 (1070)	125 (130)	473 (762)	531 (857)	1460 (2360)	190 (307)	68 (19)	3560 (1000)	7850 (2230)	470 (133)
Avg	266	294	810	102	281	317	873	113	120	9930	20300	833
n	27	27	27	27	25	25	25	25	20	14	14	20
SD	146	158	437	56	226	254	700	91	55	9600	17600	383
Min	50	56	153	19	76	85	235	30	31	1640	3890	214
Max	746	816	2250	287	896	1010	2770	361	209	33700	64000	1450

Table E9. Daily mean (SD) of H2S emissions at site NC4B for July, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	130 (203)	148 (231)	407 (636)	50 (78)	194 (102)	218 (115)	602 (317)	78 (41)	55 (12)	2880 (645)	6270 (1400)	381 (85)
2	136 (151)	155 (171)	426 (470)	52 (58)	176 (118)	197 (132)	544 (364)	71 (47)	69 (18)	3650 (957)	7840 (2050)	482 (126)
3	266 (109)	301 (124)	829 (341)	102 (42)	136 (57)	153 (64)	421 (176)	55 (23)	105 (35)	5530 (1850)	11700 (3910)	729 (245)
4	218 (131)	246 (148)	678 (408)	84 (50)	140 (77)	157 (86)	433 (238)	56 (31)	150 (27)	7880 (1410)	16500 (2930)	1040 (186)
5	158 (82)	178 (93)	491 (256)	61 (32)	100 (56)	112 (63)	310 (172)	40 (22)	225 (54)	11800 (2830)	24500 (5830)	1560 (374)
6	205 (96)	231 (108)	636 (297)	79 (37)	124 (51)	139 (57)	385 (157)	50 (20)	118 (87)	6190 (4560)	12800 (9410)	817 (602)
7	237 (341)	267 (384)	735 (1060)	91 (131)	373 (469)	419 (527)	1160 (1450)	150 (189)	37 (10)	1940 (534)	4080 (1130)	256 (71)
8	102 (44)	114 (50)	315 (136)	39 (17)	166 (224)	187 (252)	515 (693)	67 (90)	60 (18)	3160 (940)	6780 (2020)	417 (124)
9	101 (33)	114 (38)	314 (103)	39 (13)	83 (25)	94 (28)	258 (78)	34 (10)	79 (24)	4150 (1290)	9100 (2860)	547 (170)
10	155 (84)	174 (94)	480 (259)	59 (32)	84 (27)	94 (31)	259 (85)	34 (11)	101 (18)	5310 (938)	11900 (2140)	700 (124)
11	189 (96)	213 (108)	586 (297)	73 (37)	128 (48)	144 (54)	398 (149)	52 (19)	130 (23)	6850 (1230)	15800 (2910)	904 (162)
12	240 (40)	270 (45)	745 (124)	92 (15)	196 (58)	220 (65)	607 (178)	79 (23)	184 (32)	9680 (1670)	23100 (4150)	1280 (220)
13	199 (123)	224 (139)	618 (383)	77 (47)	151 (59)	169 (66)	466 (181)	61 (24)	253 (53)	13300 (2800)	32800 (6910)	1750 (370)
14	384 (430)	432 (484)	1190 (1340)	148 (165)	389 (431)	437 (484)	1200 (1330)	157 (173)				
15	107 (72)	121 (81)	334 (222)	41 (28)	219 (89)	246 (100)	678 (275)	88 (36)				
16	124 (53)	139 (59)	382 (164)	48 (20)	223 (129)	251 (145)	691 (399)	90 (52)				
17	219 (56)	240 (60)	661 (166)	84 (21)	256 (159)	288 (178)	794 (491)	103 (64)	5 (3)	271 (157)	719 (415)	36 (21)
18	309 (38)	332 (40)	916 (111)	119 (14)	325 (163)	364 (183)	1000 (504)	131 (66)	12 (4)	648 (196)	1670 (497)	86 (26)
19	497 (177)	524 (186)	1450 (512)	191 (68)	450 (173)	505 (194)	1390 (536)	181 (70)	27 (24)	1430 (1280)	3560 (3150)	188 (169)
20	829 (181)	860 (189)	2370 (520)	319 (69)	468 (127)	526 (143)	1450 (393)	189 (51)	98 (179)	5160 (9420)	12500 (22800)	681 (1240)
21	516 (454)	531 (467)	1460 (1290)	198 (175)	719 (985)	807 (1110)	2230 (3050)	289 (397)	58 (35)	3070 (1850)	7210 (4330)	405 (243)
22	196 (49)	203 (51)	559 (141)	75 (19)	258 (296)	290 (332)	798 (916)	104 (119)	45 (13)	2390 (665)	5530 (1540)	315 (88)
23	230 (52)	239 (54)	658 (148)	88 (20)	301 (119)	338 (134)	931 (369)	121 (48)	63 (43)	3310 (2290)	7560 (5230)	437 (302)
24	319 (125)	333 (131)	917 (360)	123 (48)	423 (167)	474 (188)	1310 (518)	170 (67)	89 (24)	4670 (1240)	10500 (2790)	616 (164)
25	479 (185)	502 (194)	1380 (535)	184 (71)	514 (271)	576 (304)	1590 (837)	207 (109)	96 (24)	5050 (1240)	11200 (2760)	666 (164)
26	1360 (241)	1430 (254)	3940 (701)	522 (93)	587 (108)	658 (121)	1810 (333)	236 (43)	95 (12)	5020 (612)	11000 (1320)	662 (81)
27												
28												
29												
30												
31	361 (52)	378 (55)	1040 (151)	139 (20)					339 (69)	17800 (3620)	36900 (7540)	2350 (477)
Avg	306	330	908	118	276	310	855	111	104	5470	12200	721
n	27	27	27	27	26	26	26	26	24	24	24	24
SD	261	271	746	100	165	185	511	67	77	4070	8920	537
Min	101	114	314	39	83	94	258	34	5	271	719	36
Max	1360	1430	3940	522	719	807	2230	289	339	17800	36900	2350

Table E9. Daily mean (SD) of H2S emissions at site NC4B for August, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1	449 (123)	468 (127)	1290 (351)	173 (47)					204 (24)	10800 (1250)	22000 (2560)	1420 (165)
2	887 (180)	921 (187)	2540 (515)	341 (69)					211 (31)	11100 (1610)	22500 (3270)	1460 (213)
3												
4	439 (509)	459 (533)	1270 (1470)	169 (196)	343 (413)	386 (464)	1060 (1280)	138 (166)	100 (62)	5250 (3280)	10400 (6480)	693 (432)
5												
6												
7	354 (97)	379 (103)	1040 (285)	136 (37)	234 (115)	264 (130)	728 (358)	94 (47)	75 (21)	3970 (1120)	7650 (2140)	524 (148)
8	310 (62)	334 (67)	920 (184)	119 (24)	284 (140)	320 (158)	883 (436)	114 (57)	106 (29)	5550 (1510)	10600 (2870)	733 (200)
9	513 (159)	556 (173)	1530 (477)	197 (61)	368 (188)	415 (212)	1140 (586)	148 (76)	149 (34)	7840 (1790)		1030 (236)
10	1070 (106)	1170 (117)	3230 (322)	413 (41)	499 (146)	564 (165)	1550 (455)	201 (59)	187 (23)	9860 (1220)		1300 (160)
11	884 (469)	972 (515)	2680 (1420)	340 (180)	732 (820)	828 (927)	2280 (2550)	295 (330)				
12												
13												
14												
15												
16	479 (85)	549 (97)	1510 (268)	184 (33)	670 (290)	762 (330)	2100 (910)	270 (117)	65 (14)	3400 (737)	7910 (1710)	449 (97)
17	666 (128)	766 (148)	2110 (408)	256 (49)	892 (319)	1020 (364)	2800 (1000)	359 (128)	78 (20)	4120 (1050)	9450 (2420)	543 (139)
18	558 (542)	643 (624)	1770 (1720)	215 (208)	718 (746)	818 (850)	2250 (2340)	289 (300)	92 (20)	4820 (1060)	11000 (2400)	637 (140)
19	232 (51)	268 (59)	738 (163)	89 (20)	125 (27)	143 (31)	393 (84)	50 (11)	103 (21)	5440 (1120)	12200 (2500)	718 (148)
20	369 (89)	427 (103)	1180 (284)	142 (34)	201 (68)	229 (78)	632 (215)	81 (28)	117 (23)	6150 (1210)	13700 (2670)	811 (160)
21	246 (81)	285 (94)	786 (260)	95 (31)	240 (95)	273 (108)	754 (298)	97 (38)	87 (41)	4580 (2160)	10100 (4750)	605 (285)
22	200 (113)	233 (132)	642 (363)	77 (44)	217 (118)	248 (134)	683 (369)	88 (47)	45 (23)	2340 (1200)	5100 (2590)	309 (158)
23	301 (263)	350 (306)	966 (844)	116 (101)					106 (30)	5580 (1580)	12000 (3380)	736 (208)
24	933 (241)	1090 (281)	3000 (775)	359 (93)	349 (223)	398 (254)	1100 (699)	141 (90)	166 (39)	8720 (2040)	18600 (4380)	1150 (269)
25	1070 (162)	1250 (189)	3440 (521)	411 (62)	805 (366)	917 (416)	2530 (1150)	324 (147)	163 (32)	8560 (1680)	18100 (3550)	1130 (221)
26	895 (182)	1040 (212)	2870 (584)	344 (70)	977 (381)	1110 (434)	3070 (1200)	393 (153)	174 (40)	9180 (2090)	19200 (4390)	1210 (276)
27	606 (677)	704 (787)	1940 (2170)	233 (260)	457 (566)	521 (645)	1430 (1780)	184 (228)	163 (23)	8570 (1220)	17700 (2500)	1130 (160)
28	74 (112)	86 (130)	236 (359)	28 (43)	70 (100)	79 (114)	219 (314)	28 (40)	191 (28)	10000 (1470)	20500 (2960)	1320 (194)
29	112 (37)	129 (42)	357 (116)	43 (14)	155 (64)	177 (72)	487 (199)	63 (26)	204 (23)	10700 (1220)	21800 (2500)	1420 (162)
30	217 (49)	251 (57)	691 (157)	84 (19)	263 (113)	300 (129)	826 (355)	106 (46)	161 (73)	8480 (3840)	17000 (7690)	1120 (507)
31												
Avg	516	580	1600	198	430	488	1350	173	134	7050	14400	930
n	23	23	23	23	20	20	20	20	22	22	20	22
SD	301	340	938	116	267	304	838	108	50	2620	5280	345
Min	74	86	236	28	70	79	219	28	45	2340	5100	309
Max	1070	1250	3440	413	977	1110	3070	393	211	11100	22500	1460

Table E9. Daily mean (SD) of H2S emissions at site NC4B for September, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1					261 (267)	297 (304)	819 (839)	105 (108)	67 (20)	3510 (1060)	6740 (2020)	463 (140)
2	104 (57)	120 (66)	331 (182)	40 (22)	82 (23)	93 (26)	257 (72)	33 (9)	119 (32)	6280 (1660)	11800 (3110)	828 (220)
3	162 (47)	188 (54)	517 (150)	62 (18)	124 (32)	141 (36)	389 (100)	50 (13)	138 (25)	7260 (1300)	13300 (2400)	958 (172)
4	269 (75)	313 (87)	862 (239)	103 (29)	216 (52)	246 (59)	677 (162)	87 (21)	147 (32)	7710 (1660)	13800 (2960)	1020 (219)
5	306 (76)	356 (88)	981 (244)	118 (29)	333 (157)	379 (179)	1050 (494)	134 (63)	168 (25)	8840 (1290)	15400 (2210)	1170 (171)
6	520 (159)	607 (186)	1670 (512)	200 (61)	328 (93)	374 (105)	1030 (290)	132 (37)	200 (42)	10500 (2190)	17800 (3720)	1390 (289)
7	662 (138)	773 (162)	2130 (445)	254 (53)	385 (99)	439 (113)	1210 (311)	155 (40)	249 (50)	13100 (2650)	21600 (4240)	1730 (349)
8	409 (372)	475 (431)	1310 (1190)	157 (143)	234 (190)	267 (216)	735 (596)	94 (76)				
9	48 (70)	53 (79)	147 (217)	18 (27)	44 (38)	51 (43)	139 (118)	18 (15)				
10	200 (84)	219 (91)	604 (251)	77 (32)	77 (17)	88 (20)	242 (54)	31 (7)	4 (2)	187 (92)	440 (214)	25 (12)
11	211 (93)	227 (100)	625 (276)	81 (36)	106 (30)	121 (34)	335 (94)	43 (12)	15 (6)	791 (320)	1840 (741)	104 (42)
12	91 (155)	96 (162)	264 (447)	35 (59)	90 (86)	103 (99)	284 (272)	36 (35)	28 (8)	1470 (417)	3400 (961)	194 (55)
13	388 (178)	398 (184)	1100 (506)	149 (69)	202 (62)	232 (71)	639 (196)	82 (25)	50 (8)	2620 (429)	6000 (982)	346 (57)
14	817 (206)	820 (204)	2260 (563)	314 (79)	358 (113)	411 (130)	1130 (358)	144 (46)	57 (12)	3000 (615)	6830 (1400)	396 (81)
15	757 (865)	754 (861)	2080 (2370)	291 (333)	329 (200)	378 (230)	1040 (634)	133 (81)	74 (19)	3900 (981)	8800 (2200)	514 (129)
16					108 (197)	124 (227)	341 (625)	43 (79)	76 (32)	3990 (1680)	8910 (3730)	527 (221)
17	352 (95)	354 (95)	976 (263)	135 (36)	236 (107)	271 (123)	747 (339)	95 (43)	208 (72)	11000 (3790)	24200 (8280)	1450 (500)
18	342 (94)	347 (95)	956 (261)	132 (36)	263 (42)	303 (48)	834 (133)	106 (17)	254 (49)	13300 (2560)	29100 (5570)	1760 (338)
19	329 (80)	335 (82)	924 (225)	126 (31)	284 (78)	326 (90)	900 (249)	114 (32)	248 (50)	13100 (2630)	28200 (5650)	1730 (347)
20	389 (105)	399 (107)	1100 (296)	149 (40)	272 (56)	313 (64)	862 (177)	109 (23)	217 (39)	11400 (2070)	24400 (4400)	1510 (274)
21	424 (100)	437 (103)	1200 (284)	163 (38)	349 (68)	401 (78)	1110 (215)	140 (27)	222 (40)	11700 (2100)	24600 (4420)	1540 (277)
22	452 (405)	468 (420)	1290 (1160)	174 (156)	298 (264)	342 (303)	944 (836)	120 (106)	304 (98)	16000 (5160)	33300 (10700)	2110 (681)
23	155 (102)	161 (107)	444 (294)	60 (39)	205 (85)	235 (98)	648 (271)	82 (34)	360 (95)	19000 (4980)	39000 (10200)	2500 (657)
24	350 (168)	366 (175)	1010 (483)	135 (65)	409 (230)	470 (264)	1300 (729)	165 (93)	326 (81)	17100 (4250)	34800 (8690)	2260 (561)
25	399 (165)	418 (173)	1150 (477)	153 (63)	533 (187)	612 (215)	1690 (593)	214 (76)	236 (53)	12400 (2790)	24900 (5590)	1640 (369)
26	450 (149)	473 (156)	1300 (431)	173 (57)	301 (40)	345 (45)	951 (125)	121 (16)	202 (47)	10600 (2490)	21100 (4980)	1400 (329)
27	426 (92)	450 (98)	1240 (269)	164 (36)	304 (48)	348 (56)	960 (153)	122 (20)	228 (50)	12000 (2640)	23500 (5110)	1590 (348)
28									138 (129)	7270 (6800)	14100 (13200)	960 (897)
29	655 (444)	696 (471)	1920 (1300)	252 (171)	527 (656)	604 (752)	1670 (2070)	212 (264)	69 (21)	3650 (1110)	6970 (2100)	482 (146)
30	201 (53)	215 (57)	592 (156)	77 (20)	124 (65)	142 (74)	393 (205)	50 (26)	132 (52)	6920 (2750)	13100 (5200)	914 (363)
Avg	365	390	1070	140	255	292	804	102	162	8530	17100	1120
n	27	27	27	27	29	29	29	29	28	28	28	28
SD	193	202	556	74	125	144	396	50	96	5040	10300	665
Min	48	53	147	18	44	51	139	18	4	187	440	25
Max	817	820	2260	314	533	612	1690	214	360	19000	39000	2500

Table E9. Daily mean (SD) of H2S emissions at site NC4B for October, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1												
2	280 (62)	301 (67)	829 (184)	108 (24)	164 (81)	187 (93)	516 (257)	66 (33)				
3	292 (88)	315 (95)	869 (262)	112 (34)	96 (62)	110 (71)	303 (197)	39 (25)				
4	408 (95)	442 (103)	1220 (284)	157 (37)	217 (82)	248 (93)	684 (257)	87 (33)				
5	441 (127)	479 (138)	1320 (380)	170 (49)	258 (46)	295 (53)	812 (146)	104 (19)				
6	651 (834)	710 (908)	1960 (2500)	250 (321)	460 (427)	525 (487)	1450 (1340)	185 (172)				
7	259 (49)	283 (53)	781 (147)	100 (19)	161 (43)	184 (49)	507 (136)	65 (17)				
8	271 (85)	298 (93)	821 (256)	104 (33)	112 (43)	127 (49)	351 (135)	45 (17)				
9	223 (93)	245 (102)	676 (281)	86 (36)	284 (147)	323 (168)	890 (463)	114 (59)				
10	321 (78)	356 (87)	980 (238)	124 (30)	424 (89)	483 (102)	1330 (280)	171 (36)				
11	381 (119)	423 (132)	1170 (363)	146 (46)	296 (93)	337 (106)	929 (291)	119 (37)				
12	427 (116)	475 (129)	1310 (356)	164 (45)	298 (91)	339 (103)	934 (285)	120 (37)				
13	555 (505)	620 (565)	1710 (1560)	213 (194)	619 (704)	704 (801)	1940 (2210)	249 (283)	138 (43)	7240 (2260)	16500 (5180)	956 (299)
14					146 (38)	167 (44)	460 (120)	59 (15)	189 (81)	9970 (4270)	22300 (9520)	1320 (564)
15					137 (43)	156 (48)	431 (133)	55 (17)	191 (56)	10100 (2940)	22200 (6560)	1330 (388)
16									154 (58)	8130 (3060)	17600 (6630)	1070 (404)
17					223 (93)	254 (105)	700 (291)	90 (37)	184 (77)	9690 (4040)	20700 (8600)	1280 (532)
18									222 (115)	11700 (6030)	24600 (12700)	1540 (796)
19									197 (104)	10400 (5470)	21500 (11300)	1370 (722)
20									209 (113)	11000 (5920)	22500 (12100)	1450 (781)
21					113 (67)	129 (77)	356 (211)	46 (27)	252 (106)	13300 (5570)	26600 (11200)	1750 (734)
22					92 (44)	105 (50)	289 (138)	37 (18)	228 (79)	12000 (4180)	23700 (8320)	1590 (551)
23	337 (149)	385 (171)	1060 (471)	129 (57)	111 (52)	126 (59)	346 (162)	45 (21)	224 (22)	11800 (1180)	23000 (2310)	1560 (155)
24	264 (28)	302 (33)	834 (90)	102 (11)	159 (30)	180 (34)	497 (93)	64 (12)	234 (30)	12300 (1560)	23600 (2950)	1620 (205)
25	229 (651)	263 (746)	724 (2060)	88 (250)	41 (354)	46 (400)	127 (1100)	16 (142)	248 (54)	13100 (2840)	24700 (5380)	1730 (374)
26					77 (134)	87 (152)	240 (419)	31 (54)	258 (24)	13600 (1240)	25200 (2280)	1790 (164)
27	991 (1370)	1130 (1570)	3120 (4330)	381 (527)	487 (252)	549 (284)	1510 (783)	196 (101)				
28	136 (55)	154 (62)	425 (172)	52 (21)	125 (38)	141 (43)	389 (118)	50 (15)				
29					112 (26)	126 (29)	348 (81)	45 (10)				
30					134 (33)	151 (38)	417 (104)	54 (13)	6 (4)	323 (220)	780 (533)	43 (29)
31					143 (40)	161 (45)	443 (125)	57 (16)	13 (3)	691 (172)	1650 (408)	91 (23)
Avg	380	423	1160	146	211	240	662	85	184	9700	19800	1280
n	17	17	17	17	26	26	26	26	16	16	16	16
SD	196	223	614	75	142	161	444	57	74	3870	7470	511
Min	136	154	425	52	41	46	127	16	6	323	780	43
Max	991	1130	3120	381	619	704	1940	249	258	13600	26600	1790

Table E9. Daily mean (SD) of H2S emissions at site NC4B for November, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1					175 (77)	197 (87)	543 (239)	71 (31)	30 (17)	1600 (898)	3780 (2110)	211 (118)
2									62 (79)	3290 (4130)	7660 (9640)	434 (545)
3					655 (511)	737 (575)	2030 (1580)	264 (206)	76 (52)	3980 (2720)	9170 (6280)	525 (360)
4					18 (93)	20 (105)	55 (289)	7 (38)	86 (54)	4520 (2850)	10300 (6500)	597 (376)
5					26 (123)	29 (138)	81 (382)	11 (50)	95 (63)	4970 (3310)	11200 (7480)	656 (437)
6									111 (81)	5860 (4270)	13100 (9530)	773 (564)
7	460 (229)	477 (239)	1310 (658)	177 (88)					127 (84)	6710 (4410)	14800 (9730)	885 (581)
8	355 (111)	366 (115)	1010 (316)	136 (43)					133 (71)	6990 (3740)	15300 (8180)	923 (493)
9	198 (361)	203 (369)	558 (1020)	76 (139)	163 (232)	183 (260)	505 (717)	66 (93)	137 (69)	7210 (3620)	15600 (7850)	951 (477)
10	342 (147)	348 (149)	960 (412)	132 (56)	594 (682)	666 (764)	1840 (2110)	239 (275)	162 (12)	8540 (639)	18300 (1370)	1130 (84)
11	190 (56)	193 (57)	531 (157)	73 (22)	161 (101)	180 (113)	497 (312)	65 (41)	225 (29)	11800 (1530)	25000 (3170)	1560 (202)
12	216 (213)	219 (216)	603 (595)	83 (82)	136 (157)	153 (176)	421 (485)	55 (63)				
13	249 (159)	253 (161)	697 (445)	96 (61)	184 (154)	206 (173)	568 (477)	74 (62)				
14	292 (71)	296 (72)	816 (197)	112 (27)	266 (116)	297 (129)	820 (357)	107 (47)	396 (106)	20800 (5590)	42500 (11400)	2750 (737)
15	428 (85)	434 (86)	1200 (237)	164 (33)	384 (182)	430 (203)	1180 (560)	155 (73)	378 (134)	19900 (7050)	40100 (14200)	2630 (931)
16	477 (290)	484 (294)	1330 (811)	183 (111)	573 (276)	641 (309)	1770 (851)	231 (111)	169 (263)	8900 (13900)	17800 (27700)	1170 (1830)
17	870 (778)	888 (794)	2450 (2190)	334 (299)	880 (797)	985 (892)	2720 (2460)	354 (321)	30 (15)	1580 (808)	3100 (1590)	208 (107)
18	346 (110)	355 (113)	978 (312)	133 (42)	231 (58)	259 (65)	713 (178)	93 (23)	91 (38)	4790 (2020)	9340 (3950)	632 (267)
19	371 (159)	383 (164)	1060 (452)	143 (61)	222 (60)	249 (68)	685 (186)	89 (24)	117 (32)	6150 (1700)	11900 (3280)	812 (225)
20	365 (83)	379 (86)	1040 (236)	140 (32)	301 (99)	338 (111)	931 (307)	121 (40)	135 (22)	7090 (1140)	13600 (2160)	936 (151)
21	460 (272)	480 (284)	1320 (783)	177 (105)					168 (78)	8830 (4080)	16700 (7720)	1170 (538)
22	437 (258)	458 (271)	1260 (746)	168 (99)					197 (96)	10400 (5030)	19400 (9440)	1370 (663)
23	451 (277)	475 (292)	1310 (806)	173 (107)	453 (202)	509 (227)	1400 (625)	183 (81)	286 (31)	15100 (1640)	28000 (3010)	1990 (217)
24	734 (777)	778 (823)	2140 (2270)	282 (299)	945 (1320)	1060 (1480)	2920 (4090)	381 (532)				
25	210 (197)	223 (209)	615 (576)	81 (76)								
26	233 (77)	248 (82)	683 (226)	90 (30)					6 (11)	338 (550)	834 (1360)	45 (73)
27					166 (174)	186 (196)	513 (539)	67 (70)	22 (27)	1160 (1430)	2850 (3510)	153 (188)
28									41 (60)	2180 (3160)	5330 (7730)	287 (417)
29	362 (104)	387 (111)	1070 (307)	139 (40)					52 (62)	2740 (3270)	6690 (7980)	361 (431)
30	446 (146)	478 (157)	1320 (432)	171 (56)	339 (155)	381 (174)	1050 (480)	137 (62)	77 (84)	4050 (4430)	9880 (10800)	534 (585)
Avg	386	400	1100	148	344	385	1060	138	131	6900	14300	911
n	22	22	22	22	20	20	20	20	26	26	26	26
SD	162	169	465	62	256	287	792	103	98	5170	10100	682
Min	190	193	531	73	18	20	55	7	6	338	834	45
Max	870	888	2450	334	945	1060	2920	381	396	20800	42500	2750

Table E9. Daily mean (SD) of H2S emissions at site NC4B for December, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$	$g \cdot d^{-1}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-1}$	$mg \cdot d^{-1} m^{2}$
1									76 (98)	4010 (5140)	9790 (12500)	529 (678)
2	266 (249)	286 (268)	789 (739)	102 (96)	212 (107)	238 (121)	657 (333)	85 (43)	111 (81)	5870 (4240)	14200 (10300)	774 (560)
3	267 (140)	288 (151)	794 (417)	103 (54)	146 (42)	164 (47)	453 (129)	59 (17)	132 (78)	6920 (4110)	16400 (9680)	913 (543)
4									129 (117)	6790 (6170)	15700 (14300)	896 (814)
5									142 (113)	7460 (5960)	16800 (13400)	984 (786)
6									136 (157)	7160 (8240)	15800 (18100)	944 (1090)
7									131 (127)	6880 (6670)	14800 (14300)	907 (880)
8									129 (112)	6790 (5880)	14300 (12400)	896 (776)
9	152 (50)	166 (54)	458 (150)	59 (19)	253 (59)	285 (66)	785 (182)	102 (24)	126 (33)	6650 (1750)	13900 (3660)	877 (231)
10	192 (138)	210 (151)	578 (417)	74 (53)	195 (132)	219 (149)	604 (410)	78 (53)	162 (87)	8520 (4560)	17600 (9380)	1120 (601)
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Avg	219	238	655	84	201	227	625	81	127	6700	14900	885
n	4	4	4	4	4	4	4	4	10	10	10	10
SD	49	52	143	19	38	43	119	15	21	1100	2060	145
Min	152	166	458	59	146	164	453	59	76	4010	9790	529
Max	267	288	794	103	253	285	785	102	162	8520	17600	1120

Table E10. Ammonia concentrations.

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for December, 2007.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet,	ppm	mg·dsm^{-3}
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15	0.7 (0.2)		8.8 (0.9)	6.3 (0.7)	15.2 (2.0)	10.9 (1.4)			
16	1.1 (0.1)								
17	0.7 (0.1)		11.7 (1.2)	8.3 (0.9)	18.8 (3.9)	13.4 (2.8)			
18	0.6 (0.1)		10.2 (1.8)	7.3 (1.3)	18.4 (7.3)	13.1 (5.2)			
19	0.7 (0.2)		8.3 (1.6)	5.9 (1.2)	14.8 (2.6)	10.6 (1.9)			
20	0.7 (0.1)		8.6 (1.1)	6.1 (0.8)	15.8 (4.1)	11.3 (2.9)			
21	0.8 (0.1)		8.3 (1.0)	6.0 (0.7)	14.7 (2.4)	10.5 (1.7)			
22	0.8 (0.1)		8.7 (1.0)	6.3 (0.7)	12.6 (2.3)	9.0 (1.7)			
23	0.9 (0.1)		8.9 (2.4)	6.4 (1.7)	11.2 (3.4)	8.1 (2.4)			
24	0.7 (0.1)		13.1 (1.7)	9.4 (1.2)	16.0 (2.9)	11.4 (2.0)			
25	0.7 (0.1)		13.0 (1.5)	9.3 (1.1)	18.4 (2.1)	13.2 (1.5)			
26	0.8 (0.2)		11.8 (1.4)	8.4 (1.0)	15.9 (3.8)	11.4 (2.8)			
27	0.7 (0.1)		12.4 (2.7)	8.9 (1.9)	14.8 (7.5)	10.6 (5.4)			
28	0.6 (0.1)		8.7 (2.9)	6.3 (2.0)	10.1 (3.3)	7.3 (2.4)			
29	0.6 (0.2)		4.2 (1.4)	3.0 (1.0)	5.9 (1.6)	4.3 (1.1)			
30	0.7 (0.1)		6.7 (1.0)	4.8 (0.7)	8.8 (1.4)	6.3 (1.0)			
31	0.4 (0.2)		9.9 (1.8)	7.1 (1.3)	13.0 (3.8)	9.3 (2.7)			
Avg	0.7		9.6	6.9	14	10			
n	17	0	16	16	16	16	0	0	0
SD	0.1		2.3	1.7	3.5	2.5			
Min	0.4		4.2	3.0	5.9	4.3			
Max	1.1		13.1	9.4	18.8	13.4			

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for January, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.1 (0.1)		10.9 (2.0)	7.8 (1.5)	15.4 (2.8)	11.0 (2.0)	1.1 (0.3)	2.2 (0.4)	1.6 (0.3)
2	-0.1 (0.1)		11.1 (1.1)	7.9 (0.8)	20.8 (2.1)	14.9 (1.5)	0.8 (0.1)	1.9 (0.2)	1.4 (0.1)
3	-0.1 (0.0)		8.9 (1.3)	6.4 (0.9)	13.3 (4.5)	9.5 (3.2)	0.6 (0.2)	1.8 (0.2)	1.3 (0.1)
4	-0.1 (0.0)		9.8 (1.1)	7.0 (0.8)	15.8 (1.8)	11.3 (1.3)	0.9 (0.2)	2.1 (0.2)	1.5 (0.1)
5	-0.1 (0.1)		9.8 (0.9)	7.0 (0.7)	15.3 (2.5)	10.9 (1.8)	1.0 (0.2)	2.1 (0.2)	1.5 (0.1)
6	0.1 (0.1)		9.6 (1.5)	6.8 (1.1)	12.6 (3.0)	9.0 (2.2)	1.0 (0.1)	1.9 (0.3)	1.4 (0.2)
7	0.1 (0.1)		7.8 (2.9)	5.6 (2.1)	11.0 (3.3)	7.9 (2.4)	1.0 (0.2)	1.8 (0.4)	1.3 (0.3)
8	0.2 (0.1)		6.0 (3.3)	4.3 (2.4)	8.5 (5.2)	6.1 (3.7)	1.0 (0.1)		
9	0.5 (0.1)		5.1 (1.4)	3.7 (1.0)	7.3 (1.8)	5.2 (1.3)	1.0 (0.0)		
10	0.3 (0.1)		6.1 (2.0)	4.3 (1.4)	8.8 (3.7)	6.3 (2.7)	1.1 (0.1)		
11	0.1 (0.1)		4.4 (1.2)	3.2 (0.9)	6.4 (1.3)	4.6 (1.0)	0.9 (0.2)	1.4 (0.3)	1.0 (0.2)
12	0.0 (0.0)		8.4 (1.9)	6.0 (1.3)	13.7 (4.7)	9.8 (3.4)	1.0 (0.1)	1.6 (0.2)	1.2 (0.2)
13	0.1 (0.1)		10.9 (0.6)	7.8 (0.5)	17.8 (4.2)	12.8 (3.0)	1.0 (0.1)	2.0 (0.1)	1.4 (0.1)
14	0.0 (0.1)		11.0 (1.8)	7.8 (1.3)	14.9 (3.7)	10.6 (2.7)	1.0 (0.2)	1.9 (0.1)	1.4 (0.1)
15	-0.2 (0.0)		9.7 (1.9)	6.9 (1.3)	14.9 (5.5)	10.7 (4.0)	0.9 (0.3)	1.9 (0.1)	1.3 (0.1)
16	-0.1 (0.1)		8.8 (1.3)	6.3 (0.9)	12.1 (1.2)	8.6 (0.8)	1.0 (0.3)	2.3 (0.3)	1.6 (0.2)
17	0.1 (0.1)		8.8 (0.7)	6.3 (0.5)	14.4 (2.2)	10.3 (1.6)	1.2 (0.3)	2.9 (0.2)	2.1 (0.1)
18	0.0 (0.1)		10.4 (1.2)	7.4 (0.8)	16.5 (1.7)	11.8 (1.2)	1.3 (0.2)	3.6 (0.3)	2.6 (0.2)
19	0.1 (0.0)		10.0 (0.9)	7.2 (0.7)	17.0 (2.0)	12.2 (1.4)	1.1 (0.3)	3.7 (0.4)	2.6 (0.3)
20	0.0 (0.1)		10.4 (0.9)	7.4 (0.7)	19.8 (3.6)	14.2 (2.6)	0.8 (0.3)	3.8 (0.8)	2.7 (0.6)
21	0.0 (0.1)		10.7 (1.5)	7.6 (1.1)	20.9 (3.4)	14.9 (2.4)	1.2 (0.4)	5.1 (0.2)	3.6 (0.2)
22	0.1 (0.1)		10.9 (1.2)	7.8 (0.9)	17.3 (5.2)	12.4 (3.7)	1.6 (0.2)	4.8 (0.5)	3.5 (0.3)
23	0.1 (0.1)		11.5 (1.4)	8.2 (1.0)	14.0 (1.6)	10.0 (1.2)	1.3 (0.3)	4.4 (0.2)	3.1 (0.2)
24	0.0 (0.1)		9.9 (3.2)	7.1 (2.3)	11.8 (5.1)	8.5 (3.7)	1.0 (0.5)	4.4 (0.3)	3.1 (0.2)
25	-0.1 (0.1)		8.7 (1.8)	6.2 (1.3)	12.9 (4.2)	9.2 (3.0)	1.1 (0.9)	4.7 (0.3)	3.4 (0.3)
26	-0.1 (0.1)						2.2 (0.5)		
27	0.1 (0.1)		10.3 (0.9)	7.3 (0.7)	17.4 (2.2)	12.4 (1.6)	1.1 (0.3)	4.4 (0.3)	3.1 (0.2)
28	0.0 (0.1)		11.3 (1.1)	8.1 (0.8)	17.0 (3.5)	12.2 (2.5)	1.4 (0.4)	4.3 (1.4)	3.1 (1.0)
29	-0.1 (0.1)		7.8 (3.2)	5.6 (2.3)	10.2 (6.3)	7.3 (4.5)	0.9 (0.3)	3.2 (0.5)	2.3 (0.4)
30	0.0 (0.1)		6.5 (1.1)	4.7 (0.8)	9.3 (2.3)	6.6 (1.6)	0.8 (0.3)	2.9 (0.2)	2.1 (0.2)
31	0.0 (0.1)		7.4 (0.5)	5.3 (0.3)	14.8 (2.8)	10.6 (2.0)	0.6 (0.2)	3.5 (0.2)	2.5 (0.2)
Avg	0		9.1	6.5	14.1	10.1	1.1	3	2.1
n	31	0	30	30	30	30	31	27	27
SD	0.1		1.9	1.4	3.7	2.7	0.3	1.1	0.8
Min	-0.2		4.4	3.2	6.4	4.6	0.6	1.4	1.0
Max	0.5		11.5	8.2	20.9	14.9	2.2	5.1	3.6

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for February, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.4 (0.3)						0.5 (0.1)		
2	0.0 (0.1)		9.2 (1.3)	6.6 (0.9)	16.2 (3.7)	11.6 (2.7)	0.7 (0.1)	3.4 (0.4)	2.4 (0.3)
3	0.0 (0.1)		8.9 (1.9)	6.3 (1.4)	15.1 (4.8)	10.8 (3.4)	0.5 (0.1)	3.6 (0.6)	2.5 (0.4)
4	0.2 (0.1)		7.2 (3.2)	5.2 (2.3)	10.9 (4.6)	7.8 (3.3)	1.0 (0.4)	3.8 (0.5)	2.7 (0.3)
5	0.2 (0.1)		4.5 (2.6)	3.3 (1.8)	9.0 (3.9)	6.5 (2.8)	0.8 (0.2)		
6	0.0 (0.1)		2.4 (1.5)	1.7 (1.1)	5.6 (2.8)	4.0 (2.0)	0.8 (0.2)		
7	-0.1 (0.1)		3.3 (0.9)	2.3 (0.7)	10.5 (3.9)	7.5 (2.8)	0.5 (0.2)	2.2 (0.3)	1.6 (0.2)
8	-0.1 (0.1)		4.2 (1.2)	3.0 (0.9)	15.5 (3.8)	11.1 (2.7)	0.4 (0.3)	2.1 (0.3)	1.5 (0.2)
9	-0.1 (0.1)		4.4 (1.0)	3.2 (0.7)	14.4 (6.3)	10.3 (4.5)	0.2 (0.1)	2.2 (0.5)	1.6 (0.3)
10	-0.2 (0.0)		5.8 (1.2)	4.1 (0.9)	13.3 (4.2)	9.5 (3.0)	0.2 (0.1)	2.2 (0.4)	1.5 (0.3)
11	-0.2 (0.1)		7.2 (1.0)	5.2 (0.7)	19.5 (2.2)	13.9 (1.6)	0.5 (0.3)	2.4 (0.3)	1.7 (0.2)
12									
13									
14									
15	-0.1 (0.1)		6.4 (0.9)	4.6 (0.7)	9.9 (4.0)	7.1 (2.8)	0.2 (0.2)	3.3 (0.5)	2.4 (0.4)
16	0.0 (0.0)		8.0 (1.0)	5.7 (0.7)	9.4 (1.4)	6.7 (1.0)	0.0 (0.1)	3.7 (0.5)	2.6 (0.3)
17	0.1 (0.1)		7.8 (2.1)	5.6 (1.5)	10.6 (5.3)	7.6 (3.8)	0.2 (0.2)	3.7 (1.1)	2.7 (0.8)
18	0.2 (0.1)		6.7 (0.9)	4.8 (0.7)	6.9 (1.5)	5.0 (1.1)	0.3 (0.2)	2.5 (0.4)	1.8 (0.3)
19	-0.1 (0.1)		7.2 (2.6)	5.1 (1.9)	9.1 (4.4)	6.5 (3.1)	-0.1 (0.1)	3.4 (0.6)	2.5 (0.5)
20	-0.2 (0.1)		6.7 (1.3)	4.8 (0.9)	7.4 (1.7)	5.3 (1.2)	-0.1 (0.1)	3.3 (0.9)	2.4 (0.6)
21									
22									
23									
24									
25									
26									
27									
28									
29									
Avg	0		6.2	4.5	11.5	8.2	0.4	3	2.1
n	17	0	16	16	16	16	17	14	14
SD	0.2		1.9	1.4	3.7	2.7	0.3	0.7	0.5
Min	-0.2		2.4	1.7	5.6	4.0	-0.1	2.1	1.5
Max	0.4		9.2	6.6	19.5	13.9	1.0	3.8	2.7

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for March, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	-0.1 (0.0)		8.3 (1.2)	5.9 (0.8)	12.2 (2.7)	8.8 (2.0)	0.0 (0.1)	4.0 (0.4)	2.9 (0.3)
2	-0.1 (0.1)		10.0 (1.3)	7.1 (0.9)	14.3 (3.0)	10.2 (2.2)	-0.1 (0.0)	3.6 (0.4)	2.6 (0.3)
3	0.0 (0.1)		8.7 (3.3)	6.3 (2.3)	11.8 (6.1)	8.5 (4.4)	0.1 (0.1)	3.3 (0.6)	2.4 (0.4)
4	0.3 (0.2)		6.3 (2.9)	4.6 (2.1)	8.0 (3.3)	5.9 (2.4)	0.2 (0.1)	2.8 (0.7)	2.0 (0.5)
5	0.1 (0.0)		9.2 (1.8)	6.6 (1.3)	12.8 (3.0)	9.1 (2.2)	0.2 (0.1)	3.3 (0.6)	2.4 (0.5)
6	0.0 (0.1)						0.3 (0.1)		
7	0.4 (0.1)						0.6 (0.1)		
8	0.1 (0.1)		9.1 (1.5)	6.5 (1.1)	13.3 (4.7)	9.6 (3.3)	0.3 (0.2)	3.3 (0.5)	2.3 (0.4)
9	0.0 (0.1)		12.1 (0.6)	8.6 (0.4)	26.1 (5.8)	18.6 (4.2)	0.1 (0.1)	4.0 (0.4)	2.9 (0.3)
10	0.0 (0.1)		11.6 (1.9)	8.3 (1.4)	22.5 (11.2)	16.1 (8.0)	0.1 (0.1)	4.1 (0.8)	2.9 (0.6)
11	0.1 (0.1)		11.3 (2.8)	8.1 (2.0)	17.2 (5.1)	12.4 (3.7)	0.1 (0.1)	4.5 (0.8)	3.2 (0.5)
12	0.1 (0.2)		10.6 (3.3)	7.7 (2.3)	15.6 (4.8)	11.3 (3.4)	0.1 (0.1)	4.7 (1.1)	3.4 (0.7)
13	0.1 (0.3)		8.2 (4.6)	5.8 (3.3)	13.3 (8.8)	9.5 (6.3)	0.0 (0.1)	4.6 (2.0)	3.3 (1.4)
14	-0.1 (0.0)		6.6 (2.8)	4.7 (2.0)	10.6 (4.7)	7.6 (3.4)	0.0 (0.1)	3.5 (1.0)	2.5 (0.7)
15	0.0 (0.1)		7.2 (2.8)	5.1 (2.0)	11.9 (5.0)	8.6 (3.6)	0.1 (0.1)	3.4 (1.0)	2.4 (0.7)
16	0.1 (0.1)		9.1 (1.0)	6.5 (0.7)	13.1 (1.9)	9.4 (1.3)	0.2 (0.1)	3.9 (0.6)	2.8 (0.5)
17	0.1 (0.1)		10.3 (1.2)	7.4 (0.9)	15.4 (3.0)	11.0 (2.1)	0.0 (0.1)	3.9 (0.9)	2.8 (0.6)
18	0.0 (0.1)		10.3 (3.3)	7.3 (2.4)	16.5 (5.2)	11.8 (3.7)	0.1 (0.1)	3.0 (0.9)	2.1 (0.6)
19	0.0 (0.1)		4.8 (2.9)	3.4 (2.1)	7.9 (4.1)	5.7 (2.9)	0.2 (0.1)	1.4 (0.6)	1.0 (0.4)
20	-0.1 (0.1)		6.7 (1.7)	4.8 (1.2)	11.9 (3.5)	8.5 (2.5)	0.1 (0.1)	1.6 (0.4)	1.1 (0.3)
21	-0.2 (0.0)		8.3 (2.9)	5.9 (2.0)	14.2 (5.1)	10.2 (3.7)	0.0 (0.1)	1.9 (0.5)	1.4 (0.3)
22	-0.2 (0.1)		6.4 (3.6)	4.5 (2.5)	11.0 (5.9)	7.8 (4.2)	0.0 (0.1)	1.6 (0.7)	1.1 (0.5)
23	-0.1 (0.1)		9.5 (1.2)	6.8 (0.8)	15.2 (2.0)	10.8 (1.4)	0.0 (0.1)	2.3 (0.4)	1.7 (0.3)
24	-0.1 (0.0)		10.7 (1.2)	7.6 (0.9)	15.9 (4.1)	11.4 (2.9)	0.0 (0.1)	2.9 (0.4)	2.0 (0.3)
25	-0.2 (0.0)		12.0 (2.0)	8.6 (1.4)	17.7 (3.1)	12.6 (2.3)	0.0 (0.1)		
26	-0.1 (0.1)		9.6 (3.8)	6.9 (2.7)	13.8 (5.7)	9.9 (4.1)	0.1 (0.1)		
27	-0.1 (0.1)		5.5 (4.2)	3.9 (3.0)	9.1 (6.4)	6.5 (4.6)	0.0 (0.1)		
28	-0.1 (0.1)		2.7 (2.3)	2.0 (1.7)	5.4 (3.6)	3.9 (2.6)	-0.1 (0.2)	1.6 (1.2)	1.2 (0.8)
29	-0.2 (0.0)		6.0 (2.5)	4.3 (1.8)	12.6 (3.0)	9.0 (2.1)	-0.1 (0.1)	2.2 (0.5)	1.6 (0.4)
30									
31									
Avg	0		8.6	6.1	13.7	9.8	0.1	3.1	2.3
n	29	0	27	27	27	27	29	24	24
SD	0.1		2.3	1.7	4.2	3	0.1	1	0.7
Min	-0.2		2.7	2.0	5.4	3.9	-0.1	1.4	1.0
Max	0.4		12.1	8.6	26.1	18.6	0.6	4.7	3.4

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for April, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1									
2	-0.1 (0.1)		4.1 (1.3)	3.0 (1.0)	6.2 (1.4)	4.4 (1.0)	0.1 (0.2)	1.8 (0.4)	1.3 (0.3)
3	0.0 (0.1)		6.6 (1.2)	4.7 (0.9)	11.6 (1.5)	8.3 (1.1)	0.1 (0.1)	3.2 (0.4)	2.3 (0.3)
4	0.1 (0.0)		4.7 (2.6)	3.3 (1.9)	8.3 (4.6)	5.9 (3.4)	0.2 (0.1)	2.4 (1.1)	1.7 (0.8)
5	0.2 (0.1)		4.8 (1.1)	3.5 (0.8)	7.7 (1.6)	5.6 (1.1)	0.4 (0.1)	2.2 (0.4)	1.6 (0.3)
6	0.2 (0.1)		7.1 (1.1)	5.1 (0.8)	11.3 (2.5)	8.1 (1.8)	0.4 (0.1)	3.0 (0.5)	2.2 (0.4)
7	0.2 (0.1)		8.5 (1.4)	6.1 (1.0)	12.5 (2.2)	8.9 (1.6)	0.2 (0.1)	4.0 (0.5)	2.9 (0.3)
8	0.1 (0.1)		6.4 (1.8)	4.6 (1.3)	7.8 (3.7)		0.1 (0.1)	3.8 (0.7)	2.7 (0.5)
9	0.0 (0.1)		5.3 (1.5)	3.8 (1.1)	6.4 (1.7)		0.2 (0.1)	3.5 (0.8)	2.5 (0.6)
10	0.1 (0.1)		4.5 (2.6)	3.2 (1.9)	5.9 (2.9)		0.2 (0.1)	3.0 (1.2)	2.1 (0.9)
11	-0.1 (0.2)		2.4 (1.8)	1.7 (1.3)	4.2 (2.6)		0.0 (0.2)	1.9 (1.1)	1.3 (0.8)
12	0.1 (0.1)		2.8 (1.4)	2.2 (0.9)	4.4 (1.7)		0.1 (0.1)	1.8 (0.7)	1.4 (0.5)
13	0.0 (0.1)		5.0 (1.5)	3.6 (1.1)	7.4 (1.9)		0.1 (0.1)	3.0 (0.6)	2.1 (0.5)
14	0.0 (0.1)		7.8 (1.6)	5.6 (1.2)	12.6 (2.8)		0.1 (0.0)	4.3 (1.1)	3.0 (0.8)
15	0.0 (0.1)		5.3 (1.8)	3.8 (1.3)	9.3 (3.6)		0.0 (0.1)	3.0 (0.6)	2.2 (0.4)
16	-0.2 (0.0)		5.3 (1.6)	3.8 (1.1)	8.9 (2.7)	6.3 (1.9)	-0.1 (0.1)	2.8 (0.7)	2.0 (0.5)
17	-0.1 (0.1)		4.4 (3.3)	3.2 (2.4)	7.5 (4.8)	5.4 (3.5)	-0.1 (0.1)	2.5 (1.3)	1.8 (0.9)
18	-0.2 (0.1)	-0.2 (0.1)	3.3 (2.7)	2.3 (2.0)	5.9 (4.6)	4.2 (3.3)	-0.1 (0.1)	1.7 (1.2)	1.2 (0.9)
19	-0.2 (0.1)	-0.1 (0.1)	3.0 (2.3)	2.2 (1.7)	5.7 (3.9)	4.0 (2.8)	-0.1 (0.1)	1.4 (0.9)	1.0 (0.7)
20	-0.1 (0.1)	-0.1 (0.1)	3.6 (1.8)	2.6 (1.3)	6.1 (2.1)	4.3 (1.5)	0.1 (0.1)	1.7 (0.7)	1.2 (0.5)
21	0.1 (0.1)	0.1 (0.0)	6.1 (1.3)	4.3 (0.9)	9.5 (2.7)	6.8 (1.9)	0.2 (0.0)	2.7 (0.6)	2.0 (0.4)
22	0.0 (0.2)	0.0 (0.1)	4.0 (2.5)	2.9 (1.8)	5.8 (3.7)	4.2 (2.6)	0.1 (0.2)	1.6 (1.3)	
23	0.2 (0.2)	0.1 (0.2)	3.2 (1.3)	2.3 (1.0)	4.8 (1.6)	3.4 (1.2)	0.1 (0.1)	0.3 (0.2)	
24	0.0 (0.1)	0.0 (0.1)	3.2 (2.2)	2.3 (1.6)	5.1 (3.1)	3.7 (2.2)	0.1 (0.2)	1.0 (0.6)	
25	0.0 (0.2)	0.0 (0.1)	2.3 (1.8)	1.6 (1.3)	4.3 (3.0)	3.1 (2.2)	0.0 (0.1)	1.4 (1.1)	1.0 (0.8)
26	-0.1 (0.2)	0.0 (0.1)	2.5 (1.8)	1.8 (1.3)	4.0 (2.7)	2.8 (2.0)	0.0 (0.1)	1.0 (0.7)	0.7 (0.5)
27	0.0 (0.1)	0.0 (0.0)	3.0 (1.4)	2.1 (1.0)	4.7 (2.0)	3.4 (1.4)	0.2 (0.1)	1.1 (0.5)	0.8 (0.3)
28	0.1 (0.1)	0.1 (0.0)	3.5 (1.5)	2.5 (1.1)	5.6 (1.6)	4.1 (1.2)	0.2 (0.1)	1.4 (0.4)	1.0 (0.3)
29	-0.1 (0.1)	0.0 (0.1)	6.6 (1.2)	4.7 (0.9)	12.3 (3.5)	8.8 (2.5)	0.0 (0.1)	2.3 (0.5)	1.7 (0.4)
30	0.0 (0.0)	0.0 (0.0)	8.0 (2.4)	5.7 (1.7)	17.2 (4.3)	12.3 (3.1)	0.1 (0.1)	3.0 (0.8)	2.2 (0.6)
Avg	0	0	4.7	3.4	7.7	5.6	0.1	2.3	1.8
n	29	13	29	29	29	21	29	29	26
SD	0.1	0.1	1.8	1.3	3.2	2.4	0.1	1	0.6
Min	-0.2	-0.2	2.3	1.6	4.0	2.8	-0.1	0.3	0.7
Max	0.2	0.1	8.5	6.1	17.2	12.3	0.4	4.3	3.0

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for May, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	-0.1 (0.2)	0.0 (0.1)	5.9 (3.9)	4.3 (2.8)	10.7 (7.8)	7.7 (5.6)	0.1 (0.1)	2.4 (1.3)	1.7 (1.0)
2	0.0 (0.2)	0.0 (0.1)	3.8 (2.9)	2.8 (2.1)	6.4 (4.7)	4.7 (3.5)	0.1 (0.2)	1.7 (1.0)	1.2 (0.7)
3	-0.1 (0.1)	-0.1 (0.1)	3.6 (2.8)	2.6 (2.0)	5.9 (4.5)	4.2 (3.2)	0.1 (0.2)	1.7 (0.9)	1.2 (0.7)
4	0.0 (0.2)	0.0 (0.1)	3.6 (2.5)	2.6 (1.8)	5.5 (3.3)	4.0 (2.4)	0.1 (0.2)	1.7 (0.8)	1.2 (0.6)
5	0.2 (0.1)	0.1 (0.1)	5.8 (2.5)	4.1 (1.8)	8.9 (3.7)	6.4 (2.7)	0.3 (0.1)	2.5 (0.9)	1.8 (0.6)
6	0.2 (0.2)	0.1 (0.2)	5.8 (3.9)	4.2 (2.8)	9.9 (6.7)	7.1 (4.8)	0.2 (0.2)	2.2 (1.1)	1.6 (0.8)
7									
8									
9									
10	0.1 (0.1)	0.1 (0.1)	4.4 (3.1)	3.1 (2.2)	6.1 (3.9)	4.4 (2.8)	0.2 (0.2)	2.0 (1.0)	1.4 (0.7)
11	0.2 (0.1)	0.2 (0.1)	7.0 (3.4)	5.0 (2.4)	11.6 (5.9)	8.3 (4.2)	0.3 (0.1)	3.2 (1.2)	2.3 (0.9)
12	0.5 (0.3)	0.3 (0.2)	9.0 (1.5)	6.5 (1.1)	13.9 (4.0)	10.0 (2.9)	0.3 (0.1)	3.3 (0.9)	2.3 (0.6)
13	0.1 (0.2)	0.1 (0.1)	8.9 (3.9)	6.4 (2.8)	13.5 (6.2)	9.7 (4.5)	0.2 (0.2)	2.5 (0.9)	1.8 (0.6)
14	0.5 (0.1)	0.4 (0.1)	7.3 (5.0)	5.2 (3.6)	11.4 (7.6)	8.2 (5.4)	0.7 (0.2)	2.8 (1.3)	2.0 (0.9)
15	0.6 (0.1)	0.4 (0.1)	5.9 (3.6)	4.2 (2.6)	8.8 (4.8)	6.3 (3.4)	0.9 (0.1)	2.1 (0.6)	1.5 (0.4)
16	0.7 (0.2)	0.5 (0.1)	4.0 (2.4)	2.9 (1.7)	5.6 (3.1)	4.0 (2.3)	0.9 (0.2)	1.8 (0.5)	1.3 (0.4)
17	0.7 (0.2)	0.5 (0.1)	7.1 (4.7)	5.2 (3.4)	9.5 (5.6)	6.9 (4.1)	0.7 (0.1)		
18	0.8 (0.2)	0.6 (0.1)	6.5 (4.3)	4.6 (3.1)	9.7 (6.4)	6.9 (4.6)	0.8 (0.2)		
19	0.7 (0.2)	0.5 (0.2)	6.3 (4.2)	4.5 (3.0)	8.7 (5.7)	6.2 (4.1)	0.8 (0.2)		
20	0.9 (0.1)	0.7 (0.1)	5.1 (3.2)	3.7 (2.3)	7.1 (3.9)	5.1 (2.8)	0.9 (0.1)		
21	0.7 (0.2)	0.5 (0.1)	5.6 (3.5)	4.0 (2.5)	7.8 (4.1)	5.6 (2.9)	0.8 (0.2)	1.9 (0.8)	1.4 (0.6)
22	0.5 (0.1)	0.3 (0.1)	5.3 (4.4)	3.8 (3.2)	6.7 (5.6)	4.8 (4.1)	0.6 (0.3)	1.6 (0.9)	1.2 (0.6)
23	0.5 (0.1)	0.3 (0.1)	3.8 (3.1)	2.7 (2.2)	6.0 (4.2)	4.3 (3.0)	0.6 (0.2)	1.6 (0.7)	1.2 (0.5)
24	0.7 (0.1)	0.5 (0.1)	4.9 (1.6)	3.5 (1.1)	9.0 (3.1)	6.5 (2.3)	0.8 (0.1)	2.3 (0.5)	1.6 (0.4)
25	0.6 (0.3)	0.4 (0.2)	4.1 (3.0)	2.9 (2.1)	8.0 (6.1)	5.8 (4.4)	0.6 (0.2)	2.2 (1.1)	1.5 (0.8)
26	0.4 (0.1)	0.3 (0.1)	3.6 (2.7)	2.6 (2.0)	7.3 (6.4)	5.2 (4.6)	0.6 (0.2)	2.1 (1.3)	1.5 (0.9)
27	0.5 (0.1)	0.3 (0.1)	2.6 (2.3)	1.9 (1.7)	5.0 (5.2)	3.6 (3.8)	0.6 (0.2)	1.8 (1.0)	1.3 (0.7)
28	0.6 (0.1)	0.4 (0.1)	4.7 (2.0)	3.4 (1.5)	6.4 (2.7)	4.6 (1.9)	0.7 (0.1)	3.1 (1.2)	2.2 (0.9)
29	0.5 (0.2)	0.4 (0.1)	4.6 (2.6)	3.3 (1.9)	7.1 (4.5)	5.1 (3.2)	0.6 (0.1)	3.0 (1.5)	2.1 (1.1)
30	0.7 (0.2)	0.5 (0.1)	3.2 (2.5)	2.3 (1.8)	5.2 (4.6)	3.7 (3.3)	0.7 (0.1)	2.5 (1.3)	1.8 (0.9)
31	0.7 (0.1)	0.5 (0.0)	2.5 (1.4)	1.8 (1.0)	3.3 (2.3)	2.4 (1.6)	0.8 (0.1)	1.9 (0.6)	1.4 (0.4)
Avg	0.4	0.3	5.2	3.7	8	5.8	0.5	2.2	1.6
n	28	28	28	28	28	28	28	24	24
SD	0.3	0.2	1.7	1.2	2.5	1.8	0.3	0.5	0.4
Min	-0.1	-0.1	2.5	1.8	3.3	2.4	0.1	1.6	1.2
Max	0.9	0.7	9.0	6.5	13.9	10.0	0.9	3.3	2.3

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for June, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.6 (0.1)	0.4 (0.1)	2.3 (0.7)	1.6 (0.5)	2.5 (0.9)	1.8 (0.7)	0.7 (0.1)	1.7 (0.3)	1.3 (0.2)
2	0.5 (0.1)	0.4 (0.1)	2.9 (1.4)	2.1 (1.0)	3.0 (1.6)	2.1 (1.1)	0.6 (0.1)	1.8 (0.6)	1.3 (0.4)
3	0.6 (0.2)	0.4 (0.1)	2.7 (2.1)	2.0 (1.5)	3.0 (2.5)	2.1 (1.8)	0.6 (0.1)	1.8 (0.7)	1.3 (0.5)
4	0.7 (0.1)	0.5 (0.1)	1.7 (0.4)	1.2 (0.3)	2.2 (0.9)	1.6 (0.6)	0.8 (0.1)	1.7 (0.4)	1.3 (0.3)
5	0.7 (0.1)	0.5 (0.1)	1.4 (0.3)	1.0 (0.2)	1.8 (0.6)	1.3 (0.5)	0.8 (0.1)	1.5 (0.3)	1.1 (0.2)
6	0.8 (0.0)	0.6 (0.0)	1.5 (0.3)	1.1 (0.2)	1.7 (0.4)	1.2 (0.3)	0.8 (0.1)	1.6 (0.2)	1.1 (0.2)
7	0.7 (0.2)	0.5 (0.1)	1.4 (0.2)	1.0 (0.1)	1.6 (0.5)	1.2 (0.4)	0.8 (0.1)	1.4 (0.3)	1.0 (0.2)
8	0.6 (0.1)	0.4 (0.0)	1.4 (0.3)	1.0 (0.2)	1.4 (0.7)	1.0 (0.5)	0.7 (0.1)	1.3 (0.3)	0.9 (0.2)
9	0.6 (0.1)	0.4 (0.1)	1.5 (0.3)	1.1 (0.2)	1.4 (0.5)	1.0 (0.3)	0.7 (0.1)	1.2 (0.2)	0.9 (0.2)
10	0.5 (0.1)	0.3 (0.1)	0.9 (0.4)	0.7 (0.3)	1.2 (0.6)	0.8 (0.4)	0.6 (0.1)		
11	0.6 (0.1)	0.4 (0.1)	1.3 (0.3)	1.0 (0.2)	1.6 (0.7)	1.2 (0.5)	0.7 (0.1)		
12	0.5 (0.2)	0.4 (0.1)	1.2 (0.5)	0.9 (0.3)	1.5 (0.8)	1.1 (0.6)	0.6 (0.1)		
13	0.5 (0.2)	0.4 (0.1)	1.7 (1.1)	1.2 (0.8)	1.9 (1.7)	1.4 (1.2)	0.6 (0.1)	1.1 (0.5)	0.8 (0.3)
14	0.4 (0.1)	0.3 (0.1)	2.1 (1.4)	1.5 (1.0)	2.0 (1.5)	1.4 (1.1)	0.6 (0.2)	1.1 (0.4)	0.8 (0.3)
15	0.6 (0.1)	0.4 (0.0)	2.2 (1.3)	1.6 (1.0)	2.1 (1.2)	1.5 (0.8)	0.7 (0.2)	1.3 (0.4)	0.9 (0.3)
16	0.4 (0.1)	0.3 (0.1)	1.8 (1.1)	1.3 (0.8)	1.9 (1.3)	1.4 (0.9)	0.6 (0.1)	1.2 (0.4)	0.9 (0.3)
17	0.5 (0.2)	0.3 (0.1)	1.2 (0.5)	0.8 (0.4)	1.4 (0.9)	1.0 (0.6)	0.5 (0.2)	1.0 (0.3)	0.7 (0.2)
18	0.4 (0.1)	0.3 (0.1)	1.7 (1.0)	1.2 (0.7)	1.9 (1.2)	1.4 (0.8)	0.4 (0.1)	1.1 (0.4)	0.8 (0.3)
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
Avg	0.6	0.4	1.7	1.2	1.9	1.4	0.7	1.4	1
n	18	18	18	18	18	18	18	15	15
SD	0.1	0.1	0.5	0.4	0.5	0.4	0.1	0.3	0.2
Min	0.4	0.3	0.9	0.7	1.2	0.8	0.4	1.0	0.7
Max	0.8	0.6	2.9	2.1	3.0	2.1	0.8	1.8	1.3

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for July, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11	0.7 (0.1)	0.5 (0.1)	1.4 (0.3)	1.0 (0.2)	1.8 (0.7)	1.3 (0.5)	0.7 (0.1)	1.0 (0.2)	0.7 (0.1)
12	0.7 (0.2)	0.5 (0.1)	1.9 (1.0)	1.4 (0.7)	2.2 (1.3)	1.6 (0.9)	0.6 (0.1)	1.1 (0.4)	0.8 (0.3)
13									
14									
15									
16	0.9 (0.4)	0.6 (0.3)	1.6 (1.0)	1.2 (0.7)	2.0 (1.4)	1.4 (1.0)	0.6 (0.1)	1.1 (0.5)	0.8 (0.3)
17	0.8 (0.3)	0.6 (0.2)	2.5 (2.2)	1.8 (1.6)	2.7 (2.4)	1.9 (1.7)	0.7 (0.2)	1.3 (0.7)	1.0 (0.5)
18	0.9 (0.4)	0.6 (0.3)	1.6 (0.9)	1.1 (0.7)	2.0 (1.3)	1.4 (0.9)	0.8 (0.2)	1.2 (0.5)	0.9 (0.3)
19	0.7 (0.1)	0.5 (0.1)	1.6 (0.6)	1.1 (0.4)	1.9 (0.9)	1.4 (0.7)	0.7 (0.1)	1.3 (0.4)	0.9 (0.3)
20	0.7 (0.1)	0.5 (0.0)	1.4 (0.2)	1.0 (0.2)	1.8 (0.8)	1.3 (0.6)	0.8 (0.1)	1.2 (0.2)	0.9 (0.2)
21	0.6 (0.0)	0.4 (0.0)	1.2 (0.2)	0.8 (0.2)	1.4 (0.6)	1.0 (0.4)	0.7 (0.1)	1.1 (0.2)	0.8 (0.2)
22	0.6 (0.1)	0.4 (0.1)	1.2 (0.3)	0.9 (0.2)	1.4 (0.7)	1.0 (0.5)	0.7 (0.1)	1.1 (0.2)	0.8 (0.2)
23	0.6 (0.1)	0.5 (0.1)	1.4 (0.7)	1.0 (0.5)	2.0 (1.0)	1.4 (0.7)	0.7 (0.1)	1.2 (0.3)	0.9 (0.2)
24	0.6 (0.1)	0.4 (0.1)	1.5 (0.6)	1.1 (0.5)	2.1 (1.1)	1.6 (0.8)	0.7 (0.0)	1.3 (0.3)	0.9 (0.2)
25	0.8 (0.1)	0.6 (0.1)	1.8 (0.9)	1.3 (0.7)	2.3 (1.4)	1.7 (1.0)	0.7 (0.1)	1.5 (0.5)	1.1 (0.4)
26	0.6 (0.1)	0.4 (0.1)	1.9 (1.3)	1.4 (0.9)	2.4 (1.6)	1.7 (1.2)	0.7 (0.1)	1.5 (0.6)	1.1 (0.4)
27	0.7 (0.1)	0.5 (0.1)	1.5 (0.3)	1.1 (0.2)	2.0 (0.7)	1.4 (0.5)	0.8 (0.1)	1.4 (0.3)	1.0 (0.2)
28	0.7 (0.2)	0.5 (0.1)	1.6 (0.4)	1.2 (0.3)	2.0 (0.8)	1.4 (0.6)	0.8 (0.2)	1.5 (0.4)	1.1 (0.3)
29	0.6 (0.0)	0.5 (0.0)	1.2 (0.4)	0.9 (0.3)	1.5 (0.9)	1.1 (0.6)	0.7 (0.1)	1.1 (0.3)	0.8 (0.2)
30	0.6 (0.1)	0.4 (0.1)	1.2 (0.3)	0.9 (0.2)	1.6 (0.7)	1.1 (0.5)	0.7 (0.1)	1.1 (0.2)	0.8 (0.2)
31	1.6 (1.0)	1.2 (0.7)	1.4 (0.4)	1.0 (0.3)	1.8 (0.6)	1.3 (0.5)	0.8 (0.1)	1.3 (0.3)	1.0 (0.2)
Avg	0.7	0.5	1.6	1.1	1.9	1.4	0.7	1.2	0.9
n	18	18	18	18	18	18	18	18	18
SD	0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.1
Min	0.6	0.4	1.2	0.8	1.4	1.0	0.6	1.0	0.7
Max	1.6	1.2	2.5	1.8	2.7	1.9	0.8	1.5	1.1

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for August, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.7 (0.1)	0.5 (0.1)	1.5 (0.3)	1.1 (0.2)	1.9 (0.8)	1.4 (0.6)	0.8 (0.1)	1.3 (0.2)	0.9 (0.2)
2	0.9 (0.2)	0.7 (0.2)	1.6 (0.4)	1.1 (0.3)	2.1 (1.3)	1.5 (0.9)	0.9 (0.1)	1.5 (0.5)	1.0 (0.4)
3	0.6 (0.1)	0.4 (0.0)	1.5 (0.4)	1.1 (0.3)	1.9 (1.0)	1.4 (0.7)	0.8 (0.1)	1.2 (0.3)	0.9 (0.2)
4	0.6 (0.0)	0.5 (0.0)	1.5 (0.3)	1.1 (0.2)	1.6 (0.8)	1.2 (0.6)	0.8 (0.1)	1.2 (0.3)	0.9 (0.2)
5	0.6 (0.1)	0.4 (0.1)	1.1 (0.2)	0.8 (0.2)	1.3 (0.7)	0.9 (0.5)	0.8 (0.1)		
6	0.7 (0.1)	0.5 (0.1)	1.2 (0.4)	0.9 (0.3)	1.3 (0.6)	1.0 (0.4)	0.8 (0.2)		
7	0.4 (0.1)	0.3 (0.1)	0.9 (0.2)	0.7 (0.2)	1.3 (0.5)	0.9 (0.3)	0.6 (0.1)		
8	0.5 (0.1)	0.4 (0.1)	1.4 (0.6)	1.0 (0.5)	1.8 (0.9)	1.3 (0.7)	0.6 (0.1)	1.1 (0.4)	0.8 (0.3)
9	0.5 (0.1)	0.3 (0.1)	2.0 (1.7)	1.5 (1.2)	2.4 (2.0)	1.7 (1.4)	0.6 (0.2)	1.2 (0.5)	0.9 (0.4)
10	0.6 (0.1)	0.4 (0.1)	1.7 (1.0)	1.2 (0.7)	2.2 (1.4)	1.6 (1.0)	0.6 (0.1)	1.0 (0.4)	0.8 (0.3)
11	0.6 (0.1)	0.4 (0.1)	3.0 (2.2)	2.2 (1.6)	4.0 (2.7)	2.9 (2.0)	0.6 (0.1)	1.6 (0.6)	1.1 (0.5)
12	0.4 (0.2)	0.3 (0.1)	3.0 (3.0)	2.1 (2.2)	3.0 (3.2)	2.2 (2.3)	0.6 (0.2)	1.4 (0.9)	1.0 (0.6)
13	0.7 (0.1)	0.5 (0.1)	3.7 (1.3)	2.7 (0.9)	3.8 (1.6)	2.8 (1.1)	0.8 (0.1)	1.8 (0.5)	1.3 (0.3)
14	0.7 (0.2)	0.5 (0.1)	3.2 (2.4)	2.3 (1.7)	3.9 (2.8)	2.8 (2.0)	0.6 (0.2)	1.9 (0.9)	1.4 (0.6)
15	0.7 (0.2)	0.5 (0.1)	2.2 (1.4)	1.6 (1.0)	3.0 (2.4)	2.2 (1.7)	0.8 (0.1)	1.7 (0.6)	1.2 (0.5)
16	0.7 (0.1)	0.5 (0.1)	2.6 (1.6)	1.9 (1.2)	2.9 (1.7)	2.1 (1.2)	0.8 (0.1)	1.9 (0.6)	1.4 (0.5)
17	0.7 (0.0)	0.5 (0.0)	2.7 (1.5)	1.9 (1.0)	3.0 (1.3)	2.2 (0.9)	1.0 (0.2)	1.9 (0.5)	1.4 (0.4)
18	0.7 (0.2)	0.5 (0.1)	3.1 (2.4)	2.2 (1.7)	3.7 (2.8)	2.7 (2.0)	0.9 (0.3)	2.0 (1.0)	1.4 (0.7)
19	0.7 (0.2)	0.5 (0.1)	2.3 (2.0)	1.7 (1.4)	2.8 (2.6)	2.0 (1.8)	0.8 (0.2)	1.4 (0.7)	1.0 (0.5)
20	0.7 (0.2)	0.5 (0.2)	2.0 (1.4)	1.4 (1.0)	2.2 (1.4)	1.6 (1.0)	0.7 (0.2)	1.5 (0.6)	1.1 (0.4)
21	0.6 (0.1)	0.4 (0.1)	1.7 (1.1)	1.2 (0.8)	1.8 (1.2)	1.3 (0.9)	0.6 (0.2)	1.3 (0.6)	1.0 (0.4)
22	0.4 (0.1)	0.3 (0.0)	1.7 (1.0)	1.2 (0.7)	2.0 (1.5)	1.5 (1.1)	0.6 (0.1)	1.4 (0.5)	1.0 (0.4)
23	0.5 (0.1)	0.4 (0.1)	1.8 (1.1)	1.3 (0.8)	2.2 (1.3)	1.5 (1.0)	0.6 (0.1)	1.5 (0.6)	1.1 (0.4)
24	0.7 (0.3)	0.5 (0.2)	2.1 (1.6)	1.5 (1.1)	2.6 (1.9)	1.8 (1.4)	0.8 (0.2)	1.5 (0.7)	1.1 (0.5)
25	0.7 (0.2)	0.5 (0.1)	2.1 (1.4)	1.5 (1.0)	2.4 (2.0)	1.7 (1.4)	0.7 (0.1)	1.5 (0.6)	1.1 (0.4)
26	0.7 (0.0)	0.5 (0.0)	1.6 (0.7)	1.1 (0.5)	2.0 (1.0)	1.4 (0.7)	0.8 (0.1)		
27	0.8 (0.1)	0.6 (0.1)	1.6 (0.5)	1.1 (0.4)	1.9 (0.8)	1.4 (0.6)	0.9 (0.1)		
28	0.8 (0.1)	0.6 (0.0)	1.4 (0.5)	1.0 (0.3)	1.7 (0.8)	1.3 (0.6)	0.8 (0.1)		
29	0.7 (0.1)	0.5 (0.1)	1.7 (0.4)	1.2 (0.3)	2.1 (0.9)	1.5 (0.6)	0.8 (0.2)	1.2 (0.3)	0.9 (0.2)
30	0.7 (0.1)	0.5 (0.1)	1.8 (0.5)	1.3 (0.4)	2.4 (1.1)	1.7 (0.8)	0.9 (0.1)	1.3 (0.3)	0.9 (0.2)
31	0.8 (0.2)	0.5 (0.1)	2.0 (0.6)	1.4 (0.5)	2.3 (1.1)	1.7 (0.8)	0.8 (0.1)	1.3 (0.3)	0.9 (0.2)
Avg	0.6	0.5	2	1.4	2.4	1.7	0.7	1.5	1.1
n	31	31	31	31	31	31	31	25	25
SD	0.1	0.1	0.7	0.5	0.7	0.5	0.1	0.3	0.2
Min	0.4	0.3	0.9	0.7	1.3	0.9	0.6	1.0	0.8
Max	0.9	0.7	3.7	2.7	4.0	2.9	1.0	2.0	1.4

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for September, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.6 (0.1)	0.5 (0.1)	2.1 (1.1)	1.5 (0.8)	2.3 (1.1)	1.6 (0.8)	0.6 (0.2)	1.2 (0.4)	0.9 (0.3)
2	0.6 (0.2)	0.4 (0.1)	3.3 (2.9)	2.4 (2.1)			0.7 (0.2)		
3	0.6 (0.1)	0.4 (0.1)	2.3 (1.4)	1.6 (1.0)	2.7 (2.1)	1.9 (1.5)	0.6 (0.1)	1.7 (0.9)	1.2 (0.6)
4	0.5 (0.1)	0.4 (0.1)	2.2 (1.6)	1.6 (1.1)	2.8 (2.5)	2.0 (1.8)	0.6 (0.2)	1.6 (0.8)	1.2 (0.6)
5	1.0 (0.3)	0.7 (0.2)	2.2 (1.1)	1.6 (0.8)	2.5 (1.4)	1.8 (1.0)	0.8 (0.1)	1.8 (0.5)	1.3 (0.3)
6	1.0 (0.0)						0.9 (0.0)		
7	1.0 (0.0)						0.9 (0.1)		
8	0.9 (0.1)	0.7 (0.1)	2.6 (0.6)	1.9 (0.4)	2.5 (0.9)	1.8 (0.6)	0.9 (0.2)	2.1 (0.5)	1.5 (0.3)
9	0.8 (0.1)	0.5 (0.1)	2.2 (1.1)	1.6 (0.8)	2.2 (1.3)	1.6 (0.9)	0.8 (0.1)	2.1 (0.5)	1.5 (0.3)
10	0.9 (0.1)	0.6 (0.1)	1.8 (0.4)	1.3 (0.3)	2.2 (0.9)	1.6 (0.7)	0.8 (0.1)	2.3 (0.5)	1.7 (0.4)
11	0.8 (0.1)	0.6 (0.1)	2.0 (0.9)	1.5 (0.7)	2.5 (1.1)	1.8 (0.8)	0.8 (0.1)	2.2 (0.7)	1.6 (0.5)
12	0.7 (0.1)	0.5 (0.1)	1.7 (0.5)	1.2 (0.4)	2.3 (1.1)	1.6 (0.8)	0.8 (0.1)	2.0 (0.6)	1.5 (0.4)
13	0.8 (0.1)	0.6 (0.1)	1.8 (0.4)	1.3 (0.3)	2.1 (0.8)	1.5 (0.6)	0.8 (0.1)	1.9 (0.4)	1.4 (0.3)
14	0.7 (0.0)	0.5 (0.0)	1.7 (0.4)	1.2 (0.3)	2.0 (0.9)	1.4 (0.6)	0.8 (0.1)	1.7 (0.4)	1.3 (0.3)
15	0.8 (0.1)	0.6 (0.1)	1.6 (0.5)	1.2 (0.4)	1.9 (0.8)	1.4 (0.6)	0.8 (0.1)	1.5 (0.5)	1.1 (0.3)
16	0.6 (0.1)	0.4 (0.1)	2.7 (0.7)	2.0 (0.5)	2.4 (0.7)	1.7 (0.5)	0.7 (0.1)	1.5 (0.3)	1.1 (0.2)
17	0.6 (0.2)	0.5 (0.1)	4.4 (2.1)	3.2 (1.5)	4.1 (2.2)	2.9 (1.6)	0.7 (0.1)	2.0 (0.6)	1.4 (0.4)
18	0.6 (0.2)	0.4 (0.1)	4.2 (3.0)	3.0 (2.1)	4.6 (3.4)	3.3 (2.4)	0.6 (0.2)	2.0 (0.9)	1.5 (0.7)
19	0.6 (0.1)	0.4 (0.1)	4.7 (2.6)	3.4 (1.9)	4.8 (2.9)	3.5 (2.1)	0.7 (0.2)	2.2 (0.8)	1.6 (0.6)
20	0.7 (0.1)	0.5 (0.0)	5.6 (2.9)	4.0 (2.1)	5.7 (3.1)	4.1 (2.2)	0.8 (0.1)	2.8 (0.8)	2.0 (0.6)
21	0.7 (0.1)	0.5 (0.1)	5.0 (3.0)	3.6 (2.2)	5.8 (3.5)	4.2 (2.5)	0.8 (0.2)	2.5 (0.8)	1.8 (0.6)
22	0.6 (0.2)	0.4 (0.1)	4.9 (2.3)	3.5 (1.7)	6.3 (3.3)	4.6 (2.4)	0.8 (0.2)	2.6 (0.8)	1.8 (0.6)
23	0.6 (0.2)	0.4 (0.1)	4.6 (3.2)	3.3 (2.3)	5.5 (4.3)	4.0 (3.1)	0.7 (0.2)		
24	0.5 (0.1)	0.4 (0.1)	5.0 (1.9)	3.6 (1.3)	6.4 (2.6)	4.6 (1.9)	0.7 (0.2)		
25	0.9 (0.1)	0.6 (0.1)	6.2 (2.0)	4.4 (1.5)	8.2 (2.6)	5.9 (1.9)	0.9 (0.1)		
26	0.6 (0.1)	0.5 (0.1)	2.6 (1.4)	1.9 (1.0)	4.2 (1.6)	3.0 (1.2)	0.7 (0.1)	1.7 (0.5)	1.3 (0.4)
27	0.5 (0.0)	0.4 (0.0)	2.8 (1.8)	2.0 (1.3)	4.7 (2.7)	3.4 (1.9)	0.7 (0.1)	1.6 (0.6)	1.2 (0.4)
28	0.6 (0.2)	0.4 (0.1)	2.7 (1.8)	2.0 (1.3)	4.8 (2.6)	3.5 (1.9)	0.7 (0.1)	1.6 (0.6)	1.1 (0.4)
29	0.7 (0.2)	0.5 (0.1)	2.9 (1.5)	2.1 (1.1)	4.8 (2.5)	3.4 (1.8)	0.8 (0.1)	1.7 (0.6)	1.2 (0.4)
30	0.7 (0.1)	0.5 (0.1)	2.8 (2.0)	2.1 (1.4)	4.0 (2.5)	2.9 (1.8)	0.7 (0.2)	1.8 (0.6)	1.3 (0.4)
Avg	0.7	0.5	3.2	2.3	3.9	2.8	0.8	1.9	1.4
n	30	28	28	28	27	27	30	24	24
SD	0.1	0.1	1.3	1	1.7	1.2	0.1	0.4	0.3
Min	0.5	0.4	1.6	1.2	1.9	1.4	0.6	1.2	0.9
Max	1.0	0.7	6.2	4.4	8.2	5.9	0.9	2.8	2.0

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for October, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.5 (0.0)	0.4 (0.0)	2.9 (1.3)	2.1 (0.9)	4.4 (1.7)	3.2 (1.2)	0.7 (0.1)	2.1 (0.6)	1.5 (0.4)
2	0.5 (0.1)	0.4 (0.1)	4.0 (1.9)	2.9 (1.3)	7.1 (2.2)	5.1 (1.6)	0.6 (0.1)	3.0 (0.9)	2.2 (0.6)
3	0.6 (0.2)	0.4 (0.1)	3.8 (2.1)	2.7 (1.5)	6.9 (3.9)	5.0 (2.8)	0.6 (0.1)	3.2 (1.3)	2.3 (0.9)
4	0.5 (0.1)	0.4 (0.1)	3.6 (2.2)	2.6 (1.6)	6.5 (3.8)	4.7 (2.7)	0.6 (0.2)	3.1 (1.4)	2.3 (1.0)
5	0.9 (0.3)	0.6 (0.2)	3.9 (2.4)	2.8 (1.7)	6.9 (3.9)	5.0 (2.8)	0.7 (0.2)	3.3 (1.5)	2.4 (1.1)
6	0.7 (0.2)	0.5 (0.1)	4.0 (2.1)	2.9 (1.5)	6.8 (4.2)	4.9 (3.0)	0.7 (0.2)	3.3 (1.6)	2.4 (1.1)
7	0.6 (0.1)	0.4 (0.1)	4.2 (2.3)	3.0 (1.6)	5.6 (3.5)	4.0 (2.5)	0.6 (0.2)	3.6 (1.2)	2.6 (0.8)
8	0.6 (0.1)	0.4 (0.1)	3.8 (2.1)	2.7 (1.5)	5.6 (2.5)	4.0 (1.8)	0.6 (0.1)	3.5 (1.4)	2.5 (1.0)
9	0.8 (0.1)	0.5 (0.1)	3.3 (1.6)	2.4 (1.1)	4.8 (1.8)	3.4 (1.3)	0.8 (0.1)	2.7 (0.8)	1.9 (0.6)
10	0.8 (0.2)	0.6 (0.1)	3.0 (1.0)	2.2 (0.7)	4.9 (1.5)	3.5 (1.1)	0.8 (0.1)	2.5 (0.6)	1.8 (0.4)
11	0.7 (0.1)	0.5 (0.1)	3.8 (0.9)	2.7 (0.7)	5.9 (1.5)	4.2 (1.0)	0.8 (0.1)	2.5 (0.4)	1.8 (0.3)
12	0.6 (0.1)	0.4 (0.1)	3.7 (1.8)	2.6 (1.3)	6.0 (2.7)	4.3 (1.9)	0.7 (0.1)	2.3 (0.8)	1.7 (0.6)
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Avg	0.6	0.5	3.7	2.6	6	4.3	0.7	2.9	2.1
n	12	12	12	12	12	12	12	12	12
SD	0.1	0.1	0.4	0.3	0.9	0.6	0.1	0.5	0.3
Min	0.5	0.4	2.9	2.1	4.4	3.2	0.6	2.1	1.5
Max	0.9	0.6	4.2	3.0	7.1	5.1	0.8	3.6	2.6

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for November, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1									
2									
3	0.8 (0.1)	0.6 (0.0)	8.4 (0.9)	6.0 (0.6)	12.1 (2.0)	8.7 (1.4)	0.9 (0.1)	7.8 (0.6)	5.6 (0.4)
4	0.8 (0.1)	0.6 (0.1)					0.8 (0.1)		
5	0.6 (0.1)	0.4 (0.1)	5.6 (1.1)	4.0 (0.8)	8.7 (1.4)	6.3 (1.0)	0.6 (0.3)	5.5 (0.9)	4.0 (0.6)
6	0.6 (0.1)	0.4 (0.1)	4.3 (2.0)	3.1 (1.4)	9.0 (3.6)	6.4 (2.6)	0.6 (0.2)	5.3 (1.9)	3.8 (1.4)
7	0.6 (0.2)	0.4 (0.2)	3.7 (1.7)	2.6 (1.2)	10.4 (4.4)	7.4 (3.1)	0.6 (0.1)	5.1 (2.0)	3.7 (1.4)
8	0.6 (0.1)	0.4 (0.0)	5.4 (1.0)	3.9 (0.7)	12.7 (2.5)	9.1 (1.8)	0.7 (0.1)	5.9 (1.1)	4.2 (0.8)
9	0.7 (0.1)	0.5 (0.1)	8.1 (2.2)	5.8 (1.6)	16.5 (4.8)	11.8 (3.5)	0.7 (0.1)	8.1 (1.6)	5.8 (1.1)
10	0.6 (0.1)	0.5 (0.1)	9.7 (1.9)	6.9 (1.4)	16.3 (4.2)	11.7 (3.0)	0.7 (0.1)	7.4 (2.8)	5.3 (2.0)
11	0.7 (0.2)	0.5 (0.1)	9.7 (2.3)	6.9 (1.7)	14.8 (6.5)	10.6 (4.6)	0.7 (0.1)	4.5 (0.8)	3.2 (0.6)
12	0.5 (0.1)	0.3 (0.1)	7.6 (1.7)	5.5 (1.2)	12.5 (2.5)	8.9 (1.8)	0.6 (0.1)	3.5 (0.7)	2.5 (0.5)
13	0.6 (0.1)	0.4 (0.0)	5.8 (1.1)	4.2 (0.8)	11.1 (2.4)	8.0 (1.7)	0.8 (0.1)	2.7 (0.6)	1.9 (0.4)
14	0.6 (0.1)	0.4 (0.0)	5.8 (1.1)	4.2 (0.8)	10.5 (2.8)	7.6 (2.0)	0.8 (0.1)	2.5 (0.5)	1.8 (0.3)
15	0.4 (0.1)	0.3 (0.0)	3.9 (1.3)	2.8 (0.9)	6.2 (2.0)	4.5 (1.4)	0.6 (0.1)	1.9 (0.5)	1.4 (0.4)
16	0.5 (0.1)	0.3 (0.0)	8.2 (1.4)	5.9 (1.0)	15.3 (2.8)	11.0 (2.0)	0.6 (0.1)	3.4 (0.5)	2.4 (0.4)
17	0.5 (0.1)	0.3 (0.0)	9.6 (2.0)	6.9 (1.4)	16.4 (4.1)	11.9 (3.0)	0.8 (0.2)	3.4 (0.6)	2.4 (0.5)
18	0.4 (0.1)	0.3 (0.1)	7.3 (2.0)	5.2 (1.4)	10.4 (3.3)	7.3 (2.3)	0.6 (0.1)		
19	0.7 (0.1)		8.6 (2.1)	6.2 (1.5)	13.5 (3.0)	9.7 (2.1)	0.8 (0.2)		
20	0.6 (0.1)	0.4 (0.1)	7.7 (2.5)	5.5 (1.8)	11.7 (4.9)	8.4 (3.5)	0.6 (0.1)		
21	0.3 (0.1)	0.2 (0.0)	5.2 (0.9)	3.7 (0.6)	8.8 (1.2)	6.2 (0.9)	0.4 (0.1)	2.5 (0.4)	1.8 (0.3)
22	0.3 (0.1)		7.5 (1.8)	5.3 (1.3)	12.2 (2.1)	8.7 (1.5)	0.4 (0.1)	2.9 (0.4)	2.1 (0.3)
23	0.4 (0.1)	0.3 (0.1)	9.2 (1.4)	6.5 (1.0)	13.6 (1.2)	9.7 (0.9)	0.6 (0.1)	3.2 (0.4)	2.3 (0.3)
24	0.6 (0.1)	0.5 (0.1)	10.1 (1.8)	7.2 (1.3)	13.9 (2.1)	9.9 (1.5)	0.6 (0.1)	3.4 (0.4)	2.5 (0.3)
25	0.5 (0.1)	0.3 (0.1)	9.0 (2.3)	6.5 (1.7)	12.5 (2.9)	9.0 (2.1)	0.6 (0.1)	3.4 (0.5)	2.4 (0.4)
26	0.4 (0.0)	0.3 (0.0)	10.3 (2.0)	7.4 (1.4)	13.7 (4.6)	9.8 (3.3)	0.6 (0.1)	3.9 (0.4)	2.8 (0.3)
27	0.4 (0.1)	0.3 (0.1)	10.3 (2.3)	7.4 (1.7)	10.6 (1.6)	7.6 (1.2)	0.5 (0.1)	4.0 (0.5)	2.9 (0.4)
28	0.5 (0.1)	0.4 (0.1)	9.7 (2.4)	6.9 (1.8)	10.5 (2.8)	7.5 (2.0)	0.6 (0.1)	4.4 (0.8)	3.2 (0.6)
29	0.7 (0.1)	0.5 (0.0)	11.4 (1.9)	8.2 (1.4)	13.2 (2.0)	9.4 (1.4)	0.7 (0.1)	5.9 (0.6)	4.2 (0.4)
30	0.7 (0.1)	0.5 (0.1)	10.8 (2.4)	7.8 (1.7)	12.8 (2.7)	9.2 (1.9)	0.8 (0.1)	5.9 (1.0)	4.2 (0.7)
Avg	0.6	0.4	7.9	5.6	12.2	8.8	0.7	4.4	3.2
n	28	26	27	27	27	27	28	24	24
SD	0.1	0.1	2.2	1.6	2.5	1.8	0.1	1.7	1.2
Min	0.3	0.2	3.7	2.6	6.2	4.5	0.4	1.9	1.4
Max	0.8	0.6	11.4	8.2	16.5	11.9	0.9	8.1	5.8

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for December, 2008.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.6 (0.1)	0.4 (0.0)	11.2 (1.6)	8.0 (1.2)	13.0 (3.3)	9.3 (2.4)	0.7 (0.1)	6.6 (1.0)	4.7 (0.7)
2	0.6 (0.1)	0.4 (0.1)	11.4 (2.5)	8.2 (1.8)	12.6 (3.5)	9.0 (2.5)	0.6 (0.1)	8.0 (0.6)	5.8 (0.4)
3	0.5 (0.1)	0.4 (0.0)	10.6 (2.0)	7.5 (1.5)	12.9 (2.8)	9.2 (2.0)	0.6 (0.1)	7.7 (1.4)	5.5 (1.0)
4	0.5 (0.1)	0.4 (0.1)	10.0 (2.4)	7.1 (1.7)	11.7 (2.0)	8.3 (1.5)	0.6 (0.1)	6.2 (1.2)	4.4 (0.9)
5	0.6 (0.1)	0.5 (0.1)	8.3 (0.5)	6.0 (0.4)	11.7 (1.5)	8.4 (1.1)	0.6 (0.1)	8.0 (0.6)	5.8 (0.4)
6	0.6 (0.1)	0.4 (0.0)	8.8 (1.9)	6.3 (1.4)	14.3 (2.5)	10.2 (1.8)	0.7 (0.1)	8.2 (0.9)	5.9 (0.7)
7	0.5 (0.1)	0.4 (0.1)	10.0 (1.6)	7.1 (1.2)	14.7 (1.4)	10.5 (1.0)	0.6 (0.1)	8.2 (1.2)	5.8 (0.8)
8	0.6 (0.2)		11.2 (1.6)	8.0 (1.1)	16.5 (2.1)	11.8 (1.5)	0.6 (0.1)	6.9 (2.3)	4.9 (1.6)
9	0.5 (0.1)	0.3 (0.0)	6.9 (3.6)	5.0 (2.6)	9.7 (5.1)	6.9 (3.6)	0.6 (0.1)	2.9 (0.6)	2.0 (0.5)
10	0.4 (0.1)	0.3 (0.1)	3.5 (1.3)	2.5 (0.9)	5.7 (1.6)	4.1 (1.1)	0.6 (0.1)	2.2 (0.6)	1.6 (0.5)
11	0.5 (0.1)	0.4 (0.1)	3.4 (1.2)	2.5 (0.9)	5.5 (2.0)	4.0 (1.4)	0.6 (0.1)	1.8 (0.4)	1.3 (0.3)
12	0.5 (0.1)	0.3 (0.1)	6.2 (1.3)	4.4 (0.9)	8.5 (1.7)	6.1 (1.2)	0.5 (0.1)	2.9 (0.7)	2.1 (0.5)
13	0.4 (0.1)	0.3 (0.1)	10.4 (1.9)	7.4 (1.4)	13.5 (2.5)	9.6 (1.8)	0.6 (0.1)	3.5 (0.7)	2.5 (0.5)
14	0.5 (0.1)	0.3 (0.1)	9.2 (2.8)	6.6 (2.0)	13.3 (2.4)	9.5 (1.7)	0.7 (0.1)	3.6 (0.6)	2.6 (0.5)
15	0.4 (0.1)	0.3 (0.1)	5.4 (1.4)	3.9 (1.0)	9.8 (3.6)	7.1 (2.5)	0.6 (0.1)	2.5 (0.7)	1.8 (0.5)
16	0.5 (0.1)	0.4 (0.1)	6.2 (1.2)	4.4 (0.8)	10.4 (3.9)	7.5 (2.8)	0.6 (0.1)		
17	0.5 (0.1)	0.4 (0.1)	5.3 (1.3)	3.8 (0.9)	8.5 (2.2)	6.1 (1.6)	0.7 (0.1)		
18	0.5 (0.0)						0.6 (0.1)		
19	0.4 (0.1)	0.3 (0.0)	3.5 (1.1)	2.5 (0.8)	6.9 (2.6)	4.9 (1.8)	0.6 (0.1)	2.4 (0.7)	1.7 (0.5)
20	0.4 (0.1)	0.3 (0.0)	4.3 (1.1)	3.1 (0.8)	8.2 (1.9)	5.9 (1.4)	0.6 (0.1)	2.2 (0.5)	1.6 (0.4)
21	0.4 (0.1)	0.3 (0.1)	6.5 (1.6)	4.6 (1.1)	12.0 (2.2)	8.6 (1.6)	0.6 (0.1)	2.7 (0.5)	1.9 (0.3)
22	0.3 (0.1)		10.9 (1.7)	7.8 (1.3)	15.6 (1.6)	11.1 (1.2)	0.6 (0.1)	2.8 (0.4)	2.0 (0.3)
23	0.9 (0.5)		11.1 (0.9)	8.0 (0.7)	13.0 (2.9)	9.3 (2.1)	0.5 (0.1)	3.2 (0.4)	2.3 (0.3)
24	0.4 (0.1)	0.3 (0.1)	7.2 (3.1)	5.1 (2.2)	9.5 (3.2)	6.8 (2.3)	0.6 (0.1)	2.8 (0.7)	2.0 (0.5)
25									
26									
27									
28									
29									
30	0.5 (0.2)	0.4 (0.1)	10.1 (3.8)	7.2 (2.7)	13.1 (6.9)	9.4 (5.0)	0.6 (0.1)	3.6 (1.0)	2.6 (0.7)
31	0.5 (0.0)						0.6 (0.1)		
Avg	0.5	0.4	8	5.7	11.3	8.1	0.6	4.5	3.2
n	26	21	24	24	24	24	26	22	22
SD	0.1	0.1	2.7	1.9	2.9	2.1	0	2.3	1.7
Min	0.3	0.3	3.4	2.5	5.5	4.0	0.5	1.8	1.3
Max	0.9	0.5	11.4	8.2	16.5	11.8	0.7	8.2	5.9

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for January, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.3 (0.1)		10.7 (1.5)	7.7 (1.1)	16.5 (3.5)	11.8 (2.5)	0.5 (0.1)	4.0 (0.5)	2.9 (0.4)
2	0.6 (0.1)						0.7 (0.1)		
3	0.5 (0.0)	0.3 (0.0)					0.8 (0.0)		
4	0.6 (0.1)	0.4 (0.1)	9.6 (3.0)	6.9 (2.2)	15.9 (3.9)	11.4 (2.8)	0.8 (0.1)	4.4 (0.7)	3.2 (0.5)
5	0.7 (0.1)	0.5 (0.0)	7.1 (1.1)	5.2 (0.8)	12.4 (2.2)	8.9 (1.6)	0.8 (0.1)	3.3 (0.7)	2.3 (0.5)
6	0.6 (0.1)	0.4 (0.1)	7.6 (1.1)	5.9 (1.2)	11.5 (1.6)	8.3 (1.2)	0.8 (0.1)	3.0 (0.4)	2.2 (0.3)
7	0.6 (0.0)	0.4 (0.0)	8.6 (1.4)	6.7 (0.7)	11.3 (1.8)	8.1 (1.3)	0.8 (0.1)	2.7 (0.5)	1.9 (0.4)
8	0.4 (0.1)	0.3 (0.1)	11.7 (3.8)	8.4 (2.7)	14.0 (5.5)	10.0 (3.9)	0.7 (0.1)	3.4 (0.5)	2.4 (0.4)
9	0.4 (0.1)	0.3 (0.0)	10.0 (1.7)	7.1 (1.2)	15.9 (3.7)	11.3 (2.7)	0.6 (0.1)	3.7 (0.5)	2.6 (0.3)
10	0.5 (0.1)	0.3 (0.1)	9.7 (2.4)	7.0 (1.7)	15.1 (6.4)	10.8 (4.6)	0.7 (0.1)	3.2 (0.8)	2.3 (0.6)
11	0.6 (0.1)	0.4 (0.1)	9.8 (1.9)	7.0 (1.4)	12.8 (1.7)	9.2 (1.2)	0.7 (0.1)	3.1 (0.5)	2.2 (0.4)
12	0.6 (0.0)	0.4 (0.0)	12.4 (2.0)	8.9 (1.4)	17.9 (3.7)	12.8 (2.7)	0.7 (0.1)	4.3 (0.5)	3.0 (0.4)
13	0.5 (0.1)	0.4 (0.1)	12.0 (2.1)	8.5 (1.5)	15.3 (4.8)	11.0 (3.4)	0.6 (0.2)	3.2 (1.5)	
14	0.5 (0.1)	0.3 (0.1)	12.9 (2.2)	9.2 (1.6)	15.5 (2.6)	11.1 (1.9)	0.6 (0.1)	1.2 (0.3)	
15	0.4 (0.1)	0.3 (0.0)	10.4 (2.8)	7.4 (2.0)	15.5 (3.4)	11.1 (2.4)	0.6 (0.1)	1.9 (0.8)	
16	0.3 (0.0)		8.4 (1.9)	6.0 (1.4)	16.2 (3.1)	11.5 (2.2)	0.4 (0.1)	2.4 (0.3)	1.7 (0.2)
17	0.4 (0.0)		15.4 (2.2)	11.0 (1.6)	24.3 (3.2)	17.4 (2.3)	0.6 (0.1)	3.2 (0.4)	2.3 (0.3)
18	0.6 (0.1)	0.4 (0.1)	17.9 (1.8)	12.8 (1.3)	25.5 (3.2)	18.2 (2.3)	0.8 (0.1)	3.5 (0.5)	2.5 (0.4)
19	0.7 (0.1)	0.5 (0.1)	19.9 (2.3)	14.2 (1.6)	24.9 (5.7)	17.9 (4.1)	1.0 (0.1)	3.8 (0.5)	2.7 (0.4)
20	0.9 (0.1)						0.9 (0.1)	3.8 (0.6)	2.7 (0.4)
21	0.6 (0.1)		21.4 (2.6)	15.3 (1.8)	29.1 (4.6)	20.8 (3.3)	0.9 (0.1)	4.2 (0.5)	3.0 (0.4)
22	0.6 (0.0)		16.7 (4.8)	12.0 (3.5)	21.2 (5.7)	15.2 (4.1)	0.8 (0.1)	3.9 (0.5)	2.8 (0.4)
23	0.5 (0.1)	0.4 (0.1)	12.1 (2.1)	8.6 (1.5)	16.3 (2.7)	11.7 (1.9)	0.8 (0.1)	4.1 (0.5)	2.9 (0.3)
24	0.7 (0.1)	0.5 (0.1)	12.7 (2.6)	9.1 (1.9)	17.9 (3.1)	12.8 (2.2)	0.8 (0.1)	4.2 (0.5)	3.0 (0.4)
25	0.6 (0.1)	0.4 (0.0)	11.9 (1.0)	8.5 (0.7)	22.6 (2.8)	16.2 (2.0)	0.6 (0.1)	4.3 (0.5)	3.1 (0.3)
26	0.8 (0.1)	0.5 (0.1)	15.1 (2.3)	10.8 (1.7)	22.4 (3.7)	16.0 (2.6)	0.8 (0.1)	5.1 (0.7)	3.6 (0.5)
27	0.7 (0.1)	0.5 (0.1)	14.2 (1.6)	10.1 (1.1)	16.2 (5.8)	11.6 (4.1)	0.8 (0.1)	5.8 (0.6)	4.2 (0.5)
28	0.6 (0.0)	0.4 (0.0)	9.2 (4.2)	6.6 (3.0)	10.8 (3.7)	7.7 (2.7)	0.8 (0.1)	4.5 (1.3)	3.2 (1.0)
29	0.7 (0.1)	0.5 (0.1)	11.5 (2.1)	8.2 (1.5)	17.6 (2.7)	12.6 (1.9)	0.7 (0.1)	6.1 (0.7)	4.4 (0.5)
30	0.6 (0.2)	0.4 (0.1)	12.0 (2.8)	8.6 (2.0)	23.0 (4.3)	16.5 (3.1)	0.7 (0.1)	6.5 (0.8)	4.7 (0.6)
31	0.6 (0.1)		14.0 (2.2)	10.0 (1.6)	25.0 (2.5)	17.9 (1.8)	0.7 (0.1)	6.2 (0.5)	4.4 (0.4)
Avg	0.6	0.4	12.3	8.8	18	12.9	0.7	3.9	2.9
n	31	23	28	28	28	28	31	29	26
SD	0.1	0.1	3.5	2.4	4.8	3.5	0.1	1.2	0.8
Min	0.3	0.3	7.1	5.2	10.8	7.7	0.4	1.2	1.7
Max	0.9	0.5	21.4	15.3	29.1	20.8	1.0	6.5	4.7

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for February, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.6 (0.1)	0.4 (0.0)	12.5 (3.8)	8.9 (2.7)	21.7 (4.6)	15.5 (3.3)	0.7 (0.1)	6.0 (0.9)	4.3 (0.7)
2	0.5 (0.0)	0.4 (0.0)	12.2 (4.6)	8.7 (3.3)	18.6 (7.6)	13.3 (5.5)	0.8 (0.1)	5.2 (1.5)	3.7 (1.1)
3	0.6 (0.1)	0.4 (0.1)	12.1 (1.7)	8.7 (1.2)	14.4 (1.9)	10.3 (1.4)	0.6 (0.1)	3.9 (0.4)	2.8 (0.3)
4	0.6 (0.2)		11.8 (1.4)	8.4 (1.0)	15.5 (3.1)	11.0 (2.2)	0.6 (0.1)	3.7 (0.4)	2.7 (0.3)
5	0.4 (0.0)		13.2 (2.2)	9.4 (1.6)	16.9 (3.6)	12.0 (2.6)	0.6 (0.1)	3.8 (0.5)	2.7 (0.3)
6	0.5 (0.1)		14.4 (3.0)	10.3 (2.2)	18.5 (2.4)	13.2 (1.7)	0.6 (0.1)	4.0 (0.6)	2.8 (0.4)
7	0.4 (0.1)	0.3 (0.0)	11.9 (5.8)	8.5 (4.1)	17.2 (6.3)	12.3 (4.5)	0.7 (0.1)	3.1 (0.9)	2.2 (0.6)
8	0.5 (0.0)	0.4 (0.0)	8.2 (3.9)	5.9 (2.8)	15.2 (6.9)	10.9 (5.0)	0.7 (0.1)	2.6 (0.7)	1.9 (0.5)
9	0.5 (0.2)	0.4 (0.1)	9.9 (3.4)	7.1 (2.5)	16.2 (6.2)	11.6 (4.4)	0.7 (0.1)	2.8 (0.7)	2.0 (0.5)
10	0.6 (0.1)		7.7 (4.7)		11.3 (8.0)		0.8 (0.1)		
11	0.5 (0.1)		4.1 (1.9)		6.7 (2.5)		0.7 (0.2)		
12	0.4 (0.1)		4.8 (1.7)		8.0 (2.5)		0.7 (0.1)	2.6 (1.3)	
13	0.7 (0.2)		4.4 (1.6)		10.8 (3.7)		0.7 (0.2)	3.7 (0.9)	
14	0.7 (0.1)		7.1 (1.4)		14.3 (2.3)		1.0 (0.1)	4.2 (0.5)	
15	0.8 (0.1)		9.0 (1.6)		16.0 (2.8)		0.9 (0.1)	4.8 (0.6)	
16	0.9 (0.1)		11.7 (1.0)		19.6 (3.3)		1.0 (0.1)	5.2 (0.6)	
17	0.6 (0.1)		12.1 (2.8)		17.3 (7.4)		0.9 (0.1)	5.1 (0.6)	
18	0.8 (0.1)		9.4 (3.4)		11.6 (3.3)		1.3 (0.3)	4.5 (0.9)	
19	0.8 (0.2)		6.7 (1.0)		11.5 (2.0)		1.0 (0.1)	3.6 (0.6)	
20	0.8 (0.1)		12.4 (2.2)		19.2 (3.1)		0.9 (0.1)	4.6 (0.8)	
21	0.9 (0.1)		15.1 (2.5)		23.0 (4.9)		1.2 (0.1)	5.7 (1.0)	
22	1.0 (0.1)		14.2 (3.1)		22.8 (4.8)		1.3 (0.2)	6.9 (1.1)	
23	1.0 (0.1)		17.0 (2.3)		23.5 (7.3)		1.1 (0.1)	7.1 (0.7)	
24	0.9 (0.1)		14.3 (2.6)		17.3 (4.8)		1.1 (0.1)	5.5 (1.7)	
25	0.9 (0.1)		14.9 (2.2)		19.2 (2.6)		1.2 (0.1)	5.1 (1.1)	
26	0.9 (0.1)		14.6 (4.3)		16.9 (6.2)		1.2 (0.1)	3.5 (0.7)	
27	0.7 (0.2)		8.9 (4.9)		12.3 (5.1)		1.0 (0.2)	3.0 (1.1)	
28	0.9 (0.1)		10.2 (2.2)		14.9 (2.7)		1.2 (0.2)	3.4 (0.8)	
Avg	0.7	0.4	10.9	8.4	16.1	12.2	0.9	4.4	2.8
n	28	6	28	9	28	9	28	26	9
SD	0.2	0	3.4	1.2	4.2	1.5	0.2	1.2	0.7
Min	0.4	0.3	4.1	5.9	6.7	10.3	0.6	2.6	1.9
Max	1.0	0.4	17.0	10.3	23.5	15.5	1.3	7.1	4.3

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for March, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	1.0 (0.1)		12.1 (1.0)		16.5 (1.8)		1.0 (0.1)	2.9 (0.6)	
2	0.8 (0.1)		13.1 (1.8)		15.6 (3.2)		0.9 (0.1)	3.4 (0.6)	
3	0.9 (0.2)		12.4 (1.1)		13.3 (2.9)		0.7 (0.1)	3.4 (0.5)	
4	0.9 (0.1)		18.5 (2.5)		21.0 (3.4)		1.2 (0.3)	4.3 (0.9)	
5	1.0 (0.1)	0.7 (0.1)	16.0 (4.4)	11.4 (3.1)	21.4 (6.8)	15.3 (4.9)	1.4 (0.2)	3.9 (0.8)	2.8 (0.6)
6	1.0 (0.1)	0.7 (0.1)	11.8 (6.7)	8.4 (4.8)	15.0 (8.1)	10.8 (5.8)	1.2 (0.2)	3.6 (1.3)	2.6 (0.9)
7	0.8 (0.1)	0.6 (0.1)	8.5 (5.1)	6.1 (3.6)	10.1 (5.2)	7.2 (3.8)	1.1 (0.2)	3.0 (1.2)	2.2 (0.9)
8	0.8 (0.1)	0.6 (0.1)	6.6 (3.7)	4.7 (2.6)	8.7 (4.8)	6.2 (3.4)	1.0 (0.3)	2.6 (1.0)	1.9 (0.7)
9	0.8 (0.3)	0.6 (0.2)	6.1 (3.7)	4.3 (2.7)	8.2 (4.6)	5.9 (3.3)	0.9 (0.3)	2.9 (1.2)	2.1 (0.9)
10	1.0 (0.1)	0.7 (0.1)	6.9 (3.4)	4.9 (2.5)			1.1 (0.1)		
11	0.6 (0.1)	0.4 (0.1)	4.7 (2.9)	3.4 (2.1)	6.1 (2.8)	4.4 (2.0)	1.0 (0.3)		
12	0.8 (0.2)	0.6 (0.1)	7.7 (1.3)	5.5 (1.0)	9.3 (1.9)	6.6 (1.4)	0.9 (0.1)		
13	1.1 (0.1)	0.8 (0.1)	9.2 (1.0)	6.6 (0.7)	15.9 (2.6)	11.3 (1.9)	1.2 (0.1)	5.6 (0.9)	4.0 (0.6)
14	1.3 (0.1)	0.9 (0.0)	12.1 (1.5)	8.7 (1.1)	19.8 (3.4)	14.2 (2.5)	1.5 (0.1)	4.8 (0.7)	3.4 (0.5)
15	1.8 (0.4)	1.3 (0.3)					1.4 (0.1)		
16	1.2 (0.3)	0.9 (0.2)	16.0 (2.5)	11.4 (1.8)	16.4 (2.4)	11.8 (1.7)	1.0 (0.1)	4.0 (0.6)	2.9 (0.4)
17	0.7 (0.1)	0.5 (0.1)	11.8 (2.8)	8.5 (2.0)	12.6 (3.6)	9.0 (2.6)	0.8 (0.1)	3.7 (0.7)	2.6 (0.5)
18	0.5 (0.2)	0.4 (0.1)	10.9 (3.7)	7.8 (2.7)	13.8 (3.8)	9.8 (2.8)	0.7 (0.1)	3.5 (0.9)	2.5 (0.7)
19	0.6 (0.1)	0.4 (0.1)	9.4 (6.2)	6.7 (4.4)	12.7 (7.2)	9.1 (5.2)	0.7 (0.2)	3.1 (1.2)	2.2 (0.8)
20	0.6 (0.1)	0.5 (0.1)	12.9 (2.6)	9.2 (1.9)	15.2 (3.5)	10.9 (2.5)	0.7 (0.1)	4.3 (0.7)	3.1 (0.5)
21	0.6 (0.1)	0.4 (0.1)	16.0 (2.3)	11.5 (1.6)	17.8 (4.5)	12.7 (3.2)	0.7 (0.1)	4.8 (0.7)	3.4 (0.5)
22	0.8 (0.2)	0.5 (0.1)	15.9 (5.3)	11.5 (3.7)	18.8 (5.0)	13.4 (3.6)	0.9 (0.2)	4.6 (0.8)	3.3 (0.6)
23	0.8 (0.1)	0.6 (0.1)	13.1 (5.7)	9.4 (4.1)	15.1 (6.7)	10.8 (4.8)	1.1 (0.2)	4.1 (1.1)	2.9 (0.8)
24	0.9 (0.0)	0.6 (0.0)	12.7 (3.3)	9.1 (2.4)	13.3 (6.4)	9.5 (4.6)	1.0 (0.2)	4.3 (1.0)	3.0 (0.7)
25	0.9 (0.1)	0.6 (0.1)	11.5 (4.5)	8.2 (3.2)	12.7 (1.7)	9.1 (1.2)	1.0 (0.1)	4.0 (0.7)	2.9 (0.5)
26	1.0 (0.1)	0.7 (0.1)	6.1 (2.1)	4.4 (1.6)	9.2 (3.5)	6.6 (2.5)	1.2 (0.1)	3.1 (0.8)	2.2 (0.5)
27	1.1 (0.1)	0.8 (0.1)	4.5 (0.7)	3.2 (0.5)	8.3 (1.9)	5.9 (1.4)	1.3 (0.1)	2.9 (0.6)	2.0 (0.4)
28	1.2 (0.1)	0.8 (0.1)	4.5 (1.3)	3.3 (0.9)	7.5 (2.1)	5.4 (1.5)	1.4 (0.1)	2.7 (0.6)	1.9 (0.4)
29	0.9 (0.2)	0.7 (0.1)	4.4 (1.6)	3.1 (1.2)	7.9 (2.9)	5.7 (2.1)	1.1 (0.2)	2.4 (0.8)	1.7 (0.5)
30	0.6 (0.1)	0.4 (0.1)	6.7 (1.8)	4.8 (1.3)	12.9 (4.3)	9.3 (3.1)	0.8 (0.1)	3.0 (0.8)	2.1 (0.6)
31	0.6 (0.2)	0.4 (0.2)	6.5 (3.9)	4.6 (2.8)	10.7 (6.8)	7.6 (4.9)	0.8 (0.3)	2.2 (1.2)	
Avg	0.9	0.6	10.3	7	13.3	9.1	1	3.6	2.6
n	31	27	30	26	29	25	31	27	22
SD	0.3	0.2	4	2.8	4.1	2.9	0.2	0.8	0.6
Min	0.5	0.4	4.4	3.1	6.1	4.4	0.7	2.2	1.7
Max	1.8	1.3	18.5	11.5	21.4	15.3	1.5	5.6	4.0

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for April, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.7 (0.1)	0.5 (0.0)	5.9 (1.6)	4.2 (1.1)	8.4 (1.8)	6.0 (1.3)	0.9 (0.2)	1.4 (0.4)	
2	0.6 (0.1)	0.4 (0.1)	6.1 (1.5)	4.4 (1.1)	8.8 (2.2)	6.3 (1.6)	1.0 (0.1)	1.9 (0.6)	
3	0.6 (0.1)	0.4 (0.1)	4.0 (1.6)	2.8 (1.1)	6.6 (2.3)	4.8 (1.7)	0.8 (0.3)	1.7 (0.6)	1.2 (0.4)
4	0.5 (0.1)	0.4 (0.1)	6.0 (2.6)	4.3 (1.8)	9.9 (4.2)	7.0 (3.0)	0.7 (0.1)	2.7 (0.9)	1.9 (0.7)
5	0.6 (0.2)	0.4 (0.1)	5.5 (3.6)	4.0 (2.5)	8.7 (5.4)	6.2 (3.9)	0.7 (0.3)	2.6 (1.4)	1.9 (1.0)
6	0.7 (0.2)	0.5 (0.2)	5.4 (1.6)	3.9 (1.1)	7.8 (2.2)	5.6 (1.6)	0.9 (0.2)	2.4 (0.8)	1.7 (0.5)
7	0.5 (0.1)	0.4 (0.1)	9.4 (2.0)	6.7 (1.5)	11.4 (3.9)	8.1 (2.8)	0.8 (0.1)	4.4 (0.7)	3.1 (0.5)
8	0.6 (0.1)	0.5 (0.1)	9.5 (2.4)	6.8 (1.7)	11.7 (2.6)	8.4 (1.8)	0.9 (0.1)	4.1 (0.9)	3.0 (0.6)
9	0.6 (0.1)	0.4 (0.1)	6.8 (2.5)	4.8 (1.8)	9.7 (2.9)	6.9 (2.1)	0.8 (0.2)	3.5 (1.1)	2.5 (0.8)
10	0.6 (0.2)	0.4 (0.2)	3.7 (2.3)	2.6 (1.6)	7.2 (4.2)	5.2 (3.0)	0.7 (0.3)	2.4 (1.3)	1.7 (0.9)
11	0.7 (0.2)	0.5 (0.1)	5.6 (1.9)	4.0 (1.4)	9.2 (3.0)	6.6 (2.2)	0.8 (0.2)	2.5 (0.8)	1.8 (0.6)
12	0.6 (0.1)	0.4 (0.1)	9.2 (2.8)	6.6 (2.0)	13.9 (3.1)	9.9 (2.3)	1.0 (0.2)	3.7 (0.7)	2.6 (0.5)
13	0.8 (0.1)	0.6 (0.0)	10.1 (2.5)	7.2 (1.8)	12.5 (6.1)	9.0 (4.4)	1.1 (0.1)	4.1 (1.1)	2.9 (0.8)
14	0.7 (0.2)	0.5 (0.1)	6.1 (1.5)	4.4 (1.1)	6.6 (1.4)	4.8 (1.0)	0.9 (0.1)	2.6 (0.5)	1.8 (0.3)
15	0.8 (0.1)	0.5 (0.1)	6.8 (1.6)	4.8 (1.2)	8.8 (1.7)	6.3 (1.2)	0.9 (0.1)	3.1 (0.6)	2.2 (0.5)
16	0.7 (0.2)	0.5 (0.1)	8.1 (2.4)	5.8 (1.8)	10.9 (2.7)	7.8 (2.0)	0.8 (0.1)	3.3 (0.8)	2.4 (0.6)
17	0.5 (0.1)	0.3 (0.1)	7.9 (3.7)	5.6 (2.7)	12.1 (5.7)	8.7 (4.1)	0.8 (0.1)	3.3 (1.1)	2.3 (0.8)
18	0.5 (0.2)	0.4 (0.1)	5.7 (3.5)	4.1 (2.5)	9.4 (6.0)	6.7 (4.3)	0.7 (0.2)	2.6 (1.4)	1.8 (1.0)
19	0.5 (0.2)	0.4 (0.1)	5.4 (2.7)	3.9 (1.9)	9.4 (4.8)	6.8 (3.5)	0.8 (0.2)	2.3 (1.0)	1.7 (0.7)
20	0.6 (0.2)	0.4 (0.1)	4.8 (2.3)	3.5 (1.7)	7.6 (3.2)	5.5 (2.3)	0.8 (0.2)	2.1 (0.8)	1.5 (0.6)
21	0.6 (0.1)	0.4 (0.1)	5.3 (3.1)	3.8 (2.2)	7.4 (4.6)	5.3 (3.3)	0.7 (0.3)	2.0 (0.9)	1.4 (0.7)
22	0.5 (0.1)	0.4 (0.0)	6.5 (1.7)	4.7 (1.2)	7.8 (2.4)	5.5 (1.8)	0.8 (0.1)	2.3 (0.7)	1.7 (0.5)
23	0.7 (0.1)	0.5 (0.1)	5.6 (4.2)	4.0 (3.0)	6.8 (4.4)	4.9 (3.2)	0.7 (0.3)	2.0 (1.2)	1.5 (0.8)
24	0.5 (0.2)	0.4 (0.1)	3.1 (2.4)	2.2 (1.7)	5.6 (4.4)	4.0 (3.1)	0.7 (0.3)	1.6 (0.9)	1.2 (0.7)
25	0.5 (0.2)	0.4 (0.1)	2.1 (1.3)	1.5 (1.0)	4.2 (3.3)	3.0 (2.4)	0.6 (0.2)	1.3 (0.7)	0.9 (0.5)
26	0.5 (0.1)	0.3 (0.1)	3.0 (2.6)	2.2 (1.9)	5.0 (4.4)	3.6 (3.2)	0.7 (0.4)	1.5 (0.9)	1.1 (0.7)
27	0.3 (0.3)	0.2 (0.2)	3.8 (3.1)	2.7 (2.2)	5.8 (4.6)	4.1 (3.3)	0.6 (0.3)	1.7 (1.0)	1.2 (0.7)
28	0.4 (0.2)	0.3 (0.2)	4.0 (3.9)	2.9 (2.8)	5.6 (5.5)	4.1 (4.0)	0.7 (0.3)		
29	0.4 (0.3)	0.3 (0.2)	3.0 (2.3)	2.2 (1.7)	5.4 (3.8)	3.9 (2.7)	0.6 (0.3)		
30	0.6 (0.2)	0.4 (0.1)	4.7 (3.0)	3.4 (2.1)	9.3 (5.7)	6.7 (4.1)	0.9 (0.2)		
Avg	0.6	0.4	5.8	4.1	8.5	6.1	0.8	2.6	1.9
n	30	30	30	30	30	30	30	27	25
SD	0.1	0.1	2	1.4	2.4	1.7	0.1	0.8	0.6
Min	0.3	0.2	2.1	1.5	4.2	3.0	0.6	1.3	0.9
Max	0.8	0.6	10.1	7.2	13.9	9.9	1.1	4.4	3.1

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for May, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.6 (0.1)	0.4 (0.1)	3.3 (2.6)	2.3 (1.9)	5.7 (3.9)	4.1 (2.8)	0.7 (0.3)	1.7 (0.9)	1.2 (0.6)
2	0.5 (0.2)	0.3 (0.1)	2.5 (1.8)	1.8 (1.3)	4.7 (3.2)	3.4 (2.3)	0.7 (0.3)	1.4 (0.6)	1.0 (0.4)
3	0.5 (0.2)	0.4 (0.2)	2.4 (1.7)	1.8 (1.2)	4.7 (3.4)	3.4 (2.5)	0.6 (0.2)	1.5 (0.7)	1.1 (0.5)
4	0.5 (0.2)	0.4 (0.2)	2.6 (1.7)	1.9 (1.2)	4.8 (2.8)	3.4 (2.0)	0.7 (0.2)	1.5 (0.7)	1.1 (0.5)
5	0.7 (0.1)	0.5 (0.1)	4.4 (2.9)	3.2 (2.1)	6.9 (4.4)	5.0 (3.2)	1.0 (0.2)	2.1 (0.8)	1.5 (0.6)
6	0.5 (0.1)	0.3 (0.1)	2.0 (1.2)	1.4 (0.9)	3.8 (1.9)	2.8 (1.4)	0.7 (0.2)	1.6 (0.6)	1.1 (0.4)
7	0.4 (0.1)	0.3 (0.0)	2.1 (1.4)	1.5 (1.0)	4.4 (2.5)	3.2 (1.8)	0.7 (0.2)	1.6 (0.7)	1.2 (0.5)
8	0.6 (0.3)	0.4 (0.2)	2.1 (1.8)	1.5 (1.3)	4.5 (3.7)	3.2 (2.7)	0.7 (0.2)	1.6 (0.8)	1.1 (0.6)
9	0.4 (0.2)	0.3 (0.1)	1.2 (0.8)	0.9 (0.6)	2.7 (1.9)	1.9 (1.4)	0.6 (0.2)	1.1 (0.4)	0.8 (0.3)
10	0.3 (0.1)	0.2 (0.1)	2.5 (1.5)	1.8 (1.1)	4.4 (1.9)	3.1 (1.4)	0.6 (0.1)	1.5 (0.6)	1.0 (0.5)
11	0.9 (0.1)	0.6 (0.1)	8.8 (2.1)	6.3 (1.5)	12.0 (2.7)	8.6 (1.9)	1.1 (0.2)	3.0 (0.7)	2.2 (0.5)
12	0.7 (0.1)	0.5 (0.1)	8.1 (6.6)	5.8 (4.7)	9.8 (7.6)	7.1 (5.5)	0.9 (0.3)	2.7 (1.4)	1.9 (1.0)
13	0.6 (0.3)	0.4 (0.2)	4.8 (3.7)	3.4 (2.8)	7.2 (3.9)	5.1 (3.0)	0.7 (0.2)	2.0 (1.0)	1.4 (0.7)
14	0.6 (0.1)	0.4 (0.1)	4.1 (3.0)	2.9 (2.1)	6.6 (4.7)	4.8 (3.4)	0.8 (0.2)	1.9 (0.8)	1.4 (0.6)
15	0.7 (0.1)	0.5 (0.1)	3.4 (2.2)	2.5 (1.6)	5.1 (2.7)	3.7 (1.9)	1.0 (0.1)	1.9 (0.7)	1.4 (0.5)
16	0.6 (0.1)	0.4 (0.1)	2.2 (1.2)	1.5 (0.9)	4.2 (2.0)	3.0 (1.5)	0.9 (0.3)	1.4 (0.4)	1.0 (0.3)
17	0.9 (0.2)	0.6 (0.1)	5.7 (3.7)	4.1 (2.7)	7.7 (3.1)	5.6 (2.2)	0.9 (0.1)	2.3 (1.0)	1.7 (0.7)
18	1.1 (0.0)	0.8 (0.0)	12.3 (2.9)	8.9 (2.1)	14.4 (2.1)	10.4 (1.6)	1.2 (0.1)	3.8 (0.6)	2.7 (0.4)
19	0.9 (0.3)	0.7 (0.2)	9.0 (4.8)	6.4 (3.4)	11.0 (4.7)	7.9 (3.4)	0.9 (0.3)	2.8 (0.9)	2.0 (0.7)
20	0.6 (0.2)	0.5 (0.2)	4.4 (3.4)	3.2 (2.5)	7.2 (4.5)	5.1 (3.2)	0.8 (0.2)	2.1 (1.1)	1.5 (0.8)
21	0.4 (0.2)	0.3 (0.1)	2.5 (2.4)	1.8 (1.7)	5.7 (4.6)	4.1 (3.3)	0.5 (0.3)	1.5 (0.9)	1.1 (0.7)
22	0.9 (0.3)	0.6 (0.2)	2.7 (2.1)	2.0 (1.5)	7.5 (6.3)	5.4 (4.5)	1.1 (0.4)	2.2 (1.0)	1.6 (0.7)
23	1.3 (0.6)	1.0 (0.4)	3.5 (2.9)	2.5 (2.1)	8.7 (7.5)	6.2 (5.4)	1.3 (0.5)	2.6 (1.4)	1.9 (1.0)
24	0.9 (0.1)	0.7 (0.1)	3.3 (3.0)	2.4 (2.2)	7.5 (6.0)	5.4 (4.3)	1.3 (0.4)	2.2 (1.0)	1.6 (0.7)
25	0.9 (0.2)	0.7 (0.1)	3.5 (3.0)	2.5 (2.1)	7.8 (6.1)	5.6 (4.4)	1.2 (0.4)	2.2 (0.9)	1.6 (0.7)
26	1.0 (0.3)		2.7 (2.0)	2.0 (1.4)	5.6 (4.0)	4.0 (2.9)	1.2 (0.3)	1.9 (1.0)	
27	0.9 (0.2)		3.4 (2.4)	2.4 (1.7)	5.6 (3.5)	4.0 (2.6)	1.3 (0.3)	1.3 (0.6)	
28									
29									
30									
31	1.1 (0.3)	0.8 (0.2)	4.1 (2.9)	3.0 (2.1)	7.1 (6.3)	5.1 (4.5)	1.4 (0.3)	2.3 (0.9)	1.6 (0.6)
Avg	0.7	0.5	4.1	2.9	6.7	4.8	0.9	2	1.5
n	28	26	28	28	28	28	28	28	26
SD	0.2	0.2	2.5	1.8	2.6	1.9	0.3	0.6	0.4
Min	0.3	0.2	1.2	0.9	2.7	1.9	0.5	1.1	0.8
Max	1.3	1.0	12.3	8.9	14.4	10.4	1.4	3.8	2.7

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for June, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	1.2 (0.4)	0.9 (0.3)	3.7 (1.7)	2.6 (1.3)	5.4 (2.9)	3.9 (2.1)	1.4 (0.2)	2.3 (0.7)	1.6 (0.5)
2	0.9 (0.2)	0.7 (0.2)	2.7 (1.8)	1.9 (1.3)	3.8 (3.1)	2.8 (2.2)	1.2 (0.4)	1.8 (0.8)	1.3 (0.5)
3	0.8 (0.0)	0.6 (0.0)					0.9 (0.1)		
4	0.9 (0.1)	0.6 (0.1)	2.4 (1.4)	1.7 (1.0)	4.1 (2.3)	2.9 (1.7)	1.1 (0.2)	1.9 (0.7)	1.3 (0.5)
5	0.9 (0.1)	0.6 (0.1)	2.3 (1.1)	1.6 (0.8)	4.6 (2.3)	3.3 (1.7)	1.1 (0.1)	2.0 (0.6)	1.4 (0.4)
6	1.4 (0.1)	1.0 (0.1)	5.5 (2.0)	4.0 (1.4)	8.8 (2.5)	6.4 (1.8)	1.4 (0.2)	3.0 (0.6)	2.1 (0.5)
7	1.2 (0.3)	0.9 (0.2)	3.8 (1.8)	2.7 (1.3)	7.4 (3.3)	5.3 (2.4)	1.4 (0.3)	2.6 (0.8)	1.9 (0.5)
8	1.3 (0.2)	0.9 (0.2)					1.5 (0.2)		
9	1.1 (0.1)	0.8 (0.1)	2.7 (1.1)	1.9 (0.8)	4.9 (2.6)	3.6 (1.9)	1.3 (0.3)	2.1 (0.6)	1.5 (0.4)
10	1.1 (0.2)	0.8 (0.1)	3.4 (2.3)	2.4 (1.6)	5.8 (3.6)	4.2 (2.6)	1.2 (0.3)	2.2 (0.9)	1.6 (0.6)
11	1.0 (0.1)	0.7 (0.1)	2.1 (0.6)	1.5 (0.4)	4.1 (2.3)	3.0 (1.7)	1.3 (0.1)	2.0 (0.5)	1.4 (0.3)
12	0.9 (0.0)	0.6 (0.0)	2.6 (1.3)	1.9 (0.9)	4.2 (2.8)	3.0 (2.0)	1.3 (0.2)	1.9 (0.5)	1.4 (0.4)
13	0.9 (0.1)	0.7 (0.1)	2.3 (0.5)	1.6 (0.4)	3.6 (1.4)	2.6 (1.0)	1.2 (0.1)	1.8 (0.4)	1.3 (0.3)
14	1.0 (0.1)	0.7 (0.1)	2.8 (0.9)	2.0 (0.7)	4.4 (2.1)	3.1 (1.5)	1.1 (0.2)	2.0 (0.5)	1.4 (0.4)
15	1.1 (0.1)						1.1 (0.1)		
16	1.2 (0.1)						1.4 (0.1)		
17	1.1 (0.1)	0.8 (0.1)	2.8 (1.6)	2.0 (1.2)	5.7 (2.7)	4.1 (2.0)	1.3 (0.2)	2.3 (0.7)	1.7 (0.5)
18	1.2 (0.1)	0.8 (0.1)	2.4 (1.2)	1.7 (0.9)	4.8 (2.8)	3.5 (2.0)	1.3 (0.2)	2.2 (0.7)	1.6 (0.5)
19	0.9 (0.1)	0.7 (0.1)	1.9 (0.4)	1.4 (0.3)	3.7 (1.4)	2.7 (1.0)	1.2 (0.1)	2.0 (0.4)	1.4 (0.3)
20	1.1 (0.1)		2.4 (0.6)		3.5 (1.3)		1.5 (0.2)		
21	1.0 (0.1)		2.2 (0.4)		3.4 (1.0)		1.2 (0.2)		
22	1.2 (0.2)		3.3 (2.0)		4.4 (2.1)		1.2 (0.2)		
23	1.1 (0.3)		3.4 (2.3)		4.3 (3.1)		1.1 (0.3)		
24	1.1 (0.1)		3.4 (2.4)		4.2 (3.3)		1.3 (0.3)		
25	1.2 (0.1)		3.3 (2.2)		4.3 (3.3)		1.2 (0.2)		
26	0.9 (0.1)		2.6 (0.9)				1.3 (0.2)		
27	1.1 (0.1)		3.0 (1.4)		4.0 (2.0)		1.4 (0.3)	2.1 (0.6)	
28	1.1 (0.1)		4.4 (4.6)		5.2 (4.9)		1.2 (0.5)	2.3 (1.0)	
29	0.8 (0.1)	0.6 (0.1)	2.1 (0.7)	1.5 (0.5)	3.4 (1.0)	2.5 (0.7)	1.1 (0.1)	1.8 (0.4)	1.3 (0.3)
30	0.8 (0.4)	0.6 (0.3)	3.6 (4.1)	2.6 (2.9)	4.2 (4.4)	3.0 (3.2)	0.9 (0.3)	2.0 (1.2)	1.5 (0.9)
Avg	1.1	0.7	3	2.1	4.6	3.5	1.2	2.1	1.5
n	30	19	26	17	25	17	30	19	17
SD	0.1	0.1	0.8	0.6	1.2	1	0.2	0.3	0.2
Min	0.8	0.6	1.9	1.4	3.4	2.5	0.9	1.8	1.3
Max	1.4	1.0	5.5	4.0	8.8	6.4	1.5	3.0	2.1

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for July, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.7 (0.1)	0.5 (0.1)	2.1 (1.4)	1.5 (1.0)	3.1 (2.3)	2.2 (1.6)	1.0 (0.2)	1.9 (0.7)	1.3 (0.5)
2	1.0 (0.2)	0.7 (0.2)	2.0 (1.3)	1.4 (1.0)	3.2 (1.6)	2.3 (1.2)	1.0 (0.3)	2.0 (0.6)	1.4 (0.4)
3	0.8 (0.3)	0.6 (0.2)	2.0 (1.2)	1.4 (0.8)	3.9 (2.0)	2.8 (1.5)	0.8 (0.1)	2.1 (0.9)	1.5 (0.6)
4	0.7 (0.2)	0.5 (0.1)	3.0 (2.6)	2.1 (1.9)	5.2 (3.9)	3.7 (2.8)	1.1 (0.4)	2.1 (1.0)	1.5 (0.7)
5	1.4 (0.2)	1.0 (0.2)	2.5 (1.3)	1.8 (0.9)	4.3 (1.7)	3.1 (1.2)	1.4 (0.2)	2.2 (0.5)	1.6 (0.3)
6	1.4 (0.2)	1.0 (0.2)	2.7 (0.8)	1.9 (0.6)	4.8 (1.6)	3.5 (1.2)	1.4 (0.2)	2.6 (0.8)	1.8 (0.6)
7	0.8 (0.2)	0.6 (0.1)	2.4 (1.8)	1.7 (1.3)	3.4 (2.4)	2.4 (1.7)	1.0 (0.4)	1.6 (0.6)	1.2 (0.4)
8	1.1 (0.4)	0.8 (0.3)	2.5 (1.6)	1.8 (1.2)	3.5 (2.3)	2.5 (1.6)	1.1 (0.3)	1.9 (0.7)	1.4 (0.5)
9	0.9 (0.1)	0.6 (0.1)	2.5 (1.0)	1.8 (0.7)	4.0 (1.5)	2.9 (1.1)	1.0 (0.2)	1.9 (0.5)	1.3 (0.4)
10	0.9 (0.1)	0.6 (0.1)	4.0 (3.2)	2.9 (2.3)	5.8 (4.5)	4.2 (3.2)	1.1 (0.3)	2.2 (1.0)	1.6 (0.7)
11	0.9 (0.2)	0.7 (0.1)	4.1 (3.3)	2.9 (2.4)	6.7 (5.3)	4.8 (3.8)	1.1 (0.2)	2.4 (1.1)	1.7 (0.8)
12	0.8 (0.1)	0.6 (0.1)	2.2 (0.5)	1.6 (0.4)	3.4 (1.6)	2.4 (1.1)	1.1 (0.2)	1.8 (0.4)	1.3 (0.3)
13	1.2 (0.1)	0.9 (0.1)	4.4 (1.8)	3.1 (1.3)	5.2 (1.4)	3.7 (1.0)	1.4 (0.2)	2.4 (0.6)	1.7 (0.4)
14	1.2 (0.2)	0.9 (0.1)	4.3 (3.1)	3.1 (2.2)	5.4 (3.8)	3.9 (2.7)	1.4 (0.3)		
15	1.1 (0.4)	0.8 (0.3)	3.0 (2.4)	2.0 (1.5)	4.4 (3.5)	3.2 (2.5)	1.3 (0.5)		
16									
17									
18									
19									
20									
21									
22	1.1 (0.2)	0.8 (0.2)	2.5 (1.4)	1.8 (1.0)	3.4 (2.1)	2.5 (1.5)	1.3 (0.3)	2.1 (0.7)	1.5 (0.5)
23	1.3 (0.1)	1.0 (0.1)	2.4 (0.7)	1.7 (0.5)	3.4 (1.2)		1.4 (0.3)	2.1 (0.5)	1.5 (0.4)
24	1.3 (0.1)	0.9 (0.1)	3.0 (1.0)	2.2 (0.7)	3.9 (1.3)		1.4 (0.1)	2.3 (0.5)	1.7 (0.4)
25	1.4 (0.2)	1.0 (0.1)	2.8 (0.8)	2.0 (0.6)	3.5 (1.2)		1.5 (0.2)	2.2 (0.5)	1.6 (0.3)
26	1.1 (0.2)	0.8 (0.2)	2.5 (0.6)	1.8 (0.5)	3.0 (1.1)		1.2 (0.2)	2.0 (0.5)	1.5 (0.3)
27	1.3 (0.2)						1.6 (0.3)		
28	0.8 (0.2)						0.8 (0.2)		
29	0.5 (0.1)		1.1 (0.2)		1.4 (0.3)		0.6 (0.0)	1.0 (0.2)	
30	0.5 (0.1)		1.1 (0.4)		1.4 (0.5)		0.7 (0.1)	1.0 (0.2)	
31	0.3 (0.1)	0.2 (0.1)	1.4 (0.2)	1.0 (0.1)	1.8 (0.4)	1.3 (0.3)	0.5 (0.2)	0.9 (0.3)	0.7 (0.2)
Avg	1	0.7	2.6	2	3.8	3	1.1	1.9	1.5
n	25	21	23	21	23	17	25	21	19
SD	0.3	0.2	0.9	0.6	1.3	0.8	0.3	0.4	0.2
Min	0.3	0.2	1.1	1.0	1.4	1.3	0.5	0.9	0.7
Max	1.4	1.0	4.4	3.1	6.7	4.8	1.6	2.6	1.8

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for August, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.2 (0.1)	0.2 (0.0)	1.6 (0.4)	1.1 (0.3)	2.1 (0.6)	1.5 (0.4)	0.3 (0.1)	0.8 (0.1)	0.5 (0.1)
2	0.2 (0.0)	0.2 (0.0)	1.6 (0.3)	1.1 (0.2)	2.2 (0.5)	1.6 (0.4)	0.3 (0.1)	0.8 (0.1)	0.5 (0.1)
3	0.3 (0.1)	0.2 (0.0)					0.3 (0.1)		
4	0.2 (0.1)	0.1 (0.1)	1.6 (0.9)	1.2 (0.7)	1.9 (1.2)	1.4 (0.8)	0.2 (0.1)	0.6 (0.1)	0.4 (0.1)
5	0.2 (0.0)						0.3 (0.1)		
6	0.2 (0.0)						0.3 (0.1)		
7	0.1 (0.1)	0.1 (0.1)	1.7 (1.0)	1.2 (0.7)	2.0 (1.1)	1.5 (0.8)	0.2 (0.1)	0.6 (0.1)	0.4 (0.1)
8	0.1 (0.0)	0.1 (0.0)	1.7 (1.1)	1.3 (0.8)	2.1 (1.2)	1.5 (0.9)	0.2 (0.1)	0.7 (0.2)	0.5 (0.1)
9	0.2 (0.1)	0.1 (0.0)	1.7 (0.6)	1.2 (0.4)	1.9 (0.8)	1.4 (0.6)	0.2 (0.1)	0.7 (0.1)	0.5 (0.1)
10	0.2 (0.1)	0.2 (0.0)	1.6 (0.5)	1.2 (0.4)	1.8 (0.6)	1.3 (0.5)	0.3 (0.1)	0.8 (0.2)	0.6 (0.1)
11			1.1 (0.3)	0.8 (0.2)	1.4 (0.5)	1.0 (0.4)	0.3 (0.0)		
12									
13									
14									
15									
16	0.3 (0.1)	0.2 (0.1)	1.7 (0.9)	1.2 (0.7)	2.5 (0.9)	1.8 (0.7)	0.3 (0.1)	0.6 (0.2)	0.5 (0.1)
17	0.4 (0.2)	0.3 (0.2)	1.8 (0.7)	1.3 (0.5)	2.4 (0.9)	1.7 (0.7)	0.3 (0.1)	0.7 (0.2)	0.5 (0.1)
18	0.2 (0.1)	0.1 (0.0)	1.3 (0.6)	0.9 (0.4)	1.6 (0.9)	1.1 (0.6)	0.2 (0.1)	0.6 (0.2)	0.4 (0.1)
19	0.2 (0.0)	0.2 (0.0)	1.2 (0.4)	0.9 (0.3)	1.5 (0.7)	1.1 (0.5)	0.3 (0.1)	0.6 (0.1)	0.4 (0.1)
20	0.2 (0.0)	0.1 (0.0)	1.3 (0.4)	0.9 (0.3)	1.9 (0.7)	1.3 (0.5)	0.3 (0.1)	0.7 (0.1)	0.5 (0.1)
21	0.2 (0.0)	0.2 (0.0)	1.2 (0.3)	0.8 (0.2)	1.9 (0.6)	1.4 (0.4)	0.3 (0.0)	0.8 (0.1)	0.6 (0.1)
22	0.2 (0.1)	0.2 (0.0)	2.1 (0.8)	1.5 (0.6)	2.2 (0.5)	1.6 (0.3)	0.3 (0.0)	0.9 (0.1)	0.7 (0.1)
23	0.2 (0.0)	0.2 (0.0)	2.5 (1.2)	1.8 (0.9)	2.7 (1.2)	2.0 (0.9)	0.3 (0.0)	1.0 (0.3)	0.7 (0.2)
24	0.2 (0.0)	0.2 (0.0)	2.4 (1.3)	1.7 (0.9)	3.3 (1.5)	2.4 (1.1)	0.3 (0.1)	1.0 (0.3)	0.7 (0.2)
25	0.2 (0.1)	0.2 (0.1)	2.1 (1.3)	1.6 (0.9)	3.0 (1.6)	2.2 (1.1)	0.2 (0.0)	0.9 (0.3)	0.6 (0.2)
26	0.3 (0.1)	0.2 (0.1)	2.1 (1.4)	1.5 (1.0)	2.7 (1.4)	2.0 (1.0)	0.3 (0.1)	0.8 (0.2)	0.6 (0.2)
27	0.2 (0.1)	0.2 (0.1)	1.4 (1.2)	1.0 (0.8)	1.8 (1.2)	1.3 (0.9)	0.3 (0.2)	0.7 (0.2)	0.5 (0.2)
28	0.3 (0.1)	0.2 (0.0)	1.0 (0.4)	0.7 (0.3)	1.8 (0.7)	1.3 (0.5)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)
29	0.2 (0.0)	0.2 (0.0)	1.1 (0.5)	0.8 (0.4)	2.0 (0.7)	1.4 (0.5)	0.3 (0.0)	0.8 (0.2)	0.6 (0.1)
30	0.2 (0.1)	0.1 (0.0)	1.3 (0.4)	0.9 (0.3)	2.0 (0.7)	1.5 (0.4)	0.3 (0.1)	0.9 (0.2)	0.6 (0.1)
31	0.1 (0.1)	0.1 (0.0)					0.2 (0.0)		
Avg	0.2	0.2	1.6	1.2	2.1	1.5	0.3	0.8	0.6
n	26	24	23	23	23	23	27	22	22
SD	0.1	0	0.4	0.3	0.5	0.3	0	0.1	0.1
Min	0.1	0.1	1.0	0.7	1.4	1.0	0.2	0.6	0.4
Max	0.4	0.3	2.5	1.8	3.3	2.4	0.3	1.0	0.7

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for September, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.1 (0.0)	0.1 (0.0)	3.1 (2.2)	2.2 (1.6)	2.8 (1.7)	2.0 (1.2)	0.2 (0.1)	0.6 (0.2)	0.5 (0.2)
2	0.1 (0.0)	0.1 (0.0)	2.9 (2.2)	2.1 (1.6)	3.1 (1.7)	2.3 (1.2)	0.2 (0.1)	0.7 (0.3)	0.5 (0.2)
3	0.2 (0.1)	0.1 (0.0)	2.6 (2.0)	1.9 (1.4)	3.3 (1.6)	2.4 (1.1)	0.2 (0.1)	0.7 (0.2)	0.5 (0.2)
4	0.2 (0.1)	0.1 (0.1)	2.9 (2.0)	2.1 (1.5)	3.8 (2.2)	2.7 (1.6)	0.1 (0.1)	0.7 (0.3)	0.5 (0.2)
5	0.1 (0.1)	0.1 (0.1)	2.9 (2.5)	2.1 (1.8)	4.0 (3.0)	2.9 (2.1)	0.2 (0.1)	0.9 (0.4)	0.6 (0.3)
6	0.2 (0.1)	0.1 (0.0)	2.9 (2.2)	2.1 (1.6)	3.6 (2.0)	2.6 (1.4)	0.2 (0.1)	0.8 (0.4)	0.6 (0.3)
7	0.2 (0.0)	0.1 (0.0)	2.5 (1.0)	1.8 (0.7)	3.4 (0.8)	2.5 (0.6)	0.2 (0.0)	0.8 (0.2)	0.6 (0.1)
8	0.2 (0.1)	0.1 (0.0)	2.3 (1.3)	1.6 (1.0)	2.8 (1.3)	2.0 (0.9)	0.2 (0.1)		
9	0.2 (0.0)	0.1 (0.0)	2.5 (1.8)	1.8 (1.3)	3.1 (1.9)	2.2 (1.4)	0.1 (0.1)		
10	0.2 (0.0)	0.1 (0.0)	3.6 (1.5)	2.6 (1.1)	4.0 (1.6)	2.9 (1.2)	0.2 (0.1)	0.9 (0.3)	0.7 (0.2)
11	0.1 (0.1)	0.0 (0.0)	2.8 (1.9)	2.0 (1.3)	4.4 (2.3)	3.1 (1.7)	0.1 (0.1)	0.7 (0.3)	0.5 (0.2)
12	0.1 (0.1)	0.1 (0.0)	2.7 (2.1)	2.0 (1.5)	4.2 (3.1)	3.0 (2.2)	0.2 (0.0)	0.8 (0.3)	0.5 (0.2)
13	0.4 (0.3)	0.3 (0.2)	3.4 (2.1)	2.5 (1.5)	4.3 (2.3)	3.1 (1.7)	0.2 (0.1)	0.8 (0.3)	0.6 (0.2)
14	0.2 (0.2)	0.2 (0.1)	3.8 (2.9)	2.7 (2.1)	5.1 (3.2)	3.7 (2.3)	0.2 (0.1)	0.9 (0.4)	0.7 (0.3)
15	0.1 (0.0)	0.1 (0.0)	2.8 (2.7)	2.0 (2.0)	3.8 (3.4)	2.7 (2.5)	0.2 (0.1)	1.0 (0.4)	0.7 (0.3)
16	0.3 (0.1)	0.2 (0.1)	2.1 (1.1)	1.5 (0.8)	2.2 (1.8)	1.6 (1.3)	0.2 (0.1)	0.9 (0.3)	0.6 (0.2)
17	0.2 (0.1)	0.2 (0.0)	2.1 (1.2)	1.5 (0.9)	3.2 (1.3)	2.3 (1.0)	0.2 (0.0)	1.1 (0.3)	0.8 (0.2)
18	0.4 (0.2)	0.3 (0.2)	2.7 (1.5)	1.9 (1.1)	4.1 (1.8)	2.9 (1.3)	0.2 (0.1)	0.9 (0.3)	0.7 (0.2)
19	0.2 (0.1)	0.2 (0.1)	3.3 (1.9)	2.4 (1.3)	4.0 (2.0)	2.9 (1.4)	0.2 (0.1)	1.0 (0.4)	0.7 (0.3)
20	0.1 (0.1)	0.1 (0.0)	4.1 (2.6)	3.0 (1.9)	4.7 (2.5)	3.4 (1.8)	0.2 (0.1)	1.1 (0.5)	0.8 (0.3)
21	0.1 (0.1)	0.1 (0.1)	4.2 (2.9)	3.0 (2.1)	5.1 (3.4)	3.7 (2.5)	0.2 (0.1)	1.2 (0.5)	0.8 (0.4)
22	0.3 (0.1)	0.2 (0.0)	2.1 (0.9)	1.5 (0.6)	2.8 (1.2)	2.0 (0.9)	0.4 (0.1)	0.9 (0.2)	0.6 (0.1)
23	0.2 (0.0)	0.2 (0.0)	2.0 (0.5)	1.4 (0.3)	2.9 (0.9)	2.1 (0.7)	0.3 (0.1)	0.9 (0.2)	0.7 (0.1)
24	0.3 (0.0)	0.2 (0.0)	2.2 (1.6)	1.6 (1.1)	3.3 (1.8)	2.4 (1.3)	0.4 (0.2)	1.1 (0.4)	0.8 (0.3)
25	0.3 (0.1)	0.2 (0.0)	2.2 (0.8)	1.6 (0.6)	3.2 (0.9)	2.3 (0.6)	0.3 (0.1)	1.2 (0.3)	0.8 (0.2)
26	0.2 (0.0)	0.1 (0.0)	3.7 (0.9)	2.7 (0.7)	4.5 (0.9)	3.2 (0.6)	0.2 (0.1)	1.5 (0.4)	1.1 (0.3)
27	0.2 (0.1)	0.2 (0.0)	3.3 (1.2)	2.4 (0.9)	3.8 (1.2)	2.7 (0.9)	0.2 (0.1)	1.2 (0.3)	0.9 (0.2)
28	0.1 (0.0)	0.1 (0.0)	4.9 (3.4)	3.5 (2.4)			0.2 (0.1)	1.5 (1.0)	1.1 (0.7)
29	0.0 (0.0)	0.0 (0.0)	4.8 (3.2)	3.4 (2.3)	5.3 (4.0)	3.8 (2.9)	0.1 (0.1)	0.8 (0.4)	0.6 (0.3)
30	0.1 (0.0)	0.0 (0.0)	5.6 (3.0)	4.0 (2.1)	6.2 (3.5)	4.5 (2.5)	0.1 (0.1)	1.1 (0.5)	0.8 (0.4)
Avg	0.2	0.1	3.1	2.2	3.8	2.8	0.2	0.9	0.7
n	30	30	30	30	29	29	30	28	28
SD	0.1	0.1	0.9	0.6	0.9	0.6	0.1	0.2	0.2
Min	0.0	0.0	2.0	1.4	2.2	1.6	0.1	0.6	0.5
Max	0.4	0.3	5.6	4.0	6.2	4.5	0.4	1.5	1.1

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for October, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.3 (0.2)	0.2 (0.1)	5.5 (2.8)	3.9 (2.0)			0.3 (0.1)		
2	0.2 (0.1)	0.2 (0.0)	4.4 (2.4)	3.2 (1.7)	5.0 (2.4)	3.6 (1.7)	0.2 (0.1)		
3	0.2 (0.1)	0.2 (0.0)	3.7 (2.0)	2.7 (1.4)	3.8 (1.8)	2.8 (1.3)	0.2 (0.1)		
4	0.2 (0.1)	0.1 (0.1)	5.2 (1.9)	3.7 (1.4)	5.6 (2.2)	4.0 (1.6)	0.1 (0.0)		
5	0.2 (0.1)	0.1 (0.1)	6.4 (0.8)	4.6 (0.6)	6.7 (0.9)	4.8 (0.6)	0.2 (0.1)		
6	0.2 (0.1)	0.2 (0.0)	4.9 (2.1)	3.5 (1.5)	5.0 (1.9)	3.6 (1.4)	0.2 (0.1)		
7	0.1 (0.1)	0.1 (0.1)	3.1 (1.5)	2.2 (1.1)	3.8 (1.9)	2.7 (1.4)	0.3 (0.2)		
8	0.1 (0.1)	0.1 (0.1)	4.5 (1.9)	3.2 (1.4)	5.3 (1.9)	3.8 (1.3)	0.1 (0.1)		
9	0.2 (0.1)	0.2 (0.0)	3.6 (2.5)	2.6 (1.8)	4.4 (3.0)	3.1 (2.1)	0.3 (0.1)		
10	0.4 (0.2)	0.3 (0.1)	3.0 (1.0)	2.2 (0.7)	3.5 (0.8)	2.5 (0.5)	0.4 (0.1)		
11	0.2 (0.1)	0.2 (0.0)	7.4 (1.6)	5.3 (1.1)	7.0 (1.9)	5.0 (1.3)	0.3 (0.1)		
12	0.2 (0.1)	0.2 (0.0)	9.0 (1.1)	6.5 (0.8)	7.9 (1.5)	5.7 (1.1)	0.3 (0.1)		
13	0.2 (0.1)	0.1 (0.1)	6.4 (3.5)	4.6 (2.5)	5.4 (2.8)	3.9 (2.0)	0.2 (0.1)	1.7 (0.5)	1.2 (0.3)
14	0.2 (0.1)	0.1 (0.0)	10.6 (2.5)	7.6 (1.8)	7.2 (1.2)	5.2 (0.8)	0.2 (0.1)	1.9 (0.2)	1.4 (0.1)
15	0.1 (0.1)	0.1 (0.1)	10.5 (2.5)	7.5 (1.8)	7.8 (1.6)	5.6 (1.2)	0.3 (0.1)	2.0 (0.3)	1.5 (0.2)
16	0.3 (0.1)	0.2 (0.1)	11.3 (1.9)	8.1 (1.4)	7.7 (1.1)	5.5 (0.8)	0.2 (0.0)	2.5 (0.7)	1.8 (0.5)
17	0.2 (0.1)	0.2 (0.0)	12.7 (2.4)	9.1 (1.8)	9.8 (2.3)	7.0 (1.7)	0.2 (0.0)	2.6 (0.3)	1.8 (0.2)
18	0.3 (0.0)	0.2 (0.0)	16.6 (1.8)	11.9 (1.3)	13.5 (2.1)	9.7 (1.5)	0.3 (0.0)	2.6 (0.3)	1.9 (0.2)
19	2.3 (1.6)	1.6 (1.1)	15.7 (4.8)	11.2 (3.5)	11.4 (4.3)	8.2 (3.1)	0.4 (0.2)	3.7 (0.9)	2.7 (0.6)
20	4.1 (3.2)	2.9 (2.3)	13.0 (7.0)	9.3 (5.0)	10.5 (5.8)	7.5 (4.2)	0.4 (0.2)	2.6 (0.9)	1.8 (0.6)
21	0.3 (0.1)	0.2 (0.1)	7.3 (5.1)	5.2 (3.6)	7.0 (3.3)	5.0 (2.3)	0.2 (0.1)	2.2 (1.0)	1.5 (0.7)
22	0.3 (0.1)	0.2 (0.1)	5.9 (4.5)	4.2 (3.2)	6.5 (4.4)	4.7 (3.2)	0.2 (0.1)	1.9 (1.0)	1.4 (0.7)
23	0.1 (0.1)	0.1 (0.1)	3.3 (2.7)	2.4 (1.9)	4.5 (2.8)	3.3 (2.0)	0.2 (0.1)	1.5 (0.6)	1.0 (0.4)
24	0.2 (0.1)	0.1 (0.0)	2.2 (0.7)	1.6 (0.5)	3.6 (1.5)	2.6 (1.1)	0.3 (0.1)	1.1 (0.2)	0.8 (0.1)
25	0.5 (0.5)	0.3 (0.4)	7.2 (1.8)	5.2 (1.3)	6.6 (1.3)	4.7 (0.9)	0.2 (0.1)	2.5 (0.4)	1.8 (0.3)
26	1.5 (1.3)	1.1 (0.9)	9.8 (2.9)	7.0 (2.1)	7.7 (1.2)	5.5 (0.9)	0.2 (0.1)	3.1 (0.4)	2.2 (0.3)
27	0.3 (0.0)	0.2 (0.0)	6.8 (1.4)	4.9 (1.0)	5.7 (2.1)	4.1 (1.5)	0.3 (0.1)		
28	0.3 (0.1)	0.2 (0.1)	2.5 (1.0)	1.8 (0.7)	4.0 (1.6)	2.8 (1.2)	0.4 (0.2)		
29	0.2 (0.0)	0.2 (0.0)	4.6 (1.4)	3.3 (1.0)	5.3 (1.3)	3.8 (0.9)	0.2 (0.1)		
30	0.1 (0.0)	0.1 (0.0)	5.5 (1.6)	3.9 (1.1)	5.8 (1.9)	4.2 (1.4)	0.2 (0.1)	1.3 (0.2)	0.9 (0.2)
31	0.3 (0.1)	0.2 (0.0)	4.0 (1.9)	2.9 (1.3)	4.6 (1.3)	3.3 (1.0)	0.3 (0.1)	1.1 (0.2)	0.8 (0.1)
Avg	0.5	0.3	7	5	6.4	4.6	0.2	2.1	1.5
n	31	31	31	31	30	30	31	16	16
SD	0.8	0.6	3.8	2.7	2.4	1.7	0.1	0.7	0.5
Min	0.1	0.1	2.2	1.6	3.5	2.5	0.1	1.1	0.8
Max	4.1	2.9	16.6	11.9	13.5	9.7	0.4	3.7	2.7

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for November, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.6 (0.6)	0.5 (0.4)	6.1 (2.5)	4.4 (1.8)	5.3 (1.4)	3.8 (1.0)	0.2 (0.1)	1.1 (0.2)	0.8 (0.2)
2	1.6 (1.3)	1.1 (0.9)	11.6 (2.2)	8.3 (1.6)	7.1 (1.5)	5.1 (1.1)	0.3 (0.1)	1.6 (0.2)	1.2 (0.1)
3	0.3 (0.2)	0.2 (0.1)	10.4 (5.5)	7.5 (3.9)	7.6 (3.3)	5.5 (2.4)	0.2 (0.1)	1.7 (0.4)	1.2 (0.3)
4	0.7 (0.6)	0.5 (0.4)	9.3 (3.3)	6.6 (2.4)	7.6 (2.1)	5.5 (1.5)	0.2 (0.0)	1.8 (0.4)	1.3 (0.3)
5	0.2 (0.1)	0.1 (0.0)	8.0 (4.3)	5.7 (3.1)	8.8 (3.3)	6.3 (2.4)	0.2 (0.0)	2.1 (0.5)	1.5 (0.4)
6	0.3 (0.1)	0.2 (0.1)	7.9 (2.6)	5.7 (1.9)	11.4 (3.6)	8.1 (2.6)	0.3 (0.2)	2.6 (0.6)	1.8 (0.4)
7	0.2 (0.1)	0.1 (0.1)	8.1 (3.0)	5.8 (2.2)	12.8 (5.3)	9.2 (3.8)	0.4 (0.3)	2.7 (0.9)	2.0 (0.7)
8	0.2 (0.2)	0.2 (0.1)	6.6 (2.7)	4.7 (1.9)	9.9 (4.8)	7.1 (3.5)	0.2 (0.1)	2.1 (0.7)	1.5 (0.5)
9	0.3 (0.1)	0.2 (0.1)	6.4 (3.1)	4.5 (2.2)	8.9 (4.3)	6.4 (3.1)	0.2 (0.1)	2.1 (0.7)	1.5 (0.5)
10	0.3 (0.0)	0.2 (0.0)	4.8 (1.5)	3.5 (1.1)	6.5 (2.7)	4.7 (1.9)	0.3 (0.1)	1.8 (0.3)	1.3 (0.2)
11	0.2 (0.0)	0.1 (0.0)	5.9 (1.4)	4.3 (1.0)	7.2 (1.7)	5.1 (1.2)	0.2 (0.0)	2.0 (0.2)	1.4 (0.2)
12	0.2 (0.0)	0.1 (0.0)	7.2 (1.1)	5.1 (0.8)	7.6 (1.4)	5.4 (1.0)	0.2 (0.1)	2.7 (0.4)	1.9 (0.3)
13	0.2 (0.1)	0.1 (0.1)	8.6 (1.6)	6.2 (1.1)	7.9 (2.0)	5.7 (1.5)	0.2 (0.1)	2.4 (0.3)	1.7 (0.2)
14	0.1 (0.0)	0.1 (0.0)	7.6 (1.3)	5.4 (0.9)	10.5 (2.2)	7.5 (1.5)	0.3 (0.1)	1.8 (0.2)	1.3 (0.1)
15	0.2 (0.0)	0.2 (0.0)	7.3 (1.9)	5.2 (1.4)	11.2 (3.5)	8.0 (2.5)	0.3 (0.1)	1.6 (0.4)	1.2 (0.3)
16	0.3 (0.2)	0.2 (0.1)	7.1 (2.7)	5.1 (1.9)	10.5 (5.0)	7.5 (3.6)	0.2 (0.1)	1.6 (0.6)	1.2 (0.4)
17	0.2 (0.1)	0.2 (0.1)	7.2 (2.0)	5.2 (1.4)	8.5 (3.9)	6.1 (2.8)	0.2 (0.1)	1.1 (0.3)	0.8 (0.2)
18	0.2 (0.0)	0.1 (0.0)	5.8 (1.4)	4.1 (1.0)	6.2 (1.4)	4.5 (1.0)	0.2 (0.0)	1.0 (0.2)	0.7 (0.1)
19	0.1 (0.1)	0.1 (0.0)	4.0 (1.7)	2.9 (1.2)	5.6 (1.5)	4.1 (1.0)	0.2 (0.1)	0.8 (0.2)	0.6 (0.1)
20	0.2 (0.0)	0.1 (0.0)	5.3 (1.2)	3.8 (0.8)	8.2 (1.6)	5.9 (1.2)	0.2 (0.0)	1.0 (0.2)	0.7 (0.2)
21	0.2 (0.0)	0.1 (0.0)	7.6 (1.5)	5.5 (1.1)	10.2 (1.9)	7.3 (1.3)	0.2 (0.0)	1.5 (0.2)	1.1 (0.2)
22	0.2 (0.1)	0.1 (0.1)	9.0 (1.3)	6.5 (0.9)	11.0 (2.1)	7.9 (1.5)	0.2 (0.0)	1.8 (0.3)	1.3 (0.2)
23	0.1 (0.0)	0.1 (0.0)	8.3 (1.5)	6.0 (1.1)	9.4 (2.2)	6.8 (1.6)	0.2 (0.0)	1.6 (0.2)	1.1 (0.1)
24	0.1 (0.1)	0.1 (0.0)	8.0 (1.9)	5.7 (1.3)	7.7 (1.7)	5.5 (1.2)	0.2 (0.1)		
25	0.1 (0.0)	0.1 (0.0)	7.9 (1.6)	5.7 (1.2)	9.4 (1.4)	6.7 (1.0)	0.2 (0.1)		
26	0.1 (0.1)	0.1 (0.0)	9.1 (1.5)	6.5 (1.1)	12.7 (1.8)	9.1 (1.3)	0.2 (0.1)	2.5 (0.4)	1.8 (0.3)
27	0.2 (0.1)	0.1 (0.0)	10.5 (1.9)	7.5 (1.4)	10.5 (1.8)	7.5 (1.3)	0.2 (0.1)	1.9 (0.3)	1.4 (0.2)
28	0.2 (0.1)	0.2 (0.1)	12.2 (2.7)	8.7 (2.0)	13.5 (1.9)	9.7 (1.4)	0.5 (0.3)	2.3 (0.3)	1.7 (0.2)
29	0.2 (0.2)	0.2 (0.1)	9.5 (3.7)	6.8 (2.6)	12.6 (3.7)	9.0 (2.7)	0.2 (0.1)	1.9 (0.5)	1.4 (0.4)
30	0.1 (0.0)	0.1 (0.0)	9.0 (2.0)	6.4 (1.4)	12.4 (4.6)	8.9 (3.3)	0.2 (0.1)	1.8 (0.4)	1.3 (0.3)
Avg	0.3	0.2	7.9	5.6	9.3	6.7	0.2	1.8	1.3
n	30	30	30	30	30	30	30	28	28
SD	0.3	0.2	1.9	1.3	2.2	1.6	0.1	0.5	0.4
Min	0.1	0.1	4.0	2.9	5.3	3.8	0.2	0.8	0.6
Max	1.6	1.1	12.2	8.7	13.5	9.7	0.5	2.7	2.0

Table E10. Daily mean (SD) of NH3 concentration at site NC4B for December, 2009.

Day	Inlet (b/w B1 & B2)		Barn 1		Barn 2		Farrowing room 15		
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	Inlet, ppm	ppm	mg·dsm^{-3}
1	0.1 (0.1)	0.1 (0.0)	11.7 (3.6)	8.4 (2.6)	12.2 (5.0)	8.7 (3.6)	0.4 (0.3)	2.3 (0.4)	1.7 (0.3)
2	0.2 (0.1)	0.1 (0.0)	9.9 (3.1)	7.1 (2.2)	8.3 (2.9)	5.9 (2.1)	0.3 (0.1)	2.0 (0.4)	1.5 (0.3)
3	0.2 (0.1)	0.1 (0.0)	7.1 (1.8)	5.1 (1.3)	7.2 (1.7)	5.2 (1.2)	0.2 (0.0)	1.7 (0.3)	1.2 (0.2)
4	0.4 (0.2)	0.3 (0.1)	9.0 (1.5)	6.4 (1.1)	12.9 (1.6)	9.2 (1.2)	0.2 (0.1)	2.4 (0.3)	1.7 (0.2)
5	0.6 (0.3)	0.4 (0.2)	9.7 (0.9)	7.0 (0.7)	15.2 (2.5)	10.9 (1.8)	0.5 (0.4)	2.7 (0.4)	2.0 (0.3)
6	1.8 (0.6)	1.2 (0.4)	15.2 (1.8)	10.9 (1.3)	18.3 (3.6)	13.1 (2.6)	0.7 (0.3)	3.6 (0.4)	2.6 (0.3)
7	0.7 (0.5)	0.5 (0.3)	14.9 (3.2)	10.6 (2.3)	18.8 (4.1)	13.5 (3.0)	0.5 (0.3)	3.7 (0.4)	2.6 (0.3)
8	2.2 (0.4)	1.6 (0.3)	13.8 (2.4)	9.9 (1.7)	14.4 (4.4)	10.3 (3.2)	0.3 (0.2)	3.6 (0.3)	2.6 (0.2)
9	0.4 (0.3)	0.3 (0.2)	6.6 (2.2)	4.7 (1.6)	6.6 (2.4)	4.8 (1.7)	0.3 (0.1)	2.0 (0.6)	1.5 (0.5)
10	0.4 (0.4)	0.3 (0.3)	8.7 (1.9)	6.2 (1.4)	10.3 (1.8)	7.4 (1.3)	0.2 (0.1)	3.0 (0.7)	2.1 (0.5)
11	0.6 (0.2)	0.4 (0.1)	13.1 (2.0)	9.4 (1.5)	12.0 (1.9)	8.6 (1.4)	0.8 (0.2)	4.8 (0.5)	3.4 (0.3)
12	2.5 (1.2)		16.5 (2.5)	11.8 (1.8)	15.8 (2.2)	11.3 (1.6)	0.6 (0.3)	4.2 (0.5)	3.0 (0.4)
13	0.7 (0.7)	0.5 (0.5)					0.4 (0.1)	2.4 (0.7)	1.7 (0.5)
14	0.2 (0.0)	0.2 (0.0)					0.3 (0.0)	2.0 (0.4)	1.4 (0.3)
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
Avg	0.8	0.5	11.3	8.1	12.7	9.1	0.4	2.9	2.1
n	14	13	12	12	12	12	14	14	14
SD	0.7	0.4	3.2	2.3	3.9	2.8	0.2	0.9	0.6
Min	0.1	0.1	6.6	4.7	6.6	4.8	0.2	1.7	1.2
Max	2.5	1.6	16.5	11.8	18.8	13.5	0.8	4.8	3.4

Table E11. Ammonia emissions.

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for December, 2007.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22					11.00 (4.22)	12.30 (4.72)	33.90 (13.00)	4.42 (1.70)				
23	9.04 (2.49)	9.96 (2.75)	27.50 (7.58)	3.47 (0.96)								
24												
25												
26												
27												
28	8.52 (2.99)	9.39 (3.29)	25.90 (9.08)	3.27 (1.15)	10.00 (3.50)	11.20 (3.91)	30.80 (10.80)	4.02 (1.41)				
29	7.42 (2.31)	8.18 (2.55)	22.60 (7.03)	2.85 (0.89)	8.20 (2.20)	9.17 (2.46)	25.30 (6.78)	3.30 (0.89)				
30	8.29 (2.71)	9.14 (2.99)	25.20 (8.24)	3.19 (1.04)	6.46 (3.80)	7.23 (4.25)	19.90 (11.70)	2.60 (1.53)				
31	9.79 (2.52)	10.80 (2.78)	29.70 (7.66)	3.76 (0.97)	7.93 (5.71)	8.87 (6.38)	24.50 (17.60)	3.19 (2.30)				
Avg	8.61	9.49	26.20	3.31	8.71	9.75	26.90	3.51				
n	5	5	5	5	5	5	5	5	0	0	0	0
SD	0.79	0.87	2.39	0.30	1.60	1.78	4.92	0.64				
Min	7.42	8.18	22.60	2.85	6.46	7.23	19.90	2.60				
Max	9.79	10.80	29.70	3.76	11.00	12.30	33.90	4.42				

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for January, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1					9.45 (7.39)	10.60 (8.26)	29.10 (22.80)	3.80 (2.97)				
2					5.41 (9.16)	6.05 (10.20)	16.70 (28.20)	2.18 (3.69)				
3												
4												
5												
6												
7	9.34 (2.99)	10.30 (3.29)	28.40 (9.07)	3.59 (1.15)	11.50 (3.33)	12.80 (3.72)	35.40 (10.30)	4.62 (1.34)				
8	7.21 (3.02)	7.94 (3.33)	21.90 (9.18)	2.77 (1.16)	8.93 (4.76)	9.99 (5.32)	27.50 (14.70)	3.60 (1.91)				
9	7.12 (2.69)	7.85 (2.97)	21.60 (8.18)	2.74 (1.04)	8.36 (2.57)	9.35 (2.87)	25.80 (7.92)	3.36 (1.03)				
10	7.06 (2.15)	7.79 (2.37)	21.50 (6.54)	2.72 (0.83)	9.29 (3.78)	10.40 (4.23)	28.60 (11.70)	3.74 (1.52)				
11	7.68 (2.44)	8.46 (2.69)	23.30 (7.43)	2.95 (0.94)	8.61 (2.46)	9.63 (2.75)	26.50 (7.58)	3.46 (0.99)				
12	8.41 (2.33)	9.27 (2.57)	25.60 (7.09)	3.23 (0.90)	6.78 (5.66)	7.58 (6.33)	20.90 (17.40)	2.73 (2.28)				
13												
14												
15												
16												
17												
18					8.94 (8.30)	10.00 (9.28)	27.60 (25.60)	3.60 (3.34)				
19												
20												
21												
22												
23					11.70 (5.71)	13.10 (6.39)	36.10 (17.60)	4.71 (2.30)				
24												
25												
26												
27												
28												
29												
30	7.20 (2.21)	7.94 (2.44)	21.90 (6.72)	2.77 (0.85)	9.68 (3.87)	10.80 (4.33)	29.90 (11.90)	3.90 (1.56)				
31												
Avg	7.72	8.51	23.50	2.97	8.97	10.00	27.60	3.61				
n	7	7	7	7	11	11	11	11	0	0	0	0
SD	0.80	0.88	2.42	0.31	1.72	1.93	5.31	0.69				
Min	7.06	7.79	21.50	2.72	5.41	6.05	16.70	2.18				
Max	9.34	10.30	28.40	3.59	11.70	13.10	36.10	4.71				

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for February, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1												
2												
3					8.67 (7.60)	9.70 (8.50)	26.70 (23.40)	3.49 (3.06)				
4	8.32 (3.32)	9.18 (3.66)	25.30 (10.10)	3.20 (1.28)	7.62 (5.60)	8.52 (6.26)	23.50 (17.30)	3.07 (2.25)				
5	5.65 (2.92)	6.22 (3.22)	17.20 (8.87)	2.17 (1.12)	11.10 (3.95)	12.40 (4.42)	34.20 (12.20)	4.47 (1.59)				
6	4.41 (2.26)	4.86 (2.49)	13.40 (6.87)	1.69 (0.87)	8.97 (3.43)	10.00 (3.84)	27.70 (10.60)	3.61 (1.38)				
7	3.86 (1.02)	4.26 (1.13)	11.70 (3.11)	1.48 (0.39)	11.50 (3.77)	12.90 (4.22)	35.50 (11.60)	4.63 (1.52)				
8												
9					13.60 (5.40)	15.20 (6.03)	41.90 (16.60)	5.47 (2.17)				
10					11.70 (5.83)	13.10 (6.52)	36.00 (18.00)	4.70 (2.35)				
11												
12												
13												
14												
15												
16					4.90 (4.12)	5.48 (4.61)	15.10 (12.70)	1.97 (1.66)				
17					7.34 (4.55)	8.22 (5.09)	22.60 (14.00)	2.96 (1.83)	0.14 (0.06)	7.30 (2.96)	15.00 (6.12)	0.96 (0.39)
18	8.41 (2.85)	9.27 (3.14)	25.60 (8.66)	3.23 (1.10)	8.89 (3.11)	9.94 (3.47)	27.40 (9.57)	3.58 (1.25)	0.13 (0.03)	7.02 (1.57)	14.20 (3.18)	0.93 (0.21)
19												
20									0.15 (0.05)	7.76 (2.84)	15.20 (5.59)	1.02 (0.38)
21												
22												
23												
24												
25												
26												
27												
28												
29												
Avg	6.13	6.76	18.60	2.36	9.43	10.50	29.10	3.79	0.14	7.36	14.80	0.97
n	5	5	5	5	10	10	10	10	3	3	3	3
SD	1.92	2.11	5.82	0.74	2.42	2.71	7.46	0.97	0.01	0.30	0.43	0.04
Min	3.86	4.26	11.70	1.48	4.90	5.48	15.10	1.97	0.13	7.02	14.20	0.93
Max	8.41	9.27	25.60	3.23	13.60	15.20	41.90	5.47	0.15	7.76	15.20	1.02

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for March, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1					12.80 (4.20)	14.30 (4.70)	39.40 (12.90)	5.15 (1.69)				
2												
3					12.80 (4.81)	14.30 (5.38)	39.50 (14.80)	5.16 (1.94)	0.10 (0.07)	5.07 (3.52)	11.90 (8.28)	0.67 (0.46)
4	6.84 (2.66)	7.54 (2.93)	20.80 (8.07)	2.63 (1.02)	11.60 (3.25)	13.00 (3.64)	35.70 (10.00)	4.67 (1.31)	0.09 (0.05)	4.84 (2.78)	11.20 (6.47)	0.64 (0.37)
5	8.90 (2.45)	9.81 (2.70)	27.00 (7.44)	3.42 (0.94)	12.40 (5.63)	13.90 (6.30)	38.20 (17.40)	4.99 (2.27)				
6												
7												
8	8.65 (2.33)	9.53 (2.57)	26.30 (7.09)	3.32 (0.90)	10.60 (6.18)	11.90 (6.91)	32.70 (19.00)	4.27 (2.49)	0.13 (0.06)	7.01 (3.17)	15.50 (6.99)	0.92 (0.42)
9					5.70 (9.96)	6.38 (11.10)	17.60 (30.70)	2.29 (4.01)				
10												
11					15.70 (5.58)	17.60 (6.24)	48.40 (17.20)	6.32 (2.25)				
12												
13												
14	6.61 (2.23)	7.29 (2.46)	20.10 (6.78)	2.54 (0.86)	12.30 (3.95)	13.80 (4.41)	38.00 (12.20)	4.96 (1.59)	0.18 (0.04)	9.64 (1.95)	19.80 (4.02)	1.27 (0.26)
15	7.11 (2.43)	7.83 (2.68)	21.60 (7.39)	2.73 (0.94)	13.50 (4.31)	15.10 (4.82)	41.70 (13.30)	5.45 (1.73)	0.18 (0.04)	9.34 (1.95)	18.90 (3.95)	1.23 (0.26)
16	8.51 (1.88)	9.38 (2.07)	25.90 (5.70)	3.27 (0.72)	12.60 (5.01)	14.10 (5.60)	38.80 (15.40)	5.06 (2.02)				
17												
18												
19	6.38 (2.43)	7.04 (2.69)	19.40 (7.40)	2.45 (0.94)	11.20 (3.46)	12.50 (3.86)	34.30 (10.60)	4.49 (1.39)	0.09 (0.02)	4.70 (1.23)	9.16 (2.41)	0.62 (0.16)
20	7.82 (2.12)	8.65 (2.35)	23.80 (6.47)	3.00 (0.82)	12.30 (4.88)	13.70 (5.46)	37.90 (15.00)	4.95 (1.97)				
21	8.22 (2.56)	9.12 (2.84)	25.10 (7.82)	3.16 (0.99)	13.80 (5.50)	15.40 (6.15)	42.50 (16.90)	5.55 (2.21)	0.09 (0.03)	4.89 (1.34)	9.49 (2.61)	0.65 (0.18)
22	7.63 (2.54)	8.48 (2.82)	23.40 (7.76)	2.93 (0.98)	12.40 (4.87)	13.90 (5.45)	38.30 (15.00)	4.99 (1.96)	0.09 (0.02)	4.92 (1.15)	9.53 (2.23)	0.65 (0.15)
23									0.11 (0.03)	5.64 (1.46)	10.90 (2.83)	0.74 (0.19)
24					11.60 (7.90)	13.00 (8.88)	35.80 (24.50)	4.65 (3.18)				
25												
26	9.89 (3.37)	11.10 (3.78)	30.60 (10.40)	3.80 (1.30)	13.50 (6.06)	15.20 (6.82)	41.90 (18.80)	5.43 (2.44)				
27	6.22 (3.74)	6.99 (4.20)	19.30 (11.60)	2.39 (1.44)	10.00 (5.75)	11.30 (6.48)	31.10 (17.90)	4.03 (2.31)				
28	4.58 (1.98)	5.15 (2.23)	14.20 (6.14)	1.76 (0.76)	7.68 (3.27)	8.67 (3.69)	23.90 (10.20)	3.09 (1.32)	0.08 (0.03)	4.23 (1.65)	10.60 (4.15)	0.56 (0.22)
29	5.91 (1.84)	6.67 (2.08)	18.40 (5.74)	2.27 (0.71)								
30												
31												
Avg	7.37	8.18	22.60	2.83	11.80	13.20	36.40	4.75	0.12	6.03	12.70	0.80
n	14	14	14	14	18	18	18	18	10	10	10	10
SD	1.36	1.49	4.10	0.52	2.22	2.47	6.81	0.89	0.04	1.87	3.73	0.25
Min	4.58	5.15	14.20	1.76	5.70	6.38	17.60	2.29	0.08	4.23	9.16	0.56
Max	9.89	11.10	30.60	3.80	15.70	17.60	48.40	6.32	0.18	9.64	19.80	1.27

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for April, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1												
2	4.92 (2.18)	5.60 (2.48)	15.40 (6.83)	1.89 (0.84)	8.03 (2.34)	9.11 (2.66)	25.10 (7.33)	3.23 (0.94)	0.08 (0.02)	4.41 (1.08)	10.60 (2.57)	0.58 (0.14)
3					11.60 (3.37)	13.20 (3.82)	36.40 (10.50)	4.69 (1.36)				
4	4.72 (2.09)	5.39 (2.38)	14.90 (6.55)	1.82 (0.80)	9.54 (4.10)	10.80 (4.65)	29.80 (12.80)	3.84 (1.65)	0.12 (0.03)	6.26 (1.84)	14.50 (4.31)	0.83 (0.24)
5	5.14 (1.40)	5.87 (1.60)	16.20 (4.42)	1.98 (0.54)	10.30 (2.74)	11.70 (3.10)	32.10 (8.56)	4.14 (1.10)	0.12 (0.02)	6.40 (1.06)	14.60 (2.41)	0.84 (0.14)
6	6.78 (1.61)	7.75 (1.84)	21.40 (5.08)	2.61 (0.62)	12.00 (3.58)	13.60 (4.06)	37.50 (11.20)	4.83 (1.44)	0.13 (0.03)	7.07 (1.41)	15.80 (3.12)	0.93 (0.19)
7					12.30 (4.62)	13.90 (5.24)	38.40 (14.40)	4.95 (1.86)	0.16 (0.05)	8.44 (2.38)	18.50 (5.24)	1.11 (0.31)
8					7.38 (4.15)	8.36 (4.70)	23.00 (13.00)	2.97 (1.67)				
9	5.31 (1.70)	6.10 (1.95)	16.80 (5.36)	2.04 (0.65)	7.06 (2.50)	7.99 (2.83)	22.00 (7.81)	2.84 (1.01)	0.16 (0.04)	8.54 (1.97)	18.00 (4.21)	1.13 (0.26)
10	4.71 (2.23)	5.38 (2.56)	14.80 (7.06)	1.81 (0.86)	7.63 (2.81)	8.63 (3.19)	23.80 (8.78)	3.07 (1.13)	0.16 (0.04)	8.20 (2.11)	17.00 (4.40)	1.08 (0.28)
11	3.52 (1.42)	3.96 (1.60)	10.90 (4.42)	1.35 (0.54)	7.36 (2.70)	8.32 (3.05)	22.90 (8.42)	2.96 (1.09)	0.16 (0.04)	8.28 (2.12)	17.00 (4.34)	1.08 (0.28)
12	4.00 (1.27)	4.44 (1.42)	12.20 (3.91)	1.54 (0.49)	7.96 (2.41)	8.99 (2.72)	24.80 (7.51)	3.21 (0.97)	0.13 (0.03)	7.04 (1.53)	14.30 (3.12)	0.91 (0.20)
13	5.56 (1.31)	6.08 (1.44)	16.80 (3.96)	2.14 (0.50)	9.63 (2.72)	10.80 (3.07)	29.90 (8.45)	3.88 (1.10)	0.16 (0.02)	8.52 (1.27)	17.10 (2.54)	1.10 (0.16)
14					12.80 (3.90)	14.40 (4.39)	39.80 (12.10)	5.16 (1.57)				
15					9.03 (4.09)	10.10 (4.60)	28.00 (12.70)	3.63 (1.65)				
16	5.48 (1.65)	5.75 (1.74)	15.90 (4.81)	2.11 (0.64)								
17	4.66 (2.54)	4.86 (2.65)	13.40 (7.29)	1.79 (0.98)	8.35 (3.96)	9.36 (4.44)	25.80 (12.20)	3.36 (1.59)	0.10 (0.04)	5.77 (2.27)	11.10 (4.38)	0.72 (0.28)
18	4.73 (1.99)	4.94 (2.08)	13.60 (5.74)	1.82 (0.77)	9.35 (3.90)	10.50 (4.38)	28.90 (12.10)	3.77 (1.57)	0.11 (0.06)	5.94 (3.04)	11.30 (5.77)	0.75 (0.38)
19	5.07 (2.33)	5.31 (2.44)	14.60 (6.72)	1.95 (0.90)	9.33 (3.81)	10.50 (4.28)	28.80 (11.80)	3.76 (1.54)	0.10 (0.04)	5.51 (2.37)	10.30 (4.46)	0.70 (0.30)
20	6.12 (2.03)	6.41 (2.13)	17.70 (5.87)	2.35 (0.78)	7.89 (2.17)	8.84 (2.43)	24.40 (6.69)	3.17 (0.87)	0.11 (0.03)	6.22 (1.67)	11.50 (3.11)	0.79 (0.21)
21	7.37 (1.73)	7.75 (1.82)	21.40 (5.00)	2.84 (0.67)	9.70 (3.12)	10.90 (3.50)	30.00 (9.65)	3.90 (1.26)	0.11 (0.06)	6.22 (3.40)	11.40 (6.23)	0.79 (0.43)
22	5.19 (2.76)	5.46 (2.90)	15.10 (7.99)	1.99 (1.06)	6.44 (3.65)	7.21 (4.09)	19.90 (11.30)	2.59 (1.47)				
23	4.75 (1.94)	5.01 (2.04)	13.80 (5.63)	1.83 (0.75)	5.20 (1.73)	5.82 (1.94)	16.10 (5.34)	2.09 (0.70)				
24	4.65 (2.42)	4.91 (2.56)	13.50 (7.05)	1.79 (0.93)	6.25 (2.49)	7.00 (2.79)	19.30 (7.70)	2.52 (1.00)				
25	3.80 (1.52)	4.02 (1.60)	11.10 (4.42)	1.46 (0.58)	6.79 (2.53)	7.60 (2.84)	21.00 (7.82)	2.73 (1.02)	0.08 (0.05)	4.27 (2.47)	10.30 (5.96)	0.55 (0.32)
26	4.75 (1.76)	5.03 (1.86)	13.90 (5.14)	1.83 (0.68)	7.36 (2.51)	8.24 (2.82)	22.70 (7.76)	2.96 (1.01)	0.08 (0.04)	4.29 (1.89)	10.20 (4.46)	0.56 (0.25)
27	5.57 (1.77)	5.92 (1.87)	16.30 (5.17)	2.14 (0.68)	8.25 (2.48)	9.25 (2.77)	25.50 (7.65)	3.32 (1.00)	0.08 (0.02)	4.17 (1.14)	9.72 (2.66)	0.54 (0.15)
28	5.91 (2.05)	6.29 (2.18)	17.30 (6.00)	2.27 (0.79)	9.33 (2.59)	10.50 (2.90)	28.80 (8.00)	3.76 (1.04)	0.09 (0.03)	4.59 (1.36)	10.50 (3.14)	0.60 (0.18)
29	7.14 (1.89)	7.60 (2.01)	21.00 (5.55)	2.74 (0.73)	10.50 (4.58)	11.80 (5.13)	32.50 (14.10)	4.24 (1.84)	0.09 (0.06)	4.56 (3.19)	10.30 (7.21)	0.60 (0.42)
30	7.73 (2.30)	8.25 (2.46)	22.70 (6.77)	2.97 (0.89)					0.11 (0.08)	5.79 (3.99)	12.90 (8.91)	0.76 (0.53)
Avg	5.32	5.75	15.90	2.04	8.79	9.90	27.30	3.54	0.12	6.21	13.20	0.81
n	24	24	24	24	27	27	27	27	21	21	21	21
SD	1.06	1.13	3.10	0.41	1.90	2.15	5.94	0.76	0.03	1.49	2.94	0.20
Min	3.52	3.96	10.90	1.35	5.20	5.82	16.10	2.09	0.08	4.17	9.72	0.54
Max	7.73	8.25	22.70	2.97	12.80	14.40	39.80	5.16	0.16	8.54	18.50	1.13

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for May, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1	6.44 (2.86)	6.89 (3.06)	19.00 (8.43)	2.47 (1.10)	10.10 (5.56)	11.30 (6.23)	31.10 (17.20)	4.06 (2.24)	0.13 (0.06)	6.64 (3.36)		0.88 (0.44)
2	4.89 (2.25)	5.26 (2.41)	14.50 (6.65)	1.88 (0.86)	7.96 (3.79)	8.92 (4.24)	24.60 (11.70)	3.20 (1.52)	0.12 (0.04)	6.50 (2.08)		0.85 (0.27)
3	5.26 (2.06)	5.68 (2.22)	15.60 (6.12)	2.02 (0.79)	8.65 (3.49)	9.69 (3.91)	26.70 (10.80)	3.48 (1.41)	0.15 (0.04)	7.69 (2.21)		1.01 (0.29)
4	5.38 (1.87)	5.83 (2.02)	16.10 (5.57)	2.07 (0.72)	8.68 (2.75)	9.73 (3.08)	26.80 (8.50)	3.50 (1.11)	0.15 (0.04)	8.11 (2.06)		1.06 (0.27)
5	6.76 (1.98)	7.36 (2.15)	20.30 (5.93)	2.60 (0.76)	10.30 (3.24)	11.50 (3.63)	31.70 (10.00)	4.13 (1.30)	0.17 (0.04)	9.19 (1.88)		1.20 (0.25)
6	6.52 (2.96)	7.13 (3.22)	19.70 (8.89)	2.51 (1.14)	10.50 (4.82)	11.70 (5.41)	32.40 (14.90)	4.22 (1.94)	0.16 (0.04)	8.29 (1.88)		1.08 (0.25)
7												
8												
9												
10	5.49 (2.36)	6.11 (2.62)	16.80 (7.22)	2.11 (0.91)	8.41 (3.12)	9.44 (3.50)	26.00 (9.66)	3.39 (1.26)	0.19 (0.04)			1.35 (0.27)
11	6.64 (2.70)	7.42 (3.02)	20.50 (8.31)	2.55 (1.04)	11.00 (5.17)	12.30 (5.81)	34.00 (16.00)	4.42 (2.08)	0.21 (0.05)			1.49 (0.36)
12	7.97 (2.21)	8.94 (2.48)	24.60 (6.84)	3.06 (0.85)	9.92 (6.22)	11.10 (6.98)	30.70 (19.20)	3.99 (2.50)	0.16 (0.06)			1.13 (0.42)
13	8.43 (3.45)	9.51 (3.89)	26.20 (10.70)	3.24 (1.33)	11.10 (5.89)	12.50 (6.61)	34.50 (18.20)	4.49 (2.37)	0.13 (0.05)			0.90 (0.38)
14	7.06 (3.79)	8.00 (4.29)	22.00 (11.80)	2.72 (1.46)	11.00 (5.24)	12.40 (5.89)	34.10 (16.20)	4.43 (2.11)	0.11 (0.06)			0.78 (0.42)
15									0.14 (0.08)	18.00 (10.20)		1.00 (0.57)
16	5.49 (1.85)	6.23 (2.10)	17.20 (5.79)	2.11 (0.71)	9.14 (3.44)	10.30 (3.87)	28.30 (10.70)	3.68 (1.39)	0.13 (0.07)	16.70 (8.60)		0.93 (0.48)
17	6.73 (3.69)	7.64 (4.19)	21.00 (11.60)	2.59 (1.42)	9.69 (4.50)	10.90 (5.07)	30.10 (14.00)	3.90 (1.81)				
18	6.23 (3.14)	7.07 (3.56)	19.50 (9.82)	2.39 (1.21)	10.20 (4.59)	11.50 (5.17)	31.60 (14.20)	4.11 (1.85)				
19	6.30 (3.21)	7.16 (3.64)	19.70 (10.00)	2.42 (1.23)	9.93 (4.16)	11.20 (4.68)	30.80 (12.90)	4.00 (1.67)				
20	5.91 (2.41)	6.67 (2.74)	18.40 (7.55)	2.27 (0.93)	9.31 (3.43)	10.50 (3.87)	28.90 (10.70)	3.75 (1.38)				
21	6.50 (2.61)	7.26 (2.93)	20.00 (8.08)	2.50 (1.01)	9.06 (3.46)	10.20 (3.90)	28.10 (10.70)	3.65 (1.39)	0.07 (0.03)	4.10 (1.60)	10.90 (4.26)	0.52 (0.20)
22	5.76 (3.63)	6.37 (4.02)	17.50 (11.10)	2.21 (1.39)	6.81 (4.65)	7.67 (5.24)	21.10 (14.40)	2.74 (1.87)	0.07 (0.04)	3.66 (2.01)	9.44 (5.23)	0.47 (0.26)
23	4.09 (2.71)	4.47 (2.97)	12.30 (8.19)	1.57 (1.04)	7.12 (3.49)	8.01 (3.93)	22.10 (10.80)	2.87 (1.41)	0.07 (0.03)	4.04 (1.54)	10.10 (3.92)	0.52 (0.20)
24	4.79 (1.50)	5.17 (1.63)	14.30 (4.48)	1.84 (0.58)	9.45 (3.40)	10.60 (3.83)	29.30 (10.50)	3.80 (1.37)	0.09 (0.03)	4.96 (1.45)	12.00 (3.52)	0.64 (0.19)
25	4.35 (2.05)	4.65 (2.21)	12.80 (6.08)	1.67 (0.79)	8.46 (4.60)	9.53 (5.18)	26.30 (14.30)	3.41 (1.85)	0.10 (0.03)	5.35 (1.75)	12.50 (4.12)	0.70 (0.23)
26	4.42 (2.14)	4.68 (2.28)	12.90 (6.28)	1.70 (0.82)	8.66 (4.82)	9.75 (5.43)	26.90 (15.00)	3.49 (1.94)	0.13 (0.04)	6.85 (2.35)	15.40 (5.39)	0.90 (0.31)
27	3.59 (2.12)	3.78 (2.23)	10.40 (6.14)	1.38 (0.82)	6.55 (5.00)	7.37 (5.63)	20.30 (15.50)	2.63 (2.01)	0.13 (0.05)	6.84 (2.58)	14.90 (5.64)	0.90 (0.34)
28	4.88 (1.68)	5.15 (1.78)	14.20 (4.90)	1.88 (0.65)	6.35 (2.48)	7.15 (2.80)	19.70 (7.71)	2.55 (1.00)	0.15 (0.05)	7.74 (2.65)	16.60 (5.64)	1.02 (0.35)
29	4.90 (1.92)	5.18 (2.03)	14.30 (5.60)	1.88 (0.74)	6.99 (3.48)	7.88 (3.92)	21.70 (10.80)	2.82 (1.40)	0.17 (0.05)	8.75 (2.75)	18.50 (5.86)	1.15 (0.36)
30	4.04 (1.66)	4.29 (1.76)	11.80 (4.85)	1.55 (0.64)	6.33 (3.52)	7.14 (3.97)	19.70 (10.90)	2.55 (1.42)	0.19 (0.05)	9.84 (2.80)	20.50 (5.86)	1.30 (0.37)
31	4.80 (1.56)	5.10 (1.66)	14.10 (4.57)	1.84 (0.60)	5.91 (3.01)	6.66 (3.40)	18.40 (9.36)	2.38 (1.21)	0.21 (0.07)	11.10 (3.61)	22.80 (7.41)	1.47 (0.48)
Avg	5.69	6.26	17.30	2.19	8.80	9.89	27.30	3.54	0.14	8.13	14.90	0.97
n	27	27	27	27	27	27	27	27	24	19	11	24
SD	1.18	1.41	3.89	0.45	1.55	1.73	4.76	0.62	0.04	3.72	4.21	0.28
Min	3.59	3.78	10.40	1.38	5.91	6.66	18.40	2.38	0.07	3.66	9.44	0.47
Max	8.43	9.51	26.20	3.24	11.10	12.50	34.50	4.49	0.21	18.00	22.80	1.49

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for June, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1	4.94 (0.84)	5.28 (0.90)	14.50 (2.48)	1.90 (0.32)	4.82 (1.64)	5.44 (1.85)	15.00 (5.11)	1.94 (0.66)	0.19 (0.09)	9.99 (4.52)	20.30 (9.16)	1.32 (0.60)
2	5.91 (1.79)	6.33 (1.92)	17.40 (5.29)	2.27 (0.69)	5.46 (2.18)	6.16 (2.46)	17.00 (6.78)	2.20 (0.88)	0.18 (0.06)	9.45 (3.23)	18.90 (6.46)	1.25 (0.43)
3	4.15 (2.28)	4.46 (2.45)	12.30 (6.75)	1.60 (0.88)	4.16 (2.54)	4.69 (2.87)	12.90 (7.91)	1.67 (1.02)	0.18 (0.07)	9.55 (3.76)	18.80 (7.43)	1.26 (0.50)
4	3.25 (1.22)	3.51 (1.32)	9.69 (3.63)	1.25 (0.47)	4.16 (1.77)	4.69 (1.99)	12.90 (5.49)	1.68 (0.71)	0.19 (0.07)	10.00 (3.47)	19.50 (6.77)	1.32 (0.46)
5	3.04 (1.63)	3.31 (1.78)	9.13 (4.90)	1.17 (0.63)	3.57 (1.63)	4.03 (1.84)	11.10 (5.08)	1.44 (0.66)	0.24 (0.10)	12.40 (5.49)	23.80 (10.60)	1.63 (0.73)
6	2.89 (1.24)	3.17 (1.36)	8.73 (3.75)	1.11 (0.48)	3.02 (1.16)	3.40 (1.30)	9.36 (3.59)	1.22 (0.47)	0.21 (0.08)	10.90 (4.08)	20.80 (7.78)	1.44 (0.54)
7	3.40 (0.84)	3.76 (0.93)	10.40 (2.55)	1.31 (0.32)	3.32 (1.29)	3.73 (1.45)	10.30 (4.00)	1.34 (0.52)	0.21 (0.07)	10.80 (3.74)	20.40 (7.04)	1.43 (0.49)
8	3.61 (1.08)	4.01 (1.19)	11.10 (3.29)	1.39 (0.41)	2.78 (1.82)	3.12 (2.05)	8.61 (5.65)	1.12 (0.73)	0.19 (0.07)	9.94 (3.42)	18.50 (6.38)	1.31 (0.45)
9	3.65 (1.10)	4.08 (1.24)	11.30 (3.41)	1.40 (0.42)	2.95 (1.71)	3.31 (1.92)	9.13 (5.28)	1.19 (0.69)	0.17 (0.08)	8.71 (4.14)	16.10 (7.63)	1.15 (0.55)
10	2.03 (1.28)	2.27 (1.43)	6.27 (3.95)	0.78 (0.49)	2.22 (1.45)	2.49 (1.63)	6.85 (4.49)	0.89 (0.59)				
11	2.79 (1.13)	3.13 (1.27)	8.62 (3.50)	1.07 (0.44)	2.85 (1.49)	3.20 (1.67)	8.82 (4.60)	1.15 (0.60)				
12	2.75 (0.82)	3.08 (0.92)	8.48 (2.54)	1.06 (0.32)	3.00 (1.34)	3.37 (1.50)	9.28 (4.14)	1.21 (0.54)				
13	3.03 (1.45)	3.39 (1.62)	9.34 (4.48)	1.16 (0.56)	3.10 (2.12)	3.49 (2.39)	9.62 (6.57)	1.25 (0.86)	0.06 (0.02)	3.14 (0.94)	7.55 (2.27)	0.41 (0.12)
14	3.77 (1.63)	4.21 (1.83)	11.60 (5.03)	1.45 (0.63)	3.38 (1.89)	3.81 (2.12)	10.50 (5.86)	1.36 (0.76)	0.07 (0.03)	3.93 (1.48)	9.30 (3.51)	0.52 (0.20)
15	3.51 (1.98)	3.92 (2.21)	10.80 (6.10)	1.35 (0.76)	3.34 (1.99)	3.76 (2.24)	10.40 (6.17)	1.34 (0.80)	0.07 (0.03)	3.43 (1.50)	8.02 (3.52)	0.45 (0.20)
16	4.11 (1.84)	4.58 (2.05)	12.60 (5.65)	1.58 (0.71)	3.84 (2.11)	4.31 (2.38)	11.90 (6.56)	1.54 (0.85)	0.10 (0.06)	5.39 (2.99)	12.40 (6.86)	0.71 (0.40)
17	2.53 (0.92)	2.82 (1.03)	7.77 (2.83)	0.97 (0.35)	2.64 (1.43)	2.97 (1.61)	8.20 (4.43)	1.06 (0.58)	0.07 (0.03)	3.66 (1.64)	8.27 (3.70)	0.48 (0.22)
18	2.83 (1.06)	3.15 (1.18)	8.69 (3.24)	1.09 (0.41)	3.34 (1.48)	3.76 (1.67)	10.40 (4.60)	1.34 (0.60)	0.07 (0.03)	3.70 (1.41)	8.24 (3.13)	0.49 (0.19)
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Avg	3.45	3.80	10.50	1.33	3.44	3.87	10.70	1.39	0.15	7.67	15.40	1.01
n	18	18	18	18	18	18	18	18	15	15	15	15
SD	0.89	0.93	2.56	0.34	0.78	0.88	2.43	0.31	0.06	3.22	5.56	0.43
Min	2.03	2.27	6.27	0.78	2.22	2.49	6.85	0.89	0.06	3.14	7.55	0.41
Max	5.91	6.33	17.40	2.27	5.46	6.16	17.00	2.20	0.24	12.40	23.80	1.63

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for July, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11	2.52 (0.89)	2.67 (0.94)	7.35 (2.59)	0.97 (0.34)	2.75 (1.59)	3.09 (1.78)	8.52 (4.92)	1.11 (0.64)	0.04 (0.03)	2.26 (1.81)	5.52 (4.41)	0.30 (0.24)
12	3.48 (1.60)	3.71 (1.71)	10.20 (4.71)	1.34 (0.62)	3.72 (2.11)	4.19 (2.37)	11.50 (6.53)	1.50 (0.85)	0.05 (0.04)	2.41 (1.87)	5.81 (4.49)	0.32 (0.25)
13												
14												
15												
16	1.33 (2.96)	1.46 (3.25)	4.02 (8.97)	0.51 (1.14)	2.13 (3.28)	2.40 (3.70)	6.60 (10.20)	0.86 (1.32)	-0.02 (0.14)	-0.99 (7.33)	-2.26 (16.80)	-0.13 (0.97)
17	2.10 (2.87)	2.32 (3.18)	6.41 (8.77)	0.81 (1.10)	3.32 (3.22)	3.74 (3.62)	10.30 (9.98)	1.34 (1.29)	0.06 (0.08)	3.00 (4.45)	6.85 (10.10)	0.40 (0.59)
18	2.05 (1.20)	2.30 (1.34)	6.33 (3.69)	0.79 (0.46)	2.78 (1.94)	3.13 (2.18)	8.63 (6.02)	1.12 (0.78)	0.07 (0.05)	3.66 (2.53)	8.22 (5.71)	0.48 (0.33)
19	3.12 (1.76)	3.52 (1.99)	9.71 (5.48)	1.20 (0.68)	3.33 (2.08)	3.76 (2.34)	10.40 (6.45)	1.34 (0.84)	0.11 (0.06)	5.52 (3.08)	12.30 (6.86)	0.73 (0.41)
20	2.91 (0.97)	3.31 (1.11)	9.14 (3.05)	1.12 (0.37)	3.08 (1.82)	3.47 (2.05)	9.57 (5.65)	1.24 (0.73)	0.12 (0.05)	6.16 (2.54)	13.60 (5.61)	0.81 (0.34)
21	2.70 (1.17)	3.10 (1.34)	8.55 (3.69)	1.04 (0.45)	2.62 (1.46)	2.95 (1.64)	8.13 (4.53)	1.05 (0.59)	0.11 (0.06)	5.90 (3.08)	12.80 (6.72)	0.78 (0.41)
22	2.27 (1.05)	2.61 (1.20)	7.20 (3.32)	0.87 (0.40)	2.22 (1.43)	2.51 (1.61)	6.91 (4.44)	0.90 (0.58)	0.11 (0.06)	5.63 (2.92)	12.10 (6.30)	0.74 (0.39)
23	1.99 (1.32)	2.26 (1.51)	6.24 (4.16)	0.76 (0.51)	3.02 (1.83)	3.41 (2.06)	9.41 (5.68)	1.22 (0.74)	0.10 (0.06)	5.19 (2.91)	11.10 (6.23)	0.68 (0.38)
24	2.26 (1.58)	2.55 (1.78)	7.02 (4.92)	0.87 (0.61)	3.34 (2.16)	3.78 (2.43)	10.40 (6.70)	1.35 (0.87)	0.14 (0.06)	7.11 (3.21)	15.00 (6.79)	0.94 (0.42)
25	2.48 (1.64)	2.77 (1.84)	7.64 (5.08)	0.95 (0.63)	3.69 (2.34)	4.16 (2.64)	11.50 (7.28)	1.48 (0.94)	0.11 (0.06)	5.73 (3.37)	12.00 (7.06)	0.76 (0.44)
26	3.35 (1.49)	3.72 (1.66)	10.30 (4.59)	1.29 (0.58)	4.21 (2.33)	4.75 (2.63)	13.10 (7.26)	1.69 (0.94)	0.18 (0.08)	9.26 (4.08)	19.20 (8.47)	1.22 (0.54)
27	3.19 (1.07)	3.51 (1.18)	9.66 (3.24)	1.23 (0.41)	3.97 (1.69)	4.49 (1.91)	12.40 (5.26)	1.60 (0.68)	0.18 (0.07)	9.64 (3.52)	19.80 (7.21)	1.27 (0.47)
28	3.67 (1.75)	4.00 (1.91)	11.00 (5.26)	1.41 (0.67)	4.02 (1.91)	4.54 (2.16)	12.50 (5.96)	1.62 (0.77)	0.21 (0.10)	11.00 (5.21)	22.30 (10.60)	1.45 (0.69)
29	2.32 (1.36)	2.52 (1.48)	6.95 (4.08)	0.89 (0.52)	2.64 (2.01)	2.99 (2.28)	8.24 (6.27)	1.06 (0.81)	0.13 (0.08)	7.03 (4.04)	14.10 (8.11)	0.93 (0.53)
30	2.11 (0.83)	2.29 (0.90)	6.32 (2.49)	0.81 (0.32)	2.74 (1.57)	3.10 (1.77)	8.54 (4.89)	1.10 (0.63)	0.11 (0.05)	5.89 (2.54)	11.70 (5.03)	0.78 (0.34)
31	-0.99 (3.41)	-1.08 (3.71)	-2.98 (10.20)	-0.38 (1.31)	0.43 (3.61)	0.48 (4.07)	1.34 (11.20)	0.17 (1.45)	-0.07 (0.23)	-3.77 (12.20)	-7.32 (23.80)	-0.50 (1.61)
Avg	2.38	2.64	7.28	0.92	3.00	3.39	9.33	1.21	0.10	5.03	10.70	0.66
n	18	18	18	18	18	18	18	18	18	18	18	18
SD	1.01	1.11	3.06	0.39	0.86	0.97	2.67	0.35	0.07	3.50	7.08	0.46
Min	-0.99	-1.08	-2.98	-0.38	0.43	0.48	1.34	0.17	-0.07	-3.77	-7.32	-0.50
Max	3.67	4.00	11.00	1.41	4.21	4.75	13.10	1.69	0.21	11.00	22.30	1.45

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for August, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1	2.96 (0.87)	3.22 (0.95)	8.87 (2.62)	1.14 (0.34)	3.49 (1.61)	3.93 (1.81)	10.80 (5.00)	1.40 (0.65)	0.11 (0.04)	5.82 (2.02)	11.30 (3.91)	0.77 (0.27)
2					3.78 (4.35)	4.26 (4.90)	11.70 (13.50)	1.52 (1.75)	0.14 (0.12)	7.21 (6.12)	13.80 (11.70)	0.95 (0.81)
3	3.50 (0.98)	3.82 (1.06)	10.50 (2.93)	1.35 (0.38)	3.63 (1.58)	4.09 (1.78)	11.30 (4.91)	1.46 (0.64)	0.14 (0.06)	7.57 (2.98)	14.30 (5.61)	1.00 (0.39)
4	3.91 (1.11)	4.26 (1.22)	11.80 (3.35)	1.50 (0.43)	2.97 (2.10)	3.34 (2.36)	9.22 (6.51)	1.20 (0.85)	0.15 (0.05)	8.12 (2.68)	15.10 (5.01)	1.07 (0.35)
5	2.38 (1.09)	2.60 (1.19)	7.18 (3.28)	0.92 (0.42)	2.26 (1.57)	2.54 (1.77)	7.01 (4.88)	0.91 (0.63)				
6	2.49 (1.53)	2.73 (1.67)	7.51 (4.61)	0.96 (0.59)	2.49 (1.60)	2.80 (1.80)	7.72 (4.95)	1.00 (0.64)				
7	2.29 (1.43)	2.49 (1.56)	6.87 (4.29)	0.88 (0.55)	2.70 (1.69)	3.03 (1.90)	8.35 (5.24)	1.09 (0.68)				
8	2.94 (1.08)	3.18 (1.18)	8.76 (3.24)	1.13 (0.42)	3.54 (1.75)	3.98 (1.97)	11.00 (5.42)	1.43 (0.70)	0.07 (0.03)	3.63 (1.47)	8.74 (3.54)	0.48 (0.19)
9	3.93 (2.26)	4.23 (2.43)	11.70 (6.70)	1.51 (0.87)	3.98 (2.10)	4.48 (2.36)	12.30 (6.51)	1.60 (0.85)	0.08 (0.04)	4.05 (2.05)	9.57 (4.85)	0.54 (0.27)
10	3.11 (1.75)	3.32 (1.88)	9.16 (5.17)	1.20 (0.67)	3.67 (2.14)	4.13 (2.41)	11.40 (6.63)	1.48 (0.86)	0.05 (0.03)	2.53 (1.35)	5.87 (3.14)	0.33 (0.18)
11	1.75 (1.94)	1.85 (2.05)	5.11 (5.65)	0.67 (0.74)	3.00 (0.98)	3.37 (1.10)	9.30 (3.02)	1.21 (0.39)	0.07 (0.03)	3.91 (1.36)	8.91 (3.12)	0.52 (0.18)
12	4.07 (3.23)	4.29 (3.41)	11.80 (9.40)	1.57 (1.24)	3.73 (3.07)	4.20 (3.46)	11.60 (9.53)	1.50 (1.24)	0.09 (0.04)	4.50 (1.89)	10.10 (4.25)	0.59 (0.25)
13	5.04 (2.04)	5.27 (2.13)	14.50 (5.87)	1.94 (0.78)	5.20 (2.68)	5.85 (3.02)	16.10 (8.31)	2.09 (1.08)	0.09 (0.03)	4.51 (1.62)	9.88 (3.52)	0.60 (0.21)
14	3.28 (2.89)	3.43 (3.02)	9.47 (8.33)	1.26 (1.11)	5.15 (3.23)	5.79 (3.64)	16.00 (10.00)	2.07 (1.30)	0.11 (0.04)	5.71 (2.20)	12.30 (4.76)	0.75 (0.29)
15	2.32 (1.82)	2.48 (1.94)	6.83 (5.35)	0.89 (0.70)	4.11 (2.97)	4.62 (3.34)	12.70 (9.21)	1.65 (1.19)	0.11 (0.04)	5.64 (2.14)	12.00 (4.54)	0.74 (0.28)
16	4.34 (1.99)	4.73 (2.16)	13.10 (5.94)	1.67 (0.77)	4.68 (2.26)	5.27 (2.54)	14.50 (7.01)	1.88 (0.91)	0.12 (0.03)	6.45 (1.79)	13.50 (3.74)	0.85 (0.24)
17	4.64 (2.23)	5.16 (2.47)	14.20 (6.81)	1.78 (0.86)	5.11 (2.20)	5.77 (2.48)	15.90 (6.84)	2.06 (0.89)	0.13 (0.04)	6.95 (2.29)	14.30 (4.73)	0.92 (0.30)
18	5.22 (2.71)	5.92 (3.06)	16.30 (8.43)	2.01 (1.04)	6.06 (3.17)	6.84 (3.58)	18.90 (9.86)	2.44 (1.28)	0.16 (0.07)	8.47 (3.48)	17.20 (7.08)	1.12 (0.46)
19	3.58 (2.49)	4.10 (2.86)	11.30 (7.89)	1.38 (0.96)	4.08 (3.16)	4.61 (3.57)	12.70 (9.84)	1.64 (1.27)	0.12 (0.05)	6.15 (2.80)	12.30 (5.61)	0.81 (0.37)
20	3.40 (1.82)	3.87 (2.08)	10.70 (5.73)	1.31 (0.70)	3.46 (2.06)	3.90 (2.33)	10.70 (6.42)	1.39 (0.83)	0.11 (0.04)	5.83 (2.20)	11.50 (4.34)	0.77 (0.29)
21	3.00 (2.12)	3.39 (2.40)	9.33 (6.62)	1.15 (0.82)	3.11 (2.50)	3.51 (2.82)	9.67 (7.79)	1.25 (1.01)	0.11 (0.05)	5.74 (2.79)	11.10 (5.44)	0.76 (0.37)
22	3.35 (1.67)	3.75 (1.87)	10.30 (5.15)	1.29 (0.64)	3.50 (2.21)	3.94 (2.49)	10.90 (6.86)	1.41 (0.89)	0.14 (0.05)	7.17 (2.43)	13.70 (4.66)	0.95 (0.32)
23	3.46 (1.74)	3.84 (1.94)	10.60 (5.34)	1.33 (0.67)	4.06 (2.06)	4.58 (2.32)	12.60 (6.39)	1.64 (0.83)	0.15 (0.05)	8.04 (2.71)	15.20 (5.13)	1.06 (0.36)
24	3.65 (1.61)	4.02 (1.78)	11.10 (4.90)	1.40 (0.62)	4.26 (2.36)	4.80 (2.66)	13.20 (7.33)	1.72 (0.95)	0.14 (0.05)	7.58 (2.39)	14.10 (4.45)	1.00 (0.32)
25	3.63 (1.79)	3.97 (1.96)	10.90 (5.42)	1.40 (0.69)	3.79 (2.70)	4.26 (3.04)	11.70 (8.37)	1.52 (1.09)	0.14 (0.07)	7.16 (3.49)	13.20 (6.43)	0.95 (0.46)
26	3.09 (2.06)	3.35 (2.24)	9.24 (6.18)	1.19 (0.79)	3.27 (2.23)	3.68 (2.50)	10.10 (6.90)	1.32 (0.90)				
27	3.14 (1.90)	3.37 (2.05)	9.28 (5.64)	1.21 (0.73)	3.06 (1.96)	3.44 (2.21)	9.49 (6.08)	1.23 (0.79)				
28	3.09 (2.14)	3.27 (2.27)	9.02 (6.26)	1.19 (0.82)	3.08 (2.21)	3.47 (2.49)	9.56 (6.86)	1.24 (0.89)				
29	3.69 (1.70)	3.87 (1.78)	10.70 (4.91)	1.42 (0.65)	3.82 (2.08)	4.31 (2.35)	11.90 (6.48)	1.54 (0.84)	0.07 (0.06)	3.75 (3.06)		0.50 (0.40)
30	4.14 (1.14)	4.29 (1.18)	11.80 (3.27)	1.59 (0.44)	4.53 (2.02)	5.11 (2.28)	14.10 (6.30)	1.82 (0.82)	0.08 (0.05)	4.25 (2.79)		0.56 (0.37)
31	4.76 (1.34)	4.89 (1.38)	13.50 (3.80)	1.83 (0.52)	4.42 (2.01)	5.00 (2.28)	13.80 (6.28)	1.78 (0.81)	0.08 (0.06)	4.25 (2.93)		0.56 (0.39)
Avg	3.47	3.77	10.40	1.33	3.81	4.29	11.80	1.53	0.11	5.80	12.20	0.77
n	30	30	30	30	31	31	31	31	25	25	22	25
SD	0.81	0.88	2.43	0.31	0.84	0.95	2.60	0.34	0.03	1.62	2.56	0.21
Min	1.75	1.85	5.11	0.67	2.26	2.54	7.01	0.91	0.05	2.53	5.87	0.33
Max	5.22	5.92	16.30	2.01	6.06	6.84	18.90	2.44	0.16	8.47	17.20	1.12

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for September, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1	4.35 (2.16)	4.42 (2.21)	12.20 (6.09)	1.67 (0.83)	4.05 (2.13)	4.58 (2.41)	12.60 (6.64)	1.63 (0.86)	0.05 (0.03)	2.85 (1.64)		0.38 (0.22)
2												
3	3.86 (1.98)	3.90 (2.00)	10.80 (5.51)	1.48 (0.76)	3.89 (2.59)	4.40 (2.93)	12.10 (8.08)	1.56 (1.04)	0.09 (0.05)	4.94 (2.62)	12.80 (6.81)	0.65 (0.35)
4	3.99 (1.96)	4.02 (1.98)	11.10 (5.47)	1.53 (0.76)	4.27 (2.61)	4.83 (2.95)	13.30 (8.12)	1.72 (1.05)	0.11 (0.05)	5.95 (2.82)	15.00 (7.10)	0.79 (0.37)
5									0.07 (0.05)	3.53 (2.58)	8.64 (6.37)	0.47 (0.34)
6												
7												
8	5.48 (1.64)	5.51 (1.65)	15.20 (4.55)	2.11 (0.63)	3.91 (2.10)	4.41 (2.37)	12.20 (6.52)	1.57 (0.84)	0.16 (0.08)	8.32 (4.12)	18.20 (9.05)	1.10 (0.54)
9	4.32 (1.97)	4.35 (1.99)	12.00 (5.47)	1.66 (0.76)	2.50 (1.40)	2.81 (1.57)	7.75 (4.34)	1.00 (0.56)	0.18 (0.08)	9.20 (4.18)	19.70 (8.93)	1.21 (0.55)
10	3.56 (1.47)	3.60 (1.49)	9.91 (4.10)	1.37 (0.57)	3.19 (1.97)	3.60 (2.22)	9.92 (6.12)	1.29 (0.79)	0.15 (0.04)	7.70 (1.88)	16.20 (4.00)	1.02 (0.25)
11	3.89 (2.20)	3.94 (2.23)	10.80 (6.14)	1.50 (0.85)	4.07 (2.28)	4.59 (2.57)	12.60 (7.07)	1.64 (0.92)	0.20 (0.06)	10.70 (3.31)	22.20 (6.88)	1.41 (0.44)
12	3.53 (1.06)	3.58 (1.08)	9.87 (2.97)	1.36 (0.41)	4.17 (2.02)	4.70 (2.28)	12.90 (6.28)	1.68 (0.82)	0.23 (0.09)	12.30 (4.74)	25.30 (9.73)	1.63 (0.63)
13	3.81 (1.21)	3.87 (1.23)	10.70 (3.38)	1.46 (0.46)	3.88 (1.60)	4.37 (1.80)	12.00 (4.96)	1.56 (0.64)	0.25 (0.09)	12.90 (4.84)	26.30 (9.81)	1.71 (0.64)
14	4.17 (1.66)	4.25 (1.69)	11.70 (4.65)	1.60 (0.64)	3.83 (2.04)	4.30 (2.30)	11.90 (6.34)	1.54 (0.82)	0.26 (0.10)	13.50 (5.10)	27.00 (10.20)	1.78 (0.67)
15	3.57 (1.80)	3.66 (1.84)	10.10 (5.06)	1.37 (0.69)	3.51 (1.82)	3.95 (2.04)	10.90 (5.63)	1.41 (0.73)	0.16 (0.10)	8.39 (5.04)	16.70 (10.00)	1.11 (0.67)
16	4.27 (1.61)	4.39 (1.65)	12.10 (4.55)	1.64 (0.62)	3.82 (1.53)	4.30 (1.72)	11.80 (4.75)	1.54 (0.62)	0.10 (0.04)	5.03 (2.04)	9.86 (4.01)	0.66 (0.27)
17	5.28 (2.59)	5.46 (2.67)	15.10 (7.37)	2.03 (1.00)	5.67 (3.72)	6.39 (4.19)	17.60 (11.50)	2.28 (1.50)	0.12 (0.04)	6.43 (1.91)	12.50 (3.70)	0.85 (0.25)
18	4.73 (2.56)	4.92 (2.66)	13.60 (7.34)	1.82 (0.99)	5.00 (2.97)	5.64 (3.35)	15.60 (9.24)	2.01 (1.20)	0.13 (0.04)	6.75 (1.96)	13.00 (3.78)	0.89 (0.26)
19	5.57 (3.10)	5.83 (3.24)	16.10 (8.92)	2.14 (1.19)	5.53 (3.09)	6.24 (3.49)	17.20 (9.62)	2.23 (1.25)	0.14 (0.05)	7.41 (2.38)	14.10 (4.54)	0.98 (0.32)
20	6.55 (2.85)	6.89 (2.99)	19.00 (8.24)	2.52 (1.09)	6.32 (2.90)	7.14 (3.27)	19.70 (9.01)	2.55 (1.17)	0.16 (0.04)	8.52 (2.24)	16.00 (4.24)	1.12 (0.30)
21	6.33 (2.79)	6.70 (2.94)	18.50 (8.11)	2.43 (1.07)	7.03 (3.24)	7.94 (3.66)	21.90 (10.10)	2.83 (1.30)	0.16 (0.04)	8.65 (2.24)	16.10 (4.18)	1.14 (0.30)
22	6.55 (2.57)	6.97 (2.73)	19.20 (7.52)	2.52 (0.99)	8.08 (3.48)	9.14 (3.93)	25.20 (10.80)	3.25 (1.40)	0.18 (0.04)	9.66 (2.33)	17.80 (4.31)	1.27 (0.31)
23	4.96 (3.09)	5.32 (3.30)	14.70 (9.09)	1.91 (1.19)	6.09 (4.39)	6.89 (4.97)	19.00 (13.70)	2.45 (1.77)				
24	4.88 (1.72)	5.33 (1.87)	14.70 (5.16)	1.88 (0.66)	5.57 (3.54)	6.30 (4.01)	17.40 (11.00)	2.24 (1.43)				
25	5.01 (1.93)	5.55 (2.13)	15.30 (5.87)	1.93 (0.74)	6.48 (4.27)	7.33 (4.83)	20.20 (13.30)	2.61 (1.72)				
26	3.27 (1.65)	3.67 (1.85)	10.10 (5.09)	1.26 (0.63)	6.77 (3.04)	7.66 (3.44)	21.10 (9.48)	2.73 (1.22)	0.08 (0.03)	4.31 (1.50)	10.40 (3.65)	0.57 (0.20)
27	3.93 (1.96)	4.48 (2.22)	12.40 (6.13)	1.51 (0.75)	7.37 (3.66)	8.34 (4.14)	23.00 (11.40)	2.97 (1.47)	0.08 (0.03)	4.34 (1.62)	10.40 (3.88)	0.57 (0.21)
28	4.54 (1.55)	5.28 (1.79)	14.50 (4.92)	1.75 (0.59)	7.61 (3.36)	8.61 (3.80)	23.70 (10.50)	3.06 (1.35)	0.08 (0.03)	4.11 (1.38)	9.68 (3.25)	0.54 (0.18)
29	4.69 (1.77)	5.46 (2.08)	15.10 (5.72)	1.80 (0.68)	7.57 (2.85)	8.56 (3.22)	23.60 (8.88)	3.05 (1.15)	0.09 (0.03)	4.58 (1.46)	10.60 (3.39)	0.60 (0.19)
30					5.58 (3.62)	6.32 (4.10)	17.40 (11.30)	2.25 (1.46)	0.09 (0.03)	4.54 (1.52)	10.40 (3.51)	0.60 (0.20)
Avg	4.60	4.85	13.40	1.77	5.22	5.90	16.30	2.10	0.14	7.27	15.60	0.96
n	25	25	25	25	26	26	26	26	24	24	23	24
SD	0.92	1.02	2.80	0.35	1.55	1.76	4.84	0.62	0.06	2.97	5.36	0.39
Min	3.27	3.58	9.87	1.26	2.50	2.81	7.75	1.00	0.05	2.85	8.64	0.38
Max	6.55	6.97	19.20	2.52	8.08	9.14	25.20	3.25	0.26	13.50	27.00	1.78

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for October, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1	3.39 (1.46)	3.87 (1.67)	10.70 (4.62)	1.30 (0.56)	5.85 (2.53)	6.62 (2.86)	18.30 (7.89)	2.35 (1.02)	0.11 (0.03)	5.60 (1.81)	12.70 (4.12)	0.74 (0.24)
2	3.82 (1.79)	4.31 (2.03)	11.90 (5.59)	1.47 (0.69)	7.14 (2.56)	8.09 (2.90)	22.30 (8.01)	2.87 (1.03)	0.13 (0.05)	6.87 (2.38)	15.40 (5.34)	0.91 (0.31)
3	3.59 (1.60)	4.02 (1.79)	11.10 (4.95)	1.38 (0.62)	7.15 (3.16)	8.10 (3.58)	22.30 (9.88)	2.88 (1.27)	0.14 (0.05)	7.21 (2.72)	15.90 (6.02)	0.95 (0.36)
4	3.81 (1.78)	4.22 (1.98)	11.60 (5.46)	1.46 (0.69)	7.22 (3.18)	8.20 (3.60)	22.60 (9.93)	2.91 (1.28)	0.15 (0.06)	8.07 (2.94)	17.60 (6.44)	1.07 (0.39)
5	3.57 (2.51)	3.92 (2.76)	10.80 (7.60)	1.37 (0.96)	7.12 (3.65)	8.08 (4.14)	22.30 (11.40)	2.87 (1.47)	0.14 (0.09)	7.37 (4.66)	15.90 (10.10)	0.97 (0.62)
6	4.83 (1.60)	5.25 (1.74)	14.50 (4.80)	1.86 (0.61)	7.65 (3.66)	8.69 (4.16)	23.90 (11.50)	3.08 (1.48)	0.17 (0.06)	9.12 (3.10)	19.40 (6.64)	1.20 (0.41)
7	4.21 (2.30)	4.52 (2.48)	12.50 (6.83)	1.62 (0.88)	6.17 (3.74)	7.01 (4.25)	19.30 (11.70)	2.48 (1.51)	0.18 (0.05)	9.60 (2.41)	20.20 (5.10)	1.27 (0.32)
8	3.95 (1.64)	4.20 (1.75)	11.60 (4.83)	1.52 (0.63)	6.34 (2.17)	7.21 (2.46)	19.90 (6.79)	2.55 (0.87)	0.18 (0.06)	9.46 (2.92)	19.70 (6.12)	1.25 (0.39)
9	3.86 (1.81)	4.10 (1.92)	11.30 (5.28)	1.49 (0.70)	6.40 (2.35)	7.28 (2.68)	20.10 (7.38)	2.58 (0.95)	0.17 (0.05)	8.69 (2.75)	17.90 (5.67)	1.15 (0.36)
10	3.83 (1.20)	4.09 (1.28)	11.30 (3.52)	1.47 (0.46)	7.29 (2.16)	8.28 (2.46)	22.80 (6.77)	2.93 (0.87)	0.15 (0.04)	8.03 (2.14)	16.30 (4.35)	1.06 (0.28)
11	4.19 (1.29)	4.51 (1.39)	12.40 (3.83)	1.61 (0.50)	8.41 (2.39)	9.54 (2.71)	26.30 (7.46)	3.38 (0.96)	0.16 (0.03)	8.42 (1.63)	17.00 (3.29)	1.11 (0.22)
12	5.88 (1.59)	6.36 (1.72)	17.50 (4.73)	2.26 (0.61)	7.96 (2.96)	9.02 (3.35)	24.90 (9.24)	3.20 (1.19)	0.15 (0.04)	7.97 (2.05)	15.90 (4.12)	1.05 (0.27)
13												
14												
15												
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30												
31												
Avg	4.08	4.45	12.30	1.57	7.06	8.01	22.10	2.84	0.15	8.03	17.00	1.06
n	12	12	12	12	12	12	12	12	12	12	12	12
SD	0.65	0.68	1.86	0.25	0.72	0.82	2.26	0.29	0.02	1.11	2.03	0.15
Min	3.39	3.87	10.70	1.30	5.85	6.62	18.30	2.35	0.11	5.60	12.70	0.74
Max	5.88	6.36	17.50	2.26	8.41	9.54	26.30	3.38	0.18	9.60	20.20	1.27

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for November, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1												
2												
3					12.00 (2.68)	13.70 (3.07)	37.90 (8.45)	4.84 (1.08)	0.36 (0.09)	18.90 (4.79)	41.10 (10.50)	2.50 (0.63)
4												
5					8.45 (2.04)	9.68 (2.33)	26.70 (6.43)	3.40 (0.82)	0.27 (0.05)	14.20 (2.63)	30.10 (5.59)	1.88 (0.35)
6					7.96 (3.86)	9.13 (4.43)	25.20 (12.20)	3.20 (1.56)	0.26 (0.08)	13.70 (4.28)	28.60 (8.99)	1.80 (0.56)
7					10.00 (3.86)	11.50 (4.44)	31.70 (12.20)	4.04 (1.56)	0.26 (0.08)	13.50 (3.96)	28.10 (8.24)	1.79 (0.52)
8					11.90 (3.51)	13.60 (4.04)	37.60 (11.10)	4.78 (1.41)	0.29 (0.06)	15.10 (3.03)	31.00 (6.21)	1.99 (0.40)
9									0.35 (0.12)	18.60 (6.06)	37.90 (12.30)	2.46 (0.80)
10												
11												
12									0.15 (0.05)			1.01 (0.32)
13	7.18 (2.03)	8.64 (2.44)	23.80 (6.72)	2.76 (0.78)	10.10 (3.00)	11.60 (3.45)	32.10 (9.50)	4.07 (1.21)	0.14 (0.04)			0.94 (0.27)
14	3.80 (3.74)	4.63 (4.57)	12.80 (12.60)	1.46 (1.44)	7.98 (4.48)	9.18 (5.15)	25.30 (14.20)	3.21 (1.80)	0.12 (0.03)			0.84 (0.18)
15	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	2.62 (1.19)	3.01 (1.37)	8.29 (3.78)	1.05 (0.48)	0.13 (0.04)			0.88 (0.30)
16					3.83 (3.59)	4.40 (4.12)	12.10 (11.40)	1.54 (1.44)	0.15 (0.04)			1.05 (0.28)
17												
18					3.68 (4.88)	4.22 (5.60)	11.60 (15.40)	1.48 (1.96)				
19												
20												
21					3.74 (4.15)	4.31 (4.78)	11.90 (13.20)	1.51 (1.67)				
22					6.13 (5.87)	7.07 (6.77)	19.50 (18.70)	2.47 (2.36)				
23												
24												
25					5.83 (6.23)	6.75 (7.21)	18.60 (19.90)	2.35 (2.51)				
26												
27									0.11 (0.08)	6.32 (4.62)	14.80 (10.90)	0.76 (0.56)
28									0.13 (0.09)	7.53 (5.02)	17.30 (11.60)	0.93 (0.62)
29									0.15 (0.12)	8.07 (6.74)	18.20 (15.20)	1.01 (0.85)
30									0.22 (0.11)	11.90 (5.72)	26.30 (12.70)	1.53 (0.73)
Avg	3.66	4.42	12.20	1.41	7.25	8.33	23.00	2.92	0.21	12.80	27.40	1.42
n	3	3	3	3	13	13	13	13	15	10	10	15
SD	2.93	3.53	9.73	1.13	3.09	3.54	9.75	1.24	0.08	4.16	8.15	0.58
Min	0.00	0.00	0.00	0.00	2.62	3.01	8.29	1.05	0.11	6.32	14.80	0.76
Max	7.18	8.64	23.80	2.76	12.00	13.70	37.90	4.84	0.36	18.90	41.10	2.50

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for December, 2008.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1												
2									0.22 (0.17)	11.60 (8.98)	24.80 (19.20)	1.54 (1.18)
3									0.27 (0.16)	14.00 (8.15)	29.60 (17.20)	1.85 (1.07)
4									0.25 (0.11)	13.20 (5.81)	27.70 (12.10)	1.75 (0.77)
5									0.26 (0.16)	13.70 (8.44)	28.30 (17.40)	1.81 (1.11)
6	6.95 (3.40)	7.83 (3.85)	21.60 (10.60)	2.67 (1.31)					0.25 (0.18)	13.20 (9.26)	27.00 (18.90)	1.74 (1.22)
7	7.13 (4.33)	7.82 (4.75)	21.60 (13.10)	2.74 (1.66)								
8	7.83 (4.92)	8.46 (5.32)	23.30 (14.70)	3.01 (1.89)					0.14 (0.19)	7.21 (10.10)	14.40 (20.20)	0.95 (1.33)
9	6.74 (3.60)	7.24 (3.87)	20.00 (10.70)	2.59 (1.38)					0.00 (0.00)	0.00 (0.01)	0.00 (0.02)	0.00 (0.00)
10	5.93 (2.37)	6.33 (2.54)	17.50 (7.00)	2.28 (0.91)	5.40 (1.68)	6.27 (1.95)	17.30 (5.38)	2.17 (0.68)	0.05 (0.08)	2.89 (4.05)	5.34 (7.52)	0.38 (0.54)
11	5.39 (2.26)	5.73 (2.40)	15.80 (6.62)	2.07 (0.87)	5.15 (2.10)	5.97 (2.43)	16.50 (6.71)	2.07 (0.84)	0.11 (0.04)	5.54 (1.89)	10.00 (3.42)	0.73 (0.25)
12	6.12 (2.05)	6.48 (2.17)	17.80 (5.97)	2.35 (0.79)	5.97 (3.95)	6.93 (4.58)	19.10 (12.60)	2.40 (1.59)				
13									0.13 (0.08)	6.93 (4.23)	11.70 (7.14)	0.91 (0.56)
14	7.99 (3.53)	8.36 (3.70)	23.00 (10.20)	3.07 (1.36)					0.14 (0.08)	7.17 (4.17)	11.70 (6.83)	0.95 (0.55)
15	7.04 (1.98)	7.33 (2.06)	20.20 (5.68)	2.71 (0.76)	10.50 (3.34)	12.20 (3.87)	33.50 (10.70)	4.22 (1.34)	0.13 (0.05)	6.67 (2.75)	10.60 (4.39)	0.88 (0.36)
16	6.88 (2.15)	7.21 (2.24)	19.90 (6.19)	2.64 (0.83)								
17	6.61 (2.17)	7.09 (2.33)	19.50 (6.42)	2.54 (0.84)	8.69 (2.85)	10.10 (3.30)	27.80 (9.11)	3.50 (1.15)				
18												
19	5.18 (1.91)	5.80 (2.15)	16.00 (5.92)	1.99 (0.74)	8.14 (2.40)	9.43 (2.78)	26.00 (7.67)	3.28 (0.97)	0.07 (0.06)	3.46 (2.97)	8.09 (6.96)	0.46 (0.39)
20	6.35 (2.59)	7.28 (2.96)	20.10 (8.16)	2.44 (1.00)	9.20 (2.18)	10.70 (2.52)	29.40 (6.95)	3.70 (0.88)	0.06 (0.05)	3.15 (2.59)	7.30 (6.02)	0.42 (0.34)
21	6.82 (2.36)	8.00 (2.78)	22.10 (7.65)	2.62 (0.91)	8.62 (5.27)	9.98 (6.10)	27.50 (16.80)	3.47 (2.12)	0.07 (0.06)	3.65 (3.31)	8.42 (7.62)	0.48 (0.44)
22					6.47 (7.45)	7.48 (8.62)	20.60 (23.80)	2.60 (3.00)				
23									0.07 (0.06)	3.64 (3.26)	8.28 (7.42)	0.48 (0.43)
24	9.11 (2.98)	11.00 (3.60)	30.30 (9.91)	3.50 (1.14)					0.11 (0.06)	5.72 (3.11)	12.80 (7.00)	0.75 (0.41)
25												
26												
27												
28												
29												
30									0.11 (0.08)	5.85 (4.04)	12.20 (8.43)	0.77 (0.53)
31												
Avg	6.81	7.46	20.60	2.62	7.57	8.77	24.20	3.05	0.14	7.09	14.30	0.94
n	15	15	15	15	9	9	9	9	18	18	18	18
SD	0.97	1.24	3.42	0.37	1.77	2.05	5.65	0.71	0.08	4.18	8.74	0.55
Min	5.18	5.73	15.80	1.99	5.15	5.97	16.50	2.07	0.00	0.00	0.00	0.00
Max	9.11	11.00	30.30	3.50	10.50	12.20	33.50	4.22	0.27	14.00	29.60	1.85

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for January, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1												
2												
3												
4	8.27 (3.40)	10.10 (4.15)	27.90 (11.40)	3.18 (1.31)					0.17 (0.09)	8.97 (4.82)	17.70 (9.55)	1.18 (0.64)
5	8.34 (2.47)	10.30 (3.05)	28.40 (8.40)	3.21 (0.95)	11.60 (3.93)	13.10 (4.42)	36.10 (12.20)	4.68 (1.58)	0.13 (0.07)	6.60 (3.73)	12.90 (7.31)	0.87 (0.49)
6	8.53 (2.36)	10.60 (2.93)	29.20 (8.07)	3.28 (0.91)	11.80 (2.84)	13.30 (3.21)	36.80 (8.84)	4.77 (1.15)	0.13 (0.05)	6.78 (2.79)	13.10 (5.41)	0.89 (0.37)
7	10.10 (3.14)	12.60 (3.93)	34.80 (10.80)	3.89 (1.21)	10.80 (5.79)	12.20 (6.53)	33.70 (18.00)	4.36 (2.33)	0.13 (0.04)	6.87 (2.06)	13.10 (3.93)	0.91 (0.27)
8												
9												
10									0.15 (0.05)	7.79 (2.75)	14.40 (5.10)	1.03 (0.36)
11					11.40 (4.58)	12.90 (5.18)	35.60 (14.30)	4.60 (1.84)	0.14 (0.05)	7.53 (2.54)	13.80 (4.65)	0.99 (0.34)
12												
13												
14												
15												
16					6.28 (7.41)	7.10 (8.38)	19.60 (23.10)	2.53 (2.98)				
17									0.08 (0.07)	4.41 (3.65)		0.58 (0.48)
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28	11.00 (3.45)	12.80 (4.02)	35.20 (11.10)	4.23 (1.33)	11.10 (4.08)	12.60 (4.61)	34.60 (12.70)	4.47 (1.64)	0.22 (0.08)	11.30 (4.46)	23.30 (9.19)	1.49 (0.59)
29												
30												
31					9.81 (11.60)	11.10 (13.20)	30.60 (36.30)	3.95 (4.69)				
Avg	9.25	11.30	31.10	3.56	10.40	11.80	32.40	4.19	0.14	7.53	15.50	0.99
n	5	5	5	5	7	7	7	7	8	8	7	8
SD	1.11	1.17	3.21	0.43	1.80	2.02	5.57	0.72	0.04	1.88	3.54	0.25
Min	8.27	10.10	27.90	3.18	6.28	7.10	19.60	2.53	0.08	4.41	12.90	0.58
Max	11.00	12.80	35.20	4.23	11.80	13.30	36.80	4.77	0.22	11.30	23.30	1.49

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for February, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1												
2												
3					5.14 (6.45)	5.80 (7.28)	16.00 (20.10)	2.07 (2.60)				
4					4.98 (6.81)	5.61 (7.67)	15.50 (21.10)	2.00 (2.74)				
5												
6												
7									0.14 (0.05)	7.76 (2.60)	14.20 (4.79)	0.99 (0.33)
8	9.13 (2.72)	10.30 (3.07)	28.40 (8.46)	3.51 (1.05)					0.12 (0.04)	6.78 (2.33)	12.30 (4.24)	0.86 (0.30)
9	10.20 (2.84)	11.50 (3.21)	31.80 (8.86)	3.92 (1.09)					0.13 (0.04)	7.30 (2.18)	13.10 (3.92)	0.92 (0.27)
10	7.76 (4.10)	8.85 (4.64)	24.40 (12.80)	2.99 (1.58)	8.81 (6.02)	9.84 (6.72)	27.10 (18.50)	3.55 (2.42)				
11	6.17 (2.12)	7.13 (2.45)	19.70 (6.75)	2.37 (0.82)	8.22 (2.67)	9.20 (2.99)	25.30 (8.24)	3.31 (1.08)				
12	6.35 (2.80)	7.35 (3.25)	20.30 (8.95)	2.44 (1.08)	8.68 (3.31)	9.76 (3.72)	26.90 (10.30)	3.49 (1.33)				
13	4.76 (1.79)	5.45 (2.05)	15.00 (5.66)	1.83 (0.69)	8.84 (4.89)	10.00 (5.53)	27.60 (15.30)	3.56 (1.97)				
14	6.56 (1.72)	7.42 (1.95)	20.50 (5.39)	2.52 (0.66)								
15												
16												
17												
18												
19	6.32 (1.61)	7.02 (1.80)	19.30 (4.96)	2.43 (0.62)	7.39 (5.36)	8.58 (6.22)	23.70 (17.20)	2.98 (2.16)				
20					6.13 (7.86)	7.06 (9.06)	19.50 (25.00)	2.47 (3.16)				
21									0.17 (0.13)	8.78 (6.63)	19.50 (14.70)	1.16 (0.88)
22					11.00 (10.10)	12.50 (11.50)	34.60 (31.60)	4.44 (4.06)				
23												
24									0.22 (0.10)	11.80 (5.09)	24.90 (10.80)	1.56 (0.67)
25												
26									0.17 (0.07)	8.71 (3.62)	18.00 (7.50)	1.15 (0.48)
27	7.63 (3.41)	9.14 (4.08)	25.20 (11.20)	2.93 (1.31)	12.70 (3.54)	14.40 (4.00)	39.70 (11.00)	5.12 (1.42)	0.14 (0.05)	7.42 (2.81)	15.20 (5.76)	0.98 (0.37)
28									0.15 (0.05)	7.97 (2.65)	16.20 (5.36)	1.05 (0.35)
Avg	7.21	8.25	22.70	2.77	8.19	9.28	25.60	3.30	0.16	8.31	16.70	1.08
n	9	9	9	9	10	10	10	10	8	8	8	8
SD	1.57	1.78	4.89	0.60	2.33	2.63	7.24	0.94	0.03	1.46	3.83	0.20
Min	4.76	5.45	15.00	1.83	4.98	5.61	15.50	2.00	0.12	6.78	12.30	0.86
Max	10.20	11.50	31.80	3.92	12.70	14.40	39.70	5.12	0.22	11.80	24.90	1.56

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for March, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1									0.17 (0.05)	9.16 (2.65)	18.40 (5.32)	1.21 (0.35)
2					4.44 (6.48)	5.06 (7.37)	13.90 (20.30)	1.79 (2.61)	0.17 (0.04)	9.04 (2.33)	18.00 (4.66)	1.19 (0.31)
3												
4									0.18 (0.08)	9.32 (4.26)	17.90 (8.08)	1.23 (0.56)
5									0.22 (0.07)	11.30 (3.65)	20.80 (6.82)	1.49 (0.48)
6									0.17 (0.07)	8.75 (3.74)	15.30 (6.64)	1.15 (0.49)
7	9.31 (4.14)	11.30 (5.03)	31.20 (13.90)	3.58 (1.59)	11.10 (4.36)	12.50 (4.94)	34.50 (13.60)	4.46 (1.76)	0.17 (0.07)	9.13 (3.65)	15.20 (6.17)	1.20 (0.48)
8	8.84 (3.23)	10.70 (3.92)	29.60 (10.80)	3.40 (1.24)	10.60 (4.16)	12.00 (4.70)	33.00 (13.00)	4.26 (1.67)	0.18 (0.07)	9.49 (3.82)	15.10 (6.08)	1.25 (0.50)
9	8.83 (3.30)	10.70 (4.01)	29.50 (11.10)	3.40 (1.27)	11.00 (3.93)	12.50 (4.44)	34.30 (12.20)	4.45 (1.58)	0.14 (0.07)	7.32 (3.68)	11.10 (5.63)	0.97 (0.49)
10												
11	6.38 (3.10)	7.80 (3.79)	21.50 (10.40)	2.45 (1.19)								
12												
13												
14												
15												
16									0.11 (0.08)	5.90 (4.13)	13.30 (9.31)	0.78 (0.54)
17												
18									0.15 (0.08)	7.73 (3.97)	17.00 (8.75)	1.02 (0.52)
19									0.15 (0.07)	7.68 (3.61)	16.70 (7.88)	1.01 (0.48)
20									0.19 (0.09)	9.83 (4.69)	21.00 (10.00)	1.30 (0.62)
21									0.20 (0.11)	10.30 (5.73)	21.70 (12.10)	1.36 (0.76)
22												
23									0.19 (0.08)	9.74 (4.36)	20.00 (8.97)	1.28 (0.58)
24									0.19 (0.09)	9.80 (4.51)	19.80 (9.15)	1.29 (0.60)
25									0.20 (0.05)	10.30 (2.80)	20.50 (5.60)	1.36 (0.37)
26	6.52 (2.63)	7.66 (3.11)	21.10 (8.58)	2.51 (1.01)					0.17 (0.05)	8.90 (2.81)	17.50 (5.55)	1.17 (0.37)
27	5.73 (1.50)	6.55 (1.73)	18.10 (4.76)	2.20 (0.58)					0.16 (0.06)	8.52 (2.97)	16.50 (5.76)	1.12 (0.39)
28	6.84 (2.21)	7.62 (2.48)	21.00 (6.84)	2.63 (0.85)					0.20 (0.08)	10.40 (4.45)	19.90 (8.49)	1.37 (0.59)
29	6.78 (1.99)	7.36 (2.18)	20.30 (6.01)	2.61 (0.77)					0.18 (0.07)	9.37 (3.46)	17.70 (6.56)	1.24 (0.46)
30	7.92 (1.70)	8.48 (1.82)	23.40 (5.00)	3.05 (0.65)					0.17 (0.04)	8.90 (2.36)	16.70 (4.43)	1.17 (0.31)
31	6.87 (3.10)	7.32 (3.31)	20.20 (9.12)	2.64 (1.19)	9.11 (5.04)	10.20 (5.66)	28.20 (15.60)	3.67 (2.03)				
Avg	7.40	8.56	23.60	2.85	9.25	10.40	28.80	3.72	0.17	9.09	17.60	1.20
n	10	10	10	10	5	5	5	5	21	21	21	21
SD	1.17	1.62	4.46	0.45	2.51	2.82	7.78	1.01	0.02	1.18	2.62	0.16
Min	5.73	6.55	18.10	2.20	4.44	5.06	13.90	1.79	0.11	5.90	11.10	0.78
Max	9.31	11.30	31.20	3.58	11.10	12.50	34.50	4.46	0.22	11.30	21.70	1.49

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for April, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1	7.21 (2.09)	7.64 (2.22)	21.10 (6.11)	2.77 (0.80)	9.36 (2.48)	10.50 (2.78)	29.00 (7.66)	3.77 (1.00)				
2	7.71 (2.40)	8.14 (2.54)	22.40 (7.00)	2.96 (0.92)	9.51 (2.89)	10.70 (3.25)	29.40 (8.95)	3.83 (1.16)				
3	7.66 (2.38)	8.06 (2.51)	22.20 (6.91)	2.94 (0.91)	9.25 (3.08)	10.40 (3.46)	28.60 (9.53)	3.72 (1.24)	0.09 (0.04)	4.78 (1.92)	11.80 (4.75)	0.63 (0.25)
4	7.63 (1.82)	8.00 (1.91)	22.00 (5.26)	2.93 (0.70)	10.00 (3.85)	11.30 (4.33)	31.00 (11.90)	4.04 (1.55)	0.08 (0.05)	4.11 (2.73)	10.00 (6.68)	0.54 (0.36)
5	7.70 (2.37)	8.04 (2.48)	22.20 (6.84)	2.96 (0.91)	10.00 (3.75)	11.30 (4.22)	31.10 (11.60)	4.04 (1.51)	0.11 (0.07)	5.82 (3.71)	14.20 (9.02)	0.77 (0.49)
6	9.46 (2.37)	9.84 (2.47)	27.10 (6.81)	3.64 (0.91)	10.20 (3.92)	11.50 (4.40)	31.60 (12.10)	4.10 (1.58)	0.13 (0.04)	6.85 (2.36)	16.50 (5.69)	0.90 (0.31)
7	9.00 (2.64)	9.37 (2.74)	25.80 (7.55)	3.46 (1.01)	5.18 (5.74)	5.82 (6.45)	16.10 (17.80)	2.09 (2.31)				
8	9.18 (2.94)	9.66 (3.08)	26.60 (8.48)	3.53 (1.13)	7.59 (5.21)	8.55 (5.86)	23.60 (16.20)	3.06 (2.10)				
9	7.74 (2.92)	8.21 (3.09)	22.60 (8.51)	2.97 (1.12)	10.10 (2.86)	11.40 (3.22)	31.30 (8.87)	4.06 (1.15)				
10	5.58 (2.07)	5.98 (2.21)	16.50 (6.08)	2.14 (0.79)	9.03 (3.36)	10.20 (3.79)	28.10 (10.50)	3.63 (1.35)	0.14 (0.06)	7.19 (3.10)	16.10 (7.01)	0.95 (0.41)
11	8.34 (2.54)	9.03 (2.74)	24.90 (7.56)	3.21 (0.98)	11.30 (3.11)	12.80 (3.51)	35.30 (9.68)	4.56 (1.25)	0.12 (0.05)	6.14 (2.39)	13.50 (5.24)	0.81 (0.32)
12	10.10 (2.05)	11.00 (2.24)	30.40 (6.18)	3.87 (0.79)	13.60 (3.70)	15.40 (4.19)	42.40 (11.50)	5.47 (1.49)	0.17 (0.08)	8.78 (4.00)	18.90 (8.61)	1.16 (0.53)
13	10.10 (2.81)	11.10 (3.09)	30.50 (8.51)	3.87 (1.08)	11.50 (6.28)	13.10 (7.11)	36.00 (19.60)	4.64 (2.53)	0.17 (0.08)	9.11 (4.26)	19.20 (9.03)	1.20 (0.56)
14	9.70 (3.06)	10.70 (3.37)	29.50 (9.29)	3.73 (1.18)	8.00 (2.13)	9.06 (2.42)	25.00 (6.66)	3.22 (0.86)	0.14 (0.03)	7.48 (1.69)	15.60 (3.53)	0.99 (0.22)
15	8.46 (2.47)	9.33 (2.73)	25.70 (7.52)	3.25 (0.95)	9.39 (2.84)	10.60 (3.21)	29.30 (8.85)	3.78 (1.14)	0.15 (0.04)	8.04 (2.18)	16.60 (4.51)	1.06 (0.29)
16					8.75 (4.59)	9.90 (5.19)	27.30 (14.30)	3.52 (1.85)	0.14 (0.06)	7.56 (3.09)	15.50 (6.33)	1.00 (0.41)
17	9.05 (2.88)	10.00 (3.18)	27.60 (8.78)	3.48 (1.11)	11.40 (4.32)	12.90 (4.88)	35.40 (13.50)	4.57 (1.74)	0.16 (0.07)	8.58 (3.70)	17.40 (7.52)	1.13 (0.49)
18	8.33 (2.72)	9.24 (3.01)	25.50 (8.30)	3.20 (1.04)	10.10 (4.26)	11.40 (4.81)	31.50 (13.30)	4.07 (1.71)	0.18 (0.07)	9.23 (3.79)	18.50 (7.62)	1.22 (0.50)
19	8.44 (2.57)	9.38 (2.85)	25.80 (7.86)	3.25 (0.99)	11.40 (3.61)	12.80 (4.08)	35.40 (11.30)	4.57 (1.45)	0.18 (0.06)	9.32 (3.32)	18.50 (6.60)	1.23 (0.44)
20	9.14 (2.93)	10.20 (3.26)	28.00 (8.99)	3.51 (1.13)	11.00 (3.10)	12.50 (3.51)	34.40 (9.66)	4.44 (1.25)	0.20 (0.07)	10.70 (3.94)	21.10 (7.76)	1.41 (0.52)
21	7.99 (3.25)	8.93 (3.62)	24.60 (9.97)	3.07 (1.25)	8.99 (4.12)	10.20 (4.66)	28.00 (12.80)	3.62 (1.66)	0.15 (0.05)	7.62 (2.59)	14.90 (5.06)	1.01 (0.34)
22	8.29 (2.48)	9.35 (2.80)	25.80 (7.71)	3.19 (0.96)	8.22 (3.24)	9.28 (3.66)	25.60 (10.10)	3.31 (1.31)	0.13 (0.04)	7.07 (2.12)	13.60 (4.10)	0.93 (0.28)
23	6.14 (4.45)	6.98 (5.05)	19.20 (13.90)	2.36 (1.71)	7.01 (3.41)	7.91 (3.85)	21.80 (10.60)	2.82 (1.37)	0.11 (0.07)	5.77 (3.93)	11.00 (7.51)	0.76 (0.52)
24	4.64 (2.40)	5.33 (2.74)	14.70 (7.56)	1.79 (0.92)	6.78 (3.78)	7.65 (4.26)	21.10 (11.70)	2.73 (1.52)	0.14 (0.06)	7.52 (3.31)	14.20 (6.26)	0.99 (0.44)
25	4.32 (1.97)	5.00 (2.27)	13.80 (6.25)	1.66 (0.76)	5.98 (3.75)	6.75 (4.23)	18.60 (11.70)	2.41 (1.51)	0.16 (0.08)	8.57 (4.45)	16.10 (8.37)	1.13 (0.59)
26	4.91 (2.90)	5.72 (3.37)	15.80 (9.29)	1.89 (1.11)	6.21 (4.04)	7.00 (4.56)	19.30 (12.60)	2.50 (1.63)	0.16 (0.08)	8.46 (4.09)	15.70 (7.61)	1.12 (0.54)
27	6.26 (2.80)	7.37 (3.29)	20.30 (9.07)	2.41 (1.08)	7.40 (4.20)	8.33 (4.73)	23.00 (13.00)	2.98 (1.69)	0.21 (0.09)	11.00 (4.82)	20.30 (8.89)	1.46 (0.64)
28	5.18 (3.63)	6.13 (4.29)	16.90 (11.80)	1.99 (1.39)	5.84 (4.43)	6.58 (4.99)	18.10 (13.80)	2.35 (1.78)				
29	4.23 (1.97)	5.00 (2.33)	13.80 (6.41)	1.63 (0.76)	6.81 (3.05)	7.67 (3.44)	21.10 (9.48)	2.74 (1.23)				
30	5.12 (2.26)	6.05 (2.67)	16.70 (7.35)	1.97 (0.87)	9.07 (4.86)	10.20 (5.47)	28.10 (15.10)	3.65 (1.96)				
Avg	7.50	8.23	22.70	2.88	8.97	10.10	27.90	3.61	0.15	7.72	15.90	1.02
n	29	29	29	29	30	30	30	30	22	22	22	22
SD	1.76	1.79	4.94	0.68	1.97	2.23	6.14	0.79	0.03	1.69	2.83	0.22
Min	4.23	5.00	13.80	1.63	5.18	5.82	16.10	2.09	0.08	4.11	10.00	0.54
Max	10.10	11.10	30.50	3.87	13.60	15.40	42.40	5.47	0.21	11.00	21.10	1.46

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for May, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1	4.89 (2.74)	5.78 (3.24)	15.90 (8.93)	1.88 (1.05)	7.51 (3.35)	8.45 (3.77)	23.30 (10.40)	3.02 (1.35)	0.10 (0.06)	5.22 (2.96)	12.60 (7.15)	0.69 (0.39)
2	5.17 (2.63)	6.11 (3.11)	16.80 (8.58)	1.99 (1.01)	7.94 (3.39)	8.93 (3.82)	24.60 (10.50)	3.20 (1.37)	0.11 (0.05)	5.84 (2.83)	13.90 (6.74)	0.77 (0.37)
3	5.05 (2.28)	5.96 (2.70)	16.40 (7.43)	1.94 (0.88)	8.07 (3.72)	9.08 (4.19)	25.00 (11.50)	3.25 (1.50)	0.12 (0.06)	6.31 (3.09)	14.80 (7.23)	0.83 (0.41)
4	5.17 (1.79)	6.10 (2.12)	16.80 (5.83)	1.99 (0.69)	7.98 (3.16)	8.97 (3.55)	24.70 (9.79)	3.21 (1.27)	0.12 (0.06)	6.51 (2.90)	15.00 (6.69)	0.86 (0.38)
5	5.45 (3.22)	6.43 (3.80)	17.70 (10.50)	2.10 (1.24)	6.53 (4.32)	7.35 (4.86)	20.30 (13.40)	2.63 (1.74)	0.13 (0.05)	6.65 (2.57)	15.10 (5.87)	0.88 (0.34)
6	4.22 (2.23)	4.98 (2.63)	13.70 (7.25)	1.62 (0.86)	5.93 (2.06)	6.67 (2.32)	18.40 (6.39)	2.39 (0.83)	0.16 (0.10)	8.46 (5.02)	18.90 (11.20)	1.12 (0.66)
7	3.79 (2.62)	4.50 (3.11)	12.40 (8.57)	1.46 (1.01)	6.94 (3.13)	7.81 (3.52)	21.50 (9.70)	2.79 (1.26)	0.15 (0.06)	7.89 (3.34)	17.50 (7.41)	1.04 (0.44)
8	3.06 (1.53)	3.64 (1.82)	10.00 (5.01)	1.17 (0.59)	6.55 (3.00)	7.37 (3.37)	20.30 (9.29)	2.64 (1.21)	0.16 (0.06)	8.15 (3.13)	17.80 (6.84)	1.08 (0.41)
9	3.02 (1.55)	3.61 (1.85)	9.95 (5.11)	1.16 (0.60)	5.54 (3.05)	6.23 (3.43)	17.20 (9.46)	2.23 (1.23)	0.14 (0.07)	7.19 (3.93)	15.60 (8.52)	0.95 (0.52)
10	4.39 (1.86)	5.28 (2.24)	14.60 (6.17)	1.69 (0.72)	6.97 (2.14)	7.84 (2.41)	21.60 (6.63)	2.81 (0.86)	0.15 (0.05)	7.71 (2.56)	16.50 (5.48)	1.02 (0.34)
11					10.30 (4.08)	11.60 (4.59)	32.10 (12.70)	4.17 (1.64)	0.16 (0.05)	8.37 (2.61)	17.70 (5.55)	1.10 (0.35)
12	6.06 (4.95)	7.37 (6.00)	20.30 (16.50)	2.33 (1.90)	7.86 (5.89)	8.84 (6.62)	24.40 (18.30)	3.16 (2.37)	0.14 (0.07)	7.50 (3.92)	15.70 (8.26)	0.99 (0.52)
13	4.38 (2.91)	5.37 (3.56)	14.80 (9.81)	1.69 (1.12)					0.13 (0.05)	6.89 (2.48)	14.30 (5.14)	0.91 (0.33)
14	4.65 (2.34)	5.75 (2.88)	15.80 (7.94)	1.79 (0.90)	7.19 (3.80)	8.09 (4.28)	22.30 (11.80)	2.90 (1.53)	0.17 (0.07)	8.74 (3.51)	17.90 (7.20)	1.15 (0.46)
15	5.42 (2.51)	6.76 (3.13)	18.60 (8.63)	2.08 (0.97)	7.04 (2.61)	7.91 (2.93)	21.80 (8.08)	2.83 (1.05)	0.20 (0.08)	10.60 (4.05)	21.50 (8.21)	1.40 (0.53)
16	4.22 (2.66)	5.31 (3.34)	14.60 (9.20)	1.62 (1.02)	7.18 (2.63)	8.07 (2.96)	22.30 (8.15)	2.89 (1.06)	0.18 (0.08)	9.31 (4.35)	18.60 (8.73)	1.23 (0.57)
17	5.00 (2.56)	6.34 (3.25)	17.50 (8.97)	1.92 (0.98)	7.50 (4.34)	8.43 (4.88)	23.20 (13.40)	3.02 (1.75)	0.17 (0.08)	9.04 (4.16)	17.90 (8.24)	1.19 (0.55)
18									0.19 (0.04)	9.97 (2.28)	19.50 (4.48)	1.32 (0.30)
19									0.13 (0.05)	6.78 (2.40)	13.10 (4.67)	0.90 (0.32)
20	4.49 (2.71)	5.43 (3.30)	15.00 (9.09)	1.73 (1.04)	7.06 (3.32)	7.95 (3.74)	21.90 (10.30)	2.84 (1.34)	0.15 (0.06)	8.10 (3.19)	15.50 (6.13)	1.07 (0.42)
21	3.13 (2.69)	3.72 (3.20)	10.20 (8.82)	1.20 (1.03)	6.60 (3.75)	7.43 (4.23)	20.50 (11.70)	2.66 (1.51)	0.15 (0.06)	8.03 (3.07)	15.30 (5.85)	1.06 (0.41)
22	3.60 (2.47)	4.18 (2.87)	11.50 (7.92)	1.38 (0.95)	9.09 (4.82)	10.20 (5.43)	28.20 (15.00)	3.66 (1.94)	0.23 (0.12)	12.30 (6.51)	23.10 (12.30)	1.62 (0.86)
23	4.37 (3.01)	4.98 (3.44)	13.70 (9.49)	1.68 (1.16)	9.93 (5.67)	11.20 (6.39)	30.90 (17.60)	4.00 (2.28)	0.22 (0.10)	11.30 (5.24)	21.10 (9.78)	1.49 (0.69)
24	5.02 (4.66)	5.61 (5.23)	15.50 (14.40)	1.93 (1.79)	10.50 (5.39)	11.80 (6.08)	32.60 (16.80)	4.22 (2.17)	0.25 (0.14)	13.20 (7.45)	24.40 (13.80)	1.74 (0.98)
25	5.69 (4.24)	6.23 (4.67)	17.20 (12.90)	2.19 (1.63)	11.20 (5.16)	12.60 (5.83)	34.90 (16.10)	4.51 (2.08)	0.26 (0.12)	13.50 (6.43)	24.80 (11.80)	1.78 (0.85)
26					7.93 (5.34)	8.96 (6.03)	24.70 (16.60)	3.19 (2.15)				
27	6.03 (3.16)	6.54 (3.42)	18.00 (9.44)	2.32 (1.21)	8.91 (3.75)	10.10 (4.24)	27.70 (11.70)	3.59 (1.51)				
28												
29												
30												
31	7.35 (4.24)	8.02 (4.63)	22.10 (12.80)	2.83 (1.63)	8.59 (5.99)	9.69 (6.75)	26.70 (18.60)	3.46 (2.41)	0.13 (0.08)	6.89 (4.45)	16.30 (10.60)	0.91 (0.59)
Avg	4.73	5.58	15.40	1.82	7.87	8.87	24.40	3.17	0.16	8.48	17.50	1.12
n	24	24	24	24	25	25	25	25	26	26	26	26
SD	1.01	1.10	3.04	0.39	1.41	1.60	4.41	0.57	0.04	2.14	3.24	0.28
Min	3.02	3.61	9.95	1.16	5.54	6.23	17.20	2.23	0.10	5.22	12.60	0.69
Max	7.35	8.02	22.10	2.83	11.20	12.60	34.90	4.51	0.26	13.50	24.80	1.78

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for June, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1	8.06 (2.19)	8.81 (2.39)	24.30 (6.59)	3.10 (0.84)	7.88 (3.31)	8.88 (3.74)	24.50 (10.30)	3.17 (1.33)	0.14 (0.07)	7.35 (3.86)	17.20 (9.05)	0.97 (0.51)
2	5.84 (3.51)	6.39 (3.84)	17.60 (10.60)	2.25 (1.35)	5.26 (3.91)	5.93 (4.41)	16.30 (12.10)	2.12 (1.57)	0.13 (0.07)	6.80 (3.70)	15.80 (8.58)	0.90 (0.49)
3												
4	5.24 (3.71)	5.74 (4.07)	15.80 (11.20)	2.01 (1.43)	5.36 (2.82)	6.04 (3.17)	16.60 (8.75)	2.16 (1.13)	0.16 (0.09)	8.55 (4.88)	19.50 (11.10)	1.13 (0.64)
5	4.66 (2.63)	5.08 (2.87)	14.00 (7.92)	1.79 (1.01)	5.92 (2.68)	6.67 (3.02)	18.40 (8.33)	2.38 (1.08)	0.17 (0.10)	8.72 (5.14)	19.60 (11.60)	1.15 (0.68)
6	8.53 (2.98)	9.27 (3.24)	25.60 (8.93)	3.28 (1.15)	8.09 (2.41)	9.12 (2.72)	25.10 (7.48)	3.26 (0.97)	0.16 (0.06)	8.29 (3.23)	18.40 (7.17)	1.09 (0.43)
7	8.00 (2.68)	8.67 (2.91)	23.90 (8.01)	3.08 (1.03)	8.99 (2.55)	10.10 (2.88)	27.90 (7.94)	3.62 (1.03)	0.24 (0.10)	12.50 (5.35)	27.40 (11.70)	1.64 (0.71)
8												
9	5.74 (3.03)	6.23 (3.28)	17.20 (9.05)	2.21 (1.16)	7.97 (4.56)	8.99 (5.14)	24.80 (14.20)	3.21 (1.83)	0.20 (0.10)			1.40 (0.72)
10	4.45 (3.87)	4.84 (4.21)	13.30 (11.60)	1.71 (1.49)					0.15 (0.10)			1.05 (0.67)
11	5.14 (1.90)	5.61 (2.08)	15.50 (5.73)	1.98 (0.73)	7.42 (3.26)	8.37 (3.68)	23.10 (10.10)	2.99 (1.31)	0.24 (0.10)			1.64 (0.69)
12	6.88 (2.62)	7.53 (2.87)	20.80 (7.90)	2.64 (1.01)	7.82 (3.60)	8.81 (4.06)	24.30 (11.20)	3.15 (1.45)	0.23 (0.12)			1.62 (0.80)
13	6.74 (2.74)	7.40 (3.01)	20.40 (8.30)	2.59 (1.05)	7.57 (2.74)	8.53 (3.09)	23.50 (8.52)	3.05 (1.10)	0.25 (0.11)			1.72 (0.73)
14	8.17 (2.77)	9.00 (3.05)	24.80 (8.40)	3.14 (1.06)	8.65 (3.82)	9.75 (4.31)	26.90 (11.90)	3.48 (1.54)	0.24 (0.12)			1.68 (0.80)
15												
16												
17	5.13 (2.92)	5.70 (3.24)	15.70 (8.92)	1.97 (1.12)	8.50 (4.08)	9.57 (4.59)	26.40 (12.70)	3.42 (1.64)	0.22 (0.10)	36.70 (17.10)	69.70 (32.40)	1.53 (0.71)
18	4.38 (3.15)	4.86 (3.50)	13.40 (9.66)	1.68 (1.21)	8.54 (4.73)	9.61 (5.33)	26.50 (14.70)	3.44 (1.91)	0.20 (0.10)	34.10 (16.50)	64.30 (31.30)	1.42 (0.69)
19	5.39 (2.39)	5.99 (2.66)	16.50 (7.33)	2.07 (0.92)	8.26 (3.25)	9.29 (3.66)	25.60 (10.10)	3.32 (1.31)	0.27 (0.11)	44.30 (18.60)	83.10 (34.80)	1.85 (0.77)
20	7.26 (2.96)	8.08 (3.29)	22.30 (9.08)	2.79 (1.14)	8.14 (3.29)	9.15 (3.70)	25.20 (10.20)	3.28 (1.32)				
21	6.72 (1.92)	7.49 (2.14)	20.60 (5.89)	2.58 (0.74)	8.13 (3.08)	9.14 (3.46)	25.20 (9.53)	3.27 (1.24)				
22	7.39 (4.91)	8.25 (5.48)	22.70 (15.10)	2.84 (1.89)	8.22 (3.94)	9.23 (4.43)	25.40 (12.20)	3.31 (1.59)				
23	7.30 (4.81)	8.16 (5.37)	22.50 (14.80)	2.81 (1.85)	7.22 (5.02)	8.12 (5.64)	22.40 (15.50)	2.91 (2.02)				
24	7.62 (4.30)	8.56 (4.82)	23.60 (13.30)	2.93 (1.65)	7.06 (4.79)	7.94 (5.38)	21.90 (14.80)	2.84 (1.93)				
25	7.10 (4.23)	8.00 (4.76)	22.00 (13.10)	2.73 (1.63)	7.00 (4.48)	7.86 (5.03)	21.70 (13.90)	2.82 (1.80)				
26	6.42 (3.35)	7.27 (3.79)	20.00 (10.40)	2.47 (1.29)								
27	7.64 (2.99)	8.68 (3.40)	23.90 (9.36)	2.94 (1.15)	8.02 (3.71)	9.01 (4.17)	24.80 (11.50)	3.23 (1.49)	0.19 (0.12)	10.30 (6.23)	24.30 (14.70)	1.34 (0.81)
28	7.21 (5.32)	8.23 (6.06)	22.70 (16.70)	2.77 (2.04)	7.74 (4.63)	8.69 (5.20)	24.00 (14.30)	3.11 (1.86)	0.16 (0.09)	8.53 (4.90)	19.50 (11.30)	1.12 (0.64)
29	6.22 (3.10)	7.11 (3.54)	19.60 (9.76)	2.39 (1.19)	8.34 (3.11)	9.37 (3.50)	25.80 (9.64)	3.36 (1.25)	0.20 (0.10)	10.50 (5.15)	23.40 (11.50)	1.39 (0.68)
30	5.59 (4.49)	6.37 (5.12)	17.60 (14.10)	2.15 (1.72)	6.12 (4.77)	6.88 (5.36)	19.00 (14.80)	2.46 (1.92)	0.18 (0.09)	9.50 (4.53)	20.90 (10.00)	1.25 (0.60)
Avg	6.49	7.20	19.90	2.50	7.59	8.55	23.60	3.06	0.20	15.80	32.60	1.36
n	26	26	26	26	24	24	24	24	19	13	13	19
SD	1.21	1.35	3.72	0.46	0.99	1.12	3.08	0.40	0.04	12.60	22.30	0.27
Min	4.38	4.84	13.30	1.68	5.26	5.93	16.30	2.12	0.13	6.80	15.80	0.90
Max	8.53	9.27	25.60	3.28	8.99	10.10	27.90	3.62	0.27	44.30	83.10	1.85

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for July, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}	kg·d^{-1}	g·d^{-1}hd^{-2}	g·d^{-1}AU^{-1}	g·d^{-1}m^{2}
1	4.92 (2.44)	5.59 (2.78)	15.40 (7.65)	1.89 (0.94)	6.36 (3.47)	7.15 (3.90)	19.70 (10.70)	2.56 (1.40)	0.23 (0.11)	12.00 (5.56)	26.10 (12.10)	1.58 (0.73)
2	2.90 (3.14)	3.29 (3.57)	9.06 (9.84)	1.11 (1.21)	6.23 (3.46)	7.00 (3.89)	19.30 (10.70)	2.51 (1.39)	0.20 (0.12)	10.60 (6.31)	22.80 (13.60)	1.40 (0.83)
3	3.61 (2.03)	4.09 (2.29)	11.30 (6.32)	1.39 (0.78)	7.77 (3.32)	8.73 (3.73)	24.10 (10.30)	3.13 (1.33)	0.22 (0.10)	11.30 (5.26)	24.10 (11.20)	1.50 (0.69)
4	4.87 (2.57)	5.50 (2.90)	15.20 (8.01)	1.87 (0.99)	9.00 (3.85)	10.10 (4.33)	27.90 (11.90)	3.63 (1.55)	0.24 (0.09)	12.50 (4.76)	26.10 (9.99)	1.64 (0.63)
5	3.85 (2.56)	4.33 (2.88)	11.90 (7.94)	1.48 (0.98)	8.03 (2.82)	9.03 (3.18)	24.90 (8.76)	3.23 (1.14)	0.18 (0.09)	9.51 (4.79)	19.70 (9.91)	1.26 (0.63)
6	4.53 (2.06)	5.09 (2.31)	14.00 (6.38)	1.74 (0.79)	8.63 (3.45)	9.70 (3.88)	26.70 (10.70)	3.47 (1.39)	0.23 (0.13)	11.90 (6.72)	24.60 (14.00)	1.56 (0.89)
7	4.72 (3.68)	5.31 (4.14)	14.60 (11.40)	1.82 (1.41)	6.55 (4.58)	7.37 (5.15)	20.30 (14.20)	2.64 (1.84)	0.18 (0.10)	9.46 (5.03)	19.90 (10.60)	1.25 (0.66)
8	4.59 (2.64)	5.16 (2.98)	14.20 (8.20)	1.76 (1.02)	6.15 (3.52)	6.92 (3.96)	19.10 (10.90)	2.48 (1.42)	0.19 (0.10)	9.85 (5.46)	21.10 (11.70)	1.30 (0.72)
9	5.03 (2.70)	5.65 (3.03)	15.60 (8.36)	1.93 (1.04)	6.88 (2.89)	7.74 (3.25)	21.30 (8.96)	2.77 (1.16)	0.20 (0.10)	10.40 (5.22)	22.70 (11.40)	1.37 (0.69)
10	6.12 (3.56)	6.89 (4.01)	19.00 (11.00)	2.35 (1.37)	8.71 (4.34)	9.78 (4.88)	27.00 (13.40)	3.51 (1.75)	0.21 (0.09)	11.00 (4.94)	24.70 (11.00)	1.45 (0.65)
11	6.60 (3.36)	7.43 (3.79)	20.50 (10.40)	2.54 (1.29)	9.99 (4.79)	11.20 (5.38)	30.90 (14.80)	4.02 (1.93)	0.26 (0.10)	13.90 (5.11)	32.00 (11.70)	1.83 (0.67)
12	6.07 (1.62)	6.83 (1.82)	18.80 (5.01)	2.33 (0.62)	7.22 (3.36)	8.11 (3.77)	22.40 (10.40)	2.91 (1.35)	0.25 (0.11)	13.00 (5.91)	31.00 (14.00)	1.72 (0.78)
13	5.16 (3.70)	5.81 (4.16)	16.00 (11.50)	1.98 (1.42)	7.30 (2.60)	8.20 (2.92)	22.60 (8.05)	2.94 (1.05)	0.23 (0.10)	12.30 (5.30)	30.30 (13.20)	1.62 (0.70)
14	6.92 (5.17)	7.80 (5.82)	21.50 (16.00)	2.66 (1.99)	8.63 (5.29)	9.69 (5.93)	26.70 (16.40)	3.47 (2.13)				
15	4.92 (3.93)	5.54 (4.43)	15.30 (12.20)	1.89 (1.51)	7.65 (5.19)	8.58 (5.83)	23.70 (16.10)	3.08 (2.09)				
16												
17												
18												
19												
20												
21												
22	4.73 (2.47)	4.90 (2.55)	13.50 (7.03)	1.82 (0.95)	5.69 (3.13)	6.39 (3.51)	17.60 (9.68)	2.29 (1.26)	0.15 (0.08)	8.12 (4.23)	18.80 (9.78)	1.07 (0.56)
23	4.21 (2.27)	4.38 (2.36)	12.10 (6.50)	1.62 (0.87)	5.69 (2.59)	6.39 (2.91)	17.60 (8.02)	2.29 (1.04)	0.12 (0.09)	6.54 (4.59)	14.90 (10.50)	0.86 (0.61)
24	7.22 (3.58)	7.53 (3.73)	20.80 (10.30)	2.78 (1.38)	7.34 (2.87)	8.24 (3.23)	22.70 (8.89)	2.95 (1.16)	0.19 (0.11)	9.83 (5.76)	22.20 (13.00)	1.30 (0.76)
25	6.65 (2.27)	6.97 (2.37)	19.20 (6.54)	2.56 (0.87)	6.40 (2.49)	7.18 (2.79)	19.80 (7.70)	2.58 (1.00)	0.21 (0.12)	10.90 (6.23)	24.30 (13.80)	1.44 (0.82)
26	6.95 (1.91)	7.32 (2.01)	20.20 (5.54)	2.67 (0.74)	5.18 (2.60)	5.81 (2.92)	16.00 (8.05)	2.09 (1.05)	0.23 (0.10)	12.20 (5.34)	26.70 (11.70)	1.61 (0.71)
27												
28												
29												
30												
31	4.50 (1.53)	4.70 (1.60)	13.00 (4.42)	1.73 (0.59)					0.16 (0.09)	8.16 (4.60)	16.90 (9.53)	1.08 (0.61)
Avg	5.19	5.72	15.80	2.00	7.27	8.17	22.50	2.93	0.20	10.70	23.60	1.41
n	21	21	21	21	20	20	20	20	19	19	19	19
SD	1.16	1.24	3.41	0.45	1.25	1.40	3.86	0.50	0.03	1.80	4.45	0.24
Min	2.90	3.29	9.06	1.11	5.18	5.81	16.00	2.09	0.12	6.54	14.90	0.86
Max	7.22	7.80	21.50	2.78	9.99	11.20	30.90	4.02	0.26	13.90	32.00	1.83

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for August, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1	6.70 (1.62)	6.98 (1.69)	19.30 (4.66)	2.58 (0.62)					0.14 (0.04)	7.10 (2.06)	14.50 (4.20)	0.94 (0.27)
2	6.71 (1.85)	6.97 (1.92)	19.20 (5.29)	2.58 (0.71)					0.16 (0.04)	8.31 (2.07)	16.90 (4.20)	1.10 (0.27)
3												
4	5.16 (2.01)	5.41 (2.10)	14.90 (5.80)	1.98 (0.77)	4.92 (2.21)	5.53 (2.48)	15.20 (6.84)	1.98 (0.89)	0.12 (0.06)	6.08 (3.00)	12.10 (5.96)	0.80 (0.40)
5												
6												
7	5.56 (1.48)	5.95 (1.58)	16.40 (4.36)	2.14 (0.57)	4.97 (1.62)	5.59 (1.82)	15.40 (5.02)	2.00 (0.65)	0.13 (0.04)	6.71 (2.36)	12.90 (4.54)	0.89 (0.31)
8	5.95 (1.46)	6.41 (1.56)	17.70 (4.31)	2.29 (0.56)	4.96 (1.66)	5.59 (1.87)	15.40 (5.15)	2.00 (0.67)	0.13 (0.05)	6.74 (2.51)	12.90 (4.79)	0.89 (0.33)
9	6.89 (0.80)	7.48 (0.86)	20.60 (2.38)	2.65 (0.31)	5.22 (1.53)	5.89 (1.72)	16.20 (4.74)	2.10 (0.61)	0.15 (0.05)	7.68 (2.43)		1.01 (0.32)
10	7.37 (1.96)	8.05 (2.13)	22.20 (5.88)	2.83 (0.75)	4.93 (1.68)	5.57 (1.89)	15.30 (5.22)	1.98 (0.68)	0.16 (0.05)	8.30 (2.43)		1.10 (0.32)
11												
12												
13												
14												
15												
16	5.43 (1.92)	6.21 (2.19)	17.10 (6.03)	2.09 (0.74)	6.44 (2.32)	7.33 (2.64)	20.20 (7.26)	2.59 (0.93)	0.06 (0.03)	3.05 (1.74)	7.10 (4.06)	0.40 (0.23)
17	6.04 (1.41)	6.95 (1.63)	19.20 (4.48)	2.32 (0.54)	5.92 (1.52)	6.75 (1.73)	18.60 (4.77)	2.38 (0.61)	0.07 (0.05)	3.71 (2.54)	8.51 (5.82)	0.49 (0.34)
18	5.46 (2.20)	6.29 (2.53)	17.30 (6.98)	2.10 (0.85)	4.34 (2.25)	4.95 (2.56)	13.60 (7.05)	1.75 (0.90)	0.09 (0.04)	4.86 (2.05)	11.00 (4.66)	0.64 (0.27)
19	4.54 (1.52)	5.24 (1.75)	14.40 (4.83)	1.74 (0.58)	4.13 (1.71)	4.70 (1.95)	13.00 (5.36)	1.66 (0.69)	0.09 (0.04)	4.66 (1.94)	10.50 (4.36)	0.61 (0.26)
20	5.29 (1.78)	6.12 (2.05)	16.90 (5.66)	2.03 (0.68)	5.46 (1.87)	6.22 (2.13)	17.20 (5.88)	2.20 (0.76)	0.12 (0.04)	6.05 (2.15)	13.40 (4.79)	0.80 (0.28)
21	4.52 (1.52)	5.24 (1.77)	14.50 (4.87)	1.74 (0.59)	5.23 (2.04)	5.96 (2.33)	16.40 (6.41)	2.11 (0.82)	0.10 (0.05)	5.28 (2.87)	11.60 (6.33)	0.70 (0.38)
22	3.77 (1.99)	4.38 (2.31)	12.10 (6.36)	1.45 (0.76)	4.50 (1.13)	5.13 (1.29)	14.10 (3.54)	1.81 (0.46)	0.05 (0.01)	2.58 (0.65)	5.61 (1.40)	0.34 (0.09)
23	3.40 (2.97)	3.96 (3.46)	10.90 (9.54)	1.31 (1.14)					0.10 (0.04)	5.37 (1.87)	11.60 (4.02)	0.71 (0.25)
24	6.69 (1.75)	7.81 (2.04)	21.50 (5.63)	2.57 (0.67)	7.34 (2.21)	8.36 (2.52)	23.10 (6.95)	2.96 (0.89)	0.13 (0.04)	6.81 (2.27)	14.50 (4.84)	0.90 (0.30)
25	6.23 (1.89)	7.27 (2.21)	20.00 (6.09)	2.40 (0.73)	7.10 (2.44)	8.09 (2.78)	22.30 (7.66)	2.86 (0.98)	0.12 (0.03)	6.28 (1.72)	13.30 (3.63)	0.83 (0.23)
26	6.37 (1.99)	7.42 (2.31)	20.50 (6.38)	2.45 (0.76)	6.68 (2.16)	7.60 (2.45)	21.00 (6.76)	2.69 (0.87)	0.14 (0.04)	7.41 (2.27)	15.50 (4.72)	0.98 (0.30)
27	4.56 (2.89)	5.30 (3.36)	14.60 (9.26)	1.75 (1.11)	4.30 (2.40)	4.89 (2.73)	13.50 (7.52)	1.73 (0.97)	0.13 (0.03)	6.73 (1.75)	13.90 (3.63)	0.89 (0.23)
28	2.84 (1.17)	3.29 (1.36)	9.06 (3.75)	1.09 (0.45)	4.40 (1.56)	5.01 (1.78)	13.80 (4.89)	1.77 (0.63)	0.13 (0.03)	6.85 (1.65)	14.00 (3.37)	0.90 (0.22)
29	3.74 (1.32)	4.32 (1.53)	11.90 (4.21)	1.44 (0.51)	5.27 (1.62)	5.99 (1.84)	16.50 (5.07)	2.12 (0.65)	0.16 (0.03)	8.31 (1.54)	16.80 (3.12)	1.10 (0.20)
30	4.70 (1.17)	5.42 (1.35)	14.90 (3.71)	1.81 (0.45)	5.40 (1.37)	6.15 (1.56)	16.90 (4.29)	2.18 (0.55)	0.16 (0.08)	8.23 (3.97)	16.50 (7.94)	1.09 (0.52)
31												
Avg	5.36	6.02	16.60	2.06	5.34	6.07	16.70	2.15	0.12	6.23	12.70	0.82
n	22	22	22	22	19	19	19	19	22	22	20	22
SD	1.21	1.27	3.51	0.47	0.93	1.06	2.92	0.37	0.03	1.63	2.98	0.22
Min	2.84	3.29	9.06	1.09	4.13	4.70	13.00	1.66	0.05	2.58	5.61	0.34
Max	7.37	8.05	22.20	2.83	7.34	8.36	23.10	2.96	0.16	8.31	16.90	1.10

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for September, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1					4.69 (2.19)	5.33 (2.50)	14.70 (6.88)	1.89 (0.88)	0.08 (0.03)	3.96 (1.34)	7.62 (2.60)	0.52 (0.18)
2	4.38 (1.89)	5.07 (2.18)	14.00 (6.02)	1.68 (0.73)	5.18 (1.55)	5.89 (1.77)	16.20 (4.87)	2.08 (0.63)	0.08 (0.03)	4.18 (1.53)	7.85 (2.87)	0.55 (0.20)
3	4.23 (2.22)	4.91 (2.57)	13.50 (7.08)	1.63 (0.85)	5.92 (1.77)	6.74 (2.02)	18.60 (5.56)	2.38 (0.71)	0.08 (0.03)	4.10 (1.41)	7.49 (2.59)	0.54 (0.19)
4	4.87 (1.63)	5.66 (1.90)	15.60 (5.22)	1.87 (0.63)	6.13 (1.61)	6.98 (1.83)	19.20 (5.05)	2.47 (0.65)	0.09 (0.03)	4.82 (1.47)	8.60 (2.60)	0.64 (0.19)
5	5.16 (1.74)	6.00 (2.02)	16.50 (5.57)	1.98 (0.67)	7.13 (2.47)	8.11 (2.81)	22.40 (7.74)	2.87 (0.99)	0.12 (0.03)	6.41 (1.81)	11.10 (3.13)	0.85 (0.24)
6	5.66 (2.55)	6.60 (2.98)	18.20 (8.20)	2.17 (0.98)	7.30 (2.06)	8.31 (2.35)	22.90 (6.47)	2.94 (0.83)	0.12 (0.04)	6.29 (2.01)	10.60 (3.42)	0.83 (0.27)
7	5.95 (1.63)	6.95 (1.90)	19.10 (5.24)	2.29 (0.63)	7.67 (1.70)	8.74 (1.93)	24.10 (5.32)	3.09 (0.68)	0.13 (0.03)	6.97 (1.76)	11.50 (2.91)	0.92 (0.23)
8	5.26 (2.43)	6.10 (2.84)	16.80 (7.82)	2.02 (0.93)	6.06 (2.57)	6.91 (2.93)	19.00 (8.08)	2.44 (1.04)				
9	4.70 (2.07)	5.30 (2.36)	14.60 (6.49)	1.81 (0.80)	5.44 (2.72)	6.20 (3.10)	17.10 (8.54)	2.19 (1.09)				
10	5.30 (1.66)	5.84 (1.83)	16.10 (5.05)	2.04 (0.64)	6.02 (1.74)	6.87 (1.99)	18.90 (5.49)	2.42 (0.70)	0.06 (0.01)	2.96 (0.70)	6.95 (1.65)	0.39 (0.09)
11	5.11 (2.44)	5.49 (2.64)	15.10 (7.27)	1.96 (0.94)	6.59 (2.01)	7.53 (2.29)	20.80 (6.32)	2.65 (0.81)	0.06 (0.01)	2.97 (0.77)	6.90 (1.79)	0.39 (0.10)
12	5.83 (1.83)	6.13 (1.94)	16.90 (5.36)	2.24 (0.71)	7.15 (2.37)	8.18 (2.72)	22.50 (7.49)	2.88 (0.96)	0.07 (0.03)	3.93 (1.54)	9.06 (3.55)	0.52 (0.20)
13	6.72 (2.31)	6.90 (2.40)	19.00 (6.61)	2.58 (0.89)	7.31 (2.52)	8.38 (2.88)	23.10 (7.94)	2.94 (1.01)	0.04 (0.04)	2.16 (1.95)	4.96 (4.47)	0.29 (0.26)
14	7.19 (2.70)	7.23 (2.74)	19.90 (7.56)	2.76 (1.04)	8.64 (2.64)	9.92 (3.03)	27.30 (8.34)	3.48 (1.06)	0.08 (0.03)	4.09 (1.60)	9.31 (3.64)	0.54 (0.21)
15	5.72 (3.17)	5.69 (3.15)	15.70 (8.68)	2.20 (1.22)	5.95 (3.19)	6.84 (3.66)	18.80 (10.10)	2.40 (1.28)	0.09 (0.03)	4.90 (1.70)	11.10 (3.85)	0.65 (0.22)
16					3.91 (2.87)	4.49 (3.30)	12.40 (9.09)	1.57 (1.16)	0.08 (0.04)	4.06 (1.85)	9.07 (4.13)	0.54 (0.24)
17	5.21 (1.95)	5.25 (1.96)	14.50 (5.39)	2.00 (0.75)	6.69 (2.42)	7.68 (2.78)	21.20 (7.66)	2.69 (0.97)	0.09 (0.03)	4.95 (1.63)	10.90 (3.59)	0.65 (0.22)
18	5.39 (2.59)	5.46 (2.62)	15.10 (7.22)	2.07 (1.00)	6.90 (2.34)	7.93 (2.69)	21.90 (7.42)	2.78 (0.94)	0.07 (0.06)	3.50 (3.09)	7.65 (6.74)	0.46 (0.41)
19	8.26 (2.07)	8.42 (2.10)	23.20 (5.79)	3.17 (0.79)	8.33 (2.32)	9.58 (2.67)	26.40 (7.35)	3.35 (0.93)	0.12 (0.04)	6.17 (2.12)	13.30 (4.56)	0.82 (0.28)
20	8.66 (2.55)	8.88 (2.60)	24.50 (7.17)	3.33 (0.98)	8.31 (2.01)	9.56 (2.31)	26.30 (6.36)	3.35 (0.81)	0.12 (0.03)	6.35 (1.71)	13.50 (3.64)	0.84 (0.23)
21	9.14 (2.42)	9.43 (2.49)	26.00 (6.87)	3.51 (0.93)	8.45 (2.73)	9.72 (3.15)	26.80 (8.67)	3.40 (1.10)	0.14 (0.03)	7.46 (1.68)	15.70 (3.53)	0.98 (0.22)
22	6.74 (1.97)	6.99 (2.04)	19.30 (5.62)	2.59 (0.76)	6.22 (2.50)	7.16 (2.88)	19.70 (7.94)	2.50 (1.01)	0.13 (0.05)	6.86 (2.37)	14.30 (4.94)	0.91 (0.31)
23	6.89 (1.25)	7.17 (1.30)	19.80 (3.58)	2.65 (0.48)	7.06 (2.23)	8.12 (2.56)	22.40 (7.07)	2.84 (0.90)	0.15 (0.04)	8.09 (2.31)	16.60 (4.75)	1.07 (0.31)
24	6.25 (2.72)	6.53 (2.84)	18.00 (7.82)	2.40 (1.05)	7.12 (2.71)	8.18 (3.12)	22.50 (8.60)	2.87 (1.09)	0.18 (0.05)	9.41 (2.55)	19.10 (5.18)	1.24 (0.34)
25	6.54 (1.77)	6.85 (1.85)	18.90 (5.10)	2.51 (0.68)	7.12 (1.90)	8.18 (2.18)	22.50 (6.00)	2.87 (0.76)	0.17 (0.06)	9.02 (3.06)	18.10 (6.14)	1.19 (0.40)
26	7.87 (1.54)	8.28 (1.62)	22.80 (4.47)	3.03 (0.59)	7.58 (1.17)	8.71 (1.34)	24.00 (3.69)	3.05 (0.47)	0.18 (0.04)	9.49 (2.02)	18.80 (4.02)	1.25 (0.27)
27	8.83 (1.56)	9.32 (1.65)	25.70 (4.55)	3.40 (0.60)	7.48 (2.03)	8.59 (2.33)	23.70 (6.43)	3.01 (0.82)	0.20 (0.05)	10.50 (2.89)	20.60 (5.65)	1.39 (0.38)
28									0.17 (0.07)	8.79 (3.94)	17.00 (7.65)	1.16 (0.52)
29	7.19 (3.21)	7.64 (3.41)	21.10 (9.39)	2.76 (1.23)	5.96 (3.51)	6.83 (4.02)	18.80 (11.10)	2.40 (1.41)	0.08 (0.03)	4.04 (1.50)	7.72 (2.88)	0.53 (0.20)
30	7.04 (2.37)	7.50 (2.52)	20.70 (6.96)	2.71 (0.91)	6.60 (3.15)	7.56 (3.61)	20.80 (9.94)	2.66 (1.27)	0.07 (0.02)	3.79 (1.11)	7.15 (2.09)	0.50 (0.15)
Avg	6.30	6.73	18.50	2.42	6.72	7.70	21.20	2.71	0.11	5.72	11.50	0.76
n	27	27	27	27	29	29	29	29	28	28	28	28
SD	1.36	1.27	3.51	0.52	1.10	1.27	3.50	0.44	0.04	2.25	4.35	0.30
Min	4.23	4.91	13.50	1.63	3.91	4.49	12.40	1.57	0.04	2.16	4.96	0.29
Max	9.14	9.43	26.00	3.51	8.64	9.92	27.30	3.48	0.20	10.50	20.60	1.39

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for October, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1												
2	7.80 (2.15)	8.38 (2.31)	23.10 (6.36)	3.00 (0.83)	7.02 (2.08)	8.03 (2.38)	22.10 (6.56)	2.83 (0.84)				
3	8.92 (2.41)	9.62 (2.59)	26.50 (7.15)	3.43 (0.93)	6.79 (1.78)	7.77 (2.04)	21.40 (5.61)	2.73 (0.72)				
4	9.21 (2.24)	9.96 (2.42)	27.50 (6.67)	3.54 (0.86)	7.63 (1.95)	8.72 (2.23)	24.00 (6.14)	3.07 (0.79)				
5	10.00 (2.78)	10.90 (3.01)	30.10 (8.30)	3.86 (1.07)	8.83 (1.59)	10.10 (1.81)	27.80 (5.00)	3.56 (0.64)				
6	8.29 (3.51)	9.04 (3.82)	24.90 (10.50)	3.19 (1.35)	7.13 (2.25)	8.14 (2.57)	22.40 (7.07)	2.87 (0.91)				
7	7.28 (2.42)	7.97 (2.64)	22.00 (7.27)	2.80 (0.93)	6.63 (2.97)	7.56 (3.39)	20.80 (9.35)	2.67 (1.20)				
8	6.41 (2.27)	7.04 (2.49)	19.40 (6.86)	2.46 (0.87)	6.66 (1.60)	7.60 (1.82)	20.90 (5.02)	2.68 (0.64)				
9	7.53 (2.35)	8.29 (2.59)	22.90 (7.14)	2.89 (0.90)	6.45 (2.77)	7.35 (3.16)	20.20 (8.71)	2.60 (1.12)				
10	8.10 (1.69)	8.96 (1.86)	24.70 (5.14)	3.12 (0.65)	6.24 (1.40)	7.11 (1.59)	19.60 (4.39)	2.51 (0.56)				
11	9.65 (2.89)	10.70 (3.21)	29.50 (8.84)	3.71 (1.11)	8.82 (2.21)	10.00 (2.52)	27.70 (6.94)	3.55 (0.89)				
12	9.74 (2.44)	10.90 (2.72)	29.90 (7.49)	3.74 (0.94)	9.28 (2.13)	10.60 (2.43)	29.10 (6.69)	3.74 (0.86)				
13	8.38 (3.47)	9.37 (3.87)	25.80 (10.70)	3.22 (1.33)	7.01 (2.69)	7.98 (3.06)	22.00 (8.45)	2.82 (1.08)	0.12 (0.04)	6.12 (2.33)	14.00 (5.30)	0.81 (0.31)
14					7.73 (1.93)	8.80 (2.20)	24.20 (6.06)	3.11 (0.78)	0.09 (0.03)	4.83 (1.80)	10.80 (4.03)	0.64 (0.24)
15					8.35 (2.26)	9.51 (2.58)	26.20 (7.10)	3.36 (0.91)	0.11 (0.03)	5.89 (1.42)	13.00 (3.12)	0.78 (0.19)
16									0.12 (0.06)	6.38 (3.07)	13.80 (6.64)	0.84 (0.41)
17					9.98 (2.98)	11.40 (3.40)	31.40 (9.37)	4.02 (1.20)	0.13 (0.05)	6.60 (2.66)	14.10 (5.69)	0.87 (0.35)
18									0.11 (0.06)	5.89 (3.06)	12.40 (6.41)	0.78 (0.40)
19									0.07 (0.09)	3.84 (4.56)	7.96 (9.45)	0.51 (0.60)
20									-0.10 (0.17)	-5.10 (9.08)	-10.40 (18.50)	-0.67 (1.20)
21					7.56 (3.02)	8.61 (3.44)	23.70 (9.48)	3.05 (1.21)	0.14 (0.05)	7.19 (2.72)	14.40 (5.47)	0.95 (0.36)
22					7.36 (3.25)	8.37 (3.70)	23.10 (10.20)	2.96 (1.31)	0.15 (0.05)	7.74 (2.50)	15.30 (4.96)	1.02 (0.33)
23	6.65 (3.09)	7.61 (3.54)	21.00 (9.75)	2.56 (1.19)	6.41 (2.52)	7.28 (2.86)	20.10 (7.88)	2.58 (1.01)	0.18 (0.04)	9.68 (2.05)	18.80 (3.98)	1.28 (0.27)
24	7.66 (1.98)	8.77 (2.26)	24.20 (6.24)	2.94 (0.76)	6.13 (1.90)	6.95 (2.16)	19.20 (5.95)	2.47 (0.77)	0.20 (0.04)	10.70 (2.18)	20.40 (4.18)	1.41 (0.29)
25	9.19 (2.11)	10.50 (2.42)	29.00 (6.67)	3.53 (0.81)	7.99 (2.01)	9.04 (2.28)	24.90 (6.28)	3.22 (0.81)	0.18 (0.06)	9.41 (3.00)	17.80 (5.68)	1.24 (0.40)
26					7.01 (1.98)	7.92 (2.24)	21.80 (6.18)	2.82 (0.80)	0.12 (0.08)	6.48 (4.19)	12.00 (7.77)	0.86 (0.55)
27	7.45 (2.13)	8.51 (2.45)	23.50 (6.74)	2.86 (0.82)	6.70 (2.43)	7.56 (2.74)	20.80 (7.55)	2.70 (0.98)				
28	6.47 (2.66)	7.33 (3.03)	20.20 (8.35)	2.49 (1.02)	5.57 (1.92)	6.28 (2.17)	17.30 (5.98)	2.24 (0.77)				
29					6.66 (1.81)	7.51 (2.04)	20.70 (5.63)	2.68 (0.73)				
30					7.65 (2.07)	8.62 (2.34)	23.80 (6.44)	3.08 (0.83)	0.06 (0.02)	2.95 (1.27)	7.14 (3.09)	0.39 (0.17)
31					7.49 (1.96)	8.43 (2.21)	23.20 (6.09)	3.01 (0.79)	0.06 (0.01)	3.20 (0.67)	7.64 (1.60)	0.42 (0.09)
Avg	8.16	9.05	24.90	3.14	7.35	8.35	23.00	2.96	0.11	5.74	11.80	0.76
n	17	17	17	17	26	26	26	26	16	16	16	16
SD	1.12	1.20	3.31	0.43	1.02	1.17	3.22	0.41	0.07	3.51	6.82	0.46
Min	6.41	7.04	19.40	2.46	5.57	6.28	17.30	2.24	-0.10	-5.10	-10.40	-0.67
Max	10.00	10.90	30.10	3.86	9.98	11.40	31.40	4.02	0.20	10.70	20.40	1.41

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for November, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1					8.79 (2.35)	9.90 (2.64)	27.30 (7.29)	3.54 (0.95)	0.04 (0.03)	2.06 (1.81)	4.87 (4.28)	0.27 (0.24)
2									0.01 (0.06)	0.44 (3.03)	1.00 (7.08)	0.06 (0.40)
3					7.43 (2.96)	8.36 (3.33)	23.00 (9.18)	2.99 (1.19)	0.05 (0.03)	2.68 (1.81)	6.18 (4.17)	0.35 (0.24)
4					7.62 (2.07)	8.56 (2.33)	23.60 (6.43)	3.07 (0.84)	0.05 (0.04)	2.66 (1.95)	6.05 (4.43)	0.35 (0.26)
5					9.07 (3.27)	10.20 (3.67)	28.10 (10.10)	3.65 (1.32)	0.08 (0.05)	3.97 (2.63)	8.95 (5.94)	0.52 (0.35)
6									0.08 (0.06)	4.17 (3.08)	9.29 (6.87)	0.55 (0.41)
7	9.16 (2.83)	9.51 (2.95)	26.20 (8.13)	3.52 (1.09)					0.10 (0.07)	5.19 (3.51)	11.50 (7.75)	0.68 (0.46)
8	9.48 (2.99)	9.76 (3.09)	26.90 (8.50)	3.65 (1.15)					0.10 (0.05)	5.06 (2.61)	11.10 (5.73)	0.67 (0.35)
9	9.56 (2.42)	9.76 (2.48)	26.90 (6.83)	3.68 (0.93)	9.61 (3.01)	10.80 (3.38)	29.70 (9.31)	3.87 (1.21)	0.10 (0.04)	5.33 (2.31)	11.50 (5.02)	0.70 (0.31)
10	8.76 (2.76)	8.91 (2.81)	24.60 (7.74)	3.37 (1.06)	8.23 (3.03)	9.23 (3.39)	25.40 (9.35)	3.31 (1.22)	0.12 (0.01)	6.12 (0.76)	13.10 (1.62)	0.81 (0.10)
11	8.19 (3.44)	8.32 (3.49)	22.90 (9.63)	3.15 (1.32)	7.23 (4.03)	8.10 (4.51)	22.30 (12.40)	2.91 (1.62)	0.12 (0.01)	6.30 (0.69)	13.30 (1.46)	0.83 (0.09)
12	6.80 (2.00)	6.91 (2.04)	19.00 (5.61)	2.62 (0.77)	4.03 (4.02)	4.51 (4.50)	12.40 (12.40)	1.62 (1.62)				
13	7.94 (1.81)	8.06 (1.84)	22.20 (5.06)	3.05 (0.70)	5.14 (4.33)	5.75 (4.85)	15.90 (13.40)	2.07 (1.74)				
14	9.54 (3.42)	9.67 (3.47)	26.70 (9.57)	3.67 (1.32)	9.85 (3.56)	11.00 (3.98)	30.40 (11.00)	3.97 (1.43)	0.10 (0.03)	5.04 (1.35)	10.30 (2.76)	0.67 (0.18)
15	9.50 (2.70)	9.63 (2.74)	26.50 (7.55)	3.65 (1.04)	10.90 (3.53)	12.10 (3.95)	33.50 (10.90)	4.37 (1.42)	0.09 (0.03)	4.57 (1.64)	9.19 (3.30)	0.60 (0.22)
16	9.33 (2.82)	9.48 (2.86)	26.10 (7.88)	3.59 (1.08)	10.20 (4.19)	11.40 (4.69)	31.40 (12.90)	4.10 (1.69)	0.06 (0.05)	3.18 (2.42)	6.35 (4.84)	0.42 (0.32)
17	8.43 (2.89)	8.61 (2.95)	23.70 (8.13)	3.24 (1.11)	8.26 (3.86)	9.24 (4.32)	25.50 (11.90)	3.32 (1.55)	0.05 (0.02)	2.67 (1.18)	5.27 (2.33)	0.35 (0.16)
18	8.61 (3.46)	8.84 (3.55)	24.40 (9.78)	3.31 (1.33)	7.86 (2.56)	8.80 (2.86)	24.20 (7.89)	3.16 (1.03)	0.06 (0.02)	3.06 (0.86)	5.96 (1.68)	0.40 (0.11)
19	7.61 (2.79)	7.86 (2.87)	21.70 (7.92)	2.93 (1.07)	7.75 (2.09)	8.68 (2.34)	23.90 (6.44)	3.12 (0.84)	0.08 (0.03)	4.02 (1.80)	7.76 (3.47)	0.53 (0.24)
20	7.80 (2.74)	8.10 (2.84)	22.30 (7.83)	3.00 (1.05)	8.95 (2.66)	10.00 (2.98)	27.60 (8.20)	3.60 (1.07)	0.06 (0.01)	3.40 (0.66)	6.50 (1.25)	0.45 (0.09)
21	8.40 (2.23)	8.76 (2.33)	24.20 (6.43)	3.23 (0.86)					0.07 (0.03)	3.49 (1.67)	6.62 (3.17)	0.46 (0.22)
22	9.71 (2.26)	10.20 (2.36)	28.10 (6.51)	3.73 (0.87)					0.08 (0.04)	4.24 (2.08)	7.96 (3.90)	0.56 (0.27)
23	9.61 (2.80)	10.10 (2.95)	28.00 (8.12)	3.70 (1.07)	8.66 (3.95)	9.72 (4.43)	26.80 (12.20)	3.49 (1.59)	0.09 (0.01)	4.84 (0.73)	9.00 (1.37)	0.64 (0.10)
24	8.95 (2.93)	9.48 (3.10)	26.10 (8.56)	3.44 (1.13)	6.90 (3.03)	7.74 (3.40)	21.30 (9.38)	2.78 (1.22)				
25	8.85 (2.58)	9.39 (2.74)	25.90 (7.55)	3.40 (0.99)								
26	10.10 (2.53)	10.80 (2.69)	29.70 (7.41)	3.90 (0.97)					0.04 (0.05)	1.84 (2.86)	4.55 (7.06)	0.24 (0.38)
27					4.99 (5.17)	5.61 (5.81)	15.50 (16.00)	2.01 (2.08)	0.03 (0.03)	1.70 (1.73)	4.17 (4.25)	0.22 (0.23)
28									0.03 (0.04)	1.66 (2.31)	4.06 (5.66)	0.22 (0.31)
29	11.40 (3.52)	12.20 (3.76)	33.70 (10.40)	4.40 (1.35)					0.04 (0.04)	1.94 (2.28)	4.73 (5.56)	0.26 (0.30)
30	11.90 (3.59)	12.80 (3.85)	35.20 (10.60)	4.58 (1.38)	11.70 (4.93)	13.20 (5.54)	36.40 (15.30)	4.73 (1.99)	0.05 (0.04)	2.42 (2.26)	5.90 (5.52)	0.32 (0.30)
Avg	9.08	9.42	26.00	3.49	8.16	9.15	25.20	3.28	0.07	3.54	7.50	0.47
n	22	22	22	22	20	20	20	20	26	26	26	26
SD	1.14	1.31	3.61	0.44	1.89	2.11	5.83	0.76	0.03	1.48	3.00	0.20
Min	6.80	6.91	19.00	2.62	4.03	4.51	12.40	1.62	0.01	0.44	1.00	0.06
Max	11.90	12.80	35.20	4.58	11.70	13.20	36.40	4.73	0.12	6.30	13.30	0.83

Table E11. Daily mean (SD) of NH3 emissions at site NC4B for December, 2009.

Day	Barn 1				Barn 2				Farrowing room 15			
	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} hd^{-2}$	$g \cdot d^{-1} AU^{-1}$	$g \cdot d^{-1} m^{2}$
1									0.04 (0.05)	2.07 (2.65)	5.05 (6.47)	0.27 (0.35)
2	11.90 (4.62)	12.80 (4.97)	35.30 (13.70)	4.57 (1.78)	8.64 (2.89)	9.72 (3.25)	26.80 (8.95)	3.48 (1.16)	0.07 (0.05)	3.75 (2.51)	9.04 (6.06)	0.50 (0.33)
3	9.26 (3.42)	9.98 (3.69)	27.50 (10.20)	3.56 (1.32)	7.96 (2.21)	8.96 (2.49)	24.70 (6.86)	3.21 (0.89)	0.07 (0.04)	3.64 (2.06)	8.61 (4.87)	0.48 (0.27)
4									0.06 (0.05)	3.17 (2.88)	7.32 (6.65)	0.42 (0.38)
5									0.07 (0.06)	3.78 (3.02)	8.54 (6.81)	0.50 (0.40)
6									0.04 (0.05)	2.34 (2.76)	5.15 (6.06)	0.31 (0.36)
7									0.09 (0.09)	4.61 (4.49)	9.89 (9.62)	0.61 (0.59)
8									0.05 (0.04)	2.39 (2.34)	5.03 (4.94)	0.32 (0.31)
9	11.50 (4.59)	12.50 (5.01)	34.50 (13.80)	4.41 (1.77)	9.08 (2.60)	10.20 (2.92)	28.20 (8.06)	3.65 (1.05)	0.12 (0.03)	6.47 (1.71)	13.50 (3.56)	0.85 (0.23)
10	7.24 (4.02)	7.91 (4.40)	21.80 (12.10)	2.78 (1.55)	7.01 (4.73)	7.89 (5.33)	21.80 (14.70)	2.82 (1.91)	0.12 (0.06)	6.27 (3.27)	12.90 (6.74)	0.83 (0.43)
11												
12												
13												
14												
15												
16												
17												
18												
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20												
21												
22												
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30												
31												
Avg	9.96	10.80	29.80	3.83	8.17	9.20	25.30	3.29	0.07	3.85	8.51	0.51
n	4	4	4	4	4	4	4	4	10	10	10	10
SD	1.87	2.00	5.51	0.72	0.78	0.88	2.42	0.31	0.03	1.46	2.89	0.19
Min	7.24	7.91	21.80	2.78	7.01	7.89	21.80	2.82	0.04	2.07	5.03	0.27
Max	11.90	12.80	35.30	4.57	9.08	10.20	28.20	3.65	0.12	6.47	13.50	0.85

Table E11. Completeness of airflow and emission data.

Table E12. Airflow and emission data completeness (%) at site NC4B for December, 2007.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	100	100	0	49.3	37.2	0	49.6	37.5	0	0	0	0	0	0	0	0	0	0
16	46.9	2.1	0	26.5	0.9	0	26.5	0.9	0	0	0	0	0	0	0	0	0	0
17	100	94.5	0	47.5	70.9	0	48.1	71	0	0	0	0	0.1	0.1	0	0.1	0.1	0
18	100	100	0	52.8	39.4	0	52.8	39.4	0	0	0	0	0	0	0	0	0	0
19	100	98.6	0	55.1	49.9	0	55.1	49.9	0	0	0	0	0	0	0	0	0	0
20	100	97.1	0	58.3	56.1	0	58.3	56.1	0	0	0	0	0	0	0	0	0	0
21	100	99.7	0	59.4	50.1	0	59.4	50.1	0	0	0	0	0	0	0	0	0	0
22	100	99.8	0	64.9	75.8	0	64.9	75.8	0	0	0	0	0	0	0	0	0	0
23	100	62.6	0	78.2	51.7	0	78.2	51.7	0	0	0	0	0	0	0	0	0	0
24	100	51.1	0	63	33	0	63	33	0	0	0	0	0	0	0	0	0	0
25	100	100	0	61.1	59.1	0	61.1	59.1	0	0	0	0	0	0	0	0	0	0
26	100	46.9	0	55.3	24.5	0	55.3	24.5	0	0	0	0	0	0	0	0	0	0
27	99.8	99.8	0	61.9	57.8	0	61.9	57.8	0	0	0	0	0.1	0.1	0	0.1	0.1	0
28	100	100	0	85	81.8	0	85	81.8	0	0	0	0	0	0	0	0	0	0
29	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0	0	0	0
30	100	100	0	99.6	100	0	99.6	100	0	0	0	0	0	0	0	0	0	0
31	99.6	99.6	47.1	80.6	79.7	13	80.6	79.7	13.1	0	0	0	0.1	0.1	0	0.1	0.1	0
Avg	53.1	46.8	1.5	35.4	31.2	0.4	35.5	31.2	0.4	0	0	0	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	49.1	47	8.3	34.9	34	2.3	34.9	34	2.3	0	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	47.1	100	100	13	100	100	13.1	0	0	0	0.1	0.1	0	0.1	0.1	0

Table E12. Airflow and emission data completeness (%) at site NC4B for January, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	67	79	47.3	67	79	47.3	0	0	0	0	0	0	0	0	0
2	100	100	100	44.1	99.2	34.2	44.1	99.2	34.2	0	0	0	0	0	0	0	0	0
3	99.9	99.9	99.9	46.3	51.1	49.7	46.3	51.1	49.7	0	0	0	0	0	0	0	0	0
4	100	100	100	55	40.8	57.5	55	40.8	57.5	0	0	0	0	0	0	0	0	0
5	100	100	100	63.5	48.1	56.5	63.5	48.1	56.5	0	0	0	0	0	0	0	0	0
6	100	100	100	65.4	72.2	62.6	65.4	72.2	62.6	0	0	0	0	0	0	0	0	0
7	100	100	100	78.5	84.2	66.4	78.5	84.2	66.4	0	0	0	0	0	0	0	0	0
8	100	100	57.2	89.7	89.8	31.8	89.7	89.8	31.8	0	0	0	0	0	0	0	0	0
9	100	100	0	97.2	95.6	0	97.2	95.6	0	0	0	0	0	0	0	0	0	0
10	100	100	53.4	92.6	91.8	37.8	92.6	91.8	37.9	0	0	0	0	0	0	0	0	0
11	100	100	100	100	100	64.8	100	100	64.8	0	0	0	0	0	0	0	0	0
12	100	100	100	77.8	90.3	47.2	77.8	90.3	47.2	0	0	0	0	0	0	0	0	0
13	100	100	100	59.4	64.9	56.8	59.4	64.9	56.8	0	0	0	0	0	0	0	0	0
14	100	100	100	62.5	69.6	56.5	62.5	69.6	56.5	0	0	0	0	0	0	0	0	0
15	100	100	100	51.4	58.6	44.9	51.4	58.6	44.9	0	0	0	0	0	0	0	0	0
16	100	100	100	50.3	49.4	60.3	50.3	49.4	60.3	0	0	0	0	0	0	0	0	0
17	99.7	99.7	99.7	49.9	56	46.4	49.9	56	46.4	0	0	0	0	0	0	0	0	0
18	100	100	99.4	50.1	78.8	46.8	50.1	78.8	46.8	0	0	0	0	0	0	0	0	0
19	100	100	100	50.3	61.4	55.5	50.3	61.4	55.5	0	0	0	0	0	0	0	0	0
20	100	100	100	48.1	73.1	45.6	48.1	73.1	45.6	0	0	0	0	0	0	0	0	0
21	100	100	100	49.9	33.1	53.4	49.9	33.1	53.4	0	0	0	0	0	0	0	0	0
22	100	100	100	57.5	64.2	55.8	57.5	64.2	55.8	0	0	0	0	0	0	0	0	0
23	100	100	100	61.4	79.1	51	61.4	79.1	51	0	0	0	0	0	0	0	0	0
24	100	100	100	51	70.6	49.2	51	70.6	49.2	0	0	0	0	0	0	0	0	0
25	100	100	100	49	51.3	47.5	49	51.3	47.5	0	0	0	0	0	0	0	0	0
26	61.8	61.8	61.8	29	22.8	35.1	29.2	23	35.2	0	0	0	0	0	0	0	0	0
27	100	100	100	51.5	57.8	50.5	51.5	57.8	50.5	0	0	0	0	0	0	0	0	0
28	100	100	100	51.8	56.5	57.3	51.8	56.5	57.3	0	0	0	0	0	0	0	0	0
29	100	100	100	66.5	73.8	50.5	66.5	73.8	50.5	0	0	0	0	0	0	0	0	0
30	100	100	100	76.9	82.4	47.4	76.9	82.4	47.4	0	0	0	0	0	0	0	0	0
31	99.9	99.9	99.7	47	41.5	52.2	47	41.5	52.2	0	0	0	0	0	0	0	0	0
Avg	98.8	98.8	92.6	61	67.3	49	61	67.3	49	0	0	0	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	6.8	6.8	21.1	16.7	19.5	12.2	16.7	19.4	12.2	0	0	0	0	0	0	0	0	0
Min	61.8	61.8	0	29	22.8	0	29.2	23	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	66.4	100	100	66.4	0	0	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for February, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	57.2	57.2	57.2	41.5	52.6	26.9	41.5	52.8	27.1	0	0	0	0	0	0	0	0	0
2	100	100	100	60.7	66.8	62.8	60.7	66.8	62.8	0	0	0	0	0	0	0	0	0
3	100	100	100	69	79.8	66.2	69	79.8	66.2	0	0	0	0	0	0	0	0	0
4	100	100	100	81.5	97.7	71.7	81.5	97.7	71.7	0	0	0	0	0	0	0	0	0
5	100	100	52.6	91.2	97.6	30.9	91.2	97.6	30.9	0	0	0	0	0	0	0	0	0
6	100	100	37.6	99	100	27.9	99	100	28.1	0	0	0	0	0	0	0	0	0
7	99.9	99.9	99.9	83.8	91.4	64.4	83.8	91.4	64.4	0	0	0	0	0	0	0	0	0
8	100	100	100	59.3	72.8	56.4	59.3	72.8	56.4	0	0	0	0	0	0	0	0	0
9	100	100	100	70.1	75.9	72	70.1	75.9	72	0	0	0	0	0	0	0	0	0
10	100	100	100	69.2	88.8	56.4	69.2	88.8	56.4	0	0	0	0	0	0	0	0	0
11	100	100	100	50.1	40.9	52.7	50.1	40.9	52.7	0	0	0	0	0	0	0	0	0
12	52.6	52.6	52.6	10.8	6.5	11.5	10.8	6.5	11.5	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	57.8	57.8	57.8	15.3	11.9	16.3	15.5	12.3	16.7	0	0	0	0	0	0	0	0	0
15	100	100	100	57.2	64	54.6	57.2	64	54.6	0	0	0	0	0	0	0	0	0
16	100	100	100	56.7	75	57.2	56.7	75	57.2	0	0	0	0	0	0	0	0	0
17	100	100	100	73.6	80.3	81.4	73.6	80.3	81.4	0	0	0	0	0	0	0	0	0
18	100	100	100	91.1	99.9	96	91.1	99.9	96	0	0	0	0	0	0	0	0	0
19	100	100	100	53.2	73.9	66	53.2	73.9	66	0	0	0	0	0	0	0	0	0
20	100	100	100	64.6	72.6	77.7	64.6	72.6	77.7	0	0	0	0	0	0	0	0	0
21	65.2	65.2	65.2	23.8	17.4	34.4	28.1	23.3	41.4	0	0	0	0	0	0	0	0	0
22	51.4	51.4	51.4	0	0	0	24.8	31.9	32	0	0	0	0	0	0	0	0	0
23	100	100	100	0	0	0	56.8	72.2	81.3	0	0	0	0	0	0	0	0	0
24	100	100	100	0	0	0	51.1	57	67.2	0	0	0	0	0	0	0	0	0
25	100	100	100	0	0	0	64.4	69.2	75.8	0	0	0	0	0	0	0	0	0
26	100	100	54.4	0	0	0	69	85.8	45.6	0	0	0	0	0	0	0	0	0
27	100	100	0	0	0	0	48.8	99.8	0	0	0	0	0	0	0	0	0	0
28	100	100	0	0	0	0	49.4	77.8	0	0	0	0	0	0	0	0	0	0
29	95.4	95.3	41.3	1	0.8	1	55.8	48.7	26.4	0	0	0	0	0	0	0	0	0
Avg	88.9	88.9	74.8	42.2	47.1	37.4	56.8	66	48.9	0	0	0	0	0	0	0	0	0
n	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
SD	23.4	23.4	33.6	34.4	39.2	31	23.4	28.1	26.4	0	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	99	100	96	99	100	96	0	0	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for March, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	70.9	80.3	56.6	70.9	80.3	56.6	0	0	0	0	0	0	0	0	0
2	100	100	100	61.2	69.6	62.8	61.2	69.6	62.8	0	0	0	0	0	0	0	0	0
3	100	100	100	74.5	82.8	75	74.5	82.8	75	0	0	0	0	0	0	0	0	0
4	94.9	94.9	94.9	81.9	93.6	88.8	81.9	93.6	88.8	0	0	0	0	0	0	0	0	0
5	97.7	97.7	97.7	82.3	89.9	65.5	82.3	89.9	65.5	0	0	0	0	0	0	0	0	0
6	69.4	69.4	69.4	47.9	49.2	43.3	47.9	51.8	43.3	0	0	0	0	0	0	0	0	0
7	52	52	52	48.8	36.3	30.8	49	36.5	30.9	0	0	0	0	0	0	0	0	0
8	100	100	100	85.9	93.5	78.8	85.9	93.5	78.8	0	0	0	0	0	0	0	0	0
9	95.8	95.8	95.8	49.2	79.9	54	49.2	79.9	54	0	0	0	0	0	0	0	0	0
10	100	100	100	65.9	65.8	70.8	65.9	65.8	70.8	0	0	0	0	0	0	0	0	0
11	98.1	98.1	96.5	70.8	75.6	67.1	70.8	75.6	67.1	0	0	0	0	0	0	0	0	0
12	69	69.1	69.1	53.7	58.8	50.5	53.7	58.8	50.5	0	0	0	0	0	0	0	0	0
13	59.3	59.3	59.3	56.7	58.8	57.9	56.7	58.8	57.9	0	0	0	0	0	0	0	0	0
14	100	100	100	87.3	92.3	89.4	87.3	92.3	89.4	0	0	0	0	0	0	0	0	0
15	100	100	100	87.4	94.7	89.9	87.4	94.7	89.9	0	0	0	0	0	0	0	0	0
16	100	100	100	75.8	94.2	72.1	75.8	94.2	72.1	0	0	0	0	0	0	0	0	0
17	100	100	100	60.8	66	60.3	60.8	66	60.3	0	0	0	0	0	0	0	0	0
18	100	100	100	58.3	56.5	56.8	58.4	56.6	56.9	0	0	0	0	0	0	0	0	0
19	100	100	100	97.8	98.5	96.3	97.8	98.5	96.3	0	0	0	0	0	0	0	0	0
20	100	100	100	91.1	96.7	58.1	91.1	96.7	58.1	0	0	0	0	0	0	0	0	0
21	100	100	100	79.8	81.9	80.3	79.8	81.9	80.3	0	0	0	0	0	0	0	0	0
22	100	100	100	90.6	89.6	90.1	90.6	89.6	90.1	0	0	0	0	0	0	0	0	0
23	100	100	100	69.6	74.7	75.3	69.6	74.7	75.3	0	0	0	0	0	0	0	0	0
24	100	100	100	63.2	86.7	61.4	63.2	86.7	61.4	0	0	0	0	0	0	0	0	0
25	100	100	45.9	64.3	70.9	29.1	64.3	70.9	29.1	0	0	0	0	0	0	0	0	0
26	100	100	0	81.3	83.5	0	81.3	83.5	0	0	0	0	0	0	0	0	0	0
27	100	100	54.9	92.2	88.4	47	92.2	88.4	47.2	0	0	0	0	0	0	0	0	0
28	100	100	100	99.7	98.9	80.6	99.7	98.9	80.6	0	0	0	0	0	0	0	0	0
29	100	100	100	79.9	67.2	52.4	79.9	67.2	52.4	0	0	0	0	0	0	0	0	0
30	27	27	27	5.3	2.1	3.1	5.3	2.1	3.1	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg	89.1	89.1	82.7	68.8	73.4	59.5	68.9	73.5	59.5	0	0	0	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	23.8	23.8	29.4	22.6	24.4	25.2	22.6	24.3	25.2	0	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	99.7	98.9	96.3	99.7	98.9	96.3	0	0	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for April, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	57.1	57.1	57.1	49.7	49	51.1	49.9	49.2	51.3	0	0	0	0	0	0	0	0	0
2	100	100	100	91.4	95.6	92.6	91.4	95.6	92.6	0	0	0	0	0	0	0	0	0
3	100	100	100	64	78	65	64	78	65	0	0	0	0	0	0	0	0	0
4	93.3	93.3	93.3	81.2	87.7	82.4	81.2	87.7	82.4	0	0	0	0	0	0	0	0	0
5	100	100	99.4	100	89.2	99.4	100	89.2	99.4	0	0	0	0	0	0	0	0	0
6	100	100	100	84.4	83.8	94.7	84.4	83.8	94.7	0	0	0	0	0	0	0	0	0
7	100	100	100	59.7	81.9	77.2	59.7	81.9	77.2	0	0	0	0	0	0	0	0	0
8	100	100	100	68.5	93.1	74.9	68.5	93.1	74.9	0	0	0	0	0	0	0	0	0
9	100	100	100	83.1	96	87.6	83.1	96	87.6	0	0	0	0	0	0	0	0	0
10	100	100	100	85.6	95.8	93.1	85.6	95.8	93.1	0	0	0	0	0	0	0	0	0
11	100	100	99.9	95.9	100	99.9	95.9	100	99.9	0	0	0	0	0	0	0	0	0
12	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1	0	0	0	0	0	0	0	0	0
13	99.7	99.7	99.7	91.3	97.5	95.8	91.3	97.5	95.8	0	0	0	0	0	0	0	0	0
14	100	100	100	69.7	75.1	71.9	69.7	75.1	71.9	0	0	0	0	0	0	0	0	0
15	99.2	99.1	99.1	74.5	78.3	60.3	74.5	78.3	60.3	0	0	0	0	0	0	0	0	0
16	100	100	100	76.5	74.7	73.6	76.5	74.7	73.6	0	0	0	0	0	0	0	0	0
17	99.7	99.5	99.4	85.9	82.8	84.1	85.9	82.8	84.1	0	0	0	0	0	0	0	0	0
18	100	100	100	96.4	93.3	100	96.4	93.3	100	0	0	0	0	0	0	0	0	0
19	100	99.9	81.8	100	98.4	81.8	100	98.4	81.8	0	0	0	0	0	0	0	0	0
20	100	100	100	100	99.8	100	100	99.8	100	0	0	0	0	0	0	0	0	0
21	100	100	94	99.2	97	94	99.2	97	94	0	0	0	0	0	0	0	0	0
22	100	100	55.1	100	99.9	55.1	100	99.9	54	0	0	0	0	0	0	0	0	0
23	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0	0	0	0
24	99.5	99.5	57.4	99.5	97.8	57.4	99.5	97.8	52.1	0	0	0	0	0	0	0	0	0
25	100	100	100	99.9	98.2	100	99.9	98.2	100	0	0	0	0	0	0	0	0	0
26	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	18.8	18.8	0	0	0	0	0	0	0
28	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
29	100	100	100	90.2	89	100	90.2	89	100	90.2	89	0	0	0	0	0	0	0
30	100	100	100	76.9	66.9	100	76.9	66.9	100	76.9	66.9	0	0	0	0	0	0	0
Avg	97.9	97.9	90.8	87.1	89.6	82.7	87.1	89.6	82.5	9.5	9.2	0	0	0	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	8	8	21.4	13.9	11.9	21.6	13.9	11.9	21.9	26.9	26	0	0	0	0	0	0	0
Min	57.1	57.1	0	49.7	49	0	49.9	49.2	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for May, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	86.6	80.9	100	86.6	80.9	100	82.6	77.8	0	0	0	0	0	0	0
2	94.7	94.7	94.7	92.2	87.4	94.7	92.2	87.4	94.7	92.2	87.4	0	0	0	0	0	0	0
3	100	100	100	99.4	95.9	100	99.4	95.9	100	99.4	95.9	0	0	0	0	0	0	0
4	100	100	100	100	99.8	100	100	99.8	100	100	99.8	0	0	0	0	0	0	0
5	100	100	100	97.7	95.4	100	97.7	95.4	100	97.7	95.4	0	0	0	0	0	0	0
6	100	100	100	91.9	87	100	91.9	87	100	91.9	87	0	0	0	0	0	0	0
7	60.1	60.1	60.1	6.2	4.9	7.8	6.2	4.9	7.8	52.6	45.1	0	0	0	0	0	0	0
8	4.5	4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	61.3	61.3	61.3	56.1	55.1	54.7	56.3	55.3	54.9	55.3	57.6	0	0	0	0	0	0	0
10	100	100	100	96.6	77.3	93.3	96.6	77.3	93.3	96.5	76.9	0	0	0	0	0	0	0
11	100	100	100	84.5	81.7	100	84.5	81.7	100	84.5	81.7	0	0	0	0	0	0	0
12	98.3	98.3	98.3	78.8	92.8	98.3	78.8	92.8	98.3	78.8	92.8	0	0	0	0	0	0	0
13	100	100	100	75.1	81.9	100	75.1	81.9	100	75.1	81.9	0	0	0	0	0	0	0
14	100	100	100	87.1	85	100	87.1	85	100	87.1	85	0	0	0	0	0	0	0
15	100	100	100	73.9	73.2	100	76.6	73.3	100	94.1	93.3	0	0	0	0	0	0	0
16	100	100	100	99.8	100	100	99.8	100	100	99.8	100	0	0	0	0	0	0	0
17	95.9	95.9	42.6	83.8	88.7	38.8	83.8	88.7	38.8	82.9	88.4	0	0	0	0	0	0	0
18	100	100	0	88.4	89	0	88.4	89	0	88.4	89	0	0	0	0	0	0	0
19	100	100	0	91.6	94.4	0	91.6	94.4	0	91.6	94.4	0	0	0	0	0	0	0
20	99.4	99.4	27.4	97.5	98.4	26.9	97.5	98.4	26.3	96.2	97.1	0	0	0	0	0	0	0
21	100	100	100	98.8	94.6	95.7	98.8	94.6	95.7	98.8	94.6	0	0	0	0	0	0	0
22	98.5	100	100	93.4	91.5	92.2	93.4	91.5	92.2	93.4	91.5	0	0	0	0	0	0	0
23	100	100	100	97.8	94.2	94.5	97.8	94.2	94.5	97.8	94.2	0	0	0	0	0	0	0
24	100	100	100	97.9	94.2	95.6	97.9	94.2	95.6	97.9	94.2	0	0	0	0	0	0	0
25	100	100	100	93.7	89.2	91.5	93.7	89.2	91.5	93.7	89.2	0	0	0	0	0	0	0
26	100	100	100	96.5	91.9	93.4	96.5	91.9	93.4	96.5	91.9	0	0	0	0	0	0	0
27	99.7	99.7	99.7	99.7	98.3	99.7	99.7	98.3	99.7	96.9	95.3	0	0	0	0	0	0	0
28	100	100	100	91.5	79.5	94.7	91.5	79.5	94.7	91.5	79.5	0	0	0	0	0	0	0
29	100	100	100	94.4	84.4	93.3	94.4	84.4	93.3	94.4	84.4	0	0	0	0	0	0	0
30	98.8	100	100	96.9	93	100	96.9	93	100	96.9	93	0	0	0	0	0	0	0
31	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
Avg	93.9	94	83.5	85.4	83.2	79.5	85.5	83.2	79.5	87.2	85	0	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	18.9	19	32.3	23.6	23.1	34.6	23.6	23.1	34.6	19.6	19.3	0	0	0	0	0	0	0
Min	4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for June, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	100	100	99.9	100	100	99.9	100	100	0	0	0	0	0	0	0
2	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
3	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	98	99.7	0	0	0	0	0	0	0
4	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
5	94.9	100	100	94.9	100	100	94.9	100	100	94.9	100	0	0	0	0	0	0	0
6	100	100	99.9	100	100	99.9	100	100	99.9	100	100	0	0	0	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
8	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
9	100	100	100	100	99.9	100	100	99.9	100	100	99.9	0	0	0	0	0	0	0
10	99.6	99.6	54.9	99.6	99.6	53.6	99.6	99.6	53.6	99.6	99.6	0	0	0	0	0	0	0
11	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
12	100	100	52.7	100	100	52	100	100	52.2	96.5	96.4	0	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
15	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
17	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
19	100	100	100	38.4	39.4	39.8	97.4	98.4	98.8	97.4	98.4	0	0	0	0	0	0	0
20	98.4	100	100	0	0	0	98.4	100	100	98.4	100	0	0	0	0	0	0	0
21	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
22	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
23	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
24	99.6	99.6	99.6	0	0	0	99.6	99.6	99.6	96.6	96.3	0	0	0	0	0	0	0
25	51.6	51.6	51.6	0	0	0	15.6	15.6	15.6	51.6	51.6	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	51	50.3	51	0	0	0	48.7	48	47.3	51	50.3	0	0	0	0	0	0	0
28	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
29	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
30	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
Avg	93.2	93.4	87	61.1	61.3	54.8	91.8	92	85.5	92.8	93.1	0	0	0	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	21.1	21.2	28.2	47.7	47.9	47.2	24.3	24.4	30.6	21	21.1	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for July, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
2	100	100	100	0	0	0	100	98.5	100	100	95.6	0	0	0	0	0	0	0
3	95.8	100	100	0	0	0	95.8	99.7	100	95.8	99.7	0	0	0	0	0	0	0
4	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
5	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
6	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
7	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0	0	0	0
8	100	100	59.2	0	0	0	100	100	57.1	100	100	0	0	0	0	0	0	0
9	99.9	99.9	0	0	0	0	99.9	99.9	0	95.7	97.9	0	0	0	0	0	0	0
10	98.8	98.8	47.8	9	9	9	69.2	69.6	19	98.8	98.8	0	0	0	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
12	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
13	97.1	97.1	97.1	8.5	8.5	8.5	97.1	97.1	97.1	96.4	97.1	0	0	0	0	0	0	0
14	98.9	100	97.6	0	0	0	98.9	100	97.6	97.4	98.5	0	0	0	0	0	0	0
15	95	95	95	48.4	47.7	49.7	95	95	95	95	95	0	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
17	100	100	100	78	99.2	100	79.2	99.2	100	96.8	96.2	0	0	0	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
19	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
22	85.2	100	100	85.2	100	100	85.2	100	100	85.2	100	0	0	0	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
24	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	98.3	0	0	0	0	0	0	0
25	99.4	99.4	99	99.4	99.3	99	99.4	99.3	99	97.6	90.5	0	0	0	0	0	0	0
26	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
28	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
29	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	96.5	96.3	0	0	0	0	0	0	0
30	100	100	100	100	100	100	100	100	100	99.1	98.2	0	0	0	0	0	0	0
31	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	0	0	0	0	0	0	0
Avg	98.9	99.6	93.3	58.9	60	60.1	97.3	98.6	92.3	98.5	98.8	0	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	2.8	1	20.5	46.7	47.5	47.5	6.8	5.4	23.2	2.9	2.1	0	0	0	0	0	0	0
Min	85.2	95	0	0	0	0	69.2	69.6	0	85.2	90.5	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for August, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	99.2	100	100	99.2	100	100	99.2	100	100	99.2	100	0	0	0	0	0	0	0
2	99	99	97.6	74.9	75.4	75.6	75.7	99	75.7	99	99	0	0	0	0	0	0	0
3	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
4	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	0	0	0	0	0	0	0
5	100	100	56.5	100	100	54	100	100	54	91.7	90.1	0	0	0	0	0	0	0
6	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
7	99.9	99.9	36.2	99.9	99.9	36.2	99.9	99.9	36.2	88.4	95.1	0	0	0	0	0	0	0
8	98.5	99.8	99.8	98.5	99.7	99.8	98.5	99.7	99.8	98.5	99.7	0	0	0	0	0	0	0
9	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
10	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
11	98.2	98.5	98.2	78	77.4	77.7	78.1	77.5	77.8	93.6	97.6	0	0	0	0	0	0	0
12	100	100	100	100	96.4	99.9	100	96.4	99.9	100	96.4	0	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
14	99.8	99.8	99.8	78.5	98.6	99.8	78.6	98.6	99.8	99.8	98.6	0	0	0	0	0	0	0
15	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
17	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	0	0	0	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
19	100	99.9	100	100	99.9	100	100	99.9	100	95	96.4	0	0	0	0	0	0	0
20	100	100	99.9	100	100	99.9	100	100	99.9	100	100	0	0	0	0	0	0	0
21	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0	0
22	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
25	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
26	100	100	56	100	100	56	100	100	56	100	100	0	0	0	0	0	0	0
27	100	100	0	100	99.8	0	100	99.8	0	100	99.8	0	0	0	0	0	0	0
28	99.9	99.9	44	99.9	99.9	44	99.9	99.9	44	97.6	97.5	42.6	0	0	0	0	0	0
29	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	96.3	0	0	0	0	0	0
30	100	100	100	100	100	100	100	100	100	100	100	93.4	0	0	0	0	0	0
31	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
Avg	99.8	99.8	86.7	97.6	98.2	85.2	97.7	99	85.2	98.7	99	10.7	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	0.5	0.4	28.7	6.8	5.8	28.7	6.6	4	28.7	2.7	2.1	29.1	0	0	0	0	0	0
Min	98.2	98.5	0	74.9	75.4	0	75.7	77.5	0	88.4	90.1	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for September, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
2	94.9	94.9	94.9	70.2	65.1	69.2	70.3	65.2	69.3	94.9	92.6	93.9	0	0	0	0	0	0
3	100	100	100	100	99.7	100	100	99.7	100	100	99.7	100	0	0	0	0	0	0
4	100	100	100	100	99.8	100	100	99.8	100	97.6	99	100	0	0	0	0	0	0
5	45.1	44.2	100	45.1	44.2	99.9	45.1	44.2	99.9	45.1	44.2	99.9	0	0	0	0	0	0
6	0	0	17.4	0	0	15.1	0	0	15.1	0	0	17.2	0	0	0	0	0	0
7	56.9	56.9	56.9	55.1	54.4	53.8	55.3	54.6	53.9	56.9	56.9	54.5	0	0	0	0	0	0
8	100	100	100	100	100	100	100	100	100	100	100	95.1	0	0	0	0	0	0
9	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	98.6	0	0	0	0	0	0
10	100	100	100	100	100	100	100	100	100	100	100	98.2	0	0	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	100	92.7	0	0	0	0	0	0
12	97.2	100	100	97.2	99.5	100	97.2	99.5	100	97.2	99.5	90.6	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	92.3	0	0	0	0	0	0
14	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0
15	100	100	100	100	100	100	100	100	100	96	96.9	97.2	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	100	86.3	0	0	0	0	0	0
17	100	100	100	100	99	100	100	99	100	100	99	85.1	0	0	0	0	0	0
18	100	100	100	100	92.7	100	100	92.7	100	100	92.7	94.3	0	0	0	0	0	0
19	99.7	99.7	99.7	99.7	93.5	99.7	99.7	93.5	99.7	99.7	93.5	85.3	0	0	0	0	0	0
20	100	100	100	100	91.5	100	100	91.5	100	100	91.5	95.3	0	0	0	0	0	0
21	99.7	99.7	99.7	99.7	95.3	99.7	99.7	95.3	99.7	99.7	95.3	94.4	0	0	0	0	0	0
22	100	100	100	100	98.5	100	100	98.5	100	100	98.5	98.7	0	0	0	0	0	0
23	100	100	50.8	100	91	48.3	100	91	50.8	100	91	48.3	0	0	0	0	0	0
24	100	100	0	94.5	93.1	0	94.5	93.1	0	94.5	93.1	0	0	0	0	0	0	0
25	100	100	46.4	90.6	98.5	43.1	90.6	98.5	41.3	90.6	98.5	41.7	0	0	0	0	0	0
26	100	100	100	100	100	99.9	100	100	99.9	100	100	99.7	0	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	96	0	0	0	0	0	0
28	100	100	100	99.9	100	100	99.9	100	100	99.9	100	78.1	0	0	0	0	0	0
29	100	100	99.2	99.2	100	99.2	99.2	100	99.2	52.3	56.5	49	0	0	0	0	0	0
30	0	96.3	100	0	96.3	100	0	96.3	100	0	0	0	0	0	0	0	0	0
Avg	89.8	93	88.8	88.4	90.4	87.6	88.4	90.4	87.6	87.5	86.6	79.4	0	0	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	26.9	21.3	26	27.1	21.6	26.8	27.1	21.6	26.8	27.4	27	29.6	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for October, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	100	99.4	98	100	99.4	98	0	0	0	0	0	0	0	0	0
2	94.3	100	100	85.6	84.1	80.9	85.6	84.1	80.9	0	0	0	0	0	0	0	0	0
3	100	100	100	92.3	83.5	82.6	92.3	83.5	82.6	0	0	0	0	0	0	0	0	0
4	100	100	100	96.5	90.1	89.6	96.5	90.1	89.6	0	0	0	0	0	0	0	0	0
5	99.7	99.7	99.7	97.6	91.2	92.7	97.6	91.2	92.7	0	0	0	0	0	0	0	0	0
6	100	100	100	100	92.4	94	100	92.4	94	0	0	0	0	0	0	0	0	0
7	100	100	99.9	100	96.2	99.7	100	96.2	99.7	0	0	0	0	0	0	0	0	0
8	100	100	99.7	95.4	90.6	94.4	95.4	90.6	94.4	0	0	0	0	0	0	0	0	0
9	98.4	99.7	99.7	98.4	99.3	99.7	98.4	99.3	99.7	0	0	0	43	43	37.4	0	0	0
10	100	100	100	100	100	100	100	100	100	0	0	0	95.2	95.2	95.2	0	0	0
11	100	100	100	100	100	100	100	100	100	0	0	0	99.7	99.7	97.4	0	0	0
12	100	100	99.9	86	100	99.9	86	100	99.9	0	0	0	86	100	99.4	0	0	0
13	100	100	100	0.5	15.2	17.3	72.7	96.2	100	0	0	0	72.7	96.2	99.1	0	0	0
14	100	100	99.7	0	0	0	100	93.6	99.7	0	0	0	100	93.6	99.7	0	0	0
15	100	100	100	0	0	0	100	96.5	99.8	0	0	0	100	96.5	89	0	0	0
16	54.2	99	99	0	0	0	54.2	98.2	99	0	0	0	51.5	95.1	98.2	0	0	0
17	0	100	100	0	0	0	0	96.3	100	0	0	0	0	96.3	100	0	0	0
18	0	98.5	98.5	0	0	0	0	76.2	90.6	0	0	0	0	76.2	90.4	0	0	0
19	0	100	100	0	0	0	0	72.7	87.1	0	0	0	0	72.7	87.1	0	0	0
20	0	100	100	0	0	0	0	65.1	89.4	0	0	0	0	65.1	89.4	0	0	0
21	0	96.3	46.9	0	0	0	0	71.9	34.2	0	0	0	0	71.9	35.5	0	0	0
22	0	100	0	0	0	0	0	64.2	0	0	0	0	0	64.2	0	0	0	0
23	0	98.5	53	0	0	0	0	61.8	21.9	0	32	24.7	0	26.1	0	0	0	0
24	0	99.7	99.7	0	0	0	0	84.2	61.2	0	83	58.5	0	0	0	0	0	0
25	0	100	100	0	0	0	0	99.1	96.9	0	98.9	94.9	0	0	0	0	0	0
26	0	100	100	0	0	0	0	84.9	67.2	0	84.9	67.2	0	0	0	0	0	0
27	0	100	100	0	0	0	0	70.7	59.1	0	70.7	59.1	0	0	0	0	0	0
28	0	100	100	0	0	0	0	93.8	45.6	0	93.8	45.6	0	0	0	0	0	0
29	0	99.7	99.7	0	0	0	0	64.2	66	0	61.3	65	0	0	0	0	0	0
30	0	100	100	0	0	0	0	53	62.3	0	52.7	62.3	0	0	0	0	0	0
31	0	100	100	0	0	0	0	57.8	69.1	0	57.8	69.1	0	0	0	0	0	0
Avg	49.9	99.7	93.4	37.2	36.8	37.1	47.7	84.7	80	0	20.5	17.6	20.9	38.4	36.1	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	49	0.7	21	46.9	45.6	45.8	47	14.4	25.5	0	33.9	29.2	37.1	42.5	44.7	0	0	0
Min	0	96.3	0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	0	98.9	94.9	100	100	100	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for November, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	0	100	100	0	0	0	0	60.8	73.5	0	60.8	73.5	0	0	0	0	0	0
2	0	99.3	99.3	0	0	0	0	72.9	84	0	72.9	84	0	0	0	0	0	0
3	0	100	100	0	93.5	97.8	0	94.3	98.8	0	94.3	98.8	0	0	0	0	0	0
4	0	99.7	99.7	0	73.3	67.9	0	73.5	68.1	0	98.4	98.1	0	0	0	0	0	0
5	0	98.9	98.9	0	94.2	97.8	0	94.2	97.8	0	91.7	91.7	0	0	0	0	0	0
6	0	100	100	0	88.8	92.5	0	88.8	92.5	0	88.8	92.5	0	0	0	0	0	0
7	0	100	100	0	84.7	94	0	84.7	94	0	84.7	93.9	0	0	0	0	0	0
8	0	100	100	0	79.8	94.3	0	79.8	94.3	0	79.8	94.2	0	0	0	0	0	0
9	0	99.9	99.9	0	61.6	80.1	0	61.6	80.1	0	61.6	80.1	0	0	0	0	0	0
10	0	99.9	99.9	0	60	71.4	0	60	71.4	0	60	71.3	0	0	0	0	0	0
11	47.5	100	100	30.8	54.2	70.3	30.8	54.2	70.3	30.8	54.2	70.1	0	0	0	0	0	0
12	100	100	100	71.9	64.1	81.9	71.9	64.1	81.9	71.9	64.1	81.3	0	0	0	0	0	0
13	100	100	100	94.1	83.8	96	94.1	83.8	96	82.8	80.8	86.7	0	0	0	0	0	0
14	100	100	100	100	92.4	100	100	92.4	100	100	92.4	59.6	0	0	0	0	0	0
15	100	100	100	99.3	98	99.9	99.3	98	99.9	99.3	98	21.9	0	0	0	0	0	0
16	100	100	100	71.2	83.1	83.4	71.2	83.1	83.4	71.2	83.1	33.7	0	0	0	0	0	0
17	92.4	92.4	92.4	34	57.7	71.3	55	57.7	55.6	55	57.7	71.3	0	0	0	0	0	0
18	90.6	90.6	58.2	20.3	79.3	28.7	36	79.3	0	36	79.3	25.8	0	0	0	0	0	0
19	93.9	93.9	0	44	65.5	0	44	65.5	0	44	65.5	0	0	0	0	0	0	0
20	99.7	99.7	48.8	56.2	62.6	24	56.2	62.6	24	56.2	56.3	16.4	0	0	0	0	0	0
21	100	100	100	40.3	85.4	44.4	40.3	85.4	44.4	40.3	85.4	33.4	0	0	0	0	0	0
22	100	100	100	56.7	76.5	54.8	56.7	76.5	54.8	56.6	76.4	49.4	0	0	0	0	0	0
23	99.9	99.9	99.9	59.3	59.4	58.2	59.3	59.4	58.2	59.3	59.4	57.6	0	0	0	0	0	0
24	100	100	100	56.7	59.9	60.7	56.7	59.9	60.7	51.9	59.9	60.6	0	0	0	0	0	0
25	100	100	100	74.4	88.1	50.1	74.4	88.1	50.1	74.4	88.1	49.2	0	0	0	0	0	0
26	100	100	100	56.5	57.2	61.9	56.5	57.2	61.9	56.2	57	61.2	0	0	0	0	0	0
27	100	100	100	53.8	51.9	84	53.8	51.9	84	53.8	51.9	84	0	0	0	0	0	0
28	100	100	100	65.8	67.1	86.2	65.8	67.1	86.2	65.8	67.1	86.2	0	0	0	0	0	0
29	100	100	100	40.5	45.7	80.6	40.5	45.7	80.6	40.5	45.7	80.6	0	0	0	0	0	0
30	99.9	99.9	99.9	48.2	69.8	87.7	48.2	69.8	87.7	48.2	69.8	87.7	0	0	0	0	0	0
Avg	64.1	99.1	93.2	39.1	67.9	67.3	40.4	72.4	71.1	39.8	72.8	66.5	0	0	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	46.3	2.3	20.9	32.7	23	29.9	32.6	14.3	26.4	32	15	26.4	0	0	0	0	0	0
Min	0	90.6	0	0	0	0	0	45.7	0	0	45.7	0	0	0	0	0	0	0
Max	100	100	100	100	98	100	100	98	100	100	98.4	98.8	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for December, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	99.9	99.9	99.9	58.7	57.3	73.6	58.7	57.3	73.6	58.7	57.3	73.6	0	0	0	0	0	0
2	100	100	100	58.1	49.4	82.1	58.1	49.4	82.1	56.8	46.7	79.8	0	0	0	0	0	0
3	100	100	100	49.5	44.9	91.7	49.5	44.9	91.7	49.5	44.9	91.7	0	0	0	0	0	0
4	100	100	100	73.4	54.4	95.5	73.4	54.4	95.5	73.4	54.4	95.5	0	0	0	0	0	0
5	100	100	100	60.2	60.3	75.6	60.2	60.3	75.6	60.2	60.3	75.6	0	0	0	0	0	0
6	100	100	100	76.2	47.8	89.9	76.2	47.8	89.9	76.2	47.8	89.9	0	0	0	0	0	0
7	99.9	99.9	99.9	77.2	73.5	70.5	77.2	73.5	70.5	77.2	73.5	70.5	0	0	0	0	0	0
8	100	100	100	75.9	39.2	86.5	75.9	39.2	86.5	75.9	37.6	83.5	0	0	0	0	0	0
9	100	100	100	89.9	69.7	98.3	89.9	69.7	98.3	89.9	69.7	98.3	0	0	0	0	0	0
10	100	100	99.8	100	99.4	99.7	100	99.4	99.7	100	99.4	99.7	0	0	0	0	0	0
11	100	100	99.9	99.7	99.4	99.8	99.7	99.4	99.8	99.7	99.4	99.8	0	0	0	0	0	0
12	99.2	99.2	99.2	86.8	82.9	73.9	86.8	82.9	73.9	86.8	82.9	73.9	0	0	0	0	0	0
13	100	100	100	63.5	45.6	84	63.5	45.6	84	63.5	45.6	84	0	0	0	0	0	0
14	99.9	99.9	99.9	81.3	53.8	91.5	81.3	53.8	91.5	81.3	53.8	91.5	0	0	0	0	0	0
15	100	100	100	99.8	84.4	98.8	99.8	84.4	98.8	99.8	84.4	98.8	0	0	0	0	0	0
16	100	100	65.4	83.5	64.4	61.3	83.5	64.4	61.3	83.3	64.2	62	0	0	0	0	0	0
17	100	100	0	90.9	75.6	0	91.6	75.6	0	92.7	76	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	100	100	100	96.9	89.5	98.8	97	89.5	99	98.7	91.3	93.5	0	0	0	0	0	0
20	100	100	100	100	94	100	100	94	100	100	94	99.1	0	0	0	0	0	0
21	99.9	99.9	99.9	85.8	93.8	79.6	85.8	93.8	79.6	85.3	93.8	77.8	0	0	0	0	0	0
22	100	100	100	37.1	80.2	54.4	37.1	80.2	54.4	37.1	80.2	54.4	0	0	0	0	0	0
23	100	100	100	41.6	36	79.1	41.6	36	79.1	41.6	36	78.4	0	0	0	0	0	0
24	100	100	100	77.1	69.2	86.3	77.1	69.2	86.3	79.4	71.5	88.5	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	50.8	50.8	50.8	29.1	25	37.7	29.2	25.1	37.8	36	18.9	44.4	0	0	0	0	0	0
30	100	100	100	71.1	66.5	84.7	71.1	66.5	84.7	71.1	66.5	84.7	0	0	0	0	0	0
31	59.4	65.1	59.4	43.1	33	35.1	43.2	35.9	35.2	47.3	39.5	37.2	0	0	0	0	0	0
Avg	80.9	81.1	76.6	61.5	54.5	65.4	61.5	54.6	65.4	62	54.5	65.4	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	37.2	37.1	39.5	32.9	30.7	35.8	32.9	30.7	35.8	32.8	31	35.4	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	99.4	100	100	99.4	100	100	99.4	99.8	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for January, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	44.7	29.9	73.4	44.7	29.9	73.4	44.7	29.9	73.4	0	0	0	0	0	0
2	100	100	100	35.3	26.5	51.8	35.3	26.5	51.8	43.4	23	80.9	0	0	0	0	0	0
3	100	100	100	1.9	1.7	1.5	2	1.7	1.5	60.3	0	84.7	0	0	0	0	0	0
4	100	100	100	84.4	69.2	83.1	84.4	69.2	83.1	84.4	0	83.1	0	0	0	0	0	0
5	99.9	99.9	99.9	99.2	91.5	98.1	99.2	91.5	98.1	99.2	0	94.8	0	0	0	0	0	0
6	100	100	100	96	93.5	98.5	96	93.5	98.5	96	0	98.5	0	0	0	0	0	0
7	99.5	97.6	99.5	82.6	97.1	91.7	82.6	97.1	91.7	82.4	0	91.5	0	0	0	0	0	0
8	100	100	100	44.1	68.8	66	44.1	68.8	66	44.1	0	66	0	0	0	0	0	0
9	100	100	100	44	47.4	64.4	44	47.4	64.4	44	0	64.4	0	0	0	0	0	0
10	100	100	100	57.3	69.4	83.1	57.3	69.4	83.1	57.3	0	83.1	0	0	0	0	0	0
11	100	100	100	54.3	90.1	90	54.3	90.1	90	54.3	0	90	0	0	0	0	0	0
12	100	100	100	38.5	54	63.6	38.5	54	63.6	38.5	0	63.5	0	0	0	0	0	0
13	100	100	61.3	40	53.2	41.3	40	53.2	41.3	40	0	41.3	0	0	0	0	0	0
14	100	100	0	42	53.6	0	42	53.6	0	42	0	0	0	0	0	0	0	0
15	100	96.3	40.1	42.8	68.9	21.9	42.8	68.9	21.9	24.8	0	0	0	0	0	0	0	0
16	100	100	100	33.5	75.3	58.4	33.5	75.3	58.4	0	0	0	0	0	0	0	0	0
17	100	100	100	32.8	48.5	77.3	32.8	48.5	77.3	0	0	0	0	0	0	0	0	0
18	100	100	100	36	58.7	53.5	36	58.7	53.5	0	0	0	0	0	0	0	0	0
19	97.4	97.4	97.4	32.4	58.8	60.6	32.4	58.8	60.6	0	0	0	0	0	0	6.9	0	14
20	100	100	100	19.4	54.7	42.6	19.4	54.8	42.7	0	0	0	0	0	0	26.3	0	53.6
21	100	100	100	28.9	54.5	58.5	28.9	54.5	58.5	0	0	0	0	0	0	28.9	0	58.5
22	96.5	96.5	96.5	25.9	28.7	47	31.7	28.8	47	0	0	0	0	0	0	31.6	0	58.1
23	99.4	99.5	99.5	53.1	54.4	60.3	53.1	54.4	60.3	0	0	0	0	0	0	24	0	31.7
24	100	100	100	44	72.8	57.4	44	72.8	57.4	0	0	0	0	0	0	0	0	0
25	100	100	100	30	41.5	68.6	30	41.5	68.6	0	0	0	0	0	0	0	0	0
26	100	100	100	29	43.1	62.9	29	43.1	62.9	0	0	0	0	0	0	0	0	0
27	100	100	100	41.7	49.5	71	41.7	49.5	71	16.2	0	33.6	0	0	0	0	0	0
28	100	100	100	79.4	83.1	86.3	79.4	83.1	86.3	79.4	0	86.3	0	0	0	0	0	0
29	100	100	100	46.5	61.8	64.4	46.5	61.8	64.4	46.5	0	64.4	0	0	0	0	0	0
30	100	100	100	43.5	66.7	48.9	43.5	66.7	48.9	43.5	0	48.9	0	0	0	0	0	0
31	100	100	100	40.2	81.4	44.9	40.2	81.4	44.9	40.1	0	44.9	0	0	0	0	0	0
Avg	99.8	99.6	93.4	45.9	59.6	61	46.1	59.6	61	34.9	1.7	41.7	0	0	0	3.8	0	7
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	0.8	1.1	21.1	21.5	21.1	23.5	21.3	21.1	23.5	31.4	6.6	38.3	0	0	0	9.3	0	17.4
Min	96.5	96.3	0	1.9	1.7	0	2	1.7	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	99.2	97.1	98.5	99.2	97.1	98.5	99.2	29.9	98.5	0	0	0	31.6	0	58.5

Table E12. Airflow and emission data completeness (%) at site NC4B for February, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	60.3	57.1	60.8	60.3	57.1	60.8	60.3	0	60.8	0	0	0	0	0	0
2	99.9	99.9	99.9	69	63.7	59.7	69	63.7	59.7	65.8	0	56.6	0	0	0	0	0	0
3	99.9	99.9	99.9	31.4	83.1	49.9	31.4	83.1	49.9	31.4	0	49.9	0	0	0	0	0	0
4	100	100	100	20.5	82.2	45.5	20.5	82.2	45.5	20.5	0	45.5	0	0	0	0	0	0
5	100	100	100	22.1	74.4	45.8	22.1	74.4	45.8	22.1	0	45.8	0	0	0	0	0	0
6	100	100	100	41.7	44	60.1	41.7	44	60.1	41.7	0	60.1	0	0	0	0	0	0
7	100	100	100	68.1	62.7	79.4	68.1	62.7	79.4	68.1	0	79.4	0	0	0	0	0	0
8	100	100	100	82.2	72.6	85.6	82.2	72.6	85.6	82.1	0	85.4	0	0	0	0	0	0
9	100	100	100	78.3	72.7	84.4	78.3	72.7	84.4	78.3	0	84.4	0	0	0	0	0	0
10	100	100	55.1	85.8	78.8	42.6	85.8	78.8	42.6	34.5	0	41.7	0	0	0	0	0	0
11	99.9	99.9	0	99.9	93.5	0	99.9	93.5	0	0	0	0	0	0	0	0	0	0
12	100	100	51	98.2	99.2	25.1	98.2	99.2	24.1	0	0	0	0	0	0	0	0	0
13	100	100	100	89.7	95.7	46.6	89.7	95.7	46.6	0	0	0	0	0	0	0	0	0
14	100	100	100	76	70.6	48.5	76	70.6	48.5	0	0	0	0	0	0	0	0	0
15	100	100	100	55.4	67.4	49.6	55.4	67.4	49.6	0	0	0	0	0	0	0	0	0
16	100	100	100	30.3	55.3	47.2	30.3	55.3	47.2	0	0	0	0	0	0	0	0	0
17	100	100	100	38.7	42.8	62.9	38.7	42.8	62.9	0	0	0	0	0	0	0	0	0
18	99.9	99.9	99.9	68.4	64.7	69.3	68.4	64.7	69.3	0	0	0	0	0	0	0	0	0
19	100	100	100	80.3	92.2	65	80.3	92.2	65	0	0	0	0	0	0	0	0	0
20	100	100	100	31.5	78.6	52.8	31.5	78.6	52.8	0	0	0	0	0	0	0	0	0
21	100	100	100	38.7	41.5	82.1	38.7	41.5	82.1	0	0	0	0	0	0	0	0	0
22	100	100	100	49.4	75.4	43.4	49.4	75.4	43.4	0	0	0	0	0	0	0	0	0
23	100	100	100	27.8	71.6	52.4	27.8	71.6	52.4	0	0	0	0	0	0	0	0	0
24	99.7	99.7	99.7	28.4	44.1	76.3	28.4	44.1	76.3	0	0	0	0	0	0	0	0	0
25	100	100	100	42.4	45.6	74.4	42.4	45.6	74.4	0	0	0	0	0	0	0	0	0
26	100	100	100	40.8	63.1	96	40.8	63.1	96	0	0	0	0	0	0	0	0	0
27	100	100	100	76.7	83.1	92.1	76.7	83.1	92.1	0	0	0	0	0	0	0	0	0
28	100	100	100	60.4	74	94.2	60.4	74	94.2	0	0	0	0	0	0	0	0	0
Avg	100	100	93.1	56.9	69.6	60.4	56.9	69.6	60.4	18	0	21.8	0	0	0	0	0	0
n	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
SD	0.1	0.1	21.6	23.8	16.2	21.4	23.8	16.2	21.4	27.5	0	30.7	0	0	0	0	0	0
Min	99.7	99.7	0	20.5	41.5	0	20.5	41.5	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	99.9	99.2	96	99.9	99.2	96	82.1	0	85.4	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for March, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	28.5	44.7	99.7	28.5	44.7	99.7	0	0	0	0	0	0	0	0	0
2	100	100	100	21.9	88.1	82.2	21.9	88.1	82.2	0	0	0	0	0	0	0	0	0
3	100	100	100	23.8	70.5	74.8	23.8	70.5	74.8	0	0	0	0	0	0	0	0	0
4	99.9	99.9	99.9	29.9	42.8	95.3	29.9	42.8	95.3	12.6	0	45.6	0	0	0	0	0	0
5	100	100	100	46	47.6	98.3	46	47.6	98.3	46	0	98.1	0	0	0	0	0	0
6	100	100	100	72.2	72.2	93.4	72.2	72.2	93.4	72.2	0	93.4	0	0	0	0	0	0
7	100	100	100	86.7	89.9	99.6	86.7	89.9	99.6	86.7	0	99.6	0	0	0	0	0	0
8	100	100	100	97.6	95.4	100	97.6	95.4	100	65.7	0	68.1	0	0	0	0	0	0
9	100	100	100	92.2	98.5	99.4	92.2	98.5	99.4	0	0	0	0	0	0	0	0	0
10	99.4	59.2	54	36.6	34.2	35.9	36.7	34.2	35.9	44	0	5	0	0	0	0	0	0
11	100	0	0	95.8	0	0	95.8	0	0	0	0	0	0	0	0	0	0	0
12	100	0	39.7	53.9	0	27.5	53.9	0	27.5	0	0	0	0	0	0	0	0	0
13	100	0	100	28	0	50.7	28	0	50.7	0	0	0	0	0	0	0	0	0
14	100	0	100	30	0	62.8	30	0	62.8	0	0	0	0	0	0	0	0	0
15	98.7	0	98.7	17.8	0	36.2	17.8	0	38.1	11.7	0	0	0	0	0	0	0	0
16	100	0	100	32	0	75.9	32	0	75.9	32	0	0	0	0	0	0	0	0
17	100	0	100	20.4	0	63.5	20.4	0	63.5	19.6	0	40.1	0	0	0	0	0	0
18	100	0	100	59.6	0	85.4	59.6	0	85.4	59.6	0	85.4	0	0	0	0	0	0
19	100	0	100	66.7	0	89.7	66.7	0	89.7	66.7	0	89.7	0	0	0	0	0	0
20	100	0	100	36.6	0	76	36.6	0	76	36.6	0	75.8	0	0	0	0	0	0
21	100	0	100	31.2	0	81.3	31.2	0	81.3	31.2	0	81.3	0	0	0	0	0	0
22	96.7	0	96.7	51.3	0	70.3	51.3	0	70.5	51.3	0	89.1	0	0	0	0	0	0
23	100	0	100	60.3	0	93.2	60.3	0	93.2	60.1	0	92.8	0	0	0	0	0	0
24	99.8	0	100	35.3	0	85.6	35.3	0	85.6	34	0	82.6	0	0	0	0	0	0
25	100	0	100	55.8	0	92.8	55.8	0	92.8	55.8	0	92.8	0	0	0	0	0	0
26	100	0	100	93.1	0	99.4	93.1	0	99.4	93.1	0	99.4	0	0	0	0	0	0
27	100	0	100	100	0	100	100	0	100	100	0	100	0	0	0	0	0	0
28	100	0	100	100	0	100	100	0	100	100	0	100	0	0	0	0	0	0
29	99.9	0	99.9	99.9	0	99.9	99.9	0	99.9	99.9	0	99.4	0	0	0	0	0	0
30	99.9	0	99.9	94	0	97	94	0	97	94	0	96.1	0	0	0	0	0	0
31	100	97	58.5	88.5	80	55.8	88.5	80	55.8	88.5	0	55.7	0	0	0	0	0	0
Avg	99.8	34.1	91.8	57.6	24.6	78.1	57.6	24.6	78.2	43.9	0	54.5	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	0.6	46.5	22.3	28.9	35.8	25.2	28.9	35.8	25.1	35.5	0	42.6	0	0	0	0	0	0
Min	96.7	0	0	17.8	0	0	17.8	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	98.5	100	100	98.5	100	100	0	100	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for April, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	0	99.5	95.1	0	99.5	95.1	0	99.5	0	0	0	0	0	0	0	0
2	100	100	37.4	100	97.4	37.3	100	97.4	37.3	100	0	33.1	0	0	0	0	0	0
3	99.7	100	100	99.7	99.7	95.6	99.7	99.7	95.6	99.5	0	94.6	0	0	0	0	0	0
4	100	100	100	96.2	92.1	77.5	96.2	92.1	77.5	96.2	0	71.9	0	0	0	0	0	0
5	100	100	100	95.7	91.2	89.1	95.7	91.2	89.1	95.7	0	89	0	0	0	0	0	0
6	100	100	100	100	100	88.5	100	100	88.5	99.7	0	87.8	0	0	0	0	0	0
7	100	100	100	81.3	94.8	44.8	81.3	94.8	44.8	36.5	0	21.7	41.8	0	16.7	0	0	0
8	100	100	100	78.4	78.7	66.8	78.4	78.7	66.8	0	0	0	78.4	0	63.5	0	0	0
9	100	100	100	93	83.5	73.4	93	83.5	73.4	0	0	0	93	0	70.7	0	0	0
10	100	100	100	98.2	93.3	91.5	98.2	93.3	91.5	0	0	0	98.2	0	91.3	0	0	0
11	100	100	100	100	98.1	96.1	100	98.1	96.1	0	0	0	100	0	88.1	0	0	0
12	99.7	99.7	99.7	81.7	78.3	87.4	81.7	78.3	87.4	0	0	0	81.7	0	84.5	0	0	0
13	100	100	100	89	86.3	90.4	89	86.3	90.4	0	0	0	88.6	0	86.3	0	0	0
14	100	100	100	100	100	100	100	100	100	0	0	0	99.8	0	95.1	0	0	0
15	100	100	100	96.2	98	92	96.2	98	92	0	0	0	92.8	0	86.9	0	0	0
16	100	100	100	66.7	86.3	79.9	66.7	86.3	79.9	0	0	0	66.7	0	74.9	0	0	0
17	100	100	100	83.7	76.5	90.8	83.7	76.5	90.8	0	0	0	83.7	0	89.7	0	0	0
18	100	100	100	92.8	87.4	93.2	92.8	87.4	93.2	0	0	0	92.6	0	93	0	0	0
19	100	100	100	100	92.5	99.4	100	92.5	99.4	0	0	0	100	0	99.4	0	0	0
20	100	100	100	100	100	100	100	100	100	0	0	0	100	0	99.5	0	0	0
21	100	100	100	100	99.3	100	100	99.3	100	0	0	0	49.8	0	49.9	49	0	48.9
22	100	100	100	90.6	92.2	93.9	90.6	92.2	93.9	0	0	0	0	0	0	90.6	0	93.9
23	100	100	100	85.9	87.9	94.9	85.9	87.9	94.9	0	0	0	0	0	0	85.9	0	94.9
24	100	100	100	92.9	93.6	98.8	92.9	93.6	98.8	0	0	0	0	0	0	92.9	0	98.8
25	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	100	0	100
26	99.7	99.7	99.7	99.7	95.9	99.7	99.7	95.9	99.7	0	0	0	0	0	0	99.7	0	99.7
27	100	100	100	100	82.8	100	100	82.8	100	0	0	0	0	0	0	100	0	100
28	100	100	50.2	96.8	89	50.2	96.8	89	50.2	40.8	0	0	0	0	0	52.8	0	50.2
29	100	100	0	97.8	89.8	0	97.8	89.8	0	97.8	0	0	0	0	0	0	0	0
30	100	100	49.9	92.2	83.6	48.7	92.2	83.6	49.9	92.2	0	41	0	0	0	0	0	0
Avg	100	100	87.9	93.6	91.4	79.3	93.6	91.4	79.4	28.6	0	14.6	42.2	0	39.7	22.4	0	22.9
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	0.1	0.1	28.6	8.1	7	27.6	8.1	7	27.6	42.7	0	29.8	44.1	0	42.4	38.4	0	39.5
Min	99.7	99.7	0	66.7	76.5	0	66.7	76.5	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	0	94.6	100	0	99.5	100	0	100

Table E12. Airflow and emission data completeness (%) at site NC4B for May, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	99.7	100	96.9	99.7	100	96.9	99.7	100	0	98.8	0	0	0	0	0	0
2	100	100	100	100	100	100	100	100	100	100	0	99.4	0	0	0	0	0	0
3	100	100	100	100	100	100	100	100	100	100	0	98.4	0	0	0	0	0	0
4	100	100	100	100	99.9	100	100	99.9	100	100	0	99	0	0	0	0	0	0
5	100	100	100	100	95.8	99.9	100	95.8	99.9	100	0	99	0	0	0	0	0	0
6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.5	0	98.3	0	0	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	0	96.9	0	0	0	0	0	0
8	100	100	100	99.6	99.1	100	99.6	99.1	100	99.6	0	90.9	0	0	0	0	0	0
9	100	100	100	100	100	100	100	100	100	100	0	93.2	0	0	0	0	0	0
10	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	94.9	0	0	0	0	0	0
11	100	100	100	69.5	76.5	95.8	69.5	76.5	95.8	69.5	0	91.7	0	0	0	0	0	0
12	100	100	100	81.3	76.8	89.7	81.3	76.8	89.7	81.3	0	89	0	0	0	0	0	0
13	91.7	91.7	91.7	85.3	73.1	91.4	85.3	73.1	91.4	85.3	0	91	0	0	0	0	0	0
14	100	100	100	90.3	88.3	100	90.3	88.3	100	90.3	0	99.9	0	0	0	0	0	0
15	95.6	97.2	97.2	95.6	96.8	97.2	95.6	96.8	97.2	95.6	0	95.1	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	0	98.9	0	0	0	0	0	0
17	99.9	99.9	99.9	77.6	91.2	99.2	77.6	91.2	99.2	77.6	0	96	0	0	0	0	0	0
18	97.7	97.7	97.7	36.7	46.1	95.7	36.7	46.1	95.7	34.2	0	91.1	0	0	0	0	0	0
19	100	100	100	61.3	56	94.5	61.3	56	94.5	61.3	0	94.1	0	0	0	0	0	0
20	100	100	100	83.4	75.5	93.8	83.4	75.5	93.8	83.4	0	93.4	0	0	0	0	0	0
21	100	100	100	100	87.9	100	100	87.9	100	100	0	99	0	0	0	0	0	0
22	99.7	99.6	100	96.3	89	100	96.3	89	100	96.3	0	99	0	0	0	0	0	0
23	100	100	100	90.6	91.7	100	90.6	91.7	100	90.6	0	99	0	0	0	0	0	0
24	100	100	100	100	99	100	100	99	100	100	0	98.5	0	0	0	0	0	0
25	100	100	100	100	98.3	100	100	98.3	100	100	0	99.7	0	0	0	0	0	0
26	61.7	99.7	57.5	61.7	99.7	57.4	61.7	99.7	57.4	61.7	0	57.3	0	0	0	0	0	0
27	100	100	0	100	99.1	0	100	99.1	0	100	0	0	0	0	0	0	0	0
28	99.4	99.4	52.6	27	27	0	27	27	0	99.4	0	43.3	0	0	0	0	0	0
29	100	100	100	0	0	0	0	0	0	100	0	99.1	0	0	0	0	0	0
30	100	100	100	0	0	0	0	0	0	100	0	99.2	0	0	0	0	0	0
31	100	100	100	83.6	82.9	83.6	84.1	83.3	84.1	100	0	99.5	0	0	0	0	0	0
Avg	98.2	99.5	93.4	81.9	82.1	83.8	81.9	82.1	83.8	91.1	0	90.4	0	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	6.9	1.6	20.3	28.3	27.6	33.2	28.3	27.6	33.2	15.4	0	20.3	0	0	0	0	0	0
Min	61.7	91.7	0	0	0	0	0	0	0	34.2	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	0	99.9	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for June, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	99.8	100	100	99.8	100	100	99.8	100	0	99.5	0	0	0	0	0	0
2	100	100	100	100	100	100	100	100	100	100	0	86.9	0	0	0	0	0	0
3	91.9	91.9	91.9	65.2	63.1	65.9	91.9	75.1	91.9	88.5	0	87	0	0	0	0	0	0
4	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	0	95.2	0	0	0	0	0	0
5	98.3	100	100	98.3	99.9	100	98.3	99.9	100	98.3	0	95	0	0	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	0	99.5	0	0	0	0	0	0
7	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	99.1	0	0	0	0	0	0
8	100	100	100	68.3	69	66.2	68.4	69.1	68.8	100	0	100	0	0	0	0	0	0
9	100	100	100	100	100	100	100	100	100	100	0	99	0	0	0	0	0	0
10	99.9	54.5	99.9	99.9	53.5	99.9	99.9	53.5	99.9	99.9	0	99.5	0	0	0	0	0	0
11	98.8	98.8	96	98.8	98.8	96	98.8	98.8	96	95.6	0	86.3	0	0	0	0	0	0
12	99.2	100	100	99.2	99.9	100	99.2	99.9	100	99.2	0	100	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0	0	0
15	0	11.9	11.9	0	7.8	8.5	0	10.3	8.5	0	0	10.3	0	0	0	0	0	0
16	0	63.2	63.2	0	61.4	58.8	0	61.5	58.9	0	0	63.1	0	0	0	0	0	0
17	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	0	96.2	0	0	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	0	99.9	0	0	0	0	0	0
19	99	99.8	99.8	99	99.7	99.8	99	99.7	99.8	99	0	99.7	0	0	0	0	0	0
20	99.9	99.9	45.6	99.9	99.9	41.7	99.9	99.9	41.7	53.5	0	45.6	0	0	0	0	0	0
21	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0	0	0	0
22	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0	0	0	0
23	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0	0	0	0
24	99.9	99.9	0	99.9	99.9	0	99.9	99.9	0	0	0	0	0	0	0	0	0	0
25	96.8	97.3	48.6	96.8	97.2	0	96.8	97.2	0	0	0	0	0	0	0	0	0	0
26	100	100	100	76	74.6	33.8	76.2	74.7	33.9	0	0	0	0	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0	0	0
28	98.4	98.4	98.4	98.4	98.1	98.4	98.4	98.1	98.4	39.3	40	37.4	0	0	0	0	0	0
29	100	100	100	100	100	100	100	100	100	62	50.1	61.8	0	0	0	38	38	38
30	100	100	100	100	99.9	100	100	99.9	100	0	0	0	0	0	0	100	99.9	99.7
Avg	92.7	93.8	78.5	90	90.7	72.3	90.9	91.2	73.2	61.1	3	62	0	0	0	4.6	4.6	4.6
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	24.8	18.4	36.9	25.7	20.5	39.6	25.3	19.7	39.7	45.5	11.3	42.9	0	0	0	19	19	18.9
Min	0	11.9	0	0	7.8	0	0	10.3	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	50.1	100	0	0	0	100	99.9	99.7

Table E12. Airflow and emission data completeness (%) at site NC4B for July, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	100	100	100
2	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	100	97.1	99.8
3	100	100	100	99.9	100	100	99.9	100	100	0	0	0	0	0	0	99.9	100	100
4	100	100	100	100	99.9	100	100	99.9	100	0	0	0	0	0	0	100	99.9	99.7
5	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0	99.9	99.9	99.9
6	99.7	99.7	99.3	99.7	99.7	99.3	99.7	99.7	78.6	0	0	0	0	0	0	99.7	99.7	84.9
7	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	100	100	99.8
8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	0	0	0	0	0	0	99.8	99.8	98.6
9	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	100	100	100
10	99	100	100	99	99.4	100	99	99.4	100	0	0	0	0	0	0	99	99.4	100
11	100	100	100	100	99.3	100	100	99.3	100	51.3	51.3	51.3	0	0	0	44	43.2	44
12	100	100	100	100	99.9	100	100	99.9	100	100	99.9	100	0	0	0	0	0	0
13	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	97.2	0	0	0	0	0	0
14	100	100	50.3	100	100	44.9	100	100	44.9	100	100	47.4	0	0	0	0	0	0
15	100	100	0	100	100	0	100	100	0	99.7	100	0	0	0	0	0	0	0
16	99.7	99.7	58.1	30.6	30.6	0	99.7	99.7	52.6	99.7	99.7	48.6	0	0	0	0	0	0
17	98.5	100	100	0	0	0	98.5	99.9	100	98.5	99.9	62.2	0	0	0	0	0	0
18	97.3	97.3	97.3	0	0	0	97.3	97.3	97.3	34	34	32.6	0	0	0	0	0	0
19	100	100	100	0	0	0	100	100	100	82.6	82.6	82.4	0	0	0	0	0	0
20	100	100	99.7	0	0	0	100	100	99.7	97	97	96.3	0	0	0	0	0	0
21	100	100	100	44	44	44	100	100	100	99.8	99.8	99.5	0	0	0	0	0	0
22	100	100	100	100	100	100	100	100	100	99.8	99.8	97.9	0	0	0	0	0	0
23	100	100	100	100	100	100	100	100	100	99.9	99.9	98.4	0	0	0	0	0	0
24	98.2	100	100	98.2	100	100	98.2	100	100	98.2	100	100	0	0	0	0	0	0
25	100	100	100	100	100	100	100	100	100	100	100	98.6	0	0	0	0	0	0
26	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0
27	71.5	71.5	71.1	68.9	70.3	68.2	68.9	70.3	68.2	71.5	71.5	71.1	0	0	0	0	0	0
28	64.8	11.3	64.8	62.7	8.5	61.3	62.8	8.7	61.5	0	0	0	0	0	0	0	0	0
29	100	0	100	1.5	0	1.5	1.5	0	1.5	0	0	0	0	0	0	0	0	0
30	98.4	0	98.4	53.2	0	55.7	53.2	0	55.7	50.8	0	48.6	0	0	0	0	0	0
31	99.3	0	100	99.3	0	100	99.3	0	100	98.5	0	99.4	0	0	0	0	0	0
Avg	97.5	86.3	91.5	75.9	69.3	70.1	92.7	86.2	85.7	54.1	49.4	46.2	0	0	0	33.6	33.5	33.1
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	7.8	32.6	21.3	37.8	43.3	41.2	20.2	32.8	27.6	45.8	47	43.2	0	0	0	46.3	46.2	45.7
Min	64.8	0	0	0	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	100	100	100

Table E12. Airflow and emission data completeness (%) at site NC4B for August, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	0	100	100	0	100	100	0	100	100	0	99.9	0	0	0	0	0	0
2	100	0	100	100	0	100	100	0	100	97.6	0	96.1	0	0	0	0	0	0
3	99.6	45.3	99.6	71.1	36.4	71.8	71.3	36.5	71.9	98.5	44.7	98.5	0	0	0	0	0	0
4	100	99.8	100	100	99.8	100	100	99.8	100	48.9	48.7	48.9	0	0	0	0	0	0
5	66.9	67	66.9	64	65.3	63.3	64	65.3	63.3	0.1	0.1	0.1	0	0	0	0	0	0
6	62.8	62.8	62.8	61.7	61	60.3	61.9	61.2	60.5	0	0	0	0	0	0	39.7	38.8	39.2
7	99.2	100	100	99.2	99.9	100	99.2	99.9	100	0	0	0	0	0	0	99	99.7	99.8
8	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	99.8	99.8	99.8
9	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	99.9	99.9	99.9
10	100	100	100	100	99.9	100	100	99.9	100	0	0	0	0	0	0	100	99.9	100
11	83	83	83	53.5	53.5	51.5	80.5	81.9	51.5	0	0	0	0	0	0	82.3	82.3	56.7
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	50.1	50.1	50.1	21.1	21.1	21.1	21.6	21.6	21.6	0	0	0	0	0	0	50.1	50.1	50.1
16	100	100	99.8	100	100	99.8	100	100	99.8	0	0	0	0	0	0	100	100	99.8
17	96.7	96.7	96.9	96.7	96.7	96.9	96.7	96.7	96.9	0	0	0	0	0	0	96.7	96.7	96.9
18	100	87.8	100	100	87.8	100	100	87.8	100	0	0	0	0	0	0	100	87.8	100
19	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	99.2	0	0	0	0	0	0	99.2	99.2	99.1
20	97.4	98.1	98.1	97.4	98.1	98.1	97.4	98.1	98.1	0	0	0	0	0	0	97.4	98.1	96.3
21	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	0	0	0	0	0	0	99.4	99.4	99.2
22	99.9	84.2	100	99.9	84.2	100	99.9	84.2	100	0	0	0	0	0	0	99.9	84.2	99.8
23	99.7	58.7	99.7	99.7	58.7	99.7	99.7	58.7	99.7	0	0	0	0	0	0	99.7	58.7	99.7
24	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	100	100	99.9
25	96	96.1	96	96	96.1	96	96	96.1	96	38.1	38.1	38.1	0	0	0	57.9	58	57.2
26	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
28	98	99.2	99.2	98	98.9	99.2	98	98.9	99.2	98	98.9	99.2	0	0	0	0	0	0
29	100	100	100	100	100	100	100	100	100	99.9	99.9	99.9	0	0	0	0	0	0
30	84.5	84.5	98.5	84.5	84.5	98.5	84.5	84.5	98.5	84.5	84.5	98.5	0	0	0	0	0	0
31	58.3	99.4	100	35.1	66.3	66.3	35.1	66.4	66.4	57.8	93.5	87.4	0	0	0	0	0	0
Avg	83.6	74.6	85.5	79.9	71.2	81.3	80.8	72.1	81.4	29.8	22.9	31.2	0	0	0	49.1	46.9	48.2
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	30.5	36.2	30.4	33.1	37.2	32.5	32.7	37.1	32.4	42.4	38.2	43.9	0	0	0	46.8	45	46.4
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	100	100	100

Table E12. Airflow and emission data completeness (%) at site NC4B for September, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	66.3	100	100	66.3	100	100	66.3	100	100	66.3	99.9	88.6	0	0	0	0	0	0
2	100	100	100	98.3	98.9	100	98.3	98.9	100	98.3	98.9	48.5	0	0	0	0	0	0
3	100	100	100	96.5	100	100	96.5	100	100	96.5	100	90.6	0	0	0	0	0	0
4	100	100	99.9	99.5	99.1	99.9	99.5	99.1	99.9	99.5	99.1	84.9	0	0	0	0	0	0
5	96.3	100	100	96.3	97.4	100	96.3	97.4	100	96.3	97.4	71.5	0	0	0	0	0	0
6	99.9	99.9	100	99.9	99.9	100	99.9	99.9	100	99.9	99.9	96.3	0	0	0	0	0	0
7	100	100	98.5	100	100	98.5	100	100	98.5	100	100	98.4	0	0	0	0	0	0
8	99.3	99.3	52.2	99.3	99.3	52.2	99.3	99.3	52.2	99.3	99.3	51.9	0	0	0	0	0	0
9	100	100	51.8	100	100	44.5	100	100	44.7	100	100	27.9	0	0	0	0	0	0
10	100	100	100	100	99.9	99.9	100	99.9	99.9	100	99.9	99.2	0	0	0	0	0	0
11	100	100	100	99.4	99.7	100	99.4	99.7	100	99.4	99.7	99.8	0	0	0	0	0	0
12	99.9	99.9	99.7	99.9	96.9	99.7	99.9	96.9	99.7	99.9	96.9	99.7	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	99.8	0	0	0	0	0	0
14	99.9	99.9	99.9	99.9	98.1	99.9	99.9	98.1	99.9	99.9	98.1	84.7	0	0	0	0	0	0
15	100	100	100	100	99	100	100	99	100	96.9	95.8	91.9	0	0	0	0	0	0
16	99.9	99.9	99.9	66.1	99.9	99.9	73.3	99.9	99.9	98.2	98.2	98.1	0	0	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	100	99.9	0	0	0	0	0	0
18	100	100	98.3	100	99.7	98.3	100	99.7	98.3	99.9	99.6	85.3	0	0	0	0	0	0
19	100	100	100	100	98.9	100	100	98.9	100	100	98.9	77.2	0	0	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	79.2	0	0	0	0	0	0
21	100	100	100	100	97.8	100	100	97.8	100	100	97.8	92.2	0	0	0	0	0	0
22	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.3	0	0	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	99.7	0	0	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	100	99.8	0	0	0	0	0	0
25	99.1	100	100	99.1	99.7	100	99.1	99.7	100	99.1	99.7	86.9	0	0	0	0	0	0
26	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	93.7	0	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
28	100	100	100	74.5	70.7	75.1	74.7	70.8	75.3	99.4	98.3	100	0	0	0	0	0	0
29	100	100	100	99.2	87.1	100	99.2	87.1	100	99.2	87.1	100	0	0	0	0	0	0
30	100	100	100	95.2	77.2	98.9	95.2	77.2	98.9	95.2	77.2	98.9	0	0	0	0	0	0
Avg	98.7	99.9	96.7	96.3	97.3	95.5	96.5	97.3	95.6	98.1	98	88.1	0	0	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	6.1	0.1	11.9	9.3	6.7	13.4	8.5	6.7	13.4	6.1	4.6	17.3	0	0	0	0	0	0
Min	66.3	99.3	51.8	66.1	70.7	44.5	66.3	70.8	44.7	66.3	77.2	27.9	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for October, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	50	70.9	58.1	34	71	58.3	34	96.1	80.8	46.8	0	0	0	0	0	0
2	100	100	0	99.5	96.5	0	99.5	96.5	0	99.5	96.5	0	0	0	0	0	0	0
3	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
4	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
5	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
6	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
7	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
8	100	100	0	100	98.2	0	100	98.2	0	100	98.2	0	0	0	0	0	0	0
9	98.8	100	0	98.8	98.3	0	98.8	98.3	0	98.8	98.3	0	0	0	0	0	0	0
10	99.7	99.7	0	99.7	99.7	0	99.7	99.7	0	99.7	99.7	0	0	0	0	0	0	0
11	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
12	100	100	60.2	100	98.3	51.6	100	98.3	51.7	100	95.1	0	0	0	0	0	0	0
13	100	100	100	100	99.7	94.5	100	99.7	94.5	100	99.7	0	0	0	0	0	0	0
14	100	100	100	67	75.8	95.6	67	75.8	95.6	45.8	42.8	0	0	0	0	21.3	32.9	0
15	100	100	100	73.2	78.2	85.8	73.2	78.2	85.8	0	0	0	0	0	0	73.2	78.2	0
16	100	100	100	50.5	64.3	98.8	50.5	64.3	98.8	0	0	0	0	0	0	50.5	64.3	0
17	100	100	100	53.7	79.7	94.3	53.7	79.7	94.3	0	0	0	0	0	0	53.7	79.7	0
18	100	100	100	27.2	63.1	83.1	27.2	63.1	83.1	0	0	0	0	0	0	27.2	63.1	0
19	100	100	100	46.7	72	97.5	46.7	72	97.5	0	0	0	0	0	0	46.7	72	0
20	100	100	100	35.6	51.8	100	35.8	52	79.3	0	0	0	0	0	0	50.6	71.7	0
21	100	100	100	65.4	84.9	100	65.4	84.9	100	0	0	0	0	0	0	65.4	84.9	0
22	100	100	100	73.8	88.7	100	73.8	88.7	100	0	0	0	0	0	0	75.1	88.7	0
23	100	100	100	96.5	99.7	100	96.5	99.7	100	0	0	0	0	0	0	96.5	99.7	0
24	99.7	99.7	99.7	97.8	99.7	99.7	97.8	99.7	99.7	0	0	0	0	0	0	97.8	99.7	0
25	100	100	100	84.9	96.4	100	84.9	96.4	100	0	0	0	0	0	0	84.9	96.4	0
26	100	100	100	62.6	92.5	100	62.6	92.5	100	0	0	0	0	0	0	62.6	92.5	0
27	100	100	47.5	99.9	98.1	39.9	99.9	98.1	39.9	0	53.1	0	0	0	0	41.3	41.9	0
28	100	100	0	99.3	99.8	0	99.3	99.8	0	0	99.8	0	0	0	0	0	0	0
29	100	100	40.1	65.1	99.2	36.7	65.1	99.2	36.8	0.9	99.2	0	0	0	0	0	0	0
30	100	100	100	30.6	98.3	100	30.6	98.3	100	30.6	98.3	0	0	0	0	0	0	0
31	100	100	100	12.8	100	100	12.8	100	100	12.8	100	0	0	0	0	0	0	0
Avg	99.9	100	58	77.8	90	55.2	77.8	90	54.6	44.7	56.8	1.5	0	0	0	27.3	34.4	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	0.2	0.1	46	26.3	14.3	45	26.3	14.3	44.5	47.6	46.9	8.3	0	0	0	33.7	40.1	0
Min	98.8	99.7	0	12.8	51.8	0	12.8	52	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	46.8	0	0	0	97.8	99.7	0

Table E12. Airflow and emission data completeness (%) at site NC4B for November, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	19.8	77	99.2	19.8	77	99.2	19.8	77	0	0	0	0	0	0	0
2	100	100	100	42.9	63.9	95.5	42.9	63.9	95.5	42.9	63.9	0	0	0	0	0	0	0
3	100	100	100	22.4	78.3	99.7	22.4	78.3	99.7	22.4	78.3	0	0	0	0	0	0	0
4	100	100	100	10.3	78.4	99.5	10.3	78.4	99.5	10.3	78.4	0	0	0	0	0	0	0
5	100	100	100	28.5	76.7	99.3	28.5	76.7	99.3	28.5	76.7	0	0	0	0	0	0	0
6	100	100	100	22	62.1	97.6	22	62.1	97.6	22	62.1	0	0	0	0	0	0	0
7	99.9	99.9	99.9	77.7	63.1	99.9	77.7	63.1	99.9	74.9	60.2	0	0	0	0	0	0	0
8	100	100	100	93.4	73.8	100	93.4	73.8	100	93.4	73.8	0	0	0	0	0	0	0
9	100	100	100	94.3	82.5	100	94.3	82.5	100	94.3	82.5	0	0	0	0	0	0	0
10	100	100	100	100	98.3	100	100	98.3	100	100	98.3	0	0	0	0	0	0	0
11	100	100	100	100	94.2	99.9	100	94.2	99.9	100	94.2	0	0	0	0	0	0	0
12	100	100	100	75.1	92.4	66.9	75.1	92.4	66.9	75.1	92.4	0	0	0	0	0	0	0
13	100	100	100	80.7	85.4	66.1	80.7	85.4	66.1	80.7	85.4	0	0	0	0	0	0	0
14	99.7	99.7	99.7	99.4	81.2	95.8	99.4	81.2	95.8	99.4	81.2	0	0	0	0	0	0	0
15	100	100	100	98.8	77.6	99.9	98.8	77.6	99.9	98.8	77.6	0	0	0	0	0	0	0
16	100	100	100	95.1	77.4	77.8	95.1	77.4	77.9	95.1	74.3	0	0	0	0	0	0	0
17	100	100	100	92.1	76.5	100	92.1	76.5	100	92.1	76.5	0	0	0	0	0	0	0
18	100	100	100	98.8	92.7	100	98.8	92.7	100	98.8	92.7	0	0	0	0	0	0	0
19	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
20	100	100	100	100	91.9	100	100	91.9	100	100	91.9	0	0	0	0	0	0	0
21	100	100	100	89	70.7	99.9	89	70.7	99.9	89	70.7	0	0	0	0	0	0	0
22	100	100	100	83.7	64.5	99.9	83.7	64.5	99.9	83.7	64.5	0	0	0	0	0	0	0
23	100	100	100	96.9	75.3	100	96.9	75.3	100	96.9	75.3	0	0	0	0	0	0	0
24	100	100	52.3	100	76.4	47.8	100	76.4	47.8	100	73.3	0	0	0	0	0	0	0
25	100	100	43.4	96.2	71.8	43.3	96.2	71.8	43.3	93	71.8	0	0	0	0	0	0	0
26	100	100	100	82.3	70.3	94.9	82.3	70.3	94.9	82.3	70.3	0	0	0	0	0	0	0
27	100	100	100	72.1	81.5	75.1	72.1	81.5	75.1	72.1	81.5	0	0	0	0	0	0	0
28	99.7	99.7	99.7	64.2	57.6	90	64.2	57.6	90	64.2	57.6	0	0	0	0	0	0	0
29	100	100	100	84.8	68	99.9	84.8	68	99.9	84.8	68	0	0	0	0	0	0	0
30	100	100	100	90.5	79.8	94.6	90.5	79.8	94.6	90.5	79.8	0	0	0	0	0	0	0
Avg	100	100	96.5	77	78	91.4	77	78	91.4	76.8	77.7	0	0	0	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	0.1	0.1	13.1	28.2	10.7	15.6	28.2	10.7	15.6	28.2	10.9	0	0	0	0	0	0	0
Min	99.7	99.7	43.4	10.3	57.6	43.3	10.3	57.6	43.3	10.3	57.6	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0

Table E12. Airflow and emission data completeness (%) at site NC4B for December, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}			$PM_{2.5}$			TSP		
	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15	B1	B2	Far15
1	100	100	100	62.6	52.6	98.4	62.6	52.6	98.4	62.6	52.6	0	0	0	0	0	0	0
2	100	100	100	89.2	78.1	99.9	89.2	78.1	99.9	52.8	41.3	0	35.8	33.8	0	0	0	0
3	100	100	100	93.3	86.9	99.1	93.3	86.9	99.1	0	0	0	93.3	86.9	0	0	0	0
4	100	100	100	64.3	56.5	99.6	64.3	56.5	99.6	0	0	0	64.3	56.5	0	0	0	0
5	100	100	100	54.3	63.8	81.8	54.3	63.8	81.8	0	0	0	54.3	63.8	0	0	0	0
6	100	100	100	32.6	31.7	98.3	32.6	31.7	98.3	0	0	0	32.6	31.7	0	0	0	0
7	100	100	100	47.3	39.3	99.9	47.3	39.3	99.9	0	0	0	45.6	39.3	0	0	0	0
8	100	100	100	38.7	42.6	100	38.7	42.6	100	0	0	0	38.7	42.6	0	0	0	0
9	94.3	94.3	94.3	90.4	87.1	94.3	90.4	87.1	94.3	0	0	0	90.4	87.1	0	0	0	0
10	100	100	100	97.7	90.2	93.5	97.7	90.2	93.5	0	0	0	97.5	90	0	0	0	0
11	99.8	99.6	89.4	43.8	48.1	69.5	43.8	48.1	69.5	0	0	0	43.8	48.1	0	0	0	0
12	99.9	99.9	0	30.1	38.6	0	30.1	38.6	0	0	0	0	30.1	38.6	0	0	0	0
13	74	77.4	0	21.3	23.6	0	21.3	23.6	0	0	0	0	43.5	51.7	0	0	0	0
14	81.6	100	0	2.2	1.1	0	2.3	1.3	0	0	0	0	47.5	50.3	0	0	0	0
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Avg	96.4	97.9	77.4	54.8	52.9	73.9	54.9	52.9	73.9	8.2	6.7	0.0	51.2	51.5	0.0	0.0	0.0	0.0
n	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
SD	8.2	6.1	42.1	29.6	26.3	40.9	29.5	26.3	40.9	21.0	17.2	0.0	27.2	24.7	0.0	0.0	0.0	0.0
Min	74	77.4	0	2.2	1.1	0	2.3	1.3	0	0	0	0	0	0	0	0	0	0
Max	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?	#NAME?