EMISSIONS DATA FROM TWO FREESTALL BARNS AND A MILKING CENTER AT A DAIRY FARM IN INDIANA

Final Report for Site IN5B

of the

National Air Emissions Monitoring Study

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1. INTRODUCTION AND OBJECTIVES

1.1. Overview of the 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 (Purdue), in its role as Independent Research Contractor for the Agricultural Air Research Council. Purdue selected equipment and methods in consultation with the U.S. EPA, and subcontracted with other universities to operate the monitoring sites. Purdue maintained and calibrated equipment, collected samples, and conducted all other on-site activities. Other researchers at Purdue analyzed the data, and conducted two levels of data analysis and inspection, provided rapid feedback (generally within 2-4 business days) to catch aberrations in the data, and later conducted final processing and review of the data.

The overall objective of this report is to present the quality-assured measurements of ammonia (NH_3), hydrogen sulfide (H_2S), non-methane hydrocarbons (NMHC), particulate matter (PM) and volatile organic compounds (VOCs) from a swine finishing facility in Indiana. 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

This 3,400-cow dairy site (IN5B) was located in Indiana. There were six barns in this complex constructed in the 2004 (Figure 1). The farm was located in a flat to rolling agricultural area. The closest dairy was approximately 3.2-km away to the west.

The freestall barns denoted barns 1 and 2, located on the north side of the farm, were monitored in this study. The barns were connected by a covered walkway. The milking center for barns 1 and 2 was connected to the north side of barn 1.

A dry cow barn was located north of the east end of barn 1. All calves were kept at a separate facility. An anaerobic digester, a digested manure storage shed, and a 2-stage lagoon were located south of barn 2.

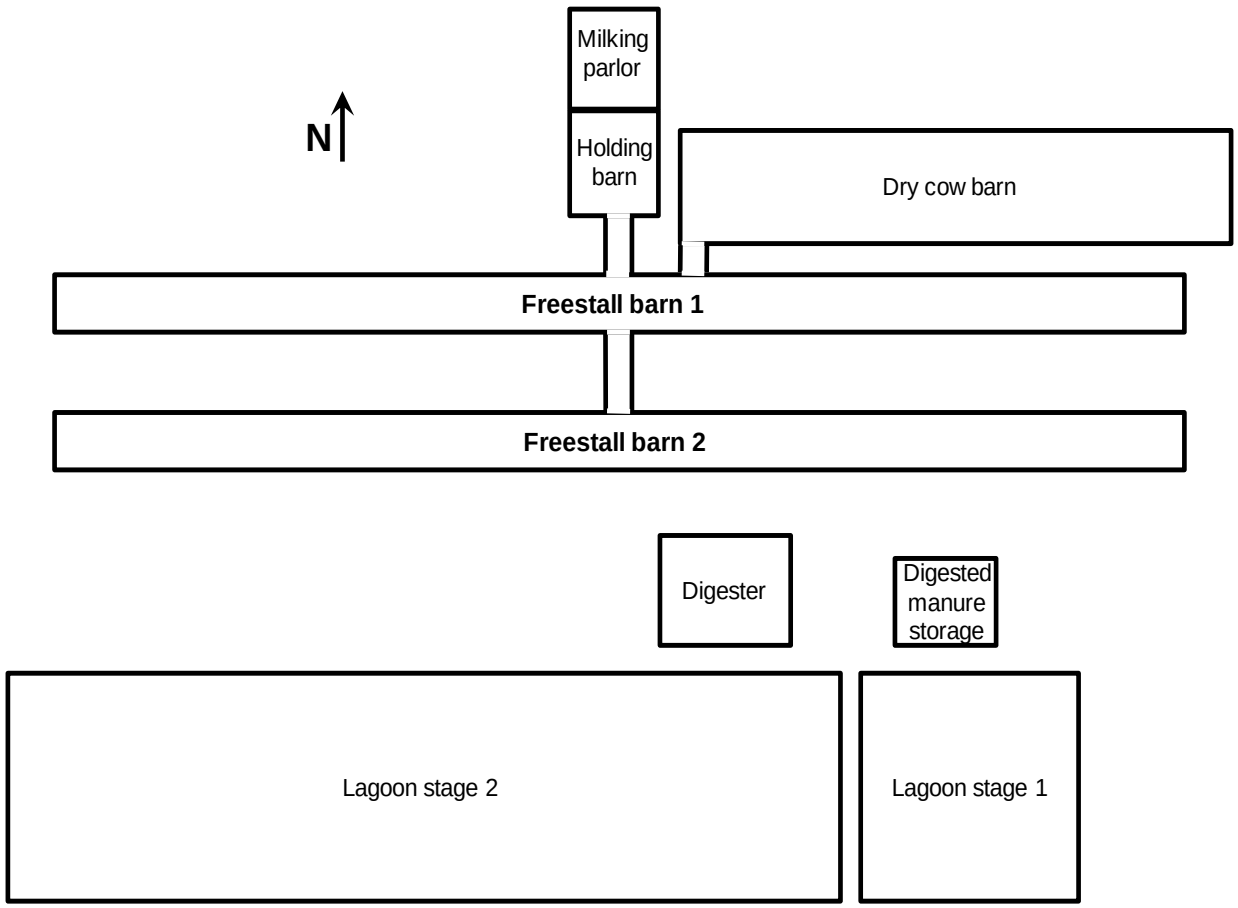


Figure 1. Facility layout. Monitored buildings were barns 1 and 2.

2.2. Monitored Buildings

Emission monitoring was conducted at the west ends of freestall barns 1 and 2 and the milking center. Barns 1 and 2 were "tunnel-ventilated" freestall barns oriented east-west and spaced 18 m apart. The milking center consisted of the holding barn and milking parlor.

Each freestall barn was 472 m long x 29 m wide with 4.3-m sidewall heights and 4:12 roof slopes, and housed 1,600 cows each. The holding barn (50-m long) and parlor (46-m long) were connected as one building that was 96 m long and 28 m wide, and ran north-south, perpendicular to the centers of the freestall barns.

Approximately 3,400 Holstein cows were milked three times a day in a 72-stall rotary parlor (Magnum 90, Westfalia Surge AutoRotor). A total mixed ration of 50% forage and 50% grains was delivered to the cows by auger wagon.

Ventilation air entered the freestall barns through adjustable curtains. Each barn had a total of eight temperature sensors. The air was exhausted through fans banked together at each end of the barn, and through individual fans that were distributed along each sidewall. Each freestall barn had seventy-six, 137 cm diameter; belt driven single speed exhaust fans (Model Vortex VX511F1CR, Aerotech, Lansing, MI). Sixteen of these fans (Table 1) were located in the

endwalls, with eight fans each in the east and west walls, in two banks that were each two fans wide and two fans high. Of the 60 sidewall fans, 48 were divided into four groups of 12, which were located on both the north and south sides of the east and west ends of the sidewalls. The remaining 12 fans were evenly spaced along the sidewalls. All fans were under automatic control. There were eight, 122 cm internal circulation fans in each of the freestall barns. Supplemental summer cooling was provided by eight evaporative pads that were located near the center of each barn, and were controlled in four stages.

Table 1. Fan numbers and ventilation staging for barns 1 and 2.

Stage	Temp., °C	Fans or cool cells added	Winter louvers	Curtains
1		SW: 1, 2, 3, 5, 7, 17, 18 NW: 1, 2, 3, 5, 7, 16, 19	75%	closed
2	7.8	SW16, NW17	75%	closed
3	8.9	SW19, NW18	50%	25%
4	10.0	SW: 13, 15, NW: 13, 15 Circulation fans	Closed	50%
5	11.1	SW: 12, 14, NW: 12, 14	Closed	100%
6	12.2	SW: 9, 11, NW: 9, 11	Closed	100%
8	17.2	SW: 8, 10, NW: 8, 10	Closed	100%
9	17.8	SW: 4, 6, NW: 4, 6	Closed	100%
10	18.9	NW cool cell	Closed	100%
11	19.4	SW cool cell	Closed	100%

The holding barn had 26 fans (Table 2) that were the same Aerotech Vortex model as those in the freestall barns, with 13 each in the east and west walls of the holding barn. A row of seven fans constituted the bottom of each bank, with a row of six fans on top. There were also three evaporative cooling cells on each of these walls between the holding barn fans and the freestall barn complex. Air moved from the parlor into the holding barn. There were two curtain air inlets in the parlor, which had two evaporative pads and no exhaust fans.

Manure was removed from the freestall barns by scraper. Manure from the holding barn and milking parlor was flushed as needed. All manure then fed a digester that produced methane gas to run three generators that provided electricity for the farm. Solids from the digester effluent were separated, and liquid was stored in a two-stage pond. Manure liquid was either irrigated onto or injected into land in the surrounding area. The separated digested solids were used as bedding in the freestall barns.

2.3. Significant Events and Modifications

There was a change in the manure removal from tractor scrape to an automatic floor scraper in July 2009 for B1, and August 2009 for B2.

Table 2. Fan numbers and ventilation staging for milking center.

Stage	Temp.	Fans or cool cells added	Curtains
1		1, 4, 6, 13	closed
2	46	7	25%
3	47	8	50%
4	50	-	75%
5	53	2	100%
6	56	-	100%
7	59	9, 11	100%
8	62	3, 5	100%
9	65	10, 12	100%
9a	67	South cool cells	100%
10	71	East and west cool cells	100%

3. MONITORING AND SAMPLING METHODS

3.1. General Approach

Aerial emissions monitoring was conducted in freestall barns 1 and 2. Equipment installation and preliminary testing began on 5/10/07 and was completed on 9/12/07. 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 9/12/07 and concluded on 9/12/09. Target pollutants were NH_3, H_2S, NMHC, 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 schemes for the two buildings are shown in Figures 2 and 3. Table 3 lists the major instruments used in the test.

Table 3. Major instrumentation.

Analyzer/Instrument	Serial number
INNOVA 1412 Multi-gas analyzer	710-196
TEI 450i H_2S analyzer	709220681
Environics 4040 dilutor	3919
TEOM 1	265170702
TEOM 2	263450608
TEI FH 62C14 (Beta Gauge)	E-1296

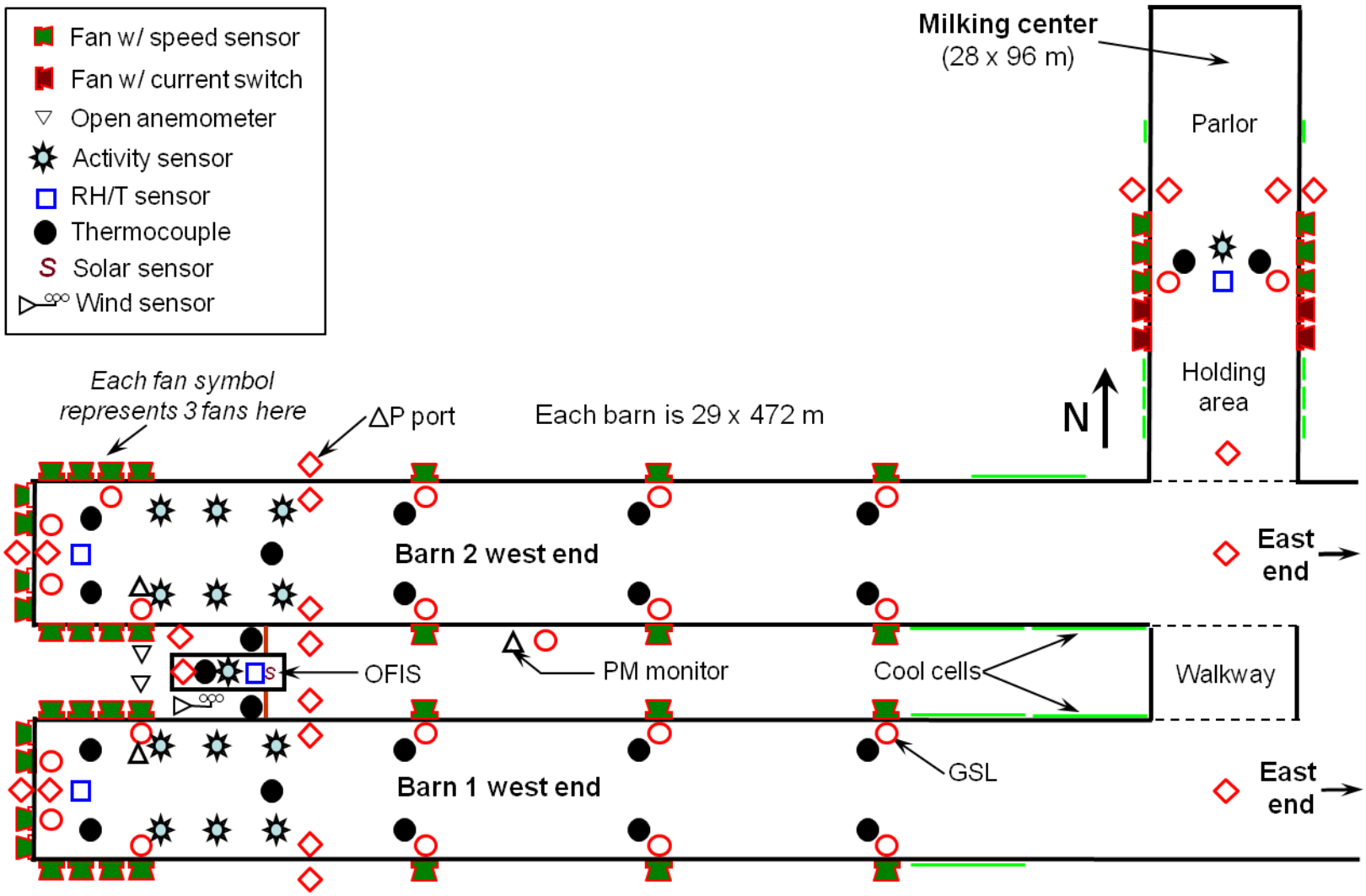


Figure 2. Overhead view of sampling and measurement locations.

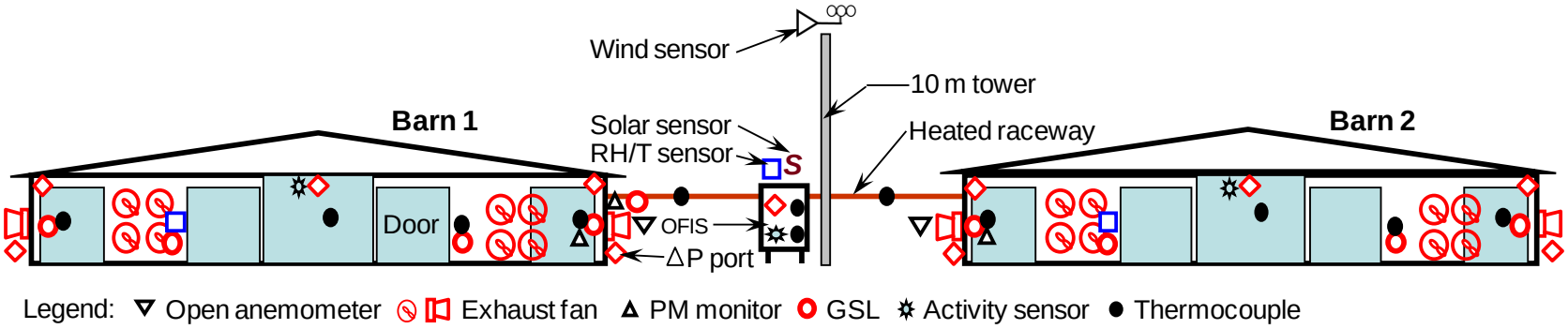


Figure 3. End view of sensor and air sampling locations

3.2. Instrument Shelter

The on-farm instrument shelter (OFIS) was located in a grassy area between barns 1 and 2, near the west end just east of a line connecting fan SW4 of barn 1 and fan NW4 of barn 2. Heated raceways, each approximately 8 m long and over 3 m above the ground, connected the OFIS to the two barns and provided protection for the sampling lines and signal cables. Heated raceways were used to avoid condensation in the sampling lines during cold weather. Sampling tubes were heated inside the barn in areas vulnerable to cold air. The raceway temperature was monitored continuously.

The OFIS was supplied with 3-wire, single-phase, 240 V (50 A) electric power by the farm. The analyzers, computer, GSS, TEOM vacuum pumps, and data acquisition system in the OFIS obtained electrical power from the OFIS. The power line was shielded for outdoor exposure and included a ground wire 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 instrument rack and a pressure sensor. One set of gas analyzers (Table 3) in the OFIS measured gas concentrations as the gas sampling system (GSS) sequenced through all the gas sampling locations (GSLs). 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 devices (Table 4) were selected and configured to acquire data for all the on-line measurement variables (Appendix A).

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 and MC USB TC. Digital signals from current switches and fan stage 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 4. Data acquisition hardware configuration for IN5B.

Manufacturer-model	I/O type	# units	# channels	Notes
NI FP-AI-112	Analog input	4	16	Single-ended, 16-bit
NI FP-TC-120	Thermocouple	3	8	
NI FP-DO-401	Digital output	2	16	2 A at 10-30 VDC
MC USB 4303 counter	Count input	5	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 cows and vehicles in the barn, with six such sensors in each freestall barn. Sensors were located at the east ends of barns, along the length as shown in Figure 2, in the breezeway that connects the two barns, and in the milking center holding area.

Animal inventory for B1 and B2 were obtained weekly from the producer. The producer also provided daily milk production and feed consumption, starting 11/5/08 and 7/21/08, respectively.

3.4.2. Thermal Environment

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 attached to a telescoping 10-m tower located next to the OFIS.

Capacitance-type RH/T probes were located at the primary representative exhaust fan (PREF) in each freestall barn (fan SW16 in B1 and fan NW17 in B2). Type T thermocouples (TCs) were used to monitor temperature at each gas sampling location (GSL) other than the two PREFs.

3.4.3. Building Airflow

Fan stage operation was monitored using 24-VDC circuits, sensing power from each ventilation stage, in conjunction with digital inputs (current and fan speed sensors) of the data acquisition system. Current sensors were also used to monitor operations of milking center from one of each ventilation stage (stages 1-4) (Table 1).

Fan rotational speed and operational status was monitored using a magnetic Hall-effect sensor (speed sensor) installed on each continuously-operated fan (stage 0), and two fans per stage for stages 2 through 9 for the two barns. Only two magnetic Hall-effect sensors were installed at the milking center, which were at the east and west fan 4. The speed sensors were mounted to detect

the rotational speed in revolutions per minute (rpm) of 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.

Static pressure was measured across the north, west, and south walls of B1 and B2 with differential static pressure sensors (Model 260, Setra Systems, Boxborough, MA). The static pressure across the east and west walls of the milking center were also monitored. The outside ports were located against the outside wall near the ventilation fans. Static pressure in the OFIS was measured with the same type of sensor.

Impeller anemometers (Model 27106RS, RM Young, Traverse City, MI) were installed on the outlet of fan SW5 in B1 and fan NW5 in B2 (barn PREFs). These two fans did not have the magnetic Hall-effect sensors installed because of the anemometers.

In-situ airflow measurements were conducted with a 122-cm field-portable fan tester (Fan Assessment Numeration System or FANS, University of Kentucky, Lexington, KY), which was described by Gates et al. (2004). The 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. Because of inside clearances, the airflow measurements were conducted on the downstream side of the ventilation fans. The impact of using the FANs unit on the downstream side of a fan was assessed at the University of Illinois-Urbana Champaign. The offset ranged from 0.31 to 0.51 $m^3 s^{-1}$, and in-field airflow data were corrected for this offset.

A total of 278 in-situ fan tests were conducted during May-July 2008, May 2009, and November 2009 (Table 5) and the fans tested represented 57, 54, and 55% of the total fans, respectively. The downstream fan airflow at three static pressures was measured during each test in duplicate. The average of the duplicate tests was used in development of the airflow models.

Table 5. Record of fan tests completed.

Number of fans assessed during testing period					
May-July, 2008		**May, 2009**		**November, 2009**	
B1	**B2**	**B1**	**B2**	**B1**	**B2**
20	23	23	18	21	21

The airflow curve of the fan model (AeroTech VX511F1CR, Munters Corporation, Mason, MI) was obtained from the Bioenvironmental and Structural Systems (BESS) Lab at the University of Illinois at Urbana-Champaign (BESS, 1999). The performance record (Test 99223) consisted of airflow (Q1) measured at several static pressures (P1), and at a relatively constant speeds (N1 = 526, ranged from 524 to 529).

The BESS fan curve was adjusted to 513 rpm, the mean speed (N2) of the fan tests. 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. The resulting fan models are shown in Table 6.

Table 6. Fan airflow models for the freestall barn and milking center fans.

Barn	Reference speed (N_2)	Polynomial coefficients of $Q_2=f(\Delta P_2)$ at speed N_2				Coefficients of k	
		a3	a2	a1	a0	a	b
Freestall	513	4.40E-06	1.21E-04	5.49E-02	1.12E+01	3.30E-03	8.92-01
MC	513	3.81E-05	2.51E-03	1.21E-01	1.38E+01	2.72E-3	8.18E-1

The fans were assigned to emission streams based on proximity to gas sampling lines (Table 7).

Table 7. Fan designations to sampling streams in the freestall barns and milking center.

Stream	Fans assigned to stream
Freestall stream 1	SW1 and NW1
Freestall stream 2	SW2 and NW2
Freestall stream 3	SW3 and NW3
Freestall stream 4	NW4 to NW11
Freestall stream 5	NW12 to NW19
Freestall stream 6	SW4 to SW11
Freestall stream 7	SW12 to SW19
Milking center east stream	E1 to E13
Milking center west stream	W1 to W13

3.4.4. Biomaterials Sampling Methods and Schedule

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

Manure in the barns was sampled quarterly between 11/26/07 and 1/20/10. At each time point, four samples were collected from each of the two barns and analyzed for ammoniacal N, total N, pH and total solids, and ash (added later in the analysis).

3.5. Particulate Matter Monitoring

Real-time PM monitors (TEOM Model 1400a, Thermo Fisher Scientific, Waltham, MA) continuously sampled exhaust PM. A TEOM was placed in each barn adjacent to one of the continuously-running fans (fan SW5 in B1 and fan NW5 in B2) (Figure 2). These fans were considered the primary representative exhaust fans (PREFs) for their respective buildings.

A beta attenuation PM monitor (Beta Gauge Model FH62C-14, Thermo Fisher Scientific, Franklin, MA) continuously measured house inlet PM concentration. The Beta Gauge was located in between fans SW2 and SW3 of barn 1, in an environmentally controlled shelter . The sampling height of the inlet PM monitor was representative of the ventilation inlet air that flowed through the side entrances of barn 1, which, for most of the year was not downwind from any obvious sources of PM. Thus, this single inlet sampling was a good representation of the barn 1 inlet during part of the year as well, and was the best single point available.

At any one time, the sampled PM size class was either PM_{10}, $PM_{2.5}$ or TSP at both TEOMs and the Beta Gauge (Table 8). The $PM_{2.5}$ size class was measured starting in January 2008, for six, 2-

17-d periods. The TSP inlet heads were placed on the TEOMs for eleven, 5-15 d periods. The PM_{10} concentration was measured at all other times.

Table 8. Sampling periods for TSP, PM_{10} and $PM_{2.5}$ for barn 1.

Time and day, m/d/y		Test duration, d		
Start	**Stop**	**PM10**	**TSP**	**PM2.5**
9/8/07 0:00	11/5/07 10:30	58.4		
11/5/07 10:30	11/14/07 10:30		9.0	
11/14/07 10:30	1/4/08 13:00	51.1		
1/4/08 13:00	1/11/08 12:00		7.0	
1/11/08 13:00	1/25/08 16:00			14.1
1/25/08 16:00	3/20/08 12:10	54.8		
3/20/08 12:10	3/27/08 12:40		7.0	
3/27/08 12:40	6/16/08 12:55	81.0		
6/16/08 12:55	6/24/08 10:00		7.9	
6/24/08 10:00	9/10/08 14:25	78.2		
9/10/08 14:25	9/19/08 13:45		9.0	
9/19/08 13:45	9/25/08 9:25	5.8		
9/25/08 9:25	9/29/08 8:30			4.0
9/29/08 8:30	9/29/08 14:37		0.3	
9/29/08 14:37	10/1/08 9:10			1.8
10/1/08 9:10	10/13/08 12:39		12.1	
10/13/08 12:39	11/25/08 9:58	42.9		
11/25/08 9:58	11/25/08 12:30			0.1
11/25/08 12:30	12/2/08 14:15	7.1		
12/2/08 14:15	12/4/08 14:13		2.0	
12/4/08 14:13	12/8/08 9:27	3.8		
12/8/08 11:21	12/10/08 10:44			
12/20/08 9:00	12/29/08 13:57		9.2	
12/29/08 13:42	2/2/09 11:52	34.9		
2/2/09 11:52	2/16/09 14:49			14.1
2/16/09 14:49	3/3/09 12:32		14.9	
3/3/09 12:45	3/23/09 12:01	20.0		
3/23/09 13:00	3/30/09 10:00		6.9	
3/30/09 11:00	4/17/09 11:30	18.0		
4/17/09 11:30	4/20/09 8:15			2.9
4/20/09 8:15	5/27/09 11:00	37.1		
5/27/09 11:00	6/1/09 11:27		5.0	
6/1/09 11:27	7/13/09 10:38	42.0		
7/13/09 10:38	7/24/09 9:55		11.0	
7/24/09 10:16	8/10/09 7:50			16.9
8/10/09 8:11	9/12/09 23:59	33.7		
Total days sampled per PM fraction:		569	101	54

3.6. Continuous Gas Sampling and Monitoring

Air samples for continuous gas measurements were collected from multiple gas sampling probes with a custom-designed GSS. Each probe was connected to the GSS with Teflon tubing. Tubular raceways between the OFIS and the monitored buildings protected the sampling lines and data signal cables. The sampling lines were wrapped with insulation and heated inside the raceways and at other locations vulnerable to cold air to prevent condensation inside the tubes.

Gas-sampling locations (GSLs) were located at the continuously-run (stage 0) minimum ventilation exhaust fans (10 fans in each barn), the holding area outlets into milking center, and onelocation representing the ventilation inlet air entering B1, for a total of 17 GSLs (Table 9). Within each of the freestall barn, the six "singlet" sidewall fans which run continuously served as gas sampling locations (GSLs), as were four locations in the end of each barn. In this latter group, samples were taken near fans SW5 and NW5 (all of which were stage 1), and at SW17 and NW16. With this configuration each end wall probe represented the concentration of the air flow from eight fans (SW4-SW11 for the SW5 probe and SW12- SW19 for the SW17 probe). The four GSLs near the end of the barn was independent, while the six "singlet" fans were grouped into three GSL groups, such that the two single fans directly opposite one another fed into a single sample.

The inlet air sampling location was located between the SW2 and SW3 fans of Barn 1, in front of the ventilation air inlet (Figures 2 and 3). Exhaust from other fans could cause the inlet concentrations to be higher at times, but the objective of quantifying the net emission rate from the barns is still met by measuring the inlet and exhaust concentrations. Each freestall exhaust location was sampled individually for 10 min, and milking center locations were sampled for 15 min. The ventilation inlet location was monitored at least twice daily, with a 30-min sampling period. A statistical analysis confirmed that 10 min was sufficient for the exhaust GSLs and 30 min was sufficient for the inlet GSLs.

One set of gas analyzers in the OFIS was used to sequence through all the GSLs. Hydrogen sulfide was measured with a fluorescence H_2S analyzer (Model 450i, Thermo Fisher Scientific, Waltham, MA). Concentrations of NH_3, were measured with a photoacoustic infrared multi-gas monitor (INNOVA Model 1412, LumaSense Technologies, Ballerup, Denmark), and a chemiluminescence analyzer (Model 17c, Thermo Fisher Scientific, Waltham, MA).

Each GSL (or, in the case of the pairs of single fan pairs in the freestall barns, each GSL group) was sampled individually with one tube.

3.7. VOC Sampling and Analysis

Grab samples of VOC were collected at the PREFs (fan SW7 in B1 and fan NW7 in B2) (Table 9), using methodology based on methods TO-15 and TO-16. 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/min. 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 6/1/09 and 3/10/10, with duplicate samples typically collected at each location. All canisters were cleaned and passed QC before sample collection.

Table 9. Analyte sampling locations.

Analytes	Barn(s)	Ventilation openings/locations	Qty
Gas (NH_3, H_2S, NMHC) *	1	GSLG 1: fans SW1 and NW1	1
	1	GSLG 2: fans SW2 and NW2	1
	1	GSLG 3: fans SW3 and NW3	1
	1	GSL 4: fan SW5	1
	1	GSL 5: E of fan SW17	1
	1	GSL 6: E of fan NW16	1
	1	GSL 7: fan NW5	1
	2	GSLG 8: fans SW1 and NW1	1
	2	GSLG 9: fans SW2 and NW2	1
	2	GSLG 10: fans SW3 and NW3	1
	2	GSL 11: fan SW5	1
	2	GSL 12: E of fan SW17	1
	2	GSL 13: E of fan NW16	1
	2	GSL 14: fan NW5	1
	MC	GSL 15: E wall, fan 4	1
	MC	GSL 16: W wall, fan 4	1
	1,2,MC	GSL 17: between the SW2 and SW3 fans of Barn 1, in front of the ventilation air inlet	1
PM (PM2.5, PM10, TSP)	1	Above freestall close to fan SW5	1
	2	Above freestall close to fan NW5	1
	1,2	Inlet: between the SW2 and SW3 fans of Barn 1, in front of the ventilation air inlet	1
VOC**	1	PREF: fan SW5	1
	2	PREF: fan NW5	1

*GSLs for individual fans are located at fan hub height, at the fan shutter.
**VOC samples are collected through the GSS, from the sampling port at that fan.
GSLG: Gas sampling location group
PREF: Primary representative exhaust fan
MC: Milking parlor

Canister samples were analyzed at Purdue University's Trace Contaminant Laboratory. The canisters were pressurized to +207 kPa with ultrapure N2, 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.

The tube 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.

3.8. Documentation of Quality Assurance

3.8.1. Oversight, Maintenance, and Calibration

Purdue University visited the site frequently during the first few months of the study; that frequency declined as site operation became more routine. A total of 132 and 124 visits were made during years 1 and 2 of the monitoring period. Remote connection to the site computer was conducted to check the monitoring was conducted during the majority of the monitoring period.

The Science Advisor audited the site on 9/15/07. The Environmental Protection Agency (EPA) conducted site audits on 9/25/07 and 8/31/09.

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 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, which created a GSS manifold vacuum of about -70,000 Pa. Preliminary tests indicated that GSS flows under dead-head conditions that were 10% or less (<0.45 L·min^{-1}) of the normal GSS flow rate of 4 L·min^{-1} was indicative of leak-free operation under normal GSS manifold vacuums of -5,000 to -15,000 Pa. Leak tests of the GLS were conducted on 9/12/07, 12/27/09, 4/18/08, 10/20/08, 2/11/09, 4/28/09, 6/23/09, and 9/22/09. The dead-head leakage flows were verified within the 0.4 L·min^{-1} threshold, and the sampling pumps repaired if this criteria was not met. Analyte concentrations during calibration procedures also provided a weekly check of the integrity of the system. An automated, 2-min GSS leak test was started on 5/22/09 to be conducted every 10 GLS cycles, and the frequency was at least 20 times per month.

3.8.3. Gas analyzers

Gas measurements were evaluated using multipoint calibrations (Table 10) 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

Multipoint calibration (MPC) was conducted through the challenge line five times using purified air (Cat. # AIO.OCE-T, CEM zero-grade, Praxair, Indianapolis, IN) and three (typical) or four span concentrations of NH_3 (Cat. # NI-AM5MP-AS, Praxair Primary Standard). A lower concentration of span check and multipoint calibration was conducted after 6/3/09. Each MPC was conducted with replication (Table 10). The NH_3 was delivered using a 6-port gas dilutor (Model 4040, Environics, Tolland, CT). The R^2 values of each MPC exceeded 0.997, indicating linearity of instrument response to standard gas between 0 and 36 ppm, and 0 and 10 ppm.

Table 10. Multipoint calibration record and results for the ammonia measurements.

Date	# of points	Span concentration, ppm		R^2
		Minimum	Maximum	
8/29/07	4	10	30	0.9979
11/12/07	4	10	30	0.9985
1/30/08	4	10	30	0.9980
3/14/08	4	10	30	0.9989
6/30/09	5	2	10	0.9875

Precision checks were conducted periodically using zero gas and a span gas (Z/S checks), and responses were recorded in control chart format to monitor changes in system performance over time. All span checks prior to 6/2/09 were conducted with 20 ppm NH_3; from 6/5/09 to the end of the study, 6.0 ppm was the applied span concentration. The analyzer response to the zero and span precision checks is shown graphically in Appendix C, and summarized in Table 12.

3.8.3.2.Correction of Hydrogen Sulfide Concentrations

Multipoint calibrations (MPCs), using zero gas and two or three span concentrations were conducted through the challenge line six times. These MPCs (Table 12) used concentrations ranging from 198 to 1790 ppb H_2S, delivered via the Environics dilution system. The R^2 values for these tests range from 0.9995 to 1.0000, indicating linearity in the instrument's response to calibration gas. A linear relationship between the input H_2S concentration and analyzer response was therefore assumed for at least the range of 0 to 1800 ppb.

Precision checks were conducted periodically using zero gas and a span gas (z/s checks), and responses were recorded in control chart format to monitor changes in system performance over time. All span checks prior to and including 10/13/08 were conducted with 600 ppb H_2S; after this the span concentration was 400 ppb until 1/19/09 when 500 ppb was the applied span concentration until 7/24/09. A new span cylinder was then obtained, and the span checks were conducted with 200 ppb of calibration gas. The analyzer response to the zero and span precision checks is shown graphically in Appendix C.

Table 11. Concentration correction and measurement accuracy for ammonia.

Start/end dates	# checks		Linear model	Accuracy, % of Span			
				Bias		Precision	
	Zero	Span		z	s	z	s
8/30/07-11/21/07	14	14	y = 1.074(x-0.125)	0.0	0.0	0.4	2.0
11/21/07-1/28/08	9	9	y = 1.089(x-0.127)	0.0	0.0	0.4	1.5
1/28/07-3/17/08	8	6	y = 1.477(x-0.311)	0.1	36.4	0.9	3.4
3/17/08-9/19/08	25	30	y = 1.150(x-0.381)	0.2	0.2	1.5	3.0
9/19/08-1/24/09	20	20	y = 1.105(x-0.496)	0.3	0.0	1.4	2.5
1/24/09-3/12/09	7	7	y = 1.107(x-0.094)	0.0	0.1	0.4	2.2
3/13/09-5/3/09	6	6	y = 1.090(x-0.157)	-0.1	-0.2	0.4	1.9
5/3/09-6/3/09	5	5	y = 1.210(x-0.544)	-0.6	-1.9	4.7	6.3
6/3/09-8/2/09	6	6	y = 1.200(x-0.461)	3.0	-0.9	4.5	7.1
8/2/09-10/18/09	7	7	y = 1.417(x-0.460)	0.2	1.0	2.2	4.8
All	107	110					

Table 12. Multipoint calibration record and results for the hydrogen sulfide measurements.

Date	# points	Span concentration, ppm		R^2
		Minimum	Maximum	
8/22/07	4	0.6	1.8	0.9996
7/30/08	4	0.6	1.8	0.9999
9/29/08	4	0.6	1.8	0.9998
11/19/08	4	0.2	0.6	1.0000
2/20/09	4	0.5	0.7	0.9999
7/24/09	4	0.2	0.6	0.9995

The H_2S/air blend used from the beginning of April, 2008 through January, 2009 degraded significantly prior to the expiration date and was replaced with H_2S/nitrogen blends by Praxair. Therefore only span check data obtained from stable H_2S/nitrogen blends were included in the development of the gas correction models.

The responses of the analyzer to the zero and span gas applications were assessed (Appendix C). Since the sensitivity of this particular analyzer drifted over time, these errors were corrected by using the precision check results before and after the measurements, and by assuming that the drift was linear between the two precision checks. A set of zero and precision adjustment factors was calculated for each of the periods between the two precision checks, and the models were used to correct the instrument readout data. Because the correction models effectively adjusted the measurements to match the applied concentrations, the instrument accuracy and precision for this particular instrument was not assessed based on model-corrected zero and span checks, but based on differences between the original instrument readings and the applied concentrations, for a period with the same precision check concentrations (Table 13).

Table 13. Concentration correction and measurement accuracy for hydrogen sulfide.

Start/end dates	# of checks		Linear model	Accuracy, % of span			
				Bias		Precision	
	Zero	Span		z	s	z	s
8/23/07-4/25/08	35	35	Varies	1.1	-0.6	0.2	8.2

3.8.3.3. Correction of Non-Methane Total Hydrocarbons

A MPC was conducted through the challenge line nine times using purified air (Cat. # AIO.OCE-T, CEM zero-grade, Praxair) and three (typical) span concentrations of C_3H_8 (Cat. # NIME50P1E-AS, Praxair Primary Standard), which was a C_3H_8 and CH_4 mixture in nitrogen gas. Each MPC was conducted with replication. These MPCs (Table 14) used concentrations ranging from 0.5 to 1.5 ppm C_3H_8, delivered via the Environics dilution system. The R^2 value for the test was 0.9998, indicating linearity in the instrument's response to calibration gas. A linear relationship between the input C_3H_8 concentration and analyzer response was therefore assumed for at least the range of 0 to 1.5 ppm.

Table 14. Multipoint calibration record and result for the NMHC measurements.

Date	# points	Span concentration, ppm		R^2
		Minimum	Maximum	
6/16/07	4	0.5	1.5	0.9998

Precision checks were conducted periodically using zero gas and a span gas (z/s checks), and responses were recorded in control chart format to monitor changes in system performance over time. All span checks were conducted with 1.2 ppm C_3H_8. The analyzer response to the zero and span precision checks is shown graphically in Appendix C, and summarized in Table 15.

Table 15. Concentration correction and measurement accuracy for NMHC.

Start/end dates	# of checks		Linear model	Accuracy, % of span			
				Bias		Precision	
	Zero	Span		z	s	z	s
6/17/07-12/29/09	23	23	y = 1.054(x+0.089)	-0.1	0.0	1.5	5.3

3.8.3.4.Noise tests

Analyzer noise tests were conducted to assess the minimum detection limit (MDL) of the gas measurements. The analyzers measured CEM zero air (Praxair Cat. # AIO.OCE-T CEM) continuously for 30 to 55 min after equilibrium of the instrument readout was reached. The MDL was calculated as the t-statistic times the standard deviation of the data collected during the equilibrated period (**Error! Reference source not found.**).

Table 16. Noise test of gas analyzers with humidified air on 2/3/2010.

Gas	Statistical variable				Duration, min	T_{dew}, °C
	Min	Max	SD	MDL		
NH_3, ppm	-1.04	-0.53	0.08	0.19	59	2.3
CO_2, ppm	-1.9	6.8	2.5	6.2	21	2.3
H_2S, ppb	1.5	1.6	0.1	0.1	59	2.3
NMHC, ppb	-27.0	-24.0	0.7	1.7	59	2.3

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 (Table 17 and Table 18). The TEOMs met or exceeded the mass verification criteria (Ko actual within ±2.5% of Ko audit). The criteria for total and main flows were 16.67±1.0 and 3.0±0.2 L/min, respectively, and were met on all dates except 9/25/08, 2/26/09, and 3/9/09, but were retested and passed the next audit.

Leakage criteria were total flow ≤ 0.62 L/min and main flow ≤ 0.15 L/min, respectively. All leak and flow tests of both TEOMs were acceptable on all dates.

Table 17. Quality assurance tests of barn 1 TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, L/min		Leak test flows, L/min	
			Main	Total	Main	Auxiliary
09/11/07	63	0.07	3.03	15.80	0.03	0.00
01/15/08	91.5	-	3.02	15.97	0.01	0.10
03/12/08	127	2.13	3.02	16.61	0.00	0.03
07/02/08	98.5	1.88				
09/25/08	48	2.31	3.02	17.34	0.00	0.02
10/06/08	27.5		3.02	16.78	0.01	0.03
11/19/08	31.5	2.14	2.99	17.55	0.09	0.31
12/08/08	9.5		3.08	17.40	0.02	0.21
12/08/08	40	2.16	2.96	16.09	0.04	0.25
02/26/09	45.5	2.10	3.00	17.30	0.05	0.18
03/09/09	11	-	3.01	19.95	0.06	0.25
03/20/09	19.5		3.06	17.05		
03/26/09	9.5	2.33				
04/08/09	11	2.20			0.07	0.25
04/17/09	18.5	-	3.04	16.88	0.07	0.19
05/15/09	40.5	-	3.07	16.67	0.12	0.22
06/18/09	26	1.47			0.05	0.22
07/06/09	9.5	1.95				
07/07/09	29	-	3.08	17.03	0.12	0.22
08/27/09	28.5	2.23				
09/02/09	17.5	-	3.01	16.74	0.01	0.01
09/24/09	14.5	1.73			0.03	0.00

Table 18. Quality assurance tests of barn 2 TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, L/min		Leak test flows, L/min	
			Main	Total	Main	Auxiliary
09/11/07	63	0.59	3.07	16.95	0.02	0.04
01/15/08	92.5	-	2.93	16.44	0.01	0.02
03/14/08	31.5	-	3.01	16.93	0.06	0.09
03/18/08	59	1.91				
07/28/08	104.5	0.93				
09/25/08	32.5	0.51	3.53	17.05		
10/01/08	5.5	-	-	-	0.01	0.01
10/06/08	24.5		3.13	17.25		
11/19/08	31.5	0.43	3.10	17.23	0.01	0.01
12/08/08	49.5	0.36	3.08	16.81	0.02	0.02
02/26/09	52.5	0.33	3.10	17.81	0.00	0.00
03/23/09	14		3.12	17.01	0.02	0.04
03/26/09	1.5	0.25			0.00	0.08
03/26/09	11	1.49				
04/17/09	11	0.79	3.07	16.50		
04/17/09	14	0.15			0.02	0.05
05/15/09	31	1.73	3.07	16.67		
06/18/09	26	1.03			0.05	0.09
07/06/09	9.5	0.30				
07/07/09	26	-	3.04	16.98		
08/27/09	28.5	1.06			0.04	0.14
09/02/09	14	-	2.83	15.89		
09/24/09	14.5	0.78			0.12	0.22

The TEOM measurements were also evaluated based on collocated measurements of all three PM types (Table 19). When TEOM barn 1 was collocated with TEOM barn 2 from 12/8/08 to 12/12/08, the time periods were 17, 5, and 43 h for PM_{10}, TSP and $PM_{2.5}$ measurements, respectively. The differences in average PM_{10}, TSP and $PM_{2.5}$ concentrations over the collocation periods were 4.8, 5.3 and 18.6%, respectively.

Table 19. TEOM collocation test results (barn 1 TEOM in barn 2).

PM type	Average concentration, µg/m^3		Difference, %
	Barn 2 TEOM	Barn 1 TEOM	
PM_{10}	25.9	27.1	-4.8
TSP	80.0	84.3	-5.3
$PM_{2.5}$	8.8	84.37.2	18.6

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. More than 22 times of zero checks were conducted for the pressure sensors.

Calibration offsets were assigned to the different sensors based on time-weighted averages of the zero checks. The calibration offsets were -1.26 Pa (B1 N wall), -3.39 Pa (B1 W wall), -2.46 Pa (B1 S wall), -0.95 Pa (B2 N wall), 0.86 Pa (B2 W wall), 1.27 Pa (B2 S wall). Two sets of calibration factors were developed for the static pressure sensors at the milking center. Prior to 6/9/09, calibration offsets were 4.84 Pa (MC E wall) and 4.81 Pa (MC W wall), and after this date, they were 8.83 Pa (MC E wall) and 8.41 Pa (MC W wall).

The atmospheric pressure measurement was unavailable between cycles, as the TEOMs were offline during barn cleaning. To facilitate emission-related calculations, an average atmospheric pressure measurement of 97.57 kPa was substituted in the calculations.

3.9.2.2.Environmental Sensors

The average exhaust temperature for each house was the mean of the RH/T probe temperature measurement and the TC measurements at the other nine GSL fans in each barn.

The solar sensor signal was collocated with a reference solar sensor on 9/21/07 and 6/8/09.

3.9.2.3.Fan Operation

There were always at least two functional sensors per fan stage. Since all fans on a stage were driven by the same fan controller, airflow calculations were facilitated by substitutions of operation data from other fans of the same stage. When a fan speed signal provided the operational data, low-level noise was filtered out by setting fan airflow to zero if the average speed was less than 50 rpm.

3.9.2.4.Gas Concentrations

Table 20 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 20. Gas concentration data validation and interpolation requirements.

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

Gas and water vapor concentrations, and sample RH, temperature, pressure, flow rate, and flow direction were invalidated during all gas analyzer MPCs and Z/S checks. The gas concentrations were also invalidated when the GSS exhaust flow was reversed (indicating there was not enough airflow supplied to the gas analyzers). When the GSS exhaust flow direction sensor was malfunctioning (9/4/09 to 9/9/09), the concentrations were invalidated when the GSS sampling pressure was lower than -18,000 Pa. 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. Positive pressure conditions occurred under high wind conditions which would pressurize the barn in spite of the exhaust fans.

In the event the stream concentration data was not available for a sampling location, the stream concentration from the neighboring sampling point on the same half of the barn was substituted.

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

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

and

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

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.Particulate Matter Concentrations

Prior to 2/20/08, the TEOM flow rates were erroneously 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 TEOM settings were changed on 2/20/08 to adjust the flow to 16.7 L min^{-1} based on actual rather than standard air density.

The TEOMs were configured to output the PM concentration data at 25ºC and 1 atm until 2/20/08, at which time they were reconfigured to output the PM data at standard conditions (20ºC, 1 atm). All PM concentration data prior to 2/20/08 was corrected to standard conditions. Dry standard PM concentrations were obtained by dividing standard condition concentrations by the one minus the air humidity ratio.

The B2 TEOM PM data was invalid between 9/18/07 and 9/24/07, and 4/25/08 and 7/10/08 because of malfunctioning. The B1 TEOM PM data was invalid between 12/12/08 and 12/18/08 until a spare unit was used. Several short periods of the TEOM PM data were invalid because of problems with the instrument filter or placement. The Beta Gauge data was also invalidated between 2/21/08 and 3/27/08, and 7/6/08 and 7/25/08 due to malfunction, while other shorter malfunctioning periods were also invalidated.

3.9.3. Emission calculations

3.9.3.1.Particulate Matter

PM emissions were calculated with Eqn. 3-3.

$$E = \left(Q_0 * P_0 * \left(\frac{273+20}{273+T_0}\right)\right) * \left(C'_0 - C'_i\right) \quad (3\text{-}3)$$

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})
Ci'	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:

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

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	Ambient or ventilation air inlet concentration (ppm or ppb)

Building emissions were the summation of the stream emissions. If the interpolated stream concentration was invalid for one stream in a house, the other stream concentration from the same half of the respective barn was substituted in the emission calculation. Building emission was divided by variables (barn inventory, animal units) 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, mass, density and milk production are presented in Table F2.

4.2. Characteristics of Biomaterials

The summarized results of lab analyses of the various biomaterials are available in Appendix D.

4.3. Environmental Conditions

4.3.1. Ambient conditions

According to historical climatic information (Table 21), daytime average high temperatures ranges from -1°C in the winter to 29°C in the summer. Average overnight lows range from -10°C in winter to 18°C in summer. Typical prevailing winds for the region are from the north, northwest, and south.

Table F1 shows the daily average outdoor temperature, relative humidity, wind speed, wind direction, solar radiation and barometric pressure. The ADM outdoor temperature during the study period was 10.8°C, while the historical annual average for the area was 10°C (Table 21). The DM temperatures ranged from -22.4°C to 29.4°C.

Table 21. Monthly averages for weather conditions in the area*.

Month	Temperature*, °C			Wind speed km•h^{-1}	Wind direction
	High	Low	Mean		
January	-1	-10	-6	12	W
February	2	-7	-3	10	W
March	8	-2	3	10	W
April	16	4	10	10	W
May	22	10	16	8	N
June	27	16	22	7	S
July	29	18	23	6	W
August	28	16	22	5	S
September	24	12	18	6	S
October	18	5	11	8	S
November	9	0	4	9	W
December	2	-6	-2	10	W
Annual Average	15	5	10		

* http://www.weather.com/outlook/health/allergies/wxclimatology/monthly/54002
** Data collected at Peru, IN, Taken NOAA National Climate Data Center.

4.3.2. Barn Conditions

The environmental conditions in B1 and B2 are shown in Table F2.

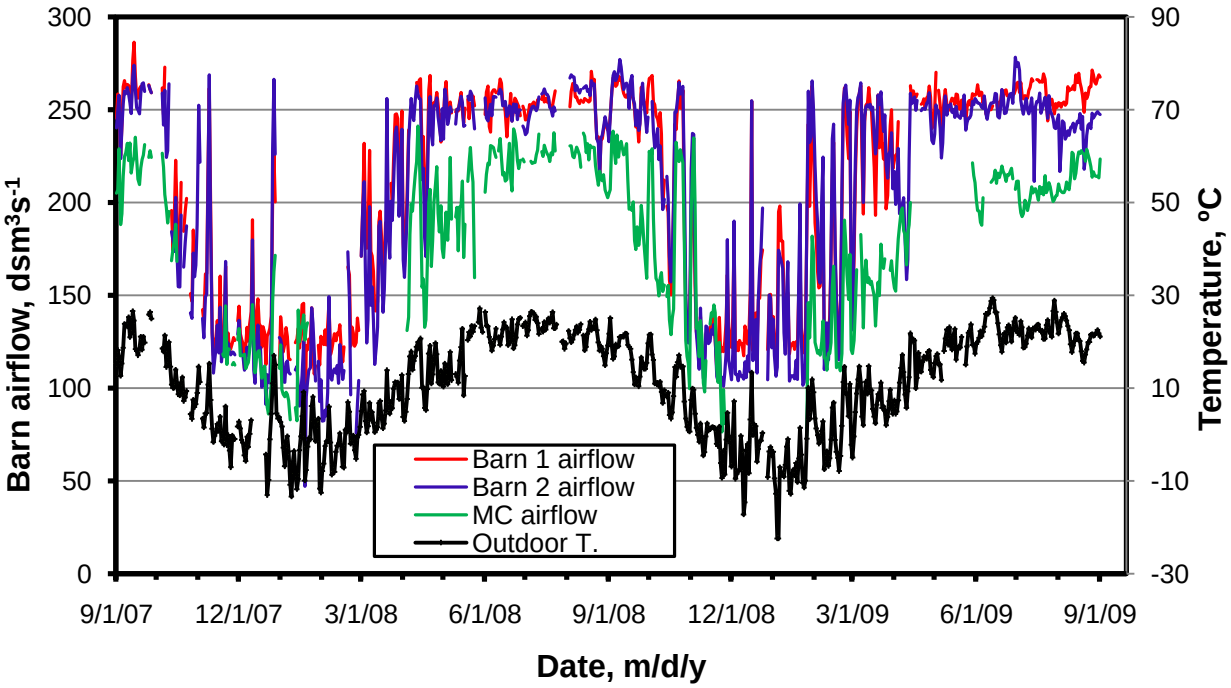


Figure 4. Inlet and exhaust temperatures (T) and airflow rates (Q) for B1, B2 and the MC.

4.3.3. Ventilation Rates

The mean static pressure differential was -29±8 Pa in barn 1 and 2. The mean static pressure differential was -23±5 Pa. The fraction of time that the static pressure was positive, ranged from 0 to 10.3%. Static pressure across the end walls of the barns and milking center was greater than -40 Pa over 85% of the time.

The maximum daily mean airflow measurement for B1 occurred on 9/25/07 and for B2 on 7/11/09. The ventilation rate of B1 ranged from 68 dsm^3s^{-1} in winter to 286 dsm^3s^{-1} during the summer. The ventilation rate of B2 ranged from 47 m^3s^{-1} in winter to 278 m^3s^{-1} during the summer. The overall average ventilation rates were 208.2, 203.8, and 182.7 $dsm^3\ s^{-1}$ for B1 and B2, and MC, respectively.

4.4. Particulate Matter Concentration and Emissions

4.4.1. PM10

The DM inlet PM_{10} concentration ranged from -5 to 98 µg dsm^{-3}, whereas the DM B1 and B2 PM_{10} exhaust concentrations ranged from -3 to 113 and from -1 to 67 µg dsm^{-3}, respectively (Table F4).

The ADM inlet, B1 and B2 PM_{10} concentrations were 21±13, 22 ±10 and 26±10µg dsm^{-3}, respectively (Table F3).

The overall mean PM_{10} emission rates were 10±236 g d^{-1} (11±286 mg $d^{-1}cow^{-1}$) for B1 and 130±209 g d^{-1} (153±248 mg $d^{-1}cow^{-1}$) for B2 (Figure 5 and Table F3).

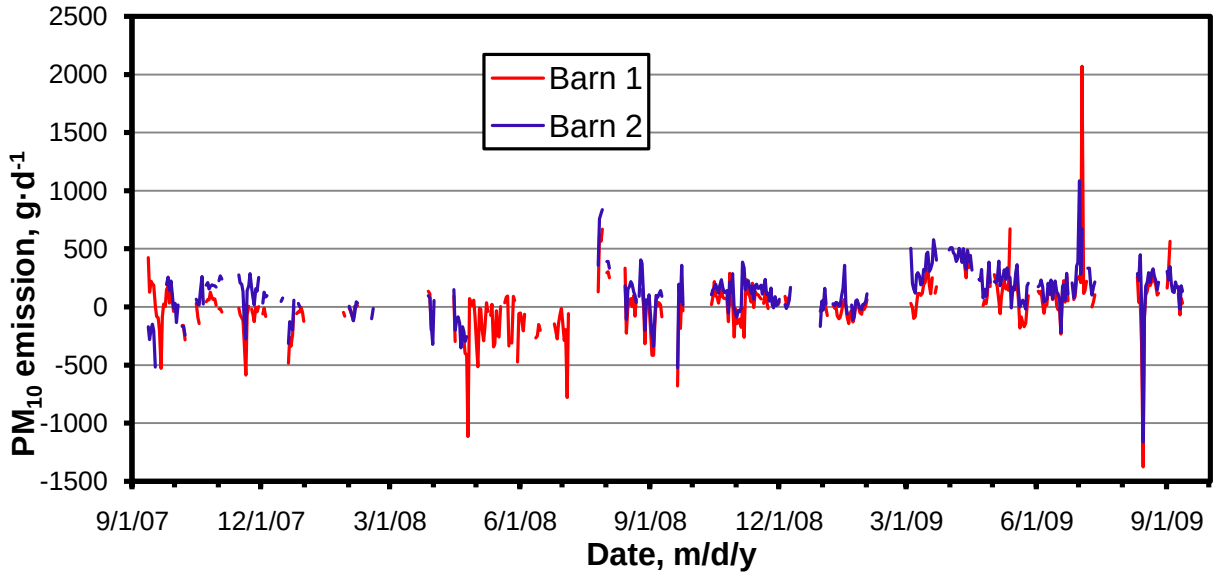


Figure 5. Daily mean PM_{10} emissions.

4.4.2. PM2.5

Data from the four $PM_{2.5}$ measurement periods are shown in Table F4. Daily mean concentrations of $PM_{2.5}$ ranged from 3 to 34 µg dsm^{-3} in the inlet air (n=39 d), 5 to 22 µg dsm^{-3} in B1 exhaust air (n=38 d) and from 6 to 23 µg dsm^{-3} in B2 exhaust air (n=37 d) (Table F4).

The ADM inlet, and B1 and B2 exhaust concentrations were 13±8, 14±5 and15±4 µg dsm^{-3}, respectively (Table F4).

The mean $PM_{2.5}$ emission rates during cold weather sampling (1/12/08 to 1/17/08 and 2/3/09 to 2/11/09) were -57 and -34 g d^{-1} from B1 (n=12 d) and B2 (n=13 d), respectively (Figure 6). The mean $PM_{2.5}$ emission rates from B1 (n=16 d) and B2 (n=16 d) during hot weather sampling (9/26/08 to 9/30/08 and 7/29/09 to 8/9/09) were 80 and 109 g d^{-1}, respectively.

The overall mean (±SD) $PM_{2.5}$ emission rates were 21±114 g d^{-1} (26±140 mg $d^{-1}cow^{-1}$) from B1, and 45±129 g d^{-1} (52±152 mg $d^{-1}cow^{-1}$) from B2.

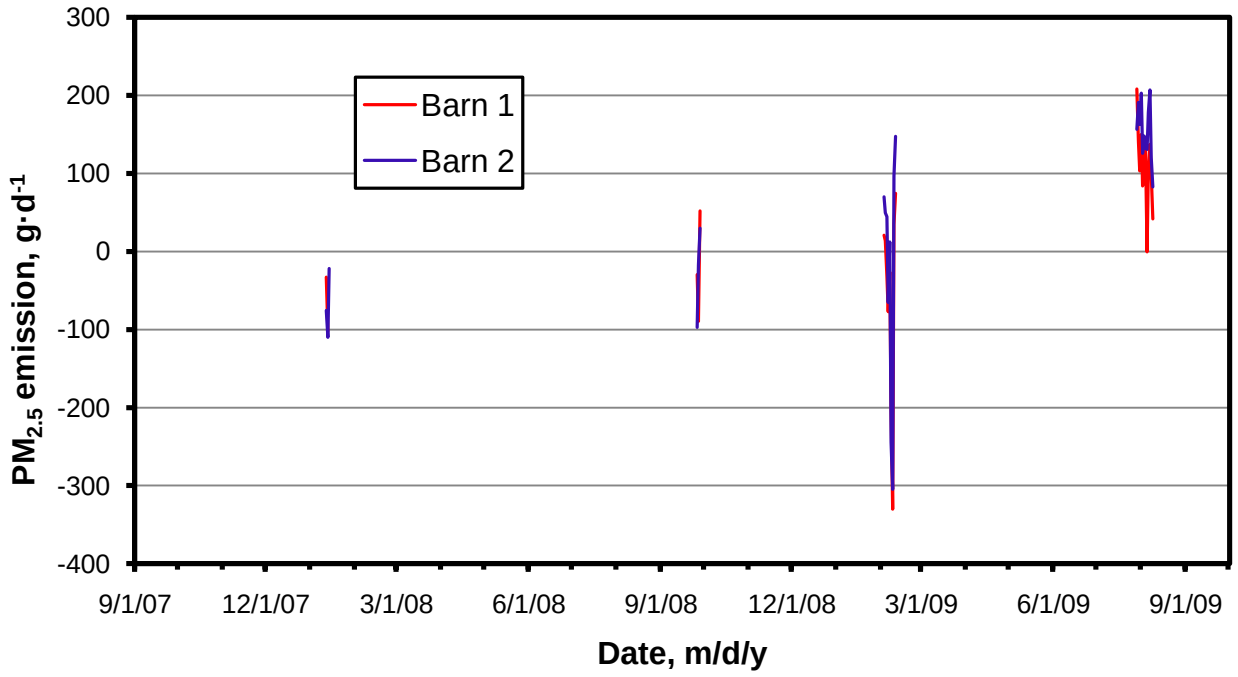


Figure 6. Daily mean $PM_{2.5}$ emissions.

4.4.3. TSP

Data from the ten TSP measurement periods are shown in Table F5. Daily mean TSP concentrations ranged from 2 to 59 µg dsm^{-3} in the inlet air (n=94 d), 7 to 110 µg dsm^{-3} in B1 exhaust air (n=88 d) and from 10 to 122 µg dsm^{-3} in B2 exhaust air (n=83 d) (Table F5).

The ADM (±SD) inlet, and B1 and B2 exhaust concentrations were 22±13, 44±22 and 48±28 µg dsm^{-3}, respectively (Table F5).

Emission rates are shown in Figure 7. The ADM TSP emissions ranged from -158 to 1841 g d^{-1} (Table F7). The overall mean (±SD) TSP emission rates were 348±334 g d^{-1} (424±407 mg $d^{-1}cow^{-1}$) for B1 (n=77 d), and 329±274 g d^{-1} (385±318 mg $d^{-1}cow^{-1}$) for B2 (n=67 d) (Figure 7).

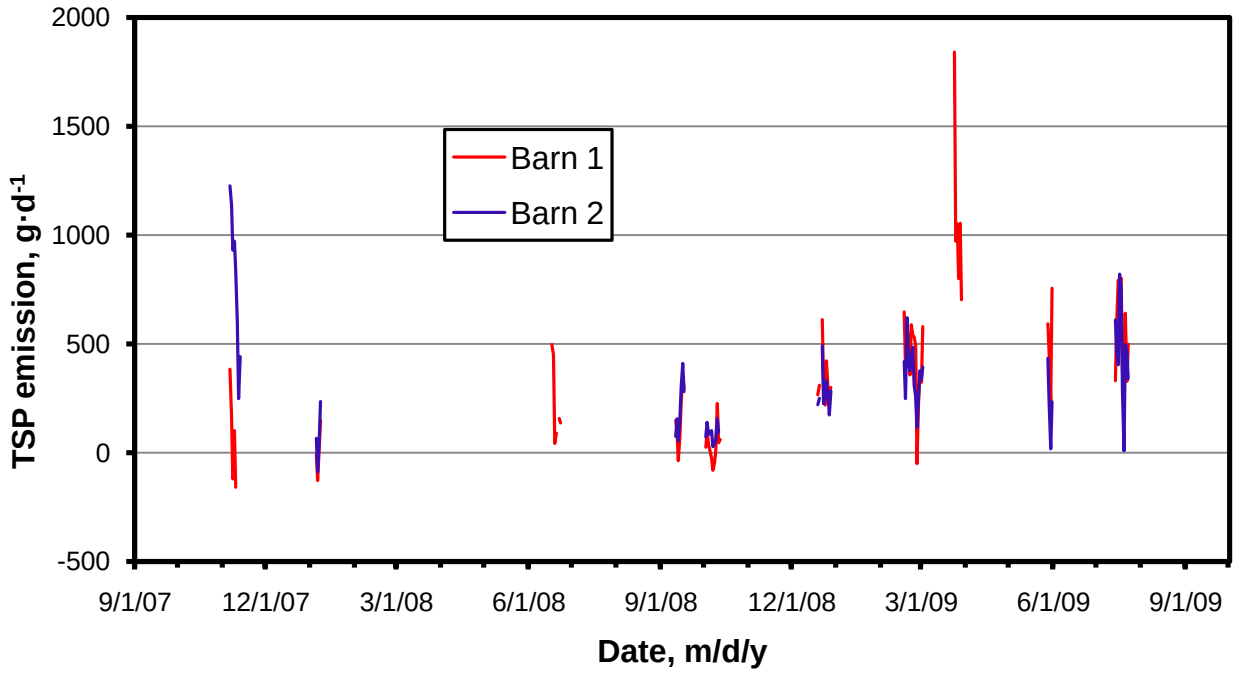


Figure 7. Daily mean TSP emissions.

4.5. VOC Concentrations and Emissions

The 20 most prevalent VOCs detected in the canister samples accounted for 96.3% of the total quantified mass. The most prevalent compound was n-propanol, which was 53% of the total mass.

Concentrations of total VOC in exhaust air ranged from 1.45 to 6.92 mg m^{-3} in B1, 1.03 to 5.71 mg m^{-3} in B2. The mean total VOC concentrations were 3.37±1.72 in B1, 3.22±1.47 mg m^{-3} in B2, respectively.

Total VOC emissions (ng s^{-1}) during each sampling period were determined by multiplying the mean building airflow rate (m^3 s^{-1}) by the total mass (ng m^{-3}) and converting to kg d^{-1}. The VOC emission rates of B1 and B2 ranged from 31 to 155 and 19.5 to 127 kg d^{-1}, respectively. The mean VOC emission rates from B1 and B2 were 60.1±45.6 and 55.8±43.5 kg d^{-1} or 36.2±27.5 and 31.8±24.8 g d^{-1} hd^{-1}.

Table 22. Average concentrations of 20 most prevalent VOC.

Compound	Concentration, ng m^{-3}	% of total	Cumulative %
n-Propanol	1.77E+06	53.50%	53.5
Ethyl acetate	6.31E+05	19.04%	72.5
n-Propyl acetate	2.27E+05	6.85%	79.4
Acetaldehyde	1.31E+05	3.95%	83.3
Pentane	9.77E+04	2.96%	86.3
iso-Propanol	6.22E+04	1.88%	88.2
2-Butanone	5.93E+04	1.79%	90.0
2-Butanol	4.50E+04	1.36%	91.3
Dimethyl sulfide	3.42E+04	1.03%	92.4
Hexane	2.27E+04	0.69%	93.1
4-Methyl-phenol	1.70E+04	0.51%	93.6
Propyl propanoic ester	1.50E+04	0.45%	94.0
Phenol	1.34E+04	0.40%	94.4
1-Butanol	1.17E+04	0.35%	94.8
Acetic acid	9.50E+03	0.29%	95.1
Methyl cyclopentane	9.37E+03	0.28%	95.3
Indole	8.33E+03	0.25%	95.6
Ethanol	7.87E+03	0.24%	95.8
Nonanal	7.78E+03	0.23%	96.1
Propanoic acid	6.99E+03	0.21%	96.3

Table 23. Emission of total VOC.

Day	# canisters		Concentration, $mg \cdot m^{-3}$		Airflow, $m^3 s^{-1}$		Emission, $kg \cdot d^{-1}$	
	B1	B2	B1	B2	B1	B2	B1	B2
06/01/09	1	1	6.92	5.71	259	258	155	127
06/15/09	2	2	2.53	3.89	269	262	58.8	88.1
08/17/09	0	2	3.50	3.76	260	260	78	84.2
01/19/10	2	2	2.95	2.35	121	95.9	31	19.5
02/03/10	2	2	3.53	3.22	121	98.3	37	27.3
02/17/10	2	2	2.72	2.61	113	99.5	26.6	22.4
03/10/10	2	2	1.45	1.03	273	245	34.2	21.8
Average	1.57	1.86	3.37	3.22	202	188	60.1	55.8

4.6. Hydrogen Sulfide Concentrations and Emissions

Daily mean inlet and exhaust H_2S concentrations for the entire test are provided in Table F8.

The average daily mean (±SD) inlet H_2S concentrations were approximately 2.7±11.1 (n=654 d) ppb in the inlet air, and 22.5±30.2 (n=597 d), 33.1±45.8 (n=601 d), and 48.2±80.4 (n=400 d) ppb in the exhausts of B1, B2 and MC, respectively.

Daily mean H_2S emissions from B1, B2, and MC are tabulated in Table F9 and plotted in Figure 8 for the entire test period.

The ADM H_2S emission rates from B1, B2, and MC were 0.73±0.95 (n=512 d), and 1.09±1.48 (n=531 d), and 1.18±2.21 (n=396 d) kg d^{-1}, respectively.

The ADM cow-specific H_2S emission rates from B1 and B2 were 0.87±1.12 (n=512 d) and 1.26±1.69 (n=531 d) g d^{-1} cow^{-1}, respectively.

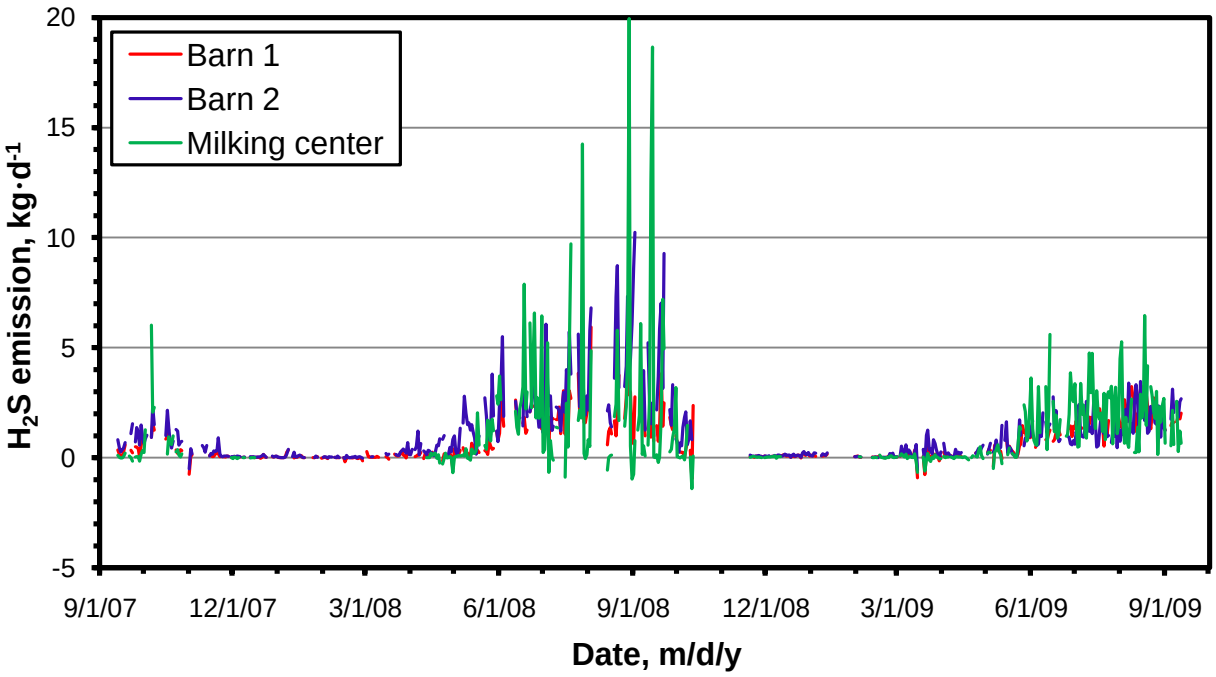


Figure 8. Daily mean H_2S emissions from barns 1 and 2.

4.7. Ammonia Concentrations and Emissions

Daily mean inlet and exhaust NH_3 concentrations for the entire test are provided in Table F10.

The average daily mean (±SD) NH_3 concentrations were approximately 0.14±0.35 (n=619 d) ppm in the inlet air, and 2.68±1.22 (n=551 d), 2.66±1.30 (n=555 d) and 0.85±0.69 (n=344 d) ppm in the exhausts of B1, B2, and MC respectively.

Daily mean NH_3 emissions from B1 and B2 are tabulated in Table F11and plotted in Figure 9 for the entire test period. The ADM (±SD) NH_3 emission rates from B1, B2 and MC were 39.1±23.9 (n=467 d), 38.6±22.8 (n=478 d) and 8.2±6.7 (n=339 d) g d^{-1}, respectively.

The ADM (±SD) cow-specific NH_3 emission rates from B1 and B2 were 46.9±28.4 and 44.7±26.4 g d^{-1} cow^{-1}, respectively.

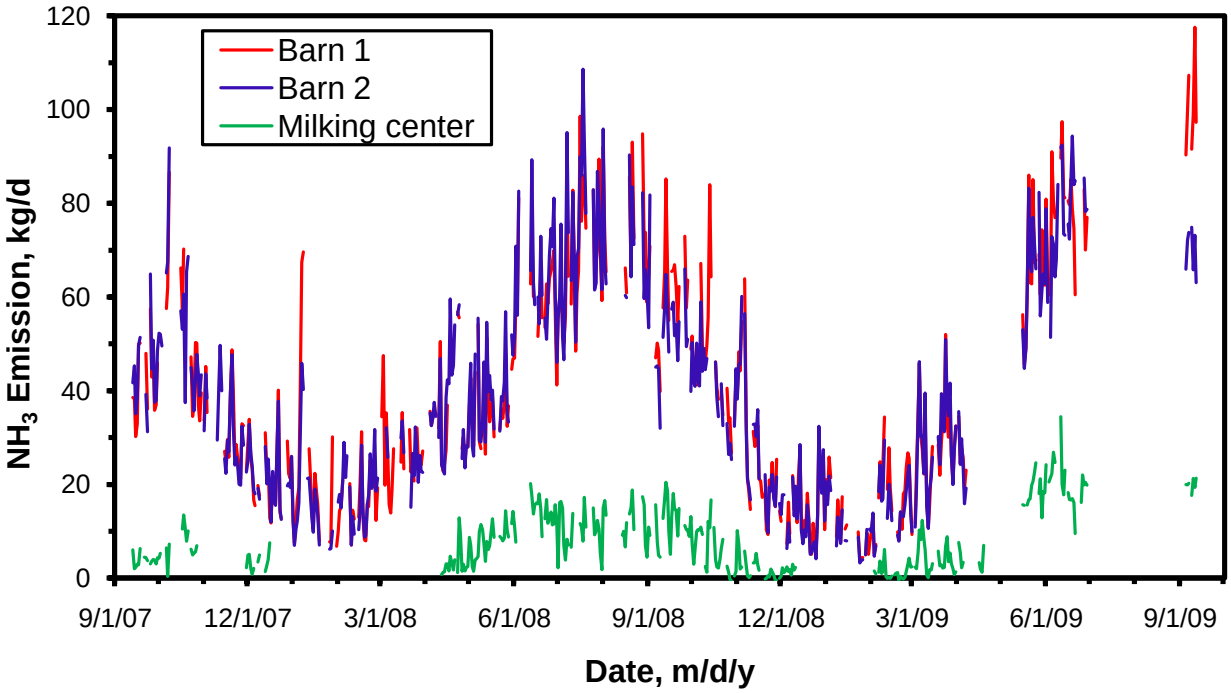


Figure 9. Daily mean NH_3 emissions.

4.8. Non-methane Hydro-Carbon Concentrations and Emissions

Daily mean inlet and exhaust NMHC concentrations for the entire test are provided in Table F6.

The average daily mean (±SD) inlet NMHC concentrations were approximately 6±14 (n=76 d) ppb in the inlet air, and 444±119 (n=73 d), 348±134 (n=74 d), and 20±40 (n=72 d) ppb in the exhausts of B1, B2, and MC respectively.

Daily mean NMHC emissions from B1, B2, and NMHC are tabulated in Table F7 and plotted in Figure 10 for the entire test period.

The ADM NMHC emission rates from B1, B2, and MC were 25.0±6.1 (n=68 d), 20.9±7.4 (n=71 d) and 0.86±1.11 (n=71 d) kg d^{-1}, respectively.

The ADM cow-specific NMHC emission rates from B1 and B2 were 30.0±7.2 (n=68 d) and 24.2±8.6 (n=71 d) g d^{-1} cow^{-1}, respectively.

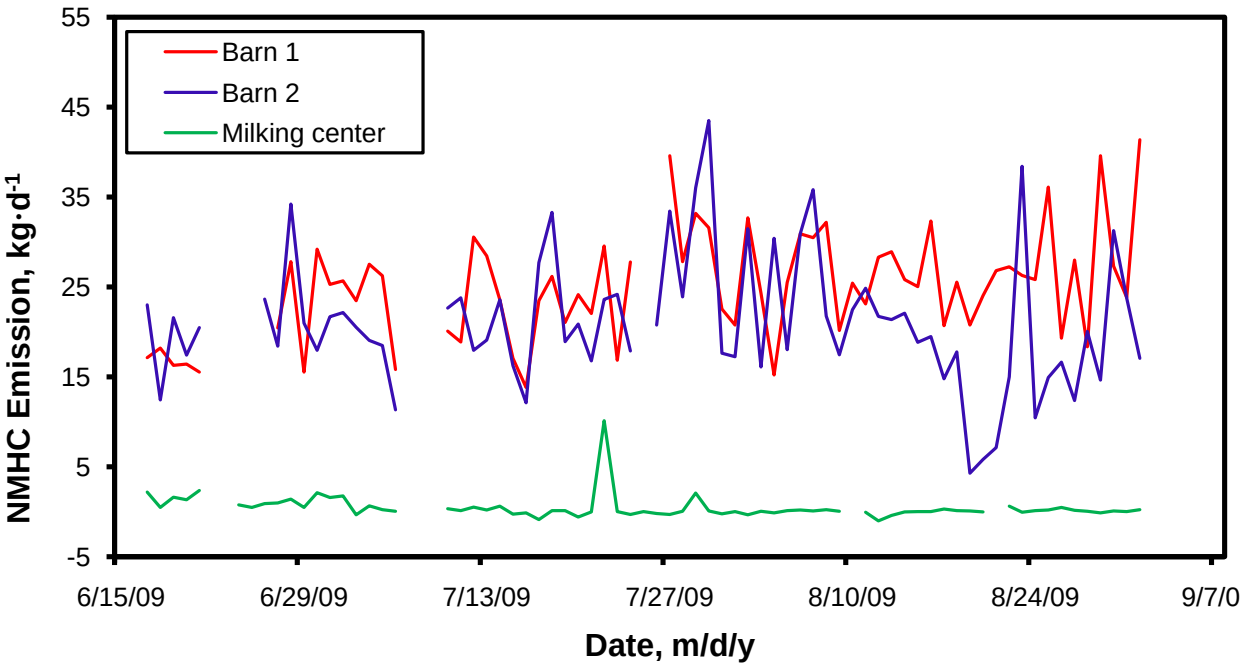


Figure 10. Daily mean NMHC emissions.

4.9. Emission Data Completeness

Daily completeness data is given in Table 24. The number of complete data days (>75% valid required for reporting a daily mean) were calculated for emission measurements conducted from 8/24/07 to 8/23/09.

Table 24. Emission data completeness.

Location	Days with >75% valid emission data				
	NH_3	H_2S	PM_{10}	$PM_{2.5}$	TSP
Barn 1	467	512	367	28	77
Barn 2	478	531	348	29	67
MC	339	396			

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 B1 and B2 were 208±56 $dsm^3 s^{-1}$ (n=650 d) and 204±59 $dsm^3 s^{-1}$ (n=675 d), respectively. An average of 23.6 fans operated in all barns at which condition the airflow measurement uncertainty was 5.3%, 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 as compared with the NH_3 correction models (Table 11). The bias and precision of NH_3 measurements were 2.2% and 4.2%, respectively.

The bias and precision of H_2S concentration measurements were derived from the H_2S zero and span checks as compared with the H_2S correction models (Table 12). The bias and precision of H_2S measurements were 0.6% and 8.4%, respectively.

Based on these measurement errors calculated for concentrations and airflows, the uncertainties of NH_3 and H_2S emissions from B1 and B2 were 10.7 and 17.8%, respectively.

4.9.3. PM Emissions

The precision of PM_{10}, TSP and $PM_{2.5}$ concentration measurements were 3.3, 3.7, and 14.5% based on collocation tests of the two TEOMs in exhaust air (Table 19). The relative biases of the TEOMs were 1.00 and 2.28% for B1 and B2 (Table 17, and Table 18). The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from B1 were 9.0, 9.6 and 29.6%, respectively. The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from B2 were 9.2, 9.8 and 29.7%, respectively.

5. SUMMARY

The emissions of NH_3, H_2S, PM_{10}, TSP, $PM_{2.5}$ and VOCs from two freestall barns (B1 and B2) and a milking center at a dairy facility in Indiana were measured during a two-year monitoring study. The buildings were mechanically-ventilated with single-speed fans.

The overall average emission rates from barn 1 were 39 kg d^{-1} of NH_3, 0.73 kg d^{-1} of H_2S, 10 g d^{-1} of PM_{10}, 21 g d^{-1} of $PM_{2.5}$, 348 g d^{-1} of TSP, and 60.1 kg d^{-1} of total VOC. The overall average emission rates from barn 2 were 39 kg d^{-1} of NH_3, 1.09 kg d^{-1} of H_2S, 130 g d^{-1} of PM_{10}, 45 g d^{-1} of $PM_{2.5}$, 329 g d^{-1} of TSP, and 55.8 kg d^{-1} of total VOC. The overall average emission rates from the milking center were 8.2 kg d^{-1} of NH_3 and 1.18 kg d^{-1} of H_2S.

6. REFERENCES

Heber, A.J., J.-Q. Ni, B.L. Haymore, R.K. Duggirala, and K.M. Keener. 2001. Air quality and emission measurement methodology at swine finishing buildings. *Transactions of ASAE* 44(6):1765-1778.

Heber, A.J., J.Q. Ni, T.T. Lim, A.M. Schmidt, J.A. Koziel, P.C. Tao, D.B. Beasley, S.J. Hoff, R.E. Nicolai, L.D. Jacobson, and Y. Zhang. 2006. Quality assured measurements of animal building emissions: Gas concentrations. AWMA Journal 56:1472-1483.

7. DEFINITIONS AND ACRONYMS

AirDAC	Air Data Acquisition and Control – computer program
ADM	Average daily mean
B1	Freestall barn 1
B2	Freestall barn 2
BESS	Bioenvironmental and Structural Systems
CAPECAB	Calculations of Air Pollutant Emissions from Confined Animal Buildings
CO_2	Carbon dioxide
CH_4	Methane
DM	Daily mean
ΔP	Differential pressure
DQO	Data quality objective
FANS	Fan Airflow Numeration System
GC/MS	Gas chromatograph mass spectrometer
GLS	Gas sampling location(s)
GSS	Gas sampling system
H_2S	Hydrogen sulfide
MC	Milking center
MDL	Minimum detection limit
MPC	Multipoint calibration
MS	Mass spectrometer
n	Number or count
NAEMS	National Air Emissions Monitoring Study
NCDC	National Climatic Data Center
NH_3	Ammonia
NMHC	Non-methane hydrocarbons
Q	Airflow
QA	Quality assurance
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
MP	Site monitoring plan
T_{dew}	Dew point temperature
TDS	Thermal desorption system
TDS-GS-MS	Thermodesorption-gas chromatograph mass spectrometer
TEOM	Tapered element oscillating microbalance
TSP	Total suspended particulate
VOC	Volatile organic compounds
Z/S	Zero/span

APPENDIX A. MEASUREMENT 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	17 GSLs		---
6	CH4, ppm	Innova 1412	Rack	17 GSLs		---
7	THC, ppm	Innova 1412	Rack	17 GSLs		---
8	C2H6O, ppm	Innova 1412	Rack	17 GSLs		---
9	CH3OH, ppm	Innova 1412	Rack	17 GSLs		---
10	WV, Tdew	Innova 1412	Rack	17 GSLs		---
13	H2S, ppb	H2S analyzer	Rack	17 GSLs	1 - 2000	FP-AI-112-1
14	SO2, ppb	H2S analyzer	Rack	17 GSLs	1 - 2000	FP-AI-112-1
16	Smpl P, Pa	Setra 209 ΔP sensor	GSS	17 GSLs	0 - 14.7 psiv	FP-AI-112-1
17	Smpl Q, L/m	Mass flow	GSS	17 GSLs	0 - 10	FP-AI-112-1
18	Smpl RH, %	Humitter 50Y, RH	GSS	17 GSLs	0 - 100	FP-AI-112-1
19	Smpl T, ºC	Humitter 50Y, T	GSS	17 GSLs	-40 - 60	FP-AI-112-1
20	Smpl dir, uV	Flow direction	GSS	17 GSLs		FP-AI-112-1
21	GSS T, ºC	AD 592D	GSS	GSS	0 - 70	FP-AI-112-1
22	B1 PM, µg/m3	TEOM #1	B1	B1 F10SW	-1000 - 9000	FP-AI-112-1
23	B1 Filter, %	TEOM #1	B1	B1 F10SW	0 - 140	FP-AI-112-1
24	Atm P, Pa	TEOM #1	B1	B1 F10SW	0.8 - 1.3	FP-AI-112-1
25	B2 PM, µg/m3	TEOM #2	B2	B2 F10NW	-1000 - 9000	FP-AI-112-1
26	B2 Filter, %	TEOM #2	B2	B2 F10NW	0 - 140	FP-AI-112-1
27	Amb PM, µg/m3	Beta gauge	Amb	Inlet b/w B1 F2SW & F3SW	0 - 1500	FP-AI-112-2
29	B1N ΔP, Pa	Setra 260 ΔP sensor	B1N	B1 N wall	-100 - 100	FP-AI-112-2
30	B1E ΔP, Pa	Setra 260 ΔP sensor	B1E	B1 E wall	-100 - 100	FP-AI-112-2
31	B1S ΔP, Pa	Setra 260 ΔP sensor	B1S	B1 S wall	-100 - 100	FP-AI-112-2
32	B1W ΔP, Pa	Setra 260 ΔP sensor	B1W	B1 W wall	-100 - 100	FP-AI-112-2

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
33	B2N ΔP, Pa	Setra 260 ΔP sensor	B2N	B2 N wall	-100 - 100	FP-AI-112-2
34	B2E ΔP, Pa	Setra 260 ΔP sensor	B2E	B2 E wall	-100 - 100	FP-AI-112-2
35	B2S ΔP, Pa	Setra 260 ΔP sensor	B2S	B2 S wall	-100 - 100	FP-AI-112-2
36	B2W ΔP, Pa	Setra 260 ΔP sensor	B2W	B2 W wall	-100 - 100	FP-AI-112-2
37	MPE ΔP, Pa	Setra 260 ΔP sensor	MPE	MP E wall	-100 - 100	FP-AI-112-2
38	MPW ΔP, Pa	Setra 260 ΔP sensor	MPW	MP W wall	-100 - 100	FP-AI-112-2
39	MPtoB1 ΔP, Pa	Setra 260 ΔP sensor	MPtoB1	B/w MP and B1	-100 - 100	FP-AI-112-2
40	B1toB2 ΔP, Pa	Setra 260 ΔP sensor	B1toB2	B/w B1 and B2	-100 - 100	FP-AI-112-2
41	DCtoB1 ΔP, Pa	Setra 260 ΔP sensor	DCtoB1	B/w DC and B1	-100 - 100	FP-AI-112-2
42	OFIS ΔP, Pa	Setra 260 ΔP sensor	OFIS	OFIS	-100 - 100	FP-AI-112-2
43	Solar, W/m2	Solar sensor	Roof	Roof tower		FP-AI-112-3
44	Wind D, deg	Wind monitor 05103-5	Roof	Roof tower	0 - 360	FP-AI-112-3
45	Wind V, m/s	Wind monitor 05103-5	Roof	Roof tower	0 - 60	FP-AI-112-3
46	Amb RH, %	Novus Temp Out	Roof	Roof tower	0 - 100	FP-AI-112-3
47	Amb T, ºC	Novus RH Out	Roof	Roof tower	-40 - 60	FP-AI-112-3
48	B1E RH, %	NOVUS RHT-WM	B1E	B1 E wall	0 - 100	FP-AI-112-3
49	B1E T, ºC	NOVUS RHT-WM	B1E	B1 E wall	-40 - 120	FP-AI-112-3
50	B1W RH, %	NOVUS RHT-WM	B1W	B1 W wall	0 - 100	FP-AI-112-3
51	B1W T, ºC	NOVUS RHT-WM	B1W	B1 W wall	-40 - 120	FP-AI-112-3
52	B2E RH, %	NOVUS RHT-WM	B2E	B2 E wall	0 - 100	FP-AI-112-3
53	B2E T, ºC	NOVUS RHT-WM	B2E	B2 E wall	-40 - 120	FP-AI-112-3
54	B2W RH, %	NOVUS RHT-WM	B2W	B2 W wall	0 - 100	FP-AI-112-3
55	B2W T, ºC	NOVUS RHT-WM	B2W	B2 W wall	-40 - 120	FP-AI-112-3
56	MP RH, %	NOVUS RHT-WM	MP	MP center	0 - 100	FP-AI-112-3
57	MP T, ºC	NOVUS RHT-WM	MP	MP center	-40 - 120	FP-AI-112-3
58	B1NE Act , V	Activity sensor	B1NE	B1 N wall by fans 4 & 5		FP-AI-112-3
59	B1N Act , V	Activity sensor	B1N	B1 N wall b/w pit &wall fans		FP-AI-112-4
60	B1NW Act , V	Activity sensor	B1NW	B1 N wall even with rwy		FP-AI-112-4
61	B1SE Act , V	Activity sensor	B1SE	B1 S wall by fans 4 & 5		FP-AI-112-4
62	B1S Act , V	Activity sensor	B1S	B1 S wall b/w pit &wall fans		FP-AI-112-4
63	B1SW Act , V	Activity sensor	B1SW	B1 S wall even with rwy		FP-AI-112-4

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
64	B2NE Act , V	Activity sensor	B2NE	B2 N wall by fans 4 & 5		FP-AI-112-4
65	B2N Act , V	Activity sensor	B2N	B2 N wall b/w pit &wall fans		FP-AI-112-4
66	B2NW Act , V	Activity sensor	B2NW	B2 N wall even with rwy		FP-AI-112-4
67	B2SE Act , V	Activity sensor	B2SE	B2 S wall by fans 4 & 5		FP-AI-112-4
68	B2S Act , V	Activity sensor	B2S	B2 S wall b/w pit & wall fans		FP-AI-112-4
69	B2SW Act , V	Activity sensor	B2SW	B2 S wall even with rwy		FP-AI-112-4
70	MP Act , V	Activity sensor	MP	MP center		FP-AI-112-4
71	OFIS Act , V	Activity sensor	OFIS	OFIS		FP-AI-112-4
75	B1F1NW T, ºC	TC T type	B1F1NW	GSL B1F1NW		FP-TC-120-1
76	B1F2NW T, ºC	TC T type	B1F2NW	GSL B1F2NW		FP-TC-120-1
77	B1F3NW T, ºC	TC T type	B1F3NW	GSL B1F3NW		FP-TC-120-1
78	B1F7NW T, ºC	TC T type	B1F7NW	GSL B1F7NW		FP-TC-120-1
79	B1F1SW T, ºC	TC T type	B1F1SW	GSL B1F1SW		FP-TC-120-1
80	B1F2SW T, ºC	TC T type	B1F2SW	GSL B1F2SW		FP-TC-120-1
81	B1F3SW T, ºC	TC T type	B1F3SW	GSL B1F3SW		FP-TC-120-1
82	B1F7SW T, ºC	TC T type	B1F7SW	GSL B1F7SW		FP-TC-120-1
83	B1WAlley T, ºC	TC T type	B1WAlley	B1 alley even with rwy		FP-TC-120-2
84	B2F1NW T, ºC	TC T type	B2F1NW	GSL B2F1NW		FP-TC-120-2
85	B2F2NW T, ºC	TC T type	B2F2NW	GSL B2F2NW		FP-TC-120-2
86	B2F3NW T, ºC	TC T type	B2F3NW	GSL B2F3NW		FP-TC-120-2
87	B2F7NW T, ºC	TC T type	B2F7NW	GSL B2F7NW		FP-TC-120-2
88	B2F1SW T, ºC	TC T type	B2F1SW	GSL B2F1SW		FP-TC-120-2
89	B2F2SW T, ºC	TC T type	B2F2SW	GSL B2F2SW		FP-TC-120-2
90	B2F3SW T, ºC	TC T type	B2F3SW	GSL B2F3SW		FP-TC-120-2
91	B2F7SW T, ºC	TC T type	B2F7SW	GSL B2F7SW		FP-TC-120-3
92	B2WAlley T, ºC	TC T type	B2WAlley	B2 alley even with rwy		FP-TC-120-3
93	MPF4E T, ºC	TC T type	MPF4E	GSL MPF4E		FP-TC-120-3
94	MPF4W T, ºC	TC T type	MPF4W	GSL MPF4W		FP-TC-120-3
95	RwyB1 T, ºC	TC T type	RwyB1	Rwy b/w OFIS & B1		FP-TC-120-3
96	RwyB1 HT, ºC	TC T type	RwyB1 HT	Rwy b/w OFIS & B1		FP-TC-120-3
97	RwyB2 T, ºC	TC T type	RwyB2	Rwy b/w OFIS & B2		FP-TC-120-3

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
98	RwyB2 HT, ºC	TC T type	RwyB2 HT	Rwy b/w OFIS & B2		FP-TC-120-3
99	B1In-Ht, ºC	TC T type				USB-TC-1
100	B2In-Ht, ºC	TC T type				USB-TC-1
101	Beta G, ºC	TC T type				USB-TC-1
107	1NW2, rpm	Fan speed sensor	1NW1	Fan shaft or support	0 - 2000	USB-4303-1
108	1NW3, rpm	Fan speed sensor	1NW2	Fan shaft or support	0 - 2000	USB-4303-1
109	1NW6, rpm	Fan speed sensor	1NW3	Fan shaft or support	0 - 2000	USB-4303-1
110	1NW7, rpm	Fan speed sensor	1NW4	Fan shaft or support	0 - 2000	USB-4303-1
111	1NW8, rpm	Fan speed sensor	1NW7	Fan shaft or support	0 - 2000	USB-4303-1
112	1NW11, rpm	Fan speed sensor	1NW9	Fan shaft or support	0 - 2000	USB-4303-1
113	1NW12, rpm	Fan speed sensor	1NW12	Fan shaft or support	0 - 2000	USB-4303-1
114	1NW14, rpm	Fan speed sensor	1NW13	Fan shaft or support	0 - 2000	USB-4303-1
115	1NW16, rpm	Fan speed sensor	1NW17	Fan shaft or support	0 - 2000	USB-4303-1
116	1NW17, rpm	Fan speed sensor	1NW18	Fan shaft or support	0 - 2000	USB-4303-1
117	1NW18, rpm	Fan speed sensor	1NW19	Fan shaft or support	0 - 2000	USB-4303-2
118	1SW2, rpm	Fan speed sensor	1SW1	Fan shaft or support	0 - 2000	USB-4303-2
119	1SW3, rpm	Fan speed sensor	1SW2	Fan shaft or support	0 - 2000	USB-4303-2
120	1SW6, rpm	Fan speed sensor	1SW3	Fan shaft or support	0 - 2000	USB-4303-2
121	1SW7, rpm	Fan speed sensor	1SW4	Fan shaft or support	0 - 2000	USB-4303-2
122	1SW8, rpm	Fan speed sensor	1SW7	Fan shaft or support	0 - 2000	USB-4303-2
123	1SW11, rpm	Fan speed sensor	1SW9	Fan shaft or support	0 - 2000	USB-4303-2
124	1SW12, rpm	Fan speed sensor	1SW12	Fan shaft or support	0 - 2000	USB-4303-2
125	1SW14, rpm	Fan speed sensor	1SW13	Fan shaft or support	0 - 2000	USB-4303-2
126	1SW16, rpm	Fan speed sensor	1SW17	Fan shaft or support	0 - 2000	USB-4303-2
127	1SW17, rpm	Fan speed sensor	1SW18	Fan shaft or support	0 - 2000	USB-4303-3
128	1SW18, rpm	Fan speed sensor	1SW19	Fan shaft or support	0 - 2000	USB-4303-3
129	2NW2, rpm	Fan speed sensor	2NW1	Fan shaft or support	0 - 2000	USB-4303-3
130	2NW3, rpm	Fan speed sensor	2NW2	Fan shaft or support	0 - 2000	USB-4303-3
131	2NW6, rpm	Fan speed sensor	2NW3	Fan shaft or support	0 - 2000	USB-4303-3
132	2NW7, rpm	Fan speed sensor	2NW4	Fan shaft or support	0 - 2000	USB-4303-3
133	2NW8, rpm	Fan speed sensor	2NW7	Fan shaft or support	0 - 2000	USB-4303-3

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
134	2NW11, rpm	Fan speed sensor	2NW9	Fan shaft or support	0 - 2000	USB-4303-3
135	2NW12, rpm	Fan speed sensor	2NW12	Fan shaft or support	0 - 2000	USB-4303-3
136	2NW14, rpm	Fan speed sensor	2NW13	Fan shaft or support	0 - 2000	USB-4303-3
137	2NW16, rpm	Fan speed sensor	2NW17	Fan shaft or support	0 - 2000	USB-4303-4
138	2NW17, rpm	Fan speed sensor	2NW18	Fan shaft or support	0 - 2000	USB-4303-4
139	2NW18, rpm	Fan speed sensor	2NW19	Fan shaft or support	0 - 2000	USB-4303-4
140	2SW2, rpm	Fan speed sensor	2SW1	Fan shaft or support	0 - 2000	USB-4303-4
141	2SW3, rpm	Fan speed sensor	2SW2	Fan shaft or support	0 - 2000	USB-4303-4
142	2SW6, rpm	Fan speed sensor	2SW3	Fan shaft or support	0 - 2000	USB-4303-4
143	2SW7, rpm	Fan speed sensor	2SW4	Fan shaft or support	0 - 2000	USB-4303-4
144	2SW8, rpm	Fan speed sensor	2SW7	Fan shaft or support	0 - 2000	USB-4303-4
145	2SW11, rpm	Fan speed sensor	2SW9	Fan shaft or support	0 - 2000	USB-4303-4
146	2SW12, rpm	Fan speed sensor	2SW12	Fan shaft or support	0 - 2000	USB-4303-4
147	2SW14, rpm	Fan speed sensor	2SW13	Fan shaft or support	0 - 2000	USB-4303-5
148	2SW16, rpm	Fan speed sensor	2SW17	Fan shaft or support	0 - 2000	USB-4303-5
149	2SW17, rpm	Fan speed sensor	2SW18	Fan shaft or support	0 - 2000	USB-4303-5
150	2SW18, rpm	Fan speed sensor	2SW19	Fan shaft or support	0 - 2000	USB-4303-5
151	MP-W4, rpm	Fan speed sensor	H W4	Fan shaft or support	0 - 2000	USB-4303-5
152	MP-E4, rpm	Fan speed sensor	H W5	Fan shaft or support	0 - 2000	USB-4303-5
157	B1W-Fstg1, %t	Relay dry contact	B1W-Fstg1	B1 W control panel	on/off	DIO 96H/50-1
158	B1W-Fstg2, %t	Relay dry contact	B1W-Fstg2	B1 W control panel	on/off	DIO 96H/50-1
159	B1W-Fstg3, %t	Relay dry contact	B1W-Fstg3	B1 W control panel	on/off	DIO 96H/50-1
160	B1W-Fstg4, %t	Relay dry contact	B1W-Fstg4	B1 W control panel	on/off	DIO 96H/50-1
161	B1W-Fstg5, %t	Relay dry contact	B1W-Fstg5	B1 W control panel	on/off	DIO 96H/50-1
162	B1W-Fstg6, %t	Relay dry contact	B1W-Fstg6	B1 W control panel	on/off	DIO 96H/50-1
163	B1W-Fstg7, %t	Relay dry contact	B1W-Fstg7	B1 W control panel	on/off	DIO 96H/50-1
164	B1W-Fstg8, %t	Relay dry contact	B1W-Fstg8	B1 W control panel	on/off	DIO 96H/50-1
165	B2W-Fstg1, %t	Relay dry contact	B2W-Fstg1	B2 W control panel	on/off	DIO 96H/50-1
166	B2W-Fstg2, %t	Relay dry contact	B2W-Fstg2	B2 W control panel	on/off	DIO 96H/50-1
167	B2W-Fstg3, %t	Relay dry contact	B2W-Fstg3	B2 W control panel	on/off	DIO 96H/50-1
168	B2W-Fstg4, %t	Relay dry contact	B2W-Fstg4	B2 W control panel	on/off	DIO 96H/50-1

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
169	B2W-Fstg5, %t	Relay dry contact	B2W-Fstg5	B2 W control panel	on/off	DIO 96H/50-1
170	B2W-Fstg6, %t	Relay dry contact	B2W-Fstg6	B2 W control panel	on/off	DIO 96H/50-1
171	B2W-Fstg7, %t	Relay dry contact	B2W-Fstg7	B2 W control panel	on/off	DIO 96H/50-1
172	B2W-Fstg8, %t	Relay dry contact	B2W-Fstg8	B2 W control panel	on/off	DIO 96H/50-1
173	MPFstg1, %t1	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
174	MPFstg2, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
175	MPFstg3, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
176	MPFstg5, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
177	MPFstg7, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
178	MPFstg8, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
179	MPFstg9, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
180	MPCool-1, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
181	MPCool-2, %t	Relay dry contact	MP	MP W control panel	on/off	DIO 96H/50-1
182	MP-CS-Stg1, %t1	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
183	MP-CS-Stg2, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
184	MP-CS-Stg3, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
185	MP-CS-Stg5, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
186	MP-CS-Stg7, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
187	MP-CS-Stg8, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
188	MP-CS-Stg9, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
189	MP-CS-Cool-1, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
190	MP-CS-Cool-2, %t	CR9380-NPN	MP	MP W control panel	on/off	DIO 96H/50-1
191	B1E-Fstg1, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
192	B1E-Fstg2, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
193	B1E-Fstg3, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
194	B1E-Fstg4, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
195	B1E-Fstg5, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
196	B1E-Fstg6, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
197	B1E-Fstg7, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
198	B1E-Fstg8, %t	Relay dry contact	B1-E	B1 E control panel	on/off	DIO 96H/50-1
199	B2E-Fstg1, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1

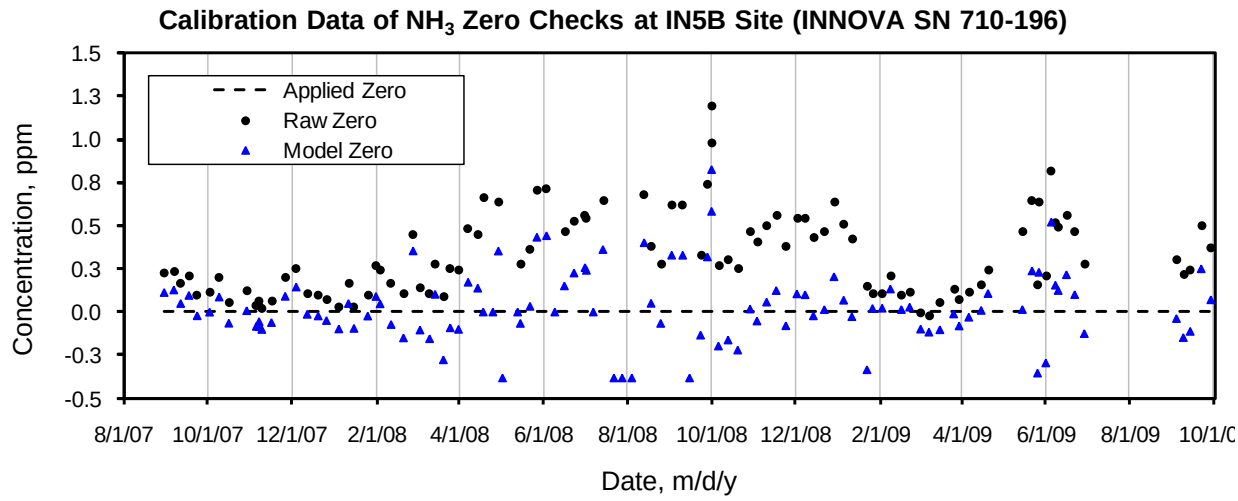
Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range/target	DAC item
200	B2E-Fstg2, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
201	B2E-Fstg3, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
202	B2E-Fstg4, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
203	B2E-Fstg5, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
204	B2E-Fstg6, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
205	B2E-Fstg7, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
206	B2E-Fstg8, %t	Relay dry contact	B2-E	B2 E control panel	on/off	DIO 96H/50-1
207	B1-Cool-1, %t	CR9380-NPN	S-23	Hallway E control panel	on/off	DIO 96H/50-1
208	B1-Cool-2, %t	CR9380-NPN	S-21	Hallway E control panel	on/off	DIO 96H/50-1
209	B1-Cool-3, %t	CR9380-NPN	S-22	Hallway E control panel	on/off	DIO 96H/50-1
210	B1-Cool-4, %t	CR9380-NPN	S-23	Hallway E control panel	on/off	DIO 96H/50-1
211	B2-Cool-1, %t	CR9380-NPN	S-24	Hallway E control panel	on/off	DIO 96H/50-1
212	B2-Cool-2, %t	CR9380-NPN	S-21	Hallway E control panel	on/off	DIO 96H/50-1
213	B2-Cool-3, %t	CR9380-NPN	H W2	Hallway E control panel	on/off	DIO 96H/50-1
214	B1-Cool-4, %t	CR9380-NPN	H W3	Hallway E control panel	on/off	DIO 96H/50-1

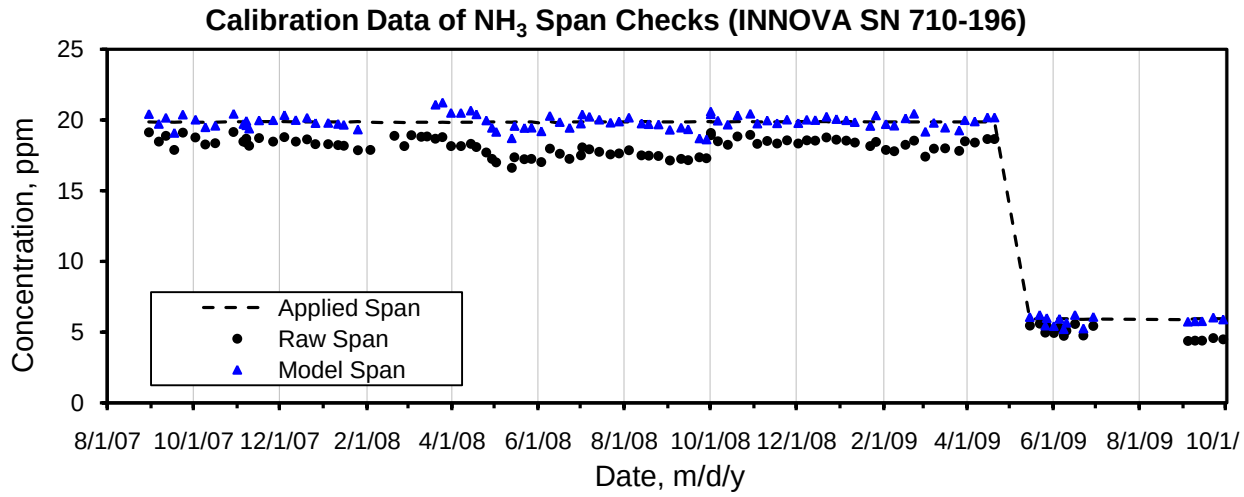
APPENDIX B. MAINTENANCE AND CALIBRATION RECORD

Maintenance and calibration tasks	
Category	**Times completed**
Environment sensing and other	
Clean RH/T probe	69
Calibration check of RH/T probe	17
Calibration check of thermocouples	15
Performance check of weather station	8
Direction verification of wind indicator	6
Clean solar sensor	8
Check solar sensor with collocated sensor	2
Clean motion sensors	24
Air flow measurement system	
Fan test events	3
Zero check of pressure sensors (ΔP)	42
Multipoint calibration of pressures sensors (ΔP)	17
Drift & accuracy check of anemometer(s)	10
Particulate matter measurement system	
Clean TOEM screens	92
Check/clean TEOM inlet head(s)	88
Replace TEOM filters	65
Verify TEOM mass transducer calibration	15
Leak test of TEOM	13
Verify TEOM flow rate & MFC accuracy	15
Change TEOM in-line filters	6
Check/clean Beta Gauge inlet head	66
Check Beta Gauge airflow	12
Validate Beta Gauge mass w/foil set	10
Calibrate Beta Gauge mass & airflow	3
Gas measurement system	
Clean/replace GSS membrane filters	67
Leak check of GSS	21
Calibration check of all lines	11
Replace GSS filters	13
Calibrate GSS pressure and flow sensors	6
flow calibration/check MFC flow of Environics Dilutor	1
Precision check of Multigas Analyzer	101
Multipoint calibration of Multigas Analyzer	11
Precision check of TEC 450I	98
Multipoint calibration of TEC 450I	11

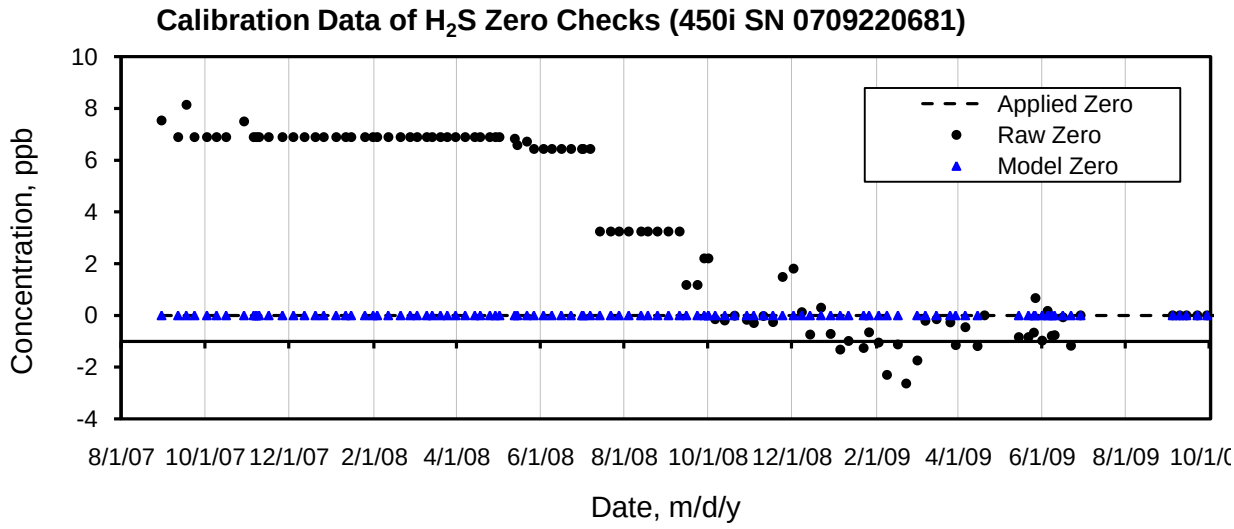
APPENDIX C. GAS ANALYZER ZERO AND SPAN PRECISION CHECKS

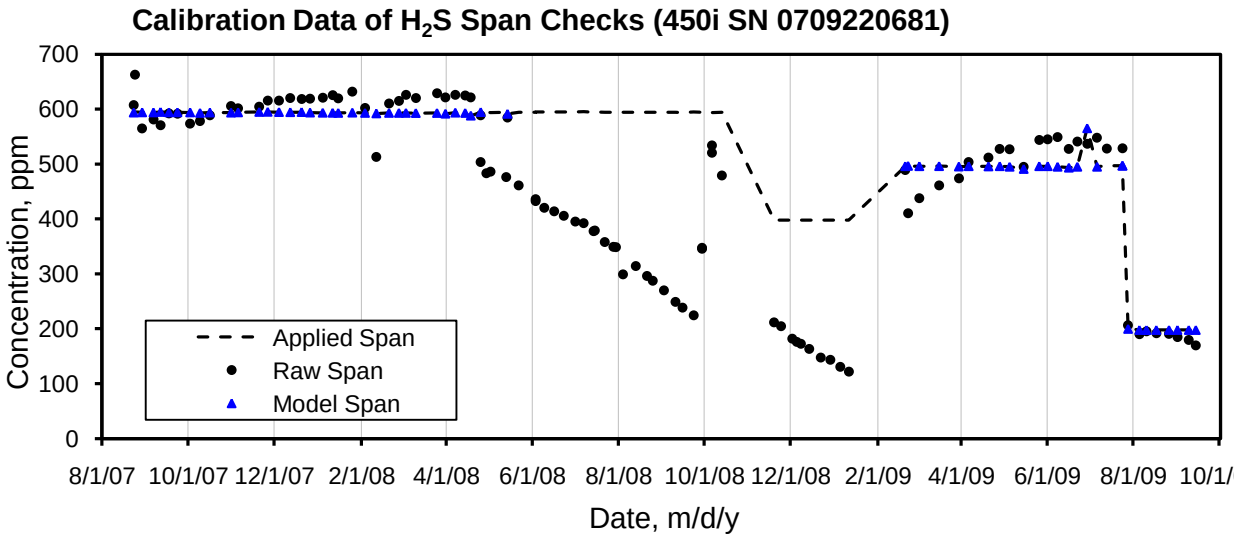
Ammonia



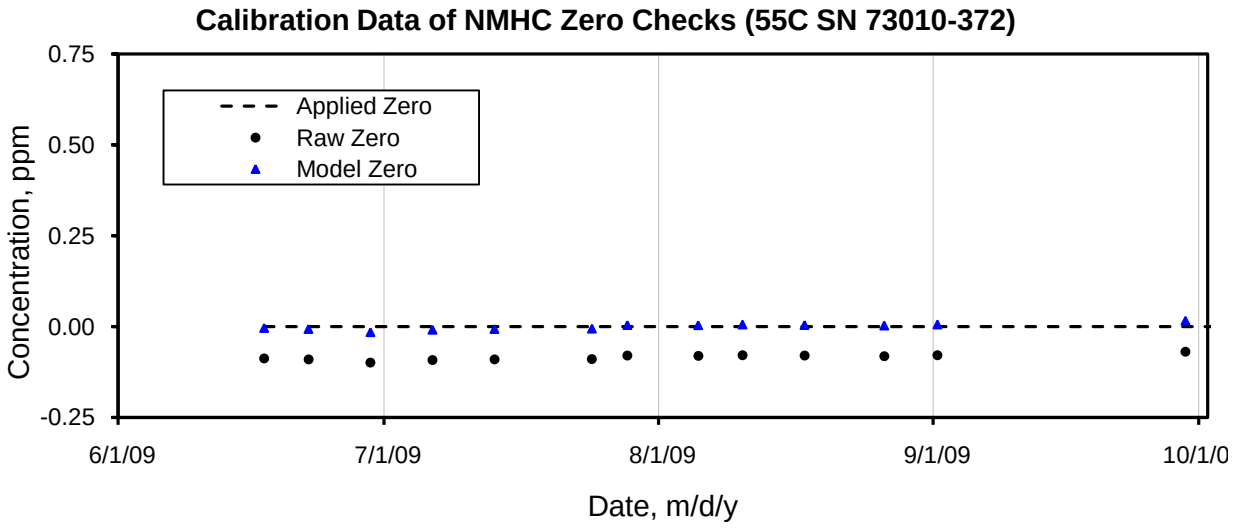


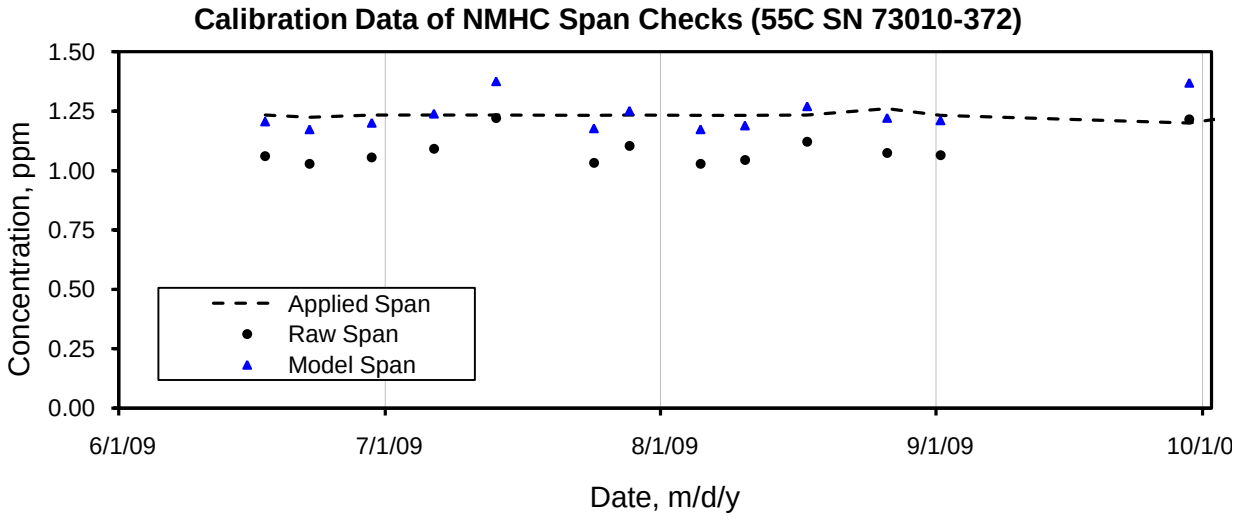
Hydrogen sulfide





Non-methane hydrocarbons (NMHC)





APPENDIX D. BIOMATERIAL CHARACTERISTICS DATA

Table E1. Bedding characteristics (mean±SD).

Barn	Date	n	Percent (wet weight basis)	
			Nitrogen	Solids
1 & 2	11/26/07	12	0.89±0.11	40.2±3.07
1 & 2	5/1//08	6	0.73±0.06	32.9±1.31
1 & 2	8/22/08	6	0.59±0.03	31.1±0.70
1 & 2	1/2/09	6	0.59±0.02	34.0±0.66
1 & 2	10/1/09	6	0.66±0.03	33.0±1.05
1 & 2	11/14/09	6	0.66±0.05	34.0±0.93

Table E2. Feed characteristics (mean±SD).

Barn	Date	n	Percent (wet weight basis)		
			Nitrogen	Solids	Ash
1	11/26/08	6	1.22±0.17	46.4±1.60	-
1	5/1/08	6	1.71±0.53	44.4±1.88	-
1	10/1/08	6	1.18±0.11	48.5±2.09	3.60±0.16
1	11/14/09	6	1.12±0.08	45.0±1.05	3.50±0.37
1	1/12/09	6	1.23±0.09	45.3±2.18	3.40±0.16
1	2/11/09	6	1.32±0.09	42.4±3.57	3.20±0.25
1	4/23/09	6	1.10±0.08	45.7±2.32	3.10±0.24
1	8/11/09	6	1.07±0.15	-	3.20±0.15
1	11/24/09	7	0.85±0.08	-	3.45±0.79
1	1/20/10	2	0.97±0.10	41.1±0.14	-
2	11/26/08	6	1.42±0.22	43.9±2.74	-
2	5/1/08	6	1.77±0.22	43.9±2.74	-
2	9/4/08	6	1.19±0.23	43.8±1.69	-
2	10/1/08	6	1.09±0.16	47.2±0.95	-
2	11/14/09	6	1.19±0.14	46.9±1.76	-
2	1/12/09	6	1.24±0.13	44.4±1.79	-
2	2/11/09	6	1.35±0.16	43.8±1.20	3.20±0.15
2	4/23/09	6	0.97±0.08	45.1±1.22	3.00±0.31
2	8/11/09	6	0.87±0.18	-	3.10±0.41
2	10/15/09	6	0.92±0.17	-	2.90±0.35
2	11/24/09	5	0.88±0.10	-	2.94±0.27
2	1/20/10	4	0.98±0.04	43.0±2.24	-

Table E3. Manure characteristics (mean±SD).

Barn	Date	n	pH (SU)	Percent (wet weight basis)			
				Nitrogen	Solids	Ammonia	Ash
1	11/26/07	6	8.02±0.08	0.50±0.03	12.8±1.74	0.21±0.02	-
1	4/8/08	4	7.37±0.04	0.51±0.07	11.4±2.39	0.33±0.25	-
1	8/22/08	4	8.12±0.37	0.35±0.06	11.9±1.70	0.17±0.03	-
1	10/1/08	4	8.33±0.20	0.45±0.02	12.4±0.18	0.24±0.02	2.18±0.13
1	11/19/08	4	7.73±0.20	0.53±0.04	12.8±0.84	0.29±0.04	2.14±0.12
1	1/12/09	4	7.76±0.21	0.39±0.05	12.2±0.40	0.22±0.04	2.79±0.95
1	3/9/09	3	7.84±0.18	0.33±0.23	13.0±9.23	0.19±0.10	1.58±0.87
1	4/23/09	4	8.01±0.10	0.53±0.04	13.8±1.34	0.23±0.03	2.24±0.09
1	6/29/09	8	7.24±0.12	0.45±0.03	12.6±1.21	0.17±0.05	2.27±0.37
1	8/11/09	4	7.22±0.15	0.42±0.03	10.8±1.03	0.12±0.02	1.91±0.17
1	10/15/09	4	8.05±0.09	0.46±0.05	9.95±0.68	0.23±0.04	1.92±0.18
1	10/24/09	4	7.45±0.07	0.40±0.15	10.3±1.91	0.15±0.09	1.89±0.25
1	1/20/10	4	7.48±0.19	0.47±0.04	11.7±0.85	0.22±0.05	-
2	11/26/07	6	7.93±0.12	0.49±0.03	12.1±1.18	0.21±0.01	-
2	4/8/08	4	7.63±0.47	0.47±0.07	10.6±1.12	0.20±0.07	-
2	8/22/08	4	7.87±0.25	0.35±0.03	11.1±0.62	0.17±0.03	-
2	10/1/08	4	7.90±0.12	0.44±0.04	12.8±0.74	0.22±0.04	2.06±0.29
2	11/19/08	4	7.39±0.16	0.61±0.14	13.9±1.95	0.20±0.06	2.10±0.16
2	1/12/09	4	7.64±0.41	0.44±0.07	9.93±4.96	0.24±0.04	2.04±0.14
2	3/9/09	4	7.81±0.06	0.44±0.02	14.1±4.11	0.18±0.11	2.03±0.15
2	4/23/09	4	8.22±0.27	0.54±0.03	12.3±1.61	0.31±0.07	2.15±0.18
2	8/11/09	4	7.48±0.19	0.41±0.05	10.2±1.24	0.17±0.03	1.78±0.27
2	10/15/09	4	7.58±0.46	0.41±0.06	12.0±0.83	0.17±0.10	1.98±0.29
2	10/24/09	4	7.58±0.15	0.49±0.14	9.49±1.51	0.22±0.08	1.88±0.39
2	1/20/10	4	7.41±0.23	0.50±0.04	10.9±1.07	0.26±0.04	-
MC	4/8/08	5	7.30±0.34	0.24±0.03	2.04±0.79	0.03±0.00	-
MC	8/22/08	4	8.05±0.19	0.12±0.03	2.01±0.46	0.04±0.01	-
MC	10/1/08	4	7.83±0.03	0.16±0.02	2.82±0.28	0.04±0.00	0.31±0.06
MC	11/19/08	4	7.29±0.03	0.21±0.03	1.67±0.13	0.07±0.01	0.44±0.03
MC	1/12/09	4	7.46±0.46	0.19±0.02	2.91±0.80	0.05±0.01	0.56±0.06
MC	3/9/09	4	7.64±0.05	0.09±0.01	2.78±0.21	0.08±0.01	0.55±0.15
MC	4/23/09	5	6.70±0.38	0.30±0.04	11.7±1.00	0.04±0.01	2.27±0.31
MC	6/29/09	5	7.28±0.10	0.14±0.01	2.59±0.54	0.06±0.01	0.56±0.12
MC	8/11/09	5	7.28±0.18	0.28±0.06	8.85±.71	0.03±0.01	1.27±0.10
MC	10/15/09	5	7.35±0.16	0.31±0.04	10.7±0.92	0.08±0.02	1.59±0.29
MC	10/24/09	5	7.25±0.06	0.14±0.00	2.68±0.14	0.06±0.00	0.60±0.02
MC	1/20/10	5	7.66±0.16	0.15±0.00	2.91±0.01	0.06±0.00	-

Table E4. Milk characteristics (mean±SD).

Barn	Date	n	Percent (wet weight basis)
			Nitrogen
Milk tank	11/26/08	12	0.48±0.03
Milk tank	5/1/08	6	052±0.02
Milk tank	8/22/08	6	0.42±0.02
Milk tank	10/1/08	6	0.41±0.06
Milk tank	11/19/08	6	0.55±0.07
Milk tank	1/12/09	6	0.49±0.03

APPENDIX F. DAILY MEAN DATA

Table F1. Weather variables.

Table F1. Daily means (SD) of weather parameters at Site IN5B for September, 2007.

Day	Temp., ºC	RH, %	Wind spd, $m \cdot s^{-1}$	Wind dir., °	Solar, $W \cdot m^{-2}$	Atm P, kPa
1	21.3 (4.9)	65.0 (17.5)	1.11 (0.77)		251 (311)	100.0 (0.1)
2	23.0 (5.2)	64.7 (17.0)	0.79 (0.52)		248 (313)	99.9 (0.1)
3	22.7 (4.7)	72.1 (10.5)	0.83 (0.65)		242 (303)	99.7 (0.1)
4	24.3 (5.1)	67.0 (17.4)	0.61 (0.61)		237 (307)	99.4 (0.1)
5	26.3 (5.5)	61.6 (15.5)	0.91 (0.82)		195 (269)	99.3 (0.1)
6	25.1 (2.2)	73.9 (6.5)	2.27 (1.64)		100 (181)	99.4 (0.1)
7	25.6 (2.7)	74.4 (10.0)	4.13 (2.30)		128 (240)	98.8 (0.4)
8	23.5 (2.8)	80.2 (7.4)	1.60 (0.81)		98 (179)	98.7 (0.1)
9	22.7 (2.9)	72.8 (17.5)	2.45 (1.38)		202 (298)	98.8 (0.2)
10	20.8 (3.8)	77.0 (14.4)	1.86 (1.46)		166 (251)	98.8 (0.2)
11	17.3 (2.7)	70.5 (16.3)	3.48 (1.43)		206 (286)	98.6 (0.2)
12	15.3 (4.4)	63.4 (13.9)	1.68 (0.60)	332 (120)	225 (294)	99.1 (0.1)
13	18.2 (5.8)	59.3 (22.0)	1.93 (1.17)	161 (46)	243 (301)	98.9 (0.3)
14	16.5 (2.7)	57.6 (12.4)	3.59 (1.40)	287 (45)	205 (291)	98.8 (0.3)
15	12.6 (4.2)	55.8 (14.2)	1.83 (1.05)	344 (124)	226 (294)	99.7 (0.1)
16	15.3 (5.4)	55.2 (19.9)	1.73 (1.09)	148 (36)	229 (288)	99.5 (0.1)
17	18.7 (5.9)	55.4 (11.5)	2.87 (1.34)	150 (17)	160 (244)	99.3 (0.1)
18	23.8 (5.7)	59.4 (11.8)	2.96 (1.25)	170 (23)	216 (275)	99.2 (0.1)
19	23.6 (3.4)	70.9 (6.8)	1.95 (0.94)	264 (85)	192 (265)	99.2 (0.1)
20	23.2 (4.4)	69.0 (14.5)	0.91 (0.53)	22 (129)	209 (285)	99.2 (0.2)
21	25.3 (4.6)	59.8 (15.9)	1.79 (1.47)	218 (84)	187 (258)	98.5 (0.2)
22	21.0 (3.4)	56.2 (10.5)	1.55 (0.83)	355 (145)	224 (295)	99.0 (0.3)
23	21.8 (7.6)	54.8 (17.3)	1.32 (0.69)	83 (41)	212 (284)	99.3 (0.2)
24	26.6 (5.2)	58.9 (10.1)	3.25 (2.41)	170 (68)	178 (254)	98.9 (0.2)
25	24.5 (1.6)	78.5 (5.9)	4.41 (1.30)	218 (14)	60 (104)	98.7 (0.1)
26	18.4 (2.7)	78.7 (11.0)	2.16 (1.39)	10 (125)	115 (193)	98.8 (0.1)
27	18.0 (3.2)	73.3 (16.1)	1.27 (0.86)	261 (95)	144 (237)	98.7 (0.1)
28	17.1 (4.5)	60.6 (15.8)	2.13 (1.02)	343 (119)	196 (275)	99.3 (0.2)
29	18.6 (6.1)	54.7 (19.0)	3.20 (1.56)	151 (33)	168 (242)	99.6 (0.1)
30	21.1 (6.2)	51.3 (15.6)	5.18 (2.86)	175 (25)	185 (267)	99.3 (0.2)
Avg	21.1	65.1	2.19	214.0	188	99.1
n	30	30	30	19	30	30
SD	3.6	8.5	1.14	100.0	48	0.4
Min	12.6	51.3	0.61	10.0	60	98.5
Max	26.6	80.2	5.18	355.0	251	100.0

Table F1. Daily means (SD) of weather parameters at Site IN5B for October, 2007.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	18.3 (1.4)	82.5 (8.0)	4.55 (1.65)	221 (34)	25 (67)	98.9 (0.1)
2	21.1 (4.2)	72.4 (18.3)	4.24 (2.31)	194 (36)	148 (240)	98.7 (0.3)
3	19.8 (2.8)	65.1 (17.7)	2.62 (2.80)	288 (103)	190 (274)	98.6 (0.3)
4						
5						
6	25.9 (3.6)	71.7 (13.2)	2.85 (1.00)	204 (29)	152 (238)	99.0 (0.1)
7	26.4 (3.9)	67.0 (13.7)	1.59 (0.90)	186 (40)	158 (246)	98.9 (0.1)
8	25.0 (4.1)	67.3 (15.1)	3.14 (2.17)	203 (57)	129 (209)	98.6 (0.2)
9						
10						
11						
12						
13						
14						
15						
16	18.5 (1.1)	76.2 (7.7)	3.81 (1.21)	209 (35)	63 (119)	98.3 (0.1)
17	17.9 (4.5)	75.6 (16.0)	3.90 (2.17)	144 (27)	117 (199)	98.3 (0.4)
18	21.3 (2.8)	78.0 (12.9)	7.82 (2.74)	186 (32)	116 (197)	96.7 (0.3)
19	14.5 (1.0)	76.0 (5.0)	6.76 (1.68)	241 (18)	21 (61)	97.0 (0.3)
20	16.1 (4.7)	60.6 (15.2)	5.08 (1.34)	221 (26)	154 (230)	97.9 (0.2)
21	19.9 (3.5)	51.9 (9.7)	8.29 (2.74)	196 (5)	144 (223)	98.2 (0.1)
22	14.6 (2.7)	76.8 (8.7)		247 (112)		98.6 (0.1)
23	10.7 (1.0)	83.3 (4.5)	2.94 (1.51)	345 (143)	29 (125)	98.4 (0.1)
24	10.0 (1.3)	70.0 (4.6)	5.25 (2.35)	7 (144)	91 (185)	99.0 (0.4)
25	10.1 (4.3)	71.0 (10.1)	4.84 (1.92)	55 (17)	110 (216)	99.2 (0.2)
26	14.0 (3.2)	79.5 (11.2)	2.16 (1.42)	107 (78)	71 (181)	98.8 (0.1)
27	11.2 (2.4)	82.4 (9.2)	3.45 (1.73)	281 (94)	15 (81)	99.4 (0.5)
28	8.7 (4.5)	62.4 (20.1)	1.01 (0.73)	255 (86)	124 (219)	100.5 (0.1)
29	8.4 (4.3)	63.7 (12.1)	3.07 (2.01)	211 (31)	118 (212)	100.1 (0.2)
30	11.1 (5.2)	65.0 (13.7)	4.75 (4.05)	185 (32)	117 (211)	99.5 (0.3)
31	12.3 (2.8)	67.5 (8.8)		241 (37)	40 (114)	98.8 (0.2)
Avg	16.2	71.2	4.11	217.0	101	98.7
n	22	22	20	22	21	22
SD	5.5	7.9	1.86	72.0	51	0.8
Min	8.4	51.9	1.01	7.0	15	96.7
Max	26.4	83.3	8.29	345.0	190	100.5

Table F1. Daily means (SD) of weather parameters at Site IN5B for November, 2007.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	7.2 (4.1)	53.9 (16.0)	1.97 (1.19)	296 (98)	126 (212)	99.5 (0.1)
2	8.0 (4.9)	57.0 (14.2)	1.71 (1.32)	170 (43)	124 (208)	99.4 (0.1)
3	9.4 (3.2)	51.6 (12.1)	2.25 (1.55)	286 (51)	122 (206)	99.1 (0.1)
4						
5						
6	4.4 (2.2)	56.7 (7.4)	6.05 (2.10)	301 (17)	52 (143)	99.0 (0.4)
7	3.4 (2.2)	58.4 (8.2)	2.37 (0.93)	256 (54)	91 (183)	99.4 (0.3)
8	7.5 (3.1)	58.0 (7.5)	3.34 (1.68)	217 (52)	69 (164)	98.4 (0.2)
9	5.9 (2.3)	67.2 (10.8)	3.05 (1.50)	306 (61)	79 (173)	98.7 (0.2)
10	6.6 (3.3)	68.6 (9.2)	1.94 (0.93)	207 (77)	64 (166)	99.2 (0.2)
11	8.9 (2.5)	79.8 (5.6)	4.80 (1.36)	167 (23)	-10 (39)	98.6 (0.2)
12	14.6 (2.1)	85.0 (5.6)	3.63 (1.66)	251 (95)	-2 (62)	98.7 (0.1)
13	11.3 (3.3)	75.4 (12.1)	2.52 (1.98)	196 (76)	91 (184)	98.5 (0.4)
14						
15	3.5 (1.2)	63.4 (7.2)	4.69 (2.13)	294 (18)	32 (99)	98.7 (0.3)
16	1.5 (2.9)	72.7 (8.2)	2.37 (0.97)	199 (54)	36 (102)	98.7 (0.3)
17	4.6 (2.1)	76.2 (6.3)	2.30 (0.96)	80 (61)	19 (98)	98.3 (0.3)
18	4.6 (1.1)	79.6 (5.0)	3.30 (0.89)	89 (38)	14 (69)	99.4 (0.2)
19	10.8 (4.8)	86.6 (2.1)	5.42 (1.94)	176 (35)	-9 (37)	98.6 (0.4)
20	15.3 (1.4)	87.2 (2.9)	3.95 (1.81)	207 (59)	-3 (58)	98.4 (0.2)
21	7.5 (2.8)	90.2 (1.0)	5.86 (1.41)	19 (110)	-22 (26)	98.1 (0.1)
22	1.2 (1.5)	80.5 (6.7)	5.64 (1.74)	311 (78)	6 (57)	99.2 (0.5)
23	-1.6 (1.5)	73.7 (8.2)	2.89 (1.17)	263 (46)	79 (172)	99.9 (0.1)
24	-0.3 (1.8)	77.3 (7.2)	3.67 (1.51)	216 (17)	59 (143)	99.6 (0.2)
25	0.4 (1.6)	85.2 (3.6)	2.28 (0.77)	202 (22)	5 (66)	99.1 (0.3)
26	2.3 (1.2)	89.0 (2.8)	2.25 (1.13)	316 (119)	-14 (35)	98.5 (0.2)
27	0.8 (2.3)	70.2 (13.8)	3.84 (2.08)	263 (75)	75 (161)	99.5 (0.3)
28	3.9 (4.8)	69.7 (9.6)	6.19 (1.98)	184 (52)	22 (91)	98.9 (0.5)
29	-1.5 (2.4)	63.2 (6.7)	5.80 (2.23)	260 (24)	73 (161)	99.3 (0.3)
30	-0.3 (2.1)	57.9 (11.9)	4.84 (2.38)	270 (39)	77 (162)	99.7 (0.3)
Avg	5.2	71.6	3.66	242.0	47	99.0
n	27	27	27	27	27	27
SD	4.5	11.6	1.43	73.0	44	0.5
Min	-1.6	51.6	1.71	19.0	-22	98.1
Max	15.3	90.2	6.19	316.0	126	99.9

Table F1. Daily means (SD) of weather parameters at Site IN5B for December, 2007.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	-2.2 (2.3)	69.3 (10.1)	4.58 (2.58)	122 (56)	-13 (32)	99.5 (0.8)
2	6.1 (5.1)	83.4 (4.5)	6.61 (2.23)	232 (51)	-13 (35)	97.9 (0.3)
3	-2.3 (2.0)	77.1 (4.5)	5.76 (2.30)	282 (8)	61 (156)	99.3 (0.2)
4	-0.1 (1.4)	82.2 (6.6)	1.61 (0.79)	85 (101)	14 (78)	98.3 (0.4)
5	-3.5 (2.3)	81.7 (7.5)	4.97 (1.79)	7 (129)	60 (156)	98.3 (0.7)
6	-7.1 (3.6)	80.2 (5.4)	1.85 (1.01)	183 (54)	52 (143)	99.2 (0.2)
7	-0.2 (1.1)	87.6 (2.1)	2.54 (0.64)	248 (37)	13 (73)	99.0 (0.2)
8	-1.1 (1.1)	80.3 (4.1)	2.48 (0.72)	13 (132)	13 (77)	99.7 (0.2)
9	-1.0 (0.6)	87.3 (2.5)	2.06 (1.45)	45 (55)	-18 (25)	99.5 (0.1)
10						
11	1.7 (0.8)	93.0 (0.6)	1.65 (1.08)	15 (113)	-24 (17)	98.9 (0.2)
12	2.8 (1.2)	77.6 (7.5)	2.56 (1.02)	62 (112)		99.3 (0.2)
13	1.3 (1.0)	86.6 (2.8)	4.55 (2.21)	252 (52)	-16 (30)	98.8 (0.2)
14	-1.2 (0.9)	78.2 (5.9)	2.83 (0.90)	347 (131)	41 (123)	99.6 (0.2)
15	-1.8 (0.6)	87.0 (4.7)	4.34 (1.57)	52 (36)	-11 (39)	98.6 (0.7)
16	-4.5 (2.1)	84.5 (7.1)	6.71 (1.54)	303 (82)	63 (155)	98.1 (0.7)
17	-5.7 (1.0)	88.0 (1.4)	4.57 (1.19)	230 (33)	29 (100)	99.3 (0.1)
18	-0.5 (3.2)	81.5 (4.4)	4.65 (1.60)	193 (23)	52 (136)	98.7 (0.3)
19	-2.7 (2.8)	82.3 (5.6)	2.19 (1.00)	250 (61)	63 (152)	98.9 (0.3)
20	0.2 (2.8)	78.2 (5.1)	4.45 (1.30)	114 (10)	45 (124)	98.6 (0.2)
21	3.1 (0.5)	81.9 (5.4)	2.67 (0.70)	113 (10)	4 (60)	98.5 (0.1)
22			5.28 (1.77)	150 (16)	-13 (35)	98.1 (0.5)
23			11.20 (2.38)	241 (27)	12 (77)	97.6 (0.6)
24			5.79 (1.71)	252 (10)	-18 (24)	98.7 (0.3)
25			2.86 (0.82)	184 (40)		99.1 (0.1)
26			2.00 (0.76)	151 (35)	58 (146)	98.6 (0.3)
27			2.06 (1.13)	272 (88)	-15 (30)	98.7 (0.4)
28			5.23 (1.94)	142 (76)	-18 (27)	98.3 (0.5)
29			3.99 (1.95)	244 (44)	-5 (44)	98.9 (0.2)
30			2.55 (0.91)	144 (14)	25 (103)	98.4 (0.3)
31			2.60 (1.39)	177 (88)	16 (82)	97.9 (0.2)
Avg	-0.9	82.4	3.90	196.0	16	98.8
n	20	20	30	30	28	30
SD	3.0	5.1	2.03	92.0	30	0.5
Min	-7.1	69.3	1.61	7.0	-24	97.6
Max	6.1	93.0	11.20	347.0	63	99.7

Table F1. Daily means (SD) of weather parameters at Site IN5B for January, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1			7.06 (1.06)	284 (9)	28 (97)	99.0 (0.5)
2			4.64 (1.31)	278 (13)	39 (114)	100.5 (0.4)
3			3.52 (2.09)	202 (28)	62 (152)	100.6 (0.4)
4			6.00 (1.14)	198 (11)	61 (154)	99.4 (0.3)
5			6.40 (1.19)	197 (7)	-4 (48)	98.4 (0.2)
6			6.87 (1.52)	191 (13)	-17 (26)	98.0 (0.1)
7			6.84 (1.50)	206 (17)	12 (89)	98.2 (0.1)
8			5.47 (2.15)	216 (59)	-2 (56)	97.5 (0.3)
9						
10						
11			5.68 (2.16)	259 (10)	-20 (25)	97.6 (0.5)
12			3.13 (1.29)	152 (31)	40 (132)	98.5 (0.1)
13			4.96 (1.82)	264 (26)	-17 (28)	98.4 (0.1)
14			6.21 (1.24)	280 (9)	-7 (45)	98.7 (0.1)
15			3.17 (1.11)	248 (50)	53 (142)	99.0 (0.1)
16			3.94 (1.41)	156 (15)	56 (140)	99.0 (0.1)
17			6.28 (2.48)	203 (45)	-19 (25)	98.2 (0.3)
18			6.16 (1.64)	249 (29)	73 (168)	98.8 (0.2)
19			5.75 (1.27)	289 (8)		99.5 (0.1)
20						
21						
22						
23			2.77 (0.92)	271 (54)	56 (135)	98.8 (0.1)
24			3.82 (1.27)	280 (21)	92 (189)	99.7 (0.5)
25			2.92 (1.26)	180 (34)	67 (169)	100.0 (0.4)
26		75.0 (4.1)	5.17 (1.47)	222 (40)	19 (77)	98.6 (0.2)
27		70.1 (8.3)	1.96 (1.00)	226 (67)	89 (185)	98.9 (0.1)
28		70.1 (7.0)	6.60 (2.47)	176 (15)	0 (55)	97.8 (0.7)
29		81.7 (6.9)	9.86 (2.35)	217 (39)	-22 (21)	96.4 (0.5)
30		61.9 (4.5)	6.05 (4.01)	261 (51)	96 (192)	98.9 (0.7)
31		66.9 (9.0)	4.50 (1.80)	79 (13)	7 (70)	99.5 (0.5)
Avg		71.0	5.22	227.0	30	98.8
n	0	6	26	26	25	26
SD		6.2	1.71	50.0	38	0.9
Min		61.9	1.96	79.0	-22	96.4
Max		81.7	9.86	289.0	96	100.6

Table F1. Daily means (SD) of weather parameters at Site IN5B for February, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1		77.3 (4.2)	5.11 (1.37)	334 (122)	33 (117)	98.2 (0.4)
2		76.9 (1.9)	4.40 (1.20)	202 (48)	50 (137)	98.8 (0.2)
3		82.2 (2.4)	3.62 (1.61)	83 (95)	39 (114)	99.0 (0.3)
4			4.54 (1.49)	136 (54)	17 (84)	97.9 (0.4)
5			4.34 (2.16)	22 (112)	-13 (31)	97.9 (0.3)
6			6.32 (1.57)	4 (114)	-21 (25)	96.9 (0.4)
7			3.20 (1.19)	254 (41)	4 (62)	98.3 (0.2)
8						
9			7.08 (2.29)	258 (24)	53 (149)	97.9 (0.3)
10			8.88 (2.48)	291 (8)	96 (191)	99.6 (0.5)
11			2.74 (1.52)	67 (100)	16 (76)	99.8 (0.3)
12			3.89 (1.37)	22 (123)	11 (62)	98.4 (0.3)
13			2.87 (1.12)	265 (64)		98.5 (0.1)
14			5.85 (1.67)	204 (23)	64 (159)	98.5 (0.2)
15			3.61 (1.63)	305 (45)	119 (221)	99.5 (0.4)
16			2.43 (1.38)	152 (56)	130 (227)	99.1 (0.6)
17			8.50 (3.15)	201 (54)	9 (102)	96.5 (0.6)
18			8.93 (2.50)	267 (11)	108 (215)	97.7 (0.4)
19			5.82 (2.35)	261 (19)	91 (198)	98.7 (0.1)
20			4.00 (2.00)	344 (141)	133 (244)	99.3 (0.5)
21	-8.1 (1.6)	68.1 (9.4)	3.38 (1.66)	91 (68)	31 (96)	99.3 (0.5)
22	-3.7 (1.7)	67.5 (6.7)	3.26 (1.10)	24 (121)	71 (171)	98.4 (0.1)
23	-2.4 (3.1)	67.6 (10.6)	2.04 (1.04)	264 (73)	105 (226)	98.9 (0.2)
24	-1.9 (2.7)	72.3 (5.9)	3.29 (1.59)	227 (29)	92 (196)	98.9 (0.2)
25	0.3 (0.5)	82.2 (2.7)	4.04 (1.58)	187 (60)	-13 (35)	98.1 (0.3)
26	-2.4 (2.5)	75.3 (10.7)	6.49 (3.12)	345 (150)	104 (204)	97.9 (0.4)
27	-7.0 (1.8)	64.0 (7.3)	4.37 (1.37)	292 (16)	130 (236)	98.7 (0.2)
28	-7.1 (3.2)	66.1 (11.2)	2.48 (1.28)	183 (82)	140 (253)	99.2 (0.1)
29						
Avg	-4.1	72.7	4.65	274.0	62	98.5
n	8	11	27	27	26	27
SD	2.8	6.2	1.93	104.0	50	0.8
Min	-8.1	64.0	2.04	4.0	-21	96.5
Max	0.3	82.2	8.93	345.0	140	99.8

Table F1. Daily means (SD) of weather parameters at Site IN5B for March, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1						
2	7.0 (3.9)	70.9 (3.8)	5.47 (1.41)	154 (18)	95 (183)	98.1 (0.3)
3	4.9 (5.4)	76.8 (6.7)	5.85 (2.32)	295 (113)	-18 (29)	97.9 (0.4)
4	-2.0 (0.7)	70.6 (6.6)	6.35 (1.40)	30 (87)	1 (52)	98.0 (0.3)
5	-0.8 (2.2)	71.1 (7.7)	2.55 (1.10)	240 (57)	131 (243)	98.3 (0.2)
6	-0.2 (1.5)	68.0 (9.4)	3.35 (1.21)	287 (31)	113 (234)	99.0 (0.3)
7	-3.4 (1.1)	64.6 (3.8)	6.38 (1.93)	18 (121)	87 (202)	99.1 (0.2)
8	-5.3 (1.0)	61.0 (4.8)	4.71 (1.86)	335 (142)	104 (218)	98.6 (0.2)
9	-0.4 (3.2)	66.0 (5.5)	2.60 (1.54)	191 (54)	79 (190)	99.3 (0.1)
10	-0.1 (0.8)	75.7 (5.7)	2.20 (1.32)	340 (138)	26 (82)	99.6 (0.1)
11						
12	5.5 (2.8)	63.8 (11.0)	3.29 (1.46)	112 (76)		98.1 (0.3)
13	8.6 (4.2)	64.9 (12.8)	4.27 (1.44)	244 (42)	160 (274)	97.6 (0.2)
14	9.4 (4.0)	59.9 (17.5)	2.42 (1.07)	279 (82)	158 (252)	97.5 (0.1)
15	2.9 (1.7)	67.9 (5.4)	4.04 (1.52)	18 (132)	27 (105)	98.1 (0.3)
16	0.4 (1.7)	66.9 (7.7)	4.06 (1.04)	17 (131)	174 (289)	99.6 (0.4)
17	1.8 (1.2)	73.4 (8.7)	5.42 (1.52)	112 (17)	19 (94)	99.6 (0.5)
18	6.8 (2.4)	86.0 (3.4)	4.04 (1.44)	180 (100)	-22 (25)	98.0 (0.3)
19	3.3 (0.9)	75.1 (7.4)	5.07 (2.38)	351 (160)	46 (105)	98.0 (0.2)
20	4.8 (3.8)	58.3 (14.3)	2.65 (0.97)	320 (113)	197 (299)	99.1 (0.3)
21	2.5 (2.2)	70.5 (9.9)	5.52 (2.04)	85 (46)	31 (115)	98.7 (0.5)
22	0.5 (1.9)	70.4 (13.2)	3.76 (1.49)	9 (153)	113 (221)	99.1 (0.4)
23	1.0 (2.1)	66.1 (10.3)	2.27 (1.24)	315 (121)	103 (217)	99.4 (0.1)
24	1.6 (2.9)	60.2 (13.7)	2.39 (1.48)	267 (107)	157 (276)	99.5 (0.2)
25	6.7 (4.4)	56.2 (7.4)	9.09 (4.04)	226 (37)	119 (216)	98.3 (0.4)
26	7.2 (3.7)	56.8 (13.2)	2.10 (1.12)	264 (58)	154 (253)	98.8 (0.1)
27	4.0 (2.1)	75.4 (10.5)	5.18 (1.84)	39 (46)	-8 (67)	98.2 (0.2)
28	1.3 (1.6)	67.5 (11.0)	5.08 (1.82)	22 (109)	203 (308)	99.1 (0.5)
29	2.3 (3.9)	60.3 (12.6)	4.44 (2.10)	88 (32)	189 (290)	99.7 (0.2)
30	5.2 (3.9)	77.0 (8.2)	4.14 (1.71)	118 (20)	12 (80)	99.0 (0.2)
31	13.7 (0.9)	85.7 (2.6)	7.53 (2.74)	185 (9)	-15 (31)	98.0 (0.5)
Avg	3.1	68.5	4.35	336.0	87	98.7
n	29	29	29	29	28	29
SD	4.0	7.6	1.68	115.0	71	0.7
Min	-5.3	56.2	2.10	9.0	-22	97.5
Max	13.7	86.0	9.09	351.0	203	99.7

Table F1. Daily means (SD) of weather parameters at Site IN5B for April, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	5.8 (3.1)	73.2 (6.5)	6.42 (3.68)	279 (74)	3 (61)	98.6 (0.9)
2	4.5 (3.1)	59.9 (15.5)	2.37 (1.59)	132 (39)	200 (293)	99.9 (0.2)
3	7.1 (4.3)	55.4 (15.6)	3.75 (1.58)	96 (38)	153 (288)	98.7 (0.5)
4	5.6 (2.1)	74.6 (13.1)	4.59 (2.04)	359 (147)	40 (124)	98.0 (0.2)
5	9.9 (5.2)	56.5 (16.9)	2.21 (0.81)	192 (46)	210 (304)	98.5 (0.1)
6	11.3 (4.4)	55.5 (12.7)	3.15 (1.33)	138 (20)	201 (299)	98.4 (0.2)
7	11.1 (2.6)	61.0 (13.4)	4.55 (1.92)	254 (48)	218 (317)	98.3 (0.2)
8	11.2 (4.9)	66.3 (11.1)	4.86 (2.41)	101 (93)	73 (163)	98.4 (0.4)
9	7.6 (2.3)	71.7 (7.3)	3.76 (2.58)	307 (108)		98.9 (0.3)
10	7.8 (2.9)	82.3 (3.9)	7.20 (2.11)	100 (20)	-7 (41)	98.1 (0.7)
11	12.8 (3.8)	71.0 (11.3)	8.33 (2.59)	211 (40)	152 (281)	96.8 (0.1)
12	3.8 (1.2)	80.1 (3.6)	7.05 (1.77)	266 (60)	17 (68)	97.4 (0.4)
13	2.9 (1.1)	73.3 (9.5)	5.42 (1.71)	357 (163)	108 (217)	98.5 (0.4)
14	4.9 (3.4)	59.2 (17.2)	2.64 (1.45)	356 (162)	231 (328)	99.3 (0.2)
15	7.7 (5.3)	52.1 (14.1)	4.57 (3.03)	195 (40)	242 (322)	99.2 (0.3)
16	13.1 (5.1)	48.1 (11.0)	7.59 (2.87)	190 (11)	205 (302)	98.5 (0.2)
17	16.8 (4.4)	55.7 (9.8)	4.79 (1.73)	200 (15)	188 (276)	98.4 (0.1)
18	17.9 (3.7)	58.4 (14.5)	5.66 (2.35)	178 (19)	183 (281)	98.0 (0.2)
19	14.0 (1.3)	79.0 (7.7)	1.90 (1.06)	197 (83)	82 (181)	97.9 (0.1)
20	15.8 (4.3)	72.3 (11.5)	1.54 (0.87)	278 (100)	197 (302)	98.2 (0.1)
21	16.9 (3.6)	67.4 (12.4)	2.27 (0.82)	152 (36)	135 (214)	98.6 (0.1)
22	18.9 (4.3)	57.5 (11.1)	2.40 (1.72)	159 (47)	171 (231)	98.6 (0.1)
23	19.9 (3.8)	54.3 (11.9)	3.80 (1.81)	38 (100)	197 (284)	99.0 (0.1)
24	18.5 (2.8)	52.7 (18.3)	5.66 (2.01)	139 (23)	103 (170)	98.7 (0.3)
25	20.7 (4.9)	65.7 (13.5)	8.88 (3.30)	201 (27)	153 (256)	97.8 (0.2)
26	10.1 (3.2)	59.2 (13.0)	6.19 (2.73)	264 (25)	227 (322)	98.6 (0.3)
27	10.2 (2.0)	54.3 (8.3)	1.73 (0.95)	291 (80)	104 (174)	98.9 (0.2)
28	5.7 (2.5)	73.8 (8.2)	4.07 (2.36)	289 (77)	94 (199)	98.2 (0.2)
29	5.3 (2.5)	59.8 (8.3)	3.06 (1.63)	20 (146)	121 (226)	98.8 (0.1)
30	9.8 (5.6)	52.0 (8.7)	3.74 (1.42)	123 (15)	237 (325)	98.4 (0.3)
Avg	10.9	63.4	4.47	198.0	146	98.5
n	30	30	30	30	29	30
SD	5.2	9.4	2.00	89.0	72	0.6
Min	2.9	48.1	1.54	20.0	-7	96.8
Max	20.7	82.3	8.88	359.0	242	99.9

Table F1. Daily means (SD) of weather parameters at Site IN5B for May, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	17.4 (4.1)	63.8 (6.2)	5.23 (2.43)	171 (28)	119 (223)	97.6 (0.2)
2	19.1 (2.5)	68.7 (7.2)	7.57 (2.86)	195 (18)	75 (166)	97.1 (0.2)
3	11.0 (1.6)	68.5 (4.0)	5.63 (2.64)	240 (36)	81 (167)	97.6 (0.5)
4	13.0 (4.7)	51.6 (16.2)	2.56 (1.53)	233 (47)	275 (348)	98.7 (0.1)
5	16.2 (4.7)	52.0 (10.0)	3.73 (2.33)	230 (72)	194 (284)	98.6 (0.1)
6	19.7 (5.5)	50.1 (14.2)	3.69 (2.02)	219 (34)	184 (293)	98.2 (0.2)
7	17.3 (2.0)	73.9 (8.3)	4.56 (2.21)	234 (94)	23 (83)	97.5 (0.2)
8	11.2 (1.5)	61.4 (8.3)	4.69 (1.38)	40 (75)	26 (71)	97.7 (0.1)
9	11.0 (3.0)	63.1 (10.5)	3.33 (1.72)	7 (156)	146 (232)	97.9 (0.2)
10	13.7 (4.5)	56.1 (11.2)	2.90 (1.40)	84 (96)	174 (260)	98.0 (0.4)
11	10.5 (1.4)	78.7 (5.9)	7.97 (2.30)	27 (136)	18 (77)	96.6 (0.8)
12	10.3 (3.4)	65.2 (11.0)	3.10 (1.35)	16 (148)	257 (348)	98.3 (0.2)
13	15.3 (4.9)	61.2 (16.0)	5.13 (2.56)	160 (28)	258 (342)	98.5 (0.2)
14	13.5 (2.2)	81.7 (4.0)	3.50 (1.97)	229 (100)	29 (94)	98.1 (0.3)
15	10.9 (2.8)	68.3 (10.4)	3.05 (1.29)	37 (109)	89 (150)	98.6 (0.1)
16	15.2 (4.4)	57.9 (13.9)	3.78 (2.22)	275 (61)	279 (356)	98.1 (0.3)
17	17.8 (3.4)	52.3 (17.1)	5.63 (2.13)	300 (107)	260 (352)	97.2 (0.1)
18	11.7 (1.5)	63.4 (11.6)	3.29 (2.00)	334 (129)	238 (344)	97.2 (0.2)
19						
20						
21	13.0 (3.6)	55.1 (11.2)	2.90 (1.80)	316 (116)	278 (344)	97.5 (0.1)
22	12.4 (2.3)	56.7 (7.2)	3.61 (1.57)	3 (147)	261 (343)	98.2 (0.2)
23	11.1 (2.4)	69.5 (5.5)	2.72 (1.44)	5 (146)	45 (110)	98.8 (0.1)
24	15.9 (4.7)	52.7 (16.9)	2.36 (1.19)	69 (72)	266 (331)	99.0 (0.1)
25	18.8 (5.1)	56.8 (10.5)	4.48 (2.03)	166 (35)	199 (248)	98.4 (0.4)
26	22.8 (2.8)	68.7 (7.9)	4.29 (2.27)	242 (47)	189 (261)	97.9 (0.1)
27	8.4 (1.3)	75.8 (4.7)	6.08 (1.76)	10 (134)	90 (150)	98.9 (0.4)
28	12.6 (4.5)	52.0 (18.8)	3.13 (1.33)	41 (87)	300 (359)	99.5 (0.1)
29						
30	20.3 (2.8)	70.0 (14.4)	4.49 (2.24)	202 (62)	77 (185)	97.9 (0.3)
31	22.0 (1.9)	71.4 (12.2)	4.24 (2.35)	273 (44)	274 (340)	97.9 (0.1)
Avg	14.7	63.1	4.20	293.0	168	98.0
n	28	28	28	28	28	28
SD	3.8	8.8	1.39	109.0	95	0.6
Min	8.4	50.1	2.36	3.0	18	96.6
Max	22.8	81.7	7.97	334.0	300	99.5

Table F1. Daily means (SD) of weather parameters at Site IN5B for June, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	21.2 (3.7)	57.2 (13.3)	2.14 (1.19)	36 (125)	285 (342)	98.3 (0.1)
2	23.4 (4.4)	57.6 (12.3)	2.20 (1.18)	179 (50)	230 (293)	98.2 (0.2)
3	22.1 (1.5)	77.0 (4.7)	2.36 (1.23)	132 (67)	95 (175)	97.4 (0.2)
4	23.4 (3.0)	77.6 (9.4)	3.69 (1.91)	194 (67)	157 (235)	97.2 (0.2)
5						
6						
7	24.2 (2.0)	80.9 (3.6)	5.52 (1.63)	192 (16)	106 (204)	98.3 (0.2)
8	27.2 (2.1)	69.8 (6.8)	6.16 (2.56)	212 (50)	201 (277)	98.0 (0.2)
9	23.0 (2.2)	76.0 (4.7)	2.97 (1.84)	263 (86)	178 (289)	97.9 (0.0)
10	22.1 (2.7)	67.5 (11.2)	2.86 (1.93)	266 (65)		98.2 (0.2)
11						
12	26.4 (4.0)	60.3 (6.3)	5.47 (1.91)	172 (19)	223 (286)	98.4 (0.2)
13	23.4 (2.4)	72.5 (7.9)	3.74 (1.93)	209 (56)	125 (209)	98.3 (0.1)
14	23.3 (3.8)	59.2 (16.8)	1.82 (0.96)	243 (69)	297 (352)	98.4 (0.1)
15	21.0 (3.3)	72.0 (10.3)	2.94 (1.88)	231 (63)	138 (258)	98.1 (0.2)
16	19.8 (2.4)	68.7 (11.4)	2.75 (1.96)	319 (128)	252 (336)	98.2 (0.2)
17	18.0 (3.2)	61.2 (13.7)	3.19 (2.34)	300 (91)	284 (336)	98.4 (0.1)
18	19.2 (3.5)	57.9 (12.8)	2.29 (1.52)	353 (143)	290 (344)	98.2 (0.0)
19	20.6 (4.9)	55.4 (15.4)	1.28 (0.89)	70 (103)	285 (349)	98.3 (0.1)
20	22.8 (4.2)	51.9 (11.4)	1.55 (1.17)	225 (67)	259 (336)	98.4 (0.1)
21						
22	21.0 (3.7)	64.4 (11.1)	1.73 (1.53)	305 (111)	211 (306)	98.1 (0.1)
23	19.3 (3.2)	66.3 (12.3)	2.52 (1.32)	341 (146)	268 (333)	98.6 (0.2)
24	21.1 (4.6)	58.5 (16.4)	1.22 (0.73)	133 (97)	235 (300)	99.1 (0.1)
25	22.6 (2.4)	76.5 (3.2)	3.07 (1.67)	205 (61)	103 (200)	98.6 (0.2)
26	24.2 (2.2)	77.0 (5.6)	2.41 (1.24)	231 (65)	119 (195)	98.1 (0.1)
27	23.3 (2.3)	78.2 (5.4)	3.37 (2.13)	207 (34)	146 (243)	97.8 (0.2)
28	23.0 (3.1)	66.7 (14.2)	4.65 (2.03)	250 (40)	237 (311)	97.6 (0.1)
29	19.2 (2.3)	74.1 (8.2)	4.30 (1.57)	281 (81)	145 (279)	97.7 (0.2)
30	19.8 (3.6)	60.0 (16.2)	3.40 (1.80)	338 (144)	259 (323)	98.4 (0.1)
Avg	22.1	67.1	3.06	239.0	205	98.2
n	26	26	26	26	25	26
SD	2.2	8.4	1.28	77.0	67	0.4
Min	18.0	51.9	1.22	36.0	95	97.2
Max	27.2	80.9	6.16	353.0	297	99.1

Table F1. Daily means (SD) of weather parameters at Site IN5B for July, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	21.6 (5.1)	54.7 (13.1)	2.57 (1.52)	229 (34)	280 (329)	98.5 (0.2)
2	24.8 (4.7)	65.0 (9.5)	5.68 (3.15)	226 (28)	213 (302)	97.9 (0.2)
3	18.5 (2.4)	73.8 (9.3)	4.04 (1.41)	3 (160)	231 (327)	98.5 (0.3)
4	19.2 (4.3)	63.8 (16.4)	2.48 (1.01)	38 (75)	266 (343)	98.7 (0.1)
5	20.9 (4.5)	58.4 (17.3)	1.54 (0.89)	71 (66)	293 (344)	98.6 (0.1)
6	23.7 (4.7)	62.4 (13.1)	2.85 (1.83)	166 (63)	242 (307)	98.4 (0.1)
7	24.9 (2.4)	73.1 (7.5)	4.33 (1.58)	204 (31)	143 (201)	98.2 (0.1)
8	25.1 (2.8)	77.2 (8.1)	3.54 (1.89)	244 (54)	176 (290)	98.0 (0.1)
9						
10	23.3 (4.0)	66.4 (13.8)	3.91 (2.16)	231 (44)	206 (295)	98.6 (0.1)
11	23.8 (3.5)	76.1 (7.0)	3.08 (1.59)	189 (65)	192 (283)	98.5 (0.1)
12	24.2 (2.4)	79.1 (4.0)	3.09 (1.23)	257 (70)	154 (270)	98.2 (0.1)
13	21.3 (2.7)	67.2 (12.4)	3.39 (2.44)	278 (77)	281 (331)	98.1 (0.1)
14	22.4 (3.9)	68.1 (10.9)	1.73 (1.24)	273 (88)	262 (329)	98.3 (0.1)
15	25.5 (4.7)	67.0 (12.1)	2.40 (1.46)	212 (34)	261 (318)	98.6 (0.1)
16	26.4 (3.7)	68.7 (12.5)	2.53 (1.51)	223 (57)	236 (308)	98.9 (0.1)
17	26.4 (3.6)	68.2 (12.4)	2.75 (1.61)	208 (35)	234 (302)	98.8 (0.2)
18	26.2 (3.4)	67.7 (11.9)	2.49 (1.51)	218 (52)	222 (303)	98.5 (0.1)
19	24.7 (2.0)	78.4 (2.9)	2.77 (1.90)	223 (63)	73 (146)	98.3 (0.1)
20	25.4 (3.0)	75.9 (4.5)	2.12 (1.36)	268 (77)	248 (308)	98.3 (0.1)
21	24.0 (2.4)	76.7 (4.5)	2.37 (2.00)	292 (108)	137 (257)	98.3 (0.1)
22	21.6 (2.7)	72.1 (8.5)	3.14 (1.44)	11 (155)	235 (304)	98.4 (0.1)
23						
24	22.8 (3.9)	57.1 (16.5)	1.73 (0.82)	248 (67)		98.7 (0.1)
25	22.1 (4.5)	72.6 (8.9)	2.31 (1.20)	192 (39)	164 (270)	98.6 (0.1)
26	24.3 (3.3)	69.1 (11.2)	1.93 (1.12)	293 (107)	201 (293)	98.3 (0.1)
27	22.6 (4.6)	64.6 (14.0)	1.57 (1.04)	222 (67)	197 (276)	98.2 (0.1)
28	24.2 (3.7)	70.0 (9.5)	1.62 (0.88)	145 (81)	230 (305)	98.1 (0.1)
29	25.0 (4.2)	70.9 (8.4)	2.17 (1.67)	176 (85)	201 (279)	98.1 (0.1)
30	24.1 (2.7)	76.4 (3.6)	3.27 (1.69)	240 (32)	168 (269)	97.8 (0.1)
31	25.0 (2.6)	75.3 (4.5)	1.79 (1.31)	268 (84)	174 (280)	97.8 (0.1)
Avg	23.6	69.5	2.73	234.0	211	98.3
n	29	29	29	29	28	29
SD	2.0	6.3	0.93	77.0	50	0.3
Min	18.5	54.7	1.54	3.0	73	97.8
Max	26.4	79.1	5.68	293.0	293	98.9

Table F1. Daily means (SD) of weather parameters at Site IN5B for August, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	26.4 (3.1)	74.7 (4.0)	2.12 (1.07)	263 (75)	199 (284)	97.8 (0.1)
2	22.9 (2.8)	66.2 (11.5)	2.99 (1.59)	352 (160)	249 (322)	98.2 (0.2)
3	22.9 (4.8)	66.0 (12.8)	1.92 (1.42)	146 (79)	218 (294)	98.5 (0.1)
4	23.7 (3.5)	76.2 (1.8)	3.55 (2.30)	183 (56)	97 (202)	98.3 (0.1)
5						
6						
7						
8	20.0 (2.9)	68.8 (9.9)	2.13 (1.36)	330 (134)	154 (299)	98.5 (0.1)
9	20.1 (3.4)	74.1 (3.6)	2.02 (1.37)	265 (94)	134 (244)	98.3 (0.1)
10	18.4 (2.6)	65.9 (8.6)	2.85 (1.83)	12 (150)	211 (314)	98.5 (0.1)
11	19.6 (4.2)	66.7 (11.5)	1.40 (0.71)	18 (133)	196 (309)	98.6 (0.1)
12						
13	22.3 (2.5)	67.9 (6.6)	1.21 (0.89)	43 (107)		97.9 (0.1)
14	20.7 (3.0)	70.5 (7.1)	1.77 (1.16)	19 (134)	165 (300)	98.2 (0.2)
15	19.9 (3.7)	65.3 (13.0)	2.51 (1.24)	8 (142)	232 (316)	98.9 (0.2)
16	20.5 (4.2)	66.7 (9.5)	1.75 (0.72)	296 (64)	229 (320)	98.9 (0.1)
17	21.5 (3.9)	67.8 (7.9)	1.97 (0.69)	259 (50)	222 (308)	98.6 (0.2)
18	22.5 (3.8)	68.5 (6.8)	1.53 (0.82)	263 (68)	207 (298)	98.5 (0.0)
19	23.3 (4.9)	62.0 (14.9)	1.26 (0.79)	128 (92)	224 (305)	98.7 (0.1)
20	22.0 (3.6)	64.1 (8.2)	2.89 (0.84)	93 (14)	220 (302)	98.9 (0.1)
21	22.5 (3.5)	66.2 (5.2)	2.49 (0.79)	121 (45)	118 (189)	98.6 (0.1)
22	23.8 (1.7)	71.9 (0.9)	3.12 (1.59)	168 (18)	127 (218)	98.7 (0.1)
23						
24	21.4 (3.0)	68.7 (6.6)	2.83 (1.37)	351 (153)	213 (302)	98.6 (0.0)
25	18.1 (3.8)	70.1 (7.9)	2.88 (1.24)	32 (101)		98.6 (0.1)
26	18.9 (4.5)	65.8 (10.7)	2.83 (1.36)	66 (62)	231 (309)	98.5 (0.2)
27	21.7 (5.4)	65.0 (10.8)	1.71 (0.73)	33 (125)	205 (287)	98.2 (0.1)
28	22.7 (3.4)	70.8 (2.5)	1.94 (1.09)	162 (41)	102 (152)	97.9 (0.1)
29	24.3 (3.3)	63.7 (11.0)	2.32 (1.19)	351 (146)	207 (295)	98.2 (0.2)
30	22.5 (5.1)	57.9 (16.2)	1.01 (0.73)	95 (95)	231 (295)	98.8 (0.1)
31	23.0 (5.6)	58.8 (15.1)	1.82 (1.29)	83 (77)	209 (266)	98.9 (0.1)
Avg	21.7	67.3	2.19	32.0	192	98.5
n	26	26	26	26	24	26
SD	1.9	4.3	0.65	117.0	44	0.3
Min	18.1	57.9	1.01	8.0	97	97.8
Max	26.4	76.2	3.55	352.0	249	98.9

Table F1. Daily means (SD) of weather parameters at Site IN5B for September, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	23.1 (5.0)	56.9 (13.1)	2.05 (1.08)	102 (35)	213 (273)	98.8 (0.1)
2	24.8 (5.8)	63.7 (10.0)	1.32 (0.85)	123 (66)	182 (265)	98.6 (0.1)
3	22.5 (2.2)	71.2 (1.4)	3.10 (1.97)	349 (145)	119 (200)	98.4 (0.1)
4	19.8 (0.8)	71.7 (0.9)	3.41 (1.62)	42 (104)	6 (35)	97.7 (0.4)
5	18.1 (1.4)	73.8 (1.1)	2.72 (1.17)	322 (126)	68 (152)	98.1 (0.3)
6	19.0 (3.0)	70.2 (7.1)	1.31 (0.94)	291 (87)	151 (234)	98.5 (0.0)
7	18.4 (2.5)	69.8 (6.6)	1.88 (0.86)	261 (62)	161 (256)	98.7 (0.1)
8	16.9 (2.1)	74.1 (3.0)	2.26 (1.21)	316 (119)	60 (147)	98.8 (0.1)
9	14.9 (3.2)	65.3 (11.7)	2.86 (1.26)	348 (144)	198 (278)	99.0 (0.1)
10	17.5 (4.0)	59.8 (11.7)	2.10 (1.02)	96 (40)		99.1 (0.1)
11	19.2 (4.9)	69.1 (5.6)	2.99 (0.84)	153 (37)	125 (213)	98.8 (0.2)
12	21.7 (0.7)	71.6 (0.6)	2.66 (0.93)	213 (43)	21 (61)	98.4 (0.1)
13	25.1 (2.7)	69.9 (2.4)	4.79 (2.03)	212 (45)	69 (147)	97.6 (0.2)
14	19.1 (2.0)	73.1 (1.2)	4.01 (2.43)	315 (124)	5 (46)	97.3 (0.5)
15	16.3 (1.2)	75.2 (1.2)	2.06 (0.86)	308 (102)	53 (119)	98.8 (0.3)
16	16.8 (3.0)	66.6 (10.1)	1.65 (0.68)	274 (59)	196 (275)	99.2 (0.1)
17	19.4 (4.6)	68.4 (7.9)	1.90 (1.05)	264 (102)	193 (268)	99.1 (0.1)
18	18.9 (3.3)	65.5 (8.9)	2.50 (1.25)	79 (69)	183 (250)	99.4 (0.1)
19	19.0 (5.0)	64.4 (10.4)	1.43 (0.83)	123 (43)	134 (192)	99.2 (0.2)
20	21.0 (4.7)	65.5 (11.4)	0.77 (0.70)	137 (97)	144 (218)	99.1 (0.1)
21	21.1 (3.7)	65.9 (10.1)	1.25 (0.71)	84 (105)	135 (204)	99.4 (0.1)
22	21.1 (4.2)	63.4 (12.1)	2.50 (0.83)	102 (23)	163 (232)	99.6 (0.1)
23	21.0 (4.9)	61.7 (11.6)	2.06 (0.93)	121 (37)	166 (236)	99.5 (0.2)
24	21.8 (5.1)	59.5 (13.4)	1.00 (0.63)	118 (71)	155 (233)	99.4 (0.1)
25	21.7 (4.5)	59.4 (13.8)	1.32 (0.57)	64 (88)	162 (230)	99.4 (0.1)
26	19.3 (4.7)	59.7 (15.8)	2.20 (1.13)	39 (82)	175 (246)	99.0 (0.2)
27	18.9 (4.5)	62.0 (13.2)	1.79 (1.00)	0 (156)	178 (249)	98.7 (0.1)
28	18.5 (3.6)	69.8 (5.8)	2.13 (1.48)	21 (125)	121 (191)	98.9 (0.1)
29	16.1 (2.1)	72.0 (1.1)	2.05 (1.19)	331 (114)	65 (141)	98.5 (0.2)
30	13.4 (1.6)	66.5 (8.1)	3.22 (1.48)	302 (47)	98 (188)	98.3 (0.1)
Avg	19.5	66.9	2.24	29.0	128	98.8
n	30	30	30	30	29	30
SD	2.6	5.0	0.88	111.0	59	0.6
Min	13.4	56.9	0.77	0.0	5	97.3
Max	25.1	75.2	4.79	349.0	213	99.6

Table F1. Daily means (SD) of weather parameters at Site IN5B for October, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	10.8 (2.0)	71.3 (5.3)	3.80 (1.17)	316 (97)	70 (118)	98.3 (0.1)
2	12.3 (3.7)	66.5 (8.5)	2.24 (1.34)	280 (52)	158 (240)	98.2 (0.2)
3	11.4 (2.6)	68.8 (6.1)	2.34 (0.94)	51 (93)	82 (146)	98.6 (0.3)
4	10.4 (4.3)	61.3 (12.7)	2.11 (0.66)	55 (70)	166 (240)	99.2 (0.1)
5	12.5 (4.7)	59.2 (12.5)	2.39 (0.88)	88 (24)	81 (139)	99.3 (0.1)
6	16.6 (3.8)	55.6 (7.8)	4.20 (0.97)	103 (13)	118 (189)	99.2 (0.1)
7	15.4 (2.3)	66.7 (4.9)	4.84 (1.12)	130 (28)	44 (93)	98.6 (0.5)
8	14.2 (1.9)	72.5 (1.9)	3.28 (1.79)	237 (49)	37 (73)	98.0 (0.2)
9	14.2 (4.6)	60.3 (15.3)	1.77 (1.18)	315 (120)	155 (230)	98.7 (0.2)
10	15.4 (6.1)	49.7 (16.3)	2.27 (1.33)	90 (58)	156 (229)	99.1 (0.1)
11	19.7 (5.9)	57.0 (9.4)	1.60 (0.85)	125 (35)	146 (216)	99.3 (0.1)
12	21.5 (5.1)	56.5 (14.0)	2.42 (1.23)	139 (27)	146 (220)	99.5 (0.1)
13	21.6 (3.9)	61.1 (6.0)	3.27 (1.36)	187 (27)	106 (185)	99.3 (0.2)
14	17.2 (2.6)	62.7 (7.9)	2.20 (1.37)	3 (126)	102 (179)	99.2 (0.1)
15	16.1 (3.4)	69.6 (2.5)	2.82 (1.78)	290 (89)		98.6 (0.2)
16	11.0 (2.1)	69.1 (6.3)	3.23 (1.21)	334 (139)	89 (165)	99.2 (0.1)
17	11.1 (2.6)	65.5 (10.6)	1.40 (0.82)	8 (141)	87 (177)	99.2 (0.1)
18	11.1 (2.8)	64.7 (11.1)	1.22 (0.79)	47 (115)	101 (194)	99.5 (0.1)
19	10.4 (4.2)	59.9 (13.1)	3.19 (1.68)	177 (24)	117 (183)	99.4 (0.2)
20	11.3 (4.2)	67.5 (7.8)	2.88 (1.39)	267 (97)	84 (169)	99.1 (0.1)
21	9.2 (2.8)	65.6 (9.7)	2.11 (1.23)	23 (123)	104 (183)	99.6 (0.1)
22	6.8 (3.5)	56.3 (15.0)	4.58 (1.85)	97 (25)	123 (194)	99.7 (0.1)
23	9.6 (5.1)	54.8 (12.0)	4.89 (1.29)	109 (17)	96 (172)	99.3 (0.2)
24						
25	8.2 (1.8)	72.5 (4.5)	5.32 (1.10)	228 (18)	43 (100)	97.8 (0.2)
26	9.0 (3.6)	59.2 (14.6)	7.57 (2.41)	267 (19)	114 (207)	97.8 (0.4)
27	4.2 (1.9)	67.6 (7.8)	5.36 (1.32)	296 (16)	41 (99)	99.1 (0.3)
28	3.4 (2.7)	60.6 (11.2)	4.33 (1.30)	292 (16)	121 (197)	99.4 (0.2)
29	4.8 (3.4)	58.6 (13.8)	2.56 (1.55)	311 (117)	122 (201)	99.0 (0.2)
30	8.2 (6.1)	57.2 (16.4)	3.41 (1.81)	173 (22)	118 (192)	99.6 (0.1)
31	14.6 (4.8)	61.2 (7.7)	3.18 (1.11)	214 (17)	108 (183)	99.5 (0.1)
Avg	12.1	62.6	3.23	344.0	105	99.0
n	30	30	30	30	29	30
SD	4.6	5.7	1.39	104.0	35	0.5
Min	3.4	49.7	1.22	3.0	37	97.8
Max	21.6	72.5	7.57	334.0	166	99.7

Table F1. Daily means (SD) of weather parameters at Site IN5B for November, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	12.4 (3.1)	71.0 (4.9)	2.01 (1.17)	27 (109)	76 (142)	99.5 (0.0)
2	15.5 (4.4)	63.0 (7.6)	4.44 (1.11)	158 (43)	74 (145)	99.2 (0.2)
3	17.1 (3.4)	55.0 (8.5)	4.59 (1.55)	212 (14)	93 (162)	99.1 (0.1)
4	14.6 (5.1)	57.8 (13.1)	2.88 (1.45)	177 (29)	96 (168)	98.9 (0.2)
5	14.5 (4.9)	60.7 (10.2)	4.07 (2.25)	166 (19)	101 (172)	98.4 (0.2)
6	14.7 (2.8)	66.7 (5.9)	5.24 (1.99)	171 (23)	26 (77)	98.0 (0.1)
7	7.1 (1.8)	70.0 (4.3)	4.67 (1.91)	216 (20)	59 (138)	97.6 (0.2)
8	3.4 (0.6)	74.7 (1.8)	6.23 (1.34)	260 (8)	12 (47)	97.4 (0.2)
9	1.7 (1.1)	71.7 (6.4)			2 (33)	98.2 (0.3)
10	0.9 (2.3)	61.5 (8.0)	2.46 (1.50)	273 (74)	92 (173)	99.1 (0.2)
11	0.6 (2.5)	75.9 (1.9)	3.19 (1.67)	120 (22)	1 (29)	99.2 (0.2)
12	7.5 (2.5)	74.9 (1.7)	3.63 (1.05)	159 (28)	0 (29)	98.4 (0.3)
13	9.9 (1.3)	75.3 (1.2)	6.61 (2.08)	216 (26)	54 (115)	97.5 (0.3)
14	9.7 (1.4)	76.2 (1.5)	4.33 (1.44)	276 (118)	-2 (24)	97.4 (0.2)
15	4.4 (1.3)	71.9 (5.0)	5.73 (1.91)	322 (90)	10 (43)	97.9 (0.3)
16	1.4 (1.3)	73.3 (4.8)	4.16 (2.22)	266 (70)	42 (101)	98.3 (0.1)
17	0.0 (1.0)	65.9 (9.0)	4.75 (1.31)	304 (14)	73 (167)	99.2 (0.3)
18	-1.6 (2.4)	64.5 (10.0)	2.44 (1.30)	274 (60)	79 (160)	99.9 (0.2)
19	2.4 (3.4)	61.9 (5.3)	5.49 (2.55)	235 (61)	81 (158)	98.6 (0.4)
20	-0.4 (2.0)	56.2 (3.0)	6.31 (1.05)	318 (28)	37 (92)	99.2 (0.2)
21	-4.6 (2.1)	55.6 (9.9)	4.09 (1.91)	292 (29)	98 (171)	100.0 (0.2)
22	-3.8 (2.5)	62.7 (7.1)	2.24 (1.11)	179 (31)	41 (102)	100.0 (0.2)
23	-0.5 (4.8)	62.0 (10.9)	3.58 (1.67)	173 (24)	84 (154)	99.2 (0.4)
24	2.4 (1.0)	74.7 (2.9)	3.98 (1.47)	267 (51)	-5 (25)	
25	0.9 (1.9)	70.9 (6.3)	3.87 (1.55)	289 (14)		
26	1.2 (3.4)	65.8 (10.4)	1.67 (1.02)	244 (31)		98.5 (0.1)
27	1.5 (3.8)	70.5 (7.3)	2.83 (1.95)	233 (54)		98.2 (0.1)
28	1.6 (3.1)	65.7 (8.1)	3.56 (1.57)	265 (18)		98.2 (0.1)
29	1.4 (3.7)	64.7 (9.4)	1.56 (0.97)	135 (67)		97.8 (0.4)
30	1.4 (0.7)	73.4 (5.3)	2.61 (1.43)	48 (99)		96.1 (0.4)
Avg	4.6	67.1	3.90	235.0	51	98.5
n	30	30	29	29	24	28
SD	6.0	6.4	1.37	74.0	37	0.9
Min	-4.6	55.0	1.56	27.0	-5	96.1
Max	17.1	76.2	6.61	322.0	101	100.0

Table F1. Daily means (SD) of weather parameters at Site IN5B for December, 2008.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	-2.0 (1.9)	77.0 (1.9)	5.84 (2.18)	293 (17)		97.0 (0.9)
2	-2.5 (1.8)	73.3 (1.7)	5.32 (1.87)	212 (33)		98.4 (0.1)
3	1.7 (1.8)	75.2 (1.7)	5.27 (1.39)	234 (41)		98.1 (0.2)
4	-6.2 (1.5)	71.5 (4.4)	4.60 (1.16)	285 (12)		99.5 (0.3)
5	-9.4 (1.7)	71.4 (4.1)	4.70 (1.33)	243 (35)		99.4 (0.5)
6	-3.5 (2.0)	72.2 (5.5)	7.14 (1.44)	260 (45)		97.9 (0.4)
7	-8.6 (2.5)	66.9 (5.1)	3.39 (0.88)	233 (61)		99.1 (0.2)
8	-1.1 (3.6)	72.2 (3.8)	4.10 (1.64)	144 (16)		
9	4.7 (2.4)	74.2 (4.8)	7.41 (2.22)	255 (116)		
10	-0.3 (0.8)	74.8 (2.3)	4.13 (2.37)	24 (109)		
11	-1.9 (1.8)	75.7 (3.5)	2.60 (1.30)	277 (51)		
12	-6.9 (1.1)	70.2 (5.4)	3.78 (1.51)	279 (49)		
13	-0.3 (3.9)	71.2 (4.3)	7.15 (2.10)	174 (9)		
14	7.1 (2.4)	72.4 (4.9)	10.40 (1.81)	192 (10)		
15	-9.5 (4.4)	74.5 (2.2)	6.87 (2.36)	281 (13)		
16	-8.5 (1.9)	77.1 (2.4)	3.36 (1.36)	66 (99)		
17	-7.8 (2.2)	78.1 (1.2)	3.06 (1.59)	253 (44)		
18	-7.6 (2.7)	76.4 (3.2)	1.52 (1.04)	105 (75)		
19	-0.3 (1.2)	77.8 (0.5)	0.45 (1.08)			98.8 (0.6)
20	-3.3 (0.7)	77.8 (1.0)	0.13 (0.00)			99.0 (0.4)
21	-17.3 (2.5)	71.9 (3.1)	0.12 (0.00)	268 (5)		99.4 (0.4)
22	-14.6 (2.1)	74.2 (1.3)	0.12 (0.01)	244 (35)		100.7 (0.2)
23	-3.6 (3.8)	76.4 (2.5)	0.13 (0.00)	171 (20)		99.6 (0.6)
24	-2.1 (5.2)	75.1 (2.4)	6.22 (3.48)	232 (46)		98.9 (0.7)
25	-8.3 (3.3)	71.4 (4.2)	3.41 (1.76)	186 (61)		100.5 (0.3)
26	3.2 (4.3)	73.9 (2.1)	4.98 (1.78)	156 (25)		99.2 (0.3)
27	13.3 (2.4)	77.6 (2.7)	8.56 (2.74)	191 (31)		98.2 (0.4)
28	-0.1 (1.2)	75.4 (3.9)	6.95 (3.72)	240 (27)		99.3 (0.5)
29	2.2 (2.3)	75.0 (5.1)	5.46 (1.94)	248 (31)		99.4 (0.3)
30	1.8 (2.6)	75.7 (3.9)	4.86 (2.97)	217 (82)		98.9 (0.7)
31	-5.9 (1.7)	67.7 (5.9)	4.92 (3.45)	308 (60)		100.3 (0.4)
Avg	-3.2	74.0	4.42	234.0		99.1
n	31	31	31	29	0	20
SD	6.1	2.8	2.57	67.0		0.9
Min	-17.3	66.9	0.12	24.0		97.0
Max	13.3	78.1	10.40	308.0		100.7

Table F1. Daily means (SD) of weather parameters at Site IN5B for January, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	-3.1 (2.8)	67.5 (8.3)	5.53 (1.22)	183 (29)		99.3 (0.6)
2	-1.5 (1.5)	65.7 (7.6)	3.54 (1.76)	285 (84)		98.9 (0.3)
3	-1.3 (3.5)	67.0 (6.1)	5.74 (2.03)	98 (17)		99.1 (0.2)
4	0.3 (3.4)	76.8 (3.3)	5.02 (1.71)	280 (75)		99.3 (0.6)
5						
6						
7						
8	-9.2 (1.7)	76.3 (2.0)	4.31 (1.69)	268 (15)		98.6 (0.5)
9	-3.7 (3.4)	76.7 (4.1)	3.73 (1.61)	119 (44)		99.2 (0.2)
10	-2.7 (0.7)	79.3 (0.8)	4.59 (1.25)	13 (133)		99.2 (0.2)
11	-4.6 (0.9)	77.6 (3.3)	2.96 (0.95)	271 (24)		99.6 (0.1)
12	-3.7 (2.4)	77.5 (1.7)	3.65 (1.55)	208 (56)		99.3 (0.4)
13	-9.4 (5.7)	74.2 (4.6)	4.98 (2.25)	281 (41)		99.4 (0.4)
14	-12.8 (2.2)	77.1 (3.1)	4.79 (1.65)	25 (111)		99.5 (0.5)
15	-22.4 (2.0)	68.9 (2.9)	5.64 (1.03)	280 (13)		101.0 (0.3)
16	-22.4 (3.4)	69.3 (4.0)	3.26 (1.24)	218 (57)		101.2 (0.3)
17	-7.1 (4.4)	71.0 (5.4)	7.73 (2.45)	220 (40)		99.8 (0.5)
18	-8.2 (1.2)	72.1 (4.6)	3.51 (1.26)	283 (16)		99.3 (0.3)
19	-8.7 (1.6)	75.9 (3.5)	3.00 (0.77)	278 (14)		99.6 (0.6)
20	-9.1 (2.8)	75.9 (4.1)	2.39 (1.09)	275 (60)		99.4 (1.5)
21	-6.6 (3.9)	74.2 (3.5)	4.88 (1.75)	225 (13)		97.4 (0.2)
22	-2.6 (3.4)	75.8 (4.1)	2.82 (0.73)	208 (41)		96.9 (0.7)
23	-1.0 (1.9)	73.7 (3.4)	5.24 (1.38)	282 (47)		97.4 (0.5)
24	-12.2 (2.2)	66.1 (4.7)	3.87 (1.41)	295 (16)		98.1 (1.3)
25	-12.8 (2.5)	66.5 (5.3)	2.77 (0.85)	281 (19)		98.6 (0.8)
26	-8.8 (1.5)	63.1 (6.8)	1.54 (0.54)	299 (48)		98.8 (0.7)
27	-7.6 (1.5)	68.2 (4.0)	2.56 (0.96)	32 (114)		97.8 (0.9)
28	-8.8 (1.9)	75.1 (4.1)	4.15 (1.25)	276 (94)		97.8 (0.4)
29	-6.2 (2.9)	74.5 (3.8)	6.37 (1.27)	244 (25)		98.6 (0.3)
30	-10.3 (1.9)	69.4 (6.7)	4.23 (1.59)	280 (14)		99.8 (0.4)
31	-5.2 (6.5)	73.8 (1.3)	6.40 (2.94)	214 (19)		100.2 (0.3)
Avg	-7.6	72.5	4.26	265.0		99.0
n	28	28	28	28	0	28
SD	5.5	4.4	1.39	85.0		1.0
Min	-22.4	63.1	1.54	13.0		96.9
Max	0.3	79.3	7.73	299.0		101.2

Table F1. Daily means (SD) of weather parameters at Site IN5B for February, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	1.4 (1.7)	71.1 (4.5)	3.66 (1.26)	270 (14)		100.5 (0.2)
2	-4.4 (1.6)	70.5 (5.6)	3.94 (1.80)	272 (15)		
3	-10.4 (2.4)	70.6 (3.8)	5.82 (1.96)	306 (13)		
4	-11.5 (2.1)	66.5 (7.3)	3.84 (1.64)	294 (21)		
5	-10.0 (4.5)	68.2 (6.1)	4.20 (2.59)	181 (28)		
6	-0.9 (6.1)	72.6 (2.4)	3.76 (1.97)	153 (21)		99.5 (0.3)
7	10.1 (3.0)	74.3 (1.3)	7.66 (3.16)	232 (25)		99.1 (0.3)
8	3.2 (2.0)	73.1 (4.9)	1.74 (0.97)	282 (100)		100.3 (0.2)
9	5.4 (4.7)	75.4 (1.4)	4.41 (1.58)	132 (16)		99.5 (0.6)
10	11.9 (2.3)	73.0 (2.7)	7.28 (1.76)	201 (12)		98.6 (0.0)
11	9.1 (4.1)	71.5 (2.7)	6.25 (3.97)	226 (97)		97.6 (0.7)
12	3.5 (1.8)	71.3 (4.5)	6.37 (2.78)	271 (17)		99.3 (0.3)
13	1.3 (1.6)	69.5 (6.1)	2.69 (1.14)	349 (131)		99.7 (0.2)
14	-0.1 (0.7)	76.2 (1.4)	3.07 (1.44)	336 (140)		99.6 (0.2)
15	-2.0 (1.3)	72.0 (6.4)	2.85 (1.31)	330 (126)		100.2 (0.1)
16	-1.6 (2.1)	70.0 (8.6)	2.30 (0.93)	253 (67)		100.5 (0.2)
17	0.8 (3.1)	70.5 (7.1)	5.00 (2.02)	169 (19)		99.1 (0.7)
18	2.8 (2.8)	75.2 (1.0)	5.26 (1.97)	272 (65)	1 (40)	97.6 (0.4)
19	-7.5 (2.2)	66.2 (2.7)	6.61 (1.43)	302 (16)	144 (227)	99.3 (0.3)
20	-5.2 (2.4)	64.1 (8.6)	2.81 (0.86)	248 (63)	128 (199)	99.6 (0.1)
21	-3.6 (2.2)	74.1 (2.1)	7.82 (1.99)	232 (62)	51 (120)	98.9 (0.3)
22	-6.8 (2.3)	71.5 (4.1)	5.59 (1.40)	290 (10)	146 (227)	100.3 (0.4)
23	-5.1 (3.5)	66.4 (11.1)	2.19 (0.81)	350 (114)	109 (201)	101.0 (0.1)
24	-1.1 (3.5)	68.4 (7.5)	4.11 (1.34)	149 (15)	126 (205)	100.3 (0.3)
25	5.8 (4.8)	65.2 (7.5)	4.20 (2.31)	194 (29)	106 (197)	99.5 (0.2)
26	6.9 (3.6)	69.3 (2.4)	4.62 (2.98)	154 (45)	1 (30)	98.9 (0.8)
27	-1.2 (4.3)	74.9 (2.6)	7.48 (1.88)	355 (159)	32 (79)	99.4 (0.8)
28	-3.8 (1.6)	71.8 (4.7)	5.06 (1.07)	29 (88)	121 (209)	100.3 (0.1)
Avg	-0.5	70.8	4.66	260.0	88	99.5
n	28	28	28	28	11	24
SD	6.0	3.2	1.72	77.0	53	0.8
Min	-11.5	64.1	1.74	29.0	1	97.6
Max	11.9	76.2	7.82	355.0	146	101.0

Table F1. Daily means (SD) of weather parameters at Site IN5B for March, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	-5.0 (1.2)	72.4 (4.4)	5.83 (1.87)	4 (165)	82 (172)	100.6 (0.2)
2	-7.9 (1.9)	59.4 (6.7)	3.76 (1.46)	24 (117)	170 (253)	100.9 (0.1)
3	-4.6 (2.9)	57.4 (11.3)	2.02 (0.92)	161 (53)	142 (227)	100.8 (0.2)
4	1.9 (3.4)	50.5 (9.5)	3.98 (1.00)	158 (18)	154 (245)	100.1 (0.3)
5	11.3 (5.1)	63.4 (7.3)	8.12 (3.19)	190 (20)	119 (219)	98.9 (0.4)
6	14.6 (3.2)	68.7 (8.1)	4.90 (2.63)	251 (93)	108 (211)	99.0 (0.3)
7	8.8 (2.9)	74.3 (3.7)	2.79 (1.65)	53 (107)	13 (69)	99.0 (0.2)
8	8.7 (3.9)	73.9 (3.3)	7.45 (4.18)	154 (91)	39 (133)	98.4 (0.5)
9	4.0 (2.1)	77.3 (1.3)	3.64 (0.92)	86 (95)	43 (88)	99.8 (0.2)
10	10.9 (4.4)	72.1 (2.8)	5.35 (2.54)	187 (66)	14 (52)	98.6 (0.3)
11	-2.2 (2.2)	68.1 (4.2)	7.94 (2.13)	282 (13)	173 (259)	100.5 (0.7)
12	-5.0 (1.8)	66.2 (5.6)	3.57 (0.96)	3 (144)	113 (187)	101.3 (0.1)
13	-0.4 (4.5)	63.9 (13.4)	1.63 (0.95)	97 (78)	186 (269)	100.6 (0.3)
14	4.8 (4.7)	57.5 (15.5)	1.42 (0.72)	98 (49)	183 (268)	99.9 (0.2)
15	8.8 (4.9)	52.2 (14.3)	2.28 (1.08)	101 (29)	189 (271)	99.6 (0.1)
16	11.9 (4.8)	56.1 (10.0)	1.76 (0.94)	137 (56)	162 (258)	
17	14.7 (5.4)	60.6 (13.3)	5.59 (2.88)	209 (20)	185 (260)	
18	11.2 (2.4)	58.1 (15.1)	3.18 (2.10)	344 (136)	113 (205)	99.5 (0.3)
19	3.8 (4.0)	59.4 (10.5)	4.34 (1.40)	2 (157)	194 (277)	100.4 (0.2)
20	2.0 (4.0)	57.7 (12.5)	2.02 (0.83)	94 (77)	200 (280)	100.7 (0.1)
21	8.8 (5.0)	50.4 (11.4)	2.69 (1.17)	154 (39)	190 (281)	100.5 (0.1)
22	11.4 (4.7)	49.3 (12.0)	2.50 (1.75)	125 (29)	181 (267)	100.4 (0.2)
23	8.8 (3.9)	55.8 (10.8)	7.54 (1.05)	114 (6)	90 (163)	100.0 (0.3)
24	14.7 (5.4)	47.5 (9.9)	8.55 (2.13)	147 (19)	114 (222)	99.0 (0.4)
25	9.7 (1.9)	66.1 (8.7)	4.25 (2.92)	250 (55)	117 (234)	98.7 (0.2)
26	9.5 (3.5)	59.2 (13.0)	1.34 (0.82)	200 (81)	109 (219)	99.0 (0.1)
27	5.5 (3.0)	67.0 (6.2)	4.01 (1.99)	18 (125)	181 (269)	99.1 (0.1)
28	3.9 (2.9)	71.8 (5.1)	5.85 (1.22)	31 (70)	44 (102)	98.2 (0.7)
29	2.4 (1.1)	76.0 (1.9)	4.78 (2.27)	310 (94)	31 (70)	97.8 (0.7)
30	6.4 (4.0)	58.6 (15.4)	2.45 (1.44)	113 (92)	207 (298)	99.3 (0.2)
31	8.7 (1.7)	68.6 (5.1)	5.61 (1.60)	152 (51)	19 (56)	98.3 (0.4)
Avg	5.9	62.6	4.23	118.0	125	99.6
n	31	31	31	31	31	29
SD	6.1	8.3	2.09	89.0	62	0.9
Min	-7.9	47.5	1.34	2.0	13	97.8
Max	14.7	77.3	8.55	344.0	207	101.3

Table F1. Daily means (SD) of weather parameters at Site IN5B for April, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	7.7 (3.4)	59.9 (11.8)	6.55 (2.74)	222 (24)	208 (292)	98.5 (0.2)
2	11.2 (4.0)	56.6 (14.7)	5.60 (2.87)	75 (101)	105 (214)	98.0 (0.6)
3	5.7 (2.1)	69.5 (7.5)	6.22 (3.65)	341 (139)	100 (175)	98.1 (0.6)
4	6.0 (2.9)	58.8 (11.7)	2.73 (1.51)	10 (135)	222 (297)	99.3 (0.2)
5	5.0 (1.7)	72.8 (4.4)	6.03 (1.69)	41 (113)	19 (76)	98.3 (0.4)
6	2.0 (0.7)	73.2 (4.4)	5.80 (2.23)	348 (141)	93 (158)	98.5 (0.2)
7	3.8 (2.9)	57.5 (12.5)	5.04 (2.27)	289 (23)	232 (304)	98.7 (0.0)
8	7.2 (3.8)	55.3 (12.1)	2.78 (1.59)	270 (49)	181 (298)	98.5 (0.2)
9	9.6 (4.5)	49.2 (16.2)	1.95 (1.09)	276 (100)	214 (307)	98.8 (0.1)
10	6.0 (1.8)	62.2 (11.1)	5.94 (1.31)	26 (129)	84 (135)	99.0 (0.3)
11	4.4 (2.9)	57.9 (14.9)	4.11 (1.34)	13 (148)	239 (319)	100.2 (0.2)
12	7.3 (4.9)	51.4 (16.2)	4.21 (2.13)	88 (51)	208 (308)	100.1 (0.3)
13	4.5 (1.0)	69.0 (11.4)	6.13 (2.00)	85 (15)	5 (34)	98.6 (0.4)
14	4.9 (0.3)	75.6 (0.7)	4.23 (1.23)	1 (165)	19 (47)	98.7 (0.3)
15	7.4 (2.5)	64.0 (7.8)	3.80 (1.35)	358 (167)	117 (178)	99.8 (0.3)
16	11.1 (5.6)	49.2 (16.2)	2.18 (0.91)	63 (58)	255 (328)	100.5 (0.1)
17	14.4 (5.7)	40.7 (11.9)	1.44 (0.80)	107 (76)	269 (332)	100.4 (0.3)
18	17.1 (5.0)	51.9 (10.6)	1.37 (1.02)	172 (64)	6 (21)	99.5 (0.3)
19	13.4 (2.1)	74.7 (0.9)	2.83 (1.32)	75 (62)	22 (51)	98.6 (0.3)
20	8.6 (1.9)	72.9 (4.4)	5.44 (1.65)	295 (36)	111 (217)	98.0 (0.1)
21	5.7 (0.8)	76.3 (1.7)	5.14 (1.94)	281 (23)	97 (163)	98.2 (0.2)
22	9.3 (4.5)	60.8 (14.1)	4.14 (2.40)	297 (110)	188 (282)	98.8 (0.2)
23	12.4 (5.4)	55.7 (10.5)	5.11 (2.45)	119 (38)	20 (37)	99.3 (0.3)
24	21.8 (4.1)	54.9 (11.0)	7.58 (1.88)	211 (17)	115 (240)	98.9 (0.1)
25	20.0 (6.1)	62.6 (11.9)	7.74 (3.20)	217 (76)	72 (207)	
26	20.5 (6.8)	57.5 (13.7)	6.65 (4.10)	179 (70)	13 (116)	
27	20.3 (2.1)	66.5 (6.8)	7.90 (2.96)	213 (48)	-12 (12)	
28	9.9 (2.1)	76.6 (0.7)	4.18 (1.18)	20 (132)	39 (71)	
29	12.2 (1.9)	75.6 (1.2)	3.99 (0.74)	101 (8)	71 (114)	
30	17.6 (2.3)	73.4 (1.3)	4.74 (2.75)	195 (66)	91 (191)	
Avg	10.2	62.7	4.72	11.0	113	99.0
n	30	30	30	30	30	24
SD	5.5	9.6	1.78	112.0	86	0.7
Min	2.0	40.7	1.37	1.0	-12	98.0
Max	21.8	76.6	7.90	358.0	269	100.5

Table F1. Daily means (SD) of weather parameters at Site IN5B for May, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	13.7 (2.3)	73.5 (2.3)	2.67 (1.34)	285 (64)	100 (144)	
2	13.5 (3.3)	58.5 (13.5)	2.67 (1.29)	255 (42)	230 (313)	
3	15.6 (3.9)	50.3 (14.5)	1.18 (0.87)	217 (86)	197 (271)	
4	16.8 (3.8)	44.5 (11.2)	2.13 (1.27)	104 (56)	169 (240)	
5	16.5 (3.5)	57.6 (7.5)	2.29 (0.74)	106 (60)	166 (236)	
6	16.3 (2.5)	66.4 (6.7)	2.59 (1.70)	148 (39)	145 (196)	98.7 (0.1)
7	17.8 (3.6)	69.4 (9.8)	3.68 (1.96)	231 (61)	203 (317)	98.6 (0.1)
8	18.1 (2.5)	72.9 (4.5)	1.72 (1.03)	197 (67)	79 (120)	98.4 (0.1)
9	13.9 (2.0)	71.8 (3.7)	4.72 (2.76)	309 (123)	93 (148)	98.9 (0.6)
10	13.0 (4.5)	62.4 (13.0)	3.43 (2.44)	294 (112)	174 (234)	99.8 (0.1)
11	12.3 (4.0)	54.4 (14.6)	2.08 (1.11)	358 (139)	231 (289)	99.9 (0.1)
12	15.3 (4.4)	43.6 (13.9)	3.24 (1.78)	141 (22)	235 (290)	
13	16.9 (3.2)	73.2 (5.9)	7.58 (2.85)	170 (28)		
14	17.4 (1.7)	66.4 (7.1)	3.77 (2.40)	264 (63)	273 (319)	
15	15.1 (1.2)	74.2 (2.6)	2.69 (1.67)	97 (57)	16 (42)	
16	15.1 (2.6)	66.8 (8.4)	4.21 (2.47)	299 (85)	185 (283)	
17	11.7 (3.3)	48.9 (16.8)	2.29 (1.44)	8 (132)	291 (336)	
18		48.7 (16.1)	2.67 (1.86)	175 (45)	269 (325)	
19	18.0 (5.1)	51.7 (11.7)	4.79 (1.96)	199 (18)	277 (313)	
20	20.7 (5.5)	47.1 (16.3)	4.49 (1.95)	195 (14)	292 (328)	
21	22.6 (5.0)	50.8 (12.5)	4.14 (1.99)	227 (32)	286 (322)	
22	19.3 (4.7)	62.6 (10.3)	2.73 (1.32)	1 (165)	277 (330)	
23	23.1 (4.6)	57.9 (11.3)	1.70 (1.12)	100 (97)	223 (299)	
24	19.1 (3.9)	64.9 (7.3)	4.02 (1.96)	16 (124)	230 (280)	
25	18.3 (1.9)	53.8 (10.0)	4.81 (1.52)	76 (22)	82 (120)	
26	21.5 (3.5)	65.3 (11.4)	3.09 (1.09)	121 (38)	169 (264)	
27	22.7 (2.8)	72.4 (5.9)	4.08 (1.56)	241 (45)	175 (258)	
28	16.1 (1.1)	75.4 (2.1)	2.46 (1.08)	296 (98)	61 (99)	
29	18.4 (3.9)	65.5 (10.2)	2.49 (1.63)	288 (113)	264 (321)	
30	19.0 (5.0)	59.2 (14.9)	2.12 (1.56)	205 (94)	195 (274)	
31	18.7 (4.5)	49.6 (15.4)	2.11 (1.04)	270 (105)	309 (348)	
Avg	17.2	60.6	3.18	226.0	196	99.1
n	30	31	31	31	30	6
SD	3.0	9.7	1.27	94.0	77	0.6
Min	11.7	43.6	1.18	1.0	16	98.4
Max	23.1	75.4	7.58	358.0	309	99.9

Table F1. Daily means (SD) of weather parameters at Site IN5B for June, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	21.1 (5.0)	63.7 (8.7)	3.06 (1.41)	261 (109)	135 (199)	
2			2.98 (1.10)	12 (146)	140 (258)	
3			3.01 (1.29)	20 (135)		
4	15.0 (4.9)	59.0 (12.0)	1.94 (0.99)	14 (151)		
5	18.9 (4.5)	52.4 (9.2)	1.84 (1.29)	270 (100)		
6	21.9 (3.5)	56.9 (11.7)	2.97 (1.49)	214 (56)		
7	22.3 (2.5)	64.9 (3.7)	2.84 (1.33)	160 (57)		
8	23.7 (2.0)	70.3 (4.8)	3.83 (2.01)	221 (61)		
9	19.3 (2.3)	72.8 (4.9)	1.80 (0.79)	18 (133)	186 (282)	99.2 (0.1)
10	19.3 (3.8)	69.3 (6.0)	2.62 (0.86)	49 (76)	185 (264)	98.9 (0.2)
11	17.4 (2.0)	77.5 (0.8)	3.18 (1.37)	3 (154)	90 (131)	98.6 (0.2)
12	19.5 (3.7)	68.4 (9.7)	2.00 (0.68)	25 (134)	245 (329)	99.1 (0.1)
13	20.0 (2.3)	69.6 (5.1)	2.38 (1.02)	37 (78)	212 (295)	99.2 (0.0)
14	20.8 (3.5)	67.8 (7.3)	2.04 (0.98)	14 (144)	270 (324)	99.3 (0.1)
15	22.3 (3.8)	54.4 (12.3)	2.30 (1.10)	73 (28)	224 (247)	99.4 (0.1)
16	21.2 (1.1)	68.8 (8.5)	4.12 (1.12)	117 (17)	85 (125)	99.0 (0.1)
17	22.2 (2.3)	74.8 (2.8)	2.45 (1.24)	309 (108)	227 (261)	98.9 (0.1)
18	23.2 (4.2)	72.9 (5.1)	2.21 (1.43)	145 (51)	204 (285)	
19	26.0 (3.6)	71.8 (5.2)	4.61 (1.70)	192 (58)	175 (247)	
20	26.0 (2.5)	72.4 (4.6)	1.96 (1.36)	290 (95)	280 (340)	
21	26.0 (2.3)	71.0 (6.7)	1.01 (0.91)	237 (85)	159 (211)	
22	27.2 (3.1)	70.0 (7.6)	1.65 (0.86)	108 (49)	232 (293)	
23	28.7 (3.4)	64.6 (9.2)	1.05 (0.56)	111 (71)	289 (323)	99.0 (0.1)
24	29.4 (3.4)	67.9 (9.0)	1.09 (1.38)	218 (81)	263 (307)	99.0 (0.1)
25	29.0 (2.7)	71.1 (5.5)	1.50 (0.80)	268 (81)	268 (327)	98.7 (0.2)
26	26.3 (3.0)	63.9 (12.4)	2.06 (1.14)	350 (155)	287 (318)	98.8 (0.1)
27	26.3 (4.3)	61.4 (12.8)	1.47 (1.01)	219 (86)	274 (316)	98.9 (0.2)
28	24.0 (1.9)	62.0 (13.2)	4.12 (2.23)	285 (50)	299 (318)	98.5 (0.1)
29	21.6 (2.6)	65.0 (9.2)	4.06 (2.16)	279 (31)	248 (302)	98.1 (0.1)
30	19.2 (1.3)	71.6 (5.2)	2.86 (1.16)	303 (44)	162 (214)	98.2 (0.1)
Avg	22.8	67.0	2.50	317.0	214	98.9
n	28	28	30	30	24	17
SD	3.6	6.0	0.95	111.0	61	0.4
Min	15.0	52.4	1.01	3.0	85	98.1
Max	29.4	77.5	4.61	350.0	299	99.4

Table F1. Daily means (SD) of weather parameters at Site IN5B for July, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P,
1	17.8 (1.0)	76.4 (3.2)	2.14 (1.07)	299 (88)	91 (137)	98.5 (0.2)
2	20.3 (1.9)	71.5 (5.6)	2.06 (1.16)	318 (115)	155 (188)	99.2 (0.2)
3	21.9 (2.9)	69.8 (6.4)	1.57 (0.88)	319 (117)	226 (272)	99.6 (0.1)
4	19.8 (1.0)	77.1 (3.5)	1.67 (0.85)	115 (39)	56 (71)	99.3 (0.2)
5	23.1 (2.9)	69.3 (9.0)	1.63 (0.82)	26 (119)	290 (350)	99.0 (0.1)
6	23.6 (2.8)	67.1 (10.4)	1.64 (1.17)	299 (88)	264 (318)	98.9 (0.1)
7	22.8 (2.8)	61.8 (12.6)	1.39 (0.60)	9 (138)	243 (322)	98.9 (0.1)
8	20.0 (2.1)	65.3 (10.2)	2.21 (0.86)	57 (47)	155 (212)	99.3 (0.1)
9	22.7 (3.1)	68.2 (8.9)	2.03 (1.04)	111 (40)	253 (306)	99.5 (0.1)
10	24.3 (3.2)	74.1 (4.1)	1.87 (1.16)	174 (65)	169 (197)	
11	25.2 (2.3)	70.9 (7.8)	1.97 (0.94)	287 (104)	205 (258)	99.4 (0.2)
12	22.2 (3.2)	60.4 (15.8)	1.41 (0.94)	347 (125)	240 (304)	99.6 (0.1)
13	21.9 (3.7)	59.1 (13.5)	1.82 (1.29)	24 (126)	272 (316)	99.5 (0.1)
14	21.4 (4.6)	55.7 (12.0)	2.11 (1.27)	119 (44)	213 (241)	99.6 (0.1)
15	24.4 (3.2)	71.8 (5.0)	2.95 (1.22)	241 (68)	222 (275)	99.1 (0.1)
16	23.1 (2.7)	70.1 (8.3)	2.32 (1.08)	268 (63)	295 (327)	99.0 (0.2)
17	18.7 (1.9)	72.8 (6.4)	3.03 (1.07)	290 (40)	180 (248)	98.9 (0.1)
18	18.8 (2.3)	70.7 (6.8)	2.00 (1.05)	304 (86)	166 (211)	99.4 (0.2)
19	19.6 (2.7)	71.7 (7.9)	1.29 (0.99)	223 (98)	203 (278)	99.7 (0.1)
20	21.3 (4.5)	63.3 (14.2)	1.22 (1.07)	116 (49)	247 (290)	99.7 (0.1)
21	22.8 (4.0)	64.6 (11.7)	1.36 (1.11)	115 (50)	211 (266)	99.4 (0.1)
22	21.5 (1.3)	73.0 (4.9)	1.79 (1.06)	114 (76)	150 (187)	99.2 (0.1)
23	20.9 (2.4)	75.5 (7.1)	1.54 (0.90)	289 (102)	169 (267)	99.1 (0.0)
24	22.8 (4.4)	69.5 (10.3)	2.13 (1.24)	209 (37)	256 (299)	98.9 (0.2)
25	22.9 (2.1)	73.5 (6.5)	2.74 (1.32)	266 (65)	229 (309)	98.5 (0.1)
26	22.5 (3.1)	73.7 (5.3)	2.24 (1.04)	261 (53)	267 (317)	98.8 (0.1)
27	23.5 (3.6)	71.2 (8.2)	2.51 (1.25)	230 (40)	250 (280)	99.1 (0.1)
28	23.7 (2.4)	75.2 (4.4)	2.69 (1.22)	225 (31)	178 (250)	98.7 (0.1)
29	22.6 (2.0)	67.0 (11.3)	1.99 (1.26)	343 (131)	256 (310)	98.8 (0.1)
30	22.2 (3.4)	66.5 (10.2)	1.26 (0.82)	220 (65)	234 (281)	98.9 (0.1)
31	22.4 (3.0)	69.5 (8.8)	1.76 (0.90)	280 (79)	285 (318)	99.2 (0.1)
Avg	22.0	69.2	1.95	280.0	214	99.2
n	31	31	31	31	31	30
SD	1.7	5.1	0.48	100.0	56	0.3
Min	17.8	55.7	1.22	9.0	56	98.5
Max	25.2	77.1	3.03	347.0	295	99.7

Table F1. Daily means (SD) of weather parameters at Site IN5B for August, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	20.6 (2.6)	74.8 (6.0)	2.19 (1.38)	230 (50)	130 (172)	99.2 (0.1)
2	20.6 (2.8)	68.2 (11.0)	2.04 (0.99)	261 (80)	279 (322)	99.2 (0.1)
3	23.6 (4.1)	70.4 (7.6)	3.94 (1.82)	204 (10)	207 (265)	99.0 (0.1)
4	24.7 (2.1)	76.0 (4.1)	1.73 (1.34)	241 (86)	140 (158)	98.9 (0.1)
5	22.4 (3.2)	63.0 (13.6)	1.63 (0.80)	12 (146)	259 (309)	99.5 (0.1)
6	21.8 (4.0)	61.0 (13.1)	1.15 (0.92)	28 (125)	249 (304)	99.7 (0.1)
7	21.0 (2.4)	72.4 (5.5)	1.57 (0.83)	135 (21)	65 (86)	99.7 (0.1)
8	26.6 (3.7)	73.5 (4.9)	4.31 (1.38)	202 (31)	154 (224)	99.3 (0.1)
9	28.9 (2.7)	71.1 (7.5)	4.70 (1.71)	224 (13)	244 (294)	99.3 (0.1)
10	26.4 (2.5)	72.2 (6.3)	2.09 (1.03)	260 (67)	235 (302)	99.3 (0.1)
11	24.1 (2.8)	72.2 (9.1)	2.42 (1.40)	315 (126)	213 (282)	99.3 (0.1)
12	21.7 (4.0)	65.3 (16.6)	2.39 (1.12)	336 (138)	256 (307)	99.6 (0.1)
13	23.2 (5.4)	63.7 (14.9)	1.21 (0.85)	180 (98)	261 (309)	99.7 (0.1)
14	24.6 (4.8)	63.6 (12.2)	1.47 (1.28)	156 (64)	239 (293)	99.8 (0.1)
15	25.2 (4.6)	64.7 (12.0)	2.14 (1.52)	151 (34)	207 (267)	99.6 (0.1)
16	26.0 (3.8)	71.6 (9.2)	3.43 (2.28)	192 (42)	172 (250)	99.5 (0.1)
17	25.5 (2.9)	74.9 (6.7)	2.40 (1.74)	202 (51)	163 (250)	99.4 (0.1)
18	24.5 (2.2)	73.1 (6.4)	1.68 (0.84)	276 (74)	206 (300)	99.4 (0.1)
19	23.4 (2.8)	72.0 (8.4)	2.88 (1.73)	146 (61)	141 (207)	98.9 (0.4)
20	22.4 (1.7)	73.6 (6.6)	4.26 (1.62)	225 (20)	134 (199)	98.4 (0.1)
21	19.4 (2.0)	77.5 (4.0)	3.43 (1.23)	252 (40)	117 (194)	98.6 (0.2)
22	17.7 (1.8)	72.2 (7.2)	3.61 (1.32)	333 (129)	183 (261)	99.3 (0.2)
23	19.1 (1.8)	75.7 (5.3)	1.83 (0.85)	347 (140)	97 (136)	99.6 (0.1)
24	20.1 (4.6)	69.5 (10.9)	0.94 (0.74)	160 (58)	209 (265)	99.9 (0.1)
25	21.8 (4.2)	72.0 (7.5)	2.07 (1.53)	195 (39)	216 (272)	99.6 (0.1)
26	21.8 (3.0)	77.0 (4.2)	1.85 (0.78)	303 (111)	122 (195)	99.6 (0.0)
27	20.4 (1.4)	78.2 (1.5)	2.82 (0.88)	62 (51)	69 (113)	99.5 (0.1)
28	20.2 (1.8)	77.8 (1.3)	2.20 (1.09)	41 (120)	59 (88)	99.1 (0.2)
29	17.9 (1.9)	74.0 (4.7)	2.74 (1.33)	281 (53)	171 (252)	99.0 (0.1)
30	15.9 (2.2)	72.2 (6.4)	2.87 (1.34)	339 (142)	165 (230)	99.7 (0.3)
31	15.5 (4.3)	67.1 (12.2)	1.61 (0.91)	11 (130)	239 (309)	100.2 (0.1)
Avg	22.2	71.3	2.44	243.0	181	99.4
n	31	31	31	31	31	31
SD	3.1	4.6	0.97	96.0	61	0.4
Min	15.5	61.0	0.94	11.0	59	98.4
Max	28.9	78.2	4.70	347.0	279	100.2

Table F1. Daily means (SD) of weather parameters at Site IN5B for September, 2009.

Day	Temp., ºC	RH, %	Wind speed,	Wind direction,	Solar, W m^{-}	Atm P, kPa
1	17.2 (4.9)	64.4 (12.9)	1.36 (0.68)	41 (86)	223 (297)	100.3 (0.1)
2	18.4 (4.9)	65.4 (13.4)	1.61 (0.70)	46 (101)	229 (295)	100.1 (0.2)
3	19.9 (4.7)	66.3 (13.4)	1.39 (0.62)	42 (103)	214 (289)	99.8 (0.1)
4	19.9 (4.3)	68.4 (12.2)	1.26 (0.60)	20 (133)	176 (261)	99.8 (0.1)
5	21.5 (4.4)	67.9 (10.6)	1.30 (0.56)	44 (109)	148 (225)	100.0 (0.1)
6	21.6 (1.9)	68.8 (5.8)	1.94 (0.89)	80 (49)	123 (202)	100.0 (0.1)
7	21.2 (3.4)	69.7 (10.2)	1.82 (1.08)	14 (147)	176 (249)	99.7 (0.1)
8	21.4 (2.4)	74.9 (4.0)	1.45 (0.80)	7 (149)	119 (178)	99.5 (0.1)
9	21.9 (2.4)	74.1 (5.5)	1.67 (0.67)	47 (98)	110 (195)	99.7 (0.2)
10	22.5 (3.6)	67.0 (12.1)	2.11 (1.17)	64 (46)	185 (260)	100.0 (0.1)
11	21.8 (3.8)	65.4 (13.5)	1.86 (0.99)	65 (74)	196 (271)	99.9 (0.1)
12	21.1 (3.6)	65.1 (13.0)	1.55 (0.98)	30 (131)	186 (257)	99.9 (0.1)
13	20.1 (4.8)	64.4 (16.8)	1.30 (0.83)	35 (111)	203 (269)	99.8 (0.2)
14	21.8 (4.9)	66.0 (12.3)	1.05 (0.62)	24 (133)	183 (244)	99.5 (0.3)
15	22.2 (4.4)	68.0 (11.6)	2.01 (1.32)	351 (151)	152 (226)	99.2 (0.2)
16	19.5 (3.7)	66.7 (12.3)	3.07 (1.33)	43 (70)	185 (243)	99.8 (0.1)
17	16.7 (4.7)	67.0 (13.9)	2.43 (1.35)	34 (101)	191 (251)	99.9 (0.1)
18	18.0 (6.0)	67.9 (14.4)	1.88 (1.15)	18 (141)	179 (243)	99.9 (0.1)
19	19.7 (3.6)	63.0 (12.3)	2.45 (0.85)	85 (56)	163 (234)	100.0 (0.1)
20	19.1 (4.4)	71.4 (6.9)	3.18 (0.98)	98 (32)	67 (130)	99.4 (0.3)
21	21.4 (1.4)	75.4 (3.4)	1.90 (1.02)	219 (84)	61 (97)	99.2 (0.1)
22	22.4 (2.2)	76.2 (2.2)	2.39 (1.27)	175 (54)	49 (86)	99.4 (0.1)
23	21.9 (1.9)	74.9 (3.8)	1.54 (0.86)	319 (124)	126 (194)	99.8 (0.1)
24	20.5 (1.6)	75.6 (1.1)	1.38 (0.58)	44 (97)	38 (73)	99.9 (0.1)
25	18.3 (1.6)	73.0 (5.3)	2.74 (1.43)	102 (37)	48 (95)	99.7 (0.1)
26	18.6 (1.3)	74.6 (2.8)	1.47 (0.91)	293 (95)	62 (115)	99.1 (0.3)
27	18.9 (3.7)	67.1 (10.0)	4.32 (2.34)	223 (33)	145 (230)	98.0 (0.4)
28	15.0 (1.4)	60.7 (4.7)	8.22 (1.97)	277 (12)	97 (165)	98.1 (0.3)
29	12.5 (1.5)	68.4 (3.6)	3.41 (2.06)	309 (101)		99.2 (0.3)
30	13.2 (2.8)	67.1 (10.3)	1.93 (0.83)	17 (136)	148 (236)	99.6 (0.1)
Avg	19.6	68.8	2.20	33.0	144	99.6
n	30	30	30	30	29	30
SD	2.6	4.1	1.33	106.0	56	0.5
Min	12.5	60.7	1.05	7.0	38	98.0
Max	22.5	76.2	8.22	351.0	229	100.3

Table F2. Building environment.

Table F2. Daily means (SD) of environmental parameters at Site IN5B for September, 2007.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	18.3 (2.3)	81.7 (4.3)	-30.9 (3.8)	266.0 (10.5)	875	18.7 (2.1)	83.0 (3.2)	-32.2 (4.5)		880	18.6 (2.4)	88.6 (4.4)	-21.2 (2.6)	
2	19.9 (2.1)	81.4 (2.6)	-31.2 (2.8)	261.0 (28.7)	858	20.2 (2.1)	82.8 (3.2)	-31.8 (4.0)		873	19.9 (2.0)	88.1 (3.5)	-22.9 (1.8)	
3	20.4 (3.2)	83.2 (2.5)	-31.9 (2.8)	264.0 (7.7)	857	20.7 (3.2)	83.5 (2.1)	-32.7 (2.5)		882	21.0 (2.9)	88.6 (3.0)	-22.5 (1.8)	
4	21.1 (2.1)		-30.0 (5.8)		856	21.5 (2.1)		-29.8 (5.8)		880	21.6 (2.2)	88.1 (5.0)	-21.4 (1.9)	
5	22.3 (2.1)		-32.2 (3.1)	264.0 (8.8)	845	23.1 (2.3)	67.5 (7.6)	-31.9 (4.0)		873	22.7 (2.1)	85.2 (3.3)	-21.6 (3.7)	
6	23.1 (1.0)		-31.2 (2.1)	264.0 (5.6)	835	23.7 (0.9)	81.1 (3.8)	-30.0 (4.2)		854	23.1 (0.9)	90.8 (2.3)	-23.9 (4.1)	
7	23.7 (1.2)		-32.1 (4.0)	263.0 (10.2)	837	24.2 (1.2)	82.9 (3.4)	-32.4 (3.5)		860	23.6 (1.2)	91.2 (2.1)	-26.0 (3.8)	
8	22.3 (1.6)		-32.5 (3.6)	265.0 (7.7)	836	22.8 (1.6)	83.6 (1.6)	-31.1 (5.5)		871	22.3 (1.6)	92.7 (0.7)	-19.8 (2.2)	228.0 (5.6)
9	20.7 (1.5)		-32.4 (3.8)	266.0 (7.2)	833	21.1 (1.4)	82.0 (3.0)	-31.9 (4.5)		870	20.6 (1.5)	91.4 (2.5)	-18.0 (1.6)	234.0 (2.6)
10	19.5 (1.7)		-33.1 (2.6)	266.0 (8.7)	832	20.0 (1.7)	82.4 (4.3)	-33.0 (4.2)		869	19.7 (1.6)	90.7 (3.4)	-19.2 (1.9)	233.0 (5.4)
11	16.1 (2.6)	76.6 (7.8)	-34.0 (4.2)		826	16.4 (2.5)	73.9 (8.1)	-34.7 (4.5)	228.0 (20.3)	867	16.5 (2.3)	81.2 (10.0)	-18.7 (6.1)	200.0 (49.8)
12	14.3 (3.6)	70.8 (6.9)	-30.0 (4.6)	245.0 (16.5)	815	14.5 (3.0)	65.3 (8.3)	-30.5 (5.5)	240.0 (21.4)	864	15.0 (3.0)	73.4 (8.0)	-14.1 (4.1)	205.0 (34.1)
13	15.8 (3.2)	75.5 (5.3)	-31.1 (3.4)	258.0 (11.5)	831	15.8 (2.8)	72.5 (3.4)	-32.0 (4.4)	249.0 (19.8)	862	15.7 (2.4)	81.7 (6.3)	-19.4 (5.8)	207.0 (26.8)
14	15.9 (2.3)	67.1 (6.9)	-32.8 (4.0)	255.0 (11.9)	852	15.9 (1.9)	66.8 (6.2)	-34.9 (4.1)	258.0 (12.0)	861	16.6 (2.1)	68.1 (7.9)	-17.2 (3.6)	229.0 (17.9)
15	12.4 (3.2)	62.8 (7.9)	-28.0 (6.7)	225.0 (36.3)	856	13.0 (3.0)	62.3 (9.2)	-27.2 (7.7)	224.0 (43.1)	858	13.2 (2.9)	61.5 (8.4)	-12.5 (4.1)	188.0 (44.4)
16	14.6 (3.8)	65.3 (8.5)	-29.2 (5.5)	242.0 (27.4)	858	14.6 (3.3)	67.2 (7.5)	-30.2 (4.7)	240.0 (27.7)	854	15.5 (3.4)	64.8 (10.2)	-16.6 (5.6)	194.0 (41.4)
17	16.6 (3.2)	71.4 (6.2)	-31.4 (3.6)	262.0 (10.3)	856	16.8 (3.1)	72.2 (5.8)	-32.0 (3.5)	253.0 (15.3)	854	16.9 (2.7)	74.4 (10.3)	-21.0 (4.5)	214.0 (17.2)
18	20.6 (3.0)	78.0 (3.2)	-32.8 (2.1)	266.0 (6.9)	853	20.9 (2.9)	77.8 (2.4)	-33.6 (3.1)	260.0 (10.5)	834	20.7 (2.8)	84.0 (5.1)	-23.0 (2.1)	225.0 (6.8)
19	21.6 (1.9)	80.7 (3.2)	-33.2 (3.6)	262.0 (8.0)	850	21.7 (1.8)		-35.1 (2.7)	259.0 (8.1)	839	21.8 (1.9)	85.9 (4.7)	-21.3 (2.4)	227.0 (4.5)
20	20.5 (1.9)	81.8 (3.1)	-33.6 (3.0)	264.0 (9.8)	850	20.7 (1.9)		-34.2 (4.5)	262.0 (13.3)	866	20.6 (1.9)	88.0 (2.0)	-19.5 (2.0)	232.0 (5.8)
21	22.1 (2.3)	77.4 (5.8)	-31.6 (2.3)	263.0 (6.2)	849	22.0 (2.1)		-33.1 (3.8)	258.0 (11.7)	867	21.4 (1.6)	85.6 (2.7)	-23.0 (2.7)	223.0 (7.1)
22	18.6 (2.2)	71.1 (3.6)	-32.9 (2.4)	256.0 (7.0)	851	18.6 (2.2)	59.6 (6.6)	-34.1 (2.6)	254.0 (8.4)	866	18.5 (2.6)	76.7 (6.9)	-17.5 (2.6)	232.0 (15.3)
23	17.9 (4.0)	74.5 (3.5)	-32.5 (2.7)	252.0 (5.1)	854	18.3 (3.9)	61.8 (8.8)	-33.9 (3.0)	248.0 (8.5)	864	18.5 (3.8)	79.1 (5.0)	-18.7 (4.2)	216.0 (20.7)
24	23.7 (3.3)	72.2 (4.9)	-24.8 (5.8)	277.0 (19.1)	839	24.0 (3.2)	66.6 (5.0)	-26.5 (5.5)	268.0 (15.9)	868	23.1 (2.6)	84.4 (4.1)	-22.1 (2.7)	222.0 (14.7)
25	24.1 (1.1)	79.9 (3.0)	-23.5 (2.4)	286.0 (6.1)	830	24.5 (1.1)	78.2 (3.0)	-25.0 (2.4)	274.0 (7.0)	870	24.2 (1.1)	87.4 (3.8)	-20.6 (1.9)	224.0 (7.7)
26	18.0 (2.1)	80.7 (4.0)	-31.2 (5.9)	268.0 (12.6)	832	18.3 (2.3)	77.2 (6.8)	-32.2 (4.6)	261.0 (11.7)	871	18.6 (2.3)	86.6 (5.6)	-17.5 (2.5)	235.0 (9.0)
27	17.0 (1.7)	76.8 (6.0)	-32.4 (4.1)	257.0 (7.6)	826	17.2 (1.5)	70.9 (12.5)	-32.4 (4.6)	251.0 (14.5)	877	17.0 (1.7)	85.3 (5.4)	-18.1 (3.2)	224.0 (12.9)
28	15.5 (2.7)	71.6 (3.7)	-32.5 (3.1)	256.0 (6.4)	837	15.7 (2.6)	69.7 (6.5)	-32.1 (3.7)	250.0 (10.1)	877	16.1 (2.5)	77.5 (4.7)	-15.7 (2.9)	213.0 (26.9)
29	16.2 (3.1)	69.6 (3.7)	-32.3 (2.6)	261.0 (8.3)	850	16.4 (3.0)	72.6 (3.2)	-33.3 (3.8)	248.0 (14.6)	876	16.7 (2.9)	75.5 (4.7)	-19.4 (5.8)	210.0 (26.6)
30	18.0 (3.0)	68.5 (2.7)	-31.4 (2.6)	263.0 (9.9)	856	18.1 (3.1)	68.0 (11.1)	-31.5 (4.2)	259.0 (12.7)	880	18.5 (2.4)	74.6 (6.0)	-23.5 (5.0)	219.0 (14.1)
Avg	19.0	74.7	-31.3	261.0	844	19.3	73.5	-31.8	252.0	866	19.3	82.4	-19.9	219.0
n	30	23	30	28	30	30	26	30	20	30	30	30	30	23
SD	3.1	5.7	2.30	10.60	13	3.2	7.5	2.30	11.90	11	2.9	8.1	3.00	12.90
Min	12.4	62.8	-34.00	225.00	815	13.0	59.6	-35.10	224.00	834	13.2	61.5	-26.00	188.00
Max	24.1	83.2	-23.50	286.00	875	24.5	83.6	-25.00	274.00	882	24.2	92.7	-12.50	235.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for October, 2007.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	18.7 (0.8)	79.4 (3.5)	-33.2 (4.1)		857	18.8 (0.9)	82.9 (3.3)	-34.2 (3.6)	264.0 (10.2)	877	18.9 (0.8)	87.5 (2.3)	-24.2 (2.7)	223.0 (5.5)
2	19.4 (2.0)	79.3 (4.8)	-31.7 (2.2)		851	19.5 (2.0)	83.6 (3.9)	-32.5 (3.6)	264.0 (10.0)	868	19.7 (2.0)	87.3 (3.8)	-22.5 (3.0)	226.0 (8.3)
3	18.1 (1.6)	74.1 (6.9)	-33.2 (3.2)		850	17.9 (1.6)	76.8 (7.6)	-34.6 (3.4)	260.0 (11.0)	869	18.0 (1.9)	82.3 (6.6)	-19.5 (3.5)	231.0 (9.8)
4					850					868				
5					850					866				
6	23.8 (1.5)	80.4 (3.1)	-32.0 (4.1)	263.0 (11.8)	843	24.0 (1.6)	84.3 (4.0)	-32.5 (3.7)	263.0 (10.8)	869	23.9 (1.5)		-21.4 (1.8)	224.0 (4.9)
7	23.5 (1.6)	78.9 (3.1)	-33.1 (2.5)	261.0 (7.1)	836	23.7 (1.6)	83.0 (4.5)	-33.3 (2.8)	261.0 (7.9)	867	23.7 (1.8)		-19.7 (1.5)	228.0 (4.0)
8	22.6 (1.7)	77.1 (2.9)	-34.2 (4.1)	259.0 (10.7)	837	22.8 (1.7)	81.8 (3.0)	-34.3 (4.2)	259.0 (11.2)	859	22.7 (1.7)		-21.7 (3.6)	224.0 (9.1)
9					835					861				
10					836					868				
11					846					870				
12					853					860				
13					852					855				
14					851					856				
15					851					856				
16	19.0 (1.1)	73.6 (5.1)	-31.5 (3.9)	262.0 (17.6)	852	19.3 (1.2)	72.9 (4.9)	-32.3 (4.4)	259.0 (13.9)	855	19.4 (1.2)		-21.1 (1.8)	226.0 (12.0)
17	18.5 (3.9)	72.1 (9.7)	-28.4 (4.0)	247.0 (22.8)	852	18.8 (4.1)	71.1 (9.6)	-30.0 (4.9)	242.0 (24.5)	860	18.9 (4.0)		-18.2 (3.9)	219.0 (18.9)
18	21.6 (2.3)	75.3 (8.6)	-27.4 (3.9)	273.0 (6.8)	851	22.0 (2.5)	75.2 (7.9)	-30.3 (4.2)	260.0 (9.5)	866	21.8 (2.6)		-28.8 (6.9)	204.0 (18.0)
19	15.3 (0.8)	71.4 (4.2)	-31.1 (4.9)		849	15.7 (0.9)	70.6 (3.8)	-32.9 (3.4)	224.0 (17.6)	866	15.6 (1.1)		-32.7 (4.8)	197.0 (14.6)
20	16.4 (4.0)	61.6 (9.2)	-26.6 (4.2)		850	16.9 (4.0)	60.9 (8.7)	-29.6 (4.3)	228.0 (41.5)	867	17.0 (4.2)		-26.2 (5.2)	189.0 (27.7)
21	19.6 (3.2)	55.9 (6.7)	-25.5 (3.7)		849	20.0 (3.3)	55.8 (6.2)	-29.3 (3.2)	264.0 (9.5)	865	20.5 (3.2)		-35.4 (5.6)	195.0 (16.3)
22	15.6 (2.2)	72.7 (5.1)	-27.1 (4.4)		849	15.6 (2.1)	71.3 (4.8)	-28.4 (5.5)		863	16.0 (2.0)		-20.9 (6.1)	
23	11.9 (1.0)	76.8 (2.8)	-23.2 (2.5)	196.0 (17.1)	842	12.6 (1.0)	74.0 (2.5)	-22.3 (3.2)	184.0 (16.5)	872	12.5 (1.4)	80.5 (2.9)	-13.2 (2.3)	169.0 (21.0)
24	11.7 (1.3)	67.3 (3.5)	-20.5 (4.2)	174.0 (20.1)	839	12.1 (1.3)	65.1 (3.5)	-19.2 (3.7)	179.0 (29.9)	880	11.9 (1.5)	68.5 (4.9)	-11.5 (1.6)	175.0 (27.3)
25	12.1 (3.1)	66.9 (6.1)	-23.1 (7.3)	193.0 (42.0)	845	12.8 (3.3)	66.5 (6.1)	-20.5 (9.3)	174.0 (44.1)	879	12.3 (3.5)	69.5 (8.0)	-15.2 (4.7)	179.0 (41.1)
26	14.5 (2.8)	73.9 (6.8)	-27.2 (4.6)	223.0 (27.2)	846	15.3 (2.7)	73.8 (6.5)	-26.4 (5.3)	203.0 (31.6)	878	14.6 (2.8)	70.6 (12.9)	-18.3 (5.2)	188.0 (28.5)
27	12.4 (2.0)	75.2 (5.7)	-23.0 (5.0)	197.0 (23.5)	847	13.1 (2.1)	74.9 (5.6)	-21.2 (4.5)	173.0 (22.0)	877	12.8 (2.2)	77.9 (8.5)	-14.8 (3.5)	168.0 (16.9)
28	9.8 (2.9)	60.8 (11.2)	-18.4 (5.2)	170.0 (36.2)	846	10.4 (3.0)	63.2 (11.2)	-14.9 (4.6)	155.0 (35.3)	876	9.6 (3.6)	58.3 (13.7)	-13.1 (1.7)	
29	10.3 (3.4)	61.6 (7.3)	-19.8 (6.7)	173.0 (35.6)	846	10.9 (3.4)	64.1 (7.1)	-16.0 (6.2)	155.0 (34.5)	875	9.9 (4.1)	60.8 (9.5)	-18.5 (6.0)	
30	12.2 (3.7)	62.9 (7.9)	-23.8 (7.5)	211.0 (61.5)	846	12.5 (3.9)	65.0 (7.6)	-21.0 (8.7)	193.0 (59.4)	875	12.2 (4.8)	61.7 (10.5)	-22.6 (7.2)	
31	13.1 (2.4)	65.8 (5.8)	-31.2 (8.3)		845	13.0 (2.6)	66.0 (6.2)	-27.5 (6.5)		874	13.7 (2.6)	61.9 (7.4)	-24.3 (8.0)	
Avg	16.4	71.1	-27.5	221.0	847	16.7	71.9	-27.4	223.0	868	16.6	72.2	-21.1	204.0
n	22	22	22	14	31	22	22	22	20	31	22	12	22	17
SD	4.3	7.0	4.70	37.00	5	4.2	7.9	6.10	40.50	7	4.3	10.1	5.90	22.00
Min	9.8	55.9	-34.20	170.00	835	10.4	55.8	-34.60	155.00	855	9.6	58.3	-35.40	168.00
Max	23.8	80.4	-18.40	273.00	857	24.0	84.3	-14.90	264.00	880	23.9	87.5	-11.50	231.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for November, 2007.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	9.0 (2.6)	55.3 (9.2)	-23.0 (6.0)	184.0 (39.0)	836	9.2 (2.6)	57.0 (9.4)	-19.0 (5.5)	165.0 (41.1)	861	9.5 (3.2)	49.7 (11.5)	-13.5 (2.3)	
2	9.4 (3.5)	58.4 (8.6)	-21.2 (6.2)	196.0 (46.3)	825	9.7 (3.5)	60.1 (8.5)	-17.6 (5.7)	179.0 (50.9)	858	10.0 (4.1)	52.0 (10.8)	-16.5 (3.8)	
3	10.0 (2.8)	55.5 (9.4)	-25.3 (6.4)	202.0 (30.2)	832	10.6 (2.5)	56.2 (9.4)	-19.2 (7.4)	187.0 (39.6)	867	11.2 (2.8)	48.3 (10.0)	-14.6 (2.9)	
4					841					866				
5					841					867				
6	7.4 (1.5)	58.5 (3.3)	-22.4 (4.5)	151.0 (20.7)	843	8.0 (1.4)	57.5 (3.7)	-23.1 (7.5)	141.0 (20.3)	869	8.1 (1.9)	53.9 (5.5)	-15.5 (5.9)	
7	6.4 (1.7)	58.8 (5.7)	-15.4 (5.2)	147.0 (18.2)	843	7.1 (1.6)	58.4 (5.6)	-16.3 (4.2)	137.0 (17.0)	870	6.4 (1.8)	54.0 (5.3)	-12.6 (3.5)	
8	8.9 (2.2)	58.3 (3.6)	-20.9 (7.0)	185.0 (29.3)	842	9.4 (2.2)	58.3 (3.5)	-23.0 (7.2)	173.0 (27.9)	869	9.6 (2.7)	54.1 (5.1)	-14.9 (2.7)	
9	7.6 (2.0)	63.0 (6.0)	-20.4 (4.3)	165.0 (25.1)	842	8.4 (1.8)	62.6 (5.4)	-21.1 (5.5)	160.0 (29.8)	859	8.7 (2.4)	58.1 (7.3)	-11.5 (2.5)	
10	8.2 (2.4)	63.9 (4.7)	-21.0 (3.8)	178.0 (36.7)	840	8.8 (2.2)	64.5 (4.7)	-22.1 (3.4)	166.0 (32.6)	855	9.0 (2.5)	59.6 (6.1)	-13.9 (2.1)	
11	10.3 (1.9)	72.7 (4.0)	-22.5 (4.3)		842	10.7 (2.0)	72.9 (3.9)	-23.7 (4.3)	188.0 (33.2)	861	10.8 (2.4)	71.2 (5.4)	-18.4 (2.5)	
12	15.0 (2.2)	78.8 (3.8)	-31.8 (3.5)		843	15.4 (2.1)	78.4 (3.7)	-32.4 (3.3)	252.0 (16.0)	859	16.0 (2.0)	77.4 (5.2)	-21.1 (6.4)	
13	11.8 (2.8)	70.8 (7.0)	-26.2 (5.6)		844	12.2 (2.8)	71.4 (6.8)	-26.3 (5.9)	222.0 (40.6)	859	12.8 (2.9)	68.2 (8.5)	-16.3 (5.3)	
14					842					860				
15	6.4 (1.2)	60.5 (3.1)	-20.2 (3.6)	142.0 (8.9)	840	7.0 (1.3)	59.2 (3.3)	-21.8 (5.2)	138.0 (13.7)	861	6.8 (2.5)	57.6 (4.5)	-14.3 (2.5)	
16	5.4 (2.0)	64.4 (3.2)	-12.7 (3.7)	136.0 (21.1)	847	5.9 (2.0)	64.8 (3.1)	-14.4 (3.9)	127.0 (22.4)	861	4.6 (3.0)	62.7 (5.5)	-14.4 (2.9)	
17	7.4 (1.3)	68.1 (3.1)	-19.8 (4.4)	162.0 (20.1)	856	8.0 (1.4)	67.3 (2.9)	-18.2 (3.6)	149.0 (16.7)	869	7.3 (1.8)	66.7 (4.6)	-14.3 (2.2)	
18	7.4 (0.9)	69.5 (2.7)	-16.1 (3.5)	161.0 (9.1)	859	8.1 (0.9)	68.9 (2.7)	-15.0 (1.1)	151.0 (4.8)	879	7.4 (1.1)	69.2 (4.0)	-12.4 (1.6)	
19	12.2 (3.7)	76.1 (3.8)	-23.8 (8.5)	216.0 (51.1)	859	12.6 (3.7)	76.8 (2.9)	-23.7 (8.3)	213.0 (52.0)	880	12.6 (4.4)	78.1 (2.7)	-22.9 (9.2)	
20	15.9 (1.5)	79.9 (2.3)	-30.6 (2.4)	262.0 (12.4)	859	16.2 (1.4)	80.3 (1.9)	-30.1 (3.3)	269.0 (9.3)	882	16.7 (1.6)	79.1 (5.3)	-26.1 (4.4)	
21	9.3 (2.3)	79.0 (1.7)	-24.3 (3.6)	202.0 (29.0)	866	10.1 (2.2)	78.2 (2.1)	-20.2 (6.4)	191.0 (30.7)	881	10.8 (2.3)	77.8 (2.0)	-10.2 (5.4)	
22	5.5 (1.0)	70.8 (5.1)	-19.8 (4.1)	130.0 (13.4)	861	6.4 (1.1)	70.1 (4.9)	-17.7 (4.5)	129.0 (16.2)	877	5.3 (1.7)	68.3 (4.7)	-12.3 (2.4)	
23	3.5 (1.5)	63.6 (4.1)	-12.3 (5.4)	118.0 (9.6)	850	4.2 (1.4)	63.9 (3.2)	-12.3 (5.6)	108.0 (17.0)	872	2.3 (1.5)	62.0 (4.8)	-11.5 (3.3)	
24	4.7 (1.3)	65.6 (3.6)	-11.6 (5.3)	124.0 (16.1)	848	5.2 (1.4)	66.8 (3.3)	-12.5 (5.7)	115.0 (19.8)	876	3.2 (2.0)	64.9 (5.1)	-14.3 (4.0)	
25	5.0 (1.3)	70.6 (3.3)	-12.9 (5.0)	128.0 (12.1)	845	5.5 (1.2)	71.9 (3.1)	-14.0 (4.8)	121.0 (16.3)	878	3.4 (1.5)	71.7 (3.0)	-14.1 (2.7)	
26	5.8 (0.8)	74.1 (2.8)	-18.3 (2.2)	136.0 (6.0)	843	6.4 (0.9)	74.4 (2.5)	-17.7 (2.2)	134.0 (7.6)	876	4.9 (1.4)	75.5 (2.2)	-12.9 (1.6)	
27	5.1 (1.7)	63.4 (5.6)	-14.8 (6.0)	125.0 (16.2)	841	5.8 (1.7)	63.7 (6.5)	-15.3 (6.2)	119.0 (20.5)	874	4.3 (2.3)	63.5 (9.2)	-14.2 (3.9)	
28	7.0 (2.8)	64.6 (4.7)	-17.0 (8.1)	160.0 (38.7)	843	7.6 (2.7)	65.3 (4.6)	-18.4 (8.3)	144.0 (40.1)	873	6.7 (4.5)	63.6 (6.1)	-20.2 (6.7)	
29	3.8 (1.9)	61.1 (3.6)	-18.1 (4.2)	120.0 (13.2)	846	4.5 (1.7)	61.8 (3.8)	-19.6 (4.5)	114.0 (15.0)	872	3.5 (2.1)	63.2 (5.0)	-20.2 (3.4)	
30	3.9 (2.3)	57.8 (6.1)	-18.5 (5.4)	127.0 (7.8)	854	4.6 (2.2)	58.8 (6.8)	-20.3 (5.2)	121.0 (8.0)	869	4.6 (1.8)	59.1 (6.8)	-19.6 (4.8)	118.0 (10.2)
Avg	7.9	66.0	-20.0	161.0	846	8.4	66.3	-19.8	160.0	869	8.0	64.1	-15.6	
n	27	27	27	24	30	27	27	27	27	30	27	27	27	1
SD	3.1	7.3	5.10	35.60	9	3.0	7.1	4.80	41.30	8	3.7	8.9	3.80	
Min	3.5	55.3	-31.80	118.00	825	4.2	56.2	-32.40	108.00	855	2.3	48.3	-26.10	
Max	15.9	79.9	-11.60	262.00	866	16.2	80.3	-12.30	269.00	882	16.7	79.1	-10.20	

Table F2. Daily means (SD) of environmental parameters at Site IN5B for December, 2007.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	2.7 (2.3)	64.3 (4.4)	-13.2 (2.2)	128.0 (5.5)	863	3.2 (2.2)	64.9 (4.7)	-12.8 (2.7)	122.0 (5.0)	876	3.7 (1.3)	64.3 (6.4)	-18.4 (3.3)	117.0 (5.5)
2	8.7 (3.4)	73.2 (4.9)	-23.4 (8.2)	166.0 (45.9)	863	9.2 (3.2)	74.3 (4.6)	-22.7 (7.9)	168.0 (50.1)	881	9.2 (3.6)	75.6 (3.9)	-23.8 (6.6)	144.0 (30.7)
3	3.1 (2.0)	67.1 (3.3)	-21.3 (4.7)	119.0 (5.7)	863	3.8 (1.7)	67.3 (2.6)	-19.7 (5.3)	118.0 (7.3)	880	3.8 (1.3)	70.0 (3.5)	-20.8 (4.2)	113.0 (6.5)
4	4.1 (1.5)	69.7 (3.3)	-15.9 (2.0)	130.0 (7.1)	865	4.7 (1.4)	69.7 (2.8)	-14.2 (1.7)	124.0 (7.0)	881	4.3 (1.1)	70.8 (4.1)	-17.0 (2.2)	121.0 (8.9)
5	1.6 (2.5)	69.6 (3.5)	-16.7 (3.7)	120.0 (5.9)	866	2.9 (2.4)	68.6 (3.1)	-12.5 (3.0)	120.0 (2.3)	882	3.2 (1.8)	72.6 (4.2)	-15.4 (3.4)	121.0 (9.4)
6	-2.3 (3.6)	69.6 (3.6)	-16.7 (2.4)	121.0 (4.7)	864	-1.7 (3.7)	69.7 (3.4)	-16.9 (3.1)	118.0 (3.6)	883	0.8 (3.1)	70.4 (3.1)	-21.1 (2.4)	
7	4.1 (1.0)	71.6 (2.4)	-17.1 (2.8)	124.0 (5.5)	859	4.6 (0.9)	72.7 (2.4)	-17.5 (2.5)	119.0 (6.5)	873	4.5 (1.1)	74.8 (2.1)	-19.3 (2.4)	113.0 (4.1)
8	3.2 (1.3)	67.7 (1.7)	-15.6 (1.6)	127.0 (5.6)	850	4.0 (1.3)	69.0 (2.9)	-14.1 (3.1)	119.0 (3.6)	869	3.7 (1.3)	69.5 (3.1)	-13.7 (1.8)	114.0 (8.0)
9	3.8 (0.7)	71.4 (2.6)	-14.9 (2.2)	126.0 (3.3)	846	4.4 (0.6)	72.9 (3.1)	-14.4 (3.0)	118.0 (3.0)	875	4.2 (0.8)	73.8 (2.3)	-13.7 (1.6)	112.0 (5.4)
10					848					875				
11	5.4 (0.6)	75.1 (2.5)	-18.0 (2.4)	136.0 (4.4)	851	6.1 (0.7)	75.9 (2.3)	-18.0 (1.7)	129.0 (4.1)	870	5.2 (0.7)	79.2 (1.5)	-15.1 (1.5)	126.0 (12.5)
12	6.1 (1.1)	68.5 (4.2)	-17.7 (1.4)	144.0 (9.2)	853	6.8 (0.7)	69.4 (3.9)	-17.3 (1.4)	137.0 (8.8)	867	6.2 (0.8)	69.7 (5.6)	-15.1 (2.2)	132.0 (9.9)
13	5.4 (0.9)	72.4 (3.4)	-22.0 (3.9)	129.0 (7.3)	853	5.9 (0.8)	73.2 (3.0)	-21.5 (3.8)	125.0 (5.0)	838	5.5 (0.9)	76.1 (2.0)	-23.0 (4.7)	117.0 (13.3)
14	3.2 (1.0)	67.4 (2.9)	-16.7 (2.6)	126.0 (6.8)	847	3.9 (1.0)	68.5 (3.2)	-15.9 (3.2)	118.0 (3.5)	838	4.5 (1.1)	70.8 (3.1)	-16.5 (3.1)	118.0 (5.1)
15	2.9 (0.8)	71.2 (3.5)	-14.5 (1.7)	124.0 (3.4)	840	3.8 (0.5)	71.8 (3.4)	-14.0 (2.1)	118.0 (2.1)	870	4.9 (0.9)	74.3 (3.7)	-15.8 (2.3)	118.0 (2.6)
16	0.2 (1.9)	69.5 (4.1)	-23.6 (3.0)	110.0 (5.8)	839	2.0 (1.9)	70.7 (3.1)	-22.4 (5.4)	110.0 (5.0)	870	3.0 (1.7)	76.0 (3.1)	-14.8 (4.0)	118.0 (9.5)
17	-0.6 (1.3)	71.2 (2.3)	-18.3 (3.8)	123.0 (3.7)	838	0.4 (1.0)	72.5 (2.8)	-18.9 (2.8)	115.0 (2.7)	870	2.5 (1.2)	74.9 (2.7)	-20.9 (3.0)	111.0 (7.6)
18	3.3 (2.9)	70.4 (2.9)	-13.9 (2.9)	133.0 (6.9)	839	3.8 (2.7)	71.0 (2.4)	-16.3 (2.5)	122.0 (6.2)	870	4.6 (1.8)	73.3 (2.8)	-21.2 (2.6)	112.0 (5.8)
19	1.4 (2.6)	69.4 (3.9)	-16.7 (3.4)	125.0 (5.4)	839	2.3 (2.5)	71.3 (3.2)	-16.9 (2.1)	118.0 (4.1)	868	3.0 (1.5)	73.8 (3.6)	-19.3 (2.7)	114.0 (5.8)
20	3.9 (2.3)	68.5 (2.7)	-15.8 (2.1)	134.0 (10.4)	838	4.6 (2.4)	69.9 (2.9)	-15.5 (2.3)	122.0 (7.2)	869	4.6 (1.5)	71.6 (3.7)	-18.0 (1.8)	120.0 (10.3)
21	6.1 (0.6)	71.4 (3.2)	-17.0 (2.0)	141.0 (6.9)	837	6.9 (0.6)	72.4 (3.1)	-16.8 (2.1)	130.0 (2.6)	871	6.0 (0.6)	74.4 (3.7)	-17.2 (1.1)	130.0 (8.0)
22	9.8 (1.8)	78.4 (2.1)	-18.6 (3.3)	191.0 (27.1)	836	10.2 (1.5)	79.2 (1.7)	-17.7 (3.1)	180.0 (25.6)	871	10.2 (1.9)	82.8 (2.5)	-21.5 (4.3)	145.0 (16.5)
23	1.5 (4.3)	68.7 (4.6)	-34.2 (6.9)	119.0 (42.4)	837	2.2 (4.2)	70.5 (5.0)	-27.8 (5.2)	110.0 (34.4)	870	3.4 (3.9)	67.6 (12.2)	-13.9 (7.6)	127.0 (18.6)
24	2.2 (1.3)	69.2 (2.5)	-22.0 (4.2)	117.0 (3.8)	837	2.9 (1.1)	71.1 (2.5)	-20.4 (3.2)	102.0 (3.1)	870	3.3 (0.9)	73.0 (2.5)	-15.8 (2.1)	108.0 (4.0)
25	5.3 (2.0)	67.5 (4.4)	-16.0 (1.6)	140.0 (13.8)	837	5.6 (2.1)	69.3 (4.1)	-15.5 (1.6)	122.0 (15.3)	870	5.7 (1.4)	68.0 (4.4)	-17.8 (1.5)	115.0 (9.0)
26	5.8 (2.2)	68.3 (4.7)	-15.7 (3.4)	148.0 (20.1)	836	6.2 (2.2)	70.2 (4.1)	-14.9 (3.7)	134.0 (23.5)	871	6.2 (2.1)	67.8 (6.6)	-16.5 (1.8)	120.0 (10.2)
27	5.3 (0.7)	74.3 (3.2)	-18.2 (2.5)	135.0 (5.2)	836	6.0 (0.6)	75.6 (3.4)	-16.4 (3.0)	120.0 (7.8)	872	5.1 (0.8)	76.5 (3.4)	-17.5 (1.9)	120.0 (9.5)
28	5.5 (0.8)	74.3 (3.2)	-19.5 (5.5)	133.0 (8.2)	841	6.0 (0.7)	75.2 (2.6)	-17.8 (4.4)	122.0 (6.6)	863	5.2 (1.1)	78.1 (2.8)	-20.8 (5.1)	114.0 (11.9)
29	3.0 (0.9)	69.9 (2.4)	-17.8 (3.9)	122.0 (3.8)	845	3.3 (1.0)	71.9 (2.3)	-16.4 (3.8)	101.0 (5.2)	854	3.5 (0.8)	73.1 (3.1)	-19.8 (3.4)	105.0 (3.3)
30	4.0 (1.4)	71.1 (2.4)	-15.0 (1.6)	133.0 (6.6)	844	4.4 (1.4)	73.3 (2.4)	-13.8 (1.9)	108.0 (11.6)	854	4.2 (1.1)	73.4 (2.9)	-18.2 (1.4)	108.0 (7.1)
31	4.4 (1.1)	73.6 (2.7)	-16.7 (4.7)	130.0 (7.0)	846	4.9 (1.2)	75.7 (2.8)	-15.5 (5.4)	111.0 (11.4)	858	4.7 (1.0)	75.9 (3.2)	-17.3 (3.1)	112.0 (10.4)
Avg	3.8	70.5	-18.1	132.0	847	4.4	71.6	-17.1	123.0	869	4.6	73.1	-18.0	119.0
n	30	30	30	30	31	30	30	30	30	31	30	30	30	29
SD	2.5	2.8	4.00	15.20	10	2.3	2.9	3.30	15.90	11	1.8	3.8	2.70	9.40
Min	-2.3	64.3	-34.20	110.00	836	-1.7	64.9	-27.80	101.00	838	0.8	64.3	-23.80	105.00
Max	9.8	78.4	-13.20	191.00	866	10.2	79.2	-12.50	180.00	883	10.2	82.8	-13.70	145.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for January, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	-1.2 (3.0)	70.9 (2.5)	-27.8 (3.0)	113.0 (3.6)	849	-0.3 (2.9)	73.5 (2.1)	-27.7 (4.0)	91.2 (3.7)	860	1.5 (2.6)	77.4 (3.5)	-26.2 (2.8)	98.3 (6.0)
2	-7.3 (1.7)	71.6 (3.2)	-23.3 (2.9)	128.0 (12.6)	849	-6.6 (1.8)	73.3 (2.1)	-21.9 (3.2)	107.0 (14.9)	859	-3.0 (2.6)	71.4 (2.4)	-22.2 (1.9)	89.8 (5.6)
3	-5.0 (3.3)	72.6 (4.4)	-14.2 (2.8)	129.0 (2.6)	847	-4.9 (3.3)	74.8 (3.5)	-13.2 (2.6)	104.0 (3.5)	859	-2.2 (4.1)	71.5 (3.5)	-21.1 (3.0)	86.1 (7.1)
4	3.0 (2.0)	66.0 (2.9)	-13.0 (1.7)	132.0 (6.4)	846	3.1 (2.1)	67.7 (3.4)	-16.1 (1.7)	103.0 (6.2)	858	4.4 (1.6)	68.9 (2.8)	-22.6 (2.0)	93.0 (2.6)
5	7.3 (1.2)	74.0 (5.6)	-16.3 (4.8)	139.0 (31.2)	839	7.4 (1.1)	75.2 (4.8)	-16.7 (3.0)	132.0 (30.6)	871	7.9 (1.0)	77.6 (4.8)	-24.4 (2.3)	103.0 (8.1)
6	13.8 (2.6)	79.8 (2.3)	-41.4 (6.0)	202.0 (26.2)	829	13.3 (2.5)	81.6 (1.8)	-24.7 (4.4)	229.0 (42.1)	878	13.3 (2.2)	68.2 (16.5)	-38.7 (7.0)	147.0 (22.0)
7	17.0 (1.8)	78.2 (2.8)	-45.6 (5.1)	227.0 (15.3)	824	16.5 (2.0)	81.3 (2.7)	-28.5 (2.9)	266.0 (13.0)	871	17.4 (2.2)	73.2 (6.1)	-42.8 (4.3)	163.0 (13.6)
8	14.1 (2.1)	79.2 (2.9)	-45.4 (4.6)	200.0 (25.1)	836	13.2 (2.2)	81.5 (4.3)	-29.7 (4.3)	226.0 (44.4)	871	14.0 (2.1)	76.3 (6.2)	-31.8 (7.5)	172.0 (25.0)
9					849					869				
10					849					868				
11	6.7 (1.4)	71.7 (3.4)	-27.4 (7.5)	111.0 (34.2)	846	6.8 (1.1)	73.3 (3.4)	-22.9 (3.0)	127.0 (6.8)	867	7.0 (1.5)	76.9 (3.3)	-22.4 (3.3)	111.0 (5.3)
12	5.7 (1.8)	70.2 (3.0)	-17.3 (4.5)	138.0 (11.0)	839	6.1 (1.6)	72.1 (3.0)	-16.0 (2.7)	126.0 (16.1)	865	5.8 (1.3)	71.9 (4.3)	-18.2 (2.4)	123.0 (8.3)
13	5.0 (1.0)	72.3 (2.5)	-21.2 (3.6)	131.0 (11.8)	839	5.5 (1.1)	73.2 (3.2)	-19.9 (4.5)	122.0 (14.0)	848	5.5 (1.2)	75.4 (2.4)	-19.4 (2.0)	99.2 (8.1)
14	1.4 (1.3)	69.7 (2.8)	-20.6 (3.7)	119.0 (3.6)	838	2.3 (1.1)	71.0 (2.3)	-21.1 (2.9)	103.0 (2.6)	850	2.9 (1.0)	73.7 (2.7)	-18.3 (2.3)	96.7 (3.5)
15	-0.7 (2.3)	69.3 (3.0)	-16.9 (2.8)	124.0 (2.8)	839	-0.1 (2.1)	70.4 (3.0)	-16.9 (2.5)	103.0 (4.3)	869	1.6 (1.6)	70.2 (3.2)	-18.5 (1.8)	95.3 (6.0)
16	2.9 (2.8)	67.5 (4.6)	-13.2 (2.3)	133.0 (8.9)	840	3.3 (2.9)	68.4 (4.5)	-14.7 (2.0)	113.0 (13.9)	869	4.3 (1.7)	66.5 (6.4)	-19.6 (3.0)	97.8 (7.3)
17	3.1 (2.9)	71.4 (5.1)	-17.2 (6.8)	128.0 (15.0)	838	3.8 (2.5)	72.8 (4.2)	-18.8 (5.3)	115.0 (13.0)	868	4.0 (2.1)	74.1 (5.7)	-22.3 (3.2)	96.6 (11.5)
18	-0.7 (3.3)	67.3 (4.7)	-17.7 (4.0)	116.0 (7.0)	812	0.3 (2.8)	68.3 (4.7)	-19.2 (3.9)	108.0 (8.0)	867	2.1 (2.5)	70.5 (5.2)	-19.4 (3.5)	93.2 (6.7)
19	-8.6 (1.4)	70.1 (4.8)	-18.7 (4.7)	115.0 (4.5)	809	-6.5 (1.6)	72.0 (2.7)	-21.6 (2.4)	108.0 (2.4)	866	-2.1 (2.3)	72.0 (3.9)	-15.2 (1.4)	82.9 (4.3)
20					831					866				
21					827					867				
22					822					864				
23	-3.7 (2.1)	70.0 (2.8)	-16.8 (2.3)	124.0 (2.4)	820	-2.5 (2.4)	70.2 (3.0)	-15.9 (2.3)	110.0 (2.2)	863	1.1 (2.1)	72.4 (3.6)	-18.5 (2.3)	89.5 (9.1)
24	-9.3 (2.0)	69.8 (4.5)	-17.8 (3.1)	126.0 (4.1)	810	-7.6 (2.3)	71.9 (4.0)	-17.6 (3.0)	112.0 (3.6)	857	-3.0 (3.1)	74.1 (4.5)	-16.0 (2.3)	82.4 (3.8)
25	-5.8 (4.2)	70.7 (5.7)	-11.2 (5.8)	132.0 (8.0)	802	-4.6 (3.4)	72.0 (5.7)	-9.4 (5.8)	100.0 (13.6)	832	-4.2 (3.3)	74.9 (6.4)	-24.4 (8.6)	142.0 (23.3)
26	1.3 (2.1)	69.6 (2.7)	-17.6 (3.0)	122.0 (3.4)	811	1.8 (2.1)	71.1 (3.3)	-17.7 (2.9)	90.3 (5.0)	835	1.4 (2.0)	74.5 (2.3)	-26.5 (7.3)	125.0 (14.7)
27	1.0 (4.8)	69.4 (4.1)	-17.6 (2.9)	129.0 (8.2)	818	1.3 (4.7)	69.4 (3.8)	-15.3 (2.5)	97.2 (10.5)	858	1.0 (4.8)	73.9 (5.5)	-18.9 (1.9)	133.0 (7.1)
28	6.0 (1.9)	69.1 (3.3)	-14.7 (4.8)	145.0 (14.5)	817	6.4 (1.8)	69.8 (3.2)	-15.0 (3.8)	107.0 (12.3)	859	5.7 (1.9)	69.5 (5.5)	-24.7 (5.5)	133.0 (6.7)
29	6.9 (6.5)	75.3 (4.6)	-34.6 (6.8)	146.0 (48.2)	816	7.0 (5.6)	75.8 (4.0)	-22.1 (7.3)	125.0 (45.3)	858	7.2 (6.1)	79.1 (5.3)	-31.0 (10.4)	139.0 (14.3)
30	-6.2 (2.1)	69.5 (4.2)	-20.3 (4.5)	67.7 (60.7)	816	-4.7 (1.4)	71.7 (4.5)	-15.9 (4.8)	47.0 (42.1)	857	-7.0 (1.7)	80.4 (4.4)	-16.5 (4.1)	126.0 (6.3)
31	-1.4 (2.2)	68.2 (3.6)	-14.3 (2.1)	123.0 (21.0)	817	-0.5 (2.1)	68.2 (4.1)	-12.7 (2.9)	95.3 (18.9)	833	-1.0 (2.9)	73.3 (3.4)	-18.3 (2.3)	133.0 (8.7)
Avg	1.7	71.3	-21.6	135.0	830	2.3	72.7	-18.9	122.0	861	3.3	73.4	-23.0	113.0
n	26	26	26	26	31	26	26	26	26	31	26	26	26	26
SD	6.8	3.4	9.60	30.90	14	6.2	3.8	4.90	46.10	11	5.6	3.3	6.60	25.00
Min	-9.3	66.0	-45.60	67.70	802	-7.6	67.7	-29.70	47.00	832	-7.0	66.5	-42.80	82.40
Max	17.0	79.8	-11.20	227.00	849	16.5	81.6	-9.40	266.00	878	17.4	80.4	-15.20	172.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for February, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	2.1 (1.5)	72.5 (2.6)	-17.3 (3.1)	121.0 (3.0)	815	2.8 (1.5)	72.3 (2.9)	-16.4 (3.6)	103.0 (3.5)	827	2.6 (1.1)	77.1 (1.7)	-17.3 (3.0)	135.0 (6.6)
2	3.2 (1.5)	71.5 (2.5)	-16.7 (3.6)	126.0 (5.8)	814	3.7 (1.7)	71.6 (2.3)	-17.3 (3.0)	110.0 (8.3)	847	2.8 (1.5)	75.1 (1.9)	-19.6 (2.0)	
3	3.5 (0.9)	73.7 (2.5)	-14.6 (2.9)	125.0 (4.8)	813	4.4 (1.0)	74.0 (2.6)	-15.1 (3.0)	111.0 (7.8)	847	3.2 (0.9)	77.7 (1.6)	-15.2 (2.6)	
4	7.5 (2.5)	79.8 (2.8)	-21.2 (9.7)	143.0 (7.8)	817	7.7 (2.0)	79.6 (2.2)	-17.3 (3.8)	143.0 (19.4)	841	7.1 (2.6)	83.0 (2.9)	-19.5 (4.2)	
5	6.5 (1.5)	79.7 (1.8)	-22.2 (8.1)	118.0 (27.0)	822	7.2 (0.9)	78.6 (2.4)	-17.9 (4.1)	135.0 (26.6)	847	6.2 (1.4)	82.3 (2.2)	-15.2 (4.2)	
6	5.2 (0.9)	77.8 (2.2)	-18.9 (5.5)	108.0 (18.2)	820	6.3 (0.7)	77.1 (3.0)	-21.0 (5.7)	120.0 (15.0)	859	4.8 (0.9)	81.6 (1.5)	-14.2 (2.8)	
7	2.9 (0.7)	73.6 (2.3)	-17.1 (3.1)	112.0 (3.1)	816	4.0 (0.8)	73.8 (2.8)	-18.5 (3.6)	104.0 (3.1)	853	2.6 (0.5)	77.8 (1.4)	-14.2 (2.3)	
8					811					820				
9	4.8 (1.9)	71.3 (2.3)	-25.3 (5.7)	123.0 (10.8)	806	5.3 (1.7)	73.0 (2.7)	-24.0 (5.4)	114.0 (14.4)	821	5.4 (1.7)	76.6 (3.2)	-18.2 (2.8)	
10	-8.4 (2.6)	69.0 (2.5)	-30.5 (5.7)	112.0 (6.8)	799	-7.0 (2.5)	69.9 (2.0)	-29.0 (5.9)	92.7 (5.4)	851	-6.5 (3.5)	76.3 (2.8)	-20.0 (3.3)	
11	-7.7 (2.3)	68.3 (3.9)	-16.4 (3.3)	128.0 (3.4)	801	-6.5 (2.3)	70.6 (3.1)	-14.0 (2.1)	104.0 (2.0)	854	-5.9 (3.7)	74.1 (3.5)	-18.6 (1.8)	
12	-2.6 (1.1)	71.5 (2.2)	-17.0 (2.4)	125.0 (3.2)	810	-1.5 (1.1)	73.1 (1.8)	-14.2 (2.0)	82.2 (1.5)	856	0.4 (1.3)	74.5 (2.3)	-18.4 (2.9)	
13	-2.8 (2.2)	68.0 (5.0)	-18.3 (3.6)	123.0 (3.8)	817	-2.0 (1.7)	69.9 (4.5)	-14.8 (3.0)	82.4 (1.9)	855	0.3 (2.2)	72.5 (4.3)	-18.5 (3.0)	
14	2.3 (3.6)	71.2 (2.3)	-15.9 (4.7)	131.0 (5.4)	816	2.7 (3.6)	72.9 (2.5)	-15.6 (2.9)	88.2 (11.7)	853	3.5 (2.8)	76.0 (2.2)	-22.2 (2.7)	
15	0.6 (2.4)	66.5 (4.3)	-19.1 (1.9)	123.0 (3.6)	799	1.4 (2.5)	68.8 (4.3)	-15.0 (2.6)	84.9 (7.8)	847	2.5 (2.2)	70.3 (5.1)	-15.8 (2.3)	
16	0.9 (4.9)	67.3 (4.2)	-16.7 (2.2)	134.0 (6.4)	802	1.8 (4.9)	68.9 (4.3)	-15.2 (2.3)	97.5 (13.3)	839	1.8 (4.6)	68.0 (6.1)	-18.8 (2.1)	
17	8.5 (2.7)	77.2 (3.9)	-32.0 (11.7)	146.0 (20.8)	822	8.8 (2.2)	76.7 (3.9)	-23.4 (6.9)	149.0 (28.1)	852	8.6 (2.9)	79.7 (3.9)	-28.8 (12.1)	
18	0.1 (3.7)	68.9 (3.6)	-26.0 (8.5)	118.0 (10.4)	819	1.8 (3.5)	69.3 (3.7)	-28.4 (5.5)	106.0 (11.7)	866	2.2 (3.3)	74.2 (3.4)	-18.8 (3.5)	
19	-5.1 (2.1)	70.6 (3.0)	-22.6 (3.2)	121.0 (3.0)	820	-3.5 (1.9)	70.0 (2.5)	-22.6 (3.0)	104.0 (2.3)	867	-3.1 (3.5)	76.5 (3.5)	-20.0 (3.1)	
20	-3.0 (1.6)	67.4 (5.1)	-17.8 (2.8)	125.0 (3.4)	819	-1.3 (1.5)	67.7 (4.4)	-16.4 (2.7)	109.0 (2.7)	868	-0.3 (1.7)	68.4 (5.8)	-16.1 (3.7)	
21	-2.9 (1.9)	68.1 (4.0)	-14.7 (1.6)	129.0 (2.2)	817	-1.7 (2.0)	69.4 (3.6)	-15.1 (1.6)	110.0 (2.2)	869	0.0 (1.8)	68.1 (3.6)	-19.1 (2.8)	
22	0.9 (1.7)	68.5 (3.4)	-14.4 (2.0)	126.0 (9.9)	819	2.2 (1.6)	68.7 (3.7)	-14.1 (1.5)	108.0 (8.5)	847	2.9 (1.3)	67.1 (2.8)	-12.1 (3.0)	
23	1.4 (2.5)	68.6 (4.9)	-15.9 (2.0)	130.0 (5.5)	814	2.5 (2.4)	69.1 (4.6)	-15.8 (2.5)	112.0 (10.1)	851	3.0 (2.0)	67.9 (4.7)	-14.8 (3.2)	
24	2.5 (2.7)	70.1 (3.6)	-15.8 (2.2)	129.0 (5.7)	800	3.3 (2.7)	70.9 (3.5)	-16.6 (2.5)	103.0 (5.9)	872	3.7 (2.2)	71.1 (3.7)	-16.9 (2.7)	
25	4.6 (0.6)	75.1 (2.9)	-16.0 (2.9)	134.0 (7.9)	792	5.5 (0.6)	75.3 (2.2)	-18.2 (1.7)	123.0 (8.9)	865	5.5 (0.9)	76.6 (1.9)	-16.9 (2.6)	
26	2.1 (2.2)	72.7 (5.3)	-19.7 (3.3)	122.0 (13.0)	796	4.0 (2.1)	72.6 (4.4)	-18.2 (3.6)	116.0 (13.6)	864	4.1 (2.2)	73.9 (4.3)	-12.8 (3.6)	
27	-1.7 (1.9)	67.1 (3.6)	-19.8 (1.9)	114.0 (2.8)	800	-0.1 (2.0)	67.5 (3.3)	-20.6 (2.6)	105.0 (2.6)	865	0.6 (1.8)	74.1 (8.0)	-16.8 (3.3)	
28	-2.4 (3.4)	68.1 (6.2)	-15.2 (1.7)	122.0 (4.0)	810	-1.4 (3.3)	68.9 (5.3)	-15.6 (1.5)	109.0 (1.9)	859	-1.1 (2.4)	79.6 (2.6)	-17.8 (3.7)	
29					826					863				
Avg	0.9	71.3	-19.2	125.0	811	1.9	71.9	-18.2	108.0	853	2.1	74.8	-17.6	
n	27	27	27	27	29	27	27	27	27	29	27	27	27	1
SD	4.2	3.8	4.60	8.50	9	3.9	3.3	4.10	16.00	13	3.4	4.4	3.20	
Min	-8.4	66.5	-32.00	108.00	792	-7.0	67.5	-29.00	82.20	820	-6.5	67.1	-28.80	
Max	8.5	79.8	-14.40	146.00	826	8.8	79.6	-14.00	149.00	872	8.6	83.0	-12.10	

Table F2. Daily means (SD) of environmental parameters at Site IN5B for March, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1					831					875				
2	10.1 (3.2)	71.1 (2.9)	-29.2 (13.1)	165.0 (27.8)	830	10.0 (2.5)	71.5 (3.3)	-18.9 (4.8)	173.0 (42.5)	877	10.0 (3.5)	66.6 (3.9)	-28.9 (10.3)	
3	8.5 (3.9)	75.3 (3.6)	-28.7 (12.0)	161.0 (33.3)	829	8.6 (3.4)	74.5 (3.8)	-17.9 (5.9)	148.0 (53.8)	878	8.7 (4.0)	73.1 (4.2)	-25.1 (14.7)	
4	2.8 (0.7)	69.8 (3.1)	-13.3 (2.7)	122.0 (9.2)	828	4.4 (0.5)	69.6 (3.2)	-11.1 (2.3)	96.3 (11.7)	879	3.9 (1.1)	70.0 (4.0)	-10.8 (2.3)	
5	3.4 (2.5)	69.9 (4.5)	-16.7 (2.4)	133.0 (6.8)	828	4.2 (2.0)	70.8 (3.6)	-16.5 (2.2)		872	3.7 (1.9)	70.1 (4.1)	-17.3 (2.8)	
6	4.3 (1.2)	68.1 (5.2)	-19.5 (2.8)	130.0 (8.2)	825	5.5 (1.0)	68.0 (5.9)	-19.0 (2.5)		870	4.3 (1.2)	67.2 (7.1)	-15.4 (2.5)	
7	1.7 (1.2)	66.4 (2.6)	-15.5 (4.2)	123.0 (5.2)	822	3.3 (1.4)	67.3 (2.3)	-10.9 (2.3)		874	3.1 (1.1)	64.9 (2.7)	-10.8 (2.9)	
8	-0.1 (1.3)	64.9 (3.0)	-16.9 (2.2)	125.0 (2.8)	820	0.8 (1.4)	67.6 (2.3)	-12.7 (2.6)	75.9 (8.7)	876	1.7 (1.1)	63.4 (2.8)	-14.2 (3.6)	
9	3.7 (2.9)	67.8 (3.4)	-20.1 (10.2)	138.0 (8.7)	820	3.7 (2.6)	69.2 (3.6)	-14.5 (2.8)	91.4 (16.7)	862	3.8 (2.3)	65.3 (4.1)	-19.0 (4.4)	
10	3.9 (1.1)	73.0 (4.3)	-16.6 (3.3)	131.0 (9.1)	822	4.5 (1.2)	73.2 (4.6)	-15.9 (3.1)	104.0 (17.5)	844	4.1 (1.4)	72.5 (4.5)	-13.9 (2.7)	
11					825					865				
12	8.0 (2.9)	66.4 (7.0)	-38.3 (13.0)	171.0 (29.0)	826	8.0 (2.2)	66.6 (6.1)	-24.9 (6.1)	171.0 (49.0)	887	9.0 (2.2)	59.7 (8.0)	-19.6 (5.0)	
13	10.1 (3.2)	67.3 (8.4)	-41.6 (7.8)	200.0 (46.0)	823	10.1 (3.3)	67.1 (8.7)	-31.5 (5.8)	198.0 (41.5)	887	11.0 (3.0)	60.7 (10.2)	-22.0 (4.7)	
14	9.5 (3.7)	65.0 (12.8)	-30.4 (6.8)	232.0 (20.5)	821	10.2 (3.5)	64.6 (12.1)	-27.5 (7.9)	211.0 (37.0)	871	11.3 (3.2)	57.5 (14.8)	-13.3 (2.8)	
15	5.0 (1.3)	67.9 (3.3)	-18.1 (6.2)	188.0 (15.6)	821	6.5 (1.0)	67.3 (3.1)	-17.0 (4.4)	161.0 (22.3)	866	7.8 (1.3)	62.1 (3.7)	-8.2 (1.9)	
16	3.0 (1.7)	65.1 (4.7)	-13.9 (5.0)	175.0 (14.0)	822	5.3 (1.5)	66.2 (4.6)	-13.8 (3.7)	124.0 (24.4)	878	6.1 (1.6)	60.7 (5.4)	-7.0 (1.1)	
17	4.3 (1.3)	69.3 (4.7)	-11.0 (2.6)	182.0 (9.3)	826	6.1 (0.9)	70.3 (4.8)	-13.7 (1.4)	137.0 (13.8)	880	6.2 (1.1)	66.5 (7.0)	-8.5 (1.3)	
18	8.3 (2.0)	80.6 (4.0)	-28.0 (6.3)	228.0 (21.5)	832	9.1 (1.7)	80.4 (3.6)	-25.5 (5.6)	198.0 (30.6)	885	10.0 (1.9)	79.6 (3.8)	-15.0 (5.0)	
19	5.8 (1.0)	73.3 (4.3)	-23.8 (7.7)	174.0 (19.1)	833	6.8 (0.8)	72.2 (4.2)	-17.5 (4.6)	145.0 (15.4)	883	7.4 (1.9)	68.7 (5.8)	-12.3 (4.1)	
20	7.1 (3.0)	62.2 (9.2)	-26.5 (8.7)	171.0 (45.5)	848	7.6 (2.5)	63.0 (8.8)	-23.1 (7.1)	154.0 (48.0)	880	8.0 (4.1)	55.4 (10.6)	-15.9 (2.5)	
21	6.1 (1.5)	70.2 (5.5)	-21.4 (5.3)	163.0 (28.3)	863	6.4 (1.2)	69.5 (5.0)	-18.6 (4.3)	136.0 (28.0)	854	4.9 (2.1)	65.8 (6.6)	-14.3 (2.2)	
22	4.7 (1.5)	70.3 (6.8)	-18.9 (4.2)	142.0 (15.8)	862	5.0 (1.6)	69.4 (6.2)	-14.6 (2.8)	113.0 (23.3)	852	3.5 (1.6)	63.2 (6.3)	-11.9 (2.9)	
23	4.2 (2.2)	67.1 (5.1)	-19.9 (5.5)	142.0 (22.6)	862	4.8 (2.1)	67.1 (5.0)	-17.5 (4.1)	123.0 (30.2)	879	2.9 (2.9)	61.5 (5.5)	-13.7 (2.8)	
24	4.5 (2.5)	64.5 (7.3)	-20.4 (5.5)	146.0 (23.1)	861	5.1 (2.2)	64.9 (6.6)	-19.0 (5.0)	133.0 (29.1)	878	3.3 (2.8)	60.0 (8.0)	-16.3 (2.5)	
25	9.0 (3.3)	61.4 (4.5)	-29.9 (16.0)	189.0 (36.1)	862	9.4 (3.3)	61.8 (5.1)	-28.5 (9.4)	187.0 (48.2)	878	8.4 (4.3)	55.0 (7.4)	-25.1 (7.6)	
26	8.7 (2.8)	61.0 (8.5)	-29.8 (7.5)	195.0 (44.5)	863	8.9 (2.5)	61.6 (8.3)	-27.2 (6.5)	190.0 (46.0)	877	8.8 (3.9)	52.8 (9.7)	-15.6 (2.3)	
27	7.0 (1.3)	71.7 (5.6)	-25.8 (5.0)	182.0 (24.2)	859	7.3 (0.9)	71.1 (5.1)	-22.2 (4.4)	170.0 (27.3)	863	8.6 (1.5)	63.7 (6.2)	-11.0 (1.8)	
28	5.4 (1.5)	68.0 (6.1)	-20.6 (5.2)	152.0 (22.4)	855	5.9 (1.3)	68.0 (5.8)	-16.5 (3.9)	141.0 (22.2)	833	7.4 (1.8)	59.5 (5.9)	-10.8 (3.6)	
29	5.6 (3.1)	63.3 (7.0)	-23.8 (6.3)	171.0 (42.3)	858	6.0 (2.9)	64.2 (6.9)	-21.2 (5.5)	153.0 (43.1)	837	7.3 (2.8)	54.5 (6.9)	-15.3 (3.2)	
30	8.1 (2.9)	73.2 (6.1)	-23.7 (7.9)	189.0 (40.5)	862	8.4 (2.6)	74.0 (6.1)	-22.9 (8.0)	180.0 (42.6)	861	9.3 (2.8)	67.1 (7.7)	-14.3 (2.2)	
31	14.8 (1.0)	83.3 (1.8)	-29.3 (4.5)		861	15.0 (1.1)	84.2 (1.7)	-30.5 (5.1)	256.0 (17.9)	862	15.2 (1.1)	79.2 (1.9)	-28.0 (4.4)	
Avg	6.1	68.9	-23.2	165.0	839	6.8	69.2	-19.7	153.0	870	6.9	64.4	-15.6	
n	29	29	29	28	31	29	29	29	26	31	29	29	29	0
SD	3.0	5.1	7.10	29.40	17	2.7	4.9	5.60	40.30	14	3.1	6.6	5.60	
Min	-0.1	61.0	-41.60	122.00	820	0.8	61.6	-31.50	75.90	833	1.7	52.8	-28.90	
Max	14.8	83.3	-11.00	232.00	863	15.0	84.2	-10.90	256.00	887	15.2	79.6	-7.00	

Table F2. Daily means (SD) of environmental parameters at Site IN5B for April, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	8.4 (2.6)	73.4 (4.1)	-31.8 (6.4)		862	8.7 (2.7)	73.3 (4.8)	-30.6 (7.9)	182.0 (33.8)	877	8.3 (2.9)	65.8 (4.6)	-16.3 (6.1)	
2	7.7 (2.8)	65.1 (8.6)	-34.9 (14.0)		864	7.6 (2.1)	65.1 (9.8)	-23.8 (6.5)	170.0 (46.7)	893	7.1 (3.3)	55.7 (11.0)	-19.0 (4.0)	
3	9.1 (3.3)	61.2 (9.8)	-27.6 (6.7)	210.0 (48.8)	863	9.6 (3.2)	61.5 (9.8)	-26.5 (7.6)	201.0 (48.7)	892	9.6 (4.3)	52.2 (10.7)	-15.5 (3.7)	
4	7.5 (1.3)	73.4 (6.5)	-25.6 (2.1)	200.0 (20.1)	869	8.0 (1.3)	74.0 (6.8)	-23.1 (3.3)	190.0 (21.6)	878	9.1 (2.0)	64.7 (7.2)	-8.3 (2.8)	
5	10.8 (4.3)	61.9 (11.2)	-27.4 (7.9)	223.0 (48.2)	875	10.6 (3.7)	66.8 (8.6)	-27.6 (8.0)	210.0 (51.2)	878	11.6 (3.5)	58.0 (10.3)	-15.3 (3.0)	
6	12.4 (3.9)	60.1 (8.4)	-30.7 (4.2)	247.0 (21.2)	874	11.7 (3.0)	66.3 (5.0)	-30.2 (4.4)	237.0 (22.5)	891	14.0 (3.4)	51.1 (9.7)	-17.3 (6.0)	
7	11.8 (2.8)	64.9 (10.0)	-35.0 (7.0)	248.0 (12.2)	874	11.5 (2.2)	69.2 (7.5)	-34.3 (5.9)	241.0 (13.3)	890	13.4 (2.3)	55.7 (10.9)	-16.5 (6.2)	
8	12.1 (4.2)	69.6 (7.7)	-30.8 (5.6)	245.0 (19.7)	874	12.3 (3.8)	71.5 (6.7)	-29.1 (5.2)	230.0 (19.8)	889	13.9 (3.6)	59.8 (8.5)	-17.9 (10.3)	
9	8.4 (1.2)	76.1 (3.3)	-30.7 (5.0)	210.0 (22.4)	875	9.0 (1.2)	76.2 (3.3)	-28.9 (5.9)	193.0 (26.4)	892	9.8 (1.9)	66.0 (4.4)	-12.2 (3.8)	
10	9.7 (2.4)	78.7 (3.4)	-27.4 (4.3)	220.0 (24.5)	873	10.1 (2.4)	78.8 (3.2)	-26.4 (3.4)	209.0 (26.9)	894	12.1 (2.3)	72.0 (5.9)	-13.5 (2.4)	
11	13.4 (2.9)	76.2 (7.5)	-36.1 (8.9)	249.0 (27.4)	871	13.9 (2.9)	77.7 (7.4)	-32.6 (6.3)	239.0 (21.1)	877	14.2 (3.4)	65.8 (10.8)	-28.2 (7.0)	
12	6.6 (0.8)	74.9 (2.1)	-28.8 (3.8)	178.0 (15.0)	866	7.4 (0.8)	75.7 (2.1)	-25.1 (6.3)	169.0 (20.1)	877	7.4 (1.2)	67.6 (2.2)	-16.4 (5.1)	
13	6.3 (0.9)	71.0 (5.1)	-19.9 (4.0)	166.0 (20.4)	855	7.1 (0.9)	70.8 (5.2)	-14.9 (3.9)	160.0 (19.1)	891	8.2 (1.5)	62.2 (6.3)	-9.0 (2.1)	
14	7.3 (2.8)	63.3 (10.0)	-26.3 (9.0)	184.0 (41.9)	850	7.8 (2.2)	63.4 (10.1)	-20.7 (6.5)	175.0 (48.0)	884	9.5 (2.9)	48.7 (13.1)	-12.4 (2.5)	
15	9.1 (4.3)	61.2 (6.1)	-26.1 (13.3)	203.0 (52.1)	860	9.8 (4.2)	62.8 (7.1)	-22.9 (8.8)	193.0 (60.1)	885	11.5 (3.8)	44.7 (10.4)	-22.3 (9.7)	131.0 (22.7)
16	11.4 (2.8)	71.2 (5.7)	-32.8 (4.5)	239.0 (18.7)	868	12.2 (3.5)	69.5 (6.1)	-27.3 (4.1)	233.0 (21.8)	890	13.5 (2.9)	57.9 (10.5)	-30.2 (8.5)	138.0 (26.3)
17	14.4 (2.8)	78.0 (2.4)	-34.8 (4.2)		865	14.9 (2.4)	76.6 (4.8)	-32.2 (2.8)	245.0 (10.2)	857	16.1 (2.6)	67.5 (10.3)	-27.3 (7.0)	183.0 (28.2)
18	15.7 (1.5)	77.7 (1.8)	-30.5 (4.5)		862	15.9 (1.6)	79.0 (2.8)	-30.8 (3.5)	256.0 (8.8)	823	17.9 (2.3)	64.7 (7.5)	-27.2 (7.7)	199.0 (15.9)
19	14.2 (1.1)	82.0 (2.7)	-33.2 (2.6)		858	14.5 (1.1)	82.7 (3.0)	-31.9 (4.9)	247.0 (13.9)	857	15.5 (1.2)	75.9 (6.1)	-14.6 (2.3)	195.0 (20.3)
20	14.7 (2.6)	81.5 (2.1)	-32.9 (3.4)		857	15.1 (2.7)	82.2 (2.5)	-30.6 (3.5)	244.0 (8.1)	890	16.8 (3.3)	74.1 (7.2)	-14.0 (4.8)	205.0 (31.5)
21	15.5 (2.1)	80.9 (3.4)	-32.2 (6.1)		853	15.9 (2.2)	81.5 (3.6)	-30.1 (4.6)	256.0 (10.8)	891	17.3 (2.5)	74.3 (6.8)	-17.6 (3.1)	216.0 (25.3)
22	16.2 (1.8)	77.2 (2.9)	-33.7 (6.7)	265.0 (12.5)	850	16.6 (2.1)	78.7 (2.7)	-31.5 (2.8)	263.0 (10.4)	889	17.6 (1.8)	73.1 (4.6)	-19.5 (4.1)	222.0 (14.9)
23	17.3 (1.5)	75.8 (3.3)	-35.0 (3.1)	260.0 (10.6)	850	17.4 (1.5)	76.9 (3.7)	-33.3 (4.3)	258.0 (13.4)	888	18.6 (1.7)	71.1 (4.1)	-14.8 (2.5)	241.0 (8.2)
24	17.2 (1.5)	70.1 (10.4)	-33.3 (5.2)	266.0 (11.7)	851	17.1 (1.5)	72.5 (9.8)	-33.3 (2.1)	256.0 (6.1)	887	18.4 (1.5)	62.3 (15.8)	-21.1 (3.2)	228.0 (8.9)
25	18.7 (2.6)	80.5 (2.4)	-31.5 (6.1)	267.0 (15.1)	857	19.2 (2.8)	81.9 (2.6)	-32.0 (5.7)	256.0 (15.2)	872	19.4 (2.6)	82.0 (1.8)	-28.7 (6.0)	203.0 (15.5)
26	10.8 (2.5)	66.6 (7.5)	-38.8 (6.4)	227.0 (17.4)	867	11.2 (2.6)	68.2 (7.2)	-38.1 (5.8)	212.0 (21.8)	865	12.8 (2.5)	58.5 (14.5)	-15.5 (4.5)	154.0 (26.7)
27	10.3 (2.1)	60.8 (5.9)	-31.0 (4.4)	235.0 (19.4)	861	10.7 (2.0)	61.6 (6.0)	-31.0 (4.5)	218.0 (22.8)	873	12.4 (1.8)	50.9 (6.4)	-9.8 (1.5)	159.0 (21.2)
28	7.5 (1.7)	72.0 (4.3)	-26.9 (5.9)	202.0 (26.5)	850	8.2 (1.5)	71.8 (4.1)	-25.9 (7.7)	181.0 (32.7)	873	10.2 (1.7)	65.4 (4.9)	-8.8 (2.2)	133.0 (14.8)
29	7.0 (1.8)	65.0 (4.9)	-22.9 (6.6)	190.0 (32.3)	849	7.8 (1.4)	64.7 (4.6)	-21.0 (6.9)	171.0 (35.3)	873	9.5 (1.7)	56.5 (6.5)	-8.1 (2.1)	137.0 (14.4)
30	10.8 (4.3)	63.2 (4.6)	-28.0 (10.7)	218.0 (48.6)	849	11.3 (3.9)	64.4 (4.6)	-30.0 (9.1)	202.0 (51.5)	874	13.1 (3.9)	48.5 (7.3)	-15.6 (4.2)	164.0 (44.0)
Avg	11.4	71.1	-30.6	224.0	862	11.8	72.2	-28.5	216.0	880	13.0	62.4	-17.1	182.0
n	30	30	30	23	30	30	30	30	30	30	30	30	30	16
SD	3.5	7.0	4.10	29.00	9	3.5	6.6	4.80	32.10	15	3.6	9.1	6.10	35.80
Min	6.3	60.1	-38.80	166.00	849	7.1	61.5	-38.10	160.00	823	7.1	44.7	-30.20	131.00
Max	18.7	82.0	-19.90	267.00	875	19.2	82.7	-14.90	263.00	894	19.4	82.0	-8.10	241.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for May, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	16.0 (2.5)	77.3 (5.4)	-32.0 (2.8)	260.0 (11.5)	850	16.5 (2.6)	77.8 (5.2)	-33.0 (2.8)	248.0 (9.5)	874	17.5 (2.3)	71.4 (9.5)	-24.2 (7.0)	200.0 (18.6)
2	18.0 (1.7)	80.0 (4.0)	-30.4 (4.0)	268.0 (8.6)	855	18.4 (1.8)	81.4 (3.5)	-32.2 (3.4)	257.0 (7.0)	851	18.9 (1.5)	79.3 (4.6)	-28.6 (5.4)	207.0 (12.7)
3	11.7 (1.5)	72.9 (3.3)	-34.1 (9.7)	241.0 (15.9)	862	12.0 (1.6)	73.8 (3.8)	-36.9 (5.3)	237.0 (14.1)	857	13.6 (1.5)	65.4 (3.9)	-15.7 (5.1)	166.0 (22.8)
4	11.8 (3.4)	68.1 (5.8)	-30.2 (6.4)	242.0 (32.3)	864	12.1 (3.5)	68.4 (6.0)	-32.7 (6.4)	231.0 (34.2)	888	14.3 (3.5)	53.1 (13.2)	-16.6 (5.4)	179.0 (38.8)
5	14.0 (2.5)	73.1 (4.0)	-36.6 (5.5)	254.0 (10.8)	863	14.4 (2.8)	71.9 (3.0)	-37.4 (4.9)	252.0 (12.0)	888	16.9 (3.4)	55.4 (6.4)	-19.0 (5.4)	200.0 (34.6)
6	15.9 (2.7)	76.1 (2.8)	-35.7 (3.5)	254.0 (8.6)	860	16.2 (2.9)	75.0 (5.2)	-36.5 (3.5)	252.0 (8.4)	886	17.5 (2.4)	67.5 (6.1)	-21.7 (5.1)	210.0 (19.3)
7	17.3 (2.0)	80.7 (5.8)	-34.1 (3.2)	259.0 (10.7)	861	17.6 (1.9)	80.8 (5.1)	-35.0 (3.5)	256.0 (10.2)	883	18.8 (1.7)	73.6 (7.1)	-20.8 (6.8)	219.0 (15.5)
8	12.3 (1.2)	68.0 (5.1)	-29.4 (7.8)	253.0 (13.2)	863	12.6 (1.2)	66.7 (5.1)	-33.7 (3.3)	246.0 (8.5)	883	14.1 (1.3)	60.9 (6.1)	-10.6 (3.2)	194.0 (30.6)
9	11.6 (2.4)	70.4 (4.7)	-31.4 (6.0)	246.0 (13.8)	864	11.7 (2.3)	69.3 (4.8)	-32.2 (3.4)	241.0 (12.7)	865	13.6 (2.2)	62.0 (6.5)	-8.9 (2.7)	184.0 (36.0)
10	13.2 (3.5)	71.3 (4.7)	-31.3 (6.0)	233.0 (32.2)	861	13.5 (3.5)	69.0 (4.5)	-32.6 (5.6)	233.0 (36.2)	861	15.3 (3.3)	58.7 (7.2)	-15.8 (6.3)	198.0 (40.1)
11	12.1 (1.3)	78.1 (4.4)	-31.7 (3.6)	248.0 (15.2)	856	12.3 (1.4)	77.6 (3.8)	-32.4 (3.8)	250.0 (10.9)	877	13.9 (1.1)	74.8 (4.8)	-9.3 (5.1)	175.0 (25.5)
12	11.1 (2.7)	70.0 (6.0)	-29.9 (6.6)	247.0 (25.0)	855	11.4 (2.6)	70.2 (4.2)	-31.9 (5.0)	234.0 (24.4)	878	13.3 (2.5)	62.2 (8.1)	-9.1 (3.7)	170.0 (39.4)
13	14.2 (2.8)	75.7 (2.4)	-31.1 (4.0)	259.0 (16.4)	854	14.5 (2.9)	76.1 (2.4)	-31.7 (4.5)	261.0 (11.9)	874	16.6 (3.7)	64.9 (6.9)	-22.2 (8.5)	182.0 (32.8)
14	14.1 (2.1)	81.8 (2.5)	-30.8 (8.2)	265.0 (17.9)	853	14.4 (2.1)	82.6 (1.7)	-35.0 (3.0)	257.0 (10.4)	880	15.7 (1.8)	77.9 (2.4)	-16.5 (5.8)	195.0 (28.8)
15	11.5 (2.5)	74.4 (5.6)	-32.5 (5.2)	247.0 (17.2)	857	11.8 (2.4)	74.1 (5.6)	-31.3 (5.7)	242.0 (25.0)	890	13.7 (2.1)	66.2 (7.6)	-11.0 (3.4)	180.0 (36.6)
16	13.6 (2.9)	74.5 (3.6)	-36.3 (3.7)	250.0 (10.8)	861	13.8 (2.8)	73.3 (5.1)	-36.9 (5.0)	246.0 (12.0)	883	16.6 (3.5)	58.1 (10.4)	-17.6 (7.0)	196.0 (37.0)
17	15.5 (1.2)	74.2 (3.1)	-37.5 (4.6)	254.0 (9.0)	842	15.6 (1.1)	73.0 (3.9)	-39.3 (5.4)	251.0 (14.2)	878	18.4 (2.4)	58.0 (9.6)	-17.4 (4.5)	224.0 (18.5)
18	12.3 (1.9)	71.5 (6.5)	-34.0 (3.2)	248.0 (8.4)	842	12.6 (2.0)	70.6 (7.0)	-34.1 (3.5)	249.0 (13.6)	886	14.4 (1.7)	60.6 (10.5)	-11.6 (2.0)	191.0 (40.2)
19					842					887				
20					839					882				
21	12.7 (2.7)	68.5 (4.6)	-34.0 (4.1)	249.0 (11.8)	856	12.9 (2.5)	67.4 (5.5)	-34.5 (5.8)	242.0 (18.4)	882	15.3 (2.6)	51.9 (7.7)	-13.4 (4.2)	192.0 (37.2)
22	12.6 (2.0)	68.3 (4.0)	-33.0 (5.1)	250.0 (10.1)	858	12.8 (2.0)	67.7 (3.1)	-34.2 (3.3)	250.0 (9.5)	882	15.1 (2.0)	52.7 (5.1)	-11.7 (2.9)	197.0 (42.2)
23	11.9 (1.8)	73.9 (3.3)	-33.1 (5.1)	249.0 (10.0)	857	12.0 (1.8)	73.6 (2.9)	-33.0 (3.9)	250.0 (9.7)	852	14.1 (1.5)	64.1 (4.0)	-10.3 (3.1)	174.0 (27.3)
24	13.7 (2.3)	74.0 (2.8)	-35.7 (2.4)	254.0 (7.0)	856	14.0 (2.3)	72.7 (4.2)	-36.5 (2.4)	253.0 (6.8)	855	17.0 (3.1)	57.0 (10.0)	-16.2 (5.1)	197.0 (39.7)
25	16.4 (2.9)	76.7 (3.3)	-33.2 (1.8)	259.0 (9.3)	855	16.8 (3.2)	77.0 (4.2)	-33.1 (3.7)	257.0 (11.2)	889	18.1 (2.7)	68.3 (9.2)	-26.0 (8.1)	199.0 (16.6)
26	21.0 (1.5)	81.9 (2.4)	-36.6 (3.6)	249.0 (10.4)	855	21.4 (1.6)	82.8 (1.9)	-36.3 (4.2)	254.0 (12.8)	891	21.8 (1.6)	80.1 (2.5)	-27.6 (5.3)	211.0 (12.2)
27	10.3 (1.2)	75.7 (3.9)	-31.0 (3.0)	243.0 (9.3)	844	10.6 (1.3)	75.5 (3.9)	-30.0 (3.5)	241.0 (16.5)	894	12.7 (1.3)	73.4 (5.6)	-7.1 (1.5)	170.0 (24.1)
28	12.2 (2.7)	67.9 (7.7)	-33.9 (3.8)	251.0 (13.5)	831	12.5 (2.7)	66.1 (7.4)	-34.7 (3.5)	242.0 (16.5)	897	15.1 (3.0)	53.4 (12.7)	-11.3 (4.0)	188.0 (42.9)
29					827					901				
30	19.6 (1.7)	78.3 (9.5)	-35.0 (3.3)	256.0 (10.1)	806	20.1 (1.8)	78.5 (9.1)	-34.9 (3.5)	257.0 (11.7)	895	20.9 (1.5)	72.3 (13.9)	-28.0 (6.3)	211.0 (13.1)
31	20.5 (1.1)	82.6 (3.0)	-37.8 (3.4)	245.0 (7.3)	819	20.7 (0.9)	82.8 (3.3)	-36.8 (4.3)	255.0 (11.9)	893	21.3 (1.0)	83.0 (3.1)	-22.7 (3.3)	222.0 (6.8)
Avg	14.2	74.5	-33.3	251.0	851	14.5	74.1	-34.2	248.0	880	16.2	65.2	-16.8	194.0
n	28	28	28	28	31	28	28	28	28	31	28	28	28	28
SD	2.9	4.4	2.40	7.50	14	2.9	5.0	2.20	8.00	13	2.5	8.9	6.30	15.70
Min	10.3	67.9	-37.80	233.00	806	10.6	66.1	-39.30	231.00	851	12.7	51.9	-28.60	166.00
Max	21.0	82.6	-29.40	268.00	864	21.4	82.8	-30.00	261.00	901	21.8	83.0	-7.10	224.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for June, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	18.1 (1.7)	78.1 (3.5)	-34.6 (5.7)	253.0 (11.0)	853	18.3 (1.6)	78.9 (2.5)	-32.9 (4.4)	260.0 (13.4)	896	19.2 (1.5)	77.6 (4.6)	-19.5 (3.4)	230.0 (9.3)
2	20.2 (1.8)	78.0 (3.1)	-34.7 (3.1)	252.0 (8.3)	855	20.5 (2.0)	78.3 (4.7)	-32.5 (5.6)	258.0 (17.7)	896	20.9 (1.6)	77.6 (3.6)	-25.1 (2.4)	218.0 (5.8)
3	21.7 (0.7)	82.6 (3.1)	-30.4 (8.8)	257.0 (18.2)	854	22.1 (0.8)	83.5 (2.5)	-33.8 (3.5)	250.0 (15.6)	898	22.7 (1.0)	82.4 (3.0)	-21.7 (4.2)	211.0 (39.5)
4	22.6 (1.4)	85.1 (1.3)	-28.9 (9.4)	252.0 (38.5)	845	23.1 (1.5)	85.4 (1.2)	-32.3 (4.0)	240.0 (36.0)	894	24.3 (1.3)	83.1 (1.7)	-20.7 (9.6)	159.0 (71.8)
5					836					886				
6					834					854				
7	23.8 (1.5)	86.0 (0.9)	-30.7 (2.0)		829	24.4 (1.5)	86.6 (0.8)	-29.8 (2.3)		852	24.8 (1.5)	87.2 (0.8)	-30.1 (3.4)	
8	25.2 (0.9)	83.5 (1.7)	-32.0 (3.4)		826	25.8 (1.0)	83.7 (1.8)	-33.7 (2.5)		881	26.2 (1.0)	84.0 (1.6)	-30.9 (7.5)	
9	22.1 (1.4)	82.8 (1.4)	-34.4 (4.3)		828	22.6 (1.6)	83.0 (1.5)	-34.0 (5.1)		879	23.1 (1.5)	83.9 (1.0)	-21.7 (4.5)	
10	19.6 (1.1)	81.6 (2.7)	-36.0 (3.5)	251.0 (8.1)	829	20.2 (1.1)	81.5 (2.9)	-35.8 (4.2)	244.0 (11.4)	858	20.7 (1.3)	82.8 (3.2)	-22.9 (2.9)	223.0 (6.0)
11					834					849				
12	23.6 (1.8)	78.1 (5.5)	-31.5 (2.2)	247.0 (38.2)	836	24.1 (2.0)	79.4 (4.9)	-29.3 (5.1)	256.0 (15.6)	860	24.4 (2.0)	78.5 (5.8)	-29.1 (5.0)	205.0 (18.3)
13	22.2 (1.4)	82.2 (2.8)	-33.7 (4.0)	259.0 (10.2)	837	22.7 (1.4)	82.5 (2.8)	-33.6 (4.4)	245.0 (10.4)	859	23.2 (1.5)	82.5 (2.8)	-25.5 (4.3)	215.0 (9.6)
14	19.4 (1.3)	79.9 (3.8)	-33.8 (4.1)	263.0 (12.8)	838	19.8 (1.4)	80.5 (3.5)	-35.3 (3.2)	244.0 (9.6)	859	20.3 (1.2)	81.3 (4.3)	-24.0 (1.7)	221.0 (4.1)
15	19.7 (1.9)	81.6 (2.5)	-34.3 (2.8)	241.0 (27.1)	838	20.1 (2.0)	82.0 (2.5)	-33.0 (5.5)	249.0 (15.7)	849	20.7 (1.7)	82.6 (1.8)	-23.9 (2.6)	220.0 (6.4)
16	18.0 (1.8)	81.8 (2.7)	-35.4 (2.3)	238.0 (26.6)	837	18.4 (1.8)	81.4 (3.2)	-35.4 (4.6)	253.0 (9.1)	857	19.2 (1.8)	82.7 (3.2)	-19.4 (2.0)	231.0 (8.1)
17	15.8 (1.8)	78.6 (3.3)	-36.9 (3.3)	259.0 (9.1)	834	16.2 (1.7)	77.1 (3.6)	-37.6 (5.6)	247.0 (15.6)	877	17.2 (1.8)	78.4 (3.0)	-20.4 (3.0)	230.0 (7.4)
18	16.5 (1.5)	76.9 (2.7)	-35.2 (2.3)	261.0 (7.4)	833	16.9 (1.5)	76.4 (2.1)	-35.0 (2.8)	257.0 (7.9)	875	17.9 (1.5)	75.3 (2.6)	-20.3 (1.9)	230.0 (6.8)
19	16.7 (2.2)	78.5 (2.5)	-35.3 (3.6)	261.0 (10.3)	834	17.2 (2.3)	77.9 (3.2)	-36.1 (2.4)	257.0 (7.4)	872	18.1 (2.1)	76.6 (3.0)	-22.2 (2.2)	227.0 (5.2)
20	18.6 (1.5)	75.9 (3.9)	-35.4 (2.5)	259.0 (7.4)	834	19.2 (1.8)	76.1 (3.1)	-35.9 (3.4)	257.0 (11.4)	870	20.1 (1.5)	72.1 (5.3)	-22.7 (2.0)	224.0 (4.9)
21					833					868				
22	18.3 (1.7)	80.1 (2.0)	-34.6 (2.9)	260.0 (8.3)	833	18.8 (1.8)	79.6 (2.2)	-34.9 (2.8)	258.0 (8.9)	865	19.5 (1.8)	80.7 (1.5)	-20.9 (2.0)	228.0 (4.8)
23	17.3 (1.7)	80.8 (2.4)	-32.4 (7.6)	266.0 (18.5)	833	17.8 (1.6)	79.7 (3.0)	-34.7 (3.5)	261.0 (10.3)	864	18.6 (1.9)	81.0 (2.9)	-18.6 (1.8)	234.0 (3.3)
24	17.4 (2.1)	79.1 (5.8)	-34.0 (5.4)	264.0 (11.9)	834	17.9 (2.1)	78.6 (5.8)	-35.6 (3.9)	260.0 (12.3)	863	18.5 (2.0)	82.5 (3.5)	-21.1 (4.4)	224.0 (9.8)
25	22.0 (1.5)	83.5 (3.2)	-31.4 (8.1)	253.0 (17.8)	831	22.4 (1.5)	84.2 (2.8)	-35.2 (4.1)	252.0 (12.8)	851	22.8 (1.5)	84.0 (3.6)	-26.1 (2.6)	215.0 (5.9)
26	23.0 (1.1)	85.8 (1.3)	-29.9 (6.8)	254.0 (16.6)	822	23.5 (1.2)	86.2 (1.3)	-35.1 (2.6)	253.0 (8.3)	852	23.9 (1.1)	86.5 (1.5)	-24.3 (2.4)	216.0 (5.0)
27	22.6 (1.2)	85.5 (1.6)	-32.0 (2.5)	249.0 (6.2)	816	23.2 (1.4)	86.2 (1.3)	-34.1 (3.5)	254.0 (10.8)	869	23.4 (1.2)	87.1 (1.4)	-26.5 (3.9)	211.0 (8.9)
28	20.9 (2.2)	82.2 (4.0)	-34.1 (6.9)	235.0 (27.7)	817	21.6 (2.3)	79.0 (10.5)	-35.9 (5.0)	246.0 (15.1)	871	21.7 (2.2)	84.0 (4.3)	-26.7 (3.6)	212.0 (8.2)
29	18.7 (1.3)	80.3 (3.5)	-34.9 (4.2)	246.0 (10.4)	825	19.2 (1.2)	81.2 (2.8)	-36.2 (3.7)	248.0 (8.9)	869	19.9 (1.3)	80.0 (3.8)	-22.7 (5.2)	223.0 (11.0)
30	17.1 (1.8)	80.2 (2.9)	-34.5 (1.5)	249.0 (5.0)	833	17.8 (1.7)	79.7 (2.9)	-35.3 (1.5)	252.0 (4.3)	868	18.6 (1.7)	78.2 (5.8)	-17.7 (1.7)	232.0 (12.0)
Avg	20.0	81.1	-33.5	253.0	834	20.5	81.1	-34.3	252.0	869	21.2	81.3	-23.3	219.0
n	26	26	26	23	30	26	26	26	23	30	26	26	26	23
SD	2.6	2.7	2.00	8.10	9	2.6	3.0	1.90	5.90	14	2.5	3.6	3.40	14.80
Min	15.8	75.9	-36.90	235.00	816	16.2	76.1	-37.60	240.00	849	17.2	72.1	-30.90	159.00
Max	25.2	86.0	-28.90	266.00	855	25.8	86.6	-29.30	261.00	898	26.2	87.2	-17.70	234.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for July, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	18.0 (2.6)	76.6 (2.2)	-29.1 (9.7)	259.0 (20.0)	831	18.7 (3.1)	77.1 (5.0)	-35.6 (4.4)	251.0 (14.1)	876	19.4 (2.5)	72.2 (4.0)	-24.0 (4.6)	213.0 (7.9)
2	22.0 (3.0)	82.1 (1.5)	-34.6 (4.7)	244.0 (13.0)	829	22.7 (3.3)	83.1 (1.2)	-36.3 (3.1)	244.0 (8.6)	886	23.1 (3.3)	79.4 (2.5)	-29.2 (7.3)	206.0 (17.5)
3	18.4 (1.6)	82.1 (1.7)	-32.3 (2.5)	250.0 (6.6)	830	18.8 (1.6)	81.7 (1.8)	-34.2 (2.8)	253.0 (7.4)	887	19.4 (1.6)	81.4 (2.1)	-15.7 (1.3)	240.0 (3.1)
4	17.2 (1.8)	80.4 (3.1)	-33.6 (2.2)	256.0 (6.2)	832	17.7 (1.9)	80.5 (3.0)	-35.1 (3.4)	249.0 (9.1)	890	18.4 (2.0)	79.1 (4.7)	-17.7 (1.7)	237.0 (4.9)
5	17.7 (1.7)	79.3 (3.1)	-33.5 (3.6)	255.0 (11.2)	835	18.2 (1.9)	76.3 (8.1)	-34.6 (4.8)	253.0 (16.7)	888	19.0 (2.0)	76.1 (4.4)	-19.6 (1.9)	232.0 (5.7)
6	20.6 (2.4)	81.7 (2.1)	-33.3 (1.8)	253.0 (5.8)	851	21.2 (2.6)	80.9 (2.4)	-33.5 (3.5)	245.0 (10.9)	885	21.6 (2.6)	78.5 (3.9)	-22.8 (3.2)	223.0 (9.0)
7	24.2 (1.5)	83.0 (3.1)	-32.7 (3.4)	252.0 (8.3)	863	24.3 (1.3)	81.0 (4.6)	-31.1 (4.6)	250.0 (12.2)	887	24.6 (1.2)	80.4 (3.2)	-23.3 (2.6)	218.0 (6.1)
8	24.7 (1.8)	84.8 (3.2)	-34.3 (4.4)	247.0 (10.5)	862	24.7 (1.5)	84.2 (3.0)	-31.7 (7.0)	250.0 (18.9)	885	25.0 (1.5)	83.7 (2.4)	-20.5 (2.6)	223.0 (6.0)
9					863					883				
10	21.4 (1.9)	82.0 (2.3)	-33.8 (4.0)	252.0 (10.1)	863	21.7 (2.0)	81.8 (2.5)	-35.5 (3.9)	241.0 (10.8)	883	22.1 (1.9)	79.5 (4.1)	-22.3 (3.4)	223.0 (8.4)
11	23.0 (2.6)	86.1 (2.4)	-33.6 (3.0)	250.0 (11.0)	854	23.5 (2.7)	84.2 (1.4)	-34.5 (2.5)	240.0 (9.6)	866	23.6 (2.6)	83.6 (1.4)	-22.2 (3.3)	222.0 (9.0)
12	23.5 (1.7)	87.4 (1.9)	-35.9 (3.4)	244.0 (8.3)	847	23.9 (1.7)	85.3 (1.4)	-36.2 (3.2)	236.0 (7.1)	869	24.3 (1.7)	84.2 (1.7)	-20.6 (2.6)	
13	19.0 (1.3)	82.9 (2.7)	-38.3 (3.5)	245.0 (8.1)	847	19.3 (1.3)	80.1 (4.0)	-38.5 (4.6)	238.0 (11.3)	892	20.0 (1.5)	79.3 (4.3)	-20.6 (2.1)	
14	20.1 (2.2)	83.1 (2.7)	-36.2 (3.4)	248.0 (10.1)	851	20.3 (2.3)	81.1 (3.3)	-36.8 (4.0)	243.0 (10.4)	892	21.1 (2.3)	79.6 (3.8)	-20.4 (1.5)	
15	23.0 (2.5)	85.3 (2.0)	-35.7 (2.4)	253.0 (8.4)	857	23.4 (2.7)	83.7 (1.9)	-36.4 (3.7)	247.0 (10.4)	891	23.9 (2.6)	80.6 (3.4)	-22.7 (2.1)	
16	24.1 (1.7)	86.7 (2.7)	-36.0 (3.2)	251.0 (9.6)	856	24.5 (1.8)	84.1 (2.8)	-36.4 (2.7)	250.0 (8.2)	888	24.7 (1.6)	83.6 (2.6)	-21.9 (2.3)	222.0 (5.3)
17	24.0 (1.4)	85.3 (3.6)	-35.5 (2.4)	253.0 (6.9)	856	24.6 (1.6)	83.4 (3.5)	-35.8 (3.7)	251.0 (11.9)	859	24.6 (1.3)	84.6 (2.6)	-22.4 (2.6)	221.0 (6.5)
18	23.6 (1.6)	83.4 (2.7)	-35.1 (2.7)	254.0 (8.8)	860	24.3 (2.0)	82.9 (3.4)	-35.4 (2.9)	252.0 (8.9)	854	24.2 (1.6)	83.9 (1.8)	-22.0 (2.2)	222.0 (5.0)
19	24.3 (1.2)	85.7 (1.8)	-35.1 (2.3)	253.0 (6.9)	864	24.9 (1.3)	85.6 (1.5)	-35.4 (2.1)	251.0 (6.3)	878	25.0 (1.2)	85.7 (1.3)	-21.4 (3.0)	221.0 (6.9)
20	24.0 (1.8)	85.8 (1.9)	-36.1 (2.5)	251.0 (7.8)	865	24.5 (1.8)	85.2 (1.5)	-36.2 (2.9)	249.0 (7.6)	875	24.8 (1.9)	86.2 (1.7)	-19.5 (2.3)	226.0 (5.1)
21	23.6 (1.3)	85.4 (3.2)	-34.5 (4.9)	255.0 (12.6)	865	23.7 (1.2)	85.8 (1.8)	-35.0 (3.6)	251.0 (8.3)	873	24.2 (1.1)	86.6 (1.9)	-18.4 (2.4)	228.0 (5.3)
22	21.4 (1.8)	82.1 (3.1)	-34.3 (3.0)	256.0 (9.9)	874	21.0 (1.4)	82.8 (2.0)	-31.2 (3.2)	257.0 (8.8)	881	21.5 (1.4)	85.2 (2.1)	-15.9 (1.4)	237.0 (3.7)
23					883					867				
24	20.2 (1.9)	76.9 (5.2)	-36.0 (1.9)	256.0 (5.4)	883	19.4 (1.4)	77.3 (7.7)	-35.3 (3.6)	258.0 (10.3)	867	19.8 (1.2)	79.6 (2.7)	-20.9 (1.9)	227.0 (5.4)
25	21.7 (3.3)	84.2 (2.7)	-34.2 (2.9)	258.0 (9.5)	873	21.6 (3.1)	84.1 (2.4)	-34.0 (3.1)	259.0 (10.3)	888	21.7 (3.0)	85.5 (1.5)	-21.6 (2.2)	225.0 (6.5)
26	23.1 (2.4)	84.0 (4.5)	-35.0 (3.4)	254.0 (9.1)	863	22.7 (2.1)	84.4 (4.9)	-32.4 (4.8)	261.0 (14.9)	886	23.1 (2.1)	85.0 (3.6)	-17.9 (1.6)	231.0 (2.9)
27	20.8 (3.1)	81.3 (3.9)	-35.3 (1.9)	256.0 (7.5)	863	20.3 (2.7)	80.9 (4.9)	-32.4 (4.4)	258.0 (13.8)	886	20.6 (2.4)	83.5 (2.3)	-20.4 (1.9)	228.0 (6.1)
28	23.1 (2.0)	83.7 (2.7)	-34.8 (2.7)	254.0 (7.8)	865	22.9 (1.6)	83.3 (3.8)	-32.8 (5.0)	258.0 (13.5)	886	23.0 (1.6)	85.0 (1.6)	-19.8 (2.1)	226.0 (5.1)
29	23.8 (3.0)	84.9 (2.5)	-34.0 (3.2)	256.0 (9.0)	866	23.7 (2.7)	85.2 (2.0)	-33.7 (3.7)	257.0 (12.0)	887	23.8 (2.6)	85.8 (1.7)	-20.1 (2.9)	225.0 (8.4)
30	23.7 (1.8)	87.2 (1.8)	-35.3 (2.9)	252.0 (9.1)	868	24.1 (1.8)	86.4 (1.5)	-35.5 (3.0)	251.0 (9.4)	887	24.2 (1.7)	86.6 (1.4)	-20.9 (2.4)	222.0 (6.2)
31	23.9 (1.6)	87.5 (2.1)	-35.3 (2.5)	251.0 (7.6)	870	24.3 (1.5)	86.5 (1.9)	-35.6 (3.0)	250.0 (9.2)	860	24.7 (1.5)	87.0 (1.7)	-18.4 (1.5)	227.0 (3.4)
Avg	22.0	83.5	-34.6	252.0	858	22.2	82.7	-34.7	250.0	880	22.6	82.5	-20.8	225.0
n	29	29	29	29	31	29	29	29	29	31	29	29	29	25
SD	2.2	2.8	1.60	3.80	14	2.2	2.7	1.80	6.40	10	2.1	3.5	2.60	7.00
Min	17.2	76.6	-38.30	244.00	829	17.7	76.3	-38.50	236.00	854	18.4	72.2	-29.20	206.00
Max	24.7	87.5	-29.10	259.00	883	24.9	86.5	-31.10	261.00	892	25.0	87.0	-15.70	240.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for August, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	25.1 (1.7)	87.7 (1.8)	-34.4 (3.6)	253.0 (10.8)	871	25.6 (1.8)	86.4 (1.8)	-34.8 (3.7)	246.0 (12.4)	864	25.9 (1.7)	86.3 (2.3)	-18.4 (1.6)	226.0 (4.5)
2	21.0 (1.7)	84.8 (3.4)	-34.5 (2.4)	256.0 (6.5)	870	21.3 (1.6)	82.9 (3.2)	-33.9 (3.4)	251.0 (9.4)	896	21.8 (1.7)	84.5 (3.0)	-15.2 (2.0)	238.0 (3.4)
3	20.6 (2.7)	84.4 (3.1)	-33.8 (3.4)	260.0 (8.4)	869	21.2 (2.8)	83.0 (2.6)	-34.8 (2.6)	249.0 (9.2)	896	21.5 (2.6)	84.4 (2.4)	-20.3 (3.0)	228.0 (8.4)
4	23.5 (2.6)	87.5 (1.2)	-31.6 (5.5)		868	24.0 (2.8)	86.5 (1.0)	-34.2 (3.5)		895	24.4 (2.7)	86.9 (0.9)	-20.8 (3.2)	
5					872					896				
6					875					889				
7					865					881				
8	18.2 (1.6)	83.4 (2.8)	-32.8 (3.6)		857	18.9 (1.5)	82.0 (2.7)	-31.2 (3.1)		880	19.2 (1.6)	85.2 (2.4)	-17.8 (1.7)	
9	19.0 (2.5)	84.4 (1.7)	-33.6 (3.8)		856	19.8 (2.5)	83.4 (1.3)	-32.3 (3.2)		878	20.2 (2.5)	85.1 (1.3)	-19.6 (2.4)	
10	17.0 (1.6)	78.4 (5.1)	-28.7 (8.6)		852	17.6 (1.4)	80.4 (2.0)	-31.6 (2.0)		876	18.4 (1.7)	81.0 (4.1)	-16.2 (1.5)	
11	17.4 (2.5)	80.4 (6.5)	-25.0 (11.1)		843	18.1 (2.3)	81.8 (2.2)	-27.7 (5.6)		874	18.7 (2.4)	83.8 (2.6)	-17.0 (2.4)	
12					843					874				
13	20.1 (1.3)	83.2 (2.0)	-34.2 (2.9)		848	20.9 (1.2)	82.8 (1.8)	-31.3 (2.2)		873	21.1 (1.2)	84.7 (1.2)	-18.9 (1.3)	
14	19.6 (1.5)	83.5 (2.0)	-34.3 (2.3)	251.0 (7.0)	849	20.4 (1.4)	83.4 (1.6)	-30.7 (2.4)	267.0 (7.6)	875	20.6 (1.5)	84.9 (1.5)	-17.6 (2.0)	231.0 (3.9)
15	17.9 (1.8)	82.8 (3.1)	-32.4 (6.6)	260.0 (13.4)	849	18.5 (1.6)	82.2 (2.7)	-31.1 (3.1)	269.0 (14.6)	876	19.2 (1.7)	83.8 (2.9)	-16.3 (1.8)	231.0 (5.9)
16	18.1 (2.5)	82.6 (3.0)	-34.0 (4.5)	264.0 (11.6)	849	18.7 (2.4)	82.3 (2.5)	-32.6 (3.0)	268.0 (10.4)	875	19.5 (2.3)	83.6 (2.8)	-17.8 (2.2)	225.0 (8.5)
17	19.1 (2.4)	83.1 (2.5)	-33.6 (4.8)	263.0 (11.8)	849	19.6 (2.4)	81.9 (3.3)	-32.2 (3.7)	268.0 (12.5)	874	20.5 (2.3)	83.1 (2.1)	-18.7 (1.3)	224.0 (4.1)
18	20.0 (2.2)	83.9 (2.3)	-34.1 (2.2)	257.0 (11.5)	849	20.6 (2.2)	83.2 (1.6)	-33.4 (2.8)	260.0 (15.8)	874	21.2 (2.0)	84.5 (1.7)	-19.2 (1.3)	227.0 (3.8)
19	19.9 (2.2)	83.1 (3.8)	-33.1 (2.9)	257.0 (8.5)	849	20.4 (2.4)	81.9 (3.5)	-32.9 (2.7)	263.0 (8.8)	861	20.9 (2.1)	84.8 (3.0)	-20.0 (1.9)	230.0 (5.5)
20	19.9 (1.9)	82.8 (2.0)	-33.8 (2.5)	255.0 (7.9)	849	20.6 (1.8)	82.4 (1.7)	-33.4 (3.4)	261.0 (11.0)	859	20.9 (2.0)	84.8 (2.0)	-20.9 (1.1)	228.0 (3.7)
21	21.0 (2.0)	81.0 (6.3)	-33.1 (2.7)	253.0 (10.4)	851	22.0 (2.0)	79.2 (5.3)	-32.4 (3.3)	259.0 (12.2)	875	21.8 (2.2)	82.0 (5.2)	-21.4 (2.2)	226.0 (6.4)
22	23.4 (0.9)	87.4 (1.3)	-31.9 (2.2)	255.0 (5.3)	853	24.0 (1.0)	85.8 (1.2)	-31.8 (3.6)	261.0 (10.2)	882	24.3 (0.9)	87.9 (0.8)	-23.5 (3.1)	219.0 (6.9)
23					853					881				
24	19.9 (1.9)	82.9 (2.2)	-33.4 (3.7)	254.0 (6.9)	853	20.2 (1.9)	81.9 (1.8)	-33.1 (2.3)	261.0 (7.4)	880	20.9 (1.9)	84.5 (1.7)	-16.1 (1.2)	237.0 (3.0)
25	17.3 (2.3)	83.3 (2.4)	-33.8 (3.8)	256.0 (11.1)	856	17.6 (2.3)	82.5 (1.4)	-33.6 (3.9)	262.0 (13.6)	886	18.6 (2.3)	85.1 (1.7)	-16.6 (2.8)	236.0 (9.3)
26	17.2 (2.6)	82.1 (2.1)	-34.1 (4.0)	255.0 (11.9)	860	17.6 (2.7)	80.0 (2.9)	-33.3 (4.3)	263.0 (13.3)	893	18.6 (2.6)	83.7 (2.4)	-18.9 (3.0)	227.0 (13.0)
27	19.3 (2.9)	82.6 (2.5)	-33.2 (5.0)	255.0 (12.2)	850	19.6 (2.9)	81.5 (1.7)	-33.6 (3.2)	260.0 (10.9)	889	20.4 (3.0)	83.8 (1.7)	-18.0 (1.7)	232.0 (6.6)
28	21.7 (2.3)	86.7 (1.5)	-32.4 (3.4)	254.0 (8.4)	841	22.1 (2.4)	84.7 (1.0)	-32.2 (4.0)	261.0 (12.2)	885	22.5 (2.2)	87.4 (0.8)	-21.5 (2.2)	223.0 (6.4)
29	22.5 (2.3)	83.2 (5.3)	-32.8 (2.3)	255.0 (19.7)	841	22.0 (2.1)	82.7 (3.3)	-32.5 (2.2)	257.0 (24.6)	871	22.6 (1.8)	85.8 (3.3)	-17.6 (1.7)	231.0 (9.2)
30	19.8 (3.0)	77.1 (10.4)	-29.5 (8.4)	271.0 (14.4)	840	19.0 (2.1)	80.1 (3.8)	-32.6 (3.8)	266.0 (12.4)	862	19.7 (2.0)	83.2 (3.4)	-19.5 (2.1)	230.0 (7.6)
31	20.5 (3.5)	79.9 (5.3)	-33.4 (1.8)	263.0 (6.6)	841	19.8 (2.6)	80.5 (3.0)	-33.2 (2.7)	263.0 (9.5)	873	20.5 (2.4)	83.7 (3.0)	-20.4 (2.3)	230.0 (6.9)
Avg	20.0	83.2	-32.7	257.0	854	20.4	82.5	-32.6	261.0	879	20.9	84.6	-18.8	229.0
n	26	26	26	20	31	26	26	26	20	31	26	26	26	20
SD	2.0	2.5	2.10	4.70	10	2.0	1.8	1.40	5.80	10	1.9	1.5	1.90	4.60
Min	17.0	77.1	-34.50	251.00	840	17.6	79.2	-34.80	246.00	859	18.4	81.0	-23.50	219.00
Max	25.1	87.7	-25.00	271.00	875	25.6	86.5	-27.70	269.00	896	25.9	87.9	-15.20	238.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for September, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	20.9 (2.8)	76.2 (3.8)	-31.6 (6.4)	266.0 (15.7)	842	20.1 (2.0)	78.0 (2.7)	-32.7 (4.1)	264.0 (12.6)	878	20.7 (2.1)	80.7 (2.9)	-20.2 (1.8)	230.0 (5.2)
2	22.2 (3.1)	83.1 (3.4)	-32.9 (3.1)	248.0 (20.1)	841	22.5 (3.3)	81.0 (2.3)	-32.3 (3.8)	249.0 (22.5)	880	22.9 (3.3)	84.4 (1.7)	-19.2 (1.7)	220.0 (13.8)
3	21.7 (1.8)	86.0 (2.2)	-32.2 (4.7)	234.0 (8.7)	844	22.0 (1.7)	84.2 (2.0)	-32.3 (3.8)	234.0 (10.4)	880	22.8 (1.8)	86.9 (1.6)	-17.0 (1.4)	215.0 (2.3)
4	20.5 (1.0)	87.3 (1.3)	-31.9 (4.7)	235.0 (10.1)	844	20.9 (0.9)	84.4 (0.9)	-33.0 (2.8)	232.0 (7.4)	876	21.5 (0.9)	88.2 (0.5)	-19.8 (4.4)	209.0 (9.4)
5	18.1 (1.2)	86.4 (1.5)	-33.1 (4.7)	213.0 (39.2)	840	18.5 (1.1)	83.3 (1.4)	-33.0 (3.1)	213.0 (39.6)	873	19.3 (1.1)	87.3 (1.3)	-17.1 (1.9)	217.0 (4.1)
6	17.3 (2.0)	84.4 (2.8)	-34.1 (2.1)	234.0 (7.4)	838	17.6 (2.0)	81.8 (1.8)	-34.1 (2.3)	235.0 (7.0)	872	18.4 (2.0)	85.7 (2.6)	-19.5 (1.8)	212.0 (4.2)
7	17.0 (1.1)	83.8 (2.7)	-34.2 (2.5)	234.0 (5.0)	839	17.3 (1.1)	81.3 (2.0)	-34.3 (3.1)	236.0 (8.3)	873	18.2 (1.5)	84.1 (3.4)	-21.1 (2.1)	212.0 (4.1)
8	16.9 (1.3)	85.4 (1.6)	-33.1 (4.4)	239.0 (8.5)	840	17.2 (1.4)	82.4 (1.5)	-32.8 (4.5)	240.0 (10.9)	873	18.0 (1.5)	85.8 (1.4)	-19.5 (2.5)	215.0 (5.2)
9	14.2 (1.6)	81.0 (4.2)	-32.3 (4.1)	244.0 (10.4)	841	14.4 (1.8)	77.7 (3.7)	-31.9 (3.1)	246.0 (9.5)	873	16.7 (2.7)	76.1 (9.4)	-13.6 (2.4)	207.0 (21.8)
10	15.1 (2.1)	80.2 (2.1)	-33.5 (3.0)	241.0 (9.7)	840	15.7 (2.1)	77.2 (1.4)	-32.5 (4.6)	243.0 (13.6)	871	17.1 (2.5)	75.4 (5.3)	-19.4 (4.2)	205.0 (12.0)
11	18.4 (3.8)	83.6 (4.2)	-32.5 (4.5)	239.0 (10.0)	838	18.9 (3.8)	81.3 (3.3)	-32.3 (5.0)	240.0 (13.5)	870	19.7 (3.4)	81.7 (4.5)	-21.8 (3.4)	203.0 (7.0)
12	22.1 (0.6)	88.7 (0.6)	-31.2 (3.9)	238.0 (9.2)	841	22.5 (0.6)	86.5 (0.5)	-33.4 (2.1)	233.0 (6.1)	870	22.8 (0.7)	88.7 (0.5)	-21.9 (1.4)	205.0 (3.0)
13	24.2 (1.2)	89.5 (1.2)	-30.0 (4.7)	246.0 (7.8)	845	24.4 (1.2)	86.2 (1.5)	-31.6 (3.3)	246.0 (12.7)	870	24.7 (1.3)	88.4 (1.6)	-23.6 (3.6)	207.0 (11.9)
14	19.8 (2.1)	88.8 (2.8)	-30.3 (6.0)	260.0 (14.6)	840	20.0 (2.1)	85.4 (1.6)	-33.2 (4.5)	260.0 (10.0)	863	20.6 (1.9)	87.6 (1.5)	-15.8 (2.2)	235.0 (4.3)
15	16.2 (0.7)	85.1 (2.4)	-31.2 (5.5)	267.0 (15.7)	836	16.4 (0.7)	83.0 (1.4)	-33.1 (3.4)	268.0 (10.1)	856	17.6 (1.3)	85.1 (3.2)	-17.4 (1.7)	238.0 (3.3)
16	15.1 (1.5)	81.3 (4.2)	-32.2 (3.3)	266.0 (9.4)	836	15.4 (1.4)	79.9 (3.8)	-32.0 (4.0)	270.0 (11.6)	857	18.0 (2.6)	74.6 (9.6)	-16.9 (2.6)	227.0 (18.7)
17	17.5 (3.1)	83.0 (2.6)	-32.4 (4.0)	262.0 (9.9)	837	17.9 (3.1)	81.8 (1.7)	-33.6 (2.6)	266.0 (10.2)	856	19.1 (2.8)	80.5 (2.0)	-18.4 (2.9)	221.0 (17.3)
18	17.5 (1.6)	83.0 (2.6)	-32.4 (2.4)	263.0 (7.4)	835	17.9 (1.5)	82.1 (2.5)	-33.1 (3.2)	267.0 (10.0)	855	18.7 (1.9)	84.6 (3.1)	-17.9 (4.4)	236.0 (5.7)
19	17.7 (3.1)	79.3 (4.5)	-29.1 (6.8)	268.0 (23.1)	841	17.7 (2.8)	77.8 (3.6)	-30.9 (5.7)	271.0 (23.3)	854	18.8 (2.5)	78.5 (2.7)	-19.7 (2.9)	224.0 (17.5)
20	18.9 (2.3)	83.1 (2.7)	-30.8 (2.1)	266.0 (7.3)	851	19.2 (2.3)	81.6 (3.1)	-29.5 (5.4)	277.0 (18.7)	863	20.3 (2.1)	82.3 (2.0)	-20.0 (1.4)	231.0 (4.4)
21	19.0 (1.7)	83.3 (2.9)	-30.0 (5.5)	267.0 (10.8)	854	19.4 (1.8)	81.6 (3.3)	-30.7 (5.4)	273.0 (16.0)	873	20.4 (1.8)	83.8 (3.1)	-19.4 (1.8)	233.0 (4.9)
22	19.0 (1.6)	82.9 (3.0)	-32.5 (2.6)	262.0 (7.7)	854	19.7 (1.9)	77.3 (9.8)	-29.9 (6.4)	266.0 (15.2)	873	20.4 (1.7)	83.5 (3.3)	-21.3 (2.2)	229.0 (6.1)
23	18.7 (2.2)	81.4 (2.8)	-31.5 (5.2)	259.0 (13.8)	856	19.3 (2.3)	79.8 (2.1)	-31.6 (5.1)	261.0 (16.3)	872	19.9 (2.1)	82.6 (2.3)	-22.3 (1.9)	226.0 (7.4)
24	18.6 (2.0)	81.1 (3.0)	-34.4 (2.3)	257.0 (6.8)	858	19.1 (2.1)	79.8 (2.2)	-33.8 (3.5)	264.0 (11.7)	872	20.0 (2.0)	80.6 (3.2)	-21.7 (1.4)	229.0 (3.9)
25	18.9 (1.6)	80.6 (3.1)	-34.0 (4.5)	257.0 (9.4)	859	19.3 (1.5)	79.3 (2.4)	-33.6 (4.1)	264.0 (13.6)	871	20.2 (1.7)	80.3 (2.9)	-20.1 (1.8)	232.0 (4.4)
26	17.0 (1.7)	80.5 (3.4)	-34.0 (3.4)	258.0 (11.7)	860	17.4 (1.8)	79.0 (2.8)	-33.6 (3.5)	262.0 (11.3)	846	18.4 (1.9)	80.1 (3.1)	-18.4 (2.3)	212.0 (21.1)
27	16.3 (2.4)	81.4 (3.1)	-34.8 (1.6)	256.0 (6.1)	853	16.7 (2.5)	79.6 (2.8)	-32.9 (1.9)	251.0 (7.8)	847	17.7 (2.2)	81.6 (2.7)	-18.7 (3.4)	196.0 (7.1)
28	17.4 (2.3)	83.8 (2.0)	-33.3 (4.2)	258.0 (9.9)	844	17.7 (2.4)	81.9 (1.1)	-32.3 (5.5)	265.0 (13.4)	873	18.7 (2.3)	84.0 (1.1)	-19.5 (1.7)	197.0 (3.9)
29	16.3 (1.5)	85.4 (1.7)	-34.3 (2.8)	257.0 (8.6)	843	16.8 (1.5)	83.5 (1.2)	-32.7 (5.5)	268.0 (17.0)	872	17.8 (1.8)	85.7 (3.2)	-20.4 (2.4)	196.0 (4.9)
30	13.3 (1.3)	80.4 (5.4)	-34.1 (3.2)	256.0 (12.8)	848	13.8 (1.4)	77.4 (5.7)	-33.6 (4.2)	256.0 (11.0)	872	15.6 (1.6)	74.5 (10.6)	-14.8 (3.0)	200.0 (12.3)
Avg	18.2	83.3	-32.5	252.0	845	18.5	81.2	-32.5	254.0	868	19.5	82.8	-19.2	217.0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	2.4	3.0	1.50	13.50	7	2.4	2.6	1.20	15.60	9	2.0	4.0	2.20	12.90
Min	13.3	76.2	-34.80	213.00	835	13.8	77.2	-34.30	213.00	846	15.6	74.5	-23.60	196.00
Max	24.2	89.5	-29.10	268.00	860	24.4	86.5	-29.50	277.00	880	24.7	88.7	-13.60	238.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for October, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	11.5 (2.0)	77.5 (2.6)	-31.6 (3.4)	250.0 (11.0)	854	11.9 (2.0)	75.2 (2.8)	-31.6 (3.1)	253.0 (9.4)	873	13.9 (1.8)	72.8 (4.7)	-10.1 (2.5)	179.0 (28.9)
2	12.0 (3.1)	75.2 (4.7)	-32.3 (5.3)	241.0 (16.0)	853	12.4 (3.1)	72.8 (4.8)	-33.1 (6.0)	242.0 (24.0)	873	14.6 (3.2)	66.3 (9.2)	-14.0 (4.3)	175.0 (30.0)
3	12.1 (2.3)	75.9 (3.6)	-31.9 (3.5)	246.0 (13.2)	844	12.4 (2.2)	73.7 (3.0)	-32.8 (3.5)	250.0 (10.6)	879	14.4 (2.1)	68.7 (5.7)	-13.2 (3.6)	187.0 (21.3)
4	10.9 (3.3)	70.3 (5.3)	-30.1 (5.3)	233.0 (22.3)	835	11.2 (3.2)	69.6 (4.7)	-29.5 (5.5)	239.0 (31.0)	887	13.2 (3.1)	62.9 (9.6)	-11.8 (3.6)	177.0 (28.3)
5	12.4 (3.4)	72.5 (4.7)	-31.2 (6.7)	245.0 (20.1)	834	12.7 (3.1)	71.4 (3.7)	-31.9 (5.9)	242.0 (21.8)	877	14.9 (3.5)	63.4 (8.1)	-14.8 (4.7)	182.0 (26.6)
6	15.2 (1.7)	73.6 (5.4)	-33.6 (4.0)	262.0 (12.3)	843	16.5 (1.6)	72.5 (4.6)	-33.9 (3.4)	258.0 (9.3)	865	17.0 (1.5)	67.7 (7.5)	-19.4 (3.2)	198.0 (8.2)
7	15.8 (1.8)	80.2 (4.7)	-32.9 (4.0)	259.0 (11.0)	856	16.3 (1.8)	79.5 (4.6)	-33.6 (3.6)	264.0 (9.9)	864	17.7 (1.9)	74.4 (7.4)	-23.0 (4.7)	190.0 (10.5)
8	14.4 (2.2)	84.4 (2.1)	-32.6 (5.8)	255.0 (17.6)	856	14.7 (2.3)	83.9 (2.3)	-34.5 (4.1)	254.0 (13.8)	864	16.1 (1.8)	83.4 (2.9)	-19.7 (4.7)	179.0 (11.7)
9	12.7 (2.9)	77.4 (3.7)	-32.6 (3.0)	252.0 (5.5)	854	13.0 (2.9)	75.6 (5.6)	-31.6 (4.5)	246.0 (11.4)	835	15.8 (3.7)	66.0 (10.9)	-14.5 (2.7)	168.0 (9.9)
10	13.3 (3.3)	72.3 (3.9)	-33.3 (3.5)	248.0 (6.5)	856	13.6 (3.3)	72.4 (4.2)	-33.7 (4.5)	238.0 (14.5)	832	15.8 (3.7)	62.6 (10.4)	-17.1 (6.1)	159.0 (10.1)
11	17.2 (3.2)	75.3 (5.8)	-31.2 (7.6)	261.0 (17.4)	862	17.7 (3.3)	76.4 (6.7)	-35.3 (2.3)	246.0 (7.9)	858	18.7 (2.9)	71.8 (9.7)	-20.6 (2.8)	196.0 (32.0)
12	18.4 (1.9)	79.2 (2.7)	-33.3 (3.9)	267.0 (10.4)	864	18.8 (2.3)	80.5 (2.6)	-33.9 (2.5)		856	19.5 (1.8)	79.6 (2.8)	-22.5 (2.7)	228.0 (7.3)
13	19.4 (2.1)	78.7 (5.6)	-32.7 (3.6)	267.0 (11.6)	864	19.8 (2.3)	78.9 (4.6)	-33.3 (4.4)		856	20.5 (2.0)	78.5 (6.8)	-24.1 (2.5)	223.0 (7.3)
14	16.4 (2.1)	79.1 (4.7)	-33.4 (3.7)	268.0 (11.3)	863	16.6 (2.2)	78.8 (4.5)	-35.7 (2.4)	254.0 (6.3)	858	18.4 (2.1)	74.2 (10.4)	-16.9 (3.2)	229.0 (16.0)
15	16.7 (2.9)	83.3 (5.1)	-34.5 (3.6)	254.0 (14.6)	844	17.0 (3.0)	82.3 (4.3)	-35.4 (3.2)	238.0 (16.6)	860	18.1 (2.7)	82.1 (7.3)	-17.9 (4.0)	191.0 (31.7)
16	11.5 (2.0)	77.8 (4.3)	-31.7 (3.7)	253.0 (10.1)	829	12.0 (2.1)	75.4 (5.3)	-32.6 (2.9)	229.0 (8.0)	864	13.8 (2.0)	73.4 (8.8)	-10.5 (2.6)	171.0 (14.4)
17	11.2 (2.1)	74.1 (5.8)	-30.7 (4.1)	247.0 (8.5)	834	11.7 (2.3)	71.2 (7.0)	-31.9 (4.2)	233.0 (8.4)	866	13.4 (2.1)	68.0 (10.7)	-11.3 (3.4)	159.0 (15.5)
18	11.5 (2.1)	73.7 (5.4)	-31.9 (3.0)	245.0 (5.7)	834	11.8 (2.2)	72.8 (5.2)	-31.5 (5.2)	240.0 (11.5)	863	13.7 (2.0)	66.4 (10.6)	-12.3 (4.7)	157.0 (13.9)
19	10.9 (3.2)	69.3 (5.1)	-28.3 (5.4)	241.0 (21.2)	834	11.0 (3.0)	70.4 (4.0)	-29.9 (5.8)	223.0 (21.7)	862	13.1 (3.0)	59.8 (10.6)	-16.8 (6.4)	150.0 (13.9)
20	12.0 (3.8)	73.3 (5.9)	-29.2 (6.6)	248.0 (12.7)	832	12.3 (3.7)	73.4 (5.0)	-31.3 (5.1)	230.0 (13.5)	862	14.3 (3.4)	68.8 (9.0)	-11.3 (3.8)	159.0 (17.9)
21	10.0 (2.5)	70.3 (8.8)	-29.1 (4.3)	237.0 (18.7)	846	10.4 (2.6)	69.6 (8.0)	-28.9 (4.4)	217.0 (14.5)	863	12.2 (2.3)	67.2 (11.1)	-8.4 (1.8)	162.0 (20.2)
22	9.1 (2.8)	61.3 (10.4)	-23.8 (6.0)	197.0 (30.1)	855	9.2 (2.9)	60.9 (9.7)	-26.5 (6.9)	196.0 (28.8)	865	10.8 (2.6)	55.8 (13.4)	-14.2 (4.4)	152.0 (23.8)
23	11.5 (3.9)	59.2 (7.2)	-25.9 (9.3)	212.0 (41.4)	848	11.6 (4.2)	59.1 (6.9)	-28.4 (7.5)	202.0 (31.5)	875	13.2 (3.8)	53.1 (8.9)	-15.9 (4.2)	155.0 (13.2)
24					850					884				
25	10.0 (1.3)	73.8 (4.3)	-24.2 (3.3)	198.0 (21.7)	853	9.9 (1.6)	74.5 (4.4)	-30.2 (3.5)	214.0 (14.1)	884	11.2 (1.4)	73.3 (5.8)	-18.0 (4.0)	149.0 (15.7)
26	10.9 (2.9)	63.2 (10.2)	-31.2 (6.7)	195.0 (27.8)	853	10.9 (3.0)	63.5 (11.2)	-37.8 (8.8)	202.0 (28.4)	883	12.2 (2.7)	58.7 (12.4)	-16.0 (4.5)	155.0 (16.9)
27	7.6 (1.5)	68.3 (4.7)	-19.4 (5.0)	158.0 (13.0)	854	7.4 (1.2)	66.8 (4.7)	-25.9 (5.4)	171.0 (26.6)	882	9.3 (1.4)	63.2 (5.8)	-8.8 (1.9)	137.0 (20.8)
28	6.9 (2.1)	63.2 (7.2)	-21.1 (3.7)	150.0 (17.6)	840	7.2 (1.5)	61.9 (5.8)	-27.7 (4.8)	157.0 (30.9)	877	8.6 (1.5)	57.2 (7.9)	-11.1 (2.4)	129.0 (22.1)
29	7.3 (2.7)	61.6 (8.3)	-20.7 (4.5)	165.0 (34.0)	811	7.8 (2.4)	60.6 (7.7)	-25.2 (5.0)	170.0 (46.6)	868	9.0 (2.7)	55.1 (10.9)	-12.0 (1.7)	138.0 (33.4)
30	9.9 (4.4)	62.1 (10.6)	-22.8 (6.8)	200.0 (51.8)	808	10.3 (4.3)	62.4 (9.8)	-27.3 (5.4)	200.0 (52.7)	865	11.7 (4.3)	55.7 (13.2)	-20.7 (5.3)	143.0 (23.3)
31	14.4 (4.4)	66.9 (5.6)	-28.9 (5.2)	242.0 (24.0)	821	14.6 (4.7)	67.4 (5.2)	-31.2 (4.2)	249.0 (16.0)	849	16.2 (4.6)	60.3 (6.5)	-21.5 (2.8)	194.0 (34.4)
Avg	12.4	72.4	-29.5	233.0	845	12.8	71.8	-31.5	227.0	866	14.4	67.0	-15.6	172.0
n	30	30	30	30	31	30	30	30	28	31	30	30	30	30
SD	3.1	6.7	4.20	32.60	14	3.2	6.5	3.10	27.80	13	3.0	8.1	4.40	25.70
Min	6.9	59.2	-34.50	150.00	808	7.2	59.1	-37.80	157.00	832	8.6	53.1	-24.10	129.00
Max	19.4	84.4	-19.40	268.00	864	19.8	83.9	-25.20	264.00	887	20.5	83.4	-8.40	229.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for November, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	13.0 (2.9)	74.9 (5.1)	-26.4 (7.3)	239.0 (28.4)	819	13.2 (3.1)	74.3 (4.9)	-30.5 (3.4)	249.0 (22.3)	845	14.8 (2.9)	71.5 (5.9)	-17.3 (2.4)	232.0 (16.5)
2	16.2 (3.6)	67.4 (5.0)	-29.6 (3.5)	255.0 (19.5)	818	16.6 (3.7)	67.6 (4.3)	-30.8 (3.0)	257.0 (12.9)	856	17.8 (3.8)	62.8 (6.7)	-23.7 (2.9)	223.0 (9.2)
3	17.1 (3.3)	61.7 (5.8)	-33.4 (1.8)	265.0 (7.8)	819	17.5 (3.3)	62.8 (5.4)	-33.6 (2.0)	265.0 (5.6)	855	19.1 (3.2)	54.6 (7.2)	-25.1 (1.5)	222.0 (5.0)
4	15.3 (4.2)	62.4 (8.2)	-30.1 (3.2)	251.0 (19.6)	820	15.2 (4.5)	64.1 (7.7)	-31.1 (4.3)	258.0 (15.1)	854	17.4 (4.1)	54.1 (9.9)	-21.1 (1.7)	228.0 (15.3)
5	15.5 (4.0)	64.3 (6.0)	-28.0 (4.4)	251.0 (21.0)	822	15.6 (4.3)	65.5 (6.1)	-30.5 (4.1)	261.0 (10.6)	855	17.1 (3.8)	59.8 (6.0)	-21.7 (4.7)	225.0 (13.4)
6	15.4 (2.5)	72.5 (8.2)	-28.9 (2.9)	261.0 (14.9)	821	15.8 (2.5)	71.7 (6.9)	-30.4 (3.2)	263.0 (9.8)	855	17.0 (2.5)	68.0 (10.1)	-25.1 (3.3)	221.0 (8.8)
7	9.3 (1.4)	71.7 (5.9)	-22.5 (9.4)	182.0 (20.8)	816	9.0 (1.4)	72.0 (5.2)	-28.3 (5.0)	209.0 (25.5)	850	10.4 (1.3)	69.7 (8.8)	-17.8 (4.2)	173.0 (37.1)
8	6.9 (0.7)	70.6 (1.8)	-22.3 (3.3)	142.0 (7.8)	806	7.1 (0.6)	70.7 (1.8)	-27.6 (3.6)	150.0 (16.2)	850	8.7 (1.1)	66.2 (2.8)	-13.8 (3.0)	126.0 (10.2)
9	5.9 (1.1)	69.5 (4.9)	-24.0 (3.0)	128.0 (6.9)	799	6.4 (0.7)	70.3 (4.5)	-29.9 (9.1)	133.0 (12.1)	854	7.9 (1.2)	66.9 (4.7)	-12.7 (2.9)	117.0 (13.2)
10	4.4 (1.9)	61.7 (4.7)	-20.0 (2.5)	130.0 (14.6)	798	5.3 (1.4)	62.6 (4.6)	-23.2 (3.4)	124.0 (23.3)	852	7.3 (1.4)	56.4 (4.8)	-11.7 (3.2)	113.0 (18.9)
11	4.6 (2.3)	72.3 (2.6)	-17.3 (2.3)	140.0 (14.5)	806	5.1 (1.8)	71.9 (1.6)	-20.1 (2.3)	131.0 (21.8)	850	7.9 (1.4)	66.6 (4.3)	-11.4 (3.4)	99.6 (21.7)
12	9.7 (1.8)	78.7 (3.0)	-19.2 (4.9)	182.0 (22.4)	813	9.3 (1.8)	78.9 (3.0)	-25.9 (4.6)	218.0 (34.6)	851	10.3 (1.8)	79.7 (3.6)	-15.8 (4.0)	195.0 (40.6)
13	11.3 (1.1)	77.5 (3.0)	-23.9 (3.1)	210.0 (23.0)	812	11.3 (1.3)	78.4 (3.0)	-29.1 (3.2)	237.0 (15.4)	850	12.2 (1.3)	79.0 (4.8)	-22.0 (3.6)	216.0 (16.5)
14	11.0 (1.1)	80.7 (2.5)	-25.6 (2.3)	216.0 (11.4)	809	11.0 (1.3)	81.0 (2.9)	-29.1 (2.5)	237.0 (11.3)	828	12.3 (1.2)	81.5 (2.5)	-15.1 (3.4)	235.0 (9.1)
15	7.5 (1.0)	72.1 (4.2)	-22.3 (2.8)	156.0 (12.9)	808	7.3 (0.6)	71.7 (4.5)	-24.1 (2.8)	167.0 (27.6)	833	8.2 (1.5)	71.1 (5.6)	-12.1 (2.3)	200.0 (32.7)
16	5.6 (1.1)	69.5 (3.3)	-22.1 (3.5)	131.0 (9.4)	808	5.9 (0.8)	69.5 (2.9)	-24.6 (3.5)	130.0 (10.4)	861	5.8 (1.1)	70.0 (3.9)	-14.9 (4.7)	132.0 (19.0)
17	4.4 (1.2)	66.6 (4.7)	-21.2 (2.4)	125.0 (9.5)	807	5.3 (0.9)	64.9 (5.1)	-24.2 (3.2)	119.0 (15.0)	860	5.1 (1.1)	65.0 (7.1)	-10.9 (2.6)	135.0 (13.2)
18	2.5 (1.9)	64.2 (5.3)	-19.5 (2.0)	126.0 (8.9)	809	3.6 (1.7)	64.4 (4.7)	-21.1 (2.3)	110.0 (13.4)	859	3.9 (1.4)	63.1 (6.1)	-14.4 (2.6)	117.0 (11.7)
19	5.8 (2.6)	64.3 (3.8)	-19.2 (6.2)	138.0 (11.7)	822	6.2 (2.1)	63.9 (3.1)	-22.6 (4.7)	143.0 (38.9)	859	6.4 (2.0)	61.3 (3.4)	-20.0 (7.8)	136.0 (31.7)
20	3.9 (1.8)	62.0 (2.0)	-22.5 (2.4)	118.0 (7.0)	835	5.0 (1.4)	61.0 (1.9)	-23.0 (3.8)	123.0 (14.5)	857	5.3 (1.4)	57.6 (2.1)	-13.5 (3.4)	129.0 (22.3)
21	0.2 (2.4)	60.4 (5.8)	-22.0 (2.4)	113.0 (3.6)	836	1.6 (2.5)	61.5 (5.5)	-22.9 (3.1)	105.0 (4.7)	833	2.7 (1.6)	57.9 (6.1)	-17.7 (4.3)	103.0 (16.0)
22	0.6 (2.6)	64.0 (4.3)	-18.5 (2.0)	117.0 (5.4)	835	1.5 (2.6)	64.6 (4.1)	-21.1 (1.7)	106.0 (5.9)	840	3.3 (1.7)	61.8 (5.2)	-20.4 (4.8)	97.9 (15.9)
23	3.3 (3.9)	63.6 (6.5)	-16.5 (3.0)	129.0 (13.6)	835	3.8 (3.5)	64.8 (5.4)	-20.3 (3.2)	133.0 (31.6)	872	5.0 (2.8)	59.4 (7.9)	-19.2 (2.8)	115.0 (20.8)
24	6.1 (1.0)	73.7 (3.8)	-22.0 (3.6)	131.0 (6.7)	833	6.4 (0.9)	72.9 (4.0)	-23.5 (3.9)	133.0 (12.2)	886	6.2 (0.9)	72.5 (5.4)	-12.3 (3.3)	
25	4.8 (1.9)	68.9 (3.9)	-21.3 (2.4)	126.0 (11.9)	832	5.5 (1.3)	68.9 (3.9)	-24.3 (3.9)	124.0 (22.3)	884	5.2 (1.5)	66.9 (5.1)	-11.7 (3.9)	
26	4.3 (2.7)	67.2 (6.4)	-19.3 (2.8)	132.0 (15.7)	832	4.7 (2.4)	66.9 (5.3)	-22.1 (3.0)	125.0 (31.1)	870	5.2 (2.1)	64.2 (8.0)	-16.5 (2.8)	134.0 (23.3)
27	4.9 (3.2)	69.3 (5.0)	-21.8 (5.0)	135.0 (16.1)	825	5.2 (2.8)	69.4 (4.6)	-24.5 (4.3)	131.0 (32.9)	864	5.8 (2.3)	66.8 (5.9)	-17.4 (3.0)	141.0 (29.5)
28	5.0 (2.5)	66.3 (5.2)	-21.6 (4.1)	133.0 (17.4)	820	5.4 (2.0)	66.7 (4.9)	-24.1 (3.7)	129.0 (35.0)	821	5.6 (2.1)	64.0 (7.6)	-16.3 (2.5)	139.0 (22.6)
29	4.4 (3.1)	66.9 (5.4)	-18.5 (2.7)	138.0 (16.5)	813	4.7 (3.0)	67.2 (5.6)	-20.8 (3.7)	134.0 (31.4)	815	5.4 (2.3)	63.7 (7.3)	-16.7 (2.9)	145.0 (29.1)
30	5.0 (0.5)	73.2 (5.9)	-18.3 (2.3)	126.0 (3.1)	805	5.6 (0.6)	72.0 (5.1)	-22.0 (3.4)	127.0 (10.6)	846	5.5 (0.9)	73.0 (7.9)	-14.6 (1.9)	141.0 (15.8)
Avg	7.5	68.6	-22.6	164.0	818	7.9	68.7	-25.5	168.0	852	8.8	65.8	-16.8	160.0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	28
SD	4.7	5.3	4.10	50.90	11	4.5	5.1	3.80	57.00	16	4.8	6.9	4.10	47.20
Min	0.2	60.4	-33.40	113.00	798	1.5	61.0	-33.60	105.00	815	2.7	54.1	-25.10	97.90
Max	17.1	80.7	-16.50	265.00	836	17.5	81.0	-20.10	265.00	886	19.1	81.5	-10.90	235.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for December, 2008.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	2.5 (1.5)	74.3 (2.7)	-23.1 (2.3)	110.0 (6.3)	813	3.9 (1.5)	72.8 (3.0)	-22.6 (4.0)	106.0 (8.6)	847	4.0 (1.3)	77.5 (2.8)	-16.6 (4.3)	110.0 (13.4)
2	2.4 (1.9)	70.5 (2.3)	-15.5 (3.6)	121.0 (8.0)	822	3.0 (1.5)	70.2 (2.3)	-17.3 (2.4)	104.0 (2.9)	847	3.7 (1.6)	71.9 (1.5)	-19.9 (3.7)	103.0 (9.2)
3	5.7 (1.3)	73.5 (2.5)	-18.8 (4.3)	138.0 (11.2)	822	5.9 (1.2)	72.7 (2.3)	-21.1 (3.7)	124.0 (24.1)	847	5.8 (1.3)	73.6 (2.4)	-18.8 (5.4)	125.0 (13.1)
4	-0.6 (1.6)	69.3 (3.2)	-22.9 (2.1)	119.0 (2.5)	822	0.3 (1.7)	67.9 (3.1)	-22.5 (2.5)	103.0 (2.7)	821	2.1 (1.2)	69.1 (3.2)	-16.5 (4.2)	98.6 (17.1)
5	-3.9 (1.7)	69.0 (2.7)	-21.0 (4.5)	122.0 (5.4)	823	-3.1 (1.8)	68.5 (2.7)	-20.6 (2.9)	106.0 (2.4)	824	1.5 (1.7)	70.4 (2.3)	-24.2 (4.1)	76.3 (10.8)
6	1.2 (1.8)	71.4 (3.3)	-20.3 (5.1)	120.0 (5.8)	823	2.0 (1.8)	70.0 (4.3)	-22.1 (3.3)	101.0 (2.9)	854	3.4 (1.4)	72.6 (3.8)	-21.1 (7.3)	99.1 (13.6)
7	-3.4 (2.7)	67.8 (3.1)	-18.5 (3.6)	125.0 (3.7)	821	-2.6 (2.4)	66.9 (3.1)	-17.7 (2.8)	108.0 (2.3)	853	0.8 (1.8)	67.0 (3.3)	-18.7 (4.3)	80.8 (13.1)
8	3.2 (2.9)	71.5 (1.9)	-14.6 (2.5)	135.0 (10.5)	819	3.6 (2.9)	70.4 (2.3)	-14.5 (2.6)	119.0 (14.2)	851	4.5 (2.5)	68.8 (1.8)	-15.3 (3.3)	
9	7.4 (1.6)	77.4 (5.4)	-17.3 (5.5)	161.0 (18.8)	818	7.4 (1.1)	76.9 (4.7)	-20.6 (4.0)	180.0 (31.1)	858	8.0 (1.7)	78.1 (7.5)	-21.1 (9.6)	
10	4.0 (1.0)	74.2 (2.3)	-17.1 (1.4)	133.0 (7.1)	822	4.7 (1.1)	73.2 (2.5)	-14.8 (2.4)	115.0 (11.9)	867	4.9 (1.3)	74.1 (3.2)	-12.8 (2.7)	
11	2.3 (2.1)	73.5 (3.4)	-17.6 (3.1)	125.0 (4.4)	822	3.0 (2.1)	73.2 (3.1)	-17.5 (2.7)	109.0 (8.1)	857	3.4 (1.9)	73.2 (3.4)	-16.1 (1.8)	
12	-1.6 (1.3)	69.4 (3.9)	-19.0 (3.0)	122.0 (3.5)	815	-0.6 (1.4)	69.5 (3.3)	-19.3 (3.1)	104.0 (2.9)	850	0.5 (1.9)	67.5 (3.9)	-16.0 (1.4)	
13	3.7 (3.3)	71.3 (2.8)	-11.5 (2.3)	138.0 (10.1)	810	3.8 (3.0)	70.5 (2.2)	-15.8 (2.2)	119.0 (16.6)	853	4.9 (2.5)	69.3 (3.0)	-22.7 (3.8)	
14	9.2 (1.8)	72.9 (4.0)	-13.7 (6.4)	182.0 (28.6)	797	9.2 (1.9)	73.9 (3.7)	-22.0 (5.2)	190.0 (38.4)	852	10.0 (2.0)	71.6 (4.6)	-31.1 (6.7)	
15	-3.2 (3.8)	73.5 (2.2)	-25.1 (5.3)	120.0 (11.0)	785	-2.3 (3.4)	73.7 (2.8)	-25.6 (5.9)	108.0 (22.5)	851	-0.8 (3.3)	75.5 (2.9)	-16.2 (2.5)	
16	-3.2 (2.2)	73.7 (2.0)	-16.7 (1.5)	125.0 (2.0)	801	-2.5 (2.1)	73.4 (1.7)	-16.4 (2.5)	107.0 (2.4)	850	0.1 (2.7)	74.0 (2.4)	-18.1 (4.5)	
17	-2.7 (2.2)	73.5 (2.3)	-20.6 (2.8)	120.0 (3.7)	819	-1.9 (2.3)	73.2 (2.2)	-20.3 (2.5)	104.0 (2.9)	849	1.3 (2.4)	75.6 (2.0)	-22.6 (2.8)	
18	-2.8 (2.7)	73.7 (2.4)	-17.5 (1.8)	126.0 (1.9)	819	-2.2 (2.5)	72.9 (2.7)	-16.5 (3.1)	109.0 (3.1)	848	1.2 (2.5)	74.8 (2.3)	-21.0 (2.8)	
19	3.4 (0.9)	77.0 (2.4)	-19.0 (3.4)	124.0 (13.1)	797	4.2 (0.9)	75.9 (2.4)	-16.7 (3.9)	106.0 (12.5)	845	7.0 (1.2)	78.3 (1.7)	-24.6 (3.4)	
20	1.1 (0.7)	75.5 (1.3)	-17.3 (3.3)	124.0 (3.7)	789	1.8 (0.7)	74.1 (1.6)	-17.1 (3.5)	107.0 (3.0)	845	4.7 (1.4)	76.7 (1.0)	-23.0 (2.3)	
21	-9.9 (2.1)	75.0 (1.5)	-28.8 (5.6)	117.0 (6.8)	804	-9.2 (2.9)	75.1 (2.9)	-24.5 (14.7)	105.0 (9.9)	850	-3.4 (2.8)	79.8 (1.5)	-15.3 (4.7)	
22	-7.9 (1.4)	76.0 (1.9)	-14.3 (3.5)	134.0 (4.2)	802	-6.7 (1.4)	75.7 (2.5)	-15.8 (3.2)	114.0 (3.3)	849	-2.4 (1.7)	79.2 (2.2)	-14.8 (4.4)	
23	0.6 (3.4)	76.1 (2.0)	-14.0 (2.5)	130.0 (4.6)	800	1.0 (3.4)	74.6 (1.8)	-16.4 (2.4)	106.0 (5.7)	846	3.3 (2.7)	77.4 (2.6)	-25.4 (4.9)	
24	2.1 (4.1)	78.2 (4.3)	-25.6 (9.5)	124.0 (14.8)	799	3.0 (3.8)	78.3 (5.3)	-22.6 (9.2)	117.0 (16.4)	850	5.0 (2.9)	80.9 (2.5)	-25.7 (5.5)	
25	-3.4 (3.3)	71.5 (2.9)	-17.9 (3.1)	127.0 (3.2)	798	-2.5 (3.1)	72.7 (2.5)	-17.7 (2.6)	109.0 (2.3)	856	1.2 (2.8)	71.8 (2.8)	-21.1 (2.2)	
26	6.1 (3.1)	78.1 (5.3)	-18.0 (4.6)	154.0 (35.9)	795	6.4 (2.8)	77.7 (4.4)	-19.1 (4.2)	149.0 (48.4)	822	8.2 (2.8)	78.5 (5.5)	-30.9 (8.1)	
27	14.0 (1.9)	85.4 (1.7)	-27.3 (6.5)	255.0 (26.0)	794	14.2 (1.9)	84.3 (1.9)	-26.6 (5.4)	255.0 (17.2)	819	15.6 (2.0)	85.6 (1.6)	-40.1 (6.3)	
28	3.6 (1.7)	73.8 (2.9)	-25.7 (8.9)	120.0 (10.2)	793	4.8 (1.1)	74.8 (2.9)	-25.0 (6.1)	115.0 (14.1)	849	4.9 (1.0)	74.7 (4.0)	-22.1 (2.8)	
29	5.9 (1.9)	72.6 (3.3)	-22.0 (6.0)	135.0 (15.9)	796	6.1 (1.7)	73.6 (3.7)	-23.9 (5.2)	128.0 (26.8)	849	6.2 (2.0)	72.6 (4.0)	-21.5 (2.7)	
30	5.3 (2.2)	72.8 (2.6)	-18.4 (6.6)	140.0 (21.4)	797	5.9 (1.7)	73.3 (2.3)	-21.6 (6.8)	137.0 (32.0)	849	6.0 (1.9)	71.7 (3.1)	-19.4 (2.9)	
31	-1.3 (1.7)	67.6 (4.3)	-20.4 (3.8)	123.0 (5.2)	797	0.5 (2.0)	69.3 (3.4)	-19.4 (2.4)	108.0 (4.4)	848	2.6 (1.7)	67.7 (3.8)	-19.0 (2.2)	
Avg	1.3	73.6	-19.3	134.0	807	2.0	73.2	-19.8	122.0	847	3.8	74.2	-21.0	99.0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	7
SD	4.9	3.5	4.10	26.20	12	4.7	3.4	3.30	31.80	11	3.7	4.3	5.50	15.30
Min	-9.9	67.6	-28.80	110.00	785	-9.2	66.9	-26.60	101.00	819	-3.4	67.0	-40.10	76.30
Max	14.0	85.4	-11.50	255.00	823	14.2	84.3	-14.50	255.00	867	15.6	85.6	-12.80	125.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for January, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	0.9 (1.9)	68.8 (4.4)	-15.5 (4.8)	148.0 (15.1)	798	0.9 (1.4)	69.4 (3.6)	-21.1 (5.9)	149.0 (34.8)	849	3.5 (1.7)	66.9 (4.0)	-22.0 (2.7)	
2	1.6 (1.6)	68.0 (4.6)	-21.8 (3.7)	148.0 (10.2)	798	1.4 (1.1)	68.4 (4.8)	-26.5 (4.6)	165.0 (23.5)	849	3.8 (1.2)	64.6 (5.9)	-18.7 (2.5)	
3	2.2 (2.7)	68.5 (3.2)	-24.7 (6.0)	169.0 (29.5)	797	2.1 (2.1)	68.6 (3.4)	-24.7 (6.0)	173.0 (44.5)	846	4.7 (2.1)	65.3 (4.3)	-21.4 (1.5)	
4	3.5 (2.5)	77.7 (4.2)	-31.5 (4.6)	174.0 (31.1)	798	3.2 (2.1)	77.2 (5.1)	-34.2 (5.5)	197.0 (48.3)	843	5.6 (1.8)	76.7 (4.6)	-20.5 (2.1)	
5					799					845				
6					799					845				
7					799					840				
8	-4.1 (1.6)	72.5 (2.3)	-23.6 (2.7)	121.0 (3.5)	798	-3.0 (1.8)	73.0 (1.8)	-23.8 (2.9)	104.0 (5.3)	839	0.4 (1.7)	73.9 (2.1)	-22.7 (3.7)	
9	0.3 (3.0)	74.0 (2.6)	-23.1 (5.4)	150.0 (20.3)	797	0.1 (2.7)	74.8 (2.7)	-23.0 (5.8)	150.0 (35.7)	842	3.1 (2.3)	73.2 (2.8)	-23.3 (2.1)	
10	1.0 (0.6)	77.4 (1.7)	-23.4 (2.5)	151.0 (6.1)	796	0.9 (0.6)	77.7 (3.8)	-22.9 (3.5)	148.0 (10.4)	847	4.0 (1.0)	76.3 (1.5)	-19.2 (2.6)	
11	-0.7 (1.2)	73.3 (2.3)	-23.7 (4.3)	130.0 (9.7)	795	-0.1 (0.8)	73.0 (2.3)	-23.5 (2.8)	122.0 (12.6)	848	2.3 (1.0)	74.0 (2.2)	-24.1 (2.5)	
12	0.2 (2.0)	74.2 (2.8)	-22.1 (4.1)	139.0 (16.7)	793	0.4 (1.6)	74.5 (2.5)	-24.0 (5.1)	137.0 (27.6)	846	2.8 (1.5)	74.4 (2.5)	-23.6 (2.6)	
13	-2.7 (4.3)	75.1 (3.0)	-31.3 (5.2)	121.0 (18.8)	795	-3.3 (4.2)	73.1 (3.8)	-29.7 (6.5)	118.0 (35.8)	845	0.6 (3.4)	74.2 (3.1)	-25.7 (3.3)	
14	-5.7 (1.6)	75.6 (2.4)	-24.4 (5.3)	118.0 (5.6)	799	-5.8 (1.5)	73.9 (1.8)	-21.4 (6.6)	106.0 (5.9)	846	-0.5 (2.3)	73.8 (1.8)	-25.1 (3.2)	
15	-9.7 (1.8)	79.3 (2.7)	-15.5 (6.5)	132.0 (8.2)	799	-9.0 (2.0)	79.5 (2.5)	-14.5 (6.4)	111.0 (5.5)	845	-4.0 (2.5)	80.3 (2.1)	-11.5 (6.7)	
16	-9.3 (2.4)	82.9 (1.4)	-6.3 (3.1)	195.0 (38.4)	800	-9.1 (2.8)	81.8 (1.2)	-4.9 (2.4)	174.0 (41.8)	846	-1.7 (2.9)	84.1 (2.2)	-5.4 (1.7)	
17	-2.1 (2.2)	78.6 (2.7)	-18.1 (13.2)	198.0 (18.7)	816	-2.3 (2.7)	76.8 (2.8)	-19.6 (10.7)	171.0 (17.0)	833	4.1 (2.5)	86.4 (3.4)	-18.6 (8.2)	
18	-3.5 (1.4)	74.3 (2.6)	-26.9 (4.9)	179.0 (7.7)	817	-3.1 (1.3)	71.7 (2.8)	-24.8 (3.8)	169.0 (4.1)	827	2.7 (2.4)	75.2 (2.5)	-23.2 (2.8)	
19	-4.4 (2.0)	74.2 (3.0)	-29.0 (5.1)	179.0 (8.8)	794	-3.8 (1.7)	72.3 (2.9)	-26.3 (2.7)	165.0 (4.9)	837	2.1 (2.3)	75.2 (2.1)	-24.6 (2.7)	
20	-4.8 (2.8)	74.7 (2.6)	-23.1 (3.1)	146.0 (30.4)	788	-4.2 (2.7)	73.0 (2.4)	-22.3 (2.4)	130.0 (30.5)	838	-1.7 (2.7)	76.6 (1.6)	-23.1 (2.2)	
21	-1.9 (3.2)	73.9 (3.0)	-20.6 (3.3)	131.0 (11.3)	790	-1.6 (3.0)	73.3 (2.5)	-22.6 (2.9)	118.0 (15.5)	837	-0.8 (3.3)	76.2 (3.4)	-27.1 (3.0)	
22	0.9 (2.8)	75.3 (2.1)	-22.3 (5.3)	150.0 (32.2)	790	0.7 (2.4)	74.9 (3.7)	-24.4 (4.5)	149.0 (41.1)	836	2.4 (3.0)	75.5 (3.0)	-25.0 (2.3)	
23	2.2 (1.5)	74.4 (2.6)	-29.0 (5.5)	151.0 (10.3)	792	1.8 (0.9)	74.0 (3.3)	-29.7 (5.1)	168.0 (24.2)	811	3.9 (1.4)	73.4 (3.0)	-26.1 (4.7)	
24	-7.1 (2.4)	69.6 (2.5)	-24.9 (2.0)	118.0 (3.4)	792	-5.5 (2.4)	70.4 (2.5)	-23.2 (2.3)	104.0 (4.8)	815	-4.2 (2.7)	71.3 (2.4)	-26.0 (2.2)	
25	-8.3 (2.0)	70.3 (3.7)	-21.4 (3.8)	124.0 (4.6)	795	-6.4 (2.2)	71.7 (3.7)	-20.7 (1.6)	106.0 (2.0)	845	-5.4 (2.3)	73.8 (3.4)	-23.6 (1.2)	
26	-5.6 (1.4)	67.5 (2.8)	-20.9 (1.6)	123.0 (2.2)	796	-4.1 (1.5)	68.6 (2.7)	-19.4 (1.4)	107.0 (1.9)	845	-3.3 (1.9)	70.7 (2.7)	-23.7 (0.9)	
27	-3.7 (1.6)	70.7 (2.0)	-18.7 (1.8)	125.0 (4.0)	791	-2.3 (1.7)	70.8 (2.1)	-17.7 (1.5)	106.0 (2.0)	844	-1.4 (2.0)	73.0 (1.8)	-23.1 (1.0)	
28	-4.0 (1.9)	74.1 (2.9)	-21.8 (3.4)	121.0 (3.9)	790	-2.6 (2.2)	73.9 (2.5)	-21.0 (3.3)	105.0 (5.0)	846	-1.7 (2.3)	76.8 (2.4)	-24.1 (1.6)	
29	-2.1 (2.5)	74.5 (1.8)	-25.0 (4.5)	125.0 (8.6)	790	-1.2 (2.1)	74.8 (2.2)	-25.7 (4.5)	115.0 (19.2)	833	-0.1 (2.4)	76.7 (2.4)	-24.7 (1.5)	
30	-5.7 (2.1)	70.5 (3.9)	-22.9 (4.7)	123.0 (5.9)	788	-3.9 (2.2)	71.7 (2.9)	-23.1 (2.5)	105.0 (3.0)	833	-2.2 (2.6)	73.7 (3.0)	-23.5 (1.3)	
31	-1.6 (5.4)	74.1 (1.3)	-22.4 (5.8)	150.0 (22.6)	788	-1.3 (4.7)	74.9 (1.2)	-23.2 (5.8)	157.0 (47.3)	846	0.2 (5.4)	75.6 (2.5)	-23.4 (1.4)	
Avg	-2.7	73.7	-22.6	144.0	796	-2.2	73.5	-22.8	137.0	840	0.7	74.6	-22.3	
n	28	28	28	28	31	28	28	28	28	31	28	28	28	0
SD	3.5	3.6	5.00	23.40	7	3.1	3.1	5.10	28.10	9	3.0	4.5	4.40	
Min	-9.7	67.5	-31.50	118.00	788	-9.1	68.4	-34.20	104.00	811	-5.4	64.6	-27.10	
Max	3.5	82.9	-6.30	198.00	817	3.2	81.8	-4.90	197.00	849	5.6	86.4	-5.40	

Table F2. Daily means (SD) of environmental parameters at Site IN5B for February, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	3.4 (1.4)	72.3 (3.6)	-30.1 (5.3)	170.0 (16.3)	789	3.0 (1.3)	72.4 (3.4)	-30.0 (4.1)	199.0 (26.2)	844	5.5 (1.9)	70.5 (4.2)	-25.0 (2.6)	
2	-0.5 (1.9)	72.5 (3.8)	-24.5 (3.2)	133.0 (8.0)	790	0.0 (1.6)	72.8 (3.5)	-24.2 (5.1)	128.0 (21.1)	850	2.8 (2.4)	71.5 (4.4)	-22.9 (2.2)	
3	-5.7 (1.9)	71.8 (1.5)	-23.6 (1.9)	119.0 (2.3)	790	-3.5 (1.9)	73.2 (1.5)	-24.0 (2.7)	101.0 (2.6)	855	0.9 (2.2)	73.7 (1.7)	-22.3 (1.8)	
4	-7.0 (2.3)	69.5 (3.6)	-22.8 (2.1)	120.0 (2.9)	788	-5.0 (2.5)	71.7 (3.8)	-22.5 (2.8)	103.0 (2.9)	854	-0.2 (2.3)	72.7 (3.7)	-21.9 (1.4)	
5	-5.1 (4.0)	71.1 (4.2)	-15.7 (3.0)	132.0 (7.3)	787	-4.1 (3.5)	73.2 (4.5)	-15.9 (3.8)	113.0 (9.0)	830	0.7 (3.2)	73.5 (5.0)	-22.9 (4.2)	
6	1.9 (4.9)	73.7 (3.7)	-25.3 (7.1)	180.0 (47.8)	798	2.1 (4.4)	75.5 (2.9)	-24.0 (6.7)	185.0 (64.1)	827	6.8 (4.3)	73.1 (3.3)	-23.4 (2.2)	74.1 (2.3)
7	10.8 (3.1)	80.2 (2.7)	-40.4 (6.6)	242.0 (14.5)	811	10.8 (3.2)	80.1 (2.3)	-35.9 (2.6)	260.0 (7.9)	848	13.0 (2.5)	78.3 (2.6)	-29.5 (6.6)	146.0 (45.6)
8	4.8 (1.5)	76.3 (4.3)	-31.2 (1.9)	198.0 (19.3)	811	4.2 (1.8)	76.5 (3.5)	-29.3 (6.0)	232.0 (25.2)	847	7.7 (1.7)	71.6 (3.5)	-18.4 (1.5)	127.0 (11.0)
9	7.4 (3.9)	80.9 (2.6)	-28.8 (10.4)	226.0 (32.3)	811	7.1 (4.2)	79.4 (2.0)	-31.7 (4.1)	235.0 (26.4)	846	9.3 (3.0)	77.1 (2.3)	-21.9 (4.8)	145.0 (27.5)
10	12.9 (2.2)	80.0 (4.0)	-36.1 (4.3)	263.0 (10.6)	819	12.9 (2.3)	80.2 (3.8)	-32.6 (4.0)	265.0 (8.3)	844	14.0 (2.3)	78.0 (4.5)	-30.7 (3.2)	182.0 (14.2)
11	10.8 (3.4)	84.5 (2.6)	-40.4 (9.0)	237.0 (38.5)	828	10.5 (3.6)	83.5 (2.7)	-38.3 (7.9)	251.0 (21.8)	843	12.2 (2.7)	83.7 (3.4)	-22.0 (5.8)	173.0 (26.5)
12	5.6 (1.9)	73.5 (4.6)	-39.8 (7.9)	189.0 (21.3)	828	4.9 (2.0)	73.8 (3.8)	-37.2 (6.4)	220.0 (18.1)	817	8.2 (1.5)	70.2 (3.7)	-19.9 (3.3)	125.0 (13.0)
13	3.7 (1.4)	71.1 (4.6)	-27.8 (4.4)	180.0 (17.6)	827	2.8 (1.4)	72.2 (3.5)	-28.1 (4.8)	201.0 (28.4)	820	6.9 (1.5)	65.2 (3.8)	-17.4 (1.8)	122.0 (8.4)
14	2.9 (1.1)	77.0 (2.0)	-25.4 (4.1)	163.0 (10.2)	828	2.1 (0.8)	77.4 (2.2)	-26.3 (2.5)	189.0 (16.5)	853	6.2 (1.3)	70.8 (1.7)	-15.7 (1.6)	119.0 (3.4)
15	1.2 (1.8)	73.0 (4.5)	-22.8 (3.9)	154.0 (12.4)	826	1.1 (1.2)	73.7 (3.8)	-21.1 (3.9)	159.0 (27.0)	845	4.5 (2.1)	67.3 (4.5)	-16.3 (2.0)	120.0 (4.2)
16	1.1 (2.0)	72.2 (5.1)	-22.5 (4.6)	155.0 (12.6)	819	1.1 (1.5)	72.8 (4.6)	-22.4 (5.7)	156.0 (30.3)	836	4.0 (2.2)	66.3 (5.6)	-20.0 (2.8)	118.0 (4.2)
17	3.5 (2.2)	72.6 (4.7)	-23.1 (5.4)	183.0 (31.2)	816	3.2 (2.0)	73.3 (4.8)	-26.5 (6.1)	202.0 (49.8)	839	5.8 (2.2)	68.4 (4.8)	-25.9 (4.7)	125.0 (11.9)
18	5.2 (1.7)	81.3 (2.6)	-32.3 (5.6)	198.0 (26.4)	819	4.7 (1.7)	81.6 (2.4)	-35.6 (5.3)	224.0 (37.4)	844	7.7 (1.8)	78.2 (2.1)	-22.3 (5.1)	136.0 (13.5)
19	-2.6 (1.8)	69.9 (3.1)	-25.8 (3.7)	121.0 (5.7)	815	-1.2 (1.7)	71.8 (2.7)	-26.4 (4.8)	110.0 (10.9)	846	0.8 (2.1)	67.6 (3.0)	-19.4 (2.2)	116.0 (2.5)
20	-1.4 (2.3)	67.4 (4.4)	-22.2 (2.1)	134.0 (12.2)	813	-0.7 (2.0)	69.1 (4.5)	-23.0 (3.1)	123.0 (20.3)	848	1.4 (2.3)	62.3 (4.8)	-20.0 (1.7)	116.0 (2.3)
21	0.5 (1.7)	74.4 (2.2)	-29.9 (9.8)	133.0 (18.9)	817	0.8 (1.0)	75.1 (2.3)	-29.9 (7.9)	135.0 (30.9)	847	2.7 (1.9)	72.0 (3.1)	-24.4 (5.9)	110.0 (6.7)
22	-1.9 (2.4)	71.5 (3.2)	-26.2 (2.9)	125.0 (10.6)	816	-0.9 (1.8)	71.6 (3.9)	-27.9 (3.9)	115.0 (17.8)	845	1.0 (2.3)	69.9 (3.8)	-18.0 (1.2)	119.0 (1.7)
23	-1.8 (3.0)	68.9 (5.0)	-20.3 (2.7)	139.0 (12.5)	816	-1.1 (2.4)	69.3 (4.9)	-21.9 (4.0)	129.0 (26.3)	843	1.2 (3.1)	65.8 (5.5)	-18.8 (1.9)	119.0 (2.4)
24	2.2 (2.7)	70.6 (5.2)	-23.5 (5.7)	171.0 (25.1)	813	2.1 (2.3)	70.9 (4.6)	-25.1 (6.3)	174.0 (51.2)	852	4.2 (2.9)	66.4 (6.4)	-24.2 (2.5)	124.0 (14.3)
25	7.0 (4.0)	69.9 (6.0)	-30.9 (8.8)	215.0 (37.9)	815	6.5 (4.4)	70.7 (6.1)	-32.2 (5.9)	234.0 (26.6)	861	8.9 (3.5)	64.0 (6.7)	-28.8 (4.1)	154.0 (23.5)
26	8.4 (3.1)	84.5 (2.4)	-34.3 (3.4)	232.0 (30.7)	821	8.0 (3.5)	84.5 (1.6)	-34.7 (3.4)	242.0 (16.4)	860	9.9 (3.0)	83.1 (3.2)	-31.5 (4.9)	166.0 (15.5)
27	2.6 (3.3)	79.8 (4.7)	-25.7 (8.1)	168.0 (35.9)	820	2.5 (3.3)	77.7 (4.3)	-22.0 (9.4)	176.0 (35.7)	861	6.3 (2.5)	78.4 (4.5)	-20.0 (4.5)	136.0 (34.9)
28	0.4 (1.5)	72.5 (2.8)	-23.0 (4.3)	147.0 (10.9)	820	0.7 (1.0)	72.1 (2.6)	-22.1 (3.8)	146.0 (23.9)	860	5.2 (1.4)	70.5 (3.1)	-23.6 (2.2)	111.0 (2.4)
Avg	2.5	74.4	-27.7	172.0	812	2.7	74.9	-27.5	179.0	845	5.6	71.8	-22.4	130.0
n	28	28	28	28	28	28	28	28	28	28	28	28	28	23
SD	4.9	4.7	6.10	40.70	13	4.3	4.1	5.50	51.70	11	3.8	5.4	4.10	22.90
Min	-7.0	67.4	-40.40	119.00	787	-5.0	69.1	-38.30	101.00	817	-0.2	62.3	-31.50	74.10
Max	12.9	84.5	-15.70	263.00	828	12.9	84.5	-15.90	265.00	861	14.0	83.7	-15.70	182.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for March, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	-0.7 (1.2)	72.5 (2.2)	-22.2 (2.0)	135.0 (9.7)	820	0.2 (1.0)	72.0 (2.4)	-18.0 (2.1)	134.0 (16.0)	859	4.4 (1.6)	71.5 (1.2)	-22.1 (3.0)	113.0 (3.1)
2	-3.2 (2.1)	66.3 (3.6)	-21.4 (2.7)	130.0 (9.5)	814	-1.9 (2.4)	66.3 (3.7)	-20.1 (1.7)	115.0 (11.2)	858	2.0 (2.2)	66.5 (4.0)	-23.6 (2.0)	113.0 (2.2)
3	-1.1 (2.8)	65.2 (6.1)	-22.1 (1.9)	140.0 (13.8)	811	-0.5 (2.5)	65.7 (5.7)	-22.7 (3.8)	132.0 (22.9)	858	2.7 (2.3)	62.8 (7.9)	-26.9 (1.6)	109.0 (2.1)
4	4.3 (2.6)	59.7 (6.4)	-25.7 (7.7)	194.0 (41.8)	816	4.1 (2.6)	60.3 (5.8)	-28.6 (7.3)	207.0 (46.0)	863	7.1 (2.4)	53.1 (8.3)	-28.3 (4.5)	119.0 (14.7)
5	11.9 (4.6)	68.5 (5.8)	-32.4 (2.9)	250.0 (29.5)	784	12.2 (5.1)	68.9 (5.9)	-33.4 (2.5)	254.0 (15.5)	867	13.9 (4.1)	61.1 (7.1)	-33.5 (5.4)	160.0 (25.6)
6	14.8 (3.0)	74.2 (7.3)	-36.6 (2.7)	262.0 (8.6)	781	15.3 (3.1)	74.2 (7.5)	-36.9 (2.9)	261.0 (8.0)	864	16.7 (2.7)	68.7 (8.9)	-25.9 (5.1)	190.0 (13.7)
7	9.7 (2.4)	79.2 (4.7)	-34.9 (2.2)	252.0 (11.4)	810	10.1 (2.4)	78.8 (4.4)	-35.1 (2.7)	263.0 (9.3)	863	12.6 (1.8)	74.1 (5.3)	-20.5 (2.5)	178.0 (12.7)
8	9.7 (3.4)	81.9 (5.0)	-38.2 (10.7)	236.0 (25.6)	810	10.1 (3.5)	81.7 (4.6)	-38.3 (7.0)	254.0 (18.3)	861	12.4 (3.0)	78.6 (5.1)	-26.5 (6.6)	161.0 (15.2)
9	5.6 (1.7)	77.8 (1.5)	-30.1 (3.5)	224.0 (19.5)	811	5.9 (2.0)	78.3 (1.7)	-31.5 (7.8)	242.0 (13.8)	860	8.9 (1.6)	74.2 (1.2)	-20.1 (3.5)	148.0 (12.2)
10	11.8 (3.8)	84.8 (2.9)	-36.7 (8.5)	249.0 (23.3)	810	12.2 (3.8)	84.0 (2.7)	-38.7 (6.0)	255.0 (13.4)	860	13.9 (3.2)	82.3 (2.9)	-24.0 (2.8)	172.0 (18.1)
11	1.9 (1.9)	70.8 (3.5)	-31.6 (5.7)	150.0 (18.8)	807	2.0 (1.4)	69.9 (3.6)	-33.6 (6.7)	158.0 (31.8)	862	4.8 (1.7)	66.3 (4.3)	-19.1 (3.1)	121.0 (10.0)
12	-0.6 (1.4)	69.0 (3.0)	-20.9 (2.3)	142.0 (15.2)	805	0.2 (1.2)	68.1 (2.6)	-20.9 (3.4)	131.0 (23.7)	866	4.3 (2.1)	60.6 (3.6)	-18.0 (2.6)	119.0 (2.7)
13	1.9 (2.9)	67.8 (7.6)	-24.9 (4.6)	170.0 (30.3)	804	2.3 (2.5)	68.2 (6.4)	-26.8 (7.1)	181.0 (55.9)	867	6.1 (2.1)	59.5 (6.9)	-24.7 (3.6)	126.0 (13.8)
14	5.9 (3.9)	64.0 (11.0)	-29.0 (8.6)	213.0 (44.3)	804	6.2 (4.0)	64.7 (10.5)	-32.8 (7.3)	223.0 (41.1)	866	9.3 (3.4)	57.9 (10.9)	-19.3 (3.2)	144.0 (22.0)
15	9.4 (4.3)	60.1 (10.0)	-34.1 (6.2)	239.0 (27.8)	802	9.8 (4.6)	60.3 (9.6)	-36.3 (5.0)	250.0 (17.6)	863	12.1 (4.0)	51.5 (12.0)	-20.8 (2.6)	164.0 (18.4)
16	11.9 (3.8)	62.9 (5.5)	-36.6 (1.8)	254.0 (8.6)	801	12.1 (4.0)	64.0 (5.9)	-38.9 (1.8)	256.0 (5.7)	861	14.7 (3.2)	53.1 (5.4)	-21.8 (2.4)	
17	14.8 (5.2)	67.2 (10.2)	-35.8 (3.4)	258.0 (9.5)	806	15.1 (5.5)	67.9 (10.4)	-36.7 (3.8)	258.0 (8.8)	864	17.5 (4.5)	58.6 (9.4)	-24.8 (4.4)	
18	11.5 (2.7)	64.0 (11.4)	-35.4 (1.7)	263.0 (9.9)	813	11.9 (2.8)	63.9 (11.2)	-36.7 (2.5)	264.0 (6.1)	869	14.6 (2.2)	53.8 (11.7)	-14.8 (3.5)	183.0 (10.3)
19	5.7 (3.5)	63.8 (6.9)	-30.1 (5.4)	222.0 (34.8)	792	5.9 (3.5)	63.1 (6.4)	-33.3 (4.1)	238.0 (36.6)	869	9.8 (2.7)	51.4 (5.4)	-12.7 (1.3)	162.0 (24.6)
20	3.7 (2.8)	64.3 (7.3)	-26.4 (6.6)	194.0 (41.6)	797	4.0 (2.8)	64.6 (7.1)	-28.1 (6.5)	200.0 (46.2)	869	7.1 (2.5)	53.9 (6.7)	-16.2 (1.9)	132.0 (23.3)
21	9.3 (4.3)	58.7 (7.7)	-33.1 (5.6)	244.0 (26.2)	824	9.7 (4.6)	58.8 (7.7)	-32.7 (4.9)	246.0 (18.5)	869	11.8 (3.8)	48.5 (9.2)	-18.1 (2.3)	160.0 (20.7)
22	11.4 (4.4)	58.4 (8.8)	-35.8 (3.8)	252.0 (15.9)	821	11.8 (4.6)	58.8 (8.5)	-37.8 (3.3)	252.0 (7.3)	870	13.9 (3.8)	46.9 (10.4)	-18.3 (2.0)	169.0 (11.9)
23	9.8 (3.4)	62.1 (6.8)	-34.4 (3.0)	253.0 (15.0)	819	10.1 (3.6)	62.2 (6.9)	-36.9 (4.1)	252.0 (10.4)	870	12.4 (3.1)	51.9 (8.0)	-19.1 (2.3)	157.0 (9.4)
24	15.0 (5.0)	56.4 (6.9)	-30.0 (4.8)	262.0 (12.1)	819	15.4 (5.0)	57.2 (7.1)	-33.6 (3.9)	251.0 (17.9)	871	16.8 (4.5)	48.5 (9.1)	-27.6 (7.4)	159.0 (12.9)
25	10.3 (2.3)	70.0 (8.0)	-37.6 (5.0)	253.0 (15.6)	818	10.9 (2.4)	70.6 (7.6)	-37.7 (4.3)	253.0 (9.2)	847	13.2 (1.7)	62.2 (8.6)	-21.1 (4.2)	156.0 (6.9)
26	9.4 (3.0)	65.7 (9.0)	-33.2 (3.9)	251.0 (17.0)	819	9.6 (3.2)	66.6 (8.8)	-34.6 (4.2)	250.0 (17.1)	847	12.6 (2.4)	56.4 (9.7)	-17.6 (2.4)	158.0 (9.5)
27	7.0 (2.9)	69.1 (5.9)	-29.2 (4.6)	237.0 (27.8)	818	7.2 (3.1)	69.5 (5.6)	-32.3 (3.1)	251.0 (17.9)	872	10.5 (2.5)	59.7 (5.7)	-12.5 (3.0)	154.0 (22.3)
28	5.5 (2.3)	74.7 (5.1)	-28.3 (5.0)	219.0 (30.6)	819	5.7 (2.6)	74.3 (4.7)	-32.6 (4.1)	235.0 (22.1)	873	9.1 (1.9)	67.1 (6.3)	-10.6 (1.9)	150.0 (24.0)
29	4.2 (0.6)	79.3 (3.5)	-28.1 (3.5)	193.0 (15.3)	818	4.0 (0.8)	78.7 (3.7)	-34.5 (4.0)	226.0 (17.0)	873	7.5 (1.0)	73.8 (3.7)	-12.2 (2.2)	133.0 (18.5)
30	6.9 (3.6)	65.4 (10.9)	-30.2 (6.7)	230.0 (41.1)	822	7.2 (3.9)	66.2 (10.2)	-33.5 (5.9)	233.0 (34.9)	875	9.7 (2.9)	57.9 (12.7)	-16.0 (3.8)	147.0 (27.1)
31	9.4 (1.7)	72.6 (5.7)	-32.3 (5.6)	258.0 (20.5)	828	9.7 (1.7)	72.6 (5.3)	-36.4 (3.6)	258.0 (6.8)	877	11.4 (1.5)	66.2 (6.9)	-22.1 (4.7)	157.0 (7.0)
Avg	7.3	68.3	-30.9	220.0	810	7.7	68.4	-32.6	225.0	865	10.4	61.3	-20.6	149.0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	29
SD	4.8	7.1	5.00	42.30	11	4.7	6.8	5.60	44.40	7	4.1	9.2	5.20	21.70
Min	-3.2	56.4	-38.20	130.00	781	-1.9	57.2	-38.90	115.00	847	2.0	46.9	-33.50	109.00
Max	15.0	84.8	-20.90	263.00	828	15.4	84.0	-18.00	264.00	877	17.5	82.3	-10.60	190.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for April, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	8.5 (3.1)	66.1 (8.1)	-36.8 (9.1)	229.0 (22.1)	825	8.8 (3.4)	67.3 (9.1)	-36.7 (7.7)	253.0 (15.4)	868	10.8 (2.8)	59.1 (10.0)	-24.9 (5.3)	150.0 (11.8)
2	11.8 (3.7)	62.8 (10.2)	-35.3 (3.3)	252.0 (12.2)	822	12.1 (3.8)	63.1 (10.8)	-34.9 (7.0)	260.0 (12.1)	863	14.1 (3.3)	54.0 (11.4)	-16.7 (5.1)	178.0 (15.2)
3	7.1 (2.1)	73.4 (6.9)	-32.3 (6.7)	232.0 (19.2)	823	7.2 (2.3)	73.1 (7.2)	-35.7 (6.6)	248.0 (11.8)	867	9.8 (1.9)	67.3 (8.6)	-12.5 (2.1)	168.0 (15.5)
4	6.8 (3.2)	64.6 (8.7)	-31.5 (5.9)	223.0 (32.2)	821	6.9 (3.4)	65.1 (8.8)	-34.8 (4.3)	238.0 (24.6)	866	9.7 (2.6)	56.3 (10.1)	-13.3 (1.7)	164.0 (28.4)
5	6.2 (1.6)	76.6 (5.2)	-27.9 (7.5)	232.0 (15.6)	820	6.4 (1.7)	76.2 (4.8)	-34.1 (4.2)	247.0 (10.6)	863	9.3 (1.4)	70.9 (6.5)	-13.1 (3.9)	170.0 (11.9)
6	3.8 (0.9)	76.2 (4.4)	-21.3 (5.4)	197.0 (13.3)	820	3.8 (1.1)	76.2 (5.1)	-28.2 (4.0)	220.0 (16.4)	860	7.3 (0.9)	70.7 (5.3)	-9.4 (1.4)	
7	5.2 (2.8)	62.8 (8.9)	-32.1 (7.1)	204.0 (27.7)	827	5.2 (2.9)	63.1 (9.2)	-38.0 (7.2)	213.0 (29.7)	865	8.2 (2.2)	55.7 (10.1)	-14.4 (3.1)	
8	7.4 (3.6)	61.2 (8.7)	-33.8 (6.7)	227.0 (30.5)	833	7.6 (3.8)	61.7 (9.0)	-36.6 (4.9)	226.0 (26.6)	869	10.2 (3.0)	52.5 (9.5)	-16.7 (2.9)	
9	9.6 (4.1)	58.5 (11.3)	-31.9 (7.8)	242.0 (28.7)	831	10.0 (4.2)	58.4 (12.2)	-33.9 (7.1)	228.0 (39.5)	846	11.9 (3.7)	49.4 (14.9)	-16.5 (2.3)	163.0 (20.6)
10	7.2 (1.5)	66.2 (8.0)	-28.4 (6.4)	250.0 (24.5)	832	7.5 (1.4)	66.4 (7.0)	-31.5 (4.7)	238.0 (18.5)	847	10.6 (1.3)	57.3 (7.9)	-11.5 (1.9)	169.0 (12.8)
11	6.0 (2.9)	63.6 (10.5)	-30.7 (4.8)	218.0 (29.5)	833	6.6 (2.7)	63.7 (10.3)	-28.8 (4.9)	207.0 (33.6)	872	9.3 (2.5)	54.1 (11.6)	-11.2 (1.3)	160.0 (26.5)
12	8.4 (4.3)	60.1 (11.0)	-30.8 (9.0)	223.0 (47.3)	833	9.0 (4.2)	60.1 (11.3)	-32.1 (9.0)	217.0 (49.9)	872	10.9 (4.0)	50.6 (14.2)	-16.6 (4.5)	154.0 (26.7)
13	5.9 (0.6)	74.0 (9.8)	-32.4 (3.1)	226.0 (14.8)	833	6.2 (0.7)	73.1 (9.2)	-31.0 (2.7)	199.0 (15.3)	875	8.5 (1.2)	67.6 (13.0)	-17.3 (2.7)	152.0 (14.2)
14	6.3 (0.3)	82.3 (2.5)	-31.2 (2.4)	225.0 (6.7)	827	6.6 (0.3)	81.0 (2.1)	-28.3 (2.7)	207.0 (5.3)	864	9.4 (0.8)	78.1 (2.6)	-10.8 (1.0)	168.0 (6.2)
15	8.2 (2.5)	69.2 (5.8)	-32.0 (5.1)	244.0 (16.5)	825	8.6 (2.6)	68.4 (6.0)	-30.4 (4.4)	229.0 (25.4)	854	10.9 (2.3)	61.9 (7.7)	-12.0 (1.5)	180.0 (13.6)
16	11.1 (5.0)	59.7 (11.5)	-33.0 (5.1)		828	11.5 (5.0)	59.5 (11.3)	-33.6 (5.8)	194.0 (12.1)	857	13.5 (4.7)	50.4 (14.1)	-16.3 (3.3)	187.0 (21.7)
17	13.7 (5.2)	53.2 (9.4)	-33.5 (5.4)		827	13.9 (5.2)	53.9 (8.6)	-36.0 (2.6)	194.0 (10.0)	858	16.1 (4.7)	41.1 (10.1)	-19.1 (3.7)	195.0 (17.5)
18	16.4 (4.5)	61.7 (7.5)	-31.2 (8.2)		827	16.5 (4.8)	63.6 (7.5)	-35.4 (2.7)	199.0 (7.2)	857	18.5 (4.2)	51.4 (8.5)	-20.2 (2.6)	197.0 (14.5)
19	14.0 (1.8)	81.2 (2.1)	-32.2 (7.0)		827	14.3 (1.8)	80.7 (1.8)	-34.9 (4.2)	203.0 (6.7)	858	15.9 (1.7)	78.3 (2.7)	-17.3 (1.8)	185.0 (3.7)
20	9.2 (1.5)	80.9 (3.0)	-36.9 (4.8)		827	9.5 (1.5)	79.3 (3.9)	-37.1 (5.8)	182.0 (9.4)	857	11.5 (1.4)	78.3 (4.0)	-17.3 (4.3)	183.0 (9.6)
21	6.4 (0.9)	82.4 (2.2)	-36.1 (8.6)		831	6.9 (0.9)	80.2 (1.6)	-33.4 (5.8)	158.0 (13.4)	866	8.9 (0.9)	79.5 (2.0)	-18.2 (4.3)	166.0 (15.5)
22	8.7 (3.3)	76.5 (4.6)	-33.1 (9.4)		836	8.9 (3.1)	75.3 (5.4)	-33.9 (8.0)	169.0 (20.6)	880	11.0 (3.3)	69.2 (12.5)	-17.7 (2.7)	183.0 (21.3)
23	10.5 (3.7)	76.2 (4.7)	-32.4 (4.3)		834	11.1 (3.7)	76.1 (4.5)	-33.6 (5.1)	224.0 (42.1)	881	14.5 (4.7)	56.5 (9.9)	-22.7 (6.5)	188.0 (19.9)
24	17.9 (1.7)	80.5 (3.6)	-34.7 (4.4)	263.0 (11.7)	833	18.5 (1.9)	80.7 (3.2)	-34.8 (3.5)	259.0 (7.6)	877	19.4 (1.5)	75.8 (6.1)	-32.5 (4.3)	200.0 (6.7)
25	17.8 (3.7)	80.8 (4.6)	-36.7 (5.0)	255.0 (12.8)	833	18.3 (3.9)	81.5 (4.1)	-36.4 (3.8)	253.0 (8.3)	876	19.1 (3.5)	79.2 (5.1)	-29.8 (7.5)	
26	16.7 (4.1)	83.9 (2.1)	-34.5 (3.6)	260.0 (8.2)	834	17.5 (4.4)	82.6 (3.8)	-34.1 (3.4)	255.0 (8.0)	875	18.1 (3.9)	82.5 (1.8)	-30.0 (8.5)	
27	18.9 (0.9)	82.0 (7.0)	-35.2 (4.8)	258.0 (11.5)	834	19.5 (0.9)	81.2 (5.8)	-33.7 (5.8)	257.0 (10.1)	875	20.2 (1.1)	80.8 (7.5)	-31.9 (5.0)	
28	10.9 (1.6)	84.8 (1.2)	-35.5 (2.0)	257.0 (7.3)	833	11.3 (1.7)	84.3 (1.4)	-34.3 (2.6)	250.0 (9.8)	873	13.0 (1.5)	85.5 (1.4)	-14.6 (3.0)	
29	12.6 (1.6)	84.8 (1.7)	-36.5 (2.1)	258.0 (6.7)	829	13.0 (1.7)	84.3 (1.6)	-37.3 (2.3)	255.0 (7.2)	872	14.7 (1.7)	81.6 (2.1)	-20.4 (2.1)	
30	17.1 (1.9)	87.5 (0.6)	-37.2 (6.0)		805	17.8 (2.0)	87.4 (1.2)	-36.9 (4.8)		870	18.7 (1.6)	86.7 (1.3)	-24.4 (4.3)	
Avg	10.3	72.5	-32.9	237.0	828	10.7	72.2	-34.0	223.0	866	12.8	66.1	-18.3	174.0
n	30	30	30	21	30	30	30	30	29	30	30	30	30	21
SD	4.3	9.7	3.20	18.50	6	4.4	9.3	2.60	27.90	9	3.8	12.9	6.20	14.40
Min	3.8	53.2	-37.20	197.00	805	3.8	53.9	-38.00	158.00	846	7.3	41.1	-32.50	150.00
Max	18.9	87.5	-21.30	263.00	836	19.5	87.4	-28.20	260.00	881	20.2	86.7	-9.40	200.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for May, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	12.9 (2.3)	82.9 (2.9)	-37.2 (2.4)		807	13.2 (2.3)	82.9 (3.1)	-36.5 (3.7)		869	15.4 (2.2)	75.2 (6.3)	-17.5 (2.6)	
2	12.0 (2.5)	74.8 (6.5)	-36.4 (3.5)	253.0 (7.6)	834	11.6 (2.1)	78.7 (3.9)	-36.7 (3.3)	249.0 (7.4)	868	14.6 (2.9)	64.1 (11.0)	-21.0 (2.8)	
3	12.9 (2.7)	71.3 (6.2)	-35.7 (3.2)	254.0 (6.8)	836	12.3 (2.1)	78.1 (2.1)	-35.3 (2.9)	251.0 (7.5)	869	15.6 (3.1)	59.2 (8.7)	-20.9 (2.4)	
4	14.2 (2.5)	68.1 (3.9)	-36.4 (2.5)	256.0 (9.7)	837	13.6 (2.0)	73.7 (4.0)	-36.3 (2.9)	250.0 (8.2)	868	15.9 (2.4)	59.4 (4.9)	-20.8 (3.1)	
5	15.0 (2.4)	72.5 (4.9)	-35.2 (2.4)	251.0 (7.3)	837	14.7 (1.9)	76.7 (6.2)	-35.8 (4.6)	250.0 (8.0)	862	16.4 (2.2)	68.3 (6.3)	-20.6 (3.2)	
6	15.3 (1.8)	77.8 (2.9)	-33.5 (2.8)	256.0 (10.7)	838	15.1 (1.5)	81.5 (2.3)	-35.1 (3.0)	253.0 (9.9)	858	16.7 (1.7)	74.5 (3.1)	-22.2 (4.4)	
7	17.1 (2.6)	82.1 (5.8)	-36.6 (4.2)	257.0 (10.9)	837	16.9 (1.8)	85.6 (2.5)	-37.4 (3.6)	254.0 (8.9)	837	17.8 (1.7)	83.5 (2.2)	-22.3 (2.8)	
8	17.3 (1.8)	84.2 (2.6)	-33.8 (3.4)	263.0 (11.6)	830	17.2 (1.6)	86.5 (1.4)	-35.1 (2.1)	259.0 (6.8)	829	18.4 (1.7)	85.0 (2.4)	-22.1 (2.9)	
9	14.3 (1.9)	76.4 (3.9)	-35.3 (9.1)	257.0 (18.1)	823	13.9 (1.8)	79.9 (3.3)	-35.6 (3.9)	245.0 (11.5)	843	15.9 (1.8)	75.4 (5.1)	-17.4 (4.4)	
10	12.8 (4.1)	70.9 (7.6)	-32.9 (5.5)	240.0 (16.2)	822	12.2 (3.2)	74.4 (6.1)	-31.8 (7.1)	233.0 (22.9)	844	14.2 (3.5)	69.8 (7.5)	-18.3 (6.1)	
11	12.4 (3.8)	64.1 (9.7)	-29.7 (8.1)	243.0 (21.4)	821	11.8 (2.9)	67.2 (7.9)	-31.1 (6.6)	232.0 (34.2)	844	14.3 (3.4)	59.5 (9.7)	-15.8 (2.8)	
12	14.7 (3.9)	58.1 (8.1)	-32.9 (3.5)	250.0 (12.7)	820	13.3 (2.9)	65.0 (6.2)	-35.2 (5.0)	237.0 (19.8)	842	15.2 (3.0)	56.0 (8.1)	-23.3 (4.2)	
13	17.1 (2.9)	80.8 (8.0)	-30.2 (4.6)	270.0 (11.6)	810	17.2 (3.0)	82.4 (7.5)	-31.3 (4.9)	252.0 (16.5)	830	18.2 (2.6)	80.1 (11.2)	-30.3 (6.6)	
14	16.9 (1.7)	75.4 (6.0)	-37.1 (4.1)		816	16.0 (1.4)	78.4 (5.0)	-39.5 (3.5)	249.0 (9.1)	822	17.5 (1.4)	78.2 (6.8)	-21.6 (3.3)	
15	15.0 (1.3)	80.2 (3.5)	-34.6 (1.3)	260.0 (3.8)	819	14.8 (1.5)	82.6 (2.6)	-35.7 (2.0)	249.0 (8.4)	831	16.5 (1.3)	80.1 (4.0)	-19.6 (3.4)	
16	15.3 (2.8)	76.2 (9.5)	-36.9 (4.2)	252.0 (10.8)	804	15.0 (2.6)	77.7 (9.5)	-37.5 (6.2)	240.0 (14.2)	838	16.9 (2.5)	74.7 (12.2)	-17.7 (3.0)	
17	11.9 (3.5)	58.8 (13.2)	-31.5 (4.4)	238.0 (21.3)	804	11.6 (2.7)	61.8 (10.9)	-31.2 (5.6)	224.0 (29.1)	837	13.8 (3.1)	52.5 (13.9)	-16.4 (2.7)	
18	13.3 (3.7)	61.1 (10.9)	-30.1 (7.3)	245.0 (25.4)	805	12.5 (2.9)	67.4 (8.6)	-31.9 (5.0)	232.0 (30.2)	845	14.9 (3.4)	53.5 (11.1)	-23.4 (5.2)	
19	16.5 (4.0)	67.9 (4.7)	-33.3 (2.7)	255.0 (7.1)	806	15.3 (3.0)	75.9 (4.2)	-34.7 (2.6)	251.0 (6.9)	852	16.7 (2.7)	69.9 (7.0)	-28.9 (4.8)	
20	16.3 (2.7)	72.8 (5.6)	-32.9 (4.5)	261.0 (10.0)	806	16.4 (2.6)	76.4 (3.0)	-33.1 (3.2)	257.0 (12.3)	856	18.0 (2.2)	71.6 (3.1)	-29.3 (5.2)	
21	17.6 (2.5)	79.6 (2.5)	-37.5 (5.5)	253.0 (14.6)	808	18.2 (2.9)	80.1 (2.4)	-37.7 (4.2)	247.0 (9.1)	855	19.2 (1.9)	76.9 (4.3)	-27.9 (3.9)	
22	16.9 (2.7)	81.4 (1.3)	-36.8 (2.1)	252.0 (6.8)	809	17.2 (2.7)	81.2 (1.5)	-36.7 (2.4)	252.0 (6.3)	848	18.3 (2.4)	80.8 (2.2)	-19.4 (3.3)	
23	19.1 (2.2)	80.9 (3.5)	-35.1 (4.4)	250.0 (10.9)	809	19.5 (2.1)	80.7 (3.2)	-36.3 (3.6)	252.0 (10.6)	847	20.4 (1.7)	79.1 (3.9)	-24.1 (2.6)	
24	17.3 (2.8)	82.3 (3.8)	-34.4 (4.2)	254.0 (8.0)	809	17.7 (2.8)	81.7 (3.7)	-34.3 (3.0)	253.0 (8.2)	847	18.7 (2.4)	82.7 (5.6)	-19.1 (2.6)	
25	15.7 (1.0)	74.7 (4.9)	-36.0 (3.4)	256.0 (9.3)	808	16.1 (0.9)	75.5 (4.0)	-35.7 (3.5)	249.0 (7.7)	846	18.1 (1.0)	70.3 (7.8)	-23.8 (2.9)	
26	20.0 (2.7)	78.5 (11.1)	-34.5 (4.2)	256.0 (9.5)	807	20.5 (2.8)	78.2 (11.2)	-31.7 (7.2)	250.0 (17.2)	845	21.2 (2.4)	76.4 (14.1)	-24.7 (1.9)	
27	21.1 (1.7)	85.8 (2.2)	-36.2 (4.6)	253.0 (11.1)	806	21.6 (1.8)	86.4 (1.7)	-34.5 (3.7)	246.0 (6.1)	800	22.0 (1.7)	87.4 (2.2)	-25.3 (3.3)	
28	15.4 (1.1)	82.1 (2.5)	-36.5 (2.6)	258.0 (6.3)	805	15.5 (1.1)	82.6 (2.4)	-36.4 (4.8)	252.0 (10.0)	789	17.0 (1.2)	81.7 (4.3)	-19.7 (2.4)	
29	16.1 (3.1)	81.0 (4.3)	-32.5 (8.9)	258.0 (21.1)	805	16.0 (2.9)	81.9 (2.9)	-36.1 (4.3)	247.0 (10.8)	839	17.5 (2.3)	80.6 (4.9)	-20.9 (2.8)	
30	15.5 (2.7)	80.8 (2.4)	-35.9 (3.0)	251.0 (6.4)	807	16.0 (2.9)	80.8 (2.8)	-36.5 (4.5)	246.0 (8.1)	857	17.3 (2.4)	77.9 (3.2)	-23.9 (4.3)	
31	14.7 (1.9)	74.2 (2.5)	-36.1 (2.3)	250.0 (8.5)	808	15.2 (2.0)	74.4 (3.7)	-37.4 (3.0)	245.0 (6.3)	855	16.9 (1.9)	69.0 (4.4)	-23.8 (5.0)	
Avg	15.6	75.4	-34.6	253.0	816	15.4	77.9	-35.2	247.0	844	17.1	72.7	-22.0	
n	31	31	31	29	31	31	31	31	30	31	31	31	31	0
SD	2.2	7.3	2.20	6.50	12	2.5	5.9	2.10	8.00	18	1.9	9.5	3.70	
Min	11.9	58.1	-37.50	238.00	804	11.6	61.8	-39.50	224.00	789	13.8	52.5	-30.30	
Max	21.1	85.8	-29.70	270.00	838	21.6	86.5	-31.10	259.00	869	22.0	87.4	-15.80	

Table F2. Daily means (SD) of environmental parameters at Site IN5B for June, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	18.7 (3.0)	79.0 (6.6)	-35.6 (3.9)	255.0 (11.4)	809	19.1 (3.3)	79.0 (6.3)	-36.8 (5.4)	249.0 (12.2)	854	20.2 (3.0)	75.6 (9.0)	-24.0 (5.0)	
2	15.2 (2.6)	84.1 (1.1)	-35.4 (2.5)	248.0 (6.9)	808	15.4 (2.6)	84.7 (1.1)	-35.6 (3.0)	247.0 (6.3)	852	16.7 (2.6)	84.3 (2.1)	-17.7 (3.5)	
3	13.8 (2.2)	80.4 (5.2)	-34.5 (3.2)	256.0 (13.3)	806	14.3 (2.0)	79.7 (5.6)	-31.2 (9.2)	258.0 (11.9)	850	16.2 (2.4)	76.4 (8.0)	-16.7 (2.8)	
4	13.1 (2.9)	75.8 (2.6)	-34.6 (3.7)	243.0 (12.6)	805	13.6 (3.0)	75.1 (3.8)	-33.6 (6.0)	239.0 (17.0)	820	15.4 (3.2)	70.4 (5.8)	-18.7 (3.2)	
5	15.3 (2.4)	72.6 (7.6)	-35.5 (5.9)	251.0 (12.5)	805	15.7 (2.6)	73.6 (7.6)	-37.8 (4.4)	243.0 (9.0)	817	17.1 (2.3)	69.2 (8.5)	-23.8 (4.6)	
6	17.7 (1.6)	81.2 (1.5)	-36.6 (2.8)	254.0 (8.0)	806	18.3 (1.9)	81.7 (1.5)	-37.6 (2.9)	245.0 (8.9)	845	19.3 (1.4)	78.7 (1.8)	-27.8 (3.6)	
7	19.7 (1.3)	81.1 (4.8)	-35.2 (4.4)	255.0 (9.5)	806	20.2 (1.4)	81.4 (4.5)	-36.6 (4.4)	245.0 (7.8)	844	20.9 (1.5)	81.1 (4.6)	-27.0 (2.5)	
8	21.5 (1.0)	84.3 (1.7)	-36.0 (3.8)	252.0 (9.6)	806	22.0 (1.3)	84.9 (1.1)	-36.9 (3.5)	247.0 (8.2)	843	22.8 (1.2)	84.9 (1.5)	-26.7 (3.5)	
9	18.3 (1.5)	83.8 (2.0)	-35.9 (1.9)	259.0 (5.1)	803	18.3 (1.3)	84.5 (1.3)	-36.7 (2.6)	254.0 (7.5)	842	19.3 (1.4)	85.3 (2.2)	-24.8 (2.3)	221.0 (5.2)
10	18.1 (2.9)	82.1 (1.1)	-35.9 (1.6)	258.0 (6.3)	801	17.8 (2.5)	83.7 (1.2)	-36.1 (3.3)	253.0 (8.8)	807	19.2 (2.4)	82.7 (1.8)	-25.2 (2.3)	214.0 (8.7)
11	18.0 (1.7)	86.0 (1.3)	-33.3 (5.6)	258.0 (10.2)	801	18.2 (1.7)	86.3 (1.2)	-34.7 (3.3)	256.0 (10.9)	809	19.1 (1.8)	87.0 (1.3)	-23.4 (3.6)	211.0 (9.3)
12	18.2 (2.1)	83.8 (2.8)	-36.0 (2.7)	258.0 (8.8)	803	18.0 (1.6)	84.6 (2.1)	-36.7 (2.9)	255.0 (8.7)	845	18.9 (1.8)	86.1 (3.0)	-25.9 (2.6)	201.0 (10.7)
13	18.3 (1.3)	83.1 (2.5)	-33.9 (6.2)	263.0 (16.7)	810	18.5 (1.4)	83.8 (1.9)	-37.0 (2.5)	254.0 (7.1)	843	19.9 (1.4)	83.4 (2.1)	-25.1 (1.9)	196.0 (4.3)
14	18.6 (2.1)	84.5 (1.8)	-36.2 (2.4)	258.0 (7.1)	813	18.9 (2.1)	84.4 (2.1)	-36.9 (2.5)	253.0 (6.5)	842	20.1 (2.2)	83.7 (3.1)	-25.2 (1.5)	195.0 (3.7)
15	17.9 (1.5)	80.2 (2.8)	-36.0 (3.2)	259.0 (9.7)	798	18.4 (1.6)	80.3 (3.0)	-37.5 (2.7)	253.0 (8.2)	835	19.8 (1.6)	77.1 (2.2)	-28.8 (2.6)	189.0 (6.1)
16	19.9 (1.4)	81.9 (7.1)	-34.7 (5.0)	259.0 (14.4)	783	20.4 (1.3)	82.3 (6.6)	-36.6 (2.1)	251.0 (5.8)	828	21.2 (1.5)	81.7 (6.9)	-32.0 (2.6)	188.0 (7.3)
17	20.9 (1.8)	86.5 (1.3)	-37.0 (3.3)	253.0 (9.1)	784	21.2 (1.7)	86.4 (1.5)	-37.3 (2.8)	251.0 (7.5)	830	22.1 (1.8)	86.8 (2.5)	-28.7 (1.5)	203.0 (2.8)
18	21.4 (3.2)	86.7 (1.3)	-34.3 (4.1)	257.0 (11.6)	784	21.9 (3.4)	86.6 (0.9)	-33.5 (4.7)	257.0 (12.3)	833	22.5 (3.2)	86.6 (1.5)	-30.9 (3.0)	
19	23.9 (2.3)	87.5 (1.0)	-34.7 (3.8)	248.0 (11.0)	785	24.6 (2.5)	87.1 (0.9)	-35.0 (4.0)	248.0 (9.1)	833	25.2 (2.4)	86.1 (2.3)	-31.5 (4.1)	
20	23.4 (1.5)	86.5 (1.7)	-36.3 (5.1)	248.0 (10.7)	785	23.9 (1.5)	86.4 (1.7)	-37.4 (2.2)	245.0 (6.5)	832	24.7 (1.5)	85.8 (2.7)	-26.4 (2.1)	
21	23.2 (1.0)	86.5 (1.3)	-35.5 (2.8)	249.0 (9.0)	777	23.8 (1.2)	86.0 (1.6)	-35.2 (2.8)	249.0 (7.7)	851	24.5 (1.1)	84.9 (2.4)	-28.2 (2.3)	
22	24.3 (1.4)	86.5 (1.7)	-34.0 (4.3)	250.0 (9.1)	768	25.0 (1.5)	86.2 (1.4)	-34.4 (2.0)	252.0 (5.4)	871	25.5 (1.6)	85.8 (2.8)	-27.9 (2.1)	
23	25.2 (2.0)	83.9 (2.9)	-35.2 (3.3)	250.0 (8.1)	767	25.3 (1.5)	83.9 (3.1)	-34.2 (4.5)	254.0 (9.7)	870	25.9 (1.7)	82.4 (3.6)	-27.1 (2.0)	211.0 (4.9)
24	26.4 (2.0)	85.1 (2.8)	-34.9 (3.5)	252.0 (9.2)	785	26.3 (1.7)	86.2 (1.8)	-34.0 (2.6)	254.0 (7.4)	870	26.9 (1.7)	84.4 (2.8)	-26.0 (1.8)	212.0 (4.4)
25	26.2 (1.6)	85.5 (2.7)	-35.4 (4.9)		824	26.4 (1.6)	86.0 (2.4)	-33.8 (3.6)	254.0 (10.1)	870	27.0 (1.6)	85.1 (2.7)	-25.1 (1.9)	213.0 (4.9)
26	22.7 (1.9)	84.5 (2.5)	-36.2 (2.7)		843	23.1 (1.9)	83.6 (3.0)	-32.8 (3.9)	259.0 (8.9)	869	24.0 (1.9)	82.4 (4.8)	-24.5 (2.2)	217.0 (3.7)
27	21.6 (2.2)	83.9 (1.7)	-35.7 (4.2)	255.0 (10.0)	841	22.3 (2.3)	83.3 (1.8)	-33.6 (1.9)	258.0 (7.1)	867	22.6 (2.1)	83.7 (2.3)	-28.7 (2.6)	210.0 (7.2)
28	20.5 (1.7)	83.1 (2.9)	-39.2 (4.0)	249.0 (8.2)	841	20.9 (1.7)	82.6 (3.2)	-35.1 (3.8)	246.0 (11.3)	864	21.5 (1.7)	83.6 (4.5)	-26.1 (3.0)	216.0 (5.4)
29	18.6 (1.5)	80.2 (3.5)	-37.7 (6.9)	254.0 (15.6)	842	19.0 (1.5)	81.2 (3.7)	-34.7 (4.7)	245.0 (12.1)	862	19.9 (1.3)	82.7 (1.5)	-27.6 (2.0)	213.0 (4.8)
30	17.4 (1.0)	83.0 (1.1)	-37.6 (2.3)	255.0 (6.8)	836	17.8 (0.9)	83.0 (1.2)	-33.3 (4.3)	251.0 (10.5)	856	18.7 (0.9)	83.5 (2.3)	-26.9 (1.8)	216.0 (4.1)
Avg	19.9	83.1	-35.6	254.0	804	20.3	83.3	-35.4	251.0	845	21.2	82.4	-25.9	207.0
n	30	30	30	28	30	30	30	30	30	30	30	30	30	17
SD	3.4	3.3	1.20	4.50	21	3.4	3.2	1.70	4.90	18	3.1	4.5	3.50	9.90
Min	13.1	72.6	-39.20	243.00	767	13.6	73.6	-37.80	239.00	807	15.4	69.2	-32.00	188.00
Max	26.4	87.5	-33.30	263.00	843	26.4	87.1	-31.20	259.00	871	27.0	87.0	-16.70	221.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for July, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	16.6 (0.5)	83.1 (1.9)	-35.9 (3.2)	261.0 (8.7)	824	17.1 (0.6)	82.7 (2.2)	-31.9 (5.2)	261.0 (10.9)	856	18.2 (0.8)	83.0 (1.7)	-25.8 (1.7)	220.0 (3.7)
2	18.0 (1.5)	82.5 (1.3)	-37.6 (2.0)	256.0 (6.2)	819	18.5 (1.5)	82.0 (1.7)	-35.1 (1.9)	258.0 (5.1)	864	19.3 (1.2)	83.7 (1.4)	-27.4 (1.6)	217.0 (3.8)
3	19.1 (1.9)	82.6 (2.9)	-36.1 (3.2)	260.0 (9.6)	818	19.5 (2.0)	82.3 (5.0)	-33.8 (2.7)	248.0 (7.7)	864	20.3 (2.1)	82.6 (3.0)	-27.7 (1.5)	215.0 (3.9)
4	18.8 (0.9)	84.4 (1.4)	-35.4 (2.3)	261.0 (6.3)	830	19.1 (0.9)	85.6 (0.9)	-33.4 (2.2)	248.0 (6.2)	865	19.7 (0.8)	86.3 (1.8)	-29.8 (2.4)	211.0 (5.7)
5	20.4 (1.4)	84.5 (2.0)	-35.6 (2.8)	257.0 (7.7)	845	20.7 (1.4)	85.1 (2.3)	-33.0 (2.2)	252.0 (5.3)	867	21.6 (1.5)	84.8 (4.2)	-27.1 (2.0)	215.0 (4.9)
6	20.3 (1.4)	83.7 (2.4)	-35.7 (3.1)	258.0 (8.4)	845	20.5 (1.5)	84.2 (2.5)	-32.6 (2.6)	256.0 (7.5)	866	21.5 (1.6)	83.1 (4.9)	-27.2 (1.5)	215.0 (4.0)
7	18.9 (1.1)	82.7 (2.6)	-34.8 (2.7)		844	19.2 (1.1)	82.9 (3.2)	-32.2 (3.3)	258.0 (8.9)	865	20.1 (1.3)	82.0 (5.6)	-27.1 (1.8)	216.0 (4.1)
8	17.9 (0.6)	79.1 (3.2)	-34.9 (2.3)		842	18.4 (0.8)	79.1 (3.9)	-32.9 (2.0)	259.0 (5.7)	863	19.1 (0.7)	80.2 (4.3)	-26.8 (2.0)	218.0 (4.5)
9	20.5 (2.1)	81.8 (3.3)	-33.7 (3.2)		845	20.5 (1.8)	83.7 (3.0)	-32.5 (3.5)	253.0 (11.6)	860	21.0 (1.6)	85.2 (2.4)	-29.0 (2.7)	213.0 (7.8)
10	22.4 (2.4)	85.3 (1.2)	-33.2 (3.1)	258.0 (9.1)	849	22.7 (2.5)	85.7 (1.1)	-26.4 (8.5)	265.0 (20.6)	857	23.1 (2.4)	88.6 (0.6)	-28.6 (2.4)	
11	23.1 (1.8)	84.4 (3.6)	-34.0 (3.3)	261.0 (8.5)	847	23.0 (1.5)	82.3 (6.3)	-23.2 (8.8)	278.0 (21.8)	856	23.5 (1.5)	86.4 (4.4)	-26.2 (1.7)	207.0 (3.0)
12	19.2 (2.0)	79.1 (4.8)	-34.4 (2.6)	264.0 (7.4)	846	18.8 (1.3)	78.7 (6.5)	-26.2 (10.0)	273.0 (23.3)	855	19.7 (1.5)	79.7 (7.1)	-26.2 (2.2)	211.0 (5.4)
13	18.4 (2.3)	79.0 (3.5)	-34.1 (3.3)	265.0 (10.0)	846	18.7 (2.1)	78.9 (5.8)	-25.5 (9.4)	275.0 (22.7)	856	19.4 (2.1)	81.9 (4.8)	-25.1 (1.9)	212.0 (7.1)
14	17.5 (2.5)	77.1 (4.0)	-33.7 (3.5)	259.0 (8.0)	846	18.4 (2.7)	71.4 (10.4)	-22.3 (10.7)	271.0 (16.7)	854	18.6 (2.0)	78.5 (7.0)	-29.5 (5.1)	200.0 (8.4)
15	22.2 (2.3)	81.8 (2.4)	-32.9 (4.1)	265.0 (10.8)	845	22.5 (2.3)	84.0 (2.4)	-32.5 (5.9)	255.0 (13.5)	853	23.0 (2.1)	86.3 (2.8)	-28.7 (2.5)	194.0 (5.0)
16	20.6 (1.4)	82.8 (2.5)	-34.3 (4.3)	258.0 (12.0)	845	20.8 (1.5)	84.2 (2.5)	-33.6 (3.4)	251.0 (10.9)	839	21.4 (1.4)	87.4 (2.0)	-28.1 (2.5)	192.0 (9.0)
17	17.4 (1.3)	80.0 (3.6)	-34.3 (5.2)	256.0 (11.4)	845	17.6 (1.4)	80.6 (4.0)	-34.1 (3.6)	248.0 (9.0)	851	18.5 (1.4)	84.3 (4.0)	-25.1 (2.9)	194.0 (5.6)
18	17.5 (1.9)	78.9 (2.0)	-33.3 (6.1)	258.0 (9.8)	840	17.5 (1.7)	79.5 (2.5)	-33.0 (2.5)	252.0 (7.7)	876	18.1 (1.3)	83.2 (1.8)	-26.2 (3.1)	201.0 (5.3)
19	18.2 (2.1)	80.4 (2.7)	-34.0 (2.8)	257.0 (7.6)	836	17.9 (1.8)	82.3 (2.9)	-32.7 (2.7)	256.0 (7.6)	871	18.6 (1.4)	86.3 (1.7)	-27.3 (2.7)	199.0 (5.3)
20	18.5 (2.8)	79.3 (4.2)	-32.2 (4.2)	256.0 (10.1)	837	18.2 (2.5)	83.2 (2.7)	-32.1 (3.6)	250.0 (7.4)	868	18.6 (2.1)	85.8 (2.5)	-27.9 (3.8)	196.0 (5.4)
21	19.5 (2.3)	80.0 (4.5)	-32.4 (6.1)	260.0 (12.2)	831	19.8 (2.4)	83.0 (3.4)	-32.6 (3.7)	248.0 (10.0)	857	20.1 (2.0)	87.3 (1.6)	-28.2 (3.4)	199.0 (7.6)
22	19.9 (0.7)	82.4 (1.9)	-32.7 (6.0)	262.0 (10.6)	824	20.1 (0.9)	84.6 (1.3)	-32.2 (2.2)	250.0 (5.9)	823	20.4 (0.9)	88.5 (0.9)	-28.6 (1.8)	202.0 (5.6)
23	19.6 (1.7)	82.6 (3.4)	-32.4 (5.3)	267.0 (10.4)	822	19.7 (1.7)	85.0 (2.0)	-29.8 (5.5)	256.0 (14.4)	834	20.2 (1.5)	89.6 (1.4)	-26.3 (2.5)	208.0 (5.6)
24	20.3 (2.9)	83.2 (1.8)	-32.5 (2.7)	265.0 (7.1)	820	20.7 (3.1)	84.5 (1.7)	-30.8 (3.5)	247.0 (13.8)	870	21.0 (2.7)	89.1 (2.0)	-27.8 (2.8)	205.0 (7.9)
25	20.9 (1.2)	83.8 (2.1)	-32.4 (4.2)		819	21.1 (1.2)	84.7 (2.4)	-30.8 (3.8)	211.0 (45.5)	870	21.6 (1.2)	89.2 (2.0)	-26.2 (2.4)	207.0 (4.9)
26	20.5 (2.0)	82.4 (1.7)	-33.0 (5.3)		819	20.7 (2.1)	84.0 (2.2)	-31.8 (4.0)	252.0 (9.8)	869	21.1 (2.0)	89.0 (1.5)	-26.5 (1.9)	207.0 (4.8)
27	21.4 (2.2)	82.4 (1.8)	-32.3 (4.1)	266.0 (11.5)	821	21.7 (2.5)	84.2 (2.1)	-30.7 (3.8)	254.0 (10.6)	869	21.9 (2.1)	89.2 (1.6)	-27.6 (2.2)	205.0 (6.2)
28	22.4 (1.7)	84.1 (1.2)	-31.2 (4.9)	266.0 (10.9)	821	22.7 (1.8)	85.6 (1.0)	-30.6 (2.8)	254.0 (7.2)	867	22.9 (1.6)	89.7 (1.2)	-28.6 (2.6)	201.0 (6.4)
29	20.2 (1.4)	81.8 (2.8)	-32.7 (3.2)	265.0 (7.4)	813	20.3 (1.4)	83.4 (2.8)	-30.8 (3.6)	259.0 (8.2)	864	20.9 (1.1)	87.8 (2.9)	-26.0 (2.1)	209.0 (3.6)
30	19.5 (2.2)	80.1 (1.5)	-33.1 (2.2)	265.0 (6.9)	812	19.6 (2.3)	82.5 (2.5)	-31.5 (4.4)	248.0 (14.8)	861	20.3 (1.5)	85.0 (2.1)	-28.3 (2.4)	205.0 (6.2)
31	20.5 (2.3)	78.3 (4.7)	-33.6 (2.6)	265.0 (9.2)	817	19.9 (1.8)	83.2 (2.6)	-29.1 (8.1)	250.0 (21.6)	858	20.4 (1.6)	88.5 (1.9)	-27.0 (2.2)	208.0 (5.0)
Avg	19.7	81.7	-33.8	261.0	833	19.9	82.7	-31.0	255.0	859	20.4	85.5	-27.4	207.0
n	31	31	31	26	31	31	31	31	31	31	31	31	31	30
SD	1.6	2.1	1.40	3.60	13	1.6	2.8	3.10	11.50	11	1.5	3.1	1.20	7.50
Min	16.6	77.1	-37.60	256.00	812	17.1	71.4	-35.10	211.00	823	18.1	78.5	-29.80	192.00
Max	23.1	85.3	-31.20	267.00	849	23.0	85.7	-22.30	278.00	876	23.5	89.7	-25.10	220.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for August, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	19.6 (2.3)	80.2 (2.7)	-32.0 (5.3)	269.0 (12.5)	815	19.3 (2.1)	84.4 (2.4)	-31.8 (7.5)	253.0 (16.5)	857	19.8 (1.9)	89.1 (1.2)	-29.1 (2.3)	204.0 (6.3)
2	19.0 (2.2)	77.2 (5.2)	-33.6 (2.9)	266.0 (8.0)	815	18.4 (1.7)	81.7 (4.7)	-32.4 (7.9)	257.0 (18.7)	857	18.8 (1.5)	87.8 (2.5)	-27.3 (3.6)	214.0 (8.3)
3	22.0 (3.3)	79.8 (2.5)	-28.3 (5.6)	256.0 (18.1)	815	21.6 (3.1)	84.6 (1.3)	-33.9 (3.2)	251.0 (7.8)	858	22.0 (2.9)	88.6 (0.8)	-29.9 (3.3)	205.0 (8.4)
4	23.3 (1.6)	83.5 (2.3)	-33.6 (3.7)	244.0 (9.6)	815	23.1 (1.5)	86.6 (0.8)	-35.3 (3.1)	245.0 (11.2)	852	23.7 (1.3)	91.8 (1.2)	-28.1 (3.4)	207.0 (7.1)
5	20.2 (2.0)	75.1 (7.5)	-34.7 (6.3)	251.0 (10.9)	815	19.3 (1.5)	81.4 (4.4)	-32.6 (8.5)	258.0 (18.2)	830	19.7 (1.3)	88.3 (2.3)	-29.0 (2.9)	211.0 (5.4)
6	19.1 (2.9)	74.5 (5.5)	-37.3 (2.7)	253.0 (7.6)	815	18.3 (2.3)	80.3 (3.4)	-35.1 (5.1)	249.0 (11.7)	839	18.8 (1.7)	86.5 (1.7)	-29.7 (4.1)	208.0 (7.3)
7	19.7 (2.1)	78.7 (3.9)	-37.0 (4.0)	256.0 (9.5)	823	19.7 (2.3)	82.3 (2.9)	-35.1 (3.8)	247.0 (9.2)	863	20.4 (1.6)	85.5 (5.1)	-33.5 (3.3)	203.0 (8.9)
8	24.5 (2.8)	84.6 (0.8)	-35.9 (3.1)	252.0 (6.5)	831	24.9 (2.9)	86.9 (0.9)	-35.3 (2.0)	245.0 (5.6)	861	25.4 (2.6)	89.5 (1.2)	-32.4 (2.4)	200.0 (3.7)
9	26.3 (1.3)	84.6 (1.7)	-36.7 (4.7)	248.0 (8.9)	831	26.8 (1.5)	86.5 (1.7)	-36.7 (2.9)	240.0 (6.7)	861	27.1 (1.3)	89.1 (2.0)	-31.3 (1.5)	201.0 (3.8)
10	24.1 (1.4)	81.7 (3.5)	-32.5 (10.9)	253.0 (18.6)	830	24.3 (1.5)	84.5 (2.3)	-35.6 (5.9)	240.0 (13.6)	868	24.6 (1.3)	88.5 (1.9)	-30.1 (1.6)	203.0 (5.5)
11	22.3 (2.1)	81.6 (4.1)	-34.1 (9.3)	251.0 (14.2)	836	22.4 (2.3)	84.8 (2.2)	-35.8 (3.9)	244.0 (8.1)	877	22.8 (2.0)	88.9 (2.5)	-28.4 (2.1)	204.0 (3.8)
12	18.9 (2.3)	79.0 (6.2)	-36.2 (8.5)	254.0 (13.1)	842	19.0 (2.2)	82.2 (4.9)	-36.9 (4.5)	247.0 (8.4)	878	19.7 (1.8)	86.4 (4.1)	-28.2 (1.1)	210.0 (4.3)
13	19.6 (3.0)	80.8 (2.4)	-35.2 (8.0)	253.0 (14.0)	827	20.8 (4.1)	81.2 (4.7)	-31.4 (5.7)	217.0 (22.3)	865	20.5 (2.6)	85.4 (2.9)	-29.2 (3.6)	207.0 (7.3)
14	21.1 (2.5)	81.6 (2.3)	-37.4 (3.6)	251.0 (8.5)	829	21.5 (2.9)	83.0 (2.4)	-33.2 (8.2)	228.0 (17.4)	869	22.1 (2.5)	86.6 (2.7)	-30.6 (2.3)	206.0 (8.4)
15	21.9 (2.2)	82.6 (1.5)	-36.8 (2.2)	253.0 (7.0)	847	22.2 (2.6)	84.2 (2.6)	-37.6 (2.9)	244.0 (8.5)	886	22.7 (2.2)	87.6 (2.5)	-31.6 (3.5)	205.0 (9.2)
16	23.8 (1.9)	84.1 (1.2)	-35.4 (4.3)	254.0 (9.1)	846	24.2 (2.2)	86.0 (1.7)	-37.1 (3.2)	243.0 (9.3)	885	24.6 (1.8)	89.1 (2.2)	-30.7 (2.6)	205.0 (6.7)
17	24.0 (1.6)	84.3 (1.5)	-36.2 (4.0)	252.0 (11.1)	843	24.3 (1.8)	86.2 (2.0)	-34.3 (7.0)	234.0 (13.7)	882	24.6 (1.5)	89.5 (2.4)	-29.9 (2.3)	207.0 (5.8)
18	22.4 (1.2)	83.2 (2.0)	-36.5 (4.0)	253.0 (9.0)	846	22.4 (1.4)	85.4 (2.0)	-33.9 (3.8)	236.0 (8.6)	880	22.9 (1.3)	89.1 (2.0)	-28.7 (2.3)	211.0 (5.1)
19	21.4 (2.0)	82.5 (2.4)	-32.8 (4.4)	262.0 (10.9)	852	21.6 (2.1)	84.8 (2.5)	-31.2 (3.9)	239.0 (10.5)	879	21.9 (2.0)	89.8 (1.1)	-30.0 (4.1)	208.0 (10.5)
20	21.1 (1.1)	82.9 (2.0)	-32.9 (6.0)	260.0 (10.8)	852	21.3 (1.3)	85.6 (2.1)	-32.2 (4.3)	236.0 (7.8)	878	21.6 (1.1)	89.6 (2.1)	-30.1 (2.2)	207.0 (5.0)
21	18.7 (1.3)	82.9 (0.7)	-34.2 (3.7)	261.0 (10.4)	850	18.9 (1.5)	85.2 (1.2)	-33.2 (5.0)	240.0 (9.9)	878	19.3 (1.2)	89.8 (1.2)	-27.9 (2.5)	214.0 (6.1)
22	16.9 (1.3)	80.3 (2.9)	-33.8 (2.8)	261.0 (7.9)	847	17.1 (1.4)	80.8 (3.8)	-32.5 (3.4)	241.0 (8.3)	880	18.0 (1.2)	86.2 (3.9)	-20.9 (2.1)	227.0 (8.9)
23	17.9 (1.3)	82.2 (1.3)	-30.9 (8.1)	263.0 (20.7)	846	18.0 (1.4)	83.7 (1.7)	-32.8 (4.8)	243.0 (21.1)	881	18.6 (1.1)	88.9 (1.1)	-23.6 (2.1)	226.0 (4.6)
24	17.7 (2.9)	81.9 (1.8)	-32.9 (3.4)	261.0 (7.0)	846	17.9 (3.2)	83.9 (1.9)	-33.4 (3.4)	238.0 (6.8)	880	18.5 (2.4)	89.3 (1.6)	-26.2 (4.0)	213.0 (8.0)
25	19.7 (2.9)	82.8 (1.7)	-32.2 (3.7)	269.0 (8.6)	842	19.9 (3.3)	85.0 (2.3)	-32.4 (3.7)	241.0 (9.1)	877	20.5 (2.5)	90.4 (1.1)	-27.8 (2.9)	216.0 (8.3)
26	20.6 (2.2)	84.4 (1.0)	-33.3 (3.7)	265.0 (9.5)	844	20.7 (2.4)	87.1 (1.7)	-31.5 (4.2)	244.0 (8.5)	877	21.4 (2.2)	90.9 (1.6)	-23.5 (3.0)	224.0 (5.4)
27	19.9 (1.0)	84.1 (1.1)	-30.3 (7.6)	270.0 (13.1)	850	20.1 (1.1)	88.1 (0.8)	-32.6 (2.2)	243.0 (6.8)	881	20.5 (1.1)	92.2 (1.1)	-22.0 (1.6)	227.0 (3.6)
28	19.5 (1.4)	83.1 (0.9)	-32.9 (4.0)	265.0 (9.8)	851	19.6 (1.5)	88.0 (0.8)	-29.4 (6.4)	248.0 (12.4)	881	20.0 (1.4)	92.0 (1.1)	-22.1 (1.8)	226.0 (4.2)
29	16.6 (1.8)	79.6 (3.1)	-34.1 (4.4)	262.0 (9.7)	854	16.7 (1.8)	83.2 (4.2)	-34.2 (3.2)	239.0 (6.9)	887	17.4 (1.6)	88.5 (4.0)	-19.9 (2.4)	228.0 (10.7)
30	15.1 (2.1)	77.9 (3.1)	-31.4 (2.4)	257.0 (8.4)	858	15.3 (2.2)	80.7 (4.0)	-29.9 (2.9)	246.0 (13.1)	892	16.2 (2.1)	85.6 (3.3)	-15.9 (2.0)	227.0 (16.3)
31	14.4 (3.6)	74.6 (5.0)	-29.2 (5.3)	249.0 (20.0)	856	14.6 (3.3)	76.8 (6.6)	-21.3 (6.8)	218.0 (27.9)	893	14.9 (3.1)	83.2 (5.2)	-16.0 (2.4)	226.0 (13.9)
Avg	20.4	81.2	-33.9	257.0	838	20.5	84.0	-33.3	242.0	872	20.9	88.5	-27.2	212.0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	2.7	2.9	2.40	6.60	14	2.8	2.5	3.00	8.90	15	2.7	2.0	4.50	9.00
Min	14.4	74.5	-37.40	244.00	815	14.6	76.8	-37.60	217.00	830	14.9	83.2	-33.50	200.00
Max	26.3	84.6	-28.30	270.00	858	26.8	88.1	-21.30	258.00	893	27.1	92.2	-15.90	228.00

Table F2. Daily means (SD) of environmental parameters at Site IN5B for September, 2009.

Day	Barn 1					Barn 2					Milking center			
	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,	Inv., hd	Temp., °C	RH, %	ΔP, Pa	Airflow,
1	15.7 (3.3)	74.6 (4.6)	-30.4 (5.2)	259.0 (16.0)	855	15.8 (3.2)	75.7 (7.3)	-25.7 (7.2)	224.0 (24.5)	887	16.1 (3.0)	82.7 (4.3)	-19.1 (2.6)	222.0 (11.9)
2	16.7 (3.2)	75.8 (3.6)	-31.8 (3.0)	256.0 (7.1)	855	16.5 (2.9)	80.1 (3.9)	-31.9 (4.7)	236.0 (13.3)	882	17.3 (2.8)	83.8 (4.2)	-18.0 (2.3)	229.0 (12.4)
3	18.0 (3.1)	76.8 (4.2)	-32.0 (3.5)	258.0 (9.5)	855	17.7 (2.7)	81.5 (5.1)	-31.2 (6.3)	242.0 (10.8)	884	18.5 (2.6)	85.3 (4.5)	-19.2 (3.4)	226.0 (9.5)
4	17.9 (2.6)	78.5 (3.1)	-32.9 (4.1)	262.0 (9.3)	869	17.9 (2.5)	82.8 (4.7)	-31.3 (4.6)	242.0 (11.6)	883	18.7 (2.5)	86.9 (3.9)	-21.4 (3.4)	223.0 (9.2)
5	18.7 (2.5)	79.9 (1.6)	-33.9 (2.3)	262.0 (7.3)	870	19.1 (2.6)	84.9 (1.5)	-33.5 (2.7)	240.0 (6.4)	880	19.9 (2.6)	87.6 (3.5)	-24.6 (2.2)	219.0 (7.9)
6	19.4 (0.8)	78.4 (1.5)	-30.6 (8.6)	271.0 (15.5)	855	19.7 (0.9)	83.2 (1.8)	-31.8 (5.7)	248.0 (12.4)	880	20.4 (1.1)	86.6 (2.9)	-25.1 (1.3)	214.0 (3.3)
7	19.2 (1.6)	79.6 (1.7)	-31.9 (6.4)	269.0 (13.4)	854	19.4 (1.7)	84.3 (1.7)	-32.9 (3.3)	246.0 (8.6)	880	20.2 (1.9)	87.6 (4.1)	-23.4 (1.5)	217.0 (3.3)
8	20.2 (1.5)	80.6 (1.1)	-33.4 (2.2)	265.0 (7.2)	874	20.3 (1.5)	85.3 (1.1)	-32.1 (4.6)	247.0 (11.9)	881	21.0 (1.7)	89.9 (2.1)	-23.8 (1.6)	214.0 (3.4)
9	20.7 (1.1)	80.5 (1.3)	-33.6 (2.8)	264.0 (7.7)	876	20.8 (1.2)	85.6 (1.2)	-31.6 (3.9)	248.0 (9.4)	887	21.5 (1.3)	89.9 (2.3)	-24.0 (2.4)	214.0 (5.4)
10	19.9 (1.4)	79.5 (2.0)	-33.0 (3.3)	267.0 (9.1)	857	20.3 (1.7)	84.4 (2.3)	-32.1 (3.3)	249.0 (9.1)	875	21.1 (1.8)	86.8 (4.6)	-24.6 (1.2)	214.0 (3.3)
11	18.9 (1.7)	78.0 (3.8)	-32.7 (4.6)	269.0 (11.1)	858	19.2 (1.8)	82.9 (3.5)	-32.8 (4.0)	248.0 (10.2)	873	20.0 (1.9)	86.6 (4.4)	-25.4 (1.9)	213.0 (4.9)
12	18.3 (1.6)	78.2 (2.3)	-33.3 (2.4)	267.0 (7.1)	858	18.6 (1.8)	82.5 (3.3)	-33.4 (1.8)	247.0 (5.4)	890	19.3 (1.8)	86.4 (4.5)	-24.9 (1.3)	223.0 (3.4)
13	17.3 (2.0)	77.8 (2.4)	-32.5 (2.7)	261.0 (8.5)	859	17.7 (2.3)	81.6 (4.3)	-32.3 (3.0)	241.0 (7.5)	889	18.3 (2.2)	86.4 (5.1)	-24.4 (2.4)	216.0 (10.2)
14	18.8 (2.7)	78.1 (2.6)	-31.2 (6.6)	267.0 (12.7)	860	19.1 (2.9)	82.2 (3.3)	-28.8 (8.2)	252.0 (21.8)	889	19.3 (2.3)	89.3 (2.0)	-25.2 (2.5)	217.0 (7.9)
15	19.5 (2.6)	78.2 (2.8)	-31.4 (4.9)	267.0 (7.2)	859	19.6 (2.7)	84.0 (1.7)	-31.2 (4.6)	253.0 (13.3)	886	19.3 (3.9)		-23.6 (1.5)	
16	17.4 (2.0)	77.9 (2.2)	-32.3 (2.5)	265.0 (9.1)	857	17.7 (2.2)	81.6 (3.8)	-30.6 (5.0)	248.0 (13.4)	890	17.5 (1.8)		-22.5 (2.7)	
17	15.3 (3.0)	75.7 (2.5)	-29.9 (4.8)	245.0 (12.6)	855	15.7 (3.2)	78.6 (3.8)	-30.1 (5.0)	231.0 (12.3)	895	15.9 (2.3)		-21.6 (2.8)	
18	16.2 (3.8)	77.0 (2.9)	-32.3 (5.8)	245.0 (14.2)	854	16.7 (4.0)	80.5 (4.6)	-28.7 (5.1)	213.0 (19.9)	888	17.5 (3.7)	81.5 (4.9)	-23.5 (2.9)	206.0 (11.1)
19	16.9 (1.8)	77.1 (2.9)	-34.8 (3.4)	256.0 (10.4)	854	17.4 (1.9)	80.3 (4.4)	-33.7 (3.0)	227.0 (7.4)	884	18.0 (1.9)	82.2 (5.3)	-25.0 (2.7)	211.0 (7.4)
20	17.8 (3.6)	77.0 (3.2)	-34.0 (3.4)	250.0 (8.8)	854	18.1 (3.5)	81.0 (4.4)	-35.6 (2.7)	235.0 (6.1)	885	18.1 (2.9)		-24.5 (3.6)	
21	20.1 (0.9)	81.3 (1.1)	-34.5 (5.4)	260.0 (10.0)	854	20.2 (1.1)	84.9 (2.3)	-34.0 (7.2)	247.0 (13.7)	885	19.7 (1.2)		-28.9 (1.6)	
22	21.6 (1.6)	82.9 (0.5)	-34.4 (3.2)	260.0 (8.9)	854	21.6 (1.7)	86.6 (0.6)	-35.5 (2.9)	243.0 (9.2)	880	21.3 (1.4)		-27.2 (2.0)	
23	20.5 (1.1)	82.0 (1.1)	-35.6 (2.8)	259.0 (8.2)	853	20.6 (1.2)	85.6 (1.2)	-36.2 (3.5)	244.0 (9.7)	846	20.2 (1.1)		-24.2 (1.7)	
24	19.8 (1.2)	82.6 (0.7)	-34.9 (2.1)	258.0 (7.9)	852	19.9 (1.2)	85.9 (0.7)	-34.9 (5.0)	246.0 (11.4)	835	19.6 (1.1)		-25.1 (1.7)	
25	17.3 (1.0)	80.0 (2.3)	-33.8 (1.6)	260.0 (4.9)	853	17.5 (1.0)	82.5 (2.5)	-36.4 (2.6)	242.0 (5.7)	868	17.3 (1.2)		-25.4 (2.2)	
26	17.1 (1.2)	80.8 (1.7)	-34.5 (2.1)	257.0 (6.8)	853	17.2 (1.2)	83.0 (2.1)	-36.6 (3.3)	245.0 (9.0)	883	17.1 (2.1)		-24.3 (1.6)	
27	17.1 (2.1)	79.5 (2.1)	-31.4 (5.3)	251.0 (11.7)	853	17.4 (2.3)	81.6 (3.1)	-34.6 (4.2)	235.0 (8.6)	885	16.9 (1.4)		-27.3 (5.7)	
28	14.6 (1.1)	67.1 (3.6)	-40.5 (5.1)	229.0 (10.8)	851	15.1 (1.1)	66.7 (3.6)	-41.2 (6.0)	219.0 (12.5)	887	15.5 (1.5)		-21.1 (3.2)	
29	12.9 (1.0)	69.6 (3.0)	-31.1 (2.5)	241.0 (9.9)	849	13.1 (1.2)	70.4 (3.5)	-29.6 (7.0)	228.0 (21.7)	884	14.1 (1.4)		-17.5 (2.1)	
30	12.9 (2.4)	71.4 (7.6)	-29.0 (5.3)	234.0 (22.5)	849	13.4 (2.5)	72.6 (7.3)	-30.7 (5.9)	203.0 (19.1)	861	13.9 (2.4)		-19.6 (1.9)	
Avg	17.9	77.9	-32.9	258.0	857	18.1	81.4	-32.7	239.0	880	18.5	86.2	-23.5	217.0
n	30	30	30	30	30	30	30	30	30	30	30	16	30	16
SD	2.1	3.5	2.10	10.20	7	2.1	4.5	2.90	11.80	13	2.0	2.5	2.70	5.80
Min	12.9	67.1	-40.50	229.00	849	13.1	66.7	-41.20	203.00	835	13.9	81.5	-28.90	206.00
Max	21.6	82.9	-29.00	271.00	876	21.6	86.6	-25.70	253.00	895	21.5	89.9	-17.50	229.00

Table F3. PM10 concentration and emissions.

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for September, 2007.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5											
6											
7											
8	23 (13)	25 (14)	23 (14)	45 (335)	8.3 (62.5)	68.0 (511.0)	53.6 (402.0)		-0.1 (66.6)	-1.1 (524.0)	-0.8 (412.0)
9	17 (12)	23 (9)	23 (23)	143 (299)	26.7 (55.6)	220.0 (457.0)	173.0 (360.0)		27.0 (104.0)	213.0 (818.0)	167.0 (644.0)
10	23 (14)	23 (13)	16 (16)	0 (256)	0.3 (47.7)	2.5 (393.0)	2.0 (309.0)		-26.7 (59.5)	-210.0 (468.0)	-166.0 (369.0)
11	14 (11)										
12	10 (9)	30 (19)	1 (12)	424 (418)	78.7 (76.7)	661.0 (644.0)	520.0 (507.0)	-170 (291)	-31.8 (55.6)	-252.0 (441.0)	-198.0 (347.0)
13	26 (16)	32 (12)	14 (9)	127 (304)	23.9 (57.1)	199.0 (472.0)	157.0 (372.0)	-282 (334)	-53.8 (64.3)	-427.0 (511.0)	-336.0 (402.0)
14	22 (10)	32 (15)	13 (11)	221 (295)	41.2 (55.1)	331.0 (443.0)	261.0 (349.0)	-187 (305)	-36.1 (57.9)	-287.0 (461.0)	-226.0 (363.0)
15	16 (13)	28 (15)	9 (10)	198 (359)	35.6 (66.8)	285.0 (534.0)	224.0 (421.0)	-150 (314)	-28.3 (59.0)	-226.0 (471.0)	-178.0 (371.0)
16	19 (9)	29 (15)	9 (14)	188 (346)	31.9 (60.3)	254.0 (481.0)	200.0 (379.0)	-205 (340)	-39.2 (64.8)	-314.0 (519.0)	-247.0 (409.0)
17	36 (20)	37 (16)	12 (22)	11 (408)	6.9 (74.1)	54.9 (593.0)	43.2 (467.0)	-518 (629)	-98.4 (120.0)	-789.0 (960.0)	-621.0 (756.0)
18	48 (19)	44 (13)		-83 (271)	-16.0 (50.4)	-129.0 (404.0)	-101.0 (318.0)				
19	46 (17)	42 (15)		-95 (381)	-17.9 (71.9)	-144.0 (579.0)	-113.0 (456.0)				
20	40 (21)	31 (15)		-203 (436)	-39.2 (81.2)	-316.0 (655.0)	-248.0 (515.0)				
21	83 (38)	59 (23)		-529 (579)	-100.0 (109.0)	-808.0 (883.0)	-636.0 (695.0)				
22	37 (27)	33 (19)		-86 (602)	-15.8 (115.0)	-127.0 (929.0)	-100.0 (731.0)				
23	34 (16)	36 (16)		26 (340)	5.0 (65.2)	39.8 (523.0)	31.4 (412.0)				
24	60 (34)	59 (32)		1 (609)	15.8 (330.0)	130.0 (2700.0)	102.0 (2130.0)				
25	23 (14)	29 (10)	31 (11)	148 (371)	26.7 (67.2)	220.0 (553.0)	173.0 (436.0)	192 (386)	36.2 (73.1)	284.0 (575.0)	224.0 (453.0)
26	13 (10)	21 (9)	24 (9)	177 (254)	33.4 (47.7)	275.0 (393.0)	216.0 (309.0)	255 (259)	50.2 (50.9)	394.0 (400.0)	310.0 (315.0)
27	21 (11)	22 (10)	27 (13)	32 (347)	5.7 (64.4)	47.5 (534.0)	37.4 (420.0)	143 (402)	27.5 (77.0)	215.0 (601.0)	169.0 (473.0)
28	18 (9)	25 (9)	28 (11)	162 (261)	29.8 (48.6)	244.0 (398.0)	192.0 (313.0)	222 (279)	42.9 (54.4)	335.0 (425.0)	264.0 (335.0)
29	28 (14)	31 (9)	33 (12)	64 (314)	11.8 (58.5)	95.4 (471.0)	75.1 (371.0)	109 (319)	21.3 (62.2)	166.0 (486.0)	131.0 (383.0)
30	40 (21)	39 (10)	40 (13)	-40 (417)	-7.3 (77.2)	-58.0 (617.0)	-45.7 (486.0)	-9 (452)	-0.8 (85.7)	-5.0 (667.0)	-4.0 (525.0)
Avg	30	33	20	42	8.4	70.20	55.30	-50	-7	-60.3	-47.50
n	23	22	15	22	22	22	22	12	15	15	15
SD	16.8	10.2	10.3	183.0	34.1	278.00	219.00	229.0	40.6	322.0	254.00
Min	10	21	1	-529	-100.0	-808.00	-636.00	-518	-98	-789.0	-621.00
Max	83	59	40	424	78.7	661.00	520.00	255	50	394.0	310.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for October, 2007.

Day	Concentration, μg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	24 (9)	24 (11)	26 (9)		0.4 (36.3)	2.5 (290.0)	2.0 (228.0)	31 (184)	5.8 (34.8)	45.0 (271.0)	35.4 (214.0)
2	35 (16)	24 (7)	29 (10)		-44.1 (60.9)	-355.0 (490.0)	-280.0 (386.0)	-135 (316)	-25.3 (59.2)	-200.0 (466.0)	-157.0 (367.0)
3	21 (9)	21 (8)	22 (10)		-0.7 (45.1)	-6.0 (363.0)	-4.7 (286.0)	15 (276)	3.5 (52.5)	27.4 (413.0)	21.6 (326.0)
4											
5											
6	31 (17)	24 (9)	23 (8)	-160 (472)	-38.0 (80.4)	-309.0 (655.0)	-243.0 (516.0)	-168 (434)	-32.0 (82.4)	-252.0 (648.0)	-198.0 (511.0)
7	37 (23)	30 (7)	30 (9)	-160 (545)	-30.0 (102.0)	-246.0 (837.0)	-193.0 (659.0)	-167 (561)	-31.8 (107.0)	-251.0 (842.0)	-198.0 (663.0)
8	42 (26)	29 (15)	31 (22)	-285 (499)	-53.9 (93.1)	-440.0 (762.0)	-347.0 (600.0)	-242 (536)	-46.5 (102.0)	-371.0 (811.0)	-292.0 (639.0)
9											
10											
11											
12											
13											
14											
15											
16	24 (12)	25 (13)	27 (12)	30 (287)	5.3 (53.0)	42.3 (426.0)	33.3 (335.0)	66 (259)	15.6 (53.2)	125.0 (426.0)	98.2 (336.0)
17	27 (22)	23 (13)	29 (13)	-91 (430)	-17.2 (79.6)	-139.0 (639.0)	-109.0 (503.0)	25 (429)	4.7 (81.5)	38.3 (646.0)	30.2 (509.0)
18	18 (15)	13 (12)	19 (12)	-143 (333)	-24.3 (61.2)	-195.0 (493.0)	-154.0 (388.0)	17 (325)	1.6 (61.4)	13.0 (486.0)	10.2 (383.0)
19	11 (8)	12 (8)	18 (8)		4.6 (41.6)	37.3 (335.0)	29.4 (264.0)	141 (231)	27.2 (44.4)	215.0 (351.0)	169.0 (276.0)
20	14 (8)	19 (12)	28 (11)		11.4 (48.0)	91.5 (386.0)	72.0 (304.0)	261 (279)	49.4 (52.2)	391.0 (413.0)	308.0 (325.0)
21	36 (34)	27 (14)	37 (17)		-42.5 (112.0)	-343.0 (900.0)	-270.0 (708.0)	26 (487)	5.9 (87.7)	46.9 (695.0)	37.0 (547.0)
22	19 (13)										
23	11 (8)	13 (9)	22 (12)	44 (185)	7.8 (33.7)	63.1 (274.0)	49.7 (216.0)	188 (212)	35.2 (39.5)	276.0 (310.0)	218.0 (244.0)
24	7 (9)	12 (9)	21 (12)	63 (192)	11.7 (34.7)	95.3 (283.0)	75.0 (222.0)	208 (243)	41.0 (47.5)	319.0 (370.0)	252.0 (291.0)
25	14 (12)	18 (11)	24 (12)	61 (251)	10.9 (46.2)	87.9 (374.0)	69.2 (294.0)	155 (214)	32.4 (43.6)	252.0 (340.0)	199.0 (268.0)
26	18 (11)	25 (13)	29 (10)	126 (216)	23.0 (39.9)	186.0 (322.0)	147.0 (254.0)	177 (199)	37.2 (41.0)	290.0 (320.0)	228.0 (252.0)
27	17 (7)	22 (15)	30 (13)	79 (233)	15.1 (41.3)	122.0 (334.0)	95.8 (263.0)	190 (208)	40.4 (44.1)	315.0 (345.0)	248.0 (271.0)
28	16 (7)	21 (15)	30 (14)	63 (264)	11.1 (47.8)	90.0 (387.0)	70.8 (304.0)	184 (228)	38.4 (46.6)	300.0 (364.0)	236.0 (287.0)
29	17 (8)	23 (12)	31 (11)	69 (192)	12.5 (35.4)	101.0 (286.0)	79.8 (226.0)	181 (172)	37.6 (35.4)	294.0 (277.0)	232.0 (218.0)
30	25 (8)	27 (11)	36 (13)	13 (227)	2.0 (41.7)	16.3 (337.0)	12.9 (266.0)	171 (240)	35.0 (48.7)	274.0 (381.0)	216.0 (300.0)
31	27 (10)	29 (17)	38 (20)								
Avg	22	22	28	-21	-6.8	-54.90	-43.20	66	14	107.0	84.60
n	22	21	21	14	20	20	20	20	20	20	20
SD	9.1	5.5	5.4	118.0	22.9	186.00	146.00	143.0	28.0	220.0	173.00
Min	7	12	18	-285	-53.9	-440.00	-347.00	-242	-47	-371.0	-292.00
Max	42	30	38	126	23.0	186.00	147.00	261	49	391.0	308.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for November, 2007.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	24 (12)	23 (14)	38 (24)	-18 (264)	-3.4 (48.1)	-27.8 (393.0)	-21.9 (310.0)	224 (351)	46.1 (71.3)	367.0 (567.0)	289.0 (447.0)
2	28 (13)	29 (12)	47 (27)	-13 (219)	-2.7 (39.5)	-22.5 (328.0)	-17.7 (258.0)	267 (373)	54.9 (75.2)	438.0 (599.0)	345.0 (472.0)
3	25 (8)	23 (10)	40 (20)	-43 (162)	-8.1 (29.9)	-66.5 (246.0)	-52.4 (194.0)	238 (321)			
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15	13 (7)	12 (8)	30 (16)	-11 (165)	-1.7 (24.1)	-13.5 (197.0)	-10.6 (155.0)	275 (262)	40.1 (38.3)	319.0 (305.0)	251.0 (240.0)
16	21 (8)	17 (9)	35 (13)	-65 (173)	-9.5 (25.3)	-76.7 (205.0)	-60.4 (161.0)	207 (214)	30.2 (31.3)	240.0 (249.0)	189.0 (196.0)
17	28 (11)	23 (11)	40 (21)	-95 (241)	-13.9 (35.2)	-111.0 (281.0)	-87.2 (222.0)	196 (381)	28.6 (55.7)	225.0 (439.0)	178.0 (345.0)
18	28 (7)	21 (20)	35 (17)	-119 (354)	-17.5 (51.7)	-139.0 (412.0)	-110.0 (324.0)	131 (252)	19.2 (36.9)	149.0 (287.0)	118.0 (226.0)
19	33 (13)	21 (19)	29 (13)	-318 (388)	-46.4 (56.7)	-370.0 (452.0)	-292.0 (356.0)	-126 (308)	-18.4 (45.0)	-143.0 (350.0)	-112.0 (275.0)
20	39 (25)	17 (11)	27 (13)	-588 (664)	-85.9 (97.1)	-684.0 (772.0)	-539.0 (608.0)	-276 (792)	-40.3 (116.0)	-313.0 (898.0)	-247.0 (707.0)
21	5 (10)	3 (9)	13 (11)	-70 (285)	-10.2 (41.7)	-81.3 (331.0)	-64.0 (261.0)	142 (302)	20.7 (44.2)	161.0 (343.0)	126.0 (270.0)
22	6 (5)	6 (8)	19 (12)	5 (135)	0.7 (19.7)	5.3 (156.0)	4.2 (123.0)	183 (193)	26.7 (28.1)	209.0 (220.0)	164.0 (173.0)
23	10 (7)		30 (19)					285 (313)	41.7 (45.7)	327.0 (359.0)	258.0 (283.0)
24	16 (6)	15 (9)	28 (15)	-18 (160)	-2.7 (23.3)	-21.7 (188.0)	-17.1 (148.0)	162 (233)	23.7 (34.0)	185.0 (266.0)	146.0 (209.0)
25	22 (7)	17 (12)	27 (15)	-64 (198)	-9.3 (29.0)	-75.6 (235.0)	-59.5 (185.0)	82 (230)	12.0 (33.6)	93.7 (262.0)	73.8 (206.0)
26	31 (9)	22 (10)	32 (12)	-126 (109)	-18.3 (15.9)	-149.0 (129.0)	-117.0 (102.0)	17 (138)	2.5 (20.2)	19.9 (158.0)	15.7 (125.0)
27	18 (6)	17 (6)	29 (17)	-2 (105)	-0.3 (15.3)	-2.7 (124.0)	-2.2 (97.9)	158 (249)	23.1 (36.4)	181.0 (286.0)	142.0 (225.0)
28	16 (9)	14 (8)	25 (16)	-43 (167)	-6.2 (24.4)	-50.5 (198.0)	-39.7 (156.0)	135 (291)	19.8 (42.5)	155.0 (333.0)	122.0 (262.0)
29	16 (7)	16 (8)	34 (26)	3 (135)	0.5 (19.8)	4.1 (160.0)	3.2 (126.0)	253 (362)	36.9 (52.9)	290.0 (415.0)	228.0 (327.0)
30	15 (7)										
Avg	21	18	31	-93	-13.8	-111.00	-87.20	142	22	171.0	135.00
n	19	17	18	17	17	17	17	18	17	17	17
SD	8.9	6.2	7.7	145.0	21.1	168.00	132.00	141.0	22.7	179.0	141.00
Min	5	3	13	-588	-85.9	-684.00	-539.00	-276	-40	-313.0	-247.00
Max	39	29	47	5	0.7	5.32	4.19	285	55	438.0	345.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for December, 2007.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	24 (15)										
2	20 (13)	17 (8)	23 (18)	-60 (251)	-8.8 (36.6)	-69.4 (290.0)	-54.6 (229.0)	32 (308)	4.6 (45.0)	35.9 (350.0)	28.2 (275.0)
3	10 (8)	11 (6)	21 (16)	-11 (105)	-1.7 (15.4)	-13.1 (122.0)	-10.3 (96.1)	127 (250)	18.6 (36.5)	145.0 (284.0)	114.0 (224.0)
4	19 (6)	14 (6)	26 (22)	-82 (113)	-11.9 (16.5)	-94.2 (130.0)	-74.1 (103.0)	85 (308)	12.4 (45.1)	96.2 (350.0)	75.7 (276.0)
5	15 (12)		22 (10)					97 (213)	14.2 (31.1)	110.0 (241.0)	86.6 (190.0)
6	27 (13)										
7	21 (5)	16 (6)	22 (7)	-67 (84)	-9.8 (12.3)	-77.8 (97.6)	-61.3 (76.9)	13 (117)	1.8 (17.1)	14.5 (134.0)	11.4 (105.0)
8	23 (10)										
9	24 (4)	17 (6)	23 (8)	-95 (96)	-13.8 (14.0)	-112.0 (113.0)	-88.0 (89.2)	-19 (135)	-2.7 (19.7)	-21.2 (154.0)	-16.7 (121.0)
10											
11	16 (12)	8 (11)	14 (12)	-113 (133)	-16.6 (19.4)	-133.0 (156.0)	-105.0 (123.0)	-30 (159)	-4.4 (23.2)	-34.4 (183.0)	-27.1 (144.0)
12	22 (8)	14 (8)	25 (10)								
13	23 (6)	15 (8)	22 (10)	-118 (125)	-17.2 (18.3)	-138.0 (147.0)	-109.0 (116.0)	-21 (156)	-3.0 (22.8)	-23.8 (185.0)	-18.7 (146.0)
14	19 (8)										
15	17 (5)	12 (8)	21 (11)	-67 (101)	-9.9 (14.8)	-80.3 (120.0)	-63.2 (94.8)	47 (151)	6.8 (22.0)	53.7 (173.0)	42.3 (137.0)
16	15 (10)		20 (11)					76 (167)	11.1 (24.4)	87.2 (192.0)	68.6 (151.0)
17	29 (7)										
18	23 (11)		19 (12)					-17 (172)	-2.5 (25.1)	-19.2 (198.0)	-15.1 (156.0)
19	52 (18)										
20	56 (17)	18 (14)	31 (21)	-486 (167)	-71.0 (24.5)	-579.0 (200.0)	-456.0 (157.0)	-314 (226)	-45.9 (33.0)	-361.0 (260.0)	-285.0 (204.0)
21	53 (18)	35 (16)	44 (21)	-264 (227)	-38.6 (33.2)	-316.0 (272.0)	-249.0 (214.0)	-128 (201)	-18.7 (29.3)	-147.0 (230.0)	-116.0 (181.0)
22		16 (13)	26 (23)	-339 (251)	-49.5 (36.6)	-405.0 (300.0)	-319.0 (236.0)	-139 (277)	-20.4 (40.5)	-160.0 (318.0)	-126.0 (251.0)
23		8 (10)	15 (17)	-236 (195)	-34.4 (28.5)	-282.0 (233.0)	-222.0 (184.0)	-199 (302)	-29.1 (44.2)	-229.0 (348.0)	-181.0 (274.0)
24		15 (7)	19 (10)	4 (97)	0.6 (14.2)	4.6 (116.0)	3.6 (91.4)	57 (124)	8.4 (18.2)	65.9 (143.0)	51.9 (112.0)
25											
26		21 (10)		-58 (186)	-8.5 (27.1)	-69.9 (222.0)	-55.0 (175.0)				
27		18 (6)	23 (8)	-41 (116)	-6.0 (17.0)	-48.8 (139.0)	-38.4 (109.0)	31 (130)	4.5 (19.1)	34.9 (150.0)	27.5 (118.0)
28		16 (7)	19 (7)	-46 (132)	-6.7 (19.3)	-54.5 (158.0)	-42.9 (124.0)	2 (153)	0.3 (22.4)	2.5 (178.0)	2.0 (140.0)
29		16 (6)		-2 (98)	-0.3 (14.3)	-2.6 (116.0)	-2.1 (91.3)				
30		21 (8)		-47 (150)	-6.9 (21.9)	-55.8 (178.0)	-44.0 (140.0)				
31		17 (8)	22 (10)	-124 (160)	-18.1 (23.4)	-146.0 (189.0)	-115.0 (149.0)	-55 (187)	-8.0 (27.3)	-63.3 (218.0)	-49.9 (172.0)
Avg	25	16	23	-118	-17.3	-141.00	-111.00	-19	-3	-21.8	-17.20
n	20	20	20	19	19	19	19	19	19	19	19
SD	12.6	5.6	6.1	123.0	18.0	147.00	116.00	107.0	15.7	123.0	96.90
Min	10	8	14	-486	-71.0	-579.00	-456.00	-314	-46	-361.0	-285.00
Max	56	35	44	4	0.6	4.56	3.59	127	19	145.0	114.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for January, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	21 (8)										
2	15 (5)										
3	21 (9)										
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26	26 (5)										
27	31 (9)										
28	17 (7)	13 (8)	12 (9)	-48 (122)	-6.9 (17.8)	-58.2 (149.0)	-45.8 (117.0)	-46 (105)	-6.7 (15.4)	-53.6 (123.0)	-42.2 (96.5)
29	23 (13)	15 (8)		-80 (139)	-11.7 (20.3)	-97.8 (170.0)	-77.0 (134.0)				
30	14 (7)										
31	29 (11)										
Avg	22	14		-64	-9.3	-78.00	-61.40				
n	9	2	1	2	2	2	2	1	1	1	1
SD	5.6	0.6		16.2	2.4	19.80	15.60				
Min	14	13		-80	-11.7	-97.80	-77.00				
Max	31	15		-48	-6.9	-58.20	-45.80				

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for February, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	18 (8)	17 (6)	19 (11)	-11 (90)	-1.6 (13.2)	-13.3 (111.0)	-10.5 (87.1)	6 (134)	0.9 (19.6)	6.8 (162.0)	5.4 (128.0)
2	28 (6)	24 (15)	25 (22)	-37 (187)	-5.4 (27.3)	-45.3 (230.0)	-35.7 (181.0)	-29 (223)	-4.2 (32.6)	-34.2 (264.0)	-26.9 (208.0)
3	35 (6)	28 (20)	27 (22)	-79 (230)	-11.5 (33.6)	-96.9 (283.0)	-76.3 (223.0)	-78 (201)	-11.4 (29.4)	-92.0 (237.0)	-72.5 (187.0)
4	30 (13)	20 (16)	21 (23)	-119 (144)	-17.4 (21.1)	-146.0 (176.0)	-115.0 (139.0)	-120 (196)	-17.5 (28.7)	-143.0 (234.0)	-112.0 (184.0)
5	12 (5)	13 (20)	6 (9)	6 (194)	0.9 (28.3)	7.3 (236.0)	5.7 (186.0)	-58 (129)	-8.4 (18.9)	-68.7 (153.0)	-54.1 (121.0)
6	6 (4)	6 (7)	11 (8)	0 (68)	-0.1 (10.0)	-0.5 (83.0)	-0.4 (65.4)	43 (106)	6.3 (15.5)	49.8 (123.0)	39.2 (97.2)
7	14 (6)	15 (8)	17 (8)	10 (98)	1.5 (14.3)	12.2 (121.0)	9.6 (94.9)	34 (92)	4.9 (13.4)	39.4 (108.0)	31.0 (85.1)
8	18 (7)										
9	23 (8)	14 (8)	19 (10)	-93 (90)	-13.6 (13.2)	-116.0 (112.0)	-91.3 (88.4)	-42 (101)	-6.1 (14.7)	-51.3 (123.0)	-40.4 (97.0)
10	30 (10)										
11	20 (9)										
12	23 (6)										
13	20 (8)										
14	24 (5)										
15	25 (10)										
16	28 (11)										
17	21 (16)	13 (11)	13 (9)	-99 (192)	-14.5 (28.1)	-121.0 (234.0)	-95.2 (184.0)	-101 (202)	-14.8 (29.5)	-120.0 (237.0)	-94.4 (187.0)
18	15 (9)		13 (9)					-13 (91)	-1.8 (13.2)	-14.5 (105.0)	-11.5 (82.4)
19	14 (9)										
20											
21		17 (14)	18 (13)								
22		15 (8)	18 (9)								
23		24 (8)	25 (10)								
24		24 (10)	26 (11)								
25		25 (10)	27 (11)								
26		9 (7)	14 (13)								
27		-3 (23)	11 (23)								
28		12 (17)	18 (13)								
29											
Avg	21	16	18	-47	-6.9	-57.70	-45.40	-36	-5	-42.7	-33.60
n	19	17	18	9	9	9	9	10	10	10	10
SD	7.1	7.6	5.9	48.0	7.0	58.90	46.40	52.0	7.6	61.5	48.40
Min	6	-3	6	-119	-17.4	-146.00	-115.00	-120	-18	-143.0	-112.00
Max	35	28	27	10	1.5	12.20	9.64	43	6	49.8	39.20

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for March, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2		16 (13)	13 (11)								
3		15 (11)	18 (20)								
4		12 (8)	18 (36)								
5		13 (11)	11 (40)								
6		17 (8)	16 (12)								
7		11 (8)	21 (38)								
8		11 (7)	17 (27)								
9		19 (9)	18 (11)								
10		25 (19)	25 (17)								
11											
12			18 (10)								
13		26 (106)	13 (19)								
14		17 (21)	12 (24)								
15		17 (14)	20 (17)								
16		17 (11)	23 (26)								
17		17 (9)	25 (18)								
18		17 (15)	17 (17)								
19		23 (34)	17 (10)								
20											
21											
22											
23											
24											
25											
26											
27											
28	9 (7)	19 (11)	17 (21)	134 (189)	19.6 (27.7)	157.0 (221.0)	124.0 (174.0)	96 (286)	14.0 (41.8)	115.0 (343.0)	90.4 (270.0)
29	12 (7)	20 (8)	18 (16)	113 (152)	16.5 (22.2)	132.0 (177.0)	104.0 (140.0)	77 (232)	11.3 (33.9)	92.3 (277.0)	72.7 (218.0)
30	32 (24)	24 (9)	27 (18)	-197 (503)	-28.8 (73.4)	-229.0 (583.0)	-180.0 (459.0)	-145 (509)	-21.2 (74.4)	-168.0 (591.0)	-133.0 (465.0)
31	39 (49)	23 (12)	24 (15)					-322 (982)	-47.0 (144.0)	-373.0 (1140.0)	-294.0 (898.0)
Avg	23	18	18	17	2.4	20.00	15.80	-74	-11	-83.6	-65.90
n	4	20	21	3	3	3	3	4	4	4	4
SD	12.7	4.5	4.3	151.0	22.1	176.00	139.00	172.0	25.1	201.0	158.00
Min	9	11	11	-197	-28.8	-229.00	-180.00	-322	-47	-373.0	-294.00
Max	39	26	27	134	19.6	157.00	124.00	96	14	115.0	90.40

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for April, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	8 (6)	17 (13)	13 (30)					55 (466)	8.0 (68.0)	61.3 (533.0)	48.3 (420.0)
2		24 (9)	18 (11)								
3		26 (8)	26 (16)								
4		32 (175)	24 (12)								
5		29 (133)	28 (11)								
6		34 (18)	31 (10)								
7		25 (18)	25 (12)								
8		28 (128)	28 (17)								
9		17 (13)	21 (11)								
10		25 (19)	23 (10)								
11		8 (19)	12 (8)								
12		12 (8)	14 (9)								
13		15 (11)	16 (8)								
14		39 (98)	18 (13)								
15	18 (8)	25 (101)	28 (21)	94 (2050)	13.8 (299.0)	110.0 (2380.0)	86.4 (1870.0)	150 (396)	21.9 (57.9)	169.0 (448.0)	133.0 (353.0)
16	40 (21)	28 (10)	31 (13)	-299 (498)	-43.7 (72.8)	-345.0 (574.0)	-271.0 (452.0)	-201 (433)	-29.3 (63.2)	-226.0 (486.0)	-178.0 (383.0)
17	40 (17)	32 (23)	36 (11)					-111 (402)	-16.2 (58.8)	-137.0 (476.0)	-108.0 (375.0)
18	37 (15)	27 (23)	32 (19)					-86 (558)	-12.5 (81.5)	-104.0 (678.0)	-81.9 (534.0)
19	22 (26)	13 (12)	17 (10)					-137 (548)	-20.0 (80.1)	-159.0 (637.0)	-125.0 (502.0)
20	52 (39)	36 (16)	37 (14)					-353 (826)	-51.5 (121.0)	-396.0 (928.0)	-312.0 (730.0)
21	42 (39)	30 (13)	33 (13)					-170 (871)	-24.8 (127.0)	-191.0 (978.0)	-150.0 (770.0)
22	45 (26)	33 (12)	36 (11)	-271 (622)	-39.5 (90.8)	-318.0 (731.0)	-251.0 (576.0)	-209 (574)	-30.6 (83.8)	-235.0 (646.0)	-185.0 (508.0)
23	50 (41)	32 (21)	36 (22)	-400 (735)	-58.4 (107.0)	-470.0 (864.0)	-370.0 (681.0)	-299 (784)	-43.6 (115.0)	-337.0 (884.0)	-265.0 (696.0)
24	44 (36)	26 (16)	32 (20)	-412 (809)	-60.2 (118.0)	-484.0 (950.0)	-381.0 (748.0)	-257 (787)	-37.6 (115.0)	-290.0 (887.0)	-229.0 (699.0)
25	76 (83)	32 (19)		-1110 (1710)	-163.0 (250.0)	-1300.0 (1990.0)	-1020.0 (1570.0)				
26	11 (6)	15 (6)		71 (160)	10.3 (23.3)	81.7 (184.0)	64.3 (145.0)				
27	19 (12)	21 (8)		37 (286)	5.5 (41.8)	42.5 (332.0)	33.5 (261.0)				
28	18 (20)	18 (13)		14 (423)	2.0 (61.8)	16.1 (498.0)	12.7 (392.0)				
29	11 (9)	15 (11)		57 (243)	8.3 (35.5)	67.2 (286.0)	52.9 (226.0)				
30	28 (14)	25 (8)		-81 (243)	-11.8 (35.5)	-94.8 (286.0)	-74.7 (225.0)				
Avg	33	25	26	-209	-30.6	-245.00	-193.00	-147	-22	-168.0	-132.00
n	17	30	24	11	11	11	11	11	11	11	11
SD	17.8	7.9	7.8	341.0	49.8	397.00	313.00	141.0	20.6	158.0	125.00
Min	8	8	12	-1110	-163.0	-1300.00	-1020.00	-353	-52	-396.0	-312.00
Max	76	39	37	94	13.8	110.00	86.40	150	22	169.0	133.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for May, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-}
1	39 (16)	24 (5)		-337 (392)	-49.3 (57.3)	-397.0 (461.0)	-313.0 (363.0)				
2	43 (50)	22 (18)		-515 (1050)	-75.3 (153.0)	-602.0 (1220.0)	-474.0 (961.0)				
3	13 (7)	12 (13)		-11 (287)	-1.5 (42.0)	-12.2 (333.0)	-9.6 (262.0)				
4	16 (12)	15 (6)		-20 (263)	-2.9 (38.5)	-23.0 (305.0)	-18.1 (240.0)				
5	33 (11)	24 (12)		-192 (345)	-28.1 (50.3)	-223.0 (400.0)	-176.0 (315.0)				
6	41 (14)	28 (14)		-292 (398)	-42.7 (58.1)	-340.0 (462.0)	-268.0 (364.0)				
7	23 (41)	15 (9)		-177 (840)	-25.9 (123.0)	-206.0 (975.0)	-162.0 (767.0)				
8	9 (5)	11 (6)		36 (144)	5.3 (21.0)	42.0 (167.0)	33.0 (131.0)				
9	17 (12)	15 (6)		-38 (247)	-5.5 (36.1)	-43.8 (286.0)	-34.5 (225.0)				
10		14 (54)									
11	18 (16)	14 (8)		-71 (368)	-10.3 (53.8)	-82.3 (431.0)	-64.8 (339.0)				
12	13 (10)	15 (13)		22 (293)	3.3 (42.9)	26.0 (343.0)	20.5 (270.0)				
13	34 (23)	19 (13)		-344 (583)	-50.2 (85.1)	-403.0 (682.0)	-317.0 (537.0)				
14	28 (24)	16 (9)		-316 (591)	-46.2 (86.3)	-370.0 (693.0)	-292.0 (545.0)				
15	13 (13)	12 (7)		-32 (246)	-4.7 (35.9)	-37.2 (287.0)	-29.3 (226.0)				
16	25 (16)	14 (8)		-242 (353)	-35.3 (51.6)	-281.0 (410.0)	-221.0 (323.0)				
17	27 (15)	16 (34)		-258 (800)	-37.7 (117.0)	-308.0 (945.0)	-243.0 (744.0)				
18	11 (11)	11 (6)		2 (239)	0.3 (34.9)	3.6 (284.0)	2.8 (224.0)				
19											
20											
21	17 (11)	19 (31)		36 (726)	5.2 (106.0)	42.0 (847.0)	33.1 (667.0)				
22	15 (11)	19 (15)		84 (320)	12.3 (46.7)	98.4 (373.0)	77.5 (294.0)				
23	13 (7)	17 (11)		94 (290)	13.8 (42.4)	110.0 (339.0)	86.7 (267.0)				
24	30 (49)	15 (9)		-337 (1110)	-49.2 (162.0)	-394.0 (1290.0)	-310.0 (1020.0)				
25		23 (9)									
26	30 (14)	16 (58)		-313 (1250)	-45.7 (183.0)	-366.0 (1460.0)	-288.0 (1150.0)				
27	14 (12)	19 (27)		91 (620)	13.2 (90.6)	107.0 (731.0)	84.6 (576.0)				
28	16 (9)	19 (14)		56 (313)	8.1 (45.7)	66.8 (376.0)	52.6 (296.0)				
29											
30	40 (38)	19 (17)		-473 (856)	-69.2 (125.0)	-589.0 (1070.0)	-464.0 (845.0)				
31	17 (27)	14 (75)		-57 (1600)	-8.3 (233.0)	-72.1 (1970.0)	-56.8 (1550.0)				
Avg	23	17		-139	-20.3	-164.00	-129.00				
n	26	28	0	26	26	26	26	0	0	0	0
SD	10.4	4.1		181.0	26.5	215.00	169.00				
Min	9	11		-515	-75.3	-602.00	-474.00				
Max	43	28		94	13.8	110.00	86.70				

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for June, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-}
1	21 (14)	18 (51)		-51 (1130)	-7.5 (165.0)	-60.2 (1320.0)	-47.4 (1040.0)				
2	26 (13)	21 (49)		-113 (1120)	-16.5 (163.0)	-132.0 (1310.0)	-104.0 (1030.0)				
3	33 (28)	25 (34)		-207 (934)	-30.2 (137.0)	-242.0 (1090.0)	-191.0 (862.0)				
4	19 (17)	16 (7)		-65 (350)	-9.5 (51.2)	-76.9 (415.0)	-60.6 (327.0)				
5											
6											
7	17 (15)	14 (9)									
8	27 (14)	19 (10)									
9	23 (26)	13 (12)									
10	18 (21)	14 (6)		-101 (435)	-14.7 (63.5)	-121.0 (525.0)	-95.7 (414.0)				
11											
12	58 (36)	46 (32)		-268 (490)	-39.1 (71.6)	-320.0 (586.0)	-252.0 (461.0)				
13	35 (39)	24 (33)		-248 (582)	-36.2 (85.1)	-296.0 (695.0)	-233.0 (548.0)				
14	19 (15)	13 (7)		-152 (376)	-22.2 (55.0)	-181.0 (449.0)	-143.0 (354.0)				
15	22 (15)	12 (7)		-201 (332)	-29.3 (48.4)	-239.0 (395.0)	-188.0 (311.0)				
16											
17											
18											
19											
20											
21											
22											
23											
24											
25	30 (41)	23 (11)		-145 (839)	-21.2 (123.0)	-175.0 (1010.0)	-138.0 (796.0)				
26	23 (25)	15 (15)		-201 (651)	-29.4 (95.1)	-245.0 (792.0)	-193.0 (624.0)				
27	27 (25)	15 (15)		-276 (693)	-40.3 (101.0)	-337.0 (849.0)	-266.0 (668.0)				
28	18 (19)	12 (18)		-144 (551)	-21.0 (80.5)	-176.0 (674.0)	-138.0 (531.0)				
29	14 (15)	11 (12)		-60 (406)	-8.8 (59.4)	-72.8 (492.0)	-57.4 (388.0)				
30	12 (12)	12 (10)		-15 (345)	-2.2 (50.4)	-18.2 (414.0)	-14.3 (326.0)				
Avg	25	18		-150	-21.9	-180.00	-141.00				
n	18	18	0	15	15	15	15	0	0	0	0
SD	10.1	8.1		79.5	11.6	95.90	75.50				
Min	12	11		-276	-40.3	-337.00	-266.00				
Max	58	46		-15	-2.2	-18.20	-14.30				

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for July, 2008.

Day	Concentration, μg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	32 (18)	26 (22)		-132 (553)	-19.3 (80.8)	-159.0 (666.0)	-125.0 (525.0)				
2	37 (21)	18 (14)		-289 (460)	-42.3 (67.2)	-349.0 (555.0)	-275.0 (437.0)				
3	28 (17)	19 (12)		-195 (442)	-28.4 (64.6)	-235.0 (533.0)	-185.0 (420.0)				
4	59 (90)	23 (16)		-780 (1960)	-114.0 (287.0)	-937.0 (2360.0)	-738.0 (1860.0)				
5	30 (23)	27 (11)		-59 (506)	-8.6 (74.0)	-70.7 (607.0)	-55.6 (478.0)				
6		33 (12)									
7		22 (18)									
8		12 (19)									
9											
10		17 (15)									
11		19 (18)	17 (31)								
12		8 (12)	21 (31)								
13		12 (8)	20 (32)								
14		18 (11)	21 (31)								
15		30 (18)	31 (38)								
16		35 (22)	35 (35)								
17		48 (19)	52 (33)								
18		46 (22)	52 (34)								
19		26 (18)	30 (32)								
20		11 (16)	13 (32)								
21		16 (25)	25 (28)								
22		13 (15)	22 (22)								
23											
24		22 (14)	25 (21)								
25		30 (19)	32 (29)								
26	20 (7)	26 (18)	36 (26)	129 (384)	18.8 (56.2)	149.0 (446.0)	118.0 (351.0)	357 (632)	52.1 (92.4)	403.0 (714.0)	317.0 (562.0)
27	12 (16)	40 (14)	46 (29)	618 (429)	90.4 (62.7)	717.0 (497.0)	564.0 (391.0)	758 (718)	111.0 (105.0)	856.0 (810.0)	674.0 (638.0)
28	18 (8)	44 (16)	54 (30)	564 (341)	82.4 (49.9)	652.0 (395.0)	513.0 (311.0)	804 (668)	117.0 (97.5)	907.0 (753.0)	714.0 (593.0)
29	13 (10)	43 (21)	50 (23)	668 (469)	97.6 (68.6)	771.0 (542.0)	607.0 (427.0)	837 (547)	122.0 (79.9)	945.0 (617.0)	744.0 (486.0)
30		16 (15)	21 (9)								
31		26 (12)	30 (13)								
Avg	28	25	32	58	8.5	59.80	47.10	689	101	778.0	612.00
n	9	29	20	9	9	9	9	4	4	4	4
SD	13.8	11.0	12.5	457.0	66.8	538.00	424.00	194.0	28.3	219.0	172.00
Min	12	8	13	-780	-114.0	-937.00	-738.00	357	52	403.0	317.00
Max	59	48	54	668	97.6	771.00	607.00	837	122	945.0	744.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for August, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	14 (6)	28 (9)	33 (14)	294 (240)	43.0 (35.0)	338.0 (275.0)	266.0 (217.0)	391 (331)	57.2 (48.4)	454.0 (384.0)	358.0 (303.0)
2	6 (6)	20 (11)	24 (14)	304 (237)	44.4 (34.7)	350.0 (273.0)	275.0 (215.0)	390 (315)	57.0 (46.0)	435.0 (351.0)	343.0 (277.0)
3	6 (4)	17 (7)	22 (10)	249 (172)	36.4 (25.1)	287.0 (198.0)	226.0 (156.0)	333 (226)	48.7 (33.1)	372.0 (253.0)	293.0 (199.0)
4	20 (10)	30 (41)	34 (21)								
5											
6											
7											
8	10 (12)	15 (8)	20 (13)								
9	21 (13)	19 (16)	25 (16)								
10	6 (9)	15 (20)	14 (7)								
11	12 (11)	17 (13)	24 (22)								
12											
13	30 (14)	32 (18)	37 (28)								
14	15 (10)	31 (108)	23 (11)	333 (2330)	48.6 (340.0)	392.0 (2740.0)	309.0 (2160.0)	181 (339)	26.5 (49.6)	207.0 (388.0)	163.0 (305.0)
15	27 (42)	17 (13)	22 (21)	-226 (970)	-33.0 (142.0)	-266.0 (1140.0)	-210.0 (900.0)	-108 (1130)	-15.7 (165.0)	-123.0 (1290.0)	-96.9 (1020.0)
16	20 (11)	21 (14)	27 (24)	8 (368)	1.1 (53.7)	9.0 (433.0)	7.1 (341.0)	157 (602)	22.9 (88.0)	179.0 (689.0)	141.0 (543.0)
17	21 (18)	22 (14)	28 (23)	30 (502)	4.5 (73.3)	35.8 (591.0)	28.2 (465.0)	170 (612)	24.8 (89.4)	194.0 (700.0)	153.0 (551.0)
18	21 (13)	25 (25)	31 (22)	72 (562)	10.5 (82.1)	84.7 (662.0)	66.7 (521.0)	216 (550)	31.6 (80.4)	247.0 (630.0)	195.0 (496.0)
19	28 (14)	29 (13)	37 (27)	2 (467)	0.2 (68.3)	1.9 (550.0)	1.5 (433.0)	197 (644)	28.7 (94.1)	228.0 (746.0)	179.0 (588.0)
20	20 (12)	24 (23)	26 (17)	97 (549)	14.2 (80.2)	114.0 (647.0)	89.8 (509.0)	130 (439)	19.0 (64.1)	152.0 (512.0)	120.0 (403.0)
21	50 (28)	47 (25)	55 (45)	-79 (612)	-11.5 (89.4)	-92.4 (719.0)	-72.8 (566.0)	100 (800)	14.6 (117.0)	115.0 (914.0)	90.4 (720.0)
22	25 (33)	28 (26)	27 (18)	69 (896)	10.0 (131.0)	80.6 (1050.0)	63.5 (827.0)	38 (733)	5.6 (107.0)	43.1 (831.0)	33.9 (654.0)
23											
24	12 (17)	13 (12)	16 (13)	23 (526)	3.4 (76.8)	27.5 (617.0)	21.6 (486.0)	90 (534)	13.1 (78.1)	102.0 (608.0)	80.4 (478.0)
25	7 (20)		25 (22)					406 (527)	59.3 (77.0)	458.0 (596.0)	361.0 (469.0)
26	17 (13)	24 (17)	33 (30)	149 (460)	21.7 (67.2)	173.0 (535.0)	136.0 (422.0)	373 (697)	54.5 (102.0)	418.0 (781.0)	329.0 (615.0)
27	31 (20)	31 (21)	35 (16)	9 (445)	1.3 (65.0)	10.2 (523.0)	8.0 (412.0)	79 (406)	11.5 (59.4)	88.1 (457.0)	69.4 (360.0)
28	58 (20)	44 (32)	49 (15)	-318 (702)	-46.4 (103.0)	-378.0 (835.0)	-298.0 (657.0)	-201 (423)	-29.3 (61.8)	-227.0 (478.0)	-179.0 (377.0)
29	29 (20)	31 (24)	32 (12)	35 (697)	5.0 (102.0)	41.0 (829.0)	32.3 (653.0)	60 (485)	8.8 (70.8)	68.8 (554.0)	54.2 (436.0)
30	30 (22)	31 (39)	32 (23)	17 (1030)	2.5 (151.0)	20.2 (1230.0)	15.9 (966.0)	32 (595)	4.6 (86.9)	36.4 (691.0)	28.7 (544.0)
31	22 (19)	23 (10)	27 (13)	21 (505)	3.0 (73.7)	24.6 (600.0)	19.4 (472.0)	105 (542)	15.3 (79.3)	120.0 (623.0)	94.4 (490.0)
Avg	21	25	29	57	8.4	65.90	51.90	157	23	178.0	141.00
n	26	25	26	19	19	19	19	20	20	20	20
SD	12.3	8.3	8.8	161.0	23.5	188.00	148.00	160.0	23.3	180.0	142.00
Min	6	13	14	-318	-46.4	-378.00	-298.00	-201	-29	-227.0	-179.00
Max	58	47	55	333	48.6	392.00	309.00	406	59	458.0	361.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for September, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	45 (15)	36 (12)	41 (18)	-214 (374)	-31.3 (54.7)	-255.0 (445.0)	-200.0 (350.0)	-92 (469)	-13.5 (68.5)	-105.0 (534.0)	-82.8 (420.0)
2	79 (87)	59 (55)	68 (60)	-415 (1190)	-60.6 (173.0)	-493.0 (1410.0)	-388.0 (1110.0)	-234 (1260)	-34.2 (184.0)	-265.0 (1430.0)	-209.0 (1130.0)
3	51 (37)	31 (18)	35 (20)	-416 (552)	-60.8 (80.6)	-493.0 (654.0)	-388.0 (515.0)	-338 (616)	-49.3 (90.0)	-383.0 (700.0)	-302.0 (551.0)
4	23 (20)	16 (10)	19 (11)	-148 (357)	-21.7 (52.1)	-176.0 (423.0)	-138.0 (333.0)	-90 (334)	-13.1 (48.8)	-103.0 (381.0)	-80.9 (300.0)
5	10 (8)	13 (13)	16 (6)	64 (209)	9.3 (30.6)	75.8 (250.0)	59.7 (196.0)	100 (112)	14.6 (16.3)	115.0 (128.0)	90.2 (101.0)
6	16 (14)	17 (9)	21 (7)	9 (376)	1.3 (55.0)	10.2 (449.0)	8.0 (353.0)	84 (338)	12.2 (49.4)	96.1 (388.0)	75.6 (305.0)
7	11 (16)	13 (6)	17 (5)	36 (368)	5.3 (53.7)	43.4 (438.0)	34.2 (345.0)	110 (358)	16.1 (52.2)	126.0 (410.0)	99.1 (323.0)
8	12 (26)	13 (7)	19 (15)	17 (582)	2.5 (85.0)	20.4 (693.0)	16.1 (545.0)	140 (615)	20.5 (89.8)	160.0 (704.0)	126.0 (554.0)
9	18 (18)	14 (10)	23 (65)	-87 (340)	-12.7 (49.6)	-103.0 (404.0)	-81.2 (318.0)	91 (889)	13.3 (130.0)	104.0 (1020.0)	82.2 (802.0)
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20	65 (98)	35 (12)	43 (16)	-680 (2240)	-99.3 (328.0)	-798.0 (2630.0)	-629.0 (2070.0)	-524 (2320)	-76.5 (339.0)	-607.0 (2690.0)	-478.0 (2120.0)
21	32 (12)	33 (13)	40 (14)	15 (380)	2.1 (55.6)	17.2 (445.0)	13.5 (351.0)	196 (377)	28.7 (55.1)	225.0 (432.0)	177.0 (340.0)
22	40 (13)	32 (8)	43 (18)	-184 (258)	-27.0 (37.7)	-216.0 (302.0)	-170.0 (238.0)	46 (382)	6.7 (55.8)	52.6 (438.0)	41.4 (345.0)
23	27 (7)	29 (25)	43 (23)	93 (586)	13.6 (85.7)	108.0 (685.0)	85.4 (539.0)	359 (482)	52.5 (70.4)	412.0 (552.0)	324.0 (435.0)
24	31 (12)	30 (6)	32 (7)	-34 (269)	-5.0 (39.4)	-40.0 (314.0)	-31.5 (247.0)	16 (299)	2.4 (43.7)	18.6 (343.0)	14.6 (270.0)
25											
26											
27											
28											
29											
30											
Avg	33	27	33	-139	-20.3	-164.00	-129.00	-10	-1	-11.1	-8.71
n	14	14	14	14	14	14	14	14	14	14	14
SD	20.4	12.7	14.2	217.0	31.8	256.00	202.00	221.0	32.3	254.0	200.00
Min	10	13	16	-680	-99.3	-798.00	-629.00	-524	-77	-607.0	-478.00
Max	79	59	68	93	13.6	108.00	85.40	359	53	412.0	324.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for October, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14	13 (14)	14 (8)	18 (7)	18 (326)	2.6 (47.6)	21.0 (378.0)	16.5 (298.0)	104 (308)	15.3 (44.9)	122.0 (358.0)	95.8 (282.0)
15	12 (13)	16 (9)	19 (9)	79 (247)	11.5 (36.1)	93.2 (293.0)	73.4 (231.0)	145 (247)	21.2 (36.1)	169.0 (287.0)	133.0 (226.0)
16	9 (9)	19 (115)	17 (5)	217 (2520)	31.7 (368.0)	262.0 (3050.0)	206.0 (2400.0)	163 (209)	23.9 (30.5)	189.0 (242.0)	149.0 (190.0)
17	11 (10)	16 (17)	21 (8)	99 (406)	14.5 (59.3)	119.0 (487.0)	93.5 (384.0)	194 (258)	28.4 (37.8)	224.0 (298.0)	177.0 (235.0)
18	13 (14)	17 (21)	20 (6)	79 (547)	11.6 (79.9)	95.1 (656.0)	74.9 (516.0)	153 (307)	22.3 (44.9)	177.0 (356.0)	140.0 (280.0)
19	18 (5)	20 (24)	24 (7)	32 (520)	4.7 (76.0)	38.5 (624.0)	30.3 (492.0)	117 (165)	17.1 (24.1)	136.0 (191.0)	107.0 (151.0)
20	19 (16)	22 (18)	27 (12)	96 (413)	14.0 (60.3)	115.0 (496.0)	90.7 (391.0)	185 (283)	27.0 (41.4)	214.0 (328.0)	169.0 (259.0)
21	8 (11)	17 (8)	21 (10)	174 (277)	25.4 (40.5)	205.0 (328.0)	162.0 (258.0)	234 (231)	34.2 (33.7)	271.0 (267.0)	213.0 (210.0)
22	15 (7)	21 (8)	26 (11)	84 (196)	12.3 (28.7)	98.4 (229.0)	77.5 (181.0)	169 (199)	24.7 (29.1)	196.0 (231.0)	154.0 (182.0)
23	27 (13)	32 (15)	35 (15)	72 (297)	10.6 (43.4)	85.2 (351.0)	67.1 (276.0)	124 (331)	18.1 (48.3)	141.0 (377.0)	111.0 (297.0)
24											
25	10 (5)	15 (6)	18 (6)	79 (147)	11.5 (21.5)	92.0 (172.0)	72.4 (136.0)	141 (136)	20.7 (19.9)	160.0 (154.0)	126.0 (121.0)
26	27 (28)	21 (13)	24 (13)	-127 (547)	-18.6 (79.9)	-149.0 (641.0)	-117.0 (505.0)	-54 (525)	-7.8 (76.7)	-60.8 (595.0)	-47.9 (468.0)
27	9 (5)	30 (37)	24 (15)	290 (499)	42.3 (73.0)	339.0 (585.0)	267.0 (461.0)	213 (241)	31.1 (35.2)	241.0 (273.0)	190.0 (215.0)
28	10 (7)	12 (49)	20 (10)	21 (675)	3.1 (98.6)	23.7 (810.0)	18.6 (638.0)	123 (169)	18.0 (24.6)	140.0 (192.0)	110.0 (151.0)
29	20 (8)	25 (13)	39 (23)	55 (243)	8.1 (35.5)	68.1 (299.0)	53.6 (236.0)	287 (411)	42.0 (60.0)	331.0 (473.0)	261.0 (372.0)
30	48 (41)	38 (18)	50 (28)	-260 (591)	-38.0 (86.4)	-320.0 (730.0)	-252.0 (575.0)	-21 (470)	-3.0 (68.7)	-24.1 (544.0)	-19.0 (429.0)
31	52 (25)	52 (94)	50 (26)	-15 (2150)	-2.2 (315.0)	-18.2 (2630.0)	-14.3 (2070.0)	-55 (518)	-8.1 (75.7)	-66.6 (611.0)	-52.4 (481.0)
Avg	19	23	27	58	8.5	68.70	54.10	131	19	151.0	119.00
n	17	17	17	17	17	17	17	17	17	17	17
SD	12.7	10.0	10.3	119.0	17.4	143.00	113.00	92.3	13.5	107.0	83.90
Min	8	12	17	-260	-38.0	-320.00	-252.00	-55	-8	-66.6	-52.40
Max	52	52	50	290	42.3	339.00	267.00	287	42	331.0	261.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for November, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	42 (24)	36 (13)	39 (12)	-142 (390)	-20.8 (57.1)	-174.0 (477.0)	-137.0 (375.0)	-87 (395)	-12.8 (57.8)	-103.0 (468.0)	-81.2 (368.0)
2	40 (19)	35 (9)	39 (15)	-138 (354)	-20.1 (51.8)	-168.0 (433.0)	-133.0 (341.0)	-31 (371)	-4.5 (54.2)	-35.7 (434.0)	-28.1 (341.0)
3	53 (19)	49 (16)	51 (21)	-104 (363)	-15.2 (53.0)	-127.0 (443.0)	-99.9 (349.0)	-42 (407)	-6.1 (59.5)	-48.9 (476.0)	-38.5 (375.0)
4	50 (22)	43 (15)	50 (27)	-177 (397)	-25.8 (58.0)	-215.0 (484.0)	-169.0 (381.0)	-5 (538)	-0.7 (78.6)	-5.5 (630.0)	-4.3 (496.0)
5	48 (25)	48 (29)	65 (64)	-8 (435)	-1.1 (63.5)	-9.4 (529.0)	-7.4 (417.0)	385 (1080)	56.2 (158.0)	450.0 (1260.0)	354.0 (993.0)
6	41 (40)	30 (62)	56 (66)	-261 (1290)	-38.1 (189.0)	-318.0 (1580.0)	-250.0 (1240.0)	335 (908)	48.9 (133.0)	391.0 (1060.0)	308.0 (836.0)
7	12 (9)	19 (15)	21 (9)	109 (268)	15.9 (39.1)	133.0 (328.0)	105.0 (258.0)	148 (228)	21.6 (33.4)	174.0 (269.0)	137.0 (212.0)
8	7 (6)	27 (112)	22 (13)	234 (1330)	34.1 (194.0)	290.0 (1650.0)	228.0 (1300.0)	200 (193)	29.2 (28.2)	235.0 (227.0)	185.0 (179.0)
9	7 (5)	17 (11)	27 (19)	111 (129)	16.2 (18.9)	138.0 (162.0)	109.0 (127.0)	225 (220)	32.8 (32.1)	263.0 (258.0)	207.0 (203.0)
10	17 (12)	27 (13)	33 (19)	99 (155)	14.5 (22.6)	124.0 (194.0)	97.6 (153.0)	171 (206)	24.9 (30.1)	200.0 (242.0)	158.0 (191.0)
11	26 (5)	29 (11)	36 (17)	42 (134)	6.1 (19.6)	52.4 (167.0)	41.2 (132.0)	119 (200)	17.4 (29.2)	140.0 (235.0)	110.0 (185.0)
12	19 (5)	33 (91)	29 (12)	202 (1210)	29.6 (177.0)	249.0 (1490.0)	196.0 (1170.0)	180 (234)	26.3 (34.2)	211.0 (275.0)	166.0 (217.0)
13	20 (10)	20 (52)	23 (9)	-5 (1030)	-0.7 (150.0)	-6.1 (1270.0)	-4.8 (998.0)	65 (222)	9.5 (32.4)	76.7 (261.0)	60.4 (206.0)
14	14 (7)	21 (19)	23 (16)	129 (355)	18.8 (51.8)	159.0 (439.0)	125.0 (345.0)	185 (330)	27.1 (48.2)	225.0 (400.0)	177.0 (315.0)
15	7 (5)	15 (13)	21 (17)	110 (191)	16.0 (28.0)	136.0 (237.0)	107.0 (187.0)	196 (237)	28.6 (34.6)	235.0 (284.0)	185.0 (224.0)
16	8 (7)	17 (18)	22 (16)	106 (202)	15.4 (29.4)	131.0 (250.0)	103.0 (197.0)	158 (186)	23.1 (27.2)	184.0 (217.0)	145.0 (171.0)
17	8 (7)	17 (20)	24 (18)	86 (219)	12.5 (32.1)	106.0 (272.0)	83.7 (214.0)	161 (227)	23.6 (33.1)	188.0 (264.0)	148.0 (208.0)
18	11 (12)	17 (14)	32 (57)	68 (183)	9.9 (26.8)	83.4 (227.0)	65.7 (178.0)	187 (521)	27.3 (76.1)	217.0 (606.0)	171.0 (477.0)
19	20 (11)		29 (22)					109 (292)	16.0 (42.6)	127.0 (340.0)	100.0 (268.0)
20	11 (7)	14 (13)	26 (19)	30 (149)	4.5 (21.8)	36.5 (179.0)	28.7 (141.0)	168 (224)	24.5 (32.8)	196.0 (262.0)	154.0 (206.0)
21	9 (7)	22 (141)	35 (33)	124 (1390)	18.1 (203.0)	148.0 (1660.0)	117.0 (1310.0)	238 (312)	34.7 (45.6)	285.0 (372.0)	224.0 (293.0)
22	19 (6)	24 (15)	30 (14)	55 (162)	8.0 (23.6)	65.7 (194.0)	51.8 (153.0)	108 (133)	15.8 (19.4)	129.0 (159.0)	102.0 (125.0)
23	29 (6)	28 (16)	40 (21)	-13 (177)	-1.9 (25.8)	-15.8 (212.0)	-12.4 (167.0)	119 (289)	17.5 (42.3)	137.0 (332.0)	108.0 (261.0)
24	20 (9)		24 (9)					51 (124)	7.4 (18.1)	57.1 (140.0)	44.9 (110.0)
25	10 (6)		24 (23)					163 (305)	23.8 (44.5)	184.0 (345.0)	145.0 (272.0)
26	20 (6)	27 (12)	23 (10)	66 (142)	9.7 (20.7)	79.6 (171.0)	62.7 (134.0)	20 (118)	2.9 (17.2)	23.0 (135.0)	18.1 (107.0)
27	24 (10)	25 (10)	25 (12)	2 (138)	0.3 (20.1)	2.1 (167.0)	1.6 (132.0)	-7 (158)	-1.1 (23.1)	-8.4 (183.0)	-6.6 (144.0)
28	10 (6)	17 (10)	19 (12)	72 (124)	10.6 (18.1)	88.2 (151.0)	69.4 (119.0)	88 (138)	12.9 (20.2)	107.0 (168.0)	84.2 (132.0)
29	21 (9)	25 (18)	23 (12)	41 (210)	6.0 (30.7)	49.9 (258.0)	39.3 (203.0)	10 (133)	1.5 (19.5)	12.9 (163.0)	10.2 (129.0)
30	18 (5)	20 (9)	21 (10)	19 (94)	2.7 (13.8)	23.2 (117.0)	18.3 (92.4)	34 (113)	5.0 (16.5)	40.2 (134.0)	31.7 (105.0)
Avg	21	26	31	32	4.6	39.30	31.00	122	18	143.0	113.00
n	30	27	30	27	27	27	27	30	30	30	30
SD	13.6	9.4	11.3	112.0	16.3	137.00	108.00	106.0	15.5	125.0	98.20
Min	7	14	19	-261	-38.1	-318.00	-250.00	-87	-13	-103.0	-81.20
Max	53	49	65	234	34.1	290.00	228.00	385	56	450.0	354.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for December, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	9 (8)	13 (8)	15 (15)	43 (103)	6.2 (15.1)	52.6 (127.0)	41.4 (100.0)	65 (183)	9.5 (26.8)	76.6 (216.0)	60.3 (170.0)
2											
3											
4											
5	13 (7)	21 (31)	15 (14)	92 (358)	13.4 (52.4)	112.0 (435.0)	88.1 (343.0)	20 (141)	2.9 (20.6)	24.9 (172.0)	19.6 (135.0)
6	17 (9)	19 (12)	15 (11)	26 (143)	3.7 (20.9)	31.0 (174.0)	24.4 (137.0)	-14 (104)	-2.0 (15.2)	-16.0 (122.0)	-12.6 (96.3)
7	10 (5)	17 (12)	12 (10)	76 (138)	11.2 (20.1)	93.1 (168.0)	73.3 (132.0)	16 (101)	2.4 (14.8)	19.0 (119.0)	14.9 (93.7)
8	20 (5)		24 (8)					57 (108)	8.4 (15.8)	67.3 (127.0)	53.0 (100.0)
9	11 (5)		22 (8)					168 (121)	24.5 (17.7)	196.0 (141.0)	154.0 (111.0)
10	7 (5)										
11	19 (5)										
12	16 (4)										
13	16 (11)										
14	8 (7)										
15	16 (8)										
16	20 (7)										
17	19 (9)										
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30	15 (7)	11 (51)	-1 (115)	-39 (554)	-5.7 (80.9)	-49.0 (695.0)	-38.6 (547.0)	-167 (1410)	-24.4 (206.0)	-197.0 (1660.0)	-155.0 (1310.0)
31	12 (6)	15 (19)	17 (105)	35 (204)	5.2 (29.8)	44.2 (256.0)	34.8 (201.0)	50 (992)	7.4 (145.0)	59.3 (1170.0)	46.7 (920.0)
Avg	14	16	15	39	5.7	47.30	37.20	25	4	28.7	22.60
n	16	6	8	6	6	6	6	8	8	8	8
SD	4.3	3.6	7.2	41.9	6.1	51.40	40.50	88.1	12.9	103.0	81.40
Min	7	11	-1	-39	-5.7	-49.00	-38.60	-167	-24	-197.0	-155.00
Max	20	21	24	92	13.4	112.00	88.10	168	25	196.0	154.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for January, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	16 (8)	20 (18)	13 (105)	58 (204)	8.5 (29.7)	72.6 (255.0)	57.2 (201.0)	-29 (1420)	-4.2 (207.0)	-34.2 (1670.0)	-26.9 (1320.0)
2	17 (6)	22 (18)	29 (115)	64 (248)	9.4 (36.2)	80.3 (311.0)	63.2 (245.0)	161 (1670)	23.5 (243.0)	189.0 (1960.0)	149.0 (1550.0)
3	31 (8)	31 (16)	36 (149)	-16 (205)	-2.4 (29.9)	-20.5 (257.0)	-16.2 (202.0)	24 (2310)	3.5 (337.0)	27.3 (2730.0)	21.5 (2150.0)
4	18 (11)	11 (40)		-75 (451)	-11.0 (65.9)	-94.4 (565.0)	-74.3 (445.0)				
5											
6											
7											
8	22 (4)	24 (23)	25 (14)	19 (247)	2.7 (36.0)	23.2 (309.0)	18.3 (244.0)	28 (129)	4.1 (18.9)	33.3 (154.0)	26.2 (121.0)
9	29 (6)	28 (16)	30 (19)	-11 (217)	-1.6 (31.7)	-13.8 (272.0)	-10.9 (214.0)	11 (207)	1.6 (30.2)	12.8 (245.0)	10.1 (193.0)
10	17 (9)	18 (12)	20 (9)	7 (154)	1.0 (22.6)	8.3 (194.0)	6.6 (153.0)	39 (152)	5.7 (22.2)	45.8 (179.0)	36.1 (141.0)
11	14 (6)	7 (14)	18 (11)	-78 (167)	-11.4 (24.4)	-98.1 (210.0)	-77.2 (165.0)	36 (143)	5.3 (20.9)	42.9 (169.0)	33.7 (133.0)
12	27 (9)	18 (12)	26 (11)	-101 (171)	-14.8 (24.9)	-128.0 (215.0)	-100.0 (169.0)	6 (165)	0.9 (24.0)	7.7 (195.0)	6.0 (153.0)
13	13 (6)	4 (18)	15 (12)	-92 (196)	-13.4 (28.6)	-115.0 (246.0)	-90.4 (194.0)	11 (145)	1.6 (21.2)	12.8 (172.0)	10.1 (135.0)
14	18 (9)	15 (31)	29 (44)	-32 (272)	-4.7 (39.7)	-40.0 (340.0)	-31.5 (268.0)	102 (365)	14.8 (53.4)	120.0 (432.0)	94.5 (340.0)
15	16 (9)	19 (34)	33 (42)	33 (398)	4.8 (58.2)	41.2 (499.0)	32.5 (393.0)	159 (401)	23.3 (58.5)	188.0 (474.0)	148.0 (373.0)
16	17 (6)	21 (69)	41 (48)	65 (1260)	9.5 (183.0)	81.4 (1570.0)	64.1 (1240.0)	358 (717)	52.3 (105.0)	423.0 (847.0)	333.0 (667.0)
17	16 (7)	16 (20)	18 (20)	9 (408)	1.4 (59.6)	13.8 (506.0)	10.9 (399.0)	25 (306)	3.7 (44.7)	28.8 (365.0)	22.7 (287.0)
18	22 (4)	16 (16)	18 (12)	-89 (254)	-13.0 (37.2)	-110.0 (310.0)	-86.4 (244.0)	-62 (174)	-9.0 (25.5)	-74.8 (211.0)	-58.9 (166.0)
19	24 (6)	15 (15)		-144 (241)	-21.0 (35.2)	-181.0 (303.0)	-143.0 (239.0)				
20	24 (6)	20 (10)		-52 (150)	-7.6 (21.9)	-65.8 (190.0)	-51.8 (150.0)				
21	20 (6)	18 (11)	22 (16)	-32 (139)	-4.6 (20.3)	-40.0 (176.0)	-31.5 (139.0)	17 (184)	2.5 (26.9)	20.4 (220.0)	16.1 (173.0)
22	32 (7)	22 (9)	24 (12)	-131 (148)	-19.1 (21.6)	-166.0 (187.0)	-130.0 (147.0)	-110 (180)	-16.1 (26.3)	-132.0 (216.0)	-104.0 (170.0)
23	30 (13)	23 (15)	25 (13)	-94 (161)	-13.7 (23.5)	-119.0 (203.0)	-93.5 (160.0)	-77 (171)	-11.3 (24.9)	-95.0 (211.0)	-74.8 (166.0)
24	11 (6)	14 (10)	17 (12)	26 (114)	3.8 (16.7)	32.7 (144.0)	25.8 (114.0)	52 (117)	7.6 (17.1)	64.2 (144.0)	50.6 (113.0)
25	15 (5)	20 (15)	22 (15)	52 (172)	7.6 (25.1)	65.8 (216.0)	51.8 (170.0)	61 (162)	8.8 (23.6)	71.6 (191.0)	56.4 (151.0)
26	22 (5)	21 (14)	24 (17)	-9 (136)	-1.4 (19.9)	-11.7 (171.0)	-9.2 (135.0)	19 (145)	2.7 (21.2)	22.0 (171.0)	17.4 (135.0)
27	26 (6)	22 (12)	25 (11)	-49 (127)	-7.1 (18.5)	-61.9 (160.0)	-48.7 (126.0)	-12 (108)	-1.8 (15.8)	-14.3 (128.0)	-11.2 (101.0)
28	23 (6)	17 (10)	21 (14)	-63 (105)	-9.2 (15.3)	-79.3 (132.0)	-62.5 (104.0)	-22 (140)	-3.2 (20.5)	-25.9 (166.0)	-20.4 (131.0)
29	18 (7)	17 (12)	20 (13)	-10 (136)	-1.4 (19.8)	-12.4 (172.0)	-9.8 (135.0)	21 (148)	3.1 (21.7)	25.2 (178.0)	19.8 (140.0)
30	18 (4)	16 (11)	20 (12)	-23 (125)	-3.4 (18.3)	-29.6 (159.0)	-23.3 (125.0)	20 (107)	2.9 (15.7)	23.8 (129.0)	18.7 (101.0)
31	18 (7)	19 (10)	22 (13)	8 (128)	1.2 (18.7)	10.6 (162.0)	8.3 (128.0)	50 (172)	7.4 (25.1)	59.5 (203.0)	46.9 (160.0)
Avg	20	18	24	-27	-4.0	-34.10	-26.90	36	5	41.7	32.90
n	28	28	25	28	28	28	28	25	25	25	25
SD	5.5	5.3	6.5	57.7	8.4	72.60	57.20	88.8	13.0	105.0	82.90
Min	11	4	13	-144	-21.0	-181.00	-143.00	-110	-16	-132.0	-104.00
Max	32	31	41	65	9.5	81.40	64.10	358	52	423.0	333.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for February, 2009.

Day	Concentration, $\mu g \cdot dsm^{-3}$			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	$g \cdot d^{-1}$	$mg \cdot d^{-1} m^{-2}$	$mg \cdot d^{-1} hd^{-1}$	$mg \cdot d^{-1} AU^{-1}$	$g \cdot d^{-2}$	$mg \cdot d^{-1} m^{-3}$	$mg \cdot d^{-1} hd^{-2}$	$mg \cdot d^{-1} AU^{-2}$
1	8 (4)	12 (9)	14 (10)	64 (146)	9.3 (21.3)	80.5 (185.0)	63.4 (146.0)	113 (188)	16.5 (27.5)	133.0 (223.0)	105.0 (176.0)
2											
3											
4											
5											
6											
7											
8											
9											
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11											
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18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
Avgn	1	1	1	1	1	1	1	1	1	1	1
SD											
Min											
Max											

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for March, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4	20 (5)	23 (35)	46 (101)	29 (548)	4.2 (80.0)	35.2 (672.0)	27.7 (529.0)	504 (2290)	73.6 (334.0)	583.0 (2650.0)	459.0 (2080.0)
5	22 (8)	22 (22)	31 (18)	-6 (461)	-0.9 (67.4)	-8.2 (588.0)	-6.5 (463.0)	200 (368)	29.3 (53.8)	231.0 (425.0)	182.0 (335.0)
6	23 (14)	19 (18)	30 (19)	-100 (405)	-14.6 (59.1)	-126.0 (515.0)	-98.8 (406.0)	155 (422)	22.6 (61.7)	179.0 (489.0)	141.0 (385.0)
7	20 (11)	16 (21)	25 (14)	-84 (449)	-12.2 (65.6)	-103.0 (554.0)	-81.2 (436.0)	118 (309)	17.3 (45.1)	137.0 (358.0)	108.0 (282.0)
8	3 (8)	4 (17)	16 (55)	23 (370)	3.4 (54.0)	28.7 (456.0)	22.6 (359.0)	277 (1150)	40.5 (168.0)	322.0 (1340.0)	254.0 (1050.0)
9	7 (5)	12 (8)	21 (13)	115 (177)	16.8 (25.8)	142.0 (218.0)	112.0 (172.0)	293 (284)	42.9 (41.5)	341.0 (330.0)	269.0 (260.0)
10	12 (10)	17 (12)	23 (41)	115 (263)	16.8 (38.5)	142.0 (325.0)	112.0 (256.0)	264 (902)	38.5 (132.0)	307.0 (1050.0)	241.0 (826.0)
11	6 (7)	13 (13)	20 (12)	98 (184)	14.4 (26.9)	122.0 (228.0)	95.8 (180.0)	189 (163)	27.6 (23.8)	219.0 (190.0)	172.0 (149.0)
12	7 (7)	17 (9)	25 (14)	117 (132)	17.1 (19.3)	145.0 (164.0)	115.0 (129.0)	207 (162)	30.3 (23.7)	239.0 (187.0)	188.0 (147.0)
13	7 (7)	20 (10)	28 (22)	192 (172)	28.1 (25.2)	239.0 (215.0)	188.0 (169.0)	321 (325)	46.9 (47.6)	370.0 (375.0)	292.0 (296.0)
14	10 (7)	22 (11)	26 (11)	212 (226)	31.0 (33.1)	264.0 (282.0)	208.0 (222.0)	312 (237)	45.6 (34.7)	361.0 (274.0)	284.0 (216.0)
15	7 (10)	23 (14)	28 (17)	313 (302)	45.7 (44.1)	390.0 (377.0)	307.0 (297.0)	456 (354)	66.6 (51.7)	528.0 (410.0)	416.0 (323.0)
16	12 (16)	28 (11)	33 (16)	335 (299)	49.0 (43.6)	419.0 (373.0)	330.0 (294.0)	470 (431)	68.7 (63.0)	546.0 (501.0)	430.0 (395.0)
17	21 (6)	29 (9)	35 (14)	180 (229)	26.3 (33.5)	224.0 (285.0)	176.0 (224.0)	304 (328)	44.5 (48.0)	352.0 (380.0)	277.0 (299.0)
18	17 (10)	22 (8)	31 (19)	114 (284)	16.6 (41.4)	139.0 (349.0)	110.0 (275.0)	327 (505)	47.8 (73.8)	377.0 (581.0)	297.0 (458.0)
19	6 (11)	20 (10)	25 (13)	251 (214)	36.7 (31.3)	317.0 (269.0)	250.0 (212.0)	377 (337)	55.0 (49.3)	433.0 (388.0)	341.0 (305.0)
20	4 (9)		39 (44)					577 (815)	84.4 (119.0)	664.0 (938.0)	523.0 (738.0)
21	16 (7)	22 (14)	40 (21)	119 (336)	17.5 (49.0)	145.0 (407.0)	114.0 (321.0)	493 (454)	72.0 (66.3)	567.0 (522.0)	446.0 (411.0)
22	25 (11)	33 (14)	44 (22)	174 (363)	25.4 (53.0)	212.0 (442.0)	167.0 (348.0)	401 (518)	58.7 (75.8)	461.0 (596.0)	363.0 (469.0)
23											
24											
25											
26											
27											
28											
29											
30											
31	5 (12)		27 (13)					490 (261)	71.6 (38.1)	559.0 (297.0)	440.0 (234.0)
Avg	13	20	30	122	17.8	151.00	119.00	337	49	389.0	306.00
n	20	18	20	18	18	18	18	20	20	20	20
SD	7.2	6.5	7.7	117.0	17.0	146.00	115.00	127.0	18.5	146.0	115.00
Min	3	4	16	-100	-14.6	-126.00	-98.80	118	17	137.0	108.00
Max	25	33	46	335	49.0	419.00	330.00	577	84	664.0	523.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for April, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	-1 (8)		23 (12)					509 (307)	74.4 (44.9)	586.0 (353.0)	462.0 (278.0)
2	1 (8)		24 (10)					510 (256)	74.5 (37.4)	590.0 (296.0)	465.0 (233.0)
3	-2 (7)		20 (5)					466 (180)	68.1 (26.3)	537.0 (208.0)	423.0 (164.0)
4	-2 (9)		20 (14)					451 (320)	65.9 (46.8)	521.0 (370.0)	410.0 (291.0)
5	-3 (7)		15 (8)					392 (197)	57.3 (28.8)	455.0 (228.0)	358.0 (180.0)
6	-5 (7)		17 (9)					412 (189)	60.2 (27.6)	478.0 (220.0)	377.0 (173.0)
7	-3 (5)		24 (20)					503 (403)	73.5 (58.9)	581.0 (465.0)	458.0 (366.0)
8	1 (7)		26 (11)					466 (253)	68.0 (37.0)	536.0 (291.0)	422.0 (229.0)
9	11 (10)	31 (14)	31 (11)	419 (304)	61.2 (44.5)	504.0 (366.0)	397.0 (289.0)	383 (235)	55.9 (34.3)	453.0 (280.0)	357.0 (220.0)
10	1 (8)	22 (12)	26 (13)	463 (262)	67.6 (38.2)	557.0 (315.0)	438.0 (248.0)	501 (281)	73.1 (41.0)	592.0 (334.0)	466.0 (263.0)
11	-4 (8)	16 (6)	20 (8)	358 (175)	52.4 (25.6)	430.0 (210.0)	339.0 (166.0)	422 (209)	61.6 (30.5)	484.0 (240.0)	381.0 (189.0)
12	3 (31)	18 (7)	23 (12)	252 (682)	36.7 (99.7)	302.0 (819.0)	238.0 (645.0)	326 (682)	47.6 (99.7)	374.0 (781.0)	294.0 (615.0)
13	-4 (5)	22 (11)	25 (9)	489 (229)	71.5 (33.4)	588.0 (275.0)	463.0 (216.0)	485 (193)	70.8 (28.2)	553.0 (220.0)	436.0 (174.0)
14	2 (4)	19 (5)	24 (10)	338 (114)	49.3 (16.6)	408.0 (137.0)	321.0 (108.0)	392 (171)	57.3 (25.0)	454.0 (198.0)	357.0 (156.0)
15	1 (7)	19 (7)	24 (12)	373 (205)	54.5 (30.0)	452.0 (248.0)	356.0 (196.0)	444 (296)	64.9 (43.2)	520.0 (346.0)	410.0 (273.0)
16	9 (11)	24 (8)	27 (12)					315 (247)	46.1 (36.1)	368.0 (288.0)	290.0 (227.0)
17											
18											
19											
20											
21	-2 (5)	11 (5)	16 (8)					236 (116)	34.4 (16.9)	272.0 (134.0)	214.0 (106.0)
22	6 (9)	17 (7)	22 (9)					226 (179)	33.0 (26.2)	257.0 (203.0)	202.0 (160.0)
23	8 (6)	20 (7)	25 (10)					321 (201)	46.9 (29.4)	364.0 (228.0)	287.0 (180.0)
24	22 (10)	23 (8)	26 (6)	11 (271)	1.6 (39.6)	13.5 (326.0)	10.6 (256.0)	77 (237)	11.2 (34.7)	87.6 (271.0)	69.0 (213.0)
25	16 (16)	19 (8)	23 (8)	54 (357)	7.9 (52.2)	64.7 (429.0)	51.0 (338.0)	152 (364)	22.2 (53.2)	173.0 (416.0)	137.0 (327.0)
26	22 (16)	24 (7)	27 (8)	26 (330)	3.9 (48.2)	31.7 (396.0)	25.0 (312.0)	91 (306)	13.3 (44.8)	104.0 (350.0)	81.7 (276.0)
27	18 (17)	22 (8)	26 (12)	98 (294)	14.4 (42.9)	118.0 (352.0)	92.8 (277.0)	172 (282)	25.1 (41.2)	196.0 (323.0)	155.0 (254.0)
28	-1 (5)	13 (6)	16 (8)	331 (148)	48.3 (21.7)	397.0 (178.0)	313.0 (140.0)	385 (171)	56.3 (25.0)	441.0 (196.0)	347.0 (154.0)
29	16 (7)	24 (8)	25 (6)	176 (170)	25.8 (24.8)	213.0 (205.0)	167.0 (161.0)	209 (156)	30.5 (22.8)	239.0 (179.0)	189.0 (141.0)
30	16 (16)	17 (14)	21 (14)								
Avg	5	20	23	261	38.1	314.00	247.00	354	52	409.0	322.00
n	26	18	26	13	13	13	13	25	25	25	25
SD	8.4	4.5	3.8	163.0	23.8	196.00	154.00	133.0	19.4	154.0	122.00
Min	-5	11	15	11	1.6	13.50	10.60	77	11	87.6	69.00
Max	22	31	31	489	71.5	588.00	463.00	510	75	592.0	466.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for May, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	5 (6)	13 (6)	16 (6)								
2	10 (8)	22 (9)	20 (6)	277 (187)	40.5 (27.4)	332.0 (225.0)	261.0 (177.0)	216 (216)	31.6 (31.6)	249.0 (249.0)	196.0 (196.0)
3	16 (9)	26 (12)	25 (8)	217 (332)	31.6 (48.5)	259.0 (397.0)	204.0 (312.0)	208 (257)	30.4 (37.5)	240.0 (295.0)	189.0 (233.0)
4	26 (10)	34 (12)	37 (16)	172 (323)	25.2 (47.2)	206.0 (386.0)	162.0 (304.0)	232 (372)	33.9 (54.3)	267.0 (428.0)	210.0 (337.0)
5	24 (9)	25 (12)	41 (14)	54 (352)	7.9 (51.4)	64.8 (420.0)	51.0 (331.0)	393 (277)	57.5 (40.5)	456.0 (322.0)	359.0 (253.0)
6	34 (15)	31 (13)	42 (17)	-58 (361)	-8.5 (52.8)	-69.5 (431.0)	-54.7 (339.0)	181 (410)	26.4 (59.9)	211.0 (478.0)	166.0 (376.0)
7	14 (12)	17 (12)	24 (14)	84 (316)	12.2 (46.2)	99.7 (378.0)	78.5 (297.0)	232 (334)	33.9 (48.9)	278.0 (401.0)	219.0 (315.0)
8	6 (7)	14 (7)	18 (6)	180 (204)	26.4 (29.8)	217.0 (245.0)	171.0 (193.0)	262 (172)	38.3 (25.1)	316.0 (208.0)	249.0 (164.0)
9	3 (9)	13 (7)	18 (6)	230 (197)	33.6 (28.8)	279.0 (239.0)	220.0 (188.0)	319 (203)	46.7 (29.6)	379.0 (240.0)	298.0 (189.0)
10	8 (10)	15 (8)	20 (9)	153 (223)	22.4 (32.6)	186.0 (272.0)	147.0 (214.0)	237 (203)	34.6 (29.6)	280.0 (240.0)	221.0 (189.0)
11	10 (12)	19 (10)	27 (19)	180 (298)	26.2 (43.5)	219.0 (363.0)	172.0 (286.0)	336 (361)	49.0 (52.7)	398.0 (427.0)	313.0 (336.0)
12	16 (11)	23 (9)	29 (11)	143 (258)	20.9 (37.7)	174.0 (315.0)	137.0 (248.0)	260 (263)	38.1 (38.5)	309.0 (313.0)	244.0 (246.0)
13	11 (9)	38 (35)	22 (15)	673 (916)	98.3 (134.0)	832.0 (1130.0)	655.0 (894.0)	254 (350)	37.0 (51.1)	305.0 (423.0)	240.0 (333.0)
14	18 (26)	11 (10)	18 (17)					-8 (650)	-1.1 (94.9)	-9.7 (792.0)	-7.6 (623.0)
15	8 (7)		16 (8)					171 (190)	25.0 (27.8)	207.0 (229.0)	163.0 (181.0)
16	12 (8)		19 (8)					147 (264)	21.5 (38.6)	176.0 (316.0)	138.0 (248.0)
17	7 (9)	14 (13)	23 (10)	148 (374)	21.6 (54.7)	184.0 (466.0)	145.0 (367.0)	296 (275)	43.3 (40.2)	354.0 (328.0)	279.0 (259.0)
18		19 (13)	28 (17)	202 (329)	29.5 (48.0)	251.0 (409.0)	198.0 (322.0)	364 (389)	53.2 (56.8)	431.0 (460.0)	340.0 (363.0)
19	23 (11)	27 (12)	30 (12)	68 (328)	9.9 (47.9)	84.0 (407.0)	66.1 (320.0)	148 (326)	21.6 (47.7)	174.0 (383.0)	137.0 (302.0)
20	42 (21)	34 (18)	42 (19)	-183 (608)	-26.7 (88.8)	-226.0 (753.0)	-178.0 (593.0)	-1 (548)	-0.1 (80.1)	-0.5 (640.0)	-0.4 (504.0)
21	31 (11)	26 (16)	33 (18)	-87 (353)	-12.7 (51.5)	-107.0 (436.0)	-84.4 (344.0)	43 (361)	6.3 (52.8)	50.1 (422.0)	39.4 (332.0)
22	32 (19)	23 (17)	34 (14)	-137 (493)	-20.1 (72.1)	-170.0 (610.0)	-134.0 (480.0)	57 (478)	8.4 (69.8)	67.7 (564.0)	53.3 (444.0)
23	51 (28)	43 (20)	52 (28)	-171 (559)	-25.1 (81.7)	-212.0 (691.0)	-167.0 (544.0)	22 (630)	3.2 (92.1)	26.1 (744.0)	20.6 (586.0)
24	36 (31)	30 (20)	36 (20)	-142 (597)	-20.7 (87.3)	-175.0 (738.0)	-138.0 (581.0)	-18 (641)	-2.7 (93.6)	-21.4 (757.0)	-16.8 (596.0)
25	23 (12)	23 (9)	31 (24)	-6 (323)	-0.9 (47.2)	-7.2 (400.0)	-5.7 (315.0)	178 (525)	26.0 (76.6)	210.0 (620.0)	165.0 (488.0)
26	22 (17)	26 (12)	30 (12)	95 (429)	13.9 (62.7)	118.0 (532.0)	92.7 (419.0)	205 (426)	29.9 (62.3)	243.0 (504.0)	191.0 (397.0)
27											
28											
29											
30											
31											
Avg	20	24	28	95	13.9	115.00	90.90	189	28	224.0	176.00
n	25	24	26	22	22	22	22	25	25	25	25
SD	12.4	8.3	9.4	187.0	27.3	230.00	181.00	115.0	16.8	136.0	107.00
Min	3	11	16	-183	-26.7	-226.00	-178.00	-18	-3	-21.4	-16.80
Max	51	43	52	673	98.3	832.00	655.00	393	58	456.0	359.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for June, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2		20 (9)	22 (10)	135 (215)	19.8 (31.4)	167.0 (266.0)	132.0 (209.0)	174 (228)	25.4 (33.3)	204.0 (267.0)	161.0 (210.0)
3		17 (17)	20 (10)	114 (418)	16.6 (61.1)	141.0 (519.0)	111.0 (409.0)	188 (307)	27.5 (44.8)	222.0 (361.0)	174.0 (284.0)
4	10 (14)	17 (9)	21 (17)	135 (269)	19.7 (39.3)	167.0 (334.0)	132.0 (263.0)	230 (438)	33.6 (64.0)	281.0 (535.0)	221.0 (421.0)
5	25 (13)	26 (16)	33 (28)	25 (417)	3.7 (60.9)	31.4 (517.0)	24.8 (407.0)	175 (605)	25.5 (88.4)	218.0 (743.0)	172.0 (585.0)
6	25 (9)	23 (8)	27 (17)	-55 (223)	-8.0 (32.6)	-67.7 (276.0)	-53.3 (218.0)	38 (387)	5.5 (56.6)	44.5 (458.0)	35.1 (361.0)
7	31 (9)	32 (10)	34 (12)	12 (260)	1.7 (38.0)	14.8 (323.0)	11.6 (254.0)	52 (294)	7.6 (42.9)	61.8 (348.0)	48.7 (274.0)
8	20 (14)	21 (11)	23 (14)	16 (297)	2.3 (43.4)	19.8 (368.0)	15.6 (290.0)	66 (344)	9.6 (50.3)	77.7 (408.0)	61.1 (321.0)
9	11 (8)	18 (9)	20 (11)	155 (197)	22.7 (28.8)	193.0 (246.0)	152.0 (193.0)	205 (252)	29.9 (36.9)	243.0 (300.0)	192.0 (236.0)
10	16 (13)	20 (17)	21 (12)	107 (435)	15.6 (63.6)	133.0 (542.0)	105.0 (427.0)	114 (271)	16.6 (39.6)	140.0 (334.0)	110.0 (263.0)
11	11 (10)	19 (14)	21 (15)	193 (277)	28.2 (40.4)	241.0 (345.0)	190.0 (272.0)	232 (305)	33.9 (44.5)	288.0 (377.0)	227.0 (297.0)
12	18 (13)	21 (68)	21 (14)	64 (1570)	9.3 (230.0)	78.6 (1950.0)	61.9 (1540.0)	70 (303)	10.2 (44.2)	82.5 (358.0)	65.0 (282.0)
13	16 (8)	21 (9)	23 (8)	118 (236)	17.2 (34.6)	145.0 (292.0)	114.0 (230.0)	153 (216)	22.3 (31.5)	181.0 (256.0)	143.0 (201.0)
14	11 (11)	18 (12)	21 (12)	160 (247)	23.4 (36.1)	197.0 (304.0)	155.0 (239.0)	222 (261)	32.4 (38.2)	263.0 (310.0)	207.0 (244.0)
15	19 (10)	20 (14)	25 (16)	6 (378)	0.8 (55.3)	6.4 (471.0)	5.0 (371.0)	125 (365)	18.3 (53.3)	150.0 (436.0)	118.0 (343.0)
16	33 (12)	31 (10)	37 (18)	-24 (300)	-3.5 (43.9)	-30.4 (383.0)	-23.9 (302.0)	112 (411)	16.3 (60.0)	135.0 (496.0)	106.0 (391.0)
17	31 (11)	30 (9)	34 (24)	-31 (217)	-4.5 (31.7)	-38.9 (277.0)	-30.6 (218.0)	55 (499)	8.1 (72.9)	66.5 (601.0)	52.4 (474.0)
18	42 (47)	25 (10)	29 (11)	-233 (823)	-34.1 (120.0)	-297.0 (1050.0)	-234.0 (826.0)	-222 (1000)	-32.4 (147.0)	-266.0 (1200.0)	-209.0 (949.0)
19	15 (20)	22 (17)	23 (15)	139 (379)	20.3 (55.3)	177.0 (482.0)	139.0 (380.0)	174 (390)	25.4 (56.9)	209.0 (468.0)	164.0 (369.0)
20	15 (9)	25 (13)	24 (24)	225 (283)	32.9 (41.3)	287.0 (360.0)	226.0 (284.0)	194 (535)	28.3 (78.2)	233.0 (644.0)	184.0 (507.0)
21	23 (60)	24 (12)	26 (26)	40 (1280)	5.8 (188.0)	51.2 (1650.0)	40.4 (1300.0)	58 (1400)	8.4 (205.0)	67.2 (1650.0)	52.9 (1300.0)
22	9 (8)	21 (8)	22 (13)	264 (220)	38.6 (32.2)	344.0 (287.0)	271.0 (226.0)	288 (318)	42.1 (46.5)	331.0 (366.0)	261.0 (288.0)
23	44 (16)	46 (19)	49 (19)	52 (379)	7.6 (55.3)	68.1 (494.0)	53.7 (389.0)	110 (339)	16.1 (49.6)	126.0 (390.0)	99.6 (307.0)
24		33 (14)	35 (14)								
25		26 (8)	29 (21)								
26	22 (17)	30 (14)	31 (16)					207 (439)	30.2 (64.1)	238.0 (505.0)	188.0 (398.0)
27	26 (20)	29 (8)	30 (19)	62 (430)	9.1 (62.8)	74.2 (511.0)	58.4 (403.0)	79 (611)	11.5 (89.2)	90.9 (705.0)	71.6 (555.0)
28	14 (8)	18 (8)	20 (16)	84 (215)	12.3 (31.4)	100.0 (255.0)	78.8 (201.0)	116 (369)	17.0 (53.9)	135.0 (427.0)	106.0 (336.0)
29	15 (14)	25 (19)	30 (35)	229 (421)	33.5 (61.5)	272.0 (500.0)	214.0 (393.0)	349 (651)	51.0 (95.2)	405.0 (755.0)	319.0 (595.0)
30	9 (9)	20 (10)	26 (59)	249 (301)	36.4 (44.1)	298.0 (360.0)	235.0 (284.0)	381 (1260)	55.7 (184.0)	446.0 (1480.0)	351.0 (1160.0)
Avg	20	24	27	86	12.6	107.00	84.00	146	21	173.0	136.00
n	25	29	29	26	26	26	26	27	27	27	27
SD	9.6	6.2	6.6	108.0	15.7	135.00	106.00	113.0	16.5	133.0	105.00
Min	9	17	20	-233	-34.1	-297.00	-234.00	-222	-32	-266.0	-209.00
Max	44	46	49	264	38.6	344.00	271.00	381	56	446.0	351.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for July, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	7 (7)	19 (9)	53 (155)	264 (241)	38.5 (35.1)	320.0 (291.0)	252.0 (229.0)	1080 (3680)	158.0 (538.0)	1270.0 (4310.0)	1000.0 (3400.0)
2	12 (9)	21 (12)	24 (44)	208 (281)	30.4 (41.1)	254.0 (343.0)	200.0 (270.0)	280 (981)	40.9 (143.0)	324.0 (1140.0)	255.0 (894.0)
3	25 (37)	115 (441)	56 (191)	2070 (9630)	302.0 (1410.0)	2530.0 (11800.0)	1990.0 (9280.0)	671 (4080)	98.0 (595.0)	777.0 (4720.0)	612.0 (3720.0)
4	14 (17)	19 (9)		117 (337)	17.1 (49.2)	140.0 (409.0)	110.0 (322.0)				
5	17 (8)	23 (7)		137 (225)	20.1 (32.9)	162.0 (267.0)	128.0 (210.0)				
6	14 (10)	23 (12)		219 (290)	32.0 (42.4)	259.0 (343.0)	204.0 (270.0)				
7	15 (13)	22 (8)	29 (21)					333 (552)	48.7 (80.7)	385.0 (639.0)	303.0 (503.0)
8	15 (14)	25 (14)	30 (20)					333 (465)	48.7 (67.9)	386.0 (539.0)	304.0 (424.0)
9	18 (9)	24 (12)	27 (29)					190 (656)	27.8 (95.8)	221.0 (763.0)	174.0 (601.0)
10	41 (19)	41 (14)	45 (27)	0 (339)	0.0 (49.5)	-0.4 (399.0)	-0.3 (315.0)	102 (606)	14.9 (88.5)	119.0 (707.0)	93.9 (557.0)
11	17 (16)	19 (12)	24 (29)	47 (260)	6.9 (38.0)	56.0 (307.0)	44.1 (242.0)	175 (691)	25.5 (101.0)	204.0 (808.0)	161.0 (636.0)
12	17 (17)	22 (9)	26 (29)	104 (388)	15.3 (56.7)	124.0 (459.0)	97.3 (361.0)	214 (742)	31.3 (108.0)	250.0 (868.0)	197.0 (683.0)
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25	6 (9)										
26	8 (8)										
27	16 (12)										
28											
29											
30											
31											
Avg	16	31	35	352	51.4	428.00	337.00	376	55	437.0	344.00
n	15	12	9	9	9	9	9	9	9	9	9
SD	8.1	26.0	12.2	613.0	89.5	750.00	591.00	294.0	42.9	344.0	271.00
Min	6	19	24	0	0.0	-0.35	-0.28	102	15	119.0	93.90
Max	41	115	56	2070	302.0	2530.00	1990.00	1080	158	1270.0	1000.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for August, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11	16 (17)	28 (29)	30 (20)	261 (595)	38.2 (86.9)	312.0 (711.0)	246.0 (560.0)	287 (499)	41.9 (72.9)	327.0 (568.0)	257.0 (448.0)
12	23 (46)	24 (18)	33 (27)	41 (1030)	6.0 (151.0)	48.8 (1230.0)	38.4 (965.0)	228 (1100)	33.3 (160.0)	260.0 (1250.0)	205.0 (982.0)
13	27 (18)	29 (17)	52 (47)	34 (476)	5.0 (69.5)	40.2 (575.0)	31.7 (453.0)	448 (749)	65.4 (109.0)	517.0 (867.0)	407.0 (683.0)
14	64 (46)	49 (30)	66 (63)	-323 (971)	-47.1 (142.0)	-385.0 (1170.0)	-303.0 (918.0)	25 (1440)	3.7 (211.0)	35.8 (1670.0)	28.2 (1320.0)
15	99 (110)	36 (15)	44 (30)	-1380 (2260)	-201.0 (330.0)	-1630.0 (2660.0)	-1280.0 (2100.0)	-1160 (2180)	-170.0 (319.0)	-1310.0 (2470.0)	-1030.0 (1940.0)
16	33 (21)	28 (22)	29 (56)	-89 (581)	-12.9 (84.9)	-105.0 (687.0)	-82.5 (541.0)	-81 (1180)	-11.9 (173.0)	-92.0 (1340.0)	-72.4 (1050.0)
17	20 (14)	24 (14)	28 (13)	98 (328)	14.4 (48.0)	117.0 (390.0)	92.0 (307.0)	178 (294)	26.0 (42.9)	202.0 (333.0)	159.0 (262.0)
18	15 (14)	22 (6)	26 (10)	138 (334)	20.2 (48.7)	163.0 (394.0)	128.0 (310.0)	214 (347)	31.3 (50.7)	243.0 (395.0)	192.0 (311.0)
19	15 (14)	24 (12)	29 (16)	205 (269)	30.0 (39.3)	241.0 (316.0)	189.0 (249.0)	295 (315)	43.1 (46.1)	335.0 (359.0)	264.0 (282.0)
20	8 (7)	16 (7)	18 (7)	184 (173)	26.9 (25.3)	216.0 (204.0)	170.0 (160.0)	211 (190)	30.9 (27.7)	241.0 (216.0)	190.0 (170.0)
21	7 (10)	16 (8)	21 (12)	215 (271)	31.4 (39.6)	253.0 (319.0)	199.0 (251.0)	292 (323)	42.7 (47.1)	333.0 (368.0)	262.0 (289.0)
22	5 (12)	17 (9)	21 (11)	268 (297)	39.2 (43.4)	317.0 (351.0)	249.0 (277.0)	327 (278)	47.7 (40.7)	371.0 (316.0)	292.0 (249.0)
23	4 (9)	14 (6)	17 (7)	223 (227)	32.6 (33.2)	264.0 (269.0)	208.0 (212.0)	264 (243)	38.6 (35.6)	300.0 (276.0)	236.0 (218.0)
24	8 (13)	16 (8)	19 (10)	197 (247)	28.7 (36.1)	232.0 (292.0)	183.0 (230.0)	231 (294)	33.7 (43.0)	262.0 (334.0)	206.0 (263.0)
25	22 (17)	26 (11)	29 (12)	102 (321)	14.9 (46.9)	121.0 (381.0)	95.3 (300.0)	148 (295)	21.7 (43.1)	169.0 (337.0)	133.0 (265.0)
26	22 (19)	26 (13)	31 (21)	118 (268)	17.3 (39.1)	140.0 (317.0)	110.0 (249.0)	212 (344)	31.0 (50.3)	241.0 (392.0)	190.0 (309.0)
27		15 (8)	28 (14)								
28		23 (10)	28 (10)								
29		18 (11)	21 (19)								
30		17 (8)	21 (11)								
31		21 (13)	27 (16)								
Avg	24	23	29	19	2.7	21.80	17.20	132	19	152.0	120.00
n	16	21	21	16	16	16	16	16	16	16	16
SD	23.9	8.0	11.5	388.0	56.7	458.00	361.00	354.0	51.7	400.0	315.00
Min	4	14	17	-1380	-201.0	-1630.00	-1280.00	-1160	-170	-1310.0	-1030.00
Max	99	49	66	268	39.2	317.00	249.00	448	65	517.0	407.00

Table F3. Daily means (SD) of house PM10 emission and concentration at Site IN5B for September, 2009.

Day	Concentration, μg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	16 (18)	23 (11)	32 (19)	162 (400)	23.7 (58.4)	190.0 (467.0)	149.0 (368.0)	304 (380)	44.5 (55.5)	343.0 (428.0)	270.0 (337.0)
2	23 (17)	36 (40)	33 (20)	297 (930)	43.5 (136.0)	348.0 (1090.0)	274.0 (857.0)	231 (533)	33.8 (77.9)	262.0 (605.0)	207.0 (476.0)
3	25 (13)	51 (60)	42 (20)	565 (1360)	82.6 (198.0)	661.0 (1590.0)	521.0 (1250.0)	347 (404)	50.6 (59.0)	392.0 (457.0)	309.0 (360.0)
4	31 (20)		41 (23)					201 (510)	29.3 (74.5)	228.0 (578.0)	179.0 (455.0)
5	34 (16)		40 (17)					131 (440)	19.2 (64.4)	149.0 (501.0)	117.0 (394.0)
6	26 (6)		32 (7)					124 (185)	18.1 (27.1)	141.0 (211.0)	111.0 (166.0)
7	24 (10)		34 (9)					213 (313)	31.2 (45.7)	242.0 (355.0)	191.0 (280.0)
8	26 (11)		33 (20)					165 (471)	24.2 (68.8)	188.0 (535.0)	148.0 (421.0)
9	25 (14)	30 (12)	33 (14)	115 (335)	16.8 (49.0)	131.0 (384.0)	103.0 (303.0)	173 (386)	25.3 (56.4)	195.0 (435.0)	154.0 (342.0)
10	37 (23)	34 (16)	36 (15)	-68 (431)	-9.9 (63.0)	-79.1 (503.0)	-62.3 (396.0)	-19 (409)	-2.7 (59.7)	-21.5 (469.0)	-17.0 (370.0)
11	25 (12)	28 (12)	34 (14)	74 (309)	10.7 (45.2)	85.7 (361.0)	67.5 (284.0)	181 (320)	26.5 (46.7)	207.0 (366.0)	163.0 (288.0)
12	27 (15)	29 (13)	34 (14)	32 (447)	4.7 (65.3)	37.3 (521.0)	29.4 (410.0)	134 (433)	19.6 (63.3)	151.0 (487.0)	119.0 (384.0)
13	18 (11)	23 (12)	26 (13)	111 (384)	16.2 (56.1)	129.0 (447.0)	102.0 (352.0)	179 (338)	26.1 (49.4)	201.0 (381.0)	158.0 (300.0)
14	55 (73)	44 (34)	58 (46)	-279 (1380)	-40.7 (202.0)	-324.0 (1610.0)	-255.0 (1270.0)	79 (1320)	11.5 (193.0)	88.6 (1490.0)	69.7 (1170.0)
15	88 (95)	69 (67)	74 (59)	-432 (1480)	-63.1 (216.0)	-503.0 (1720.0)	-396.0 (1360.0)	-312 (1440)	-45.6 (211.0)	-353.0 (1630.0)	-278.0 (1280.0)
16	41 (47)	32 (36)	42 (31)	-214 (925)	-31.3 (135.0)	-250.0 (1080.0)	-197.0 (850.0)	17 (726)	2.5 (106.0)	19.5 (814.0)	15.4 (641.0)
17	34 (32)	36 (37)	47 (39)	44 (752)	6.5 (110.0)	52.0 (880.0)	40.9 (693.0)	267 (671)	39.0 (98.0)	298.0 (750.0)	235.0 (591.0)
18	50 (53)	43 (58)	51 (61)	-148 (1170)	-21.6 (171.0)	-173.0 (1370.0)	-136.0 (1080.0)	10 (1070)	1.4 (156.0)	10.8 (1200.0)	8.5 (947.0)
19	18 (14)	19 (10)	24 (14)	27 (366)	3.9 (53.4)	31.2 (428.0)	24.6 (337.0)	131 (318)	19.2 (46.5)	148.0 (360.0)	117.0 (283.0)
20	20 (12)	22 (9)	27 (15)	40 (264)	5.9 (38.5)	47.0 (309.0)	37.0 (243.0)	125 (337)	18.2 (49.2)	141.0 (381.0)	111.0 (300.0)
21	23 (20)	20 (18)	22 (10)	-76 (563)	-11.1 (82.3)	-88.6 (660.0)	-69.8 (520.0)	-20 (419)	-3.0 (61.2)	-22.9 (473.0)	-18.0 (373.0)
22		32 (15)									
23		36 (13)									
24											
25											
26											
27											
28											
29											
30	8 (13)	23 (26)	25 (12)	293 (533)	42.8 (77.8)	345.0 (628.0)	272.0 (494.0)	290 (280)	42.4 (40.9)	337.0 (326.0)	266.0 (257.0)
Avg	31	33	37	32	4.7	37.60	29.60	134	20	152.0	120.00
n	22	19	22	17	17	17	17	22	22	22	22
SD	16.4	12.0	11.8	228.0	33.3	266.00	209.00	138.0	20.2	157.0	124.00
Min	8	19	22	-432	-63.1	-503.00	-396.00	-312	-46	-353.0	-278.00
Max	88	69	74	565	82.6	661.00	521.00	347	51	392.0	309.00

Table F4. PM2.5 concentration and emissions.

Table F4. Daily means (SD) of PM2.5 emission and concentrations at Site IN5B for January, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12	21 (6)	19 (36)	14 (13)	-33 (402)	-4.8 (59)	-39 479	-31.0 378	-76 (167)	-11.0 (24)	-88 193	-68.9 152
13	25 (10)	17 (12)	15 (12)	-102 (144)	-14.9 (21)	-122 171	-95.9 135	-110 (118)	-16.1 (17)	-129 139	-102.0 109
14	14 (4)		12 (10)					-22 (96)	-3.2 (14)	-26 113	-20.2 89
15	11 (6)										
16	14 (6)										
17	14 (5)	14 (6)	10 (8)	-19 (80)	-2.7 (12)	-22 95	-17.6 75	-45 (95)	-6.6 (14)	-52 109	-41.1 86
18	11 (9)										
19	9 (6)										
20	6 (6)										
21	9 (7)										
22	12 (7)										
23	15 (10)										
24	16 (10)										
25											
26											
27											
28											
29											
30											
31											
Avg	14	17	13	-51	-7.5	-61.20	-48.20	-63	-9	-73.6	-58.00
n	13	3	4	3	3	3	3	4	4	4	4
SD	4.9	2.2	2.2	36.4	5.3	43.40	34.20	33.0	4.8	38.8	30.60
Min	6	14	10	-102	-14.9	-122.00	-95.90	-110	-16	-129.0	-102.00
Max	25	19	15	-19	-2.7	-22.30	-17.60	-22	-3	-25.7	-20.20

Table F4. Daily means (SD) of PM2.5 emission and concentrations at Site IN5B for September, 2008.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
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	22 (10)	21 (12)	18 (7)	-30 (387)	-4.4 (57)	-35 450	-27.2 354	-97 (300)	-14.2 (44)	-115 352	-90.3 277
27	20 (17)	16 (44)	19 (6)	-89 (1040)	-13.1 (153)	-104 1220	-82.3 958	-17 (337)	-2.5 (49)	-19 402	-14.8 316
28	19 (18)	21 (11)	20 (11)	52 (402)	7.6 (59)	62 476	48.4 375	30 (395)	4.4 (58)	34 453	26.9 356
29											
30	6 (25)	7 (5)	6 (5)	31 (561)	4.5 (82)	36 663	28.5 522	-2 (531)	-0.2 (78)	-2 609	-1.4 480
Avg	17	16	16	-9	-1.3	-10.40	-8.16	-22	-3	-25.3	-19.90
n	4	4	4	4	4	4	4	4	4	4	4
SD	6.5	5.7	5.9	55.2	8.1	64.80	51.00	47.0	6.9	55.1	43.40
Min	6	7	6	-89	-13.1	-104.00	-82.30	-97	-14	-115.0	-90.30
Max	22	21	20	52	7.6	61.50	48.40	30	4	34.2	26.90

Table F4. Daily means (SD) of PM2.5 emission and concentrations at Site IN5B for February, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3	7 (5)	9 (8)	15 (10)	21 (105)	3.0 (15)	26 133	20.6 104	70 (105)	10.2 (15)	82 123	64.4 97
4	9 (7)	10 (9)	14 (10)	14 (114)	2.0 (17)	18 144	13.8 113	50 (113)	7.2 (17)	58 133	45.7 104
5	14 (8)	11 (14)	19 (14)	-32 (183)	-4.7 (27)	-41 232	-32.1 183	44 (143)	6.5 (21)	53 171	41.7 135
6	24 (6)	19 (8)	20 (13)	-77 (142)	-11.3 (21)	-96 178	-75.8 140	-65 (223)	-9.5 (33)	-78 268	-61.7 211
7	10 (6)	8 (5)	10 (8)	-26 (139)	-3.9 (20)	-33 172	-25.7 135	12 (218)	1.8 (32)	14 257	11.2 202
8	32 (12)	20 (9)	20 (8)	-205 (200)	-29.9 (29)	-253 246	-199.0 194	-245 (217)	-35.8 (32)	-289 257	-228.0 202
9	34 (12)	18 (15)	19 (10)	-330 (233)	-48.2 (34)	-407 288	-321.0 227	-305 (238)	-44.5 (35)	-361 282	-284.0 222
10	3 (4)	5 (6)	7 (6)	35 (161)	5.1 (24)	42 197	33.3 155	97 (167)	14.1 (24)	114 198	90.1 156
11	3 (10)	7 (10)	10 (11)	75 (271)	10.9 (40)	90 328	70.9 258	148 (292)	21.6 (43)	175 346	138.0 273
12		10 (8)	11 (7)								
13		13 (9)	15 (10)								
14		17 (9)	18 (8)								
15		13 (11)	15 (8)								
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
Avg	15	12	15	-59	-8.6	-72.60	-57.20	-22	-3	-25.8	-20.30
n	9	13	13	9	9	9	9	9	9	9	9
SD	11.3	4.6	4.1	123.0	17.9	151.00	119.00	147.0	21.4	173.0	137.00
Min	3	5	7	-330	-48.2	-407.00	-321.00	-305	-45	-361.0	-284.00
Max	34	20	20	75	10.9	90.10	70.90	148	22	175.0	138.00

Table F4. Daily means (SD) of PM2.5 emission and concentrations at Site IN5B for April, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18		22 (6)									
19	22 (9)	21 (8)									
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
Avg		22									
n	1	2	0	0	0	0	0	0	0	0	0
SD		0.7									
Min		21									
Max		22									

Table F4. Daily means (SD) of PM2.5 emission and concentrations at Site IN5B for July, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
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		10 (7)	14 (21)								
26		9 (3)	12 (13)								
27		12 (7)	16 (16)								
28		14 (7)	17 (11)								
29	6 (8)	15 (49)	13 (9)	208 (1100)	30.4 (160)	256 1350	202.0 1060	156 (285)	22.9 (42)	181 330	143.0 260
30	7 (7)	14 (17)	16 (17)	140 (448)	20.5 (66)	173 556	136.0 438	191 (387)	27.9 (57)	222 450	175.0 354
31	4 (9)	8 (9)	11 (12)	103 (271)	15.1 (40)	127 331	99.6 261	163 (312)	23.8 (46)	190 363	149.0 286
Avg	6	12	14	151	22.0	185.00	146.00	170	25	198.0	156.00
n	3	7	7	3	3	3	3	3	3	3	3
SD	1.5	2.5	2.1	43.4	6.3	53.60	42.20	15.0	2.2	17.5	13.80
Min	4	8	11	103	15.1	127.00	99.60	156	23	181.0	143.00
Max	7	15	17	208	30.4	256.00	202.00	191	28	222.0	175.00

Table F4. Daily means (SD) of PM2.5 emission and concentrations at Site IN5B for August, 2009.

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	6 (8)	12 (11)	15 (13)	150 (278)	21.9 (41)	184 341	145.0 268	203 (296)	29.7 (43)	237 346	187.0 272
2	4 (9)	8 (9)	10 (8)	84 (285)	12.3 (42)	103 349	81.1 275	126 (289)	18.4 (42)	147 337	116.0 265
3	10 (8)	15 (9)	17 (24)	110 (240)	16.1 (35)	135 294	107.0 232	148 (515)	21.6 (75)	172 601	136.0 473
4	10 (12)	16 (17)	16 (13)	132 (305)	19.3 (45)	162 375	128.0 295	132 (321)	19.3 (47)	156 377	123.0 297
5	8 (16)	7 (11)	12 (11)	0 (455)	-0.1 (67)	0 559	-0.3 440	131 (399)	19.1 (58)	158 482	125.0 379
6	6 (14)	11 (8)	15 (13)	105 (322)	15.3 (47)	129 395	101.0 311	178 (408)	26.0 (60)	211 483	166.0 381
7	10 (9)	16 (10)	19 (26)	137 (245)	20.1 (36)	167 298	132.0 235	207 (536)	30.2 (78)	240 621	189.0 489
8	18 (6)	22 (11)	23 (17)	99 (227)	14.5 (33)	119 273	93.7 215	120 (361)	17.5 (53)	139 419	110.0 330
9	19 (9)	21 (12)	23 (17)	42 (283)	6.1 (41)	50 341	39.3 269	83 (372)	12.1 (54)	96 432	75.8 340
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
Avg	10	14	17	95	13.9	117.00	91.80	148	22	173.0	136.00
n	9	9	9	9	9	9	9	9	9	9	9
SD	4.7	5.0	4.2	45.5	6.6	55.80	43.90	38.7	5.7	45.0	35.50
Min	4	7	10	0	-0.1	-0.43	-0.34	83	12	96.2	75.80
Max	19	22	23	150	21.9	184.00	145.00	207	30	240.0	189.00

Table F5. TSP concentration and emissions.

Table F5. Daily means (SD) of house TSP emission at Site IN5B for November, 2007

Day	Concentration, μg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5											
6	16 (6)	46 (23)	116 (76)	384 (273)	56 (40)	455.00 (324.00)	358.00 (255.00)	1230 (923)	179 (135)	1410.00 (1060.00)	1110.00 (836.00)
7	25 (21)	41 (18)	120 (84)	165 (284)	24 (42)	196.00 (337.00)	154.00 (265.00)	1140 (1030)	166 (151)	1310.00 (1190.00)	1030.00 (937.00)
8	47 (17)	40 (15)	109 (67)	-120 (266)	-18 (39)	-142.00 (315.00)	-112.00 (248.00)	931 (1040)	136 (152)	1070.00 (1200.00)	844.00 (942.00)
9	52 (11)	59 (45)	121 (60)	101 (693)	15 (101)	120.00 (823.00)	94.20 (648.00)	972 (980)	142 (143)	1130.00 (1140.00)	892.00 (899.00)
10	43 (21)	35 (13)	103 (49)	-158 (376)	-23 (55)	-188.00 (448.00)	-148.00 (353.00)	837 (687)	122 (100)	979.00 (803.00)	771.00 (633.00)
11	27 (7)	28 (31)	67 (50)					598 (709)	87 (104)	695.00 (824.00)	547.00 (649.00)
12	34 (6)	27 (20)	45 (18)					248 (377)	36 (55)	289.00 (438.00)	228.00 (345.00)
13	32 (19)	21 (11)	55 (21)					441 (499)	64 (73)	513.00 (581.00)	404.00 (458.00)
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
Avg	34	37	92	74	10.9	87.90	69.20	799	117	925.0	728.00
n	8	8	8	5	5	5	5	8	8	8	8
SD	11.4	11.2	29.1	198.0	29.0	235.00	185.00	320.0	46.7	367.0	289.00
Min	16	21	45	-158	-23.1	-188.00	-148.00	248	36	289.0	228.00
Max	52	59	121	384	56.1	455.00	358.00	1230	179	1410.0	1110.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for January, 2008

Day	Concentration, μg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5	21 (10)	22 (8)	29 (13)	-5 (150)	-1 (22)	-6.79 (179.00)	-5.34 (141.00)	66 (178)	10 (26)	76.10 (204.00)	59.90 (161.00)
6	26 (14)	18 (7)	20 (7)	-128 (193)	-19 (28)	-154.00 (232.00)	-121.00 (183.00)	-89 (240)	-13 (35)	-101.00 (273.00)	-79.20 (215.00)
7	15 (7)	16 (11)	18 (7)	24 (233)	4 (34)	29.10 (283.00)	22.90 (223.00)	60 (202)	9 (30)	68.80 (232.00)	54.20 (183.00)
8	6 (6)	15 (11)	19 (12)	150 (204)	22 (30)	179.00 (244.00)	141.00 (192.00)	235 (216)	34 (32)	270.00 (249.00)	212.00 (196.00)
9	19 (8)										
10	24 (8)										
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
Avg	19	18	21	10	1.5	12.00	9.41	68	10	78.5	61.80
n	6	4	4	4	4	4	4	4	4	4	4
SD	6.5	2.5	4.3	98.6	14.4	118.00	93.20	115.0	16.7	131.0	103.00
Min	6	15	18	-128	-18.6	-154.00	-121.00	-89	-13	-101.0	-79.20
Max	26	22	29	150	21.9	179.00	141.00	235	34	270.0	212.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for March, 2008

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21		61 (39)									
22		56 (40)	50 (45)								
23		76 (57)	70 (51)								
24		72 (57)	65 (55)								
25		63 (37)	71 (83)								
26		58 (41)	65 (47)								
27											
28											
29											
30											
31											
Avg		64	64								
n	0	6	5	0	0	0	0	0	0	0	0
SD		7.2	7.4								
Min		56	50								
Max		76	71								

Table F5. Daily means (SD) of house TSP emission at Site IN5B for April, 2008

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-}
1											
2											
3	30 (17)										
4	19 (16)										
5	26 (11)										
6	34 (10)										
7	25 (21)										
8	47 (61)										
9	16 (15)										
10	39 (19)										
11	20 (31)										
12	6 (4)										
13	8 (6)										
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
Avg	24										
n	11	0	0	0	0	0	0	0	0	0	0
SD	12.1										
Min	6										
Max	47										

Table F5. Daily means (SD) of house TSP emission at Site IN5B for June, 2008

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17	25 (14)	47 (24)		497 (634)	73 (93)	596.00 (760.00)	470.00 (598.00)				
18	41 (24)	61 (37)		450 (854)	66 (125)	540.00 (1030.00)	425.00 (807.00)				
19	46 (26)	48 (25)		42 (774)	6 (113)	50.80 (929.00)	40.00 (731.00)				
20	43 (17)	47 (24)		90 (603)	13 (88)	107.00 (723.00)	84.40 (569.00)				
21											
22	28 (12)	35 (22)		157 (613)	23 (90)	189.00 (736.00)	149.00 (580.00)				
23	33 (18)	39 (18)		136 (631)	20 (92)	164.00 (758.00)	129.00 (597.00)				
24											
25											
26											
27											
28											
29											
30											
Avg	36	46		229	33.4	274.00	216.00				
n	6	6	0	6	6	6	6	0	0	0	0
SD	7.8	8.1		177.0	25.9	213.00	168.00				
Min	25	35		42	6.2	50.80	40.00				
Max	46	61		497	72.7	596.00	470.00				

Table F5. Daily means (SD) of house TSP emission at Site IN5B for September, 2008

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11	55 (36)	62 (28)	59 (27)	148 (650)	22 (95)	177.00 (775.00)	139.00 (610.00)	75 (480)	11 (70)	86.30 (552.00)	68.00 (435.00)
12	17 (13)	22 (14)	25 (13)	100 (211)	15 (31)	119.00 (250.00)	93.90 (197.00)	156 (197)	23 (29)	179.00 (226.00)	141.00 (178.00)
13	26 (15)	24 (11)	28 (11)	-37 (387)	-5 (57)	-44.30 (458.00)	-34.90 (361.00)	54 (378)	8 (55)	62.40 (434.00)	49.10 (342.00)
14	11 (17)	14 (16)	18 (10)	74 (530)	11 (77)	88.20 (630.00)	69.50 (496.00)	154 (440)	23 (64)	179.00 (510.00)	141.00 (401.00)
15	15 (10)	25 (18)	28 (10)	227 (466)	33 (68)	271.00 (558.00)	214.00 (439.00)	300 (321)	44 (47)	351.00 (374.00)	276.00 (295.00)
16	16 (12)	31 (25)	33 (19)	353 (637)	52 (93)	422.00 (761.00)	332.00 (600.00)	409 (500)	60 (73)	478.00 (584.00)	376.00 (460.00)
17	20 (13)	33 (12)	32 (11)	296 (497)	43 (73)	353.00 (594.00)	278.00 (468.00)	281 (410)	41 (60)	329.00 (479.00)	259.00 (377.00)
18		24 (10)	30 (12)								
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
Avg	23	29	32	166	24.2	198.00	156.00	204	30	238.0	187.00
n	7	8	8	7	7	7	7	7	7	7	7
SD	13.9	13.5	11.1	125.0	18.3	150.00	118.00	120.0	17.6	141.0	111.00
Min	11	14	18	-37	-5.5	-44.30	-34.90	54	8	62.4	49.10
Max	55	62	59	353	51.6	422.00	332.00	409	60	478.0	376.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for October, 2008

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2	6 (7)	7 (13)	10 (4)	25 (317)	4 (46)	29.80 (372.00)	23.40 (293.00)	73 (170)	11 (25)	83.20 (195.00)	65.50 (153.00)
3	3 (6)	8 (13)	10 (4)	96 (292)	14 (43)	113.00 (348.00)	89.40 (274.00)	140 (156)	20 (23)	159.00 (178.00)	125.00 (140.00)
4	5 (9)	8 (16)	10 (4)	34 (415)	5 (61)	40.60 (497.00)	32.00 (391.00)	84 (214)	12 (31)	94.70 (241.00)	74.60 (190.00)
5	9 (8)	10 (12)	14 (5)	10 (350)	1 (51)	12.00 (420.00)	9.48 (331.00)	88 (200)	13 (29)	100.00 (228.00)	78.80 (179.00)
6	13 (8)	10 (9)	16 (6)	-25 (269)	-4 (39)	-29.10 (320.00)	-22.90 (252.00)	102 (158)	15 (23)	118.00 (183.00)	92.60 (144.00)
7	17 (9)	14 (18)	18 (7)	-80 (398)	-12 (58)	-93.70 (466.00)	-73.80 (367.00)	28 (186)	4 (27)	31.90 (216.00)	25.10 (170.00)
8	11 (10)	8 (9)	13 (6)	-50 (222)	-7 (33)	-58.20 (260.00)	-45.80 (205.00)	42 (196)	6 (29)	48.30 (226.00)	38.10 (178.00)
9	8 (11)	7 (6)	10 (5)	4 (259)	1 (38)	4.48 (303.00)	3.53 (239.00)	58 (234)	8 (34)	70.00 (280.00)	55.10 (220.00)
10	6 (11)	17 (78)	14 (16)	226 (1660)	33 (242)	264.00 (1930.00)	208.00 (1520.00)	156 (414)	23 (60)	189.00 (509.00)	149.00 (401.00)
11	18 (11)	20 (8)	22 (7)	46 (171)	7 (25)	53.60 (198.00)	42.20 (156.00)	94 (187)	14 (27)	109.00 (218.00)	85.90 (171.00)
12	9 (8)	12 (7)	14 (7)	61 (197)	9 (29)	70.20 (228.00)	55.30 (179.00)				
13											
14											
15											
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27											
28											
29											
30											
31											
Avg	10	11	14	32	4.6	37.00	29.20	86	13	100.0	79.00
n	11	11	11	11	11	11	11	10	10	10	10
SD	4.5	3.9	3.7	77.8	11.4	91.00	71.60	37.9	5.5	45.0	35.50
Min	3	7	10	-80	-11.7	-93.70	-73.80	28	4	31.9	25.10
Max	18	20	22	226	33.0	264.00	208.00	156	23	189.0	149.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for December, 2008

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3	19 (17)	55 (37)	17 (10)	450 (519)	66 (76)	547.00 (631.00)	431.00 (497.00)	-20 (195)	-3 (29)	-23.90 (230.00)	-18.90 (181.00)
4											
5											
6											
7											
8											
9											
10											
11			76 (70)								
12			101 (113)								
13			57 (40)								
14			37 (16)								
15			84 (101)								
16			69 (87)								
17			58 (34)								
18			62 (44)								
19	10 (7)	35 (13)	34 (20)	267 (117)	39 (17)	335.00 (148.00)	264.00 (117.00)	221 (176)	32 (26)	261.00 (208.00)	206.00 (164.00)
20	16 (6)	45 (14)	42 (24)	310 (175)	45 (26)	395.00 (226.00)	311.00 (178.00)	250 (225)	37 (33)	295.00 (266.00)	233.00 (210.00)
21		106 (56)	122 (99)								
22	19 (7)	72 (45)	68 (39)	611 (524)	89 (77)	762.00 (653.00)	600.00 (514.00)	491 (397)	72 (58)	579.00 (467.00)	456.00 (368.00)
23	16 (9)	44 (25)	41 (30)	312 (242)	46 (35)	390.00 (302.00)	307.00 (238.00)	225 (259)	33 (38)	266.00 (306.00)	209.00 (241.00)
24	10 (8)	31 (56)	37 (32)	220 (510)	32 (74)	275.00 (637.00)	216.00 (502.00)	255 (303)	37 (44)	300.00 (356.00)	236.00 (280.00)
25	22 (5)	61 (31)	57 (34)	422 (333)	62 (49)	529.00 (416.00)	416.00 (328.00)	331 (323)	48 (47)	387.00 (378.00)	305.00 (297.00)
26	17 (9)	40 (23)	39 (26)	292 (256)	43 (37)	367.00 (321.00)	289.00 (253.00)	267 (354)	39 (52)	327.00 (438.00)	258.00 (345.00)
27	4 (9)	17 (16)	12 (24)	280 (324)	41 (47)	353.00 (408.00)	278.00 (321.00)	173 (475)	25 (69)	212.00 (575.00)	167.00 (452.00)
28	9 (5)	39 (37)	39 (30)	299 (380)	44 (56)	378.00 (480.00)	297.00 (378.00)	284 (282)	42 (41)	335.00 (332.00)	263.00 (261.00)
29											
30											
31											
Avg	14	49	55	346	50.6	433.00	341.00	248	36	294.0	231.00
n	10	11	19	10	10	10	10	10	10	10	10
SD	5.3	22.9	26.7	110.0	16.1	135.00	106.00	121.0	17.7	142.0	112.00
Min	4	17	12	220	32.1	275.00	216.00	-20	-3	-23.9	-18.90
Max	22	106	122	611	89.3	762.00	600.00	491	72	579.0	456.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for February, 2009

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
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14											
15											
16											
17	22 (9)	62 (28)	46 (29)	647 (479)	95 (70)	793.00 (587.00)	625.00 (462.00)	419 (458)	61 (67)	499.00 (545.00)	393.00 (429.00)
18	16 (12)	40 (19)	29 (19)	402 (248)	59 (36)	491.00 (303.00)	387.00 (239.00)	248 (376)	36 (55)	294.00 (446.00)	231.00 (351.00)
19	8 (5)	64 (63)	74 (90)	582 (659)	85 (96)	714.00 (808.00)	562.00 (637.00)	621 (865)	91 (126)	734.00 (1020.00)	578.00 (806.00)
20	14 (5)	59 (43)	54 (41)	522 (496)	76 (73)	642.00 (610.00)	505.00 (480.00)	414 (417)	61 (61)	488.00 (492.00)	385.00 (387.00)
21	30 (19)	62 (32)	64 (46)	357 (433)	52 (63)	437.00 (530.00)	344.00 (417.00)	378 (645)	55 (94)	446.00 (762.00)	351.00 (600.00)
22	16 (4)	72 (57)	63 (56)	588 (582)	86 (85)	720.00 (714.00)	567.00 (562.00)	444 (485)	65 (71)	525.00 (574.00)	414.00 (452.00)
23	18 (5)	65 (44)	63 (46)	539 (471)	79 (69)	661.00 (577.00)	521.00 (454.00)	484 (490)	71 (72)	574.00 (581.00)	452.00 (457.00)
24	27 (10)	65 (38)	53 (41)	532 (520)	78 (76)	655.00 (640.00)	516.00 (504.00)	311 (495)	45 (72)	365.00 (582.00)	287.00 (458.00)
25	27 (10)	56 (31)	40 (16)	492 (558)	72 (82)	605.00 (687.00)	477.00 (541.00)	257 (342)	38 (50)	298.00 (398.00)	235.00 (313.00)
26	36 (17)	34 (25)	41 (19)	-50 (484)	-7 (71)	-60.70 (590.00)	-47.80 (465.00)	116 (498)	17 (73)	134.00 (579.00)	106.00 (456.00)
27	14 (35)	32 (16)	33 (14)	239 (543)	35 (79)	291.00 (662.00)	229.00 (521.00)	260 (601)	38 (88)	302.00 (699.00)	238.00 (550.00)
28	13 (7)	42 (19)	43 (23)	361 (235)	53 (34)	441.00 (286.00)	347.00 (226.00)	376 (262)	55 (38)	437.00 (305.00)	344.00 (240.00)
Avg	20	54	50	434	63.5	532.00	419.00	361	53	425.0	335.00
n	12	12	12	12	12	12	12	12	12	12	12
SD	7.9	13.1	13.3	184.0	26.9	226.00	178.00	127.0	18.5	151.0	119.00
Min	8	32	29	-50	-7.3	-60.70	-47.80	116	17	134.0	106.00
Max	36	72	74	647	94.6	793.00	625.00	621	91	734.0	578.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for March, 2009

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1	13 (7)	41 (23)	42 (21)	323 (284)	47 (42)	394.00 (346.00)	310.00 (273.00)	337 (245)	49 (36)	392.00 (285.00)	309.00 (225.00)
2	10 (4)	63 (39)	50 (33)	580 (429)	85 (63)	712.00 (527.00)	561.00 (415.00)	394 (335)	58 (49)	459.00 (390.00)	362.00 (307.00)
3											
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5											
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9											
10											
11											
12											
13											
14											
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17											
18											
19											
20											
21											
22											
23											
24	29 (24)	110 (59)		1840 (1380)	269 (202)	2250.00 (1690.00)	1770.00 (1330.00)				
25	5 (8)	50 (31)		972 (669)	142 (98)	1190.00 (817.00)	935.00 (643.00)				
26	18 (10)	67 (37)		1050 (843)	153 (123)	1280.00 (1030.00)	1010.00 (811.00)				
27	29 (23)	70 (41)		799 (912)	117 (133)	977.00 (1110.00)	769.00 (877.00)				
28	14 (11)	74 (97)		1050 (1570)	154 (230)	1290.00 (1920.00)	1010.00 (1510.00)				
29	2 (6)	44 (24)		703 (435)	103 (64)	859.00 (531.00)	676.00 (419.00)				
30											
31											
Avg	15	65	46	915	134.0	1120.00	881.00	365	53	426.0	335.00
n	8	8	2	8	8	8	8	2	2	2	2
SD	9.2	20.7	4.0	421.0	61.5	514.00	405.00	28.7	4.2	33.6	26.50
Min	2	41	42	323	47.2	394.00	310.00	337	49	392.0	309.00
Max	29	110	50	1840	269.0	2250.00	1770.00	394	58	459.0	362.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for May, 2009

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
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25											
26											
27											
28	13 (12)	40 (15)	33 (13)	593 (364)	87 (53)	736.00 (453.00)	580.00 (356.00)	433 (331)	63 (48)	550.00 (422.00)	433.00 (332.00)
29	26 (19)	45 (20)	36 (17)	455 (635)	67 (93)	565.00 (788.00)	445.00 (621.00)	226 (566)	33 (83)	269.00 (674.00)	212.00 (531.00)
30	39 (17)	50 (19)	40 (17)	238 (507)	35 (74)	295.00 (628.00)	232.00 (494.00)	17 (448)	3 (66)	20.10 (523.00)	15.80 (412.00)
31	27 (13)	62 (23)	38 (21)	756 (553)	110 (81)	935.00 (685.00)	736.00 (539.00)	233 (542)	34 (79)	272.00 (634.00)	215.00 (499.00)
Avg	26	49	37	510	74.6	633.00	498.00	227	33	278.0	219.00
n	4	4	4	4	4	4	4	4	4	4	4
SD	9.1	8.1	2.6	190.0	27.8	235.00	185.00	147.0	21.5	188.0	148.00
Min	13	40	33	238	34.7	295.00	232.00	17	3	20.1	15.80
Max	39	62	40	756	110.0	935.00	736.00	433	63	550.0	433.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for July, 2009

Day	Concentration, μg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
2											
3											
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11											
12											
13											
14	59 (79)	74 (83)	85 (80)	331 (2120)	48 (309)	391.00 (2500.00)	308.00 (1970.00)	611 (1960)	89 (286)	715.00 (2290.00)	563.00 (1810.00)
15	20 (10)	46 (21)	40 (37)	598 (530)	87 (77)	707.00 (627.00)	557.00 (494.00)	457 (831)	67 (121)	536.00 (975.00)	422.00 (768.00)
16	20 (15)	56 (68)	38 (20)	792 (1400)	116 (204)	937.00 (1650.00)	738.00 (1300.00)	405 (392)	59 (57)	483.00 (467.00)	381.00 (368.00)
17	14 (10)	49 (21)	53 (30)	772 (492)	113 (72)	913.00 (583.00)	719.00 (459.00)	821 (571)	120 (83)	963.00 (669.00)	758.00 (527.00)
18	14 (10)	50 (20)	49 (29)	802 (491)	117 (72)	954.00 (585.00)	751.00 (460.00)	754 (665)	110 (97)	861.00 (760.00)	678.00 (598.00)
19	34 (57)	51 (20)	47 (20)	379 (1380)	55 (202)	453.00 (1650.00)	357.00 (1300.00)	285 (1380)	42 (202)	327.00 (1590.00)	257.00 (1250.00)
20	59 (62)	72 (45)	61 (31)	294 (1880)	43 (274)	352.00 (2240.00)	277.00 (1760.00)	9 (1500)	1 (219)	11.10 (1730.00)	8.72 (1360.00)
21	49 (35)	77 (41)	72 (45)	642 (1050)	94 (153)	771.00 (1260.00)	607.00 (990.00)	498 (991)	73 (145)	580.00 (1150.00)	457.00 (908.00)
22	24 (19)	39 (34)	46 (27)	328 (897)	48 (131)	398.00 (1090.00)	314.00 (858.00)	460 (606)	67 (89)	561.00 (739.00)	442.00 (582.00)
23	41 (28)	62 (58)	56 (39)	498 (1300)	73 (190)	607.00 (1580.00)	478.00 (1250.00)	341 (775)	50 (113)	409.00 (926.00)	322.00 (729.00)
24											
25											
26											
27											
28											
29											
30											
31											
Avg	33	58	55	543	79.4	648.00	511.00	464	68	545.0	429.00
n	10	10	10	10	10	10	10	10	10	10	10
SD	16.9	12.5	13.9	194.0	28.3	229.00	180.00	222.0	32.4	257.0	202.00
Min	14	39	38	294	43.0	352.00	277.00	9	1	11.1	8.72
Max	59	77	85	802	117.0	954.00	751.00	821	120	963.0	758.00

Table F5. Daily means (SD) of house TSP emission at Site IN5B for September, 2009

Day	Concentration, µg·dsm^{-3}			Barn 1				Barn 2			
	Inlet	Barn 1	Barn 2	g·d^{-1}	mg·d^{-1}m^{-2}	mg·d^{-1} hd^{-1}	mg·d^{-1}AU^{-1}	g·d^{-2}	mg·d^{-1}m^{-3}	mg·d^{-1} hd^{-2}	mg·d^{-1}AU^{-2}
1											
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19											
20											
21											
22											
23	26 (15)	36 (13)	40 (18)	239 (413)	35 (60)	281.00 (484.00)	221.00 (381.00)	287 (477)	42 (70)	340.00 (566.00)	268.00 (446.00)
24	48 (90)	35 (20)	37 (15)	-328 (2200)	-48 (322)	-385.00 (2580.00)	-303.00 (2030.00)	-251 (2100)	-37 (306)	-308.00 (2540.00)	-243.00 (2000.00)
25	23 (16)	61 (46)	61 (32)	845 (1010)	123 (147)	990.00 (1180.00)	780.00 (930.00)	790 (700)	115 (102)	909.00 (804.00)	716.00 (633.00)
26	22 (11)	51 (26)	45 (20)	655 (630)	96 (92)	768.00 (739.00)	604.00 (582.00)	498 (452)	73 (66)	564.00 (512.00)	444.00 (403.00)
27	40 (35)	42 (23)	41 (18)	20 (923)	3 (135)	23.80 (1080.00)	18.80 (852.00)	10 (802)	1 (117)	11.00 (906.00)	8.69 (714.00)
28	42 (18)	97 (54)	104 (122)	1090 (1100)	159 (161)	1280.00 (1300.00)	1010.00 (1020.00)	1200 (2620)	175 (383)	1350.00 (2960.00)	1070.00 (2330.00)
29											
30											
Avg	34	54	55	420	61.4	493.00	388.00	422	62	478.0	376.00
n	6	6	6	6	6	6	6	6	6	6	6
SD	10.2	21.5	23.4	489.0	71.5	575.00	452.00	481.0	70.3	550.0	433.00
Min	22	35	37	-328	-48.0	-385.00	-303.00	-251	-37	-308.0	-243.00
Max	48	97	104	1090	159.0	1280.00	1010.00	1200	175	1350.0	1070.00

Table F6. NMHC concentration.

Table F6. Daily means (SD) of NMHC concentrations at Site IN5B for June, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16			44 78	30 53	33 56	22 38	1 5	1 4
17	-3 0	-2 0	289 190	196 129	381 198	259 134	64 47	43 32
18	18 40	13 27	307 244	198 157	214 151	143 103	41 59	
19	57 52	38 35	350 301	239 205	432 391	294 265	108 101	
20	22 26	15 18	303 265	206 181	326 279	222 190	63 73	
21	-4 8	-3 5	270 205	184 139	341 284	232 193	68 71	
22	-10 2	-7 1						
23	-15 1	-10 1			209 205	143 140		
24	-6 17	-4 12	242 213	165 145	206 182	140 124	19 46	13 31
25	38 36	25 24	411 622	281 425	448 808	308 553	51 65	35 44
26	-11 3	-7 2	383 306	260 208	373 257	253 175	16 26	11 18
27	-11 4	-7 2	335 258	227 175	295 216	200 146	19 30	13 20
28	-11 2	-8 1	480 291	325 197	556 362	376 245	30 37	21 25
29	30 50	20 33	280 175	190 119	377 254	255 172	27 36	18 24
30	-12 3	-8 2	610 652	412 441	664 711	449 480	51 65	34 44
Avg	6 17	4 12	331 292	224 198	347 311	235 211	43 51	21 27
n	14	14	13	13	14	14	13	9
SD	22	15	127	86	152	103	28	13
Min	-15	-10	44	30	33	22	1	1
Max	57	38	610	412	664	449	108	43

Table F6. Daily means (SD) of NMHC concentrations at Site IN5B for July, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}
1	-10 1	-6 1	419 392	283 265	345 204	233 138	36 44	24 30
2	0 17	0 11	431 397	292 269	369 326	249 220	52 57	35 39
3	17 32	11 22	411 396	279 268	440 441	297 298	7 28	7 19
4	-7 1	-4 1	450 363	305 246	379 331	256 224	14 23	10 16
5	3 11	2 7	440 426	298 289	352 349	238 236	11 24	7 16
6	15 33	10 22	287 227	194 154	209 159	141 108	17 25	11 17
7								
8								
9								
10	-12 2	-8 1	325 237	221 161	357 296	243 201	-1 14	
11	-6 3	-4 2	322 256	219 174	376 292	255 198	-2 6	-1 4
12	-8 1	-5 1	513 511	346 346	285 220	192 149	8 15	5 10
13	-6 1	-4 1	461 383	312 259	292 182	197 123	0 7	0 5
14	-6 0	-4 0	394 258	266 174	383 250	258 169	14 18	10 12
15	3 17	2 11	288 221	196 150	267 154	181 105	-5 2	-3 1
16	-3 8	-2 6	306 416	207 282	197 235	134 159	-6 1	-4 0
17	23 28	16 19	424 460	287 311	509 493	343 333	-5 4	-4 2
18	-7 0	-4 0	454 395	307 267	570 472	385 319	-3 6	-2 4
19	-6 0	-4 0	367 329	248 222	317 186	214 126	-2 7	-1 5
20	13 31	9 21	445 317	301 214	359 195	243 132	-5 2	-4 1
21	0 11	0 7	447 305	303 207	288 247	195 167	0 9	0 6
22	-6 0	-4 0	574 367	389 248	408 283	276 191	302 696	205 471
23	-2 10	-1 7	322 277	218 188	379 286	256 194	-1 9	0 6
24	9 26	6 17	588 461	399 313	265 176	179 119	0 8	0 6
25	5 3	3 2					5 3	4 2
26	14 13	9 9	788 597	534 405	391 248	264 167	9 9	6 6
27	20 23	13 16	767 456	520 309	578 480	391 324	11 12	7 8
28	4 2	3 1	534 413	363 281	406 313	275 213	6 4	4 3
29	4 0	3 0	654 509	443 345	598 559	405 379	65 114	44 78
30	11 13	7 9	608 418	411 283	691 591	467 400	13 15	9 10
31	9 9	6 6	451 344	306 233	268 177	181 120	3 15	2 10
Avg	3	2	462	313	380	257	19	14
n	28	28	27	27	27	27	28	27
SD	9	6	130	88	118	80	57	39
Min	-12	-8	287	194	197	134	-6	-4
Max	23	16	788	534	691	467	302	205

Table F6. Daily means (SD) of NMHC concentrations at Site IN5B for August, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}
1	4 0	2 0	401 316	272 214	248 177	168 120	4 1	3 1
2	21 19	14 13	653 450	442 305	407 300	275 203	12 12	8 8
3	4 2	3 1	481 421	326 286	202 176	137 119	6 5	4 3
4	10 12	7 8	339 267	230 182	403 493	274 336	7 6	4 4
5	5 2	3 1	458 317	310 215	274 189	185 128	9 11	6 7
6	4 0	3 0	554 467	375 316	543 623	367 421	11 14	7 10
7	4 0	3 0	517 423	350 286	627 513	424 347	7 5	5 3
8	4 0	3 0	552 478	376 326	405 352	275 239	11 13	8 9
9	5 0	3 0	365 303	249 207	315 218	215 148	7 4	5 3
10	66 39	45 27	461 318	313 216	438 402	298 273		
11	8 5	5 3	409 264	277 179	455 282	309 191	7 3	5 2
12	35 40	24 27	560 429	379 290	407 314	275 213	6 3	4 2
13	18 29	12 19	520 367	353 249	443 318	299 214	6 3	4 2
14	6 7	4 5	450 336	305 229	484 559	328 378	5 4	4 2
15	3 0	2 0	435 424	296 289	331 287	224 194	4 2	3 1
16	4 0	2 0	552 643	376 438	336 365	228 248	4 1	3 1
17	3 1	2 0	359 319	244 218	232 171	158 116	12 11	8 7
18	2 0	2 0	442 354	300 241	287 241	195 164	7 7	5 5
19	3 0	2 0	341 272	231 184	63 68	43 46	6 3	4 2
20	7 7	5 5	412 337	280 229	90 116	61 79	7 6	5 4
21	4 3	3 2	498 411	312 271	108 116	72 81		
22	2 0	1 0	454 329	307 223	215 190	145 128	19 26	13 18
23	4 4	3 3	470 360	318 244	597 503	404 340	3 2	2 1
24	2 0	1 0	417 248	282 167	160 125	108 85	6 7	4 5
25	2 0	1 0	583 469	394 317	237 201	161 136	8 11	5 7
26	7 4	5 2	351 292	237 198	256 227	174 154	21 19	14 13
27	10 0	7 0	449 429	304 291	184 150	125 101	15 6	10 4
28	10 0	6 0	309 256	209 174	290 308	196 208	11 2	8 2
29	15 9	10 6	671 546	453 369	219 166	148 112	12 6	8 4
30	9 0	6 0	449 386	303 261	456 408	307 275	12 3	8 2
31	8 1	5 1	407 375	275 253	319 406	215 274	9 2	6 2
Avg	9	6	462	312	324	219	9	6
n	31	31	31	31	31	31	29	29
SD	12	8	88	59	141	95	4	3
Min	2	1	309	209	63	43	3	2
Max	66	45	671	453	627	424	21	14

Table F6. Daily means (SD) of NMHC concentrations at Site IN5B for September, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}	ppb	g·dsm^{-3}
1	7 1	5 1	689 553	462 372	229 278	153 186	14 9	9 6
2	7 2	5 2						
3	15 18	10 12	432 281	292 190	195 146	132 99	23 20	16 14
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26	66 48	45 32	555 359	375 242	192 161	130 108	16 3	
27	15 1	10 1	633 451	428 305	211 148	142 100	20 5	
28	89 66	60 44	582 329	392 221	208 147	140 99	17 2	
29	201 176	138 128						
30	413 350	276 235						
Avg	102 83	69 57	578 394	390 266	207 176	139 119	18 8	13 10
n	8	8	5	5	5	5	5	2
SD	133	89	86	58	13	8	3	3
Min	7	5	432	292	192	130	14	9
Max	413	276	689	462	229	153	23	16

Table F7. NMHC emissions.

Table F7. Daily means (SD) of NMHC emissions at Site IN5B for June, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17	17.1 10.4	2.5 1.5	21.9 13.3	17.2 10.5	23.0 11.8	3.4 1.7	27.8 14.2	21.9 11.2	2.19 1.46	0.81 0.54
18	18.2 17.1	2.7 2.5	23.2 21.8	18.3 17.2	12.4 10.2	1.8 1.5	14.9 12.2	11.8 9.6	0.48 2.10	0.18 0.78
19	16.3 16.4	2.4 2.4	20.7 20.8	16.3 16.4	21.6 21.1	3.2 3.1	25.9 25.4	20.4 20.0	1.62 2.20	0.60 0.82
20	16.4 14.0	2.4 2.1	20.9 17.8	16.5 14.1	17.4 14.8	2.6 2.2	21.0 17.7	16.5 14.0	1.34 2.19	0.50 0.81
21	15.5 11.0	2.3 1.6	20.0 14.2	15.8 11.2	20.5 16.2	3.0 2.4	24.1 19.2	19.0 15.1	2.38 2.21	0.89 0.82
22										
23										
24					15.6 11.1	2.3 1.6	17.9 12.7	14.1 10.0	0.77 1.03	0.29 0.38
25									0.50 2.10	0.19 0.78
26					23.7 16.0	3.5 2.3	27.3 18.5	21.5 14.6	0.93 0.86	0.34 0.32
27	20.4 15.0	3.0 2.2	24.3 17.9	19.1 14.1	18.4 13.0	2.7 1.9	21.3 15.0	16.7 11.8	1.00 1.01	0.37 0.38
28	27.8 16.4	4.1 2.4	33.0 19.4	26.0 15.3	34.2 21.8	5.0 3.2	39.6 25.2	31.2 19.9	1.43 1.28	0.53 0.48
29	15.5 8.7	2.3 1.3	18.4 10.3	14.5 8.1	21.0 12.9	3.1 1.9	24.3 14.9	19.2 11.7	0.49 0.89	0.18 0.33
30	29.2 26.3	4.3 3.9	35.0 31.5	27.5 24.8	18.0 13.0	2.6 1.9	21.0 15.2	16.6 12.0	2.12 2.25	0.79 0.84
Avg	19.6	2.9	24.2	19.0	20.5	3.0	24.1	19.0	1.27	0.47
n	9	9	9	9	11	11	11	11	12	12
SD	5.0	0.7	5.5	4.3	5.4	0.8	6.2	4.9	0.66	0.25
Min	15.5	2.3	18.4	14.5	12.4	1.8	14.9	11.8	0.48	0.18
Max	29.2	4.3	35.0	27.5	34.2	5.0	39.6	31.2	2.38	0.89

Table F7. Daily means (SD) of NMHC emissions at Site IN5B for July, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	25.3 22.6	3.7 3.3	30.7 27.4	24.2 21.6	21.7 12.8	3.2 1.9	25.4 15.0	20.0 11.8	1.58 1.51	0.59 0.56
2	25.7 23.0	3.8 3.4	31.4 28.1	24.7 22.1	22.2 19.6	3.2 2.9	25.6 22.7	20.2 17.9	1.79 1.86	0.67 0.69
3	23.5 23.1	3.4 3.4	28.7 28.3	22.6 22.3	20.5 21.2	3.0 3.1	23.8 24.5	18.7 19.3	-0.33 1.55	-0.12 0.58
4	27.5 21.8	4.0 3.2	33.1 26.2	26.0 20.7	19.1 16.5	2.8 2.4	22.0 19.1	17.4 15.0	0.69 0.76	0.26 0.28
5	26.2 25.4	3.8 3.7	31.1 30.1	24.5 23.7	18.5 17.6	2.7 2.6	21.3 20.2	16.8 15.9	0.26 0.99	0.10 0.37
6	15.8 12.8	2.3 1.9	18.7 15.2	14.8 12.0	11.4 9.1	1.7 1.3	13.1 10.5	10.3 8.3	0.06 1.52	0.02 0.56
7										
8										
9										
10	20.1 13.9	2.9 2.0	23.7 16.4	18.7 12.9	22.7 17.8	3.3 2.6	26.5 20.8	20.8 16.4	0.34 0.45	0.13 0.17
11	18.9 14.7	2.8 2.1	22.3 17.3	17.6 13.6	23.8 18.3	3.5 2.7	27.8 21.4	21.9 16.8	0.15 0.18	0.06 0.07
12	30.5 29.5	4.5 4.3	36.1 34.8	28.4 27.4	18.0 13.5	2.6 2.0	21.0 15.8	16.5 12.5	0.54 0.50	0.20 0.19
13	28.5 23.1	4.2 3.4	33.7 27.3	26.5 21.5	19.1 11.8	2.8 1.7	22.3 13.7	17.6 10.8	0.22 0.22	0.08 0.08
14	23.6 15.2	3.4 2.2	27.9 18.0	22.0 14.2	23.6 14.8	3.5 2.2	27.6 17.3	21.7 13.6	0.64 0.57	0.24 0.21
15	17.1 12.9	2.5 1.9	20.2 15.3	15.9 12.0	16.2 10.0	2.4 1.5	19.0 11.8	15.0 9.3	-0.26 0.54	-0.10 0.20
16	13.8 11.1	2.0 1.6	16.4 13.1	12.9 10.3	12.1 11.7	1.8 1.7	14.5 14.0	11.4 11.0	-0.11 0.27	-0.04 0.10
17	23.5 25.4	3.4 3.7	27.8 30.0	21.9 23.6	27.7 26.3	4.1 3.9	32.5 31.0	25.6 24.4	-0.87 0.81	-0.32 0.30
18	26.2 22.4	3.8 3.3	31.2 26.6	24.6 21.0	33.3 27.1	4.9 4.0	38.0 30.9	30.0 24.4	0.13 0.19	0.05 0.07
19	21.1 18.4	3.1 2.7	25.2 22.0	19.8 17.3	18.9 10.8	2.8 1.6	21.8 12.4	17.1 9.8	0.15 0.22	0.06 0.08
20	24.2 18.9	3.5 2.8	28.9 22.6	22.7 17.8	20.9 12.7	3.1 1.9	24.1 14.6	19.0 11.5	-0.58 1.00	-0.22 0.37
21	22.1 15.4	3.2 2.3	26.6 18.7	21.0 14.7	16.8 14.6	2.5 2.1	19.6 17.0	15.4 13.4	0.00 0.45	0.00 0.17
22	29.6 18.1	4.3 2.7	35.9 22.0	28.3 17.3	23.6 16.9	3.5 2.5	28.6 20.2	22.5 15.9	10.10 22.70	3.76 8.45
23	16.9 14.1	2.5 2.1	20.5 17.2	16.2 13.6	24.2 19.4	3.5 2.8	29.2 23.3	23.0 18.4	0.05 0.36	0.02 0.14
24	27.8 22.0	4.1 3.2	33.9 26.9	26.7 21.2	17.9 12.3	2.6 1.8	20.6 14.2	16.2 11.2	-0.29 0.73	-0.11 0.27
25									0.01 0.14	0.01 0.05
26					20.8 14.3	3.0 2.1	23.9 16.4	18.8 12.9	-0.18 0.58	-0.07 0.21
27	39.6 23.3	5.8 3.4	48.2 28.3	38.0 22.3	33.4 29.0	4.9 4.2	38.5 33.4	30.3 26.3	-0.30 0.67	-0.11 0.25
28	27.8 21.6	4.1 3.2	33.9 26.3	26.7 20.7	23.9 18.6	3.5 2.7	27.6 21.5	21.7 16.9	0.05 0.14	0.02 0.05
29	33.2 26.0	4.9 3.8	40.9 32.1	32.2 25.3	36.0 34.8	5.3 5.1	41.7 40.3	32.8 31.7	2.09 3.94	0.78 1.46
30	31.6 22.3	4.6 3.3	38.9 27.5	30.6 21.7	43.5 37.7	6.4 5.5	50.5 43.7	39.8 34.4	0.09 0.71	0.03 0.26
31	22.6 17.2	3.3 2.5	27.6 21.1	21.8 16.6	17.7 12.4	2.6 1.8	20.6 14.5	16.2 11.4	-0.20 0.54	-0.08 0.20
Avg	24.7	3.6	29.7	23.4	22.5	3.3	26.2	20.6	0.57	0.21
n	26	26	26	26	27	27	27	27	28	28
SD	5.7	0.8	7.1	5.6	7.0	1.0	8.1	6.4	1.95	0.73
Min	13.8	2.0	16.4	12.9	11.4	1.7	13.1	10.3	-0.87	-0.32
Max	39.6	5.8	48.2	38.0	43.5	6.4	50.5	39.8	10.10	3.76

Table F7. Daily means (SD) of NMHC emissions at Site IN5B for August, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	20.8 16.4	3.0 2.4	25.5 20.1	20.1 15.8	17.2 12.3	2.5 1.8	20.1 14.3	15.8 11.3	0.02 0.03	0.01 0.01
2	32.7 22.4	4.8 3.3	40.1 27.4	31.6 21.6	31.5 23.7	4.6 3.5	36.7 27.6	28.9 21.8	-0.31 0.67	-0.12 0.25
3	24.3 21.5	3.6 3.1	29.8 26.3	23.5 20.7	16.1 14.9	2.4 2.2	18.8 17.4	14.8 13.7	0.06 0.16	0.02 0.06
4	15.2 12.2	2.2 1.8	18.7 15.0	14.7 11.8	30.4 37.9	4.4 5.5	35.7 44.4	28.1 35.0	-0.12 0.44	-0.04 0.16
5	25.5 19.1	3.7 2.8	31.3 23.5	24.6 18.5	18.0 12.8	2.6 1.9	21.7 15.2	17.1 12.0	0.14 0.37	0.05 0.14
6	30.9 26.7	4.5 3.9	37.9 32.8	29.9 25.8	30.9 35.8	4.5 5.2	37.0 42.9	29.1 33.8	0.22 0.47	0.08 0.18
7	30.5 25.4	4.5 3.7	37.0 30.9	29.2 24.3	35.8 30.2	5.2 4.4	41.5 34.9	32.7 27.5	0.11 0.16	0.04 0.06
8	32.2 28.8	4.7 4.2	38.7 34.6	30.5 27.3	21.8 19.2	3.2 2.8	25.3 22.3	19.9 17.6	0.23 0.42	0.09 0.16
9	20.2 17.0	3.0 2.5	24.3 20.5	19.1 16.1	17.5 13.0	2.6 1.9	20.3 15.1	16.0 11.9	0.06 0.13	0.02 0.05
10	25.4 19.2	3.7 2.8	30.6 23.2	24.1 18.2	22.5 23.8	3.3 3.5	25.9 27.6	20.4 21.7		
11	23.1 15.6	3.4 2.3	27.6 18.6	21.8 14.7	24.9 15.4	3.6 2.3	28.3 17.6	22.3 13.8	-0.03 0.19	-0.01 0.07
12	28.3 21.6	4.1 3.2	33.6 25.7	26.5 20.2	21.7 16.8	3.2 2.5	24.7 19.2	19.5 15.1	-0.99 1.38	-0.37 0.51
13	28.9 21.4	4.2 3.1	35.1 26.0	27.6 20.5	21.4 19.4	3.1 2.8	24.6 22.2	19.4 17.5	-0.40 1.00	-0.15 0.37
14	25.8 20.2	3.8 3.0	31.1 24.4	24.5 19.2	22.1 23.3	3.2 3.4	25.6 27.1	20.1 21.4	-0.02 0.30	-0.01 0.11
15	25.1 24.6	3.7 3.6	29.6 29.1	23.3 22.9	18.8 16.5	2.8 2.4	21.3 18.6	16.7 14.7	0.03 0.06	0.01 0.02
16	32.3 38.0	4.7 5.6	38.2 44.9	30.1 35.4	19.5 21.8	2.9 3.2	22.0 24.7	17.4 19.4	0.01 0.04	0.01 0.02
17	20.7 18.9	3.0 2.8	24.6 22.4	19.3 17.7	14.8 11.0	2.2 1.6	16.8 12.4	13.2 9.8	0.30 0.35	0.11 0.13
18	25.5 21.0	3.7 3.1	30.2 24.9	23.8 19.6	17.8 14.3	2.6 2.1	20.2 16.3	15.9 12.8	0.15 0.25	0.06 0.09
19	20.8 16.7	3.0 2.5	24.4 19.6	19.2 15.5	4.3 4.8	0.6 0.7	4.9 5.4	3.9 4.3	0.11 0.09	0.04 0.03
20	24.1 19.7	3.5 2.9	28.2 23.1	22.2 18.2	5.8 7.8	0.9 1.1	6.6 8.9	5.2 7.0	0.01 0.30	0.00 0.11
21	26.8 23.0	3.9 3.4	31.6 27.1	24.9 21.3	7.2 8.0	1.1 1.2	8.2 9.1	6.4 7.2		
22	27.2 19.9	4.0 2.9	32.2 23.5	25.3 18.5	15.0 13.1	2.2 1.9	17.0 14.9	13.4 11.8	0.62 0.97	0.23 0.36
23	26.3 19.0	3.8 2.8	31.1 22.5	24.5 17.7	38.4 32.6	5.6 4.8	43.6 37.0	34.4 29.2	-0.04 0.18	-0.02 0.07
24	25.8 15.7	3.8 2.3	30.5 18.6	24.1 14.6	10.5 7.7	1.5 1.1	11.9 8.7	9.4 6.9	0.13 0.23	0.05 0.09
25	36.1 30.1	5.3 4.4	42.8 35.7	33.7 28.1	14.9 12.2	2.2 1.8	17.0 13.9	13.4 10.9	0.21 0.39	0.08 0.15
26	19.3 15.8	2.8 2.3	22.9 18.7	18.0 14.7	16.6 16.0	2.4 2.3	19.0 18.3	14.9 14.4	0.48 0.64	0.18 0.24
27	28.0 27.3	4.1 4.0	32.9 32.1	25.9 25.3	12.4 11.2	1.8 1.6	14.0 12.7	11.1 10.0	0.18 0.23	0.07 0.09
28	18.4 16.1	2.7 2.4	21.6 18.9	17.0 14.9	20.1 22.2	2.9 3.3	22.8 25.2	17.9 19.8	0.07 0.09	0.02 0.03
29	39.6 32.3	5.8 4.7	46.3 37.8	36.5 29.8	14.6 11.9	2.1 1.7	16.5 13.5	13.0 10.6	-0.10 0.24	-0.04 0.09
30	27.3 24.2	4.0 3.5	31.8 28.2	25.1 22.2	31.3 27.5	4.6 4.0	35.0 30.8	27.6 24.2	0.09 0.11	0.03 0.04
31	23.8 21.9	3.5 3.2	27.9 25.6	21.9 20.1	23.8 36.0	3.5 5.3	26.6 40.3	21.0 31.8	0.05 0.13	0.02 0.05
Avg	26.2	3.8	31.2	24.6	19.9	2.9	22.9	18.0	0.04	0.02
n	31	31	31	31	31	31	31	31	29	29
SD	5.2	0.8	6.2	4.9	8.1	1.2	9.4	7.4	0.28	0.10
Min	15.2	2.2	18.7	14.7	4.3	0.6	4.9	3.9	-0.99	-0.37
Max	39.6	5.8	46.3	36.5	38.4	5.6	43.6	34.4	0.62	0.23

Table F7. Daily means (SD) of NMHC emissions at Site IN5B for September, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	41.4 33.4	6.1 4.9	48.4 39.1	38.1 30.8	17.1 23.8	2.5 3.5	19.3 26.9	15.2 21.1	0.26 0.36	0.10 0.13
2										
3	25.6 17.0	3.7 2.5	30.0 19.8	23.6 15.6	12.8 9.4	1.9 1.4	14.5 10.7	11.4 8.4	0.28 0.89	0.10 0.33
4										
5										
6										
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25										
26										
27										
28										
29										
30										
Avg	33.5	4.9	39.20	30.9	14.9	2.2	16.90	13.3	0.27	0.10
n	2	2	2	2	2	2	2	2	2	2
SD	7.9	1.2	9.21	7.3	2.1	0.3	2.40	1.9	0.01	0.00
Min	25.6	3.7	30.00	23.6	12.8	1.9	14.50	11.4	0.26	0.10
Max	41.4	6.1	48.40	38.1	17.1	2.5	19.30	15.2	0.28	0.10

Table F8. Hydrogen sulfide concentrations.

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for September, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1								
2								
3								
4								
5								
6								
7								
8			10.2 (17.3)	14.7 (25.0)	9.2 (13.5)	13.3 (19.4)	-7.0 (1.1)	-10.1 (1.5)
9			4.7 (10.3)	6.8 (14.8)	16.6 (14.1)	23.9 (20.2)	-7.4 (0.1)	-10.6 (0.1)
10			7.8 (9.8)	11.2 (14.1)	16.4 (14.6)	23.5 (20.9)	-7.0 (0.5)	-10.0 (0.7)
11					9.1 (11.6)	13.9 (17.2)		
12	-6.5 (0.5)	-9.2 (0.8)	1.7 (9.5)	2.9 (13.6)	3.2 (9.4)	5.3 (13.3)		
13	-6.9 (0.0)	-9.9 (0.0)	2.5 (4.8)	3.6 (6.8)	17.0 (19.9)	24.2 (28.4)	-2.9 (5.6)	-4.2 (8.0)
14	-6.8 (0.2)	-9.7 (0.3)	-2.2 (3.3)	-3.1 (4.8)	2.7 (8.4)	3.9 (12.0)	-6.2 (1.1)	-8.9 (1.6)
15	-6.8 (0.2)	-9.6 (0.3)	-3.6 (4.6)	-5.2 (6.6)	0.3 (4.8)	0.4 (6.9)	-6.9 (0.1)	-9.8 (0.1)
16	-6.2 (1.3)	-8.8 (1.9)	-2.8 (2.1)	-4.0 (3.0)	4.2 (6.4)	6.1 (9.1)	-6.4 (0.6)	-9.1 (0.9)
17	-6.2 (1.2)	-8.9 (1.7)	1.8 (4.0)	2.6 (5.8)	5.3 (4.9)	7.6 (6.9)	-4.3 (1.7)	-6.1 (2.4)
18	-6.8 (0.1)	-9.8 (0.2)	8.6 (6.9)	12.4 (9.8)	9.1 (7.7)	13.1 (11.0)	0.7 (5.2)	1.1 (7.4)
19	-6.8 (0.1)	-9.8 (0.1)	-1.4 (5.7)	-2.0 (8.2)				
20	-5.1 (2.2)	-7.3 (3.2)	-0.2 (6.8)	-0.3 (9.8)				
21	-3.9 (4.0)	-5.6 (5.7)			18.8 (25.9)	27.1 (37.2)	-0.5 (5.7)	
22	-6.8 (0.2)	-9.8 (0.2)	2.0 (6.2)	2.8 (8.9)	21.1 (11.4)	30.2 (16.2)	-6.8 (0.2)	-9.8 (0.3)
23	-1.4 (6.8)	-2.0 (9.7)	3.0 (4.5)	4.4 (6.4)	42.8 (27.2)	61.2 (38.9)	-6.6 (0.3)	-9.5 (0.5)
24	-3.5 (6.6)	-5.0 (9.4)						
25	-6.6 (0.3)	-9.6 (0.4)	6.4 (6.9)	9.2 (9.9)	9.5 (10.0)	13.7 (14.4)	-5.2 (2.7)	-7.6 (3.9)
26	-5.8 (1.2)	-8.3 (1.7)	6.9 (7.4)	9.8 (10.6)	29.0 (13.0)	41.6 (18.6)	-4.0 (2.1)	-5.8 (3.1)
27	-5.9 (1.7)	-8.4 (2.4)	5.7 (9.7)	8.1 (14.0)	21.6 (26.5)	30.9 (37.9)	-4.1 (2.5)	-5.9 (3.6)
28	1.1 (14.1)	1.5 (20.1)	2.0 (5.5)	2.8 (7.8)	17.1 (16.6)	24.4 (23.7)	-5.1 (5.3)	-7.3 (7.5)
29	-3.9 (12.0)	-5.5 (17.1)	13.0 (13.4)	18.6 (19.2)	44.1 (32.9)	63.0 (46.9)	2.6 (11.9)	3.7 (17.0)
30	-6.2 (0.8)	-8.8 (1.1)	22.0 (13.1)	31.5 (18.7)	24.3 (13.7)	34.7 (19.6)	5.1 (8.8)	7.2 (12.7)
Avg	-5.3	-7.6	4.4	6.3	16.1	23.1	-4.0	-6.1
n	19	19	20	20	20	20	18	17
SD	2.1	3.0	5.9	8.5	11.9	17.0	3.6	5.1
Min	-6.9	-9.9	-3.6	-5.2	0.3	0.4	-7.4	-10.6
Max	1.1	1.5	22.0	31.5	44.1	63.0	5.1	7.2

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for October, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-6.7 (0.4)	-9.6 (0.5)	6.5 (10.5)	9.3 (15.0)	11.4 (13.1)	16.3 (18.7)	1.9 (7.4)	2.7 (10.6)
2	-6.3 (0.7)	-9.0 (1.0)	9.0 (5.5)	12.9 (7.9)	15.9 (8.0)	22.8 (11.5)	39.9 (39.6)	57.3 (57.0)
3	-0.7 (4.1)	-1.1 (5.9)	4.5 (7.2)	6.4 (10.3)	30.4 (37.3)	43.6 (53.4)		
4	2.2 (7.9)							
5	17.8 (11.5)							
6	-5.6 (2.6)	-8.0 (3.7)	19.9 (9.3)	28.6 (13.4)	20.0 (11.9)	28.9 (17.1)	211.0 (115.0)	
7	-4.1 (2.1)	-6.0 (3.1)	39.7 (14.1)	57.2 (20.3)	64.5 (35.7)	92.9 (51.4)	68.8 (62.8)	
8	-7.2 (0.4)	-10.3 (0.5)	28.1 (25.3)	40.4 (36.4)	32.9 (36.5)	47.4 (52.4)	73.4 (74.8)	
9								
10								
11								
12								
13								
14								
15								
16	-6.7 (0.5)	-9.6 (0.6)	12.5 (12.4)	17.9 (17.7)	19.2 (20.5)	27.6 (29.4)		
17	20.1 (13.7)	28.8 (19.6)	47.2 (23.4)	67.6 (33.5)	83.1 (42.0)	119.0 (60.1)	24.5 (25.7)	
18	-4.4 (2.0)	-6.4 (2.8)	21.9 (14.8)	31.4 (21.3)	33.9 (26.7)	48.7 (38.4)	31.8 (19.4)	
19	-6.9 (0.0)	-9.9 (0.0)	0.9 (3.0)	1.2 (4.3)	13.8 (15.0)	19.7 (21.4)	20.2 (28.2)	
20	-6.9 (0.0)	-9.8 (0.1)	1.8 (4.1)	2.5 (5.9)	7.7 (8.6)	11.0 (12.2)	18.4 (19.1)	
21	-6.9 (0.1)	-9.8 (0.1)	5.1 (5.2)	7.2 (7.4)	12.5 (11.3)	17.9 (16.2)	33.4 (41.1)	
22	-6.9 (0.0)	-9.9 (0.0)			45.9 (32.7)	65.6 (46.8)		
23	-6.6 (0.3)	-9.4 (0.5)	6.6 (8.9)	9.4 (12.8)	46.1 (26.0)	65.9 (37.1)	5.9 (18.8)	8.4 (26.9)
24	-5.6 (1.8)	-8.0 (2.6)	1.7 (3.3)	2.5 (4.7)	49.6 (15.0)	70.8 (21.4)	12.5 (17.6)	17.8 (25.1)
25	-6.9 (0.1)	-9.8 (0.1)	3.1 (8.5)	4.4 (12.1)	19.4 (13.9)	27.8 (19.8)	-0.4 (11.6)	-0.6 (16.5)
26	-3.9 (3.0)	-5.5 (4.3)	6.2 (8.5)	8.8 (12.2)	20.7 (9.7)	29.6 (13.9)	-2.4 (4.3)	-3.5 (6.1)
27	-6.9 (0.1)	-9.8 (0.1)	7.4 (11.5)	10.6 (16.4)	24.0 (24.8)	34.3 (35.4)	1.6 (7.3)	2.3 (10.5)
28								
29								
30								
31								
Avg	-3.0	-6.3	13.0	18.7	30.6	43.9	36.1	12.1
n	20	18	17	17	18	18	15	7
SD	7.7	8.8	13.4	19.3	19.7	28.2	52.0	19.6
Min	-7.2	-10.3	0.9	1.2	7.7	11.0	-2.4	-3.5
Max	20.1	28.8	47.2	67.6	83.1	119.0	211.0	57.3

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for November, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	37.4 (64.9)	53.2 (92.3)	7.2 (14.3)	10.2 (20.4)	11.4 (19.5)	16.3 (27.7)		
2	12.3 (31.4)	17.4 (44.6)	13.8 (15.5)	19.6 (22.1)	31.4 (32.2)	44.7 (45.8)		
3	-6.9 (0.0)	-9.8 (0.0)	-2.5 (2.4)	-3.6 (3.4)	-1.3 (4.0)	-1.8 (5.7)		
4								
5								
6					-5.6 (1.9)	-8.0 (2.7)		
7	-6.2 (1.0)	-8.8 (1.5)	0.4 (7.9)	0.6 (11.3)	2.4 (9.3)	3.5 (13.2)		
8	-6.7 (0.5)	-9.5 (0.7)	-0.7 (4.8)	-1.0 (6.8)	-0.4 (4.1)	-0.6 (5.8)		
9	-6.8 (0.2)	-9.7 (0.3)	-2.5 (3.6)	-3.6 (5.2)	-0.9 (4.0)	-1.3 (5.6)		
10	-6.5 (0.9)	-9.3 (1.3)	13.2 (23.5)	18.9 (33.5)	15.8 (25.0)	22.5 (35.6)		
11	-6.2 (1.3)	-8.8 (1.9)	11.0 (10.8)	15.7 (15.4)	12.4 (16.4)	17.7 (23.4)		
12	-6.9 (0.0)	-9.9 (0.0)	-0.2 (7.0)	-0.3 (10.0)	0.0 (4.7)	0.0 (6.7)		
13	-6.9 (0.0)	-9.8 (0.0)	7.2 (13.1)	10.2 (18.7)	8.9 (13.2)	12.8 (18.9)		
14	-6.9 (0.0)							
15	-6.5 (0.8)	-9.2 (1.1)	-1.3 (3.8)	-1.8 (5.5)	-2.4 (2.3)	-3.4 (3.3)		
16	-5.6 (2.0)	-8.0 (2.8)	0.3 (4.5)	0.4 (6.4)	6.3 (7.5)	9.0 (10.7)		
17	-3.2 (5.7)	-4.5 (8.1)	-1.2 (5.8)	-1.7 (8.2)	6.3 (10.1)	8.9 (14.4)		
18	-4.9 (2.7)	-6.9 (3.8)	-2.2 (3.8)	-3.1 (5.4)	10.8 (8.3)	15.5 (11.9)		
19	-5.2 (2.9)	-7.4 (4.1)	0.5 (4.9)	0.7 (7.0)	6.2 (12.3)	8.8 (17.5)		
20	-6.7 (0.3)	-9.7 (0.4)	0.5 (6.2)	0.7 (9.0)	1.2 (7.0)	1.7 (10.1)		
21	-6.5 (0.9)	-9.2 (1.3)	-1.7 (3.2)	-2.4 (4.5)	29.7 (13.3)	42.4 (19.1)		
22	-6.9 (0.0)	-9.8 (0.0)	-3.5 (1.1)	-5.0 (1.5)	3.0 (7.3)	4.3 (10.4)		
23	-6.9 (0.0)	-9.8 (0.0)	-2.4 (3.0)	-3.4 (4.2)	-2.0 (1.6)	-2.8 (2.3)		
24	-6.9 (0.0)	-9.8 (0.0)	-4.1 (1.5)	-5.9 (2.2)	-3.0 (1.7)	-4.3 (2.4)		
25	-6.9 (0.0)	-9.8 (0.0)	-3.1 (1.7)	-4.4 (2.4)	-1.2 (1.7)	-1.7 (2.4)		
26	-6.9 (0.0)	-9.8 (0.0)	-4.6 (0.9)	-6.6 (1.3)	-2.5 (2.1)	-3.5 (3.0)		
27	-6.6 (0.5)	-9.3 (0.8)	-1.4 (3.2)	-2.0 (4.6)	-0.8 (3.5)	-1.1 (5.0)		
28	-4.8 (1.8)	-6.9 (2.6)	-1.0 (5.5)	-1.4 (7.9)	-0.9 (5.5)	-1.2 (7.9)		
29	-6.9 (0.0)	-9.8 (0.0)	-4.4 (2.7)	-6.3 (3.8)	-4.1 (1.5)	-5.8 (2.1)		
30	-6.9 (0.0)	-9.8 (0.0)	-5.3 (1.0)	-7.6 (1.4)	-3.8 (2.0)	-5.4 (2.8)	-6.8 (0.2)	-9.6 (0.3)
Avg	-4.0	-5.6	0.5	0.7	4.3	6.2		
n	27	26	26	26	27	27	1	1
SD	8.9	12.9	5.3	7.5	9.3	13.2		
Min	-6.9	-9.9	-5.3	-7.6	-5.6	-8.0		
Max	37.4	53.2	13.8	19.6	31.4	44.7		

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for December, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-3.6 (2.9)	-5.2 (4.1)	-2.9 (1.0)	-4.1 (1.4)	-0.1 (2.3)	-0.1 (3.3)	-6.4 (0.6)	-9.1 (0.8)
2	-6.9 (0.0)	-9.8 (0.0)	-4.0 (1.6)	-5.7 (2.3)	-3.4 (2.7)	-4.8 (3.9)	-5.2 (1.5)	-7.3 (2.1)
3	-6.9 (0.0)	-9.8 (0.0)	-4.7 (1.1)	-6.6 (1.5)	-3.2 (2.0)	-4.5 (2.9)	-6.9 (0.0)	-9.8 (0.0)
4	-4.3 (3.7)	-6.1 (5.2)	-4.2 (1.6)	-5.9 (2.2)	-0.3 (6.3)	-0.4 (9.0)	-6.9 (0.0)	-9.8 (0.0)
5	-6.8 (0.2)	-9.7 (0.3)	-5.5 (1.0)	-7.8 (1.5)	-3.1 (3.0)	-4.4 (4.3)	-6.9 (0.0)	-9.8 (0.0)
6	-6.7 (0.2)	-9.6 (0.3)	-4.8 (1.3)	-6.8 (1.8)	-3.3 (2.6)	-4.7 (3.6)		
7	-6.9 (0.0)	-9.8 (0.0)	-6.0 (0.8)	-8.6 (1.1)				
8	-6.9 (0.0)	-9.8 (0.0)	-6.0 (0.7)	-8.5 (0.9)	-5.2 (0.9)	-7.4 (1.3)	-6.9 (0.1)	-9.8 (0.1)
9	-6.9 (0.0)	-9.8 (0.0)	-5.7 (0.8)	-8.1 (1.1)	-4.6 (1.5)	-6.6 (2.1)	-6.9 (0.0)	-9.8 (0.0)
10	-6.1 (0.8)							
11	-6.7 (0.4)	-9.6 (0.5)	-5.1 (1.2)	-7.2 (1.6)	-3.6 (1.3)	-5.1 (1.8)	-6.6 (0.8)	-9.5 (1.1)
12	-6.3 (1.0)	-8.7 (1.5)						
13	-6.4 (0.9)	-9.1 (1.3)	-4.9 (1.0)	-7.0 (1.4)	-3.4 (2.9)	-4.8 (4.2)	-6.8 (0.3)	-9.7 (0.4)
14	-6.9 (0.0)	-9.8 (0.0)	-5.0 (1.2)	-7.1 (1.7)	-4.3 (1.6)	-6.1 (2.3)	-6.9 (0.0)	-9.8 (0.0)
15	-6.9 (0.0)	-9.8 (0.0)	-5.1 (1.2)	-7.3 (1.8)	-4.0 (1.2)	-5.7 (1.7)	-6.9 (0.1)	-9.8 (0.1)
16	-6.9 (0.0)	-9.8 (0.0)	-6.5 (0.3)	-9.2 (0.5)	-4.9 (1.3)	-6.9 (1.8)	-6.8 (0.2)	-9.7 (0.2)
17	-6.9 (0.0)	-9.8 (0.0)	-6.0 (0.7)	-8.6 (1.0)	-5.7 (0.5)	-8.2 (0.7)		
18	-6.8 (0.2)	-9.7 (0.3)	-5.5 (0.7)	-7.8 (1.0)	-4.9 (0.9)	-6.9 (1.3)		
19	-6.9 (0.3)	-9.7 (0.5)	-5.3 (1.2)	-7.5 (1.7)	-4.2 (2.4)	-6.0 (3.4)		
20	-3.5 (2.1)	-5.0 (3.0)	-4.6 (1.7)	-6.5 (2.4)	0.0 (1.2)	0.0 (1.8)		
21	-4.8 (1.8)	-6.9 (2.6)	-3.9 (1.2)	-5.5 (1.6)	1.2 (2.1)	1.7 (3.0)		
22	-6.2 (1.3)		-1.1 (2.9)	-1.6 (4.2)	-1.2 (3.4)	-1.8 (4.8)		
23	-6.9 (0.0)		-5.2 (2.2)	-7.4 (3.1)	-3.0 (3.8)	-4.3 (5.4)		
24	-6.9 (0.0)		-5.9 (0.7)	-8.3 (1.0)	-5.7 (0.8)	-8.0 (1.1)		
25	-6.0 (1.9)		-4.2 (1.7)	-6.0 (2.3)	-2.9 (2.7)	-4.2 (3.9)		
26	-5.7 (1.9)		-0.3 (2.3)	-0.4 (3.3)	3.5 (5.3)	5.0 (7.5)		
27	-6.9 (0.0)		-5.1 (1.3)	-7.3 (1.8)	-4.0 (1.9)	-5.7 (2.8)		
28	-6.9 (0.0)		-3.5 (2.2)	-5.0 (3.1)	-1.9 (3.7)	-2.7 (5.3)		
29	-6.9 (0.0)		-4.8 (1.2)	-6.8 (1.7)	-3.9 (1.5)	-5.6 (2.1)		
30	-5.0 (3.4)		-1.2 (1.5)	-1.6 (2.1)	0.1 (1.4)	0.2 (2.0)		
31	-6.8 (0.2)		-2.7 (2.9)	-3.9 (4.1)	-0.6 (4.1)	-0.8 (5.9)		
Avg	-6.3	-8.9	-4.5	-6.4	-2.7	-3.9	-6.7	-9.5
n	31	20	29	29	28	28	12	12
SD	1.0	1.6	1.5	2.2	2.2	3.2	0.5	0.7
Min	-6.9	-9.8	-6.5	-9.2	-5.7	-8.2	-6.9	-9.8
Max	-3.5	-5.0	-0.3	-0.4	3.5	5.0	-5.2	-7.3

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for January, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-6.9 (0.0)	-9.8 (0.0)	-5.7 (0.7)	-8.1 (1.1)	-5.4 (1.1)	-7.7 (1.5)		
2	-6.9 (0.0)	-9.8 (0.0)	-6.3 (1.2)	-8.9 (1.6)	-5.7 (1.1)	-8.1 (1.6)		
3	-6.9 (0.0)	-9.8 (0.0)	-6.5 (0.3)	-9.2 (0.4)	-6.3 (0.5)	-9.0 (0.7)		
4	-6.9 (0.0)	-9.8 (0.0)	-6.3 (0.4)	-9.0 (0.6)	-6.6 (0.3)	-9.4 (0.5)		
5	-6.9 (0.0)	-9.8 (0.0)	-6.2 (0.5)	-8.9 (0.6)	-6.1 (0.7)	-8.7 (1.0)		
6	-6.9 (0.0)	-9.9 (0.0)	-5.0 (0.6)	-7.2 (0.9)	-5.9 (0.7)	-8.5 (1.1)		
7	-5.3 (1.2)	-7.5 (1.7)	2.1 (4.4)	3.1 (6.3)	-1.2 (4.2)	-1.7 (6.0)		
8	-5.8 (1.5)	-8.3 (2.1)	7.4 (4.3)	10.6 (6.1)	4.0 (9.2)	5.7 (13.1)		
9	-6.9 (0.0)	-9.8 (0.0)						
10	-3.2 (7.0)	-4.6 (10.0)						
11	-6.8 (0.5)	-9.6 (0.7)	-4.0 (1.7)	-5.7 (2.4)	-4.0 (1.3)	-5.7 (1.9)		
12	6.9 (8.2)	9.8 (11.6)	6.7 (4.9)	9.6 (7.0)	22.4 (19.6)	31.9 (28.0)		
13	-6.2 (1.9)	-8.9 (2.7)	-3.1 (3.6)	-4.5 (5.1)	-4.0 (2.1)	-5.6 (3.0)		
14	-6.9 (0.0)	-9.8 (0.0)	-5.8 (0.8)	-8.2 (1.1)	-4.6 (1.3)	-6.5 (1.8)		
15	-6.7 (0.4)	-9.5 (0.5)	-3.1 (5.7)	-4.3 (8.1)	0.2 (10.8)	0.2 (15.4)		
16	-3.3 (3.8)	-4.7 (5.3)	1.4 (3.8)	1.9 (5.4)	6.0 (8.5)	8.5 (12.1)		
17	-6.9 (0.1)	-9.8 (0.1)	-1.3 (4.4)	-1.9 (6.2)	-2.9 (3.2)	-4.1 (4.5)		
18	-6.9 (0.0)	-9.8 (0.0)	-6.2 (0.5)	-8.7 (0.7)	-5.9 (0.7)	-8.4 (0.9)		
19	-6.9 (0.0)	-9.8 (0.0)	-6.7 (0.2)	-9.5 (0.2)	-6.2 (0.6)	-8.7 (0.8)		
20	-6.9 (0.0)	-9.8 (0.0)						
21	-6.9 (0.0)	-9.8 (0.0)						
22	-6.9 (0.0)	-9.8 (0.0)						
23	-6.9 (0.0)	-9.8 (0.0)	-6.8 (0.1)	-9.7 (0.1)	-6.4 (0.4)	-9.1 (0.6)		
24	-6.9 (0.0)	-9.8 (0.0)	-6.8 (0.1)	-9.7 (0.1)	-6.7 (0.2)	-9.6 (0.3)		
25	-5.8 (2.2)	-8.3 (3.1)	-5.8 (0.9)	-8.2 (1.3)	-4.5 (2.4)	-6.3 (3.4)		
26	-6.8 (0.4)	-9.7 (0.6)	-6.7 (0.2)	-9.6 (0.3)	-6.4 (0.5)	-9.1 (0.7)		
27	-6.7 (0.4)	-9.5 (0.6)	-4.3 (3.1)	-6.2 (4.4)	-1.4 (7.0)	-2.0 (9.9)		
28	-6.8 (0.2)	-9.7 (0.3)	-3.9 (1.2)	-5.6 (1.8)	-5.8 (1.3)	-8.2 (1.8)		
29	-6.9 (0.0)	-9.8 (0.0)	-6.3 (0.8)	-9.0 (1.2)	-6.4 (0.5)	-9.2 (0.8)		
30	-5.7 (4.2)	-8.1 (6.0)						
31	-5.2 (3.7)	-7.4 (5.2)	-6.5 (0.6)	-9.3 (0.9)	-4.7 (2.7)	-6.8 (3.9)		
Avg	-6.0	-8.5	-3.8	-5.5	-3.0	-4.2		
n	31	31	25	25	25	25	0	0
SD	2.5	3.6	4.0	5.7	6.1	8.7		
Min	-6.9	-9.9	-6.8	-9.7	-6.7	-9.6		
Max	6.9	9.8	7.4	10.6	22.4	31.9		

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for February, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-6.9 (0.0)	-9.8 (0.0)	-6.7 (0.2)	-9.5 (0.3)	-5.8 (0.8)	-8.3 (1.2)		
2	-6.9 (0.0)	-9.8 (0.0)	-4.5 (2.6)	-6.4 (3.7)	-3.0 (4.1)	-4.2 (5.8)		
3	-6.4 (1.1)	-9.0 (1.5)	-5.6 (1.5)	-8.0 (2.1)	-3.7 (2.4)	-5.2 (3.5)		
4	-2.2 (5.6)	-3.1 (7.9)	-3.8 (3.0)	-5.4 (4.3)	-2.6 (3.5)	-3.7 (5.0)		
5	-6.9 (0.0)	-9.9 (0.0)	-5.6 (1.7)	-7.8 (2.4)	-4.4 (1.9)	-6.1 (2.7)		
6	-6.9 (0.0)	-9.8 (0.0)	-5.5 (1.2)	-7.8 (1.7)	-4.7 (2.1)	-6.7 (3.0)		
7	-6.9 (0.0)	-9.8 (0.1)	-5.6 (1.0)	-8.0 (1.5)	-4.8 (1.6)	-6.8 (2.2)		
8	-6.9 (0.0)	-9.8 (0.1)						
9	-6.9 (0.0)	-9.8 (0.0)	-6.0 (0.9)	-8.5 (1.3)	-5.6 (0.9)	-8.0 (1.3)		
10	-6.9 (0.0)	-9.8 (0.0)	-6.6 (0.4)	-9.4 (0.6)	-6.1 (0.8)	-8.7 (1.2)		
11	-6.9 (0.0)	-9.8 (0.0)	-6.2 (0.9)	-8.7 (1.3)	-2.0 (7.1)	-2.8 (10.1)		
12	-6.9 (0.0)	-9.8 (0.0)	-6.9 (0.1)	-9.7 (0.1)	-6.4 (0.4)	-9.2 (0.6)		
13	-5.3 (4.1)	-7.4 (5.9)	-3.0 (5.8)	-4.3 (8.3)	-2.1 (6.0)	-2.9 (8.5)		
14	-6.2 (1.9)	-8.8 (2.8)			-5.6 (1.6)	-8.1 (2.3)		
15	-6.9 (0.0)	-9.8 (0.0)	-6.6 (0.5)	-9.4 (0.6)	-6.4 (0.4)	-9.1 (0.6)		
16	11.7 (21.8)	16.7 (30.9)	1.2 (4.5)	1.7 (6.4)	9.4 (12.5)	13.4 (17.8)		
17	-2.6 (4.8)	-3.7 (6.8)	-2.4 (4.4)	-3.5 (6.3)	2.8 (10.3)	4.0 (14.6)		
18	-6.9 (0.0)	-9.8 (0.0)	-6.8 (0.1)	-9.7 (0.1)	-5.9 (0.7)	-8.4 (1.0)		
19	-6.9 (0.0)	-9.8 (0.0)	-6.8 (0.1)	-9.7 (0.1)	-6.0 (0.8)	-8.5 (1.2)		
20	-6.9 (0.0)	-9.8 (0.0)	-6.7 (0.1)	-9.6 (0.2)	-6.0 (0.8)	-8.5 (1.2)		
21	-5.1 (2.6)	-7.3 (3.7)	-5.2 (1.8)	-7.4 (2.6)	-2.7 (3.6)	-3.9 (5.1)		
22	-6.9 (0.0)	-9.8 (0.1)	-6.4 (0.4)	-9.1 (0.6)	-5.1 (1.6)	-7.3 (2.3)		
23	-6.4 (0.9)	-9.1 (1.3)	-5.3 (2.2)	-7.6 (3.2)	-1.7 (8.3)	-2.4 (11.9)		
24	-3.4 (7.5)	-4.8 (10.6)	-5.5 (2.4)	-7.8 (3.4)	-4.1 (4.2)	-5.9 (6.0)		
25	-2.4 (7.4)	-3.3 (10.6)	-4.2 (3.0)	-6.0 (4.3)	-0.4 (6.7)	-0.6 (9.6)		
26	-6.9 (0.1)	-9.8 (0.1)	-6.2 (0.5)	-8.9 (0.7)	-4.0 (1.3)	-5.7 (1.9)		
27	-6.9 (0.0)	-9.8 (0.0)	-6.3 (0.8)	-8.9 (1.2)	-5.2 (1.2)	-7.4 (1.8)		
28	6.4 (16.4)	9.1 (23.3)	-2.6 (5.8)	-3.7 (8.2)	4.4 (14.6)	6.2 (20.7)		
29	-2.1 (8.6)	-2.9 (12.3)						
Avg	-4.9	-6.9	-5.2	-7.4	-3.3	-4.6		
n	29	29	26	26	27	27	0	0
SD	4.2	6.0	1.8	2.6	3.6	5.1		
Min	-6.9	-9.9	-6.9	-9.7	-6.4	-9.2		
Max	11.7	16.7	1.2	1.7	9.4	13.4		

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for March, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-5.7 (3.2)							
2	0.1 (6.2)	0.1 (8.9)	14.2 (7.8)	20.3 (11.1)	14.3 (10.7)	20.4 (15.3)		
3	-6.9 (0.0)	-9.8 (0.0)	-4.7 (1.1)	-6.6 (1.6)	-4.7 (1.2)	-6.8 (1.8)		
4	-6.9 (0.0)	-9.8 (0.0)	-6.0 (0.6)	-8.5 (0.8)	-3.4 (2.0)	-4.8 (2.9)		
5	-6.9 (0.0)	-9.8 (0.0)	-5.0 (1.1)	-7.1 (1.6)	-4.8 (0.8)	-6.9 (1.1)		
6	-6.9 (0.0)	-9.8 (0.0)	-5.6 (0.8)	-8.0 (1.1)	-4.0 (1.9)	-5.7 (2.6)		
7	-6.9 (0.0)	-9.8 (0.0)	-5.9 (0.6)	-8.4 (0.8)	-3.7 (1.3)	-5.3 (1.8)		
8	-6.9 (0.0)	-9.8 (0.0)	-6.1 (0.6)	-8.7 (0.9)	-4.4 (2.0)	-6.2 (2.8)		
9	-5.4 (5.1)	-7.5 (7.4)	-1.7 (6.3)	-2.3 (9.2)	-2.2 (6.1)	-2.9 (8.9)		
10	-5.2 (3.9)	-7.4 (5.6)	-3.9 (4.5)	-5.6 (6.5)	-2.8 (3.8)	-4.0 (5.4)		
11	-6.9 (0.0)							
12	-2.2 (5.5)	-1.8 (7.9)	-2.4 (2.5)	-3.4 (3.6)	3.1 (4.7)	4.4 (6.7)		
13	-6.1 (2.1)	-8.7 (3.0)	-3.6 (2.3)	-5.2 (3.3)	-2.7 (4.1)	-3.9 (5.8)		
14	-6.9 (0.1)	-9.8 (0.1)			-0.3 (5.3)			
15	-6.9 (0.0)	-9.8 (0.0)	-5.1 (1.8)	-7.3 (2.5)	1.0 (3.8)	1.5 (5.5)		
16	-6.9 (0.0)	-9.8 (0.1)	-5.8 (1.0)	-8.2 (1.4)	0.9 (4.2)	1.2 (6.0)		
17	0.1 (4.4)	0.2 (6.2)	-3.2 (1.5)	-4.5 (2.1)	9.4 (5.2)	13.3 (7.4)		
18	-4.1 (4.4)	-5.8 (6.3)	2.9 (6.3)	4.1 (9.0)	14.1 (12.9)	20.2 (18.4)		
19	-6.9 (0.1)	-9.8 (0.1)	-3.0 (2.2)	-4.2 (3.1)	13.3 (11.9)	18.9 (16.9)		
20	-6.9 (0.0)	-9.8 (0.0)	-3.8 (1.6)	-5.5 (2.2)	-0.9 (4.7)	-1.3 (6.7)		
21	-6.9 (0.0)	-9.8 (0.0)	2.1 (6.0)	3.0 (8.6)	6.6 (6.6)	9.4 (9.4)		
22	-6.9 (0.1)	-9.7 (0.1)	-1.3 (3.2)	-1.8 (4.5)	3.5 (4.7)	5.0 (6.7)		
23	-6.9 (0.1)	-9.8 (0.1)	-2.8 (1.4)	-3.9 (2.0)	0.1 (5.1)	0.2 (7.3)		
24	-6.4 (0.8)	-9.1 (1.1)	-1.5 (4.0)	-2.2 (5.7)	-0.1 (3.1)	-0.1 (4.5)		
25	-4.0 (3.2)	-5.7 (4.6)	3.6 (4.8)	5.1 (6.9)	7.9 (9.6)	11.2 (13.6)		
26	-6.9 (0.0)	-9.8 (0.0)	4.5 (11.6)	6.4 (16.6)	3.2 (15.4)	4.5 (22.0)		
27	-6.9 (0.0)	-9.8 (0.0)	-1.7 (3.2)	-2.4 (4.6)	12.5 (6.1)	17.7 (8.6)		
28	-6.9 (0.1)	-9.8 (0.1)	-2.3 (3.1)	-3.3 (4.4)	11.6 (11.1)	16.5 (15.8)		
29	-3.6 (4.1)	-5.1 (5.8)	-3.7 (1.5)	-5.3 (2.1)	7.0 (6.0)	10.0 (8.5)		
30	-3.9 (3.2)	-5.5 (4.5)	5.5 (12.2)	7.9 (17.4)	21.5 (18.6)	30.7 (26.6)		
31	0.4 (9.0)	0.5 (13.3)	5.7 (8.1)	8.5 (11.9)	4.5 (8.3)	6.7 (12.4)		
Avg	-5.5	-7.7	-1.5	-2.0	3.5	5.1		
n	31	29	28	28	29	28	0	0
SD	2.2	3.3	4.6	6.6	7.0	10.1		
Min	-6.9	-9.8	-6.1	-8.7	-4.8	-6.9		
Max	0.4	0.5	14.2	20.3	21.5	30.7		

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for April, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-5.7 (1.8)	-8.2 (2.6)	-2.6 (5.0)	-3.7 (7.2)	-0.2 (7.5)	-0.2 (10.7)		
2	6.5 (13.4)	9.4 (19.0)	8.7 (8.7)	12.4 (12.4)	25.9 (16.5)	37.0 (23.4)		
3	-0.2 (13.2)	-0.3 (18.8)	-4.0 (3.9)	-5.7 (5.6)	4.3 (9.7)	6.1 (13.7)		
4	-6.9 (0.0)	-9.8 (0.0)	-5.0 (1.6)	-7.1 (2.3)	7.9 (5.0)	11.3 (7.1)		
5	1.6 (10.2)	2.3 (14.5)	4.6 (10.9)	6.6 (15.5)	17.6 (29.4)	25.2 (41.9)		
6	11.9 (15.3)	16.9 (21.8)	13.8 (9.9)	19.6 (14.1)	48.4 (24.9)	69.0 (35.6)		
7	-6.9 (0.0)	-9.8 (0.0)	-3.4 (2.4)	-4.8 (3.5)	-3.5 (1.7)	-4.9 (2.5)		
8	-6.1 (0.8)	-8.8 (1.2)	1.2 (7.3)	1.8 (10.5)	13.5 (8.8)	19.3 (12.6)		
9	-6.9 (0.0)	-9.8 (0.0)	-5.1 (1.6)	-7.3 (2.3)	-3.4 (3.0)	-4.9 (4.3)		
10	-2.9 (4.6)	-4.2 (6.6)	-4.7 (2.4)	-6.7 (3.4)	6.6 (9.2)	9.5 (13.1)		
11	-4.6 (4.4)	-6.6 (6.2)	1.3 (6.5)	1.9 (9.4)	2.2 (8.6)	3.1 (12.3)		
12	-6.9 (0.0)	-9.8 (0.0)	-5.4 (0.7)	-7.7 (1.1)	-2.0 (3.4)	-2.9 (4.8)	-6.9 (0.1)	-9.8 (0.1)
13	-6.9 (0.0)	-9.8 (0.0)	-5.3 (0.9)	-7.6 (1.3)	10.4 (6.0)	14.8 (8.6)	-6.8 (0.1)	-9.7 (0.2)
14	-6.9 (0.0)	-9.8 (0.0)	-1.1 (2.9)	-1.5 (4.1)	6.4 (3.5)	9.1 (5.0)	-6.8 (0.3)	-9.6 (0.4)
15	-6.9 (0.1)	-9.8 (0.1)	2.0 (9.2)	2.9 (13.0)	5.1 (13.7)	7.3 (19.5)	9.0 (22.9)	12.7 (32.6)
16	-6.1 (1.0)	-8.6 (1.4)	1.1 (2.1)	1.6 (3.0)	-0.6 (3.9)	-0.9 (5.6)	0.4 (6.2)	0.6 (8.8)
17	-6.8 (0.1)	-9.8 (0.1)	-2.9 (2.0)	-4.1 (2.9)	-4.3 (1.6)	-6.1 (2.3)	0.6 (12.0)	0.9 (17.1)
18	-4.5 (2.9)	-6.4 (4.1)	4.7 (4.1)	6.7 (5.9)	2.8 (6.9)	4.1 (10.0)	4.2 (10.1)	6.1 (14.5)
19	-4.6 (4.4)	-6.5 (6.3)	0.3 (4.7)	0.5 (6.7)	9.7 (16.3)	13.9 (23.3)	-5.7 (1.8)	-8.2 (2.5)
20	-4.2 (3.7)	-6.0 (5.3)	-0.8 (6.9)	-1.1 (9.9)	12.5 (28.6)	17.9 (41.0)	1.0 (12.7)	1.5 (18.1)
21	8.2 (15.7)	11.7 (22.4)	5.1 (4.4)	7.3 (6.2)	31.2 (29.7)	44.8 (42.5)	0.5 (7.0)	0.7 (10.0)
22	-1.0 (6.0)	-1.5 (8.5)	17.2 (9.8)	24.7 (13.9)	40.8 (38.1)	58.6 (54.6)		
23	3.9 (15.0)	5.6 (21.4)	-1.2 (3.1)	-1.7 (4.5)	29.3 (11.4)	41.9 (16.4)	-5.7 (1.2)	-8.2 (1.7)
24	5.5 (10.6)	7.8 (15.1)	8.7 (7.5)	12.5 (10.8)	33.7 (13.3)	48.2 (19.0)	4.8 (10.3)	6.9 (14.7)
25	-0.8 (5.1)	-1.2 (7.3)	5.1 (7.0)	7.4 (10.0)	10.2 (13.8)	14.7 (19.8)	6.4 (11.2)	9.2 (16.1)
26	-6.5 (0.6)	-9.3 (0.9)	-4.9 (1.4)	-7.0 (2.0)	-3.5 (2.4)	-4.9 (3.5)	-6.9 (0.2)	-9.8 (0.2)
27	-6.9 (0.0)	-9.8 (0.0)	-4.9 (1.5)	-7.0 (2.1)	-2.8 (2.9)	-4.0 (4.2)	-6.8 (0.2)	-9.7 (0.2)
28	-6.9 (0.0)	-9.8 (0.0)	0.3 (7.4)	0.4 (10.5)	13.8 (19.8)	19.6 (28.2)	-3.3 (7.3)	-4.7 (10.4)
29	-6.6 (0.3)	-9.5 (0.5)	-5.0 (1.8)	-7.1 (2.6)	6.3 (7.0)	9.0 (10.2)	-6.8 (0.2)	-9.6 (0.3)
30	22.8 (18.8)	32.5 (26.8)	7.7 (4.1)	11.0 (5.8)	52.2 (20.9)	74.5 (29.9)	-6.3 (0.4)	-9.0 (0.5)
Avg	-2.1	-3.0	0.9	1.2	12.3	17.7	-2.0	-2.8
n	30	30	30	30	30	30	18	18
SD	7.0	9.9	5.9	8.4	15.5	22.2	5.2	7.5
Min	-6.9	-9.8	-5.4	-7.7	-4.3	-6.1	-6.9	-9.8
Max	22.8	32.5	17.2	24.7	52.2	74.5	9.0	12.7

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for May, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	0.0 (11.7)	0.0 (16.7)	10.8 (11.1)	15.4 (15.9)	28.5 (33.4)	40.7 (47.6)	0.2 (6.9)	0.3 (9.9)
2	-6.3 (1.0)	-9.0 (1.5)	1.6 (4.4)	2.2 (6.4)	1.6 (4.4)	2.3 (6.3)	-3.6 (3.1)	-5.2 (4.4)
3	-6.9 (0.0)	-9.8 (0.1)	-3.4 (4.7)	-4.9 (6.7)	-3.3 (2.0)	-4.8 (2.8)	-4.4 (4.5)	-6.3 (6.4)
4	-6.8 (0.1)	-9.7 (0.2)	-2.3 (2.3)	-3.3 (3.3)	4.0 (5.0)	5.7 (7.1)	-2.5 (6.5)	-3.5 (9.3)
5	-5.9 (3.9)	-8.4 (5.6)	6.1 (14.9)	8.7 (21.3)	29.1 (46.3)	41.6 (66.2)	-2.7 (6.8)	-3.9 (9.6)
6	-3.7 (4.4)	-5.2 (6.3)	9.2 (11.3)	13.1 (16.1)	28.1 (27.3)	40.2 (39.0)	1.0 (12.0)	1.3 (17.2)
7	-5.5 (2.2)	-7.9 (3.1)	6.2 (3.8)	8.9 (5.4)	38.3 (50.5)	54.9 (72.2)	-0.9 (8.7)	-1.4 (12.4)
8	-6.9 (0.1)	-9.8 (0.1)	-0.7 (3.9)	-0.9 (5.6)	82.2 (31.6)	117.0 (45.1)	-3.8 (3.0)	-5.5 (4.3)
9	-6.8 (0.1)	-9.7 (0.2)	0.2 (3.9)	0.3 (5.6)	56.9 (29.9)	80.7 (42.7)	10.0 (23.7)	14.0 (33.9)
10	-2.6 (5.7)	-3.7 (8.2)	3.7 (8.1)	5.3 (11.5)	43.5 (29.5)	62.2 (42.2)	-3.2 (3.6)	-4.6 (5.1)
11	-4.3 (2.6)	-6.1 (3.7)	-1.8 (2.8)	-2.6 (4.0)	42.4 (18.6)	60.6 (26.6)	-5.6 (1.5)	-8.0 (2.1)
12	0.1 (14.5)	0.2 (20.7)	-0.2 (3.4)	-0.3 (4.8)	34.5 (20.6)	49.2 (29.4)	-6.4 (0.5)	-9.1 (0.8)
13	7.7 (21.9)	10.9 (31.1)	23.2 (9.8)	33.2 (14.0)	48.6 (41.1)	69.5 (58.6)	22.0 (26.7)	31.4 (38.1)
14	-6.8 (0.1)	-9.8 (0.1)	3.8 (6.7)	5.4 (9.5)	20.3 (18.1)	29.0 (26.0)	2.8 (14.4)	3.9 (20.6)
15	-6.8 (0.1)	-9.7 (0.2)	0.1 (3.5)	0.1 (5.0)	25.7 (29.5)	36.7 (42.1)	1.4 (8.0)	2.0 (11.4)
16	-6.9 (0.0)	-9.8 (0.0)	-2.2 (1.9)	-3.1 (2.7)	-2.5 (1.5)	-3.6 (2.1)	10.1 (22.5)	14.5 (32.1)
17	-6.7 (0.4)	-9.5 (0.5)	2.6 (2.6)	3.8 (3.7)	12.8 (24.0)	18.3 (34.4)	64.7 (45.3)	92.5 (64.8)
18	-5.3 (2.5)	-7.6 (3.6)	0.6 (3.5)	0.9 (5.0)	22.4 (15.7)	32.0 (22.4)	16.2 (24.0)	23.1 (34.2)
19	-6.9 (0.0)							
20	-6.9 (0.2)							
21	-6.7 (0.2)	-9.6 (0.2)	1.5 (5.4)	2.1 (7.7)	14.2 (21.3)	20.2 (30.4)		
22	-6.9 (0.1)	-9.8 (0.1)	0.7 (4.0)	1.0 (5.7)	68.2 (41.7)	97.4 (59.6)	15.6 (25.3)	22.2 (36.1)
23	-6.9 (0.0)	-9.8 (0.0)	0.0 (3.9)	-0.1 (5.5)	46.9 (28.7)	67.0 (41.0)	10.0 (8.4)	14.3 (11.9)
24	1.8 (13.9)	2.6 (19.9)	4.7 (6.9)	6.7 (9.9)	26.1 (18.4)	37.3 (26.3)	77.0 (154.0)	110.0 (219.0)
25	-1.1 (11.8)	-1.5 (16.8)	20.9 (8.4)	30.0 (12.0)	31.2 (27.9)	44.6 (39.8)	64.7 (44.3)	92.5 (63.1)
26	-5.7 (1.7)	-8.1 (2.5)	9.4 (7.6)	13.5 (10.9)	23.4 (17.7)	33.7 (25.5)	23.0 (31.2)	33.1 (44.9)
27	-6.3 (0.8)	-9.0 (1.1)	1.9 (6.0)	2.7 (8.6)	107.0 (21.1)	153.0 (30.1)	71.3 (92.6)	102.0 (132.0)
28	-6.6 (0.3)	-9.4 (0.4)	5.0 (7.0)	7.1 (10.0)	44.5 (37.8)	63.6 (54.0)	50.1 (43.4)	71.4 (61.8)
29	-6.5 (0.3)							
30	-5.3 (1.5)	-7.5 (2.1)	28.0 (22.3)	40.2 (32.0)	33.0 (24.9)	47.4 (35.9)	99.4 (110.0)	143.0 (158.0)
31	-2.2 (2.9)	-3.2 (4.1)	23.0 (11.9)	33.1 (17.1)	17.7 (9.7)	25.4 (14.0)	86.4 (109.0)	124.0 (157.0)
Avg	-4.7	-6.4	5.4	7.8	33.0	47.2	22.0	31.4
n	31	28	28	28	28	28	27	27
SD	3.3	4.9	8.3	11.9	24.3	34.6	32.3	46.3
Min	-6.9	-9.8	-3.4	-4.9	-3.3	-4.8	-6.4	-9.1
Max	7.7	10.9	28.0	40.2	107.0	153.0	99.4	143.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for June, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	4.2 (14.3)	6.0 (20.5)	39.5 (17.9)	56.7 (25.6)	82.1 (50.0)	118.0 (71.8)	134.0 (91.9)	193.0 (132.0)
2	8.7 (12.3)	12.5 (17.6)	94.9 (53.6)	136.0 (76.9)	115.0 (66.4)	166.0 (95.3)	106.0 (123.0)	152.0 (176.0)
3	-2.2 (3.3)	-3.0 (4.8)	66.3 (29.5)	94.7 (42.3)	154.0 (74.8)	223.0 (108.0)		
4	-0.7 (4.1)	-1.0 (5.9)	42.1 (12.0)	60.7 (17.3)	57.7 (41.4)	83.2 (59.6)		
5	-4.3 (0.9)							
6	-1.2 (0.9)							
7	-3.6 (2.4)	-5.2 (3.4)						
8	-2.9 (1.5)	-4.1 (2.2)						
9	-3.7 (1.1)	-5.3 (1.5)						
10	-3.1 (4.2)	-6.2 (4.2)	27.8 (17.6)	40.5 (27.0)	32.6 (21.5)	44.8 (31.9)	151.0 (111.0)	218.0 (160.0)
11	11.5 (3.0)							
12	1.4 (6.1)	1.9 (8.8)	74.4 (41.5)	108.0 (59.2)	73.6 (53.9)	106.0 (77.5)	84.4 (65.2)	122.0 (94.5)
13	-1.8 (1.3)	-2.5 (1.9)	48.1 (15.1)	69.3 (21.8)	60.4 (17.0)	87.1 (24.5)	50.7 (39.3)	73.1 (56.6)
14	0.8 (2.7)	1.1 (3.9)	29.8 (14.5)	42.8 (20.8)	57.9 (20.9)	83.2 (29.9)	40.0 (35.2)	57.4 (50.6)
15	11.8 (8.0)	16.9 (11.4)	55.4 (22.7)	79.7 (32.8)	67.8 (27.3)	97.5 (39.3)	93.4 (74.2)	134.0 (107.0)
16	1.2 (2.7)	1.8 (3.9)	57.9 (31.8)	83.3 (45.6)	97.0 (68.0)	140.0 (97.7)	92.4 (93.0)	132.0 (134.0)
17	-1.4 (1.7)	-1.9 (2.5)	39.7 (15.8)	56.9 (22.7)	41.1 (27.0)	58.8 (38.7)	111.0 (106.0)	159.0 (152.0)
18	0.4 (4.7)	0.6 (6.6)	64.0 (42.2)	91.7 (60.5)	109.0 (60.9)	156.0 (87.5)	277.0 (153.0)	398.0 (219.0)
19	32.8 (32.4)	46.9 (46.2)	64.5 (30.8)	92.5 (44.1)	114.0 (62.3)	164.0 (89.2)	111.0 (143.0)	159.0 (205.0)
20	23.9 (23.8)	34.2 (34.1)	64.3 (32.1)	92.2 (46.1)	78.7 (47.8)	113.0 (68.5)	132.0 (135.0)	189.0 (194.0)
21	4.3 (1.6)							
22	-0.1 (3.4)	-0.2 (4.8)	62.5 (18.3)	89.8 (26.3)	57.6 (45.2)	82.8 (65.1)	215.0 (215.0)	309.0 (309.0)
23	-0.2 (3.5)	-0.2 (5.0)	60.5 (23.0)	86.8 (32.9)	69.6 (49.0)	99.8 (70.4)	78.1 (44.9)	112.0 (64.4)
24	2.0 (6.8)	2.9 (9.7)	66.6 (34.1)	95.5 (49.0)	126.0 (102.0)	181.0 (146.0)	150.0 (101.0)	215.0 (145.0)
25	9.7 (6.6)	13.9 (9.5)	79.0 (37.1)	114.0 (53.3)	101.0 (56.1)	145.0 (80.7)	254.0 (161.0)	366.0 (232.0)
26	3.2 (3.4)	4.6 (4.9)	74.6 (15.4)	108.0 (22.3)	60.1 (15.1)	86.8 (21.7)	70.4 (62.3)	102.0 (89.9)
27	4.4 (5.1)	6.3 (7.3)	79.1 (26.2)	114.0 (37.8)	84.0 (29.9)	121.0 (43.2)	108.0 (96.8)	156.0 (140.0)
28	-2.2 (2.1)	-3.2 (3.0)	54.4 (17.3)	78.4 (24.9)	36.6 (13.6)	52.7 (19.6)	65.7 (62.5)	94.7 (90.2)
29	-1.0 (2.9)	-1.5 (4.2)	49.1 (14.5)	70.6 (20.8)	37.2 (23.6)	53.4 (33.8)	69.8 (64.7)	100.0 (92.9)
30	-1.2 (2.7)	-1.8 (3.9)	38.5 (12.6)	55.3 (18.0)	82.4 (45.2)	118.0 (64.8)	221.0 (143.0)	317.0 (205.0)
Avg	3.0	4.4	58.0	83.4	78.1	112.0	125.0	179.0
n	30	26	23	23	23	23	21	21
SD	8.1	12.0	16.5	23.8	30.6	44.3	64.8	92.9
Min	-4.3	-6.2	27.8	40.5	32.6	44.8	40.0	57.4
Max	32.8	46.9	94.9	136.0	154.0	223.0	277.0	398.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for July, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	5.6 (6.6)	8.0 (9.4)	45.1 (33.0)	64.7 (47.3)	39.9 (28.0)	57.2 (40.2)	14.7 (26.0)	21.1 (37.3)
2	-2.3 (2.7)	-3.3 (3.9)	66.9 (21.4)	96.8 (31.0)	50.8 (16.3)	73.4 (23.5)	11.6 (12.2)	16.8 (17.6)
3	-3.1 (1.5)	-4.5 (2.2)	53.8 (15.0)	77.3 (21.5)	171.0 (74.6)	245.0 (107.0)	60.1 (58.3)	86.2 (83.6)
4	-5.8 (0.6)	-8.3 (0.8)	43.2 (12.0)	62.0 (17.2)	94.2 (45.1)	135.0 (64.7)	174.0 (196.0)	250.0 (282.0)
5	19.5 (29.9)	27.8 (42.7)	38.5 (17.3)	55.3 (24.8)	92.0 (61.4)	132.0 (88.2)	-3.9 (2.2)	-5.6 (3.2)
6	-0.5 (10.1)	-0.7 (14.5)	57.9 (31.6)	83.5 (45.6)	77.9 (38.3)	112.0 (54.8)	28.1 (40.1)	40.4 (57.7)
7	13.5 (15.4)	19.4 (22.1)	81.7 (35.0)	118.0 (50.5)	54.5 (28.8)	78.5 (41.5)	14.2 (31.6)	20.4 (45.5)
8	1.0 (4.7)	1.4 (6.8)	57.8 (13.5)	83.6 (19.6)	44.5 (21.3)	64.3 (30.8)	-3.2 (3.1)	-4.6 (4.5)
9	31.6 (3.5)							
10	0.9 (6.2)	1.3 (8.8)	63.9 (42.0)	92.1 (60.5)	71.8 (47.3)	103.0 (68.0)	49.7 (93.6)	71.4 (134.0)
11	19.2 (14.8)	27.7 (21.4)	78.9 (21.1)	114.0 (30.9)	95.3 (59.0)	137.0 (85.2)	68.0 (57.2)	98.1 (82.6)
12	-0.6 (2.7)	-0.9 (3.9)	72.3 (15.0)	105.0 (21.7)	71.3 (35.4)	103.0 (51.0)	21.9 (20.2)	31.6 (29.2)
13	-4.3 (1.2)	-6.2 (1.7)	29.5 (11.4)	42.4 (16.4)	27.3 (18.9)	39.3 (27.2)	-5.1 (2.2)	-7.3 (3.2)
14	-1.6 (4.3)	-2.3 (6.2)	57.1 (52.8)	82.4 (76.2)	57.3 (57.6)	82.4 (82.9)	4.3 (23.8)	6.2 (34.2)
15	22.6 (28.9)	32.4 (41.4)	110.0 (83.1)	159.0 (120.0)	110.0 (103.0)	158.0 (148.0)		
16	53.4 (74.7)	76.9 (108.0)	82.8 (55.5)	120.0 (80.5)	113.0 (80.9)	163.0 (117.0)	21.8 (25.5)	31.5 (36.8)
17	5.0 (8.2)	7.2 (11.8)	101.0 (43.1)	147.0 (62.3)	134.0 (56.2)	194.0 (81.0)	94.1 (92.3)	136.0 (133.0)
18	28.1 (34.5)	40.4 (49.6)	59.2 (43.6)	85.5 (63.1)	110.0 (77.0)	159.0 (111.0)	45.7 (69.3)	66.0 (100.0)
19	20.5 (27.2)	29.4 (39.2)	121.0 (93.4)	175.0 (135.0)	200.0 (132.0)	289.0 (190.0)	200.0 (94.9)	288.0 (137.0)
20	9.4 (6.8)	13.6 (9.8)	81.0 (53.5)	117.0 (77.1)	133.0 (41.8)	192.0 (60.2)	353.0 (203.0)	511.0 (294.0)
21	1.6 (7.3)	2.3 (10.5)	59.2 (26.9)	85.5 (38.8)	112.0 (42.6)	162.0 (61.5)		
22	0.4 (4.8)	0.7 (6.9)	84.4 (20.0)	122.0 (28.8)	182.0 (64.3)	263.0 (93.0)		
23	7.2 (2.3)							
24	-2.0 (3.5)	-4.7 (4.1)	59.4 (40.9)	85.3 (58.8)	107.0 (68.2)	153.0 (97.9)		
25	-2.7 (5.0)	-3.9 (7.2)	110.0 (106.0)	158.0 (152.0)	155.0 (173.0)	222.0 (247.0)	57.5 (68.9)	83.0 (99.6)
26	17.0 (10.4)	24.4 (14.9)	88.6 (57.5)	128.0 (83.0)	93.0 (34.6)	134.0 (49.8)	92.4 (140.0)	133.0 (201.0)
27	-0.7 (9.5)	-1.0 (13.5)	56.2 (31.3)	81.0 (45.2)	106.0 (110.0)	152.0 (158.0)	62.7 (53.8)	90.1 (77.3)
28	-4.7 (1.7)	-6.7 (2.4)	86.2 (41.3)	124.0 (59.7)	129.0 (63.5)	186.0 (91.5)	496.0 (363.0)	716.0 (523.0)
29	4.6 (8.0)	6.7 (11.6)	54.7 (22.6)	79.1 (32.7)	77.0 (33.0)	111.0 (47.5)	11.8 (11.3)	17.1 (16.4)
30	1.3 (5.1)	1.8 (7.4)	43.9 (34.1)	63.4 (49.2)	61.0 (41.3)	88.1 (59.6)	1.3 (3.2)	1.9 (4.6)
31	3.4 (7.8)	4.8 (11.1)	68.3 (38.1)	98.9 (55.1)	91.5 (53.9)	132.0 (77.8)	8.1 (9.0)	11.6 (13.0)
Avg	7.7	9.8	69.4	100.0	98.6	142.0	75.2	108.0
n	31	29	29	29	29	29	25	25
SD	13.1	18.4	22.2	32.2	42.0	60.5	117.0	168.0
Min	-5.8	-8.3	29.5	42.4	27.3	39.3	-5.1	-7.3
Max	53.4	76.9	121.0	175.0	200.0	289.0	496.0	716.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for August, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	10.9 (4.5)	15.7 (6.4)	83.1 (33.7)	121.0 (48.7)	89.9 (54.6)	130.0 (79.0)	40.6 (44.0)	58.6 (63.5)
2	5.3 (4.6)	7.6 (6.6)	79.8 (27.2)	115.0 (39.3)	190.0 (82.4)	274.0 (119.0)	23.0 (11.9)	33.1 (17.1)
3	2.4 (3.9)	3.4 (5.6)	176.0 (115.0)	254.0 (166.0)	215.0 (97.8)	310.0 (141.0)	171.0 (227.0)	246.0 (327.0)
4	14.1 (12.7)	20.1 (18.2)	127.0 (72.2)	185.0 (104.0)	106.0 (70.6)	153.0 (102.0)		
5								
6								
7								
8	5.2 (3.9)	7.4 (5.6)						
9	8.6 (7.1)	12.4 (10.1)						
10	-1.2 (2.6)	-1.7 (3.7)						
11	-3.0 (0.6)	-4.3 (0.8)						
12	8.9 (5.4)							
13	28.7 (9.5)	43.4 (14.5)						
14	18.5 (33.0)	26.5 (47.3)	29.9 (20.2)	43.1 (29.0)	81.8 (48.4)	118.0 (69.6)	-1.3 (2.2)	-1.8 (3.1)
15	-3.2 (0.1)	-4.5 (0.2)	30.3 (23.3)	43.5 (33.5)	65.1 (50.6)	93.5 (72.7)	-2.8 (0.8)	-4.1 (1.2)
16	-3.1 (0.1)	-4.4 (0.2)	34.0 (19.9)	48.8 (28.6)	42.4 (31.8)	60.9 (45.8)	0.2 (4.0)	0.3 (5.7)
17	5.8 (10.8)	8.3 (15.5)	31.3 (19.8)	45.0 (28.4)	35.6 (24.8)	51.2 (35.6)	10.1 (7.3)	14.4 (10.5)
18	7.6 (6.2)	10.9 (8.8)	45.4 (31.8)	65.5 (45.8)	39.3 (30.7)	56.7 (44.2)		
19	4.3 (8.1)	6.1 (11.6)	50.5 (32.0)	72.7 (46.1)	113.0 (79.1)	162.0 (114.0)	69.0 (107.0)	99.3 (153.0)
20	20.1 (36.8)	28.8 (52.8)	42.7 (25.2)	61.4 (36.3)	230.0 (136.0)	330.0 (196.0)	107.0 (109.0)	154.0 (158.0)
21	13.2 (11.2)	19.0 (16.1)	81.4 (44.4)	117.0 (64.1)	270.0 (171.0)	388.0 (246.0)	213.0 (206.0)	306.0 (296.0)
22	2.9 (5.4)	4.1 (7.7)	116.0 (55.6)	168.0 (80.4)	84.5 (42.2)	122.0 (60.9)	64.7 (32.9)	93.5 (47.4)
23	68.8 (46.2)							
24	-0.8 (1.2)	-1.2 (1.7)	43.4 (20.9)	62.4 (30.0)	116.0 (72.3)	166.0 (104.0)	4.6 (5.5)	6.6 (7.9)
25	0.0 (1.9)	0.4 (2.9)						
26	-3.1 (0.2)	-4.5 (0.3)	48.8 (37.1)	70.1 (53.1)	102.0 (45.8)	146.0 (65.7)	46.7 (47.2)	67.0 (67.7)
27	-2.3 (2.6)	-3.3 (3.7)	67.3 (50.6)	96.9 (73.0)	103.0 (60.5)	149.0 (87.1)	78.9 (64.3)	114.0 (92.5)
28	1.4 (5.4)	2.0 (7.7)	147.0 (74.7)	212.0 (108.0)	224.0 (133.0)	323.0 (191.0)	173.0 (106.0)	250.0 (154.0)
29	12.4 (16.8)	17.7 (24.0)	94.4 (52.3)	136.0 (75.3)	120.0 (60.7)	173.0 (87.4)	693.0 (486.0)	999.0 (701.0)
30	11.6 (12.2)	16.7 (17.5)	91.5 (43.7)	131.0 (62.7)	132.0 (72.8)	190.0 (105.0)	31.3 (31.2)	44.9 (44.9)
31	36.6 (19.2)	52.3 (27.5)	64.3 (34.4)	92.5 (49.4)	205.0 (116.0)	294.0 (167.0)	3.1 (5.9)	4.4 (8.5)
Avg	9.7	10.7	74.2	107.0	128.0	185.0	95.8	138.0
n	28	26	20	20	20	20	18	18
SD	14.9	14.4	40.3	58.3	68.0	97.8	158.0	228.0
Min	-3.2	-4.5	29.9	43.1	35.6	51.2	-2.8	-4.1
Max	68.8	52.3	176.0	254.0	270.0	388.0	693.0	999.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for September, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	53.0 (35.8)	75.8 (51.2)	68.3 (32.5)	98.2 (46.7)	318.0 (154.0)	456.0 (221.0)	26.8 (35.4)	38.5 (51.0)
2	35.1 (44.5)	50.3 (63.6)	100.0 (70.1)	145.0 (101.0)	315.0 (179.0)	453.0 (257.0)	65.8 (86.5)	95.0 (125.0)
3	7.5 (15.5)	10.7 (22.2)						
4	-0.9 (2.9)	-1.3 (4.1)	57.0 (29.0)	82.2 (41.8)	140.0 (91.6)	201.0 (132.0)	48.8 (32.7)	70.3 (47.1)
5	2.3 (3.6)	3.4 (5.2)	37.7 (35.8)				70.5 (65.8)	103.0 (95.1)
6	-1.0 (1.1)	-1.4 (1.6)	83.5 (25.9)	120.0 (37.2)	52.9 (26.2)	75.9 (37.6)	234.0 (291.0)	336.0 (418.0)
7	-0.9 (2.5)	-1.3 (3.5)	62.2 (27.3)	89.3 (39.2)	53.4 (46.3)	76.7 (66.4)	5.1 (14.6)	7.4 (20.9)
8	3.7 (3.3)	5.2 (4.8)	71.3 (15.0)	102.0 (21.5)	108.0 (52.9)	155.0 (75.8)	24.4 (44.3)	35.1 (63.5)
9	6.9 (7.2)	9.9 (10.3)	31.4 (17.8)	44.9 (25.5)	35.2 (17.7)	50.4 (25.4)	10.5 (15.8)	15.0 (22.5)
10	26.2 (41.4)	47.8 (61.8)			119.0 (70.0)	170.0 (100.0)		
11	19.4 (23.4)	27.7 (33.4)	60.3 (24.8)	86.8 (35.7)	185.0 (152.0)	265.0 (218.0)	41.4 (29.5)	59.5 (42.6)
12	14.2 (21.7)	20.3 (31.1)	63.1 (44.3)	91.2 (63.9)	79.1 (98.2)	114.0 (142.0)	126.0 (135.0)	182.0 (195.0)
13	43.0 (64.5)	61.6 (92.6)	62.3 (32.7)	90.2 (47.2)	86.9 (135.0)	125.0 (195.0)	521.0 (429.0)	754.0 (621.0)
14	-1.6 (2.3)	-2.3 (3.2)	52.9 (23.6)	76.4 (34.2)	60.6 (55.6)	87.2 (80.0)	634.0 (455.0)	914.0 (655.0)
15	-3.2 (0.1)	-4.6 (0.1)	19.0 (16.2)	27.4 (23.3)	15.1 (8.8)	21.6 (12.6)	-2.0 (1.3)	-2.8 (1.8)
16	-0.6 (3.9)	-0.8 (5.6)	24.4 (18.5)	35.0 (26.6)	17.5 (16.3)	25.1 (23.4)	-0.4 (3.7)	-0.5 (5.3)
17	1.6 (3.0)	2.2 (4.3)	40.8 (16.5)	58.6 (23.7)	44.7 (30.0)	64.2 (43.0)	6.4 (4.6)	9.2 (6.6)
18	4.7 (17.3)	6.6 (24.7)	21.3 (19.1)	30.6 (27.3)	89.0 (68.9)	128.0 (98.7)	0.1 (4.0)	0.2 (5.7)
19	43.6 (43.2)	62.4 (61.8)	78.1 (29.2)	112.0 (42.0)	227.0 (109.0)	326.0 (156.0)	43.2 (47.6)	62.1 (68.5)
20	21.7 (13.9)	31.1 (19.9)	125.0 (84.9)	179.0 (122.0)	169.0 (115.0)	242.0 (164.0)	81.9 (69.5)	118.0 (99.8)
21	32.2 (19.2)	46.1 (27.4)	71.2 (32.9)	102.0 (47.2)	126.0 (70.8)	181.0 (102.0)	283.0 (161.0)	407.0 (232.0)
22	21.8 (17.0)	31.3 (24.3)	85.4 (46.9)	123.0 (67.5)	272.0 (141.0)	390.0 (202.0)	194.0 (191.0)	279.0 (274.0)
23	47.5 (81.6)	68.2 (117.0)						
24	87.3 (153.0)	125.0 (219.0)						
25	18.7 (51.7)	26.8 (73.9)						
26	-1.9 (0.9)	-2.7 (1.4)	48.4 (35.5)	69.5 (50.9)	60.1 (29.4)	86.2 (42.2)	8.6 (9.3)	12.4 (13.4)
27	1.3 (5.4)	1.8 (7.7)	41.7 (23.7)	59.9 (34.0)	43.3 (22.7)	62.0 (32.6)	17.2 (10.6)	24.6 (15.2)
28	3.9 (6.6)	5.5 (9.4)	38.8 (25.2)	55.7 (36.2)	94.4 (50.0)	136.0 (71.7)	41.4 (25.7)	59.4 (36.9)
29	7.2 (5.0)	10.2 (7.1)	43.5 (17.8)	62.4 (25.6)	53.6 (33.6)	76.8 (48.2)	60.2 (69.8)	86.3 (100.0)
30	3.7 (2.8)	5.3 (4.0)	34.7 (32.6)	49.7 (46.6)	22.3 (20.5)	31.8 (29.3)	128.0 (138.0)	183.0 (198.0)
Avg	16.5	24.0	56.9	83.0	111.0	160.0	107.0	154.0
n	30	30	25	24	25	25	25	25
SD	21.1	30.4	24.9	36.1	87.5	126.0	158.0	228.0
Min	-3.2	-4.6	19.0	27.4	15.1	21.6	-2.0	-2.8
Max	87.3	125.0	125.0	179.0	318.0	456.0	634.0	914.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for October, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-1.5 (0.1)	-2.1 (0.1)	19.2 (20.4)	27.4 (29.1)	18.2 (13.1)	26.0 (18.7)	0.6 (4.0)	0.8 (5.7)
2	-1.6 (0.0)	-2.3 (0.1)	5.9 (5.4)	8.4 (7.7)	5.9 (7.1)	8.4 (10.1)	-0.9 (1.2)	-1.3 (1.7)
3	-0.3 (3.1)	-0.4 (4.4)	6.5 (7.6)	9.3 (10.9)	18.5 (12.1)	26.4 (17.3)	-0.6 (1.1)	-0.8 (1.6)
4	-1.9 (0.0)	-2.8 (0.1)	5.5 (6.9)	7.9 (9.9)	13.5 (10.4)	19.3 (14.9)	0.4 (1.4)	0.6 (2.0)
5	-2.1 (0.0)	-3.0 (0.1)	4.5 (3.8)	6.4 (5.4)	41.4 (17.9)	59.1 (25.5)	1.3 (2.5)	1.8 (3.6)
6	8.5 (6.5)	12.2 (9.3)	4.8 (4.2)	6.9 (6.0)	55.2 (27.8)	79.0 (39.7)	4.7 (4.8)	6.6 (6.8)
7	9.9 (7.4)	14.1 (10.5)	17.7 (14.8)	25.4 (21.3)	68.7 (34.7)	98.3 (49.5)	27.2 (19.1)	39.1 (27.5)
8	-1.2 (1.3)	-1.7 (1.8)	17.2 (10.5)	24.6 (15.0)	13.9 (8.3)	19.9 (11.9)	63.8 (46.6)	91.4 (66.8)
9	-1.4 (1.2)	-2.0 (1.7)	14.7 (13.7)	21.3 (19.7)	20.3 (18.1)	29.3 (26.0)	2.4 (4.4)	3.4 (6.2)
10	-2.2 (0.1)	-3.1 (0.1)	7.4 (6.9)	10.6 (9.8)	43.4 (21.5)	62.1 (30.8)	-0.4 (3.0)	-0.6 (4.3)
11	56.1 (69.1)	80.3 (98.9)	28.0 (26.7)	40.1 (38.4)	79.3 (49.5)	114.0 (71.0)	7.3 (7.4)	10.4 (10.6)
12	19.9 (20.0)	28.4 (28.6)	87.0 (54.4)	125.0 (78.1)	126.0 (56.3)	180.0 (80.7)	23.1 (13.7)	33.2 (19.7)
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Avg	6.8	9.8	18.2	26.1	42.0	60.2	10.7	15.4
n	12	12	12	12	12	12	12	12
SD	16.2	23.3	21.9	31.5	33.9	48.6	18.4	26.3
Min	-2.2	-3.1	4.5	6.4	5.9	8.4	-0.9	-1.3
Max	56.1	80.3	87.0	125.0	126.0	180.0	63.8	91.4

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for November, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18	1.6 (1.1)	2.3 (1.6)	8.3 (2.0)	11.8 (2.9)	11.0 (3.7)	15.6 (5.3)	12.1 (18.8)	17.2 (26.8)
19	2.1 (0.7)	3.0 (1.0)	9.4 (4.2)	13.3 (6.0)	11.4 (5.4)	16.3 (7.7)		
20	1.8 (1.0)	2.5 (1.4)	6.0 (1.6)	8.6 (2.3)	8.7 (2.7)	12.3 (3.8)	3.4 (1.3)	4.9 (1.9)
21	0.9 (0.4)	1.2 (0.6)	5.3 (1.2)	7.6 (1.8)	6.1 (1.6)	8.7 (2.3)	3.3 (1.1)	4.8 (1.5)
22	4.2 (3.5)	6.0 (4.9)	8.1 (2.9)	11.6 (4.1)	9.7 (4.3)	13.8 (6.1)	9.8 (4.7)	14.0 (6.6)
23	7.2 (4.5)	10.2 (6.5)	9.2 (3.2)	13.1 (4.5)	11.7 (5.0)	16.6 (7.1)	10.9 (10.9)	15.5 (15.5)
24	2.6 (1.4)	3.7 (2.0)	7.7 (1.8)	10.9 (2.6)	7.5 (1.7)	10.6 (2.4)	4.8 (3.4)	
25	2.3 (0.6)	3.2 (0.8)	6.6 (1.1)	9.5 (1.5)	7.2 (1.1)	10.2 (1.6)	3.3 (0.8)	
26	3.8 (4.4)	5.4 (6.3)	8.4 (3.2)	12.0 (4.6)	10.4 (6.5)	14.8 (9.3)	5.9 (4.5)	8.4 (6.5)
27	6.8 (7.0)	9.6 (9.9)	9.3 (4.2)	13.2 (6.0)	10.7 (5.3)	15.3 (7.5)	8.2 (5.9)	11.7 (8.5)
28	2.8 (1.7)	3.9 (2.4)	6.3 (1.1)	9.0 (1.5)	6.5 (1.8)	9.3 (2.6)	3.0 (1.2)	4.3 (1.7)
29	8.7 (3.6)	12.3 (5.1)						
30	1.9 (1.1)	2.7 (1.5)	6.8 (1.8)	9.7 (2.6)	7.0 (2.2)	10.0 (3.1)	2.4 (1.0)	3.5 (1.4)
Avg	3.6	5.1	7.6	10.9	9.0	12.8	6.1	9.3
n	13	13	12	12	12	12	11	9
SD	2.4	3.4	1.3	1.9	2.0	2.8	3.4	5.0
Min	0.9	1.2	5.3	7.6	6.1	8.7	2.4	3.5
Max	8.7	12.3	9.4	13.3	11.7	16.6	12.1	17.2

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for December, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	2.0 (0.8)	2.9 (1.2)	5.6 (1.1)	8.0 (1.6)	7.7 (2.3)	10.9 (3.3)	3.3 (0.9)	4.7 (1.3)
2	2.5 (0.5)	3.6 (0.7)	7.4 (1.4)	10.6 (2.0)	6.8 (1.4)	9.7 (2.0)	5.0 (1.9)	7.2 (2.7)
3	1.3 (0.5)	1.9 (0.8)	7.6 (1.2)	10.9 (1.7)	7.3 (1.2)	10.4 (1.8)	4.3 (0.8)	6.2 (1.1)
4	1.5 (1.0)	2.2 (1.4)	6.1 (1.5)	8.6 (2.1)	7.6 (2.8)	10.8 (4.0)	4.8 (1.3)	6.9 (1.9)
5	2.2 (0.8)	3.1 (1.2)	6.2 (1.2)	8.8 (1.8)	6.9 (1.6)	9.8 (2.3)	7.8 (2.0)	11.1 (2.9)
6	1.9 (0.7)	2.7 (1.0)	6.5 (0.7)	9.2 (1.1)	7.1 (2.0)	10.1 (2.9)	5.8 (1.6)	8.2 (2.2)
7	3.1 (1.6)	4.4 (2.3)	8.7 (5.1)	12.3 (7.3)	11.4 (7.0)	16.2 (9.9)	11.5 (6.2)	16.4 (8.7)
8	18.2 (8.3)	25.8 (11.8)	20.9 (6.6)	29.7 (9.4)	31.8 (8.9)	45.2 (12.7)	16.8 (10.1)	
9	2.8 (0.7)	4.0 (1.0)	7.5 (0.8)	10.7 (1.1)	8.0 (2.0)	11.4 (2.8)	5.4 (1.2)	
10	2.5 (1.3)	3.6 (1.9)	8.7 (2.4)	12.4 (3.4)	11.2 (3.2)	15.9 (4.6)	7.4 (6.8)	
11	3.0 (0.6)	4.2 (0.8)	8.9 (2.5)	12.7 (3.6)	9.2 (1.8)	13.1 (2.5)	6.5 (5.8)	
12	2.5 (1.0)	3.5 (1.4)	8.7 (2.6)	12.3 (3.7)	8.9 (2.1)	12.6 (3.0)		
13	1.9 (0.9)	2.7 (1.3)	9.9 (0.9)	14.1 (1.2)	9.0 (1.5)	12.8 (2.2)		
14	3.6 (2.2)	5.2 (3.1)	9.6 (1.8)	13.6 (2.6)	9.6 (1.8)	13.7 (2.6)		
15	1.6 (0.6)	2.2 (0.9)	6.5 (1.0)	9.2 (1.5)	9.0 (2.3)	12.8 (3.2)		
16	2.4 (1.0)	3.4 (1.4)	8.6 (4.7)	12.3 (6.7)	11.8 (7.9)	16.8 (11.3)		
17	4.3 (5.4)	6.1 (7.6)	9.7 (5.5)	13.8 (7.9)	13.9 (10.8)	19.7 (15.3)		
18	14.8 (10.6)	21.2 (15.1)	16.5 (7.7)	23.5 (10.9)	17.0 (7.2)	24.2 (10.3)		
19	3.1 (0.8)	4.4 (1.2)	9.2 (2.0)	13.1 (2.9)	12.5 (2.7)	17.8 (3.9)		
20	5.9 (2.1)	8.4 (3.0)	10.2 (3.9)	14.6 (5.6)	18.0 (9.3)	25.6 (13.3)		
21	3.1 (0.4)	4.3 (0.6)	5.9 (0.8)	8.4 (1.2)	7.5 (1.7)	10.7 (2.4)		
22	2.5 (0.4)	3.5 (0.5)	8.2 (2.2)	11.7 (3.2)	10.6 (3.6)	15.0 (5.1)		
23	4.6 (1.4)	6.5 (2.1)	12.3 (3.1)	17.5 (4.4)	13.9 (3.3)	19.8 (4.6)		
24	2.9 (1.0)	4.1 (1.4)	9.5 (4.5)	13.5 (6.5)	9.8 (3.4)	14.0 (4.8)		
25	15.7 (14.8)	22.3 (21.0)	15.1 (9.3)	21.4 (13.3)	17.4 (11.7)	24.7 (16.7)		
26	7.5 (6.2)	10.7 (8.8)	17.2 (4.0)	24.4 (5.6)	20.5 (7.6)	29.2 (10.8)		
27	4.1 (1.3)	5.9 (1.8)	11.9 (4.6)	17.0 (6.5)	13.1 (7.8)	18.7 (11.2)		
28	5.1 (0.9)	7.3 (1.3)	12.5 (4.7)	17.8 (6.7)	16.5 (3.8)	23.5 (5.4)		
29	6.3 (0.8)	9.0 (1.2)	14.1 (2.5)	20.0 (3.5)	14.5 (3.5)	20.7 (5.0)		
30	10.2 (4.8)	14.6 (6.8)	20.6 (6.9)	29.3 (9.8)	23.9 (8.8)	34.0 (12.5)		
31	6.7 (1.3)	9.5 (1.9)	11.8 (1.7)	16.7 (2.5)	16.0 (2.5)	22.8 (3.6)		
Avg	4.8	6.9	10.4	14.8	12.5	17.8	7.2	8.7
n	31	31	31	31	31	31	11	7
SD	4.2	6.0	4.0	5.7	5.6	7.9	3.7	3.6
Min	1.3	1.9	5.6	8.0	6.8	9.7	3.3	4.7
Max	18.2	25.8	20.9	29.7	31.8	45.2	16.8	16.4

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for January, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	6.4 (0.7)	9.1 (1.0)	12.8 (2.6)	18.3 (3.7)	12.1 (3.6)	17.2 (5.1)		
2	5.9 (0.7)	8.4 (1.0)	10.0 (1.4)	14.2 (2.0)	9.8 (2.0)	13.9 (2.9)		
3	6.5 (2.6)	9.2 (3.7)	11.5 (1.1)	16.3 (1.6)	16.0 (2.7)	22.7 (3.8)		
4	12.3 (7.2)	17.5 (10.2)	15.4 (5.1)	21.9 (7.2)	19.7 (11.6)	28.1 (16.5)		
5	5.0 (1.0)							
6	1.9 (0.7)							
7	4.1 (0.7)							
8	2.7 (1.3)	3.9 (1.8)	8.7 (1.8)	12.3 (2.5)	9.4 (2.2)	13.4 (3.1)		
9	12.1 (8.9)	17.2 (12.7)	15.6 (4.8)	22.3 (6.9)	22.5 (12.3)	32.0 (17.4)		
10	1.8 (0.9)	2.5 (1.4)	7.8 (1.3)	11.0 (1.8)	8.2 (1.6)	11.7 (2.3)		
11	3.2 (0.9)	4.5 (1.3)	9.4 (2.7)	13.4 (3.8)	11.3 (3.3)	16.1 (4.7)		
12	3.8 (1.1)	5.3 (1.5)	12.7 (3.9)	18.1 (5.5)	15.1 (7.9)	21.5 (11.3)		
13								
14								
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16								
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31	1.3 (0.3)	1.8 (0.4)	3.9 (0.8)	5.5 (1.1)	4.1 (1.4)	5.9 (2.0)		
Avg	5.2	7.9	10.8	15.3	12.8	18.2		
n	13	10	10	10	10	10	0	0
SD	3.4	5.3	3.4	4.9	5.3	7.5		
Min	1.3	1.8	3.9	5.5	4.1	5.9		
Max	12.3	17.5	15.6	22.3	22.5	32.0		

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for February, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	0.9 (0.4)	1.3 (0.5)	3.7 (0.7)	5.3 (1.0)	2.9 (0.6)	4.2 (0.9)		
2	0.6 (0.3)	0.9 (0.5)	4.3 (2.0)	6.1 (2.8)	4.6 (1.1)	6.5 (1.6)		
3	1.0 (0.5)	1.4 (0.7)	3.3 (0.7)	4.7 (1.0)	4.4 (0.8)	6.2 (1.2)	6.4 (2.3)	
4	1.4 (0.7)	2.0 (1.1)	3.0 (0.7)	4.3 (1.0)	4.0 (0.7)	5.7 (1.0)	4.7 (1.7)	
5								
6								
7								
8								
9								
10								
11								
12	0.6 (0.6)	0.9 (0.9)	2.4 (1.5)	3.4 (2.2)	1.0 (0.5)	1.5 (0.7)	1.4 (0.7)	1.9 (0.9)
13	0.7 (0.6)	1.0 (0.8)	1.7 (0.4)	2.4 (0.6)	1.3 (0.2)	1.8 (0.3)	1.3 (0.5)	1.8 (0.7)
14	0.4 (0.4)	0.5 (0.6)	2.0 (0.5)	2.8 (0.7)	1.8 (0.5)	2.5 (0.7)	1.8 (0.6)	2.5 (0.9)
15	0.6 (0.6)	0.9 (0.9)	2.3 (0.4)	3.3 (0.6)	1.8 (0.4)	2.6 (0.6)	1.4 (0.5)	2.0 (0.7)
16	2.0 (1.8)	2.9 (2.5)	3.3 (2.0)	4.7 (2.9)	2.6 (2.4)	3.6 (3.4)		
17	1.5 (1.2)	2.1 (1.7)	4.7 (2.6)	6.7 (3.7)	4.7 (2.9)	6.6 (4.1)	9.9 (5.5)	14.1 (7.9)
18	0.8 (0.6)	1.2 (0.9)	2.8 (1.0)	4.0 (1.4)	1.8 (0.6)	2.5 (0.8)	2.2 (0.9)	3.1 (1.3)
19	0.6 (0.6)	0.8 (0.8)	2.2 (0.5)	3.1 (0.7)	2.5 (0.9)	3.6 (1.3)	1.3 (0.4)	1.8 (0.6)
20	3.6 (5.0)	5.1 (7.1)	3.6 (2.9)	5.2 (4.1)	4.7 (4.4)	6.7 (6.2)	3.0 (3.7)	4.2 (5.2)
21	2.6 (4.4)	3.7 (6.3)	2.8 (2.0)	4.0 (2.9)	4.1 (3.1)	5.8 (4.4)	0.7 (0.5)	0.9 (0.7)
22	-0.9 (0.7)	-1.3 (1.0)	1.3 (0.3)	1.9 (0.5)	1.4 (0.5)	2.0 (0.7)	0.4 (0.5)	0.6 (0.6)
23	0.0 (1.0)	0.0 (1.5)	1.4 (0.7)	2.0 (1.0)	1.6 (0.7)	2.3 (1.0)	0.6 (0.3)	0.9 (0.5)
24	2.3 (2.6)	3.3 (3.6)	8.4 (3.0)	12.0 (4.3)	9.4 (5.5)	13.6 (7.8)	7.9 (3.1)	11.2 (4.4)
25	-0.5 (0.8)	-0.7 (1.1)	4.8 (2.8)	6.8 (4.0)	3.7 (2.8)	5.3 (4.0)	5.5 (5.3)	7.8 (7.6)
26	4.7 (4.2)	6.6 (5.9)	6.7 (2.8)	9.6 (4.0)	10.3 (7.4)	14.8 (10.5)	5.9 (5.0)	8.5 (7.2)
27	1.3 (2.4)	1.8 (3.4)	2.3 (0.4)	3.3 (0.6)	2.7 (1.0)	3.9 (1.5)	2.2 (0.8)	3.1 (1.1)
28	0.1 (0.5)	0.1 (0.8)	2.3 (0.4)	3.3 (0.5)	2.1 (0.5)	3.0 (0.7)	2.3 (0.6)	3.3 (0.9)
Avg	1.2	1.7	3.3	4.7	3.5	5.0	3.3	4.2
n	21	21	21	21	21	21	18	16
SD	1.3	1.8	1.7	2.4	2.4	3.4	2.7	3.9
Min	-0.9	-1.3	1.3	1.9	1.0	1.5	0.4	0.6
Max	4.7	6.6	8.4	12.0	10.3	14.8	9.9	14.1

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for March, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	-0.1 (0.4)	-0.1 (0.6)	1.8 (0.3)	2.6 (0.5)	2.6 (0.5)	3.7 (0.7)	2.8 (1.1)	4.0 (1.6)
2	0.1 (0.5)	0.1 (0.7)	2.4 (0.5)	3.4 (0.7)	2.7 (0.6)	3.8 (0.8)		
3	2.2 (1.7)	3.1 (2.4)	6.6 (3.9)	9.3 (5.6)	8.3 (4.8)	11.8 (6.8)	9.5 (5.7)	13.5 (8.0)
4	3.3 (3.3)	4.7 (4.6)	13.7 (9.3)	19.5 (13.3)	20.5 (21.4)	29.2 (30.5)	15.3 (8.1)	21.8 (11.5)
5	1.9 (2.2)	2.7 (3.2)	10.5 (7.7)	15.0 (11.0)	9.3 (7.5)	13.3 (10.7)	7.7 (4.8)	11.0 (6.9)
6	1.0 (0.5)	1.5 (0.7)	3.1 (0.9)	4.5 (1.3)	3.5 (1.2)	5.0 (1.8)	2.7 (1.2)	3.9 (1.8)
7	1.9 (2.2)	2.7 (3.1)	7.1 (4.7)	10.1 (6.7)	18.0 (15.3)	25.7 (21.8)	8.9 (12.8)	12.7 (18.2)
8	5.4 (4.9)	7.7 (7.0)	5.9 (4.4)	8.4 (6.3)	12.3 (8.2)	17.6 (11.7)	2.7 (0.6)	3.8 (0.9)
9	2.8 (3.3)	4.0 (4.6)	4.0 (1.8)	5.7 (2.6)	14.9 (10.0)	21.3 (14.2)	4.5 (4.8)	6.3 (6.8)
10	1.2 (0.8)	1.7 (1.1)	6.0 (3.7)	8.6 (5.3)	9.1 (6.7)	12.9 (9.6)	4.3 (4.4)	6.1 (6.3)
11	1.0 (0.4)	1.5 (0.6)	3.2 (0.6)	4.6 (0.9)	3.1 (1.0)	4.4 (1.4)	2.1 (0.3)	3.0 (0.5)
12	1.6 (0.6)	2.2 (0.8)	2.6 (0.3)	3.7 (0.5)	2.9 (0.5)	4.2 (0.8)	2.1 (0.8)	2.9 (1.1)
13	2.0 (2.4)	2.9 (3.4)	13.5 (14.8)	19.2 (21.1)	11.0 (8.8)	15.7 (12.5)	13.4 (17.6)	19.1 (25.0)
14	17.7 (16.1)	25.1 (22.8)	15.2 (12.4)	21.7 (17.7)	31.3 (24.9)	44.6 (35.4)	6.1 (6.5)	8.7 (9.2)
15	34.1 (34.1)	48.5 (48.5)	5.8 (4.9)	8.3 (7.0)	15.0 (10.7)	21.3 (15.2)	3.2 (2.4)	4.5 (3.5)
16	6.7 (13.6)	9.8 (19.6)	10.7 (14.0)	15.7 (20.2)	11.0 (8.5)	15.8 (12.3)		
17	2.8 (1.1)	3.9 (1.5)	7.5 (2.6)	10.7 (3.6)	8.0 (2.6)	11.5 (3.7)	11.6 (11.8)	
18	1.3 (0.5)	1.8 (0.8)	5.0 (1.5)	7.1 (2.2)	7.5 (4.8)	10.8 (6.8)		
19	1.2 (0.4)	1.7 (0.6)	3.7 (0.7)	5.2 (1.0)	13.3 (7.1)	18.9 (10.2)	3.0 (1.0)	4.2 (1.4)
20	39.8 (46.9)	57.7 (66.9)	11.7 (10.7)	16.6 (15.2)	32.1 (30.3)	45.7 (43.1)	5.8 (5.3)	8.3 (7.6)
21	16.5 (24.7)	23.5 (35.1)	24.8 (24.7)	35.4 (35.2)	53.7 (48.7)	76.5 (69.4)	10.4 (6.4)	14.9 (9.2)
22	3.7 (2.8)	5.3 (4.0)	23.5 (25.4)	33.5 (36.2)	38.0 (39.1)	54.2 (55.6)	13.0 (12.7)	18.5 (18.0)
23	6.7 (4.6)	9.6 (6.5)	3.9 (1.1)	5.5 (1.5)	17.4 (6.1)	24.8 (8.7)	2.0 (0.7)	2.8 (1.1)
24	26.4 (9.4)	37.6 (13.5)	23.2 (14.0)	33.1 (20.0)	38.4 (11.2)	54.9 (16.1)	17.2 (14.8)	24.6 (21.2)
25	3.3 (1.8)	4.5 (2.3)	5.2 (1.7)	7.5 (2.4)	7.8 (3.7)	11.1 (5.3)	4.9 (3.2)	7.0 (4.6)
26	5.8 (2.9)	8.3 (4.1)	10.4 (4.4)	14.8 (6.2)	29.3 (25.9)	41.8 (36.9)	4.1 (2.9)	5.9 (4.2)
27	1.9 (2.1)	2.7 (3.0)	6.6 (5.9)	9.4 (8.4)	22.0 (5.3)	31.3 (7.6)	9.3 (13.6)	13.3 (19.4)
28	0.6 (0.4)	0.8 (0.6)	2.8 (0.4)	4.0 (0.6)	12.5 (4.6)	17.8 (6.6)	2.5 (0.6)	3.5 (0.8)
29	0.9 (0.4)	1.2 (0.6)	3.3 (1.2)	4.7 (1.7)	4.2 (2.9)	6.0 (4.1)	2.4 (0.8)	3.4 (1.2)
30	6.0 (6.5)	8.6 (9.3)	2.9 (0.8)	4.1 (1.1)	5.7 (3.7)	8.2 (5.3)	3.6 (3.0)	5.0 (4.2)
31	6.9 (5.3)	9.8 (7.6)	7.3 (4.5)	10.4 (6.4)	14.1 (7.7)	20.2 (10.9)	5.0 (4.6)	7.2 (6.5)
Avg	6.7	9.5	8.2	11.7	15.5	22.1	6.4	8.9
n	31	31	31	31	31	31	28	27
SD	9.8	14.1	6.2	8.9	12.3	17.5	4.4	6.2
Min	-0.1	-0.1	1.8	2.6	2.6	3.7	2.0	2.8
Max	39.8	57.7	24.8	35.4	53.7	76.5	17.2	24.6

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for April, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	2.9 (2.3)	4.1 (3.2)	4.6 (2.2)	6.5 (3.2)	5.7 (2.3)	8.2 (3.3)		
2	0.9 (0.6)	1.3 (0.9)	7.7 (3.8)	10.9 (5.4)	20.2 (6.6)	28.8 (9.4)	3.6 (1.4)	5.1 (2.0)
3	1.8 (0.8)	2.5 (1.1)	3.9 (1.5)	5.5 (2.1)	6.7 (2.9)	9.5 (4.1)	2.2 (0.7)	3.2 (0.9)
4	1.0 (0.3)	1.4 (0.4)	3.2 (0.5)	4.6 (0.8)	5.4 (1.8)	7.6 (2.6)	2.6 (0.4)	3.6 (0.6)
5	0.9 (0.3)	1.3 (0.4)	3.5 (0.8)	5.0 (1.2)	7.1 (2.5)	10.1 (3.5)	2.3 (0.4)	3.2 (0.6)
6	0.9 (0.5)	1.2 (0.7)	3.2 (1.0)	4.6 (1.5)	4.8 (1.5)	6.9 (2.2)		
7	0.8 (0.4)	1.1 (0.6)	3.7 (1.1)	5.3 (1.6)	2.9 (0.8)	4.1 (1.2)	2.5 (0.8)	
8	1.1 (0.5)	1.6 (0.7)	2.6 (1.0)	3.7 (1.4)	2.3 (0.5)	3.3 (0.8)	1.8 (0.5)	
9	3.7 (6.3)	5.3 (9.0)	3.4 (0.6)	4.9 (0.9)	3.9 (1.1)	5.5 (1.5)	2.3 (0.6)	3.3 (0.8)
10	1.1 (1.9)	1.6 (2.7)	4.0 (0.9)	5.7 (1.3)	12.5 (2.9)	17.8 (4.1)	3.4 (0.9)	4.8 (1.3)
11	0.7 (0.4)	1.0 (0.5)	2.9 (1.1)	4.2 (1.6)	7.9 (3.8)	11.3 (5.5)	2.8 (0.9)	4.0 (1.3)
12	0.4 (1.2)	0.6 (1.7)	4.1 (1.9)	5.9 (2.7)	8.8 (3.2)	12.5 (4.6)	2.0 (1.0)	2.8 (1.4)
13	0.1 (0.3)	0.1 (0.4)	3.4 (1.5)	4.9 (2.1)	5.5 (1.8)	7.8 (2.6)	2.2 (1.0)	3.2 (1.4)
14	1.1 (0.6)	1.6 (0.8)	2.7 (0.6)	3.9 (0.9)	7.8 (2.9)	11.2 (4.1)	2.4 (1.1)	3.5 (1.5)
15	1.5 (0.5)	2.1 (0.8)	3.1 (1.9)	4.4 (2.8)	3.4 (2.7)	4.8 (3.8)	1.7 (0.9)	2.4 (1.3)
16	0.3 (1.7)	0.4 (2.5)	2.7 (1.7)	3.8 (2.4)			1.7 (1.1)	2.4 (1.5)
17	6.5 (6.4)	9.2 (9.1)	7.2 (6.3)	10.3 (9.0)	13.5 (11.1)	19.2 (15.9)	7.9 (5.6)	11.3 (8.0)
18	6.6 (3.9)	9.4 (5.5)	12.7 (10.1)	18.1 (14.4)	22.9 (17.4)	32.8 (24.8)	4.8 (1.5)	6.9 (2.1)
19	6.4 (7.1)	9.2 (10.1)	6.9 (3.9)	9.8 (5.6)	19.9 (9.0)	28.4 (12.9)	2.4 (0.8)	3.4 (1.1)
20	0.7 (0.6)	1.0 (0.9)			5.2 (1.6)	7.4 (2.3)		
21	1.2 (0.6)	1.7 (0.8)	3.1 (1.9)	4.5 (2.7)	4.2 (2.1)	6.0 (3.0)	1.7 (0.9)	2.5 (1.3)
22	0.6 (0.7)	0.9 (1.0)	2.9 (1.7)	4.2 (2.5)	9.3 (8.6)	13.3 (12.2)	4.7 (6.0)	6.7 (8.5)
23	6.3 (5.1)	9.6 (7.2)	9.6 (4.2)	13.3 (6.1)	23.1 (8.3)	33.8 (11.9)		
24	2.0 (2.1)	2.9 (3.1)	8.1 (3.5)	11.7 (4.9)	7.3 (2.5)	10.5 (3.7)	4.7 (1.9)	
25	2.3 (0.7)	3.4 (1.0)	7.8 (3.7)	11.1 (5.3)	10.5 (4.5)	15.0 (6.5)	4.0 (1.2)	
26	2.4 (0.9)	3.4 (1.3)	12.3 (4.0)	17.6 (5.7)	12.8 (4.6)	18.4 (6.6)	14.8 (13.9)	
27	0.7 (0.2)	1.0 (0.3)	11.1 (4.6)	16.0 (6.5)	8.4 (2.1)	12.1 (2.9)	20.5 (26.7)	
28	0.9 (0.4)	1.3 (0.6)	6.7 (3.0)	9.5 (4.2)	13.2 (2.8)	18.8 (4.0)	5.3 (2.2)	
29	5.0 (4.9)	7.2 (7.0)	6.0 (2.8)	8.6 (4.0)	21.6 (5.6)	30.9 (8.0)	3.6 (1.6)	
30	5.1 (4.1)	7.3 (5.8)	18.7 (24.0)	26.9 (34.4)	31.6 (28.5)	45.3 (41.0)		
Avg	2.2	3.2	5.9	8.5	10.6	15.2	4.3	4.3
n	30	30	29	29	29	29	25	17
SD	2.1	3.0	3.8	5.5	7.3	10.5	4.3	2.2
Min	0.1	0.1	2.6	3.7	2.3	3.3	1.7	2.4
Max	6.6	9.6	18.7	26.9	31.6	45.3	20.5	11.3

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for May, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	2.8 (0.6)	4.0 (0.8)			7.2 (3.8)	10.4 (5.4)		
2	2.6 (0.6)	3.7 (0.9)	8.9 (3.8)	12.8 (5.4)	6.7 (1.7)	9.5 (2.4)	10.4 (7.9)	
3	12.0 (10.4)	17.2 (14.8)	22.2 (19.6)	31.7 (28.1)	22.3 (26.0)	31.9 (37.1)	22.0 (18.0)	
4	5.1 (4.8)	7.3 (6.8)	16.4 (10.9)	23.5 (15.6)	28.0 (14.7)	40.0 (20.9)	14.1 (10.8)	
5	14.1 (21.4)	20.1 (30.6)	12.9 (7.7)	18.5 (11.1)	24.3 (12.8)	34.7 (18.3)		
6	43.4 (46.6)	61.9 (66.6)	32.6 (9.1)	46.6 (13.0)	49.8 (30.7)	71.2 (43.9)	23.0 (12.9)	
7	3.8 (0.9)	5.4 (1.2)	17.6 (12.6)	25.2 (18.1)	13.0 (7.0)	18.6 (10.1)	12.6 (11.1)	
8	4.0 (1.4)	5.8 (2.0)	21.4 (14.0)	30.7 (20.1)	23.6 (19.7)	33.8 (28.3)	17.7 (20.1)	
9	2.6 (0.5)	3.7 (0.7)	12.5 (3.3)	17.8 (4.8)	12.9 (7.5)	18.5 (10.7)	24.5 (11.4)	
10	1.7 (0.8)	2.5 (1.1)	10.1 (2.2)	14.4 (3.1)	12.6 (10.0)	18.0 (14.3)	11.6 (7.3)	
11	2.0 (0.9)	2.9 (1.3)	11.0 (6.0)	15.7 (8.5)	14.2 (8.5)	20.2 (12.1)	7.2 (7.4)	
12	40.8 (33.2)	58.1 (47.3)	44.7 (17.8)	63.8 (25.3)	78.9 (34.0)	113.0 (48.4)	31.9 (26.8)	
13	20.9 (22.7)	33.2 (34.0)	25.9 (17.0)	37.4 (24.4)	28.6 (23.0)	41.4 (32.9)		
14	4.5 (1.6)	6.5 (2.3)	21.7 (18.5)	31.2 (26.6)	24.7 (35.5)	35.5 (50.9)	16.8 (19.9)	
15	7.1 (4.2)	10.4 (6.0)	33.8 (23.0)	49.5 (33.4)	49.0 (42.8)	70.5 (62.7)		
16	6.7 (3.4)	9.5 (4.8)	15.7 (4.1)	22.5 (5.9)	11.6 (7.3)	16.7 (10.4)	11.4 (4.8)	
17	2.8 (1.6)	4.0 (2.2)	18.9 (16.7)	26.9 (23.8)	18.3 (10.2)	26.0 (14.5)	20.0 (17.5)	
18	9.7 (5.9)		22.6 (13.5)	32.3 (19.4)	23.6 (23.1)	33.5 (32.8)		
19	3.2 (0.7)	4.5 (1.0)	11.6 (4.2)	16.6 (6.0)	7.5 (2.6)	10.7 (3.7)	11.2 (10.7)	
20	2.7 (0.5)	3.8 (0.6)	9.3 (1.5)	13.3 (2.2)	6.4 (2.7)	9.1 (3.9)	7.6 (6.8)	
21	2.8 (0.2)	4.1 (0.3)	5.8 (0.8)	8.3 (1.2)	4.5 (0.7)	6.4 (1.0)	3.7 (0.4)	
22	3.0 (0.7)	4.2 (1.0)	3.9 (0.8)	5.6 (1.2)	4.0 (0.8)	5.7 (1.2)	4.0 (1.2)	
23	5.4 (1.5)	7.8 (2.1)	11.4 (6.2)	16.4 (9.0)	16.2 (7.6)	23.2 (10.9)	26.1 (19.6)	
24	3.3 (0.5)	4.7 (0.7)	19.7 (6.3)	28.2 (9.1)	50.5 (29.3)	72.5 (42.0)	54.6 (33.5)	
25	2.7 (0.5)	3.8 (0.8)	20.5 (5.3)	29.4 (7.6)	31.5 (17.9)	45.1 (25.6)	51.6 (65.2)	
26	6.9 (1.7)	9.9 (2.4)	52.1 (31.3)	75.0 (45.3)	81.0 (20.0)	117.0 (28.8)		
27	9.5 (7.6)	13.6 (11.0)	43.6 (10.6)	62.8 (15.2)	23.3 (8.4)	33.7 (12.1)	104.0 (34.6)	
28	4.3 (2.0)	6.1 (2.9)	36.6 (11.2)	52.4 (16.1)	25.1 (22.4)	36.0 (32.2)	82.8 (73.8)	
29	6.1 (6.5)	8.7 (9.3)	27.4 (8.0)	39.2 (11.3)	26.3 (18.8)	37.6 (27.0)	37.0 (38.7)	
30	3.3 (1.6)	4.7 (2.3)	34.8 (18.4)	49.8 (26.3)	45.8 (28.6)	65.6 (40.8)	43.2 (35.4)	
31	6.5 (5.6)	9.3 (8.0)	33.2 (13.8)	47.6 (19.8)	32.1 (21.3)	46.0 (30.6)	94.2 (68.5)	
Avg	7.9	11.4	22.0	31.5	25.9	37.1	29.7	
n	31	30	30	30	31	31	25	0
SD	9.8	14.4	12.1	17.4	19.2	27.6	27.3	
Min	1.7	2.5	3.9	5.6	4.0	5.7	3.7	
Max	43.4	61.9	52.1	75.0	81.0	117.0	104.0	

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for June, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	2.8 (1.8)	4.0 (2.6)	33.1 (14.4)	48.1 (20.2)	32.2 (15.7)	46.6 (22.5)	138.0 (120.0)	
2	1.4 (0.6)		27.5 (6.3)	39.3 (9.0)	47.5 (23.6)	68.1 (34.1)	51.9 (92.2)	
3	0.7 (0.6)		16.4 (4.6)	23.4 (6.6)	27.7 (10.4)	39.7 (14.9)	29.7 (21.3)	
4	2.3 (1.8)	3.3 (2.5)	15.9 (3.3)	22.8 (4.7)	23.6 (12.0)	33.8 (17.2)	24.5 (22.1)	
5	2.0 (0.9)	2.9 (1.2)	20.5 (8.4)	29.3 (11.9)	22.3 (16.9)	31.8 (24.1)	24.4 (32.4)	
6	1.8 (0.6)	2.6 (0.9)	32.6 (16.3)	46.8 (23.3)	19.2 (13.6)	27.6 (19.6)	123.0 (109.0)	
7	4.4 (4.5)	6.3 (6.4)	42.6 (19.4)	61.3 (27.9)	45.8 (34.5)	65.8 (49.7)	47.5 (43.8)	
8	5.0 (1.1)	7.2 (1.6)	51.3 (20.9)	74.5 (29.4)	27.4 (21.0)	39.9 (30.3)		
9	1.6 (1.2)	2.3 (1.8)	42.5 (11.6)	61.1 (16.7)	54.1 (21.3)	77.6 (30.6)	90.0 (110.0)	141.0 (165.0)
10	3.0 (1.5)	4.3 (2.2)						
11	1.9 (0.6)	2.7 (0.9)	26.0 (5.6)	37.4 (8.0)	45.2 (7.9)	64.9 (11.2)	129.0 (140.0)	186.0 (200.0)
12	3.2 (0.6)	4.6 (0.8)	26.6 (6.8)	38.2 (9.8)	34.4 (9.5)	49.4 (13.6)	18.2 (18.0)	26.2 (25.9)
13	1.1 (0.4)	1.6 (0.5)	33.7 (9.1)	48.4 (13.1)	41.6 (15.1)	59.7 (21.7)	91.1 (119.0)	131.0 (171.0)
14	2.0 (1.1)	2.8 (1.6)	38.5 (10.6)	55.4 (15.3)	47.2 (27.5)	67.8 (39.6)	241.0 (181.0)	346.0 (260.0)
15	2.5 (1.7)	3.6 (2.4)	42.8 (9.0)	61.4 (12.9)	39.4 (13.4)	56.5 (19.3)		
16	18.4 (9.6)	26.4 (13.8)	41.9 (13.9)	60.2 (20.0)	97.7 (10.7)	141.0 (15.4)	131.0 (152.0)	186.0 (218.0)
17	14.8 (7.5)	21.2 (10.7)	39.3 (12.5)	56.6 (18.0)	46.7 (26.4)	67.3 (37.9)	61.3 (60.6)	88.4 (87.3)
18	8.8 (4.1)	12.5 (5.9)	43.1 (15.0)	62.3 (22.1)	66.5 (27.6)	96.4 (40.3)	86.6 (79.7)	
19	12.3 (8.7)	17.7 (12.5)	54.6 (12.5)	78.9 (18.0)	45.3 (16.1)	65.4 (23.2)	47.8 (42.3)	
20	6.9 (2.3)	9.9 (3.4)	42.5 (9.4)	61.4 (13.6)	28.5 (8.1)	41.1 (11.7)	49.3 (42.2)	
21	10.3 (4.4)	14.9 (6.4)	39.4 (12.8)	56.9 (18.5)	36.1 (13.4)	52.2 (19.4)	78.2 (87.5)	
22	19.7 (7.7)	28.4 (11.1)						
23	8.5 (3.0)	12.3 (4.4)			52.0 (13.1)	75.2 (18.9)		
24	9.4 (5.4)	13.5 (7.7)	52.3 (24.4)	75.6 (35.4)	34.3 (8.3)	49.6 (12.0)		
25	6.1 (1.1)	8.8 (1.5)	43.2 (11.0)	62.5 (16.0)	29.4 (9.3)	42.6 (13.4)	43.5 (45.3)	63.1 (65.7)
26	3.6 (1.0)	5.2 (1.5)	36.9 (10.0)	53.2 (14.4)	33.5 (11.1)	48.4 (16.0)	42.3 (36.2)	61.0 (52.2)
27	6.1 (4.0)	8.8 (5.7)	43.6 (9.4)	62.8 (13.6)	31.5 (9.8)	45.4 (14.1)	81.7 (102.0)	118.0 (146.0)
28	6.0 (1.8)	8.6 (2.6)	49.7 (13.5)	71.4 (19.4)	22.5 (8.2)	32.4 (11.7)	151.0 (97.8)	217.0 (141.0)
29	6.5 (2.5)	9.4 (3.6)	36.8 (6.4)	52.9 (9.2)	20.8 (7.0)	29.9 (10.1)	113.0 (121.0)	162.0 (175.0)
30	5.6 (0.8)	8.1 (1.2)	47.6 (13.0)	68.4 (18.6)	25.2 (11.2)	36.1 (16.0)	101.0 (112.0)	144.0 (161.0)
Avg	6.0	9.1	37.8	54.5	38.5	55.4	83.1	144.0
n	30	28	27	27	28	28	24	13
SD	4.9	7.1	10.2	14.8	16.1	23.2	50.9	79.1
Min	0.7	1.6	15.9	22.8	19.2	27.6	18.2	26.2
Max	19.7	28.4	54.6	78.9	97.7	141.0	241.0	346.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for July, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	6.5 (2.4)	9.4 (3.5)	42.1 (8.0)	60.4 (11.4)	21.5 (10.2)	30.8 (14.6)	130.0 (181.0)	186.0 (259.0)
2	3.1 (0.4)	4.5 (0.6)	48.9 (9.6)	70.3 (13.7)	31.9 (20.8)	45.8 (30.0)	59.1 (41.7)	84.9 (59.9)
3	4.3 (1.6)	6.2 (2.3)	34.2 (10.0)	49.2 (14.4)	28.4 (12.8)	40.9 (18.5)	22.3 (19.0)	23.8 (17.7)
4	8.2 (3.0)	11.8 (4.2)	48.1 (8.6)	69.1 (12.3)	83.8 (28.3)	120.0 (40.7)	27.4 (21.2)	39.4 (30.4)
5	8.1 (5.4)	11.7 (7.8)	48.9 (8.8)	70.4 (12.7)	37.9 (9.1)	54.6 (13.1)	133.0 (118.0)	192.0 (170.0)
6	5.7 (1.7)	8.1 (2.4)	45.2 (10.4)	65.1 (15.0)	31.4 (14.2)	45.2 (20.5)	78.9 (107.0)	114.0 (154.0)
7	7.2 (5.0)	10.3 (7.2)	48.6 (12.7)	69.8 (18.3)	33.1 (8.4)	47.5 (12.1)	96.6 (88.7)	139.0 (127.0)
8	4.4 (3.8)	6.3 (5.5)	42.0 (10.8)	60.2 (15.5)	41.0 (14.5)	58.8 (20.8)	42.1 (49.5)	60.4 (71.0)
9	4.9 (2.0)	7.0 (2.9)	67.2 (23.2)	96.7 (33.5)	84.4 (28.3)	121.0 (40.8)	38.8 (17.9)	61.9 (26.3)
10	8.5 (2.9)	12.2 (4.2)	62.5 (15.9)	90.1 (22.9)	57.1 (25.7)	82.3 (36.8)	110.0 (108.0)	
11	6.2 (1.2)	8.9 (1.7)	48.0 (9.5)	69.2 (13.7)	36.5 (13.6)	52.6 (19.6)	186.0 (221.0)	269.0 (319.0)
12	7.6 (4.4)	10.9 (6.3)	58.4 (22.2)	83.9 (31.8)	43.3 (24.5)	62.1 (35.2)	116.0 (128.0)	167.0 (184.0)
13	11.6 (9.3)	16.6 (13.3)	59.2 (15.4)	85.1 (22.1)	44.2 (25.0)	63.4 (35.9)	190.0 (161.0)	272.0 (231.0)
14	30.3 (10.1)	43.3 (14.5)	68.8 (17.8)	98.7 (25.4)	105.0 (46.6)	151.0 (67.1)	118.0 (81.7)	170.0 (117.0)
15	6.1 (3.5)	8.8 (5.0)	73.1 (19.2)	105.0 (27.6)	47.5 (21.9)	68.4 (31.6)	60.7 (53.9)	87.4 (77.5)
16	12.1 (6.0)	17.3 (8.6)	64.0 (16.7)	92.2 (24.1)	19.4 (11.2)	28.0 (16.1)	142.0 (120.0)	204.0 (173.0)
17	7.2 (1.7)	10.2 (2.4)	57.1 (8.1)	82.0 (11.7)	19.4 (8.0)	27.8 (11.5)	88.2 (111.0)	127.0 (160.0)
18	3.1 (2.4)	4.4 (3.5)	56.8 (19.4)	81.4 (27.9)	32.5 (14.4)	46.6 (20.7)	73.7 (74.5)	106.0 (107.0)
19	22.3 (26.6)	31.9 (38.1)	63.2 (20.7)	90.7 (29.7)	66.9 (34.5)	96.1 (49.4)	103.0 (106.0)	148.0 (151.0)
20	44.6 (31.6)	63.8 (45.3)	87.4 (12.8)	125.0 (18.3)	85.5 (19.9)	123.0 (28.4)	93.5 (118.0)	142.0 (179.0)
21	44.8 (62.6)	64.2 (89.6)	59.2 (13.1)	85.1 (18.7)	71.5 (26.5)	103.0 (37.9)	159.0 (291.0)	205.0 (384.0)
22	11.3 (7.9)	16.3 (11.3)	58.6 (13.5)	84.3 (19.4)	68.1 (26.6)	97.9 (38.3)	43.3 (47.8)	62.2 (68.7)
23	8.3 (5.1)	11.8 (7.3)	35.0 (13.7)	50.4 (19.6)	33.1 (17.6)	47.6 (25.3)	113.0 (91.8)	162.0 (132.0)
24	6.3 (2.7)	9.0 (3.9)	57.3 (26.4)	82.5 (37.8)	39.8 (18.6)	57.3 (26.6)	121.0 (188.0)	174.0 (270.0)
25	8.8 (5.2)	12.7 (7.5)					113.0 (82.2)	162.0 (118.0)
26	7.8 (3.4)	11.2 (4.9)	65.1 (19.9)	93.8 (28.5)	24.7 (13.4)	35.6 (19.3)	132.0 (104.0)	190.0 (150.0)
27	4.5 (1.3)	6.5 (1.9)	65.5 (14.5)	94.3 (20.9)	36.1 (11.6)	52.1 (16.7)	27.9 (40.8)	40.2 (58.6)
28	4.4 (1.0)	6.3 (1.5)	59.3 (14.9)	85.6 (21.5)	34.1 (9.2)	49.1 (13.2)	109.0 (101.0)	157.0 (145.0)
29	14.3 (14.0)	20.5 (20.1)	52.8 (6.2)	76.0 (8.9)	71.3 (27.3)	102.0 (39.3)	140.0 (230.0)	201.0 (331.0)
30	30.4 (28.0)	43.6 (40.1)	56.8 (12.2)	81.7 (17.6)	42.8 (19.2)	61.5 (27.4)	74.9 (68.7)	108.0 (98.7)
31	11.0 (7.9)	15.8 (11.4)	62.2 (26.4)	89.5 (38.0)	45.9 (17.1)	66.0 (24.5)	65.6 (84.1)	94.4 (121.0)
Avg	11.7	16.8	56.5	81.3	47.3	68.0	97.0	138.0
n	31	31	30	30	30	30	31	30
SD	10.9	15.6	11.1	16.0	22.0	31.5	43.9	63.3
Min	3.1	4.4	34.2	49.2	19.4	27.8	22.3	23.8
Max	44.8	64.2	87.4	125.0	105.0	151.0	190.0	272.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for August, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	9.3 (2.4)	13.3 (3.5)	48.6 (17.0)	69.8 (24.4)	25.1 (8.5)	36.0 (12.2)	189.0 (187.0)	271.0 (268.0)
2	5.9 (2.0)	8.5 (2.8)	42.2 (13.2)	60.6 (18.9)	31.5 (10.2)	45.2 (14.7)	205.0 (209.0)	294.0 (300.0)
3	3.3 (2.2)	4.7 (3.1)	50.3 (15.1)	72.6 (21.9)	27.9 (13.0)	40.2 (18.7)	65.0 (80.4)	93.5 (115.0)
4	5.9 (4.5)	8.5 (6.5)	83.4 (15.3)	120.0 (22.2)	56.2 (18.2)	81.0 (26.2)	30.8 (33.1)	46.2 (48.6)
5	3.9 (1.6)	5.6 (2.3)	63.7 (13.8)	91.4 (19.8)	57.1 (18.7)	82.0 (27.0)	74.4 (118.0)	108.0 (170.0)
6	22.9 (28.1)	32.8 (40.2)	63.0 (20.5)	90.5 (29.4)	66.2 (26.9)	95.0 (38.6)	49.3 (35.5)	70.8 (51.1)
7	25.0 (12.9)	35.9 (18.5)	90.6 (13.1)	130.0 (18.9)	127.0 (51.7)	182.0 (74.4)	43.5 (15.8)	62.5 (22.8)
8	6.1 (2.8)	8.8 (4.1)	82.9 (13.8)	120.0 (19.9)	49.9 (30.5)	72.0 (43.9)	79.1 (77.3)	115.0 (112.0)
9	4.7 (0.9)	6.8 (1.3)	86.6 (12.7)	126.0 (18.5)	47.3 (17.7)	68.5 (25.5)	110.0 (87.4)	159.0 (126.0)
10	15.8 (7.8)	22.7 (11.2)	79.7 (16.3)	115.0 (23.4)	49.2 (19.6)	71.1 (28.3)		
11	8.5 (3.8)	12.2 (5.4)	62.8 (19.2)	90.6 (27.8)	77.7 (46.5)	112.0 (66.9)	18.0 (6.0)	25.9 (8.7)
12	4.3 (1.2)	6.1 (1.7)	34.7 (7.9)	49.9 (11.4)	87.7 (19.2)	126.0 (27.6)	13.4 (7.9)	19.3 (11.3)
13	10.7 (7.3)	15.4 (10.4)	62.8 (39.2)	90.3 (56.4)	81.4 (24.4)	117.0 (35.2)	64.8 (55.2)	93.3 (79.4)
14	66.7 (65.9)	95.7 (94.7)	118.0 (49.7)	170.0 (71.2)	104.0 (62.3)	150.0 (89.4)	76.9 (43.4)	111.0 (62.5)
15	24.9 (35.4)	35.8 (50.8)	114.0 (31.2)	165.0 (44.7)	128.0 (69.5)	185.0 (99.7)	140.0 (71.6)	201.0 (103.0)
16	10.8 (4.9)	15.6 (7.1)	95.0 (17.4)	137.0 (24.9)	68.6 (20.2)	98.9 (29.0)	80.1 (67.7)	116.0 (97.5)
17	10.2 (8.2)	14.6 (11.8)	101.0 (22.1)	146.0 (31.8)	69.0 (24.9)	99.6 (35.9)	99.8 (77.5)	144.0 (112.0)
18	10.4 (3.6)	15.0 (5.2)	84.8 (18.1)	122.0 (26.2)	48.1 (19.3)	69.3 (27.9)	255.0 (207.0)	368.0 (299.0)
19	13.4 (8.5)	19.2 (12.2)	85.3 (17.6)	123.0 (25.4)	108.0 (47.8)	156.0 (68.9)	70.2 (75.2)	101.0 (108.0)
20	3.3 (0.5)	4.7 (0.8)	63.4 (12.5)	91.4 (18.0)	30.3 (7.4)	43.6 (10.6)	164.0 (212.0)	236.0 (305.0)
21	4.6 (1.9)	6.7 (2.8)	47.6 (6.5)	68.5 (9.7)	31.9 (10.2)	46.5 (14.8)		
22	3.6 (1.1)	5.1 (1.5)	34.9 (5.9)	50.1 (8.5)	61.1 (49.6)	87.6 (71.2)	117.0 (93.7)	169.0 (135.0)
23	3.1 (0.6)	4.5 (0.8)	51.3 (14.4)	73.7 (20.6)	51.4 (24.8)	73.7 (35.6)	104.0 (91.5)	150.0 (131.0)
24	7.4 (2.5)	10.5 (3.6)	80.9 (35.1)	116.0 (50.2)	73.0 (22.7)	105.0 (32.5)	88.6 (101.0)	127.0 (145.0)
25	3.5 (1.7)	5.0 (2.5)	72.9 (26.8)	105.0 (38.2)	53.3 (34.7)	76.5 (49.6)	69.5 (40.6)	100.0 (58.3)
26	3.9 (2.5)	5.6 (3.6)	55.9 (8.5)	80.5 (12.1)	42.3 (17.0)	61.1 (24.5)	112.0 (111.0)	161.0 (159.0)
27	12.3 (12.8)	17.7 (18.3)	45.1 (7.0)	64.9 (10.1)	77.7 (16.5)	112.0 (23.8)	17.9 (10.2)	25.7 (14.6)
28	8.9 (8.7)	12.7 (12.4)	50.4 (5.5)	72.5 (7.9)	66.0 (35.7)	94.9 (51.3)	90.3 (91.3)	126.0 (131.0)
29	8.0 (2.1)	11.4 (3.0)	50.2 (14.4)	72.0 (20.7)	27.3 (6.6)	39.1 (9.5)	64.4 (79.2)	92.4 (114.0)
30	7.2 (5.2)	10.2 (7.5)	49.8 (10.8)	71.3 (15.4)	66.2 (41.3)	94.8 (59.2)	88.4 (70.7)	127.0 (101.0)
31	3.2 (0.9)	4.6 (1.2)	38.2 (15.3)	54.7 (21.8)	41.1 (15.0)	58.7 (21.5)	105.0 (177.0)	150.0 (253.0)
Avg	10.7	15.3	67.4	97.1	62.3	89.7	92.6	133.0
n	31	31	31	31	31	31	29	29
SD	11.9	17.0	22.4	32.4	27.1	38.9	54.8	78.9
Min	3.1	4.5	34.7	49.9	25.1	36.0	13.4	19.3
Max	66.7	95.7	118.0	170.0	128.0	185.0	255.0	368.0

Table F8. Daily means (SD) of H2S concentrations at Site IN5B for September, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}	ppb	µg·dsm^{-3}
1	3.9 (1.5)	5.5 (2.1)	32.8 (6.5)	47.0 (9.4)	39.8 (14.1)	57.0 (20.3)	28.1 (35.3)	40.4 (50.6)
2	5.8 (2.8)	8.2 (3.9)						
3	3.5 (2.7)	5.0 (3.9)	31.7 (11.4)	45.5 (16.5)	43.5 (20.6)	62.5 (29.6)	20.7 (21.1)	29.6 (30.2)
4	0.3 (0.4)	0.5 (0.5)	36.6 (9.7)	53.8 (12.0)	56.7 (45.4)	79.0 (65.5)		
5	4.1 (3.5)	5.9 (5.0)	39.1 (12.0)	56.2 (17.3)	45.4 (23.0)	65.2 (33.0)	24.2 (11.5)	34.8 (16.5)
6	8.5 (4.5)	12.2 (6.4)	49.1 (10.2)	70.6 (14.7)	93.0 (52.0)	134.0 (74.8)	89.0 (54.8)	128.0 (78.7)
7	2.2 (1.7)	3.2 (2.5)	40.8 (6.7)	58.7 (9.7)	52.7 (21.7)	75.7 (31.3)	24.4 (15.0)	35.0 (21.6)
8	0.4 (0.8)	0.6 (1.2)						
9	4.7 (3.4)	6.7 (4.9)	44.4 (16.7)	63.9 (24.0)	57.4 (27.3)	82.7 (39.3)	102.0 (87.9)	147.0 (127.0)
10	5.8 (4.3)	8.3 (6.2)	53.8 (7.3)	77.4 (10.5)	53.2 (28.9)	76.6 (41.6)	16.1 (5.3)	23.2 (7.6)
11	4.0 (4.0)	5.7 (5.8)	49.4 (9.8)	70.9 (14.0)	70.6 (27.3)	101.0 (39.3)	48.3 (51.2)	69.4 (73.4)
12	3.0 (0.6)	4.3 (0.8)	54.1 (10.8)	77.7 (15.6)	83.5 (32.4)	120.0 (46.5)	27.0 (26.2)	38.7 (37.5)
13	4.6 (3.5)	6.6 (5.0)	50.9 (13.2)	73.1 (19.1)	44.5 (21.2)	63.8 (30.4)	133.0 (142.0)	192.0 (204.0)
14	14.6 (7.4)	20.9 (10.6)	53.9 (28.7)	77.6 (41.3)	55.6 (35.2)	80.0 (50.6)		
15	26.8 (12.9)	38.4 (18.5)	53.8 (12.8)	77.3 (18.3)	58.8 (26.8)	84.6 (38.6)	80.4 (63.3)	
16	2.3 (0.7)	3.3 (1.0)	43.8 (7.8)	62.9 (11.3)	60.7 (29.2)	87.2 (42.0)	25.9 (24.6)	
17	2.0 (1.2)	2.8 (1.7)	32.2 (7.0)	46.2 (10.0)	52.4 (40.8)	75.0 (58.5)	18.2 (8.8)	
18	4.4 (1.4)	6.2 (2.0)	37.2 (5.3)	53.3 (7.6)	56.1 (16.0)	80.4 (23.0)	17.3 (7.5)	24.8 (10.7)
19	11.4 (12.8)	16.3 (18.3)	37.0 (7.4)	53.1 (10.7)	113.0 (44.7)	162.0 (64.1)	88.7 (49.3)	136.0 (73.4)
20	9.1 (6.7)	13.0 (9.5)	39.5 (26.0)	56.8 (37.6)	76.5 (39.5)	110.0 (57.0)	106.0 (66.8)	
21	11.0 (13.0)	15.7 (18.6)	43.3 (8.5)	62.3 (12.3)	55.1 (42.5)	79.2 (61.0)	84.1 (113.0)	
22	17.5 (8.4)	25.1 (12.1)	60.2 (18.1)	86.7 (26.1)	98.8 (63.8)	142.0 (91.8)		
23	4.8 (2.7)	6.9 (3.9)	46.7 (12.9)	67.2 (18.7)	45.0 (24.5)	64.7 (35.3)	92.4 (90.8)	
24								
25								
26								
27								
28								
29								
30								
Avg	6.7	9.6	44.3	63.7	62.5	89.6	57.0	74.8
n	23	23	21	21	21	21	18	12
SD	6.0	8.7	8.1	11.7	19.2	27.7	37.9	56.5
Min	0.3	0.5	31.7	45.5	39.8	57.0	16.1	23.2
Max	26.8	38.4	60.2	86.7	113.0	162.0	133.0	192.0

Table F9. Hydrogen sulfide emissions.

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for September, 2007.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13	0.35 0.17	0.05 0.02	0.43 0.20	0.34 0.16	0.82 0.56	0.12 0.08	0.95 0.65	0.75 0.51	0.11 0.16	0.04 0.06
14	0.15 0.09	0.02 0.01	0.17 0.10	0.13 0.08	0.44 0.39	0.06 0.06	0.51 0.45	0.40 0.36	0.01 0.03	0.01 0.01
15	0.08 0.09	0.01 0.01	0.10 0.11	0.08 0.09	0.27 0.20	0.04 0.03	0.32 0.23	0.25 0.18	0.00 0.00	0.00 0.00
16	0.10 0.05	0.01 0.01	0.11 0.06	0.09 0.05	0.36 0.18	0.05 0.03	0.43 0.21	0.34 0.17	-0.01 0.03	0.00 0.01
17	0.27 0.17	0.04 0.02	0.31 0.20	0.25 0.16	0.44 0.17	0.06 0.02	0.51 0.20	0.40 0.16	0.05 0.07	0.02 0.02
18	0.59 0.24	0.09 0.04	0.69 0.29	0.55 0.22	0.69 0.34	0.10 0.05	0.82 0.40	0.65 0.32	0.21 0.14	0.08 0.05
19										
20										
21									0.07 0.22	0.03 0.08
22	0.34 0.17	0.05 0.03	0.40 0.20	0.32 0.16	1.09 0.44	0.16 0.06	1.26 0.51	1.00 0.40	0.00 0.01	0.00 0.00
23	0.23 0.19	0.03 0.03	0.27 0.22	0.21 0.18	1.54 0.78	0.23 0.11	1.78 0.91	1.40 0.71	-0.15 0.19	-0.06 0.07
24										
25	0.49 0.23	0.07 0.03	0.59 0.28	0.47 0.22	0.72 0.48	0.11 0.07	0.83 0.55	0.65 0.43	0.04 0.07	0.01 0.03
26	0.48 0.24	0.07 0.03	0.58 0.28	0.46 0.22	1.37 0.52	0.20 0.08	1.57 0.60	1.24 0.47	0.05 0.06	0.02 0.02
27	0.42 0.31	0.06 0.05	0.51 0.38	0.40 0.30	1.14 1.17	0.17 0.17	1.30 1.34	1.02 1.06	0.05 0.09	0.02 0.03
28	0.04 0.50	0.01 0.07	0.05 0.59	0.04 0.47	0.58 0.56	0.08 0.08	0.66 0.64	0.52 0.50	-0.16 0.28	-0.06 0.10
29	0.56 0.62	0.08 0.09	0.66 0.73	0.52 0.58	1.49 0.96	0.22 0.14	1.71 1.10	1.34 0.87	0.17 0.26	0.06 0.10
30	0.96 0.40	0.14 0.06	1.12 0.47	0.88 0.37	1.02 0.43	0.15 0.06	1.16 0.49	0.91 0.39	0.31 0.26	0.12 0.10
Avg	0.36	0.05	0.43	0.34	0.86	0.13	0.99	0.78	0.05	0.02
n	14	14	14	14	14	14	14	14	15	15
SD	0.24	0.04	0.28	0.22	0.41	0.06	0.47	0.37	0.12	0.04
Min	0.04	0.01	0.05	0.04	0.27	0.04	0.32	0.25	-0.16	-0.06
Max	0.96	0.14	1.12	0.88	1.54	0.23	1.78	1.40	0.31	0.12

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for October, 2007.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1					0.65 0.46	0.10 0.07	0.74 0.52	0.58 0.41	0.24 0.21	0.09 0.08
2					0.87 0.34	0.13 0.05	1.00 0.39	0.78 0.31	1.27 1.09	0.47 0.41
3					1.03 1.17	0.15 0.17	1.18 1.34	0.93 1.06		
4										
5										
6	0.94 0.31	0.14 0.05	1.11 0.37	0.88 0.29	0.92 0.39	0.13 0.06	1.05 0.44	0.83 0.35	6.02 3.11	2.24 1.16
7	1.57 0.51	0.23 0.07	1.88 0.61	1.48 0.48	2.33 1.15	0.34 0.17	2.69 1.34	2.12 1.05	2.07 1.81	0.77 0.67
8	1.25 0.89	0.18 0.13	1.50 1.06	1.18 0.84	1.50 1.40	0.22 0.21	1.74 1.63	1.37 1.29	2.29 2.17	0.85 0.81
9										
10										
11										
12										
13										
14										
15										
16	0.84 0.53	0.12 0.08	0.99 0.62	0.78 0.49	1.01 0.81	0.15 0.12	1.18 0.94	0.93 0.74		
17	0.97 0.73	0.14 0.11	1.14 0.86	0.90 0.68	2.15 1.61	0.31 0.24	2.50 1.88	1.97 1.48	0.17 0.84	0.06 0.31
18	1.29 0.48	0.19 0.07	1.51 0.56	1.19 0.44	1.41 0.90	0.21 0.13	1.63 1.03	1.29 0.81	0.95 0.53	0.35 0.20
19					0.63 0.45	0.09 0.07	0.73 0.52	0.58 0.41	0.68 0.78	0.25 0.29
20					0.45 0.23	0.07 0.03	0.52 0.27	0.41 0.21	0.60 0.49	0.23 0.18
21					0.76 0.43	0.11 0.06	0.88 0.50	0.69 0.39	1.00 1.07	0.37 0.40
22										
23	0.35 0.21	0.05 0.03	0.42 0.25	0.33 0.19	1.28 0.62	0.19 0.09	1.48 0.71	1.16 0.56	0.27 0.41	0.10 0.15
24	0.20 0.10	0.03 0.01	0.24 0.12	0.19 0.09	1.22 0.31	0.18 0.05	1.38 0.35	1.09 0.28	0.37 0.34	0.14 0.13
25	0.22 0.16	0.03 0.02	0.26 0.18	0.20 0.15	0.57 0.24	0.08 0.04	0.65 0.28	0.52 0.22	0.13 0.20	0.05 0.07
26	0.37 0.31	0.05 0.05	0.44 0.36	0.34 0.29	0.70 0.31	0.10 0.05	0.80 0.36	0.63 0.28	0.03 0.11	0.01 0.04
27	0.33 0.22	0.05 0.03	0.39 0.26	0.31 0.20	0.75 0.61	0.11 0.09	0.85 0.69	0.67 0.55	0.18 0.15	0.07 0.06
28										
29										
30										
31										
Avg	0.76	0.11	0.90	0.71	1.07	0.16	1.24	0.97	1.08	0.40
n	11	11	11	11	17	17	17	17	15	15
SD	0.47	0.07	0.55	0.44	0.52	0.08	0.60	0.47	1.48	0.55
Min	0.20	0.03	0.24	0.19	0.45	0.07	0.52	0.41	0.03	0.01
Max	1.57	0.23	1.88	1.48	2.33	0.34	2.69	2.12	6.02	2.24

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for November, 2007.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	-0.75 1.21	-0.11 0.18	-0.91 1.45	-0.72 1.14	-0.51 0.95	-0.07 0.14	-0.60 1.11	-0.47 0.88		
2	0.07 0.41	0.01 0.06	0.08 0.50	0.07 0.40	0.42 0.48	0.06 0.07	0.49 0.55	0.38 0.44		
3	0.14 0.07	0.02 0.01	0.17 0.09	0.13 0.07	0.18 0.16	0.03 0.02	0.21 0.19	0.16 0.15		
4										
5										
6										
7	0.14 0.16	0.02 0.02	0.16 0.18	0.13 0.15	0.17 0.20	0.02 0.03	0.19 0.22	0.15 0.18		
8										
9										
10	0.54 0.64	0.08 0.09	0.64 0.76	0.50 0.60	0.55 0.60	0.08 0.09	0.65 0.70	0.51 0.55		
11					0.44 0.34	0.06 0.05	0.51 0.39	0.40 0.31		
12					0.25 0.14	0.04 0.02	0.29 0.16	0.23 0.12		
13					0.56 0.59	0.08 0.09	0.65 0.69	0.51 0.54		
14										
15	0.10 0.09	0.02 0.01	0.12 0.10	0.10 0.08	0.07 0.04	0.01 0.01	0.09 0.04	0.07 0.03		
16	0.11 0.06	0.02 0.01	0.12 0.07	0.10 0.06	0.19 0.10	0.03 0.01	0.22 0.12	0.17 0.09		
17	0.05 0.06	0.01 0.01	0.06 0.07	0.05 0.06	0.17 0.10	0.03 0.01	0.20 0.12	0.16 0.09		
18	0.07 0.10	0.01 0.01	0.08 0.11	0.06 0.09	0.32 0.20	0.05 0.03	0.36 0.22	0.28 0.18		
19	0.16 0.09	0.02 0.01	0.19 0.10	0.15 0.08	0.28 0.16	0.04 0.02	0.32 0.18	0.25 0.14		
20	0.28 0.21	0.04 0.03	0.32 0.24	0.25 0.19	0.32 0.27	0.05 0.04	0.37 0.31	0.29 0.24		
21	0.19 0.14	0.03 0.02	0.22 0.17	0.17 0.13	0.91 0.47	0.13 0.07	1.03 0.54	0.81 0.42		
22	0.05 0.02	0.01 0.00	0.06 0.02	0.05 0.02	0.18 0.16	0.03 0.02	0.21 0.19	0.16 0.15		
23	0.06 0.04	0.01 0.01	0.07 0.04	0.06 0.03	0.06 0.02	0.01 0.00	0.07 0.02	0.06 0.02		
24	0.04 0.03	0.01 0.00	0.05 0.03	0.04 0.03	0.06 0.02	0.01 0.00	0.06 0.02	0.05 0.02		
25	0.05 0.02	0.01 0.00	0.06 0.02	0.05 0.02	0.08 0.02	0.01 0.00	0.09 0.02	0.07 0.01		
26	0.04 0.02	0.01 0.00	0.04 0.02	0.03 0.02	0.07 0.03	0.01 0.00	0.08 0.04	0.07 0.03		
27	0.08 0.04	0.01 0.01	0.09 0.05	0.07 0.04	0.08 0.03	0.01 0.00	0.09 0.04	0.07 0.03		
28	0.06 0.07	0.01 0.01	0.07 0.08	0.06 0.06	0.06 0.05	0.01 0.01	0.07 0.06	0.05 0.04		
29										
30	0.03 0.02	0.00 0.00	0.03 0.02	0.02 0.01	0.05 0.03	0.01 0.00	0.05 0.03	0.04 0.02	0.00 0.00	0.00 0.00
Avg	0.08	0.01	0.09	0.07	0.22	0.03	0.25	0.20		
n	20	20	20	20	23	23	23	23	1	1
SD	0.22	0.03	0.27	0.21	0.26	0.04	0.30	0.24		
Min	-0.75	-0.11	-0.91	-0.72	-0.51	-0.07	-0.60	-0.47		
Max	0.54	0.08	0.64	0.50	0.91	0.13	1.03	0.81		

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for December, 2007.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.01 0.05	0.00 0.01	0.02 0.06	0.01 0.05	0.05 0.03	0.01 0.00	0.06 0.04	0.05 0.03	-0.04 0.04	-0.01 0.02
2	0.06 0.03	0.01 0.00	0.07 0.04	0.06 0.03	0.07 0.04	0.01 0.01	0.08 0.05	0.06 0.04	0.04 0.04	0.01 0.01
3	0.03 0.02	0.00 0.00	0.04 0.02	0.03 0.01	0.05 0.03	0.01 0.00	0.06 0.03	0.05 0.03	0.00 0.00	0.00 0.00
4	0.00 0.07	0.00 0.01	0.00 0.08	0.00 0.06	0.08 0.10	0.01 0.01	0.09 0.12	0.07 0.09	-0.04 0.06	-0.02 0.02
5	0.02 0.01	0.00 0.00	0.02 0.02	0.02 0.01	0.06 0.04	0.01 0.01	0.06 0.05	0.05 0.04	0.00 0.00	0.00 0.00
6	0.03 0.02	0.00 0.00	0.03 0.02	0.03 0.02	0.05 0.04	0.01 0.01	0.06 0.04	0.05 0.03		
7										
8	0.01 0.01	0.00 0.00	0.02 0.01	0.01 0.01	0.03 0.01	0.00 0.00	0.03 0.02	0.02 0.01	0.00 0.00	0.00 0.00
9	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01	0.03 0.02	0.00 0.00	0.04 0.02	0.03 0.02	0.00 0.00	0.00 0.00
10										
11	0.03 0.02	0.00 0.00	0.03 0.02	0.03 0.02	0.05 0.02	0.01 0.00	0.06 0.03	0.05 0.02	0.00 0.01	0.00 0.00
12										
13	0.02 0.01	0.00 0.00	0.03 0.01	0.02 0.01	0.05 0.04	0.01 0.01	0.06 0.05	0.05 0.04	-0.01 0.01	0.00 0.00
14	0.03 0.02	0.00 0.00	0.03 0.02	0.03 0.02	0.04 0.02	0.01 0.00	0.05 0.03	0.04 0.02	0.00 0.00	0.00 0.00
15	0.03 0.02	0.00 0.00	0.03 0.02	0.03 0.02	0.04 0.02	0.01 0.00	0.05 0.02	0.04 0.02	0.00 0.00	0.00 0.00
16	0.01 0.00	0.00 0.00	0.01 0.01	0.01 0.00	0.03 0.02	0.00 0.00	0.03 0.02	0.03 0.02	0.00 0.00	0.00 0.00
17	0.01 0.01	0.00 0.00	0.02 0.01	0.01 0.01	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01		
18	0.02 0.01	0.00 0.00	0.03 0.01	0.02 0.01	0.03 0.02	0.00 0.00	0.03 0.02	0.03 0.01		
19	0.02 0.02	0.00 0.00	0.03 0.02	0.02 0.02	0.04 0.03	0.01 0.01	0.05 0.04	0.04 0.03		
20	-0.02 0.05	0.00 0.01	-0.02 0.06	-0.02 0.05	0.05 0.03	0.01 0.00	0.06 0.04	0.05 0.03		
21	0.02 0.03	0.00 0.00	0.03 0.03	0.02 0.03	0.10 0.05	0.01 0.01	0.12 0.06	0.09 0.05		
22	0.15 0.10	0.02 0.01	0.18 0.12	0.14 0.09	0.15 0.09	0.02 0.01	0.17 0.10	0.14 0.08		
23	0.04 0.08	0.01 0.01	0.05 0.09	0.04 0.07	0.08 0.12	0.01 0.02	0.09 0.14	0.07 0.11		
24	0.02 0.01	0.00 0.00	0.02 0.01	0.01 0.01	0.02 0.01	0.00 0.00	0.02 0.01	0.01 0.01		
25										
26	0.11 0.09	0.02 0.01	0.13 0.11	0.11 0.09	0.15 0.09	0.02 0.01	0.17 0.10	0.14 0.08		
27										
28	0.06 0.04	0.01 0.01	0.07 0.04	0.05 0.04	0.07 0.06	0.01 0.01	0.09 0.06	0.07 0.05		
29	0.03 0.02	0.00 0.00	0.04 0.02	0.03 0.02	0.04 0.02	0.01 0.00	0.04 0.02	0.03 0.02		
30	0.07 0.07	0.01 0.01	0.08 0.09	0.06 0.07	0.06 0.05	0.01 0.01	0.08 0.06	0.06 0.05		
31	0.07 0.04	0.01 0.01	0.08 0.05	0.06 0.04	0.08 0.05	0.01 0.01	0.09 0.06	0.07 0.05		
Avg	0.03	0.01	0.04	0.03	0.06	0.01	0.07	0.05	0.00	0.00
n	26	26	26	26	26	26	26	26	12	12
SD	0.03	0.00	0.04	0.03	0.03	0.00	0.04	0.03	0.02	0.01
Min	-0.02	0.00	-0.02	-0.02	0.02	0.00	0.02	0.01	-0.04	-0.02
Max	0.15	0.02	0.18	0.14	0.15	0.02	0.17	0.14	0.04	0.01

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for January, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01		
2	0.01 0.02	0.00 0.00	0.01 0.02	0.01 0.01	0.01 0.01	0.00 0.00	0.02 0.02	0.01 0.01		
3	0.01 0.00	0.00 0.00	0.01 0.01	0.01 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
4	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.00 0.00	0.00 0.00	0.00 0.01	0.00 0.00		
5	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
6	0.06 0.02	0.01 0.00	0.07 0.03	0.06 0.02	0.04 0.03	0.01 0.00	0.04 0.03	0.03 0.02		
7	0.26 0.13	0.04 0.02	0.31 0.16	0.25 0.12	0.16 0.14	0.02 0.02	0.18 0.17	0.15 0.13		
8	0.35 0.12	0.05 0.02	0.42 0.15	0.33 0.12	0.38 0.36	0.06 0.05	0.44 0.41	0.34 0.33		
9										
10										
11					0.04 0.02	0.01 0.00	0.05 0.02	0.04 0.02		
12	-0.01 0.14	0.00 0.02	-0.01 0.17	-0.01 0.13	0.25 0.24	0.04 0.04	0.29 0.28	0.23 0.22		
13	0.05 0.04	0.01 0.01	0.06 0.04	0.05 0.03	0.03 0.02	0.01 0.00	0.04 0.02	0.03 0.02		
14	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01	0.03 0.02	0.00 0.00	0.04 0.02	0.03 0.02		
15	0.06 0.08	0.01 0.01	0.07 0.10	0.05 0.08	0.09 0.14	0.01 0.02	0.10 0.16	0.08 0.13		
16	0.07 0.09	0.01 0.01	0.09 0.10	0.07 0.08	0.13 0.10	0.02 0.01	0.15 0.12	0.12 0.09		
17	0.09 0.07	0.01 0.01	0.11 0.08	0.08 0.07	0.05 0.04	0.01 0.01	0.06 0.05	0.05 0.04		
18	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.01 0.01	0.00 0.00	0.02 0.01	0.01 0.01		
19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
20										
21										
22										
23	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
24										
25	0.00 0.02	0.00 0.00	0.00 0.03	0.00 0.02						
26	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.01	0.00 0.00	0.01 0.01	0.00 0.01		
27	0.04 0.05	0.01 0.01	0.04 0.06	0.03 0.05	0.08 0.11	0.01 0.02	0.09 0.13	0.07 0.10		
28	0.05 0.02	0.01 0.00	0.07 0.03	0.05 0.02	0.02 0.01	0.00 0.00	0.02 0.02	0.01 0.01		
29										
30										
31	-0.02 0.05	0.00 0.01	-0.03 0.06	-0.02 0.05						
Avg	0.05	0.01	0.06	0.05	0.07	0.01	0.08	0.06		
n	22	22	22	22	21	21	21	21	0	0
SD	0.09	0.01	0.10	0.08	0.09	0.01	0.11	0.08		
Min	-0.02	0.00	-0.03	-0.02	0.00	0.00	0.00	0.00		
Max	0.35	0.05	0.42	0.33	0.38	0.06	0.44	0.34		

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for February, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.02 0.01	0.01 0.01		
2	0.04 0.04	0.01 0.01	0.04 0.05	0.03 0.04	0.05 0.05	0.01 0.01	0.06 0.06	0.05 0.05		
3	0.01 0.01	0.00 0.00	0.01 0.02	0.01 0.01	0.04 0.03	0.01 0.00	0.04 0.03	0.03 0.02		
4	-0.04 0.10	-0.01 0.01	-0.04 0.12	-0.04 0.09	0.00 0.07	0.00 0.01	0.00 0.08	0.00 0.06		
5					0.05 0.03	0.01 0.01	0.06 0.04	0.05 0.03		
6					0.04 0.04	0.01 0.01	0.04 0.04	0.03 0.03		
7	0.02 0.01	0.00 0.00	0.02 0.02	0.02 0.01	0.03 0.02	0.00 0.00	0.03 0.03	0.03 0.02		
8										
9	0.02 0.02	0.00 0.00	0.02 0.02	0.02 0.02	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01		
10	0.00 0.01	0.00 0.00	0.00 0.01	0.00 0.01	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
11	0.01 0.01	0.00 0.00	0.01 0.02	0.01 0.01	0.08 0.10	0.01 0.01	0.09 0.12	0.07 0.09		
12	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00		
13										
14										
15	0.00 0.01	0.00 0.00	0.01 0.01	0.00 0.01	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.00		
16	-0.18 0.34	-0.03 0.05	-0.22 0.42	-0.17 0.33	-0.04 0.21	-0.01 0.03	-0.05 0.25	-0.04 0.20		
17	0.01 0.05	0.00 0.01	0.01 0.06	0.01 0.05	0.10 0.13	0.02 0.02	0.12 0.16	0.10 0.13		
18	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.02 0.01	0.01 0.01		
19	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01		
21	0.00 0.04	0.00 0.01	0.00 0.05	0.00 0.04	0.03 0.05	0.00 0.01	0.04 0.06	0.03 0.05		
22	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.02 0.02	0.00 0.00	0.03 0.02	0.02 0.02		
23	0.02 0.03	0.00 0.00	0.03 0.04	0.02 0.03	0.07 0.10	0.01 0.01	0.08 0.11	0.06 0.09		
24	-0.03 0.09	0.00 0.01	-0.04 0.11	-0.03 0.08	-0.01 0.07	0.00 0.01	-0.01 0.08	-0.01 0.06		
25	-0.03 0.08	0.00 0.01	-0.04 0.11	-0.03 0.08	0.03 0.06	0.00 0.01	0.03 0.07	0.03 0.06		
26	0.01 0.01	0.00 0.00	0.01 0.01	0.01 0.01	0.04 0.02	0.01 0.00	0.05 0.03	0.04 0.02		
27	0.01 0.01	0.00 0.00	0.01 0.02	0.01 0.01	0.02 0.02	0.00 0.00	0.03 0.02	0.02 0.02		
28	-0.13 0.23	-0.02 0.03	-0.17 0.28	-0.13 0.22	-0.03 0.22	0.00 0.03	-0.03 0.25	-0.03 0.20		
29										
Avg	-0.01	0.00	-0.01	-0.01	0.02	0.00	0.03	0.02		
n	23	23	23	23	25	25	25	25	0	0
SD	0.05	0.01	0.06	0.05	0.03	0.00	0.04	0.03		
Min	-0.18	-0.03	-0.22	-0.17	-0.04	-0.01	-0.05	-0.04		
Max	0.04	0.01	0.04	0.03	0.10	0.02	0.12	0.10		

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for March, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1										
2	0.28 0.21	0.04 0.03	0.34 0.25	0.27 0.20	0.29 0.20	0.04 0.03	0.33 0.23	0.26 0.18		
3	0.05 0.03	0.01 0.00	0.06 0.03	0.04 0.02						
4	0.02 0.01	0.00 0.00	0.02 0.01	0.01 0.01						
5	0.03 0.02	0.00 0.00	0.04 0.02	0.03 0.02	0.03 0.01	0.00 0.00	0.03 0.01	0.03 0.01		
6	0.02 0.01	0.00 0.00	0.03 0.02	0.02 0.01	0.04 0.03	0.01 0.00	0.05 0.04	0.04 0.03		
7	0.02 0.01	0.00 0.00	0.02 0.01	0.01 0.01						
8	0.01 0.01	0.00 0.00	0.02 0.01	0.01 0.01						
9	0.06 0.08	0.01 0.01	0.08 0.10	0.06 0.08						
10	0.02 0.04	0.00 0.01	0.03 0.05	0.02 0.04						
11										
12										
13	0.07 0.06	0.01 0.01	0.08 0.07	0.07 0.06	0.11 0.09	0.02 0.01	0.12 0.10	0.10 0.08		
14										
15	0.05 0.05	0.01 0.01	0.06 0.07	0.05 0.05	0.19 0.13	0.03 0.02	0.22 0.15	0.17 0.12		
16	0.03 0.02	0.00 0.00	0.03 0.03	0.02 0.02	0.13 0.09	0.02 0.01	0.15 0.10	0.11 0.08		
17	-0.07 0.08	-0.01 0.01	-0.09 0.10	-0.07 0.08	0.16 0.08	0.02 0.01	0.19 0.09	0.15 0.07		
18										
19	0.10 0.06	0.01 0.01	0.12 0.07	0.09 0.06	0.38 0.24	0.06 0.03	0.43 0.27	0.34 0.21		
20										
21	0.17 0.09	0.03 0.01	0.20 0.11	0.16 0.08						
22	0.11 0.09	0.02 0.01	0.13 0.10	0.10 0.08	0.15 0.08	0.02 0.01	0.18 0.10	0.14 0.08		
23	0.08 0.04	0.01 0.01	0.09 0.04	0.07 0.03	0.11 0.08	0.02 0.01	0.12 0.09	0.09 0.07		
24	0.09 0.06	0.01 0.01	0.10 0.07	0.08 0.05	0.11 0.05	0.02 0.01	0.12 0.06	0.10 0.04		
25	0.17 0.05	0.03 0.01	0.20 0.06	0.16 0.05	0.25 0.14	0.04 0.02	0.28 0.15	0.22 0.12		
26	0.32 0.40	0.05 0.06	0.38 0.47	0.30 0.37	0.33 0.55	0.05 0.08	0.37 0.63	0.29 0.49		
27	0.12 0.08	0.02 0.01	0.14 0.09	0.11 0.07	0.40 0.14	0.06 0.02	0.46 0.16	0.37 0.13		
28	0.10 0.08	0.01 0.01	0.12 0.10	0.09 0.08	0.32 0.22	0.05 0.03	0.38 0.27	0.30 0.21		
29	-0.01 0.10	0.00 0.01	-0.01 0.12	-0.01 0.09	0.21 0.14	0.03 0.02	0.25 0.17	0.20 0.13		
30	0.28 0.41	0.04 0.06	0.33 0.48	0.26 0.38	0.69 0.61	0.10 0.09	0.81 0.71	0.63 0.56		
31					0.16 0.17	0.02 0.03	0.18 0.20	0.14 0.16		
Avg	0.09	0.01	0.10	0.08	0.22	0.03	0.26	0.20		
n	24	24	24	24	18	18	18	18	0	0
SD	0.10	0.01	0.11	0.09	0.16	0.02	0.18	0.14		
Min	-0.07	-0.01	-0.09	-0.07	0.03	0.00	0.03	0.03		
Max	0.32	0.05	0.38	0.30	0.69	0.10	0.81	0.63		

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for April, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1					0.13 0.12	0.02 0.02	0.15 0.14	0.12 0.11		
2					0.38 0.20	0.06 0.03	0.43 0.22	0.34 0.17		
3										
4	0.05 0.05	0.01 0.01	0.06 0.06	0.05 0.05	0.37 0.12	0.05 0.02	0.42 0.14	0.33 0.11		
5	0.08 0.23	0.01 0.03	0.09 0.26	0.07 0.21	0.51 0.81	0.07 0.12	0.58 0.91	0.46 0.71		
6	0.13 0.60	0.02 0.09	0.15 0.69	0.12 0.54	1.21 0.73	0.18 0.11	1.36 0.82	1.07 0.65		
7	0.12 0.08	0.02 0.01	0.14 0.09	0.11 0.07	0.13 0.06	0.02 0.01	0.15 0.06	0.12 0.05		
8	0.24 0.22	0.03 0.03	0.27 0.26	0.21 0.20	0.65 0.28	0.09 0.04	0.73 0.32	0.57 0.25		
9										
10	-0.04 0.08	-0.01 0.01	-0.05 0.09	-0.04 0.07	0.32 0.19	0.05 0.03	0.35 0.22	0.28 0.17		
11	0.21 0.14	0.03 0.02	0.24 0.16	0.19 0.13	0.23 0.18	0.03 0.03	0.26 0.20	0.21 0.16		
12	0.04 0.02	0.01 0.00	0.05 0.02	0.04 0.02	0.14 0.10	0.02 0.02	0.16 0.12	0.13 0.09	0.00 0.00	0.00 0.00
13	0.03 0.02	0.00 0.00	0.04 0.02	0.03 0.02	0.34 0.12	0.05 0.02	0.38 0.13	0.30 0.10	0.00 0.00	0.00 0.00
14	0.15 0.11	0.02 0.02	0.18 0.13	0.14 0.10	0.32 0.18	0.05 0.03	0.36 0.21	0.28 0.16	0.00 0.00	0.00 0.00
15	0.19 0.13	0.03 0.02	0.22 0.16	0.17 0.12	0.20 0.14	0.03 0.02	0.23 0.16	0.18 0.13	0.22 0.30	0.08 0.11
16	0.25 0.07	0.04 0.01	0.29 0.08	0.23 0.06	0.20 0.11	0.03 0.02	0.23 0.13	0.18 0.10	0.10 0.09	0.04 0.03
17					0.10 0.06	0.01 0.01	0.12 0.07	0.09 0.06	0.18 0.30	0.07 0.11
18					0.23 0.20	0.03 0.03	0.28 0.24	0.22 0.19	0.21 0.25	0.08 0.09
19					0.57 0.46	0.08 0.07	0.68 0.56	0.53 0.44	-0.03 0.12	-0.01 0.04
20					0.55 0.91	0.08 0.13	0.61 1.02	0.48 0.81	0.14 0.38	0.05 0.14
21					0.86 0.58	0.13 0.09	0.96 0.65	0.76 0.52	-0.25 0.56	-0.09 0.21
22										
23	-0.14 0.48	-0.02 0.07	-0.16 0.57	-0.13 0.45	0.84 0.58	0.12 0.09	0.95 0.66	0.75 0.52	-0.29 0.44	-0.11 0.16
24	0.18 0.58	0.03 0.09	0.22 0.69	0.17 0.54	1.01 0.36	0.15 0.05	1.14 0.41	0.90 0.32	-0.03 0.54	-0.01 0.20
25									0.21 0.39	0.08 0.14
26	0.05 0.04	0.01 0.01	0.06 0.05	0.05 0.04	0.09 0.05	0.01 0.01	0.11 0.05	0.08 0.04	-0.01 0.01	0.00 0.00
27	0.07 0.05	0.01 0.01	0.08 0.06	0.06 0.05	0.14 0.12	0.02 0.02	0.16 0.13	0.13 0.10	0.00 0.00	0.00 0.00
28	0.17 0.14	0.03 0.02	0.21 0.16	0.16 0.13	0.47 0.42	0.07 0.06	0.54 0.48	0.42 0.38	0.06 0.12	0.02 0.04
29	0.06 0.06	0.01 0.01	0.06 0.07	0.05 0.05	0.27 0.12	0.04 0.02	0.31 0.14	0.24 0.11	0.00 0.01	0.00 0.00
30	-0.51 0.63	-0.07 0.09	-0.60 0.74	-0.47 0.58	0.83 0.29	0.12 0.04	0.95 0.33	0.75 0.26	-0.68 0.54	-0.25 0.20
Avg	0.07	0.01	0.08	0.06	0.43	0.06	0.48	0.38	-0.01	0.00
n	19	19	19	19	26	26	26	26	18	18
SD	0.17	0.02	0.19	0.15	0.30	0.04	0.34	0.27	0.21	0.08
Min	-0.51	-0.07	-0.60	-0.47	0.09	0.01	0.11	0.08	-0.68	-0.25
Max	0.25	0.04	0.29	0.23	1.21	0.18	1.36	1.07	0.22	0.08

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for May, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.41 0.57	0.06 0.08	0.48 0.67	0.38 0.53	1.00 0.78	0.15 0.11	1.14 0.89	0.90 0.70	0.04 0.34	0.01 0.13
2	0.24 0.16	0.03 0.02	0.28 0.18	0.22 0.14	0.31 0.19	0.04 0.03	0.36 0.22	0.28 0.17	0.07 0.09	0.03 0.03
3	0.13 0.18	0.02 0.03	0.15 0.21	0.12 0.17	0.14 0.08	0.02 0.01	0.16 0.10	0.13 0.08	0.06 0.11	0.02 0.04
4	0.14 0.07	0.02 0.01	0.16 0.09	0.12 0.07	0.36 0.20	0.05 0.03	0.40 0.23	0.32 0.18	0.10 0.15	0.04 0.05
5	0.33 0.34	0.05 0.05	0.39 0.40	0.31 0.31	1.34 1.79	0.20 0.26	1.51 2.01	1.19 1.59	0.08 0.17	0.03 0.06
6									0.10 0.35	0.04 0.13
7	0.46 0.11	0.07 0.02	0.53 0.13	0.42 0.10	1.57 1.82	0.23 0.27	1.78 2.06	1.40 1.62	0.13 0.26	0.05 0.10
8	0.28 0.17	0.04 0.03	0.32 0.20	0.25 0.16	2.80 1.11	0.41 0.16	3.17 1.26	2.50 0.99	0.08 0.08	0.03 0.03
9	0.28 0.15	0.04 0.02	0.32 0.17	0.25 0.14	2.03 1.00	0.30 0.15	2.34 1.16	1.84 0.91	0.41 0.59	0.15 0.22
10	0.20 0.17	0.03 0.03	0.24 0.20	0.19 0.16	1.51 0.95	0.22 0.14	1.74 1.08	1.37 0.85	-0.02 0.19	-0.01 0.07
11	0.10 0.10	0.02 0.01	0.12 0.11	0.09 0.09	1.59 0.69	0.23 0.10	1.81 0.79	1.43 0.62	-0.03 0.08	-0.01 0.03
12	0.05 0.46	0.01 0.07	0.05 0.53	0.04 0.42	1.26 0.89	0.18 0.13	1.44 1.01	1.13 0.79	-0.12 0.25	-0.04 0.09
13	0.66 0.76	0.10 0.11	0.77 0.89	0.60 0.70	1.50 0.98	0.22 0.14	1.71 1.11	1.35 0.88	0.40 0.92	0.15 0.34
14	0.44 0.28	0.06 0.04	0.52 0.32	0.41 0.25	1.15 0.84	0.17 0.12	1.30 0.95	1.02 0.75	0.21 0.32	0.08 0.12
15	0.24 0.10	0.04 0.01	0.28 0.12	0.22 0.09	0.90 0.63	0.13 0.09	1.01 0.70	0.80 0.55	0.19 0.19	0.07 0.07
16	0.19 0.06	0.03 0.01	0.22 0.07	0.17 0.06	0.17 0.06	0.02 0.01	0.19 0.07	0.15 0.05	0.34 0.38	0.13 0.14
17	0.33 0.09	0.05 0.01	0.40 0.10	0.31 0.08	0.72 0.85	0.11 0.13	0.82 0.97	0.65 0.76	2.05 1.36	0.76 0.51
18	0.24 0.16	0.03 0.02	0.28 0.19	0.22 0.15	1.00 0.62	0.15 0.09	1.13 0.70	0.89 0.55	0.58 0.71	0.22 0.26
19										
20										
21										
22	0.33 0.15	0.05 0.02	0.39 0.18	0.30 0.14	2.73 1.47	0.40 0.22	3.09 1.67	2.44 1.32	0.55 0.65	0.21 0.24
23	0.28 0.14	0.04 0.02	0.32 0.17	0.26 0.13	1.89 1.02	0.28 0.15	2.22 1.22	1.75 0.96	0.38 0.23	0.14 0.08
24	0.15 0.39	0.02 0.06	0.17 0.45	0.14 0.36	0.83 0.65	0.12 0.09	0.97 0.75	0.76 0.59	1.70 3.14	0.63 1.17
25	0.73 0.38	0.11 0.06	0.85 0.44	0.67 0.35	1.10 0.73	0.16 0.11	1.24 0.82	0.98 0.65	1.58 0.85	0.59 0.32
26	0.53 0.27	0.08 0.04	0.62 0.32	0.49 0.25	1.04 0.68	0.15 0.10	1.17 0.76	0.92 0.59	0.76 0.85	0.28 0.32
27	0.39 0.23	0.06 0.03	0.46 0.28	0.36 0.22	3.80 0.70	0.56 0.10	4.25 0.78	3.35 0.62	1.75 2.31	0.65 0.86
28	0.43 0.24	0.06 0.04	0.52 0.29	0.41 0.23	1.90 1.51	0.28 0.22	2.11 1.68	1.66 1.33	1.22 0.86	0.45 0.32
29										
30	1.19 0.76	0.17 0.11	1.48 0.94	1.17 0.74	1.22 0.77	0.18 0.11	1.36 0.87	1.07 0.68	2.81 3.01	1.05 1.12
31	0.79 0.30	0.12 0.04	0.96 0.35	0.76 0.28	0.73 0.25	0.11 0.04	0.82 0.28	0.65 0.22	2.43 3.00	0.91 1.11
Avg	0.37	0.05	0.43	0.34	1.33	0.19	1.51	1.19	0.66	0.25
n	26	26	26	26	26	26	26	26	27	27
SD	0.25	0.04	0.30	0.24	0.83	0.12	0.94	0.74	0.82	0.31
Min	0.05	0.01	0.05	0.04	0.14	0.02	0.16	0.13	-0.12	-0.04
Max	1.19	0.17	1.48	1.17	3.80	0.56	4.25	3.35	2.81	1.05

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for June, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	1.12 0.39	0.16 0.06	1.31 0.45	1.03 0.36	2.50 0.94	0.37 0.14	2.79 1.05	2.19 0.83	3.72 2.74	1.38 1.02
2	2.69 1.47	0.39 0.21	3.15 1.72	2.48 1.35	3.20 1.91	0.47 0.28	3.57 2.13	2.81 1.68	2.64 3.12	0.98 1.16
3	2.14 1.01	0.31 0.15	2.51 1.19	1.97 0.94	5.50 2.47	0.80 0.36	6.12 2.76	4.82 2.17		
4	1.43 0.41	0.21 0.06	1.69 0.48	1.33 0.38	1.89 1.28	0.28 0.19	2.11 1.42	1.66 1.12		
5										
6										
7										
8										
9										
10	1.06 0.79	0.15 0.12	1.28 0.96	1.00 0.76	1.16 0.75	0.17 0.11	1.35 0.87	1.06 0.68	4.34 3.05	1.61 1.13
11										
12	2.62 1.31	0.38 0.19	3.13 1.57	2.46 1.24	2.57 1.69	0.38 0.25	2.99 1.97	2.35 1.55	2.11 1.74	0.79 0.65
13	1.67 0.54	0.24 0.08	1.99 0.64	1.57 0.51	2.07 0.75	0.30 0.11	2.41 0.87	1.90 0.69	1.39 1.04	0.52 0.39
14	1.16 0.54	0.17 0.08	1.39 0.64	1.09 0.50	1.98 1.04	0.29 0.15	2.30 1.21	1.81 0.96	1.07 0.93	0.40 0.35
15					1.81 0.99	0.26 0.15	2.14 1.18	1.68 0.93	2.21 2.05	0.82 0.76
16									2.58 2.65	0.96 0.98
17	1.57 0.57	0.23 0.08	1.88 0.69	1.48 0.54	1.45 0.84	0.21 0.12	1.65 0.96	1.30 0.76	3.21 3.09	1.20 1.15
18	1.84 0.91	0.27 0.13	2.21 1.09	1.74 0.86	3.61 2.14	0.53 0.31	4.12 2.45	3.25 1.93	7.89 4.34	2.93 1.61
19	1.11 0.67	0.16 0.10	1.33 0.80	1.05 0.63	2.89 1.41	0.42 0.21	3.32 1.62	2.61 1.28	2.21 3.56	0.82 1.32
20	1.25 1.10	0.18 0.16	1.51 1.32	1.19 1.04	1.87 1.22	0.27 0.18	2.15 1.40	1.69 1.10	2.99 3.66	1.11 1.36
21										
22	2.09 0.73	0.31 0.11	2.51 0.87	1.98 0.69	2.08 1.60	0.30 0.23	2.41 1.86	1.90 1.46	6.12 6.17	2.28 2.30
23	2.38 0.74	0.35 0.11	2.86 0.89	2.25 0.70	2.55 1.79	0.37 0.26	2.95 2.07	2.32 1.63	2.27 1.32	0.85 0.49
24	2.34 0.98	0.34 0.14	2.81 1.18	2.21 0.93	3.88 3.12	0.57 0.46	4.49 3.61	3.54 2.84	4.01 2.69	1.49 1.00
25	2.33 1.45	0.34 0.21	2.80 1.74	2.21 1.37	3.13 1.94	0.46 0.28	3.67 2.26	2.89 1.78	6.57 4.26	2.44 1.58
26	2.31 0.52	0.34 0.08	2.81 0.63	2.21 0.50	1.91 0.67	0.28 0.10	2.24 0.79	1.76 0.62	1.81 1.67	0.68 0.62
27	2.45 0.88	0.36 0.13	3.00 1.08	2.36 0.85	2.26 0.70	0.33 0.10	2.61 0.81	2.05 0.64	2.73 2.46	1.01 0.91
28	1.85 0.65	0.27 0.09	2.26 0.79	1.78 0.62	1.39 0.54	0.20 0.08	1.60 0.63	1.26 0.49	1.79 1.62	0.67 0.60
29	1.52 0.43	0.22 0.06	1.84 0.52	1.45 0.41	1.43 1.01	0.21 0.15	1.64 1.16	1.29 0.92	1.95 1.80	0.73 0.67
30	1.30 0.38	0.19 0.06	1.56 0.46	1.23 0.36	2.96 1.46	0.43 0.21	3.41 1.69	2.68 1.33	6.44 4.23	2.40 1.58
Avg	1.82	0.27	2.18	1.72	2.46	0.36	2.82	2.22	3.34	1.24
n	21	21	21	21	22	22	22	22	21	21
SD	0.53	0.08	0.64	0.51	0.97	0.14	1.09	0.86	1.86	0.69
Min	1.06	0.15	1.28	1.00	1.16	0.17	1.35	1.06	1.07	0.40
Max	2.69	0.39	3.15	2.48	5.50	0.80	6.12	4.82	7.89	2.93

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for July, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	1.31 0.80	0.19 0.12	1.57 0.96	1.24 0.76	1.14 0.63	0.17 0.09	1.30 0.72	1.02 0.57	0.24 0.62	0.09 0.23
2	2.07 0.68	0.30 0.10	2.49 0.82	1.96 0.64	1.56 0.40	0.23 0.06	1.76 0.45	1.39 0.36	0.37 0.34	0.14 0.13
3	1.74 0.34	0.25 0.05	2.09 0.41	1.65 0.32	6.07 2.64	0.89 0.39	6.84 2.97	5.39 2.34	1.87 1.70	0.70 0.63
4	1.62 0.43	0.24 0.06	1.95 0.51	1.53 0.40	3.37 1.14	0.49 0.17	3.79 1.28	2.98 1.01	5.23 5.75	1.94 2.14
5	0.71 0.53	0.10 0.08	0.85 0.63	0.67 0.50	2.36 1.17	0.35 0.17	2.66 1.33	2.09 1.05	-0.66 0.81	-0.25 0.30
6	1.86 0.82	0.27 0.12	2.18 0.95	1.71 0.75	2.81 1.78	0.41 0.26	3.18 2.01	2.50 1.59	0.78 0.83	0.29 0.31
7	1.81 1.09	0.27 0.16	2.10 1.27	1.65 1.00	1.24 0.87	0.18 0.13	1.39 0.98	1.10 0.77	0.01 0.67	0.01 0.25
8	1.76 0.41	0.26 0.06	2.04 0.47	1.61 0.37	1.43 0.52	0.21 0.08	1.61 0.59	1.27 0.46	-0.12 0.11	-0.04 0.04
9										
10	1.73 0.75	0.25 0.11	2.00 0.87	1.58 0.69	2.30 1.41	0.34 0.21	2.60 1.59	2.05 1.25	1.39 2.51	0.52 0.93
11	1.74 0.53	0.25 0.08	2.04 0.62	1.61 0.49	2.27 2.07	0.33 0.30	2.64 2.42	2.08 1.91	1.36 1.70	0.51 0.63
12	2.30 0.66	0.34 0.10	2.72 0.77	2.14 0.61	2.13 1.13	0.31 0.16	2.45 1.30	1.93 1.02		
13	1.10 0.46	0.16 0.07	1.29 0.54	1.02 0.43	1.21 0.91	0.18 0.13	1.36 1.02	1.07 0.81		
14	2.14 1.70	0.31 0.25	2.50 1.99	1.97 1.56	2.19 2.12	0.32 0.31	2.45 2.38	1.93 1.87		
15	3.05 2.78	0.45 0.41	3.56 3.24	2.80 2.55	2.98 2.97	0.44 0.43	3.34 3.32	2.63 2.62		
16	1.07 2.07	0.16 0.30	1.25 2.42	0.98 1.90	2.05 2.65	0.30 0.39	2.31 2.99	1.82 2.35	-0.88 2.27	-0.33 0.84
17	3.00 1.75	0.44 0.26	3.51 2.04	2.76 1.61	4.01 1.89	0.59 0.28	4.65 2.12	3.66 1.67	2.48 2.45	0.92 0.91
18	0.96 1.23	0.14 0.18	1.11 1.43	0.88 1.13	2.80 1.73	0.41 0.25	3.25 1.98	2.56 1.56	0.49 1.76	0.18 0.66
19	3.05 2.10	0.45 0.31	3.52 2.43	2.77 1.92	5.74 3.55	0.84 0.52	6.53 4.04	5.15 3.18	4.89 2.26	1.82 0.84
20	2.69 2.44	0.39 0.36	3.11 2.82	2.45 2.22	3.80 1.16	0.56 0.17	4.35 1.33	3.42 1.04	9.71 5.67	3.61 2.11
21										
22	2.86 0.71	0.42 0.10	3.27 0.81	2.58 0.64	6.40 2.05	0.94 0.30	7.27 2.34	5.72 1.85		
23										
24										
25	3.85 3.40	0.56 0.50	4.39 3.86	3.46 3.04	5.62 6.11	0.82 0.89	6.32 6.87	4.98 5.41	1.69 2.01	0.63 0.75
26	2.19 1.88	0.32 0.28	2.54 2.18	2.00 1.72	2.32 1.28	0.34 0.19	2.61 1.44	2.06 1.14	2.15 3.78	0.80 1.41
27	1.90 1.00	0.28 0.15	2.20 1.16	1.73 0.91	3.50 3.37	0.51 0.49	3.95 3.81	3.11 3.00	1.80 1.39	0.67 0.52
28	3.16 1.52	0.46 0.22	3.66 1.76	2.88 1.38	4.17 2.06	0.61 0.30	4.71 2.32	3.71 1.83	14.20 10.30	5.30 3.84
29	1.61 0.87	0.24 0.13	1.86 1.01	1.46 0.79	2.51 1.30	0.37 0.19	2.83 1.47	2.23 1.16	0.20 0.34	0.07 0.13
30	1.59 1.11	0.23 0.16	1.83 1.27	1.44 1.00	1.94 1.46	0.28 0.21	2.18 1.65	1.72 1.30	-0.03 0.17	-0.01 0.06
31	2.05 1.13	0.30 0.17	2.35 1.29	1.85 1.02	2.82 1.34	0.41 0.20	3.29 1.58	2.59 1.25	0.13 0.12	0.05 0.04
Avg	2.03	0.30	2.37	1.87	2.99	0.44	3.39	2.67	2.15	0.80
n	27	27	27	27	27	27	27	27	22	22
SD	0.75	0.11	0.85	0.67	1.48	0.22	1.67	1.32	3.52	1.31
Min	0.71	0.10	0.85	0.67	1.14	0.17	1.30	1.02	-0.88	-0.33
Max	3.85	0.56	4.39	3.46	6.40	0.94	7.27	5.72	14.20	5.30

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for August, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	2.30 1.02	0.34 0.15	2.64 1.17	2.08 0.92	2.17 1.28	0.32 0.19	2.51 1.48	1.98 1.16	0.82 1.28	0.31 0.48
2	2.63 0.95	0.38 0.14	3.02 1.09	2.38 0.86	5.76 2.56	0.84 0.37	6.43 2.86	5.06 2.25	0.52 0.42	0.19 0.16
3	5.94 3.82	0.87 0.56	6.84 4.40	5.38 3.46	6.81 3.45	1.00 0.51	7.60 3.86	5.99 3.04	4.87 6.70	1.81 2.49
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	0.59 1.56	0.09 0.23	0.69 1.84	0.55 1.45	2.13 2.22	0.31 0.32	2.43 2.53	1.91 2.00	-0.57 0.97	-0.21 0.36
15	1.20 0.75	0.18 0.11	1.42 0.89	1.11 0.70	2.40 1.81	0.35 0.26	2.75 2.06	2.16 1.63	0.01 0.02	0.00 0.01
16	1.38 0.71	0.20 0.10	1.62 0.84	1.28 0.66	1.58 0.79	0.23 0.12	1.81 0.91	1.43 0.71	0.09 0.11	0.03 0.04
17	1.08 0.74	0.16 0.11	1.27 0.87	1.00 0.69	1.41 1.17	0.21 0.17	1.61 1.33	1.27 1.05	0.12 0.27	0.05 0.10
18										
19	1.68 1.21	0.25 0.18	1.98 1.43	1.56 1.13	3.61 2.41	0.53 0.35	4.20 2.83	3.31 2.23	1.87 3.13	0.70 1.17
20	0.99 1.36	0.14 0.20	1.16 1.60	0.92 1.26	7.30 5.24	1.07 0.77	8.51 6.16	6.70 4.85	2.43 2.63	0.91 0.98
21	1.94 1.29	0.28 0.19	2.28 1.51	1.80 1.19	8.73 6.16	1.28 0.90	9.98 7.05	7.86 5.55	5.80 6.27	2.16 2.33
22	3.75 1.63	0.55 0.24	4.40 1.92	3.47 1.51	3.18 1.67	0.46 0.24	3.61 1.90	2.84 1.49	1.69 0.80	0.63 0.30
23										
24	1.77 0.82	0.26 0.12	2.07 0.97	1.63 0.76	4.39 2.68	0.64 0.39	4.99 3.04	3.93 2.40	0.16 0.17	0.06 0.06
25										
26	1.78 1.22	0.26 0.18	2.07 1.42	1.63 1.12	3.23 1.58	0.47 0.23	3.62 1.77	2.85 1.39	1.43 1.41	0.53 0.52
27	2.71 1.80	0.40 0.26	3.19 2.14	2.51 1.68	4.16 2.04	0.61 0.30	4.68 2.30	3.69 1.81	2.34 1.83	0.87 0.68
28	5.25 2.40	0.77 0.35	6.25 2.85	4.92 2.25	7.34 3.87	1.07 0.57	8.29 4.37	6.53 3.44	4.73 2.86	1.76 1.07
29	2.85 2.28	0.42 0.33	3.40 2.71	2.68 2.14	3.85 1.95	0.56 0.29	4.43 2.25	3.49 1.78	19.90 14.30	7.42 5.33
30	3.00 1.93	0.44 0.28	3.57 2.30	2.81 1.81	4.48 2.42	0.65 0.35	5.19 2.79	4.08 2.20	0.55 0.76	0.20 0.28
31	1.08 1.26	0.16 0.19	1.29 1.50	1.01 1.18	6.09 3.87	0.89 0.57	6.98 4.46	5.50 3.51	-0.96 0.55	-0.36 0.21
Avg	2.33	0.34	2.73	2.15	4.37	0.64	4.98	3.92	2.55	0.95
n	18	18	18	18	18	18	18	18	18	18
SD	1.41	0.21	1.65	1.30	2.12	0.31	2.42	1.90	4.61	1.72
Min	0.59	0.09	0.69	0.55	1.41	0.21	1.61	1.27	-0.96	-0.36
Max	5.94	0.87	6.84	5.38	8.73	1.28	9.98	7.86	19.90	7.42

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for September, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.63 1.64	0.09 0.24	0.75 1.95	0.59 1.54	8.62 4.95	1.26 0.72	9.82 5.64	7.73 4.44	-0.76 1.40	-0.28 0.52
2	2.76 2.57	0.40 0.38	3.28 3.05	2.58 2.40	10.20 7.48	1.50 1.09	11.60 8.52	9.16 6.71	0.77 2.63	0.29 0.98
3										
4	1.88 1.05	0.27 0.15	2.22 1.25	1.75 0.98	4.60 2.84	0.67 0.42	5.25 3.24	4.13 2.55	1.25 0.82	0.47 0.31
5									1.92 1.85	0.72 0.69
6	2.42 0.97	0.35 0.14	2.88 1.16	2.27 0.91	2.15 1.51	0.31 0.22	2.47 1.73	1.94 1.36	6.09 7.53	2.27 2.80
7	1.86 0.74	0.27 0.11	2.22 0.88	1.75 0.70	1.78 1.16	0.26 0.17	2.04 1.33	1.60 1.05	0.15 0.34	0.06 0.13
8	1.90 0.59	0.28 0.09	2.26 0.70	1.78 0.55	3.95 1.86	0.58 0.27	4.53 2.13	3.56 1.68	0.55 1.20	0.20 0.45
9	0.99 0.62	0.15 0.09	1.18 0.74	0.93 0.58	1.26 0.72	0.18 0.11	1.44 0.82	1.14 0.65	0.08 0.47	0.03 0.17
10										
11	1.33 1.20	0.19 0.18	1.58 1.43	1.25 1.12	5.22 4.46	0.76 0.65	6.00 5.13	4.73 4.04	0.57 1.25	0.21 0.47
12	1.80 1.10	0.26 0.16	2.14 1.30	1.68 1.02	2.36 2.30	0.34 0.34	2.71 2.64	2.13 2.08	2.83 3.17	1.05 1.18
13	0.94 1.53	0.14 0.22	1.12 1.81	0.88 1.42	1.55 2.62	0.23 0.38	1.78 3.01	1.40 2.37	12.60 12.30	4.67 4.58
14	2.11 0.85	0.31 0.12	2.52 1.01	1.98 0.79	2.49 1.95	0.36 0.29	2.89 2.26	2.28 1.78	18.70 13.30	6.94 4.96
15	0.76 0.59	0.11 0.09	0.91 0.71	0.72 0.56	0.98 0.50	0.14 0.07	1.15 0.58	0.90 0.46	0.04 0.04	0.01 0.01
16									0.00 0.10	0.00 0.04
17	1.46 0.66	0.21 0.10	1.74 0.79	1.37 0.62	2.17 1.55	0.32 0.23	2.54 1.81	2.00 1.43	0.13 0.13	0.05 0.05
18	0.75 0.76	0.11 0.11	0.90 0.91	0.71 0.71	3.70 2.16	0.54 0.32	4.33 2.53	3.41 1.99	-0.22 0.61	-0.08 0.23
19	1.32 1.61	0.19 0.24	1.57 1.91	1.23 1.50	5.85 3.68	0.86 0.54	6.86 4.31	5.40 3.40	0.02 1.51	0.01 0.56
20	3.82 2.93	0.56 0.43	4.48 3.45	3.53 2.72	7.02 5.97	1.03 0.87	8.17 6.99	6.43 5.50	1.77 1.87	0.66 0.70
21	1.43 1.35	0.21 0.20	1.68 1.58	1.32 1.25	3.14 2.68	0.46 0.39	3.60 3.07	2.83 2.41	7.21 4.68	2.68 1.74
22	2.50 1.77	0.37 0.26	2.92 2.07	2.30 1.63	9.28 6.59	1.36 0.96	10.60 7.55	8.37 5.94	4.95 5.54	1.84 2.06
23										
24										
25										
26	1.83 1.32	0.27 0.19	2.13 1.54	1.68 1.21	2.19 0.94	0.32 0.14	2.58 1.09	2.03 0.86	0.27 0.23	0.10 0.08
27	1.47 0.82	0.21 0.12	1.72 0.97	1.35 0.76	1.47 0.60	0.22 0.09	1.73 0.70	1.36 0.55	0.38 0.18	0.14 0.07
28	1.27 0.77	0.19 0.11	1.51 0.91	1.19 0.72	3.32 1.79	0.49 0.26	3.80 2.04	2.99 1.61	0.92 0.68	0.34 0.25
29									1.32 1.75	0.49 0.65
30	1.00 0.74	0.15 0.11	1.18 0.86	0.93 0.68	0.84 0.85	0.12 0.13	0.97 0.98	0.76 0.77	3.20 3.54	1.19 1.32
Avg	1.65	0.24	1.95	1.54	3.83	0.56	4.40	3.47	2.59	0.96
n	22	22	22	22	22	22	22	22	25	25
SD	0.74	0.11	0.87	0.69	2.71	0.40	3.10	2.44	4.40	1.64
Min	0.63	0.09	0.75	0.59	0.84	0.12	0.97	0.76	-0.76	-0.28
Max	3.82	0.56	4.48	3.53	10.20	1.50	11.60	9.16	18.70	6.94

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for October, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.70 0.63	0.10 0.09	0.82 0.74	0.65 0.58	0.74 0.50	0.11 0.07	0.84 0.57	0.66 0.45	0.05 0.10	0.02 0.04
2	0.27 0.23	0.04 0.03	0.32 0.27	0.25 0.21	0.25 0.22	0.04 0.03	0.29 0.25	0.23 0.20	0.02 0.03	0.01 0.01
3	0.25 0.24	0.04 0.04	0.30 0.29	0.23 0.23	0.68 0.35	0.10 0.05	0.77 0.40	0.61 0.32	-0.01 0.09	0.00 0.03
4	0.25 0.19	0.04 0.03	0.30 0.23	0.24 0.18	0.54 0.39	0.08 0.06	0.61 0.44	0.48 0.35	0.05 0.03	0.02 0.01
5	0.23 0.11	0.03 0.02	0.28 0.13	0.22 0.10	1.38 0.59	0.20 0.09	1.58 0.67	1.24 0.53	0.08 0.06	0.03 0.02
6	0.00 0.25	0.00 0.04	0.00 0.30	0.00 0.24	1.83 1.04	0.27 0.15	2.12 1.20	1.67 0.94	-0.09 0.20	-0.03 0.08
7	0.39 0.69	0.06 0.10	0.45 0.81	0.36 0.64	2.08 1.21	0.30 0.18	2.41 1.40	1.89 1.10	0.39 0.58	0.15 0.21
8	0.70 0.33	0.10 0.05	0.82 0.39	0.64 0.31	0.60 0.34	0.09 0.05	0.69 0.39	0.54 0.31	1.47 1.03	0.55 0.38
9					0.82 0.55	0.12 0.08	0.99 0.67	0.78 0.52		
10	0.34 0.23	0.05 0.03	0.39 0.27	0.31 0.21	1.68 0.77	0.25 0.11	2.02 0.93	1.59 0.73	0.04 0.06	0.01 0.02
11	-0.96 1.78	-0.14 0.26	-1.11 2.06	-0.88 1.62	0.82 1.70	0.12 0.25	0.95 1.98	0.75 1.56	-1.40 1.79	-0.52 0.67
12	2.37 1.60	0.35 0.23	2.75 1.86	2.16 1.46					0.07 0.77	0.03 0.29
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Avg	0.41	0.06	0.48	0.38	1.04	0.15	1.21	0.95	0.06	0.02
n	11	11	11	11	11	11	11	11	11	11
SD	0.75	0.11	0.87	0.68	0.57	0.08	0.67	0.53	0.62	0.23
Min	-0.96	-0.14	-1.11	-0.88	0.25	0.04	0.29	0.23	-1.40	-0.52
Max	2.37	0.35	2.75	2.16	2.08	0.30	2.41	1.89	1.47	0.55

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for November, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18	0.11 0.03	0.02 0.00	0.13 0.03	0.10 0.02	0.13 0.04	0.02 0.01	0.15 0.05	0.12 0.04	0.14 0.23	0.05 0.09
19										
20	0.06 0.02	0.01 0.00	0.07 0.03	0.06 0.02	0.12 0.07	0.02 0.01	0.14 0.08	0.11 0.06	0.02 0.02	0.01 0.01
21	0.06 0.02	0.01 0.00	0.07 0.02	0.06 0.02	0.07 0.03	0.01 0.00	0.08 0.03	0.06 0.02	0.03 0.01	0.01 0.01
22	0.06 0.02	0.01 0.00	0.07 0.03	0.05 0.02	0.07 0.03	0.01 0.00	0.09 0.03	0.07 0.02	0.07 0.06	0.03 0.02
23	0.03 0.06	0.00 0.01	0.03 0.08	0.03 0.06	0.07 0.07	0.01 0.01	0.08 0.08	0.06 0.06	0.05 0.11	0.02 0.04
24	0.08 0.02	0.01 0.00	0.09 0.02	0.07 0.02	0.07 0.01	0.01 0.00	0.08 0.01	0.07 0.01	0.04 0.03	0.01 0.01
25	0.07 0.03	0.01 0.00	0.08 0.03	0.07 0.02	0.08 0.03	0.01 0.00	0.09 0.03	0.07 0.02	0.02 0.01	0.01 0.00
26	0.07 0.05	0.01 0.01	0.09 0.06	0.07 0.04	0.10 0.06	0.01 0.01	0.12 0.07	0.09 0.06	0.03 0.03	0.01 0.01
27	0.04 0.09	0.01 0.01	0.05 0.11	0.04 0.08	0.06 0.07	0.01 0.01	0.07 0.08	0.06 0.06	0.02 0.06	0.01 0.02
28	0.07 0.02	0.01 0.00	0.08 0.03	0.06 0.02	0.07 0.02	0.01 0.00	0.08 0.03	0.06 0.02	0.00 0.02	0.00 0.01
29										
30	0.07 0.02	0.01 0.00	0.09 0.02	0.07 0.02	0.08 0.03	0.01 0.00	0.09 0.03	0.07 0.03	0.01 0.03	0.00 0.01
Avg	0.06	0.01	0.08	0.06	0.08	0.01	0.10	0.08	0.04	0.01
n	11	11	11	11	11	11	11	11	11	11
SD	0.02	0.00	0.02	0.02	0.02	0.00	0.02	0.02	0.04	0.01
Min	0.03	0.00	0.03	0.03	0.06	0.01	0.07	0.06	0.00	0.00
Max	0.11	0.02	0.13	0.10	0.13	0.02	0.15	0.12	0.14	0.05

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for December, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.05 0.02	0.01 0.00	0.06 0.03	0.05 0.02	0.08 0.04	0.01 0.01	0.09 0.05	0.07 0.04	0.02 0.02	0.01 0.01
2					0.05 0.01	0.01 0.00	0.06 0.02	0.05 0.01	0.03 0.02	0.01 0.01
3	0.11 0.03	0.02 0.00	0.13 0.04	0.10 0.03	0.09 0.04	0.01 0.01	0.11 0.04	0.09 0.03	0.04 0.01	0.02 0.00
4									0.04 0.02	0.01 0.01
5	0.06 0.03	0.01 0.00	0.07 0.04	0.06 0.03	0.06 0.03	0.01 0.00	0.07 0.03	0.06 0.03	0.06 0.03	0.02 0.01
6	0.07 0.01	0.01 0.00	0.08 0.02	0.06 0.01	0.06 0.02	0.01 0.00	0.07 0.03	0.06 0.02	0.05 0.02	0.02 0.01
7	0.09 0.06	0.01 0.01	0.10 0.07	0.08 0.06	0.11 0.07	0.02 0.01	0.13 0.09	0.10 0.07	0.09 0.06	0.03 0.02
8									-0.03 0.19	-0.01 0.07
9	0.09 0.03	0.01 0.00	0.12 0.03	0.09 0.03	0.12 0.04	0.02 0.01	0.14 0.05	0.11 0.04	0.05 0.02	0.02 0.01
10	0.10 0.04	0.01 0.01	0.12 0.04	0.09 0.03	0.12 0.05	0.02 0.01	0.14 0.05	0.11 0.04	0.07 0.07	0.02 0.03
11	0.09 0.04	0.01 0.01	0.11 0.04	0.09 0.03	0.08 0.02	0.01 0.00	0.10 0.03	0.08 0.02	0.05 0.07	0.02 0.03
12	0.09 0.04	0.01 0.01	0.11 0.05	0.09 0.04	0.08 0.03	0.01 0.00	0.09 0.04	0.07 0.03		
13	0.14 0.02	0.02 0.00	0.17 0.03	0.14 0.02	0.11 0.03	0.02 0.00	0.12 0.04	0.10 0.03		
14	0.13 0.06	0.02 0.01	0.16 0.08	0.13 0.06	0.16 0.10	0.02 0.02	0.19 0.12	0.15 0.10		
15	0.07 0.02	0.01 0.00	0.09 0.02	0.07 0.02	0.10 0.04	0.01 0.01	0.12 0.05	0.09 0.04		
16	0.09 0.08	0.01 0.01	0.12 0.10	0.09 0.07	0.12 0.11	0.02 0.02	0.14 0.12	0.11 0.10		
17	0.08 0.08	0.01 0.01	0.10 0.09	0.08 0.07	0.13 0.11	0.02 0.02	0.15 0.13	0.12 0.11		
18	0.03 0.24	0.00 0.04	0.03 0.29	0.02 0.23	0.02 0.17	0.00 0.02	0.02 0.20	0.01 0.16		
19	0.09 0.03	0.01 0.00	0.12 0.04	0.09 0.03	0.12 0.04	0.02 0.01	0.14 0.05	0.11 0.04		
20	0.06 0.08	0.01 0.01	0.08 0.09	0.06 0.07	0.16 0.14	0.02 0.02	0.19 0.16	0.15 0.13		
21	0.05 0.01	0.01 0.00	0.06 0.02	0.04 0.01	0.06 0.02	0.01 0.00	0.07 0.03	0.05 0.02		
22	0.10 0.04	0.01 0.01	0.12 0.05	0.09 0.04	0.10 0.05	0.02 0.01	0.12 0.06	0.10 0.05		
23	0.13 0.07	0.02 0.01	0.16 0.09	0.13 0.07	0.12 0.06	0.02 0.01	0.14 0.07	0.11 0.05		
24	0.11 0.08	0.02 0.01	0.13 0.10	0.10 0.08	0.10 0.05	0.01 0.01	0.12 0.06	0.09 0.05		
25	-0.01 0.10	0.00 0.02	-0.01 0.13	-0.01 0.10	0.02 0.07	0.00 0.01	0.02 0.08	0.02 0.06		
26	0.19 0.09	0.03 0.01	0.24 0.11	0.19 0.08	0.22 0.08	0.03 0.01	0.27 0.10	0.22 0.08		
27	0.26 0.12	0.04 0.02	0.33 0.15	0.26 0.12	0.29 0.19	0.04 0.03	0.35 0.22	0.28 0.17		
28	0.11 0.06	0.02 0.01	0.14 0.08	0.11 0.06	0.16 0.04	0.02 0.01	0.19 0.05	0.15 0.04		
29					0.14 0.05	0.02 0.01	0.17 0.06	0.13 0.05		
30	0.18 0.09	0.03 0.01	0.23 0.11	0.18 0.09	0.24 0.13	0.04 0.02	0.28 0.15	0.22 0.12		
31	0.08 0.03	0.01 0.00	0.10 0.04	0.08 0.03	0.12 0.04	0.02 0.01	0.15 0.05	0.12 0.04		
Avg	0.10	0.01	0.12	0.10	0.12	0.02	0.14	0.11	0.04	0.02
n	27	27	27	27	29	29	29	29	11	11
SD	0.05	0.01	0.07	0.05	0.06	0.01	0.07	0.06	0.03	0.01
Min	-0.01	0.00	-0.01	-0.01	0.02	0.00	0.02	0.01	-0.03	-0.01
Max	0.26	0.04	0.33	0.26	0.29	0.04	0.35	0.28	0.09	0.03

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for January, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.12 0.04	0.02 0.01	0.15 0.05	0.12 0.04	0.10 0.04	0.01 0.01	0.12 0.05	0.09 0.04		
2	0.08 0.03	0.01 0.00	0.09 0.04	0.07 0.03	0.08 0.04	0.01 0.01	0.09 0.05	0.07 0.04		
3	0.11 0.06	0.02 0.01	0.13 0.07	0.10 0.06	0.23 0.09	0.03 0.01	0.27 0.11	0.21 0.09		
4	0.07 0.06	0.01 0.01	0.08 0.07	0.07 0.06	0.20 0.19	0.03 0.03	0.24 0.23	0.19 0.18		
5										
6										
7										
8	0.09 0.02	0.01 0.00	0.11 0.02	0.09 0.02	0.09 0.02	0.01 0.00	0.10 0.03	0.08 0.02		
9	0.08 0.11	0.01 0.02	0.10 0.14	0.08 0.11	0.19 0.09	0.03 0.01	0.22 0.10	0.18 0.08		
10	0.11 0.02	0.02 0.00	0.14 0.03	0.11 0.02	0.13 0.03	0.02 0.00	0.16 0.04	0.12 0.03		
11	0.10 0.05	0.01 0.01	0.12 0.06	0.10 0.05	0.10 0.04	0.02 0.01	0.12 0.05	0.10 0.04		
12	0.16 0.08	0.02 0.01	0.21 0.10	0.16 0.08	0.23 0.22	0.03 0.03	0.27 0.26	0.21 0.20		
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31	0.05 0.02	0.01 0.00	0.06 0.02	0.05 0.02	0.06 0.02	0.01 0.00	0.07 0.02	0.05 0.02		
Avg	0.10	0.01	0.12	0.09	0.14	0.02	0.17	0.13		
n	10	10	10	10	10	10	10	10	0	0
SD	0.03	0.00	0.04	0.03	0.06	0.01	0.07	0.06		
Min	0.05	0.01	0.06	0.05	0.06	0.01	0.07	0.05		
Max	0.16	0.02	0.21	0.16	0.23	0.03	0.27	0.21		

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for February, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.06 0.02	0.01 0.00	0.08 0.03	0.06 0.02	0.06 0.02	0.01 0.00	0.07 0.03	0.05 0.02		
2	0.07 0.04	0.01 0.01	0.09 0.05	0.07 0.04	0.07 0.02	0.01 0.00	0.08 0.03	0.06 0.02		
3	0.03 0.01	0.00 0.00	0.04 0.02	0.03 0.01	0.04 0.01	0.01 0.00	0.05 0.01	0.04 0.01	0.05 0.02	0.02 0.01
4	0.03 0.02	0.00 0.00	0.03 0.03	0.03 0.02	0.03 0.01	0.00 0.00	0.04 0.02	0.03 0.01	0.03 0.02	0.01 0.01
5										
6										
7										
8										
9										
10										
11										
12	0.04 0.02	0.01 0.00	0.04 0.03	0.03 0.02	0.02 0.03	0.00 0.00	0.02 0.04	0.02 0.03	0.01 0.01	0.00 0.01
13	0.02 0.01	0.00 0.00	0.03 0.02	0.02 0.01	0.02 0.02	0.00 0.00	0.02 0.02	0.02 0.02	0.01 0.01	0.00 0.00
14	0.03 0.01	0.00 0.00	0.04 0.01	0.03 0.01	0.04 0.01	0.01 0.00	0.04 0.02	0.04 0.01	0.02 0.01	0.01 0.00
15	0.03 0.01	0.00 0.00	0.04 0.01	0.03 0.01	0.02 0.01	0.00 0.00	0.03 0.01	0.02 0.01	0.01 0.01	0.00 0.00
16	0.03 0.05	0.00 0.01	0.03 0.06	0.02 0.05	0.01 0.06	0.00 0.01	0.01 0.07	0.01 0.05		
17	0.09 0.03	0.01 0.00	0.11 0.03	0.08 0.03					0.12 0.07	0.05 0.03
18									0.02 0.01	0.01 0.01
19	0.02 0.01	0.00 0.00	0.03 0.01	0.02 0.01	0.03 0.01	0.00 0.00	0.03 0.02	0.02 0.01	0.01 0.01	0.00 0.00
20	0.00 0.06	0.00 0.01	0.00 0.07	0.00 0.05	0.02 0.04	0.00 0.01	0.02 0.04	0.01 0.03	-0.01 0.06	0.00 0.02
21	0.00 0.05	0.00 0.01	0.00 0.06	0.00 0.05	0.02 0.03	0.00 0.00	0.02 0.03	0.02 0.03	-0.03 0.06	-0.01 0.02
22	0.04 0.02	0.01 0.00	0.05 0.02	0.04 0.02					0.02 0.01	0.01 0.01
23	0.02 0.01	0.00 0.00	0.03 0.01	0.02 0.01	0.03 0.01	0.00 0.00	0.03 0.02	0.02 0.01	0.01 0.02	0.00 0.01
24	0.14 0.11	0.02 0.02	0.18 0.13	0.14 0.10	0.20 0.19	0.03 0.03	0.23 0.22	0.18 0.18	0.08 0.07	0.03 0.03
25	0.13 0.07	0.02 0.01	0.16 0.08	0.12 0.07	0.13 0.07	0.02 0.01	0.15 0.08	0.12 0.07	0.10 0.09	0.04 0.03
26	0.07 0.13	0.01 0.02	0.08 0.16	0.06 0.13	0.21 0.22	0.03 0.03	0.25 0.25	0.20 0.20	0.02 0.17	0.01 0.06
27	0.01 0.07	0.00 0.01	0.02 0.08	0.01 0.06	0.02 0.08	0.00 0.01	0.03 0.09	0.02 0.07	0.00 0.06	0.00 0.02
28	0.04 0.01	0.01 0.00	0.05 0.01	0.04 0.01	0.04 0.01	0.01 0.00	0.04 0.01	0.03 0.01	0.03 0.01	0.01 0.00
Avg	0.05	0.01	0.06	0.04	0.06	0.01	0.06	0.05	0.03	0.01
n	20	20	20	20	18	18	18	18	18	18
SD	0.04	0.01	0.05	0.04	0.06	0.01	0.07	0.05	0.04	0.01
Min	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	-0.03	-0.01
Max	0.14	0.02	0.18	0.14	0.21	0.03	0.25	0.20	0.12	0.05

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for March, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	0.03 0.01	0.00 0.00	0.04 0.01	0.03 0.01	0.04 0.01	0.01 0.00	0.05 0.01	0.04 0.01	0.04 0.02	0.01 0.01
2										
3	0.08 0.05	0.01 0.01	0.09 0.06	0.07 0.05	0.10 0.05	0.01 0.01	0.12 0.06	0.09 0.05	0.10 0.06	0.04 0.02
4	0.23 0.16	0.03 0.02	0.28 0.20	0.22 0.15	0.52 0.65	0.08 0.10	0.61 0.75	0.48 0.59	0.18 0.14	0.07 0.05
5	0.27 0.20	0.04 0.03	0.34 0.26	0.27 0.20	0.24 0.24	0.04 0.03	0.28 0.28	0.22 0.22	0.11 0.05	0.04 0.02
6	0.08 0.03	0.01 0.00	0.10 0.03	0.08 0.03	0.10 0.05	0.01 0.01	0.12 0.06	0.09 0.05	0.04 0.02	0.02 0.01
7	0.23 0.18	0.03 0.03	0.28 0.22	0.22 0.17	0.58 0.42	0.08 0.06	0.67 0.49	0.53 0.38	0.16 0.28	0.06 0.11
8	0.02 0.10	0.00 0.02	0.03 0.13	0.02 0.10	0.20 0.22	0.03 0.03	0.23 0.26	0.18 0.20	-0.03 0.09	-0.01 0.03
9	0.05 0.10	0.01 0.02	0.06 0.13	0.05 0.10	0.36 0.28	0.05 0.04	0.42 0.32	0.33 0.25	0.03 0.07	0.01 0.03
10	0.19 0.16	0.03 0.02	0.24 0.20	0.19 0.16	0.27 0.23	0.04 0.03	0.31 0.27	0.25 0.21	0.07 0.09	0.02 0.04
11	0.05 0.03	0.01 0.00	0.06 0.04	0.05 0.03	0.04 0.01	0.01 0.00	0.05 0.01	0.04 0.01	0.02 0.01	0.01 0.00
12	0.02 0.01	0.00 0.00	0.02 0.01	0.02 0.01	0.02 0.01	0.00 0.00	0.03 0.02	0.02 0.01	0.01 0.02	0.00 0.01
13	0.33 0.47	0.05 0.07	0.42 0.59	0.33 0.46	0.23 0.19	0.03 0.03	0.27 0.22	0.21 0.17	0.18 0.26	0.07 0.10
14	0.00 0.62	0.00 0.09	0.00 0.78	0.00 0.61	0.60 1.19	0.09 0.17	0.70 1.38	0.55 1.09	-0.18 0.31	-0.07 0.12
15	-0.92 1.12	-0.13 0.16	-1.14 1.39	-0.90 1.10	-0.58 1.19	-0.09 0.18	-0.68 1.39	-0.53 1.09	-0.66 0.73	-0.24 0.27
16										
17	0.19 0.09	0.03 0.01	0.24 0.11	0.19 0.09	0.20 0.07	0.03 0.01	0.23 0.09	0.18 0.07	0.18 0.23	0.07 0.08
18										
19	0.08 0.03	0.01 0.00	0.11 0.04	0.08 0.03	0.38 0.17	0.06 0.02	0.44 0.19	0.34 0.15	0.04 0.02	0.01 0.01
20	-0.77 1.03	-0.11 0.15	-0.94 1.26	-0.74 1.00	-0.24 0.75	-0.03 0.11	-0.27 0.86	-0.21 0.68	-0.60 0.74	-0.22 0.27
21	0.25 1.05	0.04 0.15	0.31 1.27	0.24 1.00	1.03 1.42	0.15 0.21	1.18 1.63	0.93 1.28	-0.09 0.52	-0.03 0.19
22	0.64 0.76	0.09 0.11	0.78 0.93	0.62 0.73	1.25 1.35	0.18 0.20	1.44 1.55	1.13 1.22	0.19 0.27	0.07 0.10
23	-0.07 0.14	-0.01 0.02	-0.08 0.18	-0.07 0.14	0.36 0.27	0.05 0.04	0.41 0.30	0.33 0.24	-0.09 0.09	-0.03 0.03
24	-0.07 0.32	-0.01 0.05	-0.09 0.39	-0.07 0.31	0.41 0.22	0.06 0.03	0.47 0.25	0.37 0.20	-0.18 0.25	-0.07 0.09
25	0.10 0.07	0.01 0.01	0.12 0.09	0.10 0.07	0.19 0.14	0.03 0.02	0.22 0.16	0.17 0.13	0.03 0.07	0.01 0.03
26	0.12 0.07	0.02 0.01	0.15 0.08	0.12 0.07	0.82 0.79	0.12 0.12	0.98 0.95	0.77 0.75	-0.03 0.06	-0.01 0.02
27	0.17 0.14	0.02 0.02	0.21 0.18	0.16 0.14	0.64 0.19	0.09 0.03	0.73 0.21	0.58 0.17	0.14 0.23	0.05 0.08
28	0.07 0.03	0.01 0.00	0.09 0.04	0.07 0.03	0.37 0.16	0.05 0.02	0.43 0.19	0.34 0.15	0.03 0.01	0.01 0.00
29	0.08 0.04	0.01 0.01	0.09 0.05	0.07 0.04	0.14 0.14	0.02 0.02	0.15 0.15	0.12 0.12	0.02 0.01	0.01 0.00
30	-0.13 0.19	-0.02 0.03	-0.16 0.24	-0.13 0.19	-0.01 0.13	0.00 0.02	-0.01 0.15	-0.01 0.12	-0.05 0.16	-0.02 0.06
31	0.04 0.27	0.01 0.04	0.05 0.32	0.04 0.25	0.26 0.25	0.04 0.04	0.30 0.29	0.24 0.23	-0.04 0.17	-0.01 0.06
Avg	0.05	0.01	0.06	0.05	0.30	0.04	0.35	0.28	-0.01	0.00
n	28	28	28	28	28	28	28	28	28	28
SD	0.29	0.04	0.36	0.28	0.36	0.05	0.41	0.33	0.20	0.07
Min	-0.92	-0.13	-1.14	-0.90	-0.58	-0.09	-0.68	-0.53	-0.66	-0.24
Max	0.64	0.09	0.78	0.62	1.25	0.18	1.44	1.13	0.19	0.07

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for April, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1										
2	0.25 0.11	0.04 0.02	0.30 0.14	0.24 0.11	0.66 0.21	0.10 0.03	0.77 0.24	0.61 0.19	0.06 0.03	0.02 0.01
3	0.08 0.07	0.01 0.01	0.10 0.08	0.08 0.07	0.20 0.13	0.03 0.02	0.23 0.15	0.18 0.12	0.01 0.03	0.00 0.01
4	0.08 0.02	0.01 0.00	0.10 0.03	0.08 0.02	0.17 0.07	0.02 0.01	0.20 0.09	0.16 0.07	0.03 0.01	0.01 0.01
5	0.09 0.03	0.01 0.00	0.11 0.04	0.09 0.03	0.22 0.10	0.03 0.01	0.26 0.12	0.21 0.09	0.03 0.01	0.01 0.00
6	0.07 0.03	0.01 0.00	0.08 0.03	0.06 0.03	0.13 0.05	0.02 0.01	0.16 0.05	0.12 0.04		
7	0.09 0.04	0.01 0.01	0.11 0.05	0.08 0.04	0.07 0.03	0.01 0.00	0.08 0.04	0.06 0.03	0.03 0.02	0.01 0.01
8	0.05 0.04	0.01 0.01	0.06 0.05	0.05 0.04	0.05 0.02	0.01 0.00	0.05 0.03	0.04 0.02	0.01 0.01	0.00 0.00
9	0.00 0.20	0.00 0.03	0.00 0.24	0.00 0.19	0.01 0.20	0.00 0.03	0.00 0.24	0.00 0.19	-0.03 0.14	-0.01 0.05
10	0.11 0.05	0.02 0.01	0.14 0.07	0.11 0.05	0.38 0.11	0.06 0.02	0.44 0.13	0.35 0.10	0.05 0.05	0.02 0.02
11	0.07 0.03	0.01 0.00	0.09 0.03	0.07 0.03	0.20 0.09	0.03 0.01	0.23 0.11	0.18 0.08	0.04 0.03	0.02 0.01
12	0.11 0.07	0.02 0.01	0.14 0.09	0.11 0.07	0.25 0.13	0.04 0.02	0.28 0.15	0.22 0.12	0.03 0.03	0.01 0.01
13	0.10 0.03	0.01 0.01	0.12 0.04	0.10 0.03	0.17 0.07	0.03 0.01	0.20 0.08	0.15 0.07	0.04 0.02	0.01 0.01
14	0.07 0.03	0.01 0.00	0.08 0.03	0.06 0.03	0.23 0.09	0.03 0.01	0.27 0.11	0.21 0.09	0.03 0.02	0.01 0.01
15									0.00 0.02	0.00 0.01
16									0.04 0.05	0.02 0.02
17									0.04 0.12	0.01 0.05
18									-0.04 0.10	-0.02 0.04
19									-0.09 0.17	-0.03 0.06
20										
21									0.01 0.02	0.00 0.01
22									0.09 0.13	0.03 0.05
23										
24	0.22 0.11	0.03 0.02	0.27 0.13	0.21 0.11	0.20 0.12	0.03 0.02	0.23 0.13	0.18 0.11	0.06 0.05	0.02 0.02
25	0.21 0.15	0.03 0.02	0.25 0.18	0.20 0.14	0.30 0.14	0.04 0.02	0.34 0.16	0.27 0.12	0.04 0.03	0.01 0.01
26	0.38 0.16	0.06 0.02	0.46 0.20	0.36 0.15	0.43 0.20	0.06 0.03	0.49 0.23	0.39 0.18	0.31 0.36	0.12 0.13
27	0.36 0.15	0.05 0.02	0.44 0.18	0.34 0.14	0.30 0.08	0.04 0.01	0.34 0.10	0.27 0.08	0.51 0.69	0.19 0.26
28					0.45 0.10	0.07 0.02	0.51 0.12	0.40 0.09	0.11 0.06	0.04 0.02
29	0.07 0.22	0.01 0.03	0.08 0.27	0.06 0.21	0.57 0.19	0.08 0.03	0.65 0.22	0.51 0.17	-0.04 0.11	-0.01 0.04
30										
Avg	0.14	0.02	0.16	0.13	0.26	0.04	0.30	0.24	0.06	0.02
n	18	18	18	18	19	19	19	19	25	25
SD	0.10	0.02	0.12	0.10	0.17	0.02	0.19	0.15	0.12	0.04
Min	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	-0.09	-0.03
Max	0.38	0.06	0.46	0.36	0.66	0.10	0.77	0.61	0.51	0.19

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for May, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1										
2	0.23 0.12	0.03 0.02	0.28 0.15	0.22 0.12	0.17 0.06	0.02 0.01	0.19 0.07	0.15 0.06	0.20 0.18	0.07 0.07
3	0.39 0.39	0.06 0.06	0.46 0.46	0.37 0.36	0.38 0.54	0.06 0.08	0.44 0.62	0.35 0.49	0.26 0.35	0.10 0.13
4	0.33 0.18	0.05 0.03	0.40 0.22	0.31 0.17	0.66 0.44	0.10 0.06	0.76 0.51	0.60 0.40	0.23 0.21	0.09 0.08
5										
6	-0.41 1.49	-0.06 0.22	-0.48 1.78	-0.38 1.40	0.26 0.60	0.04 0.09	0.30 0.70	0.23 0.55	-0.49 1.32	-0.18 0.49
7	0.55 0.51	0.08 0.08	0.66 0.62	0.52 0.48	0.38 0.27	0.06 0.04	0.45 0.33	0.36 0.26	0.24 0.29	0.09 0.11
8	0.64 0.51	0.09 0.07	0.77 0.60	0.61 0.48	0.80 0.83	0.12 0.12	0.97 1.02	0.76 0.80	0.36 0.51	0.13 0.19
9	0.37 0.14	0.05 0.02	0.45 0.17	0.35 0.13	0.36 0.28	0.05 0.04	0.43 0.33	0.34 0.26	0.58 0.30	0.22 0.11
10	0.28 0.08	0.04 0.01	0.35 0.10	0.27 0.08	0.39 0.35	0.06 0.05	0.47 0.41	0.37 0.32	0.27 0.22	0.10 0.08
11	0.29 0.17	0.04 0.03	0.36 0.21	0.28 0.17	0.47 0.34	0.07 0.05	0.55 0.40	0.44 0.32	0.13 0.17	0.05 0.06
12	-0.05 1.13	-0.01 0.17	-0.07 1.38	-0.05 1.09	1.47 1.54	0.22 0.23	1.74 1.83	1.37 1.44	-0.28 1.37	-0.10 0.51
13										
14					0.79 1.42	0.12 0.21	0.96 1.72	0.76 1.36	0.32 0.49	0.12 0.18
15	0.91 0.68	0.13 0.10	1.11 0.81	0.87 0.64	1.64 1.76	0.24 0.26	1.98 2.14	1.56 1.68		
16	0.32 0.12	0.05 0.02	0.40 0.15	0.32 0.12	0.20 0.25	0.03 0.04	0.24 0.29	0.19 0.23	0.13 0.14	0.05 0.05
17	0.53 0.54	0.08 0.08	0.66 0.68	0.52 0.53	0.50 0.30	0.07 0.04	0.60 0.36	0.47 0.28	0.44 0.40	0.17 0.15
18	0.35 0.19	0.05 0.03	0.44 0.24	0.35 0.19	0.40 0.50	0.06 0.07	0.48 0.60	0.38 0.47		
19	0.32 0.20	0.05 0.03	0.39 0.25	0.31 0.20	0.18 0.11	0.03 0.02	0.21 0.13	0.16 0.10	0.20 0.26	0.07 0.10
20	0.22 0.05	0.03 0.01	0.28 0.06	0.22 0.04	0.14 0.09	0.02 0.01	0.17 0.10	0.13 0.08	0.12 0.16	0.05 0.06
21	0.10 0.04	0.01 0.01	0.13 0.04	0.10 0.04	0.07 0.03	0.01 0.00	0.08 0.03	0.06 0.02	0.02 0.01	0.01 0.00
22	0.04 0.02	0.01 0.00	0.05 0.02	0.04 0.02	0.04 0.03	0.01 0.01	0.05 0.04	0.04 0.03	0.03 0.03	0.01 0.01
23	0.17 0.15	0.02 0.02	0.20 0.18	0.16 0.14	0.33 0.18	0.05 0.03	0.39 0.21	0.31 0.17	0.55 0.52	0.21 0.20
24	0.56 0.24	0.08 0.04	0.69 0.30	0.55 0.24	1.73 1.04	0.25 0.15	2.04 1.23	1.61 0.97	1.42 0.95	0.53 0.35
25	0.62 0.21	0.09 0.03	0.77 0.26	0.60 0.20	1.03 0.61	0.15 0.09	1.21 0.72	0.95 0.57	1.30 1.74	0.48 0.65
26	1.45 1.01	0.21 0.15	1.80 1.25	1.42 0.99						
27	1.16 0.36	0.17 0.05	1.44 0.45	1.13 0.36	0.54 0.38	0.08 0.06	0.66 0.45	0.52 0.36	2.40 0.93	0.89 0.35
28	1.17 0.38	0.17 0.06	1.45 0.47	1.14 0.37	0.90 1.07	0.13 0.16	1.13 1.33	0.89 1.05	2.09 1.96	0.78 0.73
29	0.82 0.42	0.12 0.06	1.02 0.52	0.80 0.41	0.80 0.67	0.12 0.10	0.95 0.78	0.75 0.62	0.76 1.00	0.28 0.37
30	1.06 0.62	0.15 0.09	1.31 0.77	1.03 0.61	1.36 0.86	0.20 0.13	1.59 1.01	1.25 0.79	1.02 0.88	0.38 0.33
31	0.91 0.31	0.13 0.05	1.13 0.38	0.89 0.30	0.94 0.65	0.14 0.10	1.10 0.76	0.87 0.60	2.27 1.78	0.85 0.66
Avg	0.49	0.07	0.61	0.48	0.63	0.09	0.75	0.59	0.58	0.22
n	27	27	27	27	27	27	27	27	25	25
SD	0.41	0.06	0.51	0.40	0.47	0.07	0.56	0.44	0.75	0.28
Min	-0.41	-0.06	-0.48	-0.38	0.04	0.01	0.05	0.04	-0.49	-0.18
Max	1.45	0.21	1.80	1.42	1.73	0.25	2.04	1.61	2.40	0.89

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for June, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	1.31 0.48	0.19 0.07	1.62 0.59	1.28 0.47	1.32 0.64	0.19 0.09	1.55 0.74	1.22 0.59	3.62 3.22	1.35 1.20
2	0.92 0.27	0.14 0.04	1.14 0.33	0.90 0.26	1.68 0.90	0.25 0.13	1.97 1.06	1.55 0.84	1.32 2.34	0.49 0.87
3									0.79 0.58	0.29 0.22
4	0.47 0.11	0.07 0.02	0.59 0.14	0.46 0.11	0.77 0.49	0.11 0.07	0.94 0.61	0.74 0.48	0.60 0.59	0.22 0.22
5	0.66 0.31	0.10 0.04	0.82 0.38	0.64 0.30	0.55 0.30	0.08 0.04	0.68 0.38	0.53 0.30	0.57 0.81	0.21 0.30
6	1.03 0.56	0.15 0.08	1.28 0.70	1.01 0.55	0.62 0.43	0.09 0.06	0.74 0.51	0.58 0.40	3.24 3.02	1.20 1.12
7	1.31 0.73	0.19 0.11	1.62 0.90	1.28 0.71	1.45 1.14	0.21 0.17	1.72 1.35	1.36 1.07	1.14 1.12	0.43 0.42
8					0.97 0.77	0.14 0.11	1.14 0.91	0.90 0.72		
9	1.37 0.44	0.20 0.06	1.71 0.55	1.35 0.43	2.04 0.76	0.30 0.11	2.43 0.91	1.91 0.71	2.44 2.99	0.91 1.11
10										
11	0.82 0.24	0.12 0.04	1.03 0.30	0.81 0.24	1.63 0.31	0.24 0.05	2.02 0.40	1.59 0.32	3.24 3.49	1.20 1.30
12	0.78 0.28	0.12 0.04	0.98 0.34	0.77 0.27	1.14 0.37	0.17 0.05	1.36 0.44	1.07 0.35	0.37 0.45	0.14 0.17
13	1.10 0.31	0.16 0.04	1.35 0.38	1.07 0.30	1.42 0.47	0.21 0.07	1.69 0.56	1.33 0.44	2.16 2.84	0.80 1.06
14	1.26 0.30	0.18 0.04	1.55 0.37	1.22 0.29	1.53 0.86	0.22 0.13	1.82 1.02	1.43 0.81	5.61 4.18	2.09 1.55
15										
16	0.74 0.48	0.11 0.07	0.95 0.61	0.75 0.48	2.77 0.43	0.40 0.06	3.34 0.52	2.63 0.41	2.56 3.44	0.95 1.28
17	0.82 0.35	0.12 0.05	1.04 0.45	0.82 0.35	1.26 0.91	0.18 0.13	1.51 1.09	1.19 0.86	1.18 1.58	0.44 0.59
18	1.13 0.56	0.17 0.08	1.44 0.72	1.13 0.56	2.14 1.02	0.31 0.15	2.57 1.22	2.03 0.96	1.95 2.01	0.72 0.75
19	1.35 0.61	0.20 0.09	1.71 0.78	1.35 0.61	1.10 0.35	0.16 0.05	1.32 0.42	1.04 0.33	0.90 1.10	0.33 0.41
20	1.22 0.35	0.18 0.05	1.55 0.45	1.22 0.35	0.73 0.32	0.11 0.05	0.88 0.38	0.69 0.30	1.11 1.16	0.41 0.43
21	1.04 0.54	0.15 0.08	1.34 0.70	1.05 0.55	0.83 0.37	0.12 0.05	0.98 0.43	0.77 0.34	1.73 2.21	0.64 0.82
22										
23										
24										
25									0.98 1.17	0.36 0.43
26					1.00 0.37	0.15 0.05	1.15 0.42	0.91 0.33	1.05 0.99	0.39 0.37
27	1.36 0.37	0.20 0.05	1.61 0.44	1.27 0.34	0.92 0.41	0.13 0.06	1.06 0.48	0.83 0.37	1.96 2.66	0.73 0.99
28	1.44 0.53	0.21 0.08	1.71 0.63	1.35 0.49	0.64 0.30	0.09 0.04	0.74 0.34	0.58 0.27	3.86 2.57	1.44 0.96
29	0.97 0.27	0.14 0.04	1.15 0.33	0.90 0.26	0.59 0.37	0.09 0.05	0.69 0.42	0.54 0.33	2.80 3.21	1.04 1.19
30	1.43 0.49	0.21 0.07	1.71 0.59	1.35 0.46	0.78 0.47	0.11 0.07	0.92 0.55	0.72 0.43	2.55 3.03	0.95 1.13
Avg	1.07	0.16	1.33	1.05	1.21	0.18	1.44	1.14	1.99	0.74
n	21	21	21	21	23	23	23	23	24	24
SD	0.27	0.04	0.33	0.26	0.55	0.08	0.67	0.53	1.25	0.47
Min	0.47	0.07	0.59	0.46	0.55	0.08	0.68	0.53	0.37	0.14
Max	1.44	0.21	1.71	1.35	2.77	0.40	3.34	2.63	5.61	2.09

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for July, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	1.32 0.46	0.19 0.07	1.60 0.56	1.26 0.44	0.62 0.36	0.09 0.05	0.72 0.42	0.57 0.33	3.36 4.91	1.25 1.83
2	1.68 0.48	0.25 0.07	2.05 0.59	1.62 0.46	1.18 0.95	0.17 0.14	1.37 1.10	1.08 0.87	1.51 1.12	0.56 0.42
3	1.14 0.45	0.17 0.07	1.39 0.55	1.10 0.43	0.78 0.49	0.11 0.07	0.90 0.57	0.71 0.45	0.49 0.51	0.18 0.19
4	1.43 0.35	0.21 0.05	1.72 0.43	1.36 0.34	2.42 0.92	0.35 0.13	2.79 1.06	2.20 0.83	0.51 0.61	0.19 0.23
5	1.37 0.31	0.20 0.05	1.63 0.37	1.28 0.29	1.00 0.39	0.15 0.06	1.16 0.45	0.91 0.35	3.38 3.26	1.26 1.21
6	1.34 0.35	0.20 0.05	1.59 0.42	1.25 0.33	0.96 0.63	0.14 0.09	1.11 0.73	0.88 0.57	1.99 2.93	0.74 1.09
7					0.94 0.45	0.14 0.07	1.09 0.52	0.86 0.41	2.40 2.30	0.89 0.86
8					1.31 0.57	0.19 0.08	1.52 0.66	1.20 0.52	1.03 1.34	0.38 0.50
9					2.57 0.75	0.38 0.11	2.99 0.88	2.35 0.69	0.90 0.48	0.33 0.18
10	1.89 0.57	0.28 0.08	2.22 0.67	1.75 0.52	1.62 0.99	0.24 0.15	1.89 1.15	1.49 0.91	2.61 2.79	0.97 1.04
11	1.53 0.43	0.22 0.06	1.81 0.51	1.42 0.40	1.20 0.57	0.18 0.08	1.41 0.66	1.11 0.52	4.75 5.86	1.77 2.18
12	1.83 0.53	0.27 0.08	2.17 0.63	1.71 0.49	1.40 0.97	0.20 0.14	1.63 1.14	1.29 0.89	2.95 3.57	1.10 1.33
13	1.77 0.52	0.26 0.08	2.09 0.62	1.65 0.48	1.10 0.90	0.16 0.13	1.28 1.06	1.01 0.83	4.74 4.19	1.76 1.56
14	1.63 0.82	0.24 0.12	1.93 0.97	1.52 0.76	2.63 1.54	0.39 0.22	3.08 1.80	2.43 1.42	2.19 2.16	0.81 0.81
15	2.66 0.76	0.39 0.11	3.15 0.90	2.48 0.71	1.60 1.09	0.23 0.16	1.87 1.27	1.47 1.00	1.32 1.31	0.49 0.49
16	2.33 0.32	0.34 0.05	2.76 0.37	2.17 0.29	0.48 0.49	0.07 0.07	0.57 0.58	0.45 0.45	3.04 2.73	1.13 1.02
17	2.07 0.38	0.30 0.06	2.45 0.45	1.93 0.35	0.55 0.38	0.08 0.06	0.64 0.45	0.50 0.35	1.95 2.70	0.73 1.01
18	2.23 0.84	0.33 0.12	2.65 1.00	2.09 0.79	1.20 0.61	0.18 0.09	1.37 0.70	1.08 0.55	1.75 1.83	0.65 0.68
19	1.71 0.93	0.25 0.14	2.04 1.11	1.61 0.87	1.94 1.33	0.28 0.19	2.22 1.52	1.75 1.20	2.02 2.28	0.75 0.85
20	1.57 0.74	0.23 0.11	1.88 0.88	1.48 0.70	1.42 1.15	0.21 0.17	1.64 1.32	1.29 1.04	1.20 2.96	0.45 1.10
21	0.53 2.04	0.08 0.30	0.65 2.45	0.51 1.93	1.08 1.82	0.16 0.27	1.27 2.12	1.00 1.67	2.92 7.81	1.09 2.91
22	1.71 0.74	0.25 0.11	2.07 0.90	1.63 0.71	1.85 0.70	0.27 0.10	2.24 0.84	1.77 0.66	0.82 1.35	0.31 0.50
23	0.98 0.47	0.14 0.07	1.19 0.57	0.94 0.45	0.95 0.69	0.14 0.10	1.14 0.82	0.90 0.65	2.80 2.54	1.04 0.94
24	1.69 0.73	0.25 0.11	2.06 0.89	1.62 0.70	1.01 0.39	0.15 0.06	1.16 0.44	0.91 0.35	3.00 4.83	1.12 1.80
25									2.73 2.16	1.02 0.80
26					0.69 0.49	0.10 0.07	0.80 0.57	0.63 0.45	3.25 2.74	1.21 1.02
27	2.15 0.47	0.31 0.07	2.62 0.58	2.06 0.45	1.13 0.46	0.17 0.07	1.30 0.53	1.02 0.42	0.62 1.09	0.23 0.41
28	2.03 0.49	0.30 0.07	2.48 0.60	1.95 0.47	0.97 0.26	0.14 0.04	1.12 0.30	0.88 0.23	2.57 2.42	0.96 0.90
29	1.34 0.52	0.20 0.08	1.65 0.64	1.30 0.51	2.10 1.15	0.31 0.17	2.43 1.33	1.91 1.05	3.21 5.98	1.19 2.23
30	0.98 1.11	0.14 0.16	1.21 1.37	0.95 1.08	0.46 0.53	0.07 0.08	0.54 0.61	0.42 0.48	1.10 1.41	0.41 0.52
31	1.85 0.75	0.27 0.11	2.27 0.92	1.79 0.72	1.53 0.72	0.22 0.11	1.79 0.84	1.41 0.67	1.40 2.18	0.52 0.81
Avg	1.65	0.24	1.97	1.55	1.29	0.19	1.50	1.18	2.21	0.82
n	26	26	26	26	30	30	30	30	31	31
SD	0.46	0.07	0.54	0.42	0.58	0.08	0.68	0.53	1.12	0.42
Min	0.53	0.08	0.65	0.51	0.46	0.07	0.54	0.42	0.49	0.18
Max	2.66	0.39	3.15	2.48	2.63	0.39	3.08	2.43	4.75	1.77

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for August, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	1.51 0.64	0.22 0.09	1.86 0.78	1.46 0.62	0.75 0.28	0.11 0.04	0.87 0.33	0.69 0.26	4.50 4.78	1.68 1.78
2	1.37 0.50	0.20 0.07	1.69 0.62	1.33 0.49	1.25 0.54	0.18 0.08	1.46 0.62	1.15 0.49	5.26 5.49	1.96 2.04
3	1.64 0.49	0.24 0.07	2.01 0.60	1.58 0.48	1.06 0.47	0.16 0.07	1.23 0.55	0.97 0.43	1.63 2.15	0.61 0.80
4	2.64 0.56	0.39 0.08	3.24 0.69	2.55 0.55	1.96 0.67	0.29 0.10	2.30 0.79	1.81 0.63	0.66 0.90	0.25 0.33
5	2.19 0.50	0.32 0.07	2.69 0.61	2.12 0.48	2.20 0.79	0.32 0.12	2.65 0.94	2.09 0.74	1.83 2.99	0.68 1.11
6	1.66 0.80	0.24 0.12	2.04 0.98	1.61 0.77	1.65 0.89	0.24 0.13	1.97 1.07	1.55 0.84	0.69 1.20	0.26 0.45
7	2.65 0.68	0.39 0.10	3.22 0.82	2.54 0.65	3.39 1.57	0.50 0.23	3.93 1.81	3.09 1.43	0.47 0.56	0.17 0.21
8	2.91 0.47	0.43 0.07	3.51 0.57	2.76 0.45	1.54 0.98	0.22 0.14	1.78 1.14	1.40 0.90	1.82 1.94	0.68 0.72
9	3.23 0.50	0.47 0.07	3.89 0.60	3.06 0.47	1.53 0.79	0.22 0.12	1.78 0.91	1.40 0.72	2.67 2.20	0.99 0.82
10	2.68 0.64	0.39 0.09	3.23 0.77	2.55 0.61	1.11 0.63	0.16 0.09	1.28 0.72	1.01 0.57		
11	2.17 0.78	0.32 0.12	2.60 0.95	2.05 0.75	2.51 1.69	0.37 0.25	2.86 1.92	2.25 1.51	0.24 0.12	0.09 0.04
12	1.20 0.32	0.18 0.05	1.42 0.38	1.12 0.30	3.32 0.71	0.49 0.10	3.78 0.81	2.98 0.64	0.24 0.19	0.09 0.07
13	1.99 1.28	0.29 0.19	2.42 1.58	1.91 1.24	2.46 0.98	0.36 0.14	2.84 1.13	2.24 0.89	1.39 1.26	0.52 0.47
14	2.14 2.45	0.31 0.36	2.61 2.98	2.06 2.34	1.23 1.62	0.18 0.24	1.43 1.86	1.13 1.47	0.26 1.44	0.10 0.54
15	3.09 0.44	0.45 0.06	3.65 0.52	2.88 0.41	3.47 1.38	0.51 0.20	3.91 1.56	3.08 1.23	2.88 2.24	1.07 0.84
16	3.23 0.53	0.47 0.08	3.82 0.63	3.01 0.49	2.26 0.73	0.33 0.11	2.56 0.82	2.01 0.65	1.80 1.78	0.67 0.66
17	3.18 0.61	0.47 0.09	3.77 0.73	2.97 0.57	2.27 0.72	0.33 0.11	2.58 0.81	2.03 0.64	2.33 1.96	0.87 0.73
18	2.95 0.69	0.43 0.10	3.49 0.81	2.74 0.64	1.69 0.71	0.25 0.10	1.92 0.80	1.51 0.63	6.47 5.54	2.41 2.06
19	2.88 0.81	0.42 0.12	3.38 0.95	2.66 0.75	3.01 1.16	0.44 0.17	3.43 1.32	2.70 1.04	1.47 2.03	0.55 0.76
20	2.36 0.41	0.35 0.06	2.77 0.48	2.18 0.38	1.11 0.20	0.16 0.03	1.27 0.23	1.00 0.18	4.18 5.60	1.55 2.08
21	1.76 0.34	0.26 0.05	2.07 0.40	1.63 0.31	1.22 0.38	0.18 0.05	1.39 0.43	1.09 0.34		
22	1.32 0.21	0.19 0.03	1.56 0.24	1.23 0.19	2.33 1.90	0.34 0.28	2.64 2.16	2.08 1.70	3.24 2.65	1.20 0.99
23	1.94 0.56	0.28 0.08	2.29 0.66	1.80 0.52	2.05 1.00	0.30 0.15	2.33 1.14	1.84 0.90	2.85 2.60	1.06 0.97
24	2.73 1.14	0.40 0.17	3.23 1.35	2.54 1.06	2.37 0.75	0.35 0.11	2.69 0.85	2.12 0.67	2.11 2.59	0.78 0.96
25	2.59 0.66	0.38 0.10	3.08 0.78	2.42 0.61	1.60 0.74	0.23 0.11	1.82 0.84	1.43 0.66	1.79 1.15	0.67 0.43
26	2.07 0.40	0.30 0.06	2.46 0.48	1.93 0.38	1.51 0.61	0.22 0.09	1.72 0.70	1.36 0.55	3.01 3.05	1.12 1.13
27	1.44 0.64	0.21 0.09	1.70 0.76	1.34 0.60	2.36 0.66	0.34 0.10	2.68 0.75	2.11 0.59	0.16 0.51	0.06 0.19
28	1.77 0.43	0.26 0.06	2.08 0.50	1.64 0.39	2.33 0.97	0.34 0.14	2.65 1.10	2.08 0.86	2.31 2.69	0.86 1.00
29	1.67 0.35	0.25 0.05	1.96 0.41	1.54 0.32	0.94 0.30	0.14 0.04	1.06 0.34	0.83 0.27	1.62 2.31	0.60 0.86
30	1.74 0.56	0.25 0.08	2.03 0.66	1.60 0.52	2.30 1.56	0.34 0.23	2.58 1.75	2.03 1.37	2.36 2.22	0.88 0.83
31	1.43 0.56	0.21 0.08	1.67 0.65	1.32 0.52	1.36 0.58	0.20 0.08	1.52 0.64	1.20 0.51	2.70 4.70	1.00 1.75
Avg	2.20	0.32	2.63	2.07	1.94	0.28	2.22	1.75	2.17	0.81
n	31	31	31	31	31	31	31	31	29	29
SD	0.63	0.09	0.75	0.59	0.73	0.11	0.83	0.65	1.50	0.56
Min	1.20	0.18	1.42	1.12	0.75	0.11	0.87	0.69	0.16	0.06
Max	3.23	0.47	3.89	3.06	3.47	0.51	3.93	3.09	6.47	2.41

Table F9. Daily means (SD) of hydrogen sulfide emissions at Site IN5B for September, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	1.26 0.37	0.18 0.05	1.47 0.43	1.16 0.34	1.24 0.56	0.18 0.08	1.40 0.63	1.10 0.50	0.65 0.92	0.24 0.34
2										
3	1.12 0.44	0.16 0.06	1.31 0.51	1.03 0.40	1.54 0.75	0.22 0.11	1.74 0.85	1.37 0.67	0.46 0.58	0.17 0.22
4										
5	1.46 0.43	0.21 0.06	1.69 0.51	1.33 0.40	1.75 0.84	0.26 0.12	1.99 0.95	1.57 0.75	0.55 0.32	0.20 0.12
6	1.66 0.43	0.24 0.06	1.94 0.50	1.53 0.40	3.11 1.39	0.45 0.20	3.53 1.58	2.78 1.24	2.15 1.54	0.80 0.57
7	1.60 0.30	0.23 0.04	1.88 0.35	1.48 0.27	2.05 0.79	0.30 0.12	2.33 0.90	1.83 0.71	0.61 0.41	0.23 0.15
8										
9	1.63 0.74	0.24 0.11	1.87 0.86	1.47 0.68	2.55 1.07	0.37 0.16	2.87 1.20	2.26 0.95	2.56 2.30	0.95 0.86
10	1.92 0.30	0.28 0.04	2.24 0.36	1.77 0.28	1.83 0.89	0.27 0.13	2.10 1.02	1.65 0.80	0.28 0.20	0.10 0.07
11	1.77 0.43	0.26 0.06	2.06 0.50	1.62 0.39	2.55 1.18	0.37 0.17	2.91 1.34	2.29 1.06	1.22 1.38	0.45 0.51
12	2.03 0.38	0.30 0.06	2.36 0.44	1.86 0.35	2.68 1.11	0.39 0.16	3.01 1.24	2.37 0.98	0.67 0.73	0.25 0.27
13	1.84 0.51	0.27 0.07	2.15 0.59	1.69 0.47	1.79 0.93	0.26 0.14	2.02 1.05	1.59 0.82	3.35 3.60	1.25 1.34
14										
15	1.36 0.46	0.20 0.07	1.59 0.54	1.25 0.42					1.49 1.86	0.55 0.69
16	1.65 0.34	0.24 0.05	1.93 0.39	1.52 0.31	2.10 0.88	0.31 0.13	2.36 0.98	1.86 0.78	0.67 0.70	0.25 0.26
17									0.42 0.21	0.16 0.08
18									0.33 0.18	0.12 0.07
19	1.13 0.47	0.16 0.07	1.32 0.55	1.04 0.44	3.20 0.86	0.47 0.13	3.61 0.97	2.85 0.76	1.99 1.38	0.74 0.51
20	1.17 1.03	0.17 0.15	1.37 1.21	1.08 0.95	2.51 1.50	0.37 0.22	2.83 1.70	2.23 1.34	2.52 1.83	0.94 0.68
21	1.28 0.48	0.19 0.07	1.50 0.56	1.18 0.44	2.64 1.95	0.39 0.29	2.98 2.21	2.35 1.74	1.82 2.95	0.68 1.10
22										
23	1.52 0.41	0.22 0.06	1.78 0.48	1.40 0.38	1.87 0.62	0.27 0.09	2.22 0.77	1.75 0.61	2.48 2.52	0.92 0.94
24										
25										
26										
27										
28										
29										
30										
Avg	1.53	0.22	1.78	1.40	2.23	0.33	2.53	1.99	1.35	0.50
n	16	16	16	16	15	15	15	15	18	18
SD	0.28	0.04	0.32	0.25	0.55	0.08	0.62	0.49	0.94	0.35
Min	1.12	0.16	1.31	1.03	1.24	0.18	1.40	1.10	0.28	0.10
Max	2.03	0.30	2.36	1.86	3.20	0.47	3.61	2.85	3.35	1.25

Table F10. Ammonia concentrations.

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for September, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1								
2								
3								
4								
5								
6								
7								
8			3.7 (0.7)	2.6 (0.5)	3.6 (0.7)	2.6 (0.5)	1.0 (0.2)	0.7 (0.2)
9			3.2 (0.4)	2.3 (0.3)	3.0 (0.4)	2.1 (0.3)	0.8 (0.1)	0.6 (0.1)
10			3.4 (0.8)	2.4 (0.6)	2.6 (0.5)	1.8 (0.4)	0.9 (0.3)	0.6 (0.2)
11					2.9 (1.2)	2.0 (0.9)		
12	0.4 (0.1)		2.1 (0.6)	1.5 (0.4)				
13	0.3 (0.1)	0.2 (0.0)	2.2 (0.4)	1.5 (0.3)	2.4 (0.6)	1.7 (0.4)	0.7 (0.3)	0.5 (0.2)
14	0.5 (0.1)	0.3 (0.1)	2.5 (0.5)	1.8 (0.4)	2.8 (0.7)	2.0 (0.5)	0.6 (0.2)	0.5 (0.1)
15	0.2 (0.1)	0.1 (0.0)	2.0 (0.3)	1.4 (0.2)	2.2 (0.4)	1.6 (0.3)	0.4 (0.1)	0.3 (0.1)
16	0.2 (0.0)	0.2 (0.0)	2.0 (0.4)	1.4 (0.3)	2.2 (0.4)	1.6 (0.3)	0.5 (0.2)	0.3 (0.1)
17	0.4 (0.2)	0.3 (0.1)	3.0 (1.2)	2.2 (0.8)	3.1 (1.3)	2.2 (0.9)	0.6 (0.2)	0.4 (0.1)
18	0.5 (0.1)	0.4 (0.1)	3.0 (0.6)	2.1 (0.4)	3.1 (0.6)	2.2 (0.4)	1.0 (0.2)	0.7 (0.1)
19	0.6 (0.0)	0.5 (0.0)	2.5 (0.9)	1.8 (0.7)				
20	0.8 (0.1)	0.5 (0.1)	2.6 (1.3)	1.9 (0.9)				
21	0.7 (0.1)	0.5 (0.1)			3.4 (0.8)	2.4 (0.6)	1.0 (0.2)	
22	0.3 (0.1)	0.2 (0.1)	2.5 (0.5)	1.8 (0.4)	2.1 (0.6)	1.5 (0.4)	0.6 (0.2)	0.4 (0.2)
23	0.3 (0.1)	0.2 (0.1)	2.0 (0.5)	1.4 (0.3)	1.7 (0.4)	1.2 (0.3)	0.6 (0.2)	0.4 (0.1)
24	0.6 (0.2)	0.4 (0.1)						
25	0.8 (0.1)	0.5 (0.1)	3.5 (0.4)	2.6 (0.3)	4.2 (0.7)	3.0 (0.5)	1.0 (0.2)	0.7 (0.1)
26	0.4 (0.1)	0.3 (0.1)	2.5 (0.5)	1.8 (0.4)	2.7 (0.7)	1.9 (0.5)	0.7 (0.1)	0.5 (0.1)
27	0.5 (0.2)	0.4 (0.2)	3.0 (0.8)	2.1 (0.6)	3.3 (1.1)	2.3 (0.8)	0.8 (0.2)	0.6 (0.1)
28	0.4 (0.2)	0.3 (0.2)	2.2 (0.4)	1.6 (0.3)	2.5 (0.5)	1.8 (0.4)	0.7 (0.2)	0.5 (0.1)
29	0.3 (0.2)	0.2 (0.1)	2.2 (0.6)	1.6 (0.4)	2.7 (0.8)	1.9 (0.6)	0.6 (0.1)	0.4 (0.1)
30	0.3 (0.1)	0.2 (0.1)	2.6 (0.5)	1.9 (0.4)	3.1 (0.7)	2.3 (0.5)	0.6 (0.1)	0.5 (0.1)
Avg	0.4	0.3	2.6	1.9	2.8	2	0.7	0.5
n	19	18	20	20	19	19	18	17
SD	0.2	0.1	0.5	0.4	0.6	0.4	0.2	0.1
Min	0.2	0.1	2.0	1.4	1.7	1.2	0.4	0.3
Max	0.8	0.5	3.7	2.6	4.2	3.0	1.0	0.7

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for October, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.5 (0.2)	0.3 (0.1)	3.9 (0.6)	2.8 (0.4)	3.4 (0.6)	2.4 (0.5)	0.8 (0.2)	0.6 (0.1)
2	0.6 (0.1)	0.4 (0.1)	3.3 (0.6)	2.4 (0.5)	3.4 (0.6)	2.4 (0.4)	1.0 (0.2)	0.7 (0.2)
3	0.6 (0.1)	0.5 (0.1)	3.2 (0.6)	2.3 (0.4)	3.4 (0.9)	2.4 (0.6)		
4	0.4 (0.1)							
5	0.9 (0.3)							
6	1.1 (0.3)	0.8 (0.2)	4.0 (0.6)	2.9 (0.4)	4.8 (0.9)	3.5 (0.6)	1.6 (0.1)	
7	1.5 (0.3)	1.1 (0.2)	4.7 (0.6)	3.4 (0.4)	5.3 (0.9)	3.8 (0.7)	1.6 (0.1)	
8	1.0 (0.2)	0.7 (0.1)	5.7 (1.3)	4.1 (1.0)	6.4 (1.3)	4.6 (0.9)	1.5 (0.2)	
9								
10								
11								
12								
13								
14								
15								
16	0.5 (0.1)	0.4 (0.1)	3.8 (1.1)	2.7 (0.8)	3.7 (0.9)	2.6 (0.6)		
17	0.3 (0.1)	0.2 (0.0)	3.8 (1.0)	2.7 (0.7)	3.4 (0.7)	2.5 (0.5)	1.1 (0.1)	
18	0.5 (0.1)	0.4 (0.0)	3.7 (0.6)	2.7 (0.4)	3.9 (0.9)	2.8 (0.7)	1.6 (0.6)	
19	0.3 (0.1)	0.2 (0.0)	2.7 (0.5)	1.9 (0.4)	2.6 (0.5)	1.9 (0.4)	1.1 (0.1)	
20	0.2 (0.1)	0.2 (0.1)	3.6 (0.9)	2.6 (0.7)	4.3 (1.5)	3.1 (1.0)	0.9 (0.1)	
21	0.2 (0.0)	0.2 (0.0)	3.0 (0.7)	2.2 (0.5)	3.9 (1.0)	2.8 (0.7)	1.1 (0.2)	
22	0.2 (0.1)	0.2 (0.1)			3.2 (0.6)	2.3 (0.4)		
23	0.1 (0.1)	0.1 (0.1)	3.3 (0.8)	2.4 (0.6)	3.6 (0.8)	2.6 (0.6)	0.7 (0.1)	0.5 (0.1)
24	0.2 (0.1)	0.2 (0.1)	3.0 (0.5)	2.1 (0.4)	3.5 (0.5)	2.5 (0.3)	0.7 (0.2)	0.5 (0.1)
25	0.2 (0.1)	0.2 (0.1)	2.8 (0.5)	2.0 (0.3)	3.1 (0.5)	2.2 (0.4)	0.6 (0.1)	0.4 (0.1)
26	0.2 (0.0)	0.1 (0.0)	3.0 (0.4)	2.1 (0.3)	3.0 (0.3)	2.1 (0.2)	0.7 (0.1)	0.5 (0.1)
27	0.3 (0.1)	0.2 (0.1)	3.8 (0.8)	2.7 (0.6)	4.2 (1.1)	3.0 (0.8)	1.0 (0.2)	0.7 (0.1)
28	0.2 (0.1)	0.2 (0.1)	3.5 (0.6)	2.5 (0.4)	4.4 (0.7)	3.2 (0.5)		
29	0.3 (0.1)	0.2 (0.1)	3.1 (0.5)	2.2 (0.3)	3.7 (0.6)	2.6 (0.5)		
30	0.3 (0.1)	0.2 (0.0)	3.1 (0.5)	2.2 (0.4)	3.6 (0.5)	2.6 (0.4)		
31	0.4 (0.1)	0.2 (0.0)						
Avg	0.5	0.3	3.5	2.5	3.9	2.8	1.1	0.6
n	24	22	20	20	21	21	15	7
SD	0.3	0.2	0.7	0.5	0.8	0.6	0.3	0.1
Min	0.1	0.1	2.7	1.9	2.6	1.9	0.6	0.4
Max	1.5	1.1	5.7	4.1	6.4	4.6	1.6	0.7

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for November, 2007.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.3 (0.2)	0.2 (0.1)	2.9 (0.6)	2.1 (0.4)	3.0 (0.6)	2.2 (0.4)		
2	0.3 (0.1)	0.2 (0.0)	3.5 (0.8)	2.5 (0.5)	3.6 (0.6)	2.6 (0.4)		
3	0.2 (0.1)	0.1 (0.1)	2.5 (0.3)	1.8 (0.2)	3.1 (0.6)	2.2 (0.4)		
4								
5								
6					2.1 (0.7)	1.5 (0.5)		
7	0.1 (0.1)	0.1 (0.0)						
8	0.3 (0.1)	0.2 (0.0)						
9	0.1 (0.1)	0.0 (0.1)	2.5 (0.6)	1.7 (0.4)	3.0 (0.5)	2.1 (0.4)		
10	0.0 (0.0)	0.0 (0.0)	2.3 (0.5)	1.6 (0.3)	2.6 (0.4)	1.8 (0.3)		
11	0.0 (0.0)	0.0 (0.0)	3.0 (0.7)	2.1 (0.5)	2.9 (0.9)	2.1 (0.7)		
12	0.2 (0.1)	0.1 (0.0)	2.8 (0.3)	2.0 (0.2)	2.7 (0.5)	1.9 (0.4)		
13	0.0 (0.1)	0.0 (0.0)	2.8 (0.4)	2.0 (0.3)	2.3 (0.4)	1.6 (0.3)		
14	0.3 (0.1)							
15	0.3 (0.1)	0.2 (0.1)	3.2 (0.4)	2.3 (0.3)	3.1 (0.3)	2.2 (0.2)		
16	0.1 (0.1)	0.1 (0.0)	3.0 (0.3)	2.1 (0.2)	2.9 (0.4)	2.1 (0.3)		
17	0.1 (0.0)	0.1 (0.0)	2.8 (0.4)	2.0 (0.3)	3.0 (0.5)	2.2 (0.4)		
18	0.1 (0.1)	0.1 (0.1)	2.4 (0.1)	1.7 (0.1)	2.7 (0.2)	1.9 (0.2)		
19	0.0 (0.0)	0.0 (0.0)	2.5 (0.3)	1.8 (0.2)	2.5 (0.3)	1.8 (0.2)		
20	0.1 (0.1)	0.1 (0.1)	2.5 (0.4)	1.8 (0.3)	2.4 (0.6)	1.7 (0.4)		
21	0.0 (0.1)	0.0 (0.1)	2.4 (0.5)	1.7 (0.4)	2.2 (0.3)	1.6 (0.2)		
22	0.0 (0.1)	0.0 (0.0)	3.1 (0.2)	2.2 (0.2)	2.9 (0.2)	2.1 (0.1)		
23	0.2 (0.1)	0.1 (0.1)	4.0 (0.7)	2.9 (0.5)	4.0 (0.8)	2.9 (0.5)		
24	0.1 (0.1)	0.1 (0.0)	3.4 (0.6)	2.4 (0.4)	3.5 (0.5)	2.5 (0.4)		
25	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.2)	1.9 (0.2)	2.6 (0.3)	1.8 (0.2)		
26	0.0 (0.0)	0.0 (0.0)	2.5 (0.1)	1.8 (0.1)	2.4 (0.1)	1.7 (0.1)		
27	0.1 (0.1)	0.1 (0.0)	4.2 (0.9)	3.0 (0.6)	4.5 (1.4)	3.2 (1.0)		
28	0.1 (0.1)	0.1 (0.1)	3.3 (1.0)	2.3 (0.7)	3.2 (0.8)	2.2 (0.5)		
29	0.3 (0.3)	0.2 (0.2)	4.3 (1.3)	3.1 (0.9)	3.9 (0.7)	2.8 (0.5)		
30	0.2 (0.1)	0.1 (0.1)	3.2 (0.6)	2.2 (0.4)	3.2 (0.4)	2.3 (0.3)	0.5 (0.2)	0.4 (0.1)
Avg	0.1	0.1	3	2.1	3	2.1		
n	27	26	24	24	25	25	1	1
SD	0.1	0.1	0.6	0.4	0.6	0.4		
Min	-0.1	-0.1	2.3	1.6	2.1	1.5		
Max	0.3	0.2	4.3	3.1	4.5	3.2		

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for December, 2007.

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

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for January, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-}
1	0.1 (0.1)	0.0 (0.1)	1.8 (0.5)	1.3 (0.4)	2.2 (0.7)	1.6 (0.5)		
2	0.0 (0.0)	0.0 (0.0)	0.9 (0.1)	0.7 (0.1)	1.0 (0.2)	0.7 (0.1)		
3	0.0 (0.1)	0.0 (0.0)	1.5 (0.5)	1.1 (0.3)	1.7 (0.6)	1.2 (0.4)		
4	0.0 (0.0)	0.0 (0.0)	2.0 (0.2)	1.4 (0.1)	1.9 (0.1)	1.4 (0.1)		
5	0.0 (0.1)	0.0 (0.0)	2.4 (0.4)	1.7 (0.3)	1.9 (0.3)	1.4 (0.2)		
6	0.1 (0.1)	0.1 (0.1)	3.2 (0.4)	2.3 (0.3)	2.0 (0.2)	1.4 (0.2)		
7	0.3 (0.1)	0.2 (0.1)	4.4 (0.8)	3.1 (0.6)	2.6 (0.5)	1.9 (0.4)		
8	0.4 (0.2)	0.3 (0.1)	5.5 (1.1)	3.9 (0.8)	2.8 (0.6)	2.0 (0.4)		
9	0.3 (0.2)	0.2 (0.1)						
10	0.3 (0.1)	0.2 (0.1)						
11	0.3 (0.1)	0.2 (0.1)	3.5 (0.8)	2.5 (0.6)	3.0 (0.3)	2.1 (0.2)		
12	0.2 (0.1)	0.2 (0.0)	3.4 (0.6)	2.4 (0.4)	3.0 (0.5)	2.1 (0.3)		
13	0.3 (0.0)	0.2 (0.0)	3.0 (0.3)	2.1 (0.2)	2.6 (0.3)	1.9 (0.2)		
14	0.2 (0.1)	0.1 (0.0)	2.1 (0.5)	1.5 (0.3)	2.2 (0.3)	1.6 (0.2)		
15	0.0 (0.1)	0.0 (0.0)	1.4 (0.2)	1.0 (0.2)	1.6 (0.2)	1.1 (0.1)		
16	0.1 (0.1)	0.0 (0.1)	2.8 (1.1)	2.0 (0.8)	2.7 (1.2)	1.9 (0.9)		
17	0.0 (0.1)	0.0 (0.0)	2.4 (0.5)	1.7 (0.3)	2.3 (0.5)	1.7 (0.4)		
18	0.1 (0.1)	0.1 (0.1)	2.3 (1.0)	1.6 (0.7)	2.1 (0.9)	1.5 (0.7)		
19	-0.1 (0.1)	-0.1 (0.0)	1.0 (0.3)	0.7 (0.2)	1.0 (0.2)	0.7 (0.2)		
20	-0.1 (0.0)	-0.1 (0.0)						
21	0.0 (0.0)	0.0 (0.0)						
22	0.0 (0.1)	0.0 (0.0)						
23	0.0 (0.1)	0.0 (0.0)	1.4 (0.6)	1.0 (0.4)	1.6 (0.8)	1.1 (0.6)		
24	-0.1 (0.1)	0.0 (0.1)	1.0 (0.2)	0.7 (0.2)	1.0 (0.2)	0.7 (0.2)		
25	-0.1 (0.0)	-0.1 (0.0)	0.9 (0.1)	0.7 (0.1)	0.9 (0.1)	0.6 (0.1)		
26	-0.1 (0.0)	0.0 (0.0)	1.0 (0.1)	0.7 (0.1)	1.0 (0.2)	0.7 (0.1)		
27	-0.1 (0.1)	0.0 (0.1)	0.9 (0.3)	0.6 (0.2)	1.0 (0.3)	0.7 (0.2)		
28	-0.1 (0.1)	0.0 (0.1)	3.1 (1.4)	2.2 (1.0)	1.5 (0.2)	1.1 (0.2)		
29	-0.2 (0.1)	-0.1 (0.1)			1.3 (0.3)	0.9 (0.2)		
30	-0.3 (0.1)	-0.2 (0.0)						
31	-0.2 (0.0)	-0.1 (0.0)	0.8 (0.2)	0.6 (0.1)	0.9 (0.2)	0.6 (0.2)		
Avg	0	0	2.2	1.6	1.8	1.3		
n	31	31	24	24	25	25	0	0
SD	0.2	0.1	1.2	0.9	0.7	0.5		
Min	-0.3	-0.2	0.8	0.6	0.9	0.6		
Max	0.4	0.3	5.5	3.9	3.0	2.1		

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for February, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-}
1	-0.1 (0.1)	-0.1 (0.1)	1.3 (0.3)	0.9 (0.2)	2.4 (1.2)	1.7 (0.9)		
2	-0.1 (0.1)	-0.1 (0.1)	1.7 (0.2)	1.2 (0.1)	2.5 (0.2)	1.8 (0.2)		
3	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.1)	1.3 (0.1)	2.1 (0.2)	1.5 (0.2)		
4	0.0 (0.1)	0.0 (0.1)	2.2 (0.3)	1.6 (0.2)	2.2 (0.2)	1.6 (0.2)		
5	0.4 (0.2)	0.3 (0.2)	4.1 (1.4)	3.1 (1.0)	3.3 (1.5)	2.4 (1.0)		
6	0.1 (0.2)	0.0 (0.1)	3.3 (0.6)	2.3 (0.4)	2.9 (0.4)	2.1 (0.3)		
7	-0.1 (0.1)	-0.1 (0.0)	4.2 (1.3)	3.0 (0.9)	4.0 (1.3)	2.8 (0.9)		
8	0.0 (0.1)	0.0 (0.1)						
9	0.0 (0.1)	0.0 (0.0)	2.6 (0.4)	1.9 (0.3)	2.7 (0.3)	1.9 (0.2)		
10	-0.2 (0.1)	-0.2 (0.0)	0.8 (0.4)	0.6 (0.3)	1.0 (0.5)	0.7 (0.4)		
11	-0.1 (0.2)	-0.1 (0.1)	1.9 (0.9)	1.3 (0.6)	1.8 (0.9)	1.3 (0.6)		
12	-0.1 (0.1)	-0.1 (0.1)	1.5 (0.3)	1.1 (0.2)	1.7 (0.2)	1.2 (0.2)		
13	-0.2 (0.1)	-0.1 (0.1)	2.2 (0.8)	1.6 (0.6)	1.9 (0.7)	1.3 (0.5)		
14	-0.2 (0.0)	-0.1 (0.0)			1.9 (0.4)	1.3 (0.3)		
15	-0.2 (0.1)	-0.2 (0.1)	1.5 (0.4)	1.1 (0.3)	1.8 (0.4)	1.3 (0.3)		
16	-0.2 (0.2)	-0.1 (0.1)	2.2 (1.2)	1.6 (0.9)	2.2 (1.0)	1.5 (0.7)		
17	0.0 (0.1)	0.0 (0.1)	3.3 (0.5)	2.3 (0.4)	2.7 (0.3)	1.9 (0.2)		
18	-0.1 (0.1)	-0.1 (0.1)	1.6 (0.6)	1.2 (0.4)	2.2 (0.6)	1.5 (0.4)		
19	-0.3 (0.1)	-0.2 (0.1)	0.8 (0.2)	0.6 (0.1)	1.1 (0.2)	0.8 (0.1)		
20	-0.3 (0.1)	-0.2 (0.1)	0.8 (0.1)	0.6 (0.1)	1.0 (0.1)	0.7 (0.1)		
21	-0.1 (0.2)	0.0 (0.2)	1.9 (1.1)	1.4 (0.7)	2.3 (1.3)	1.6 (0.9)		
22	-0.1 (0.1)	-0.1 (0.1)	1.8 (0.2)	1.3 (0.2)	2.5 (0.3)	1.8 (0.2)		
23	-0.1 (0.1)	-0.1 (0.1)	3.0 (1.4)	2.2 (1.0)	3.7 (1.7)	2.7 (1.2)		
24	-0.2 (0.1)	-0.1 (0.1)	2.4 (0.2)	1.7 (0.2)	2.9 (0.3)	2.0 (0.2)		
25	-0.1 (0.1)	-0.1 (0.0)	2.4 (0.2)	1.7 (0.1)	2.7 (0.2)	1.9 (0.1)		
26	-0.1 (0.1)	0.0 (0.1)	3.0 (1.0)	2.1 (0.7)	4.5 (1.6)	3.2 (1.2)		
27	-0.1 (0.1)	-0.1 (0.1)	1.7 (0.3)	1.2 (0.2)	2.8 (0.6)	2.0 (0.4)		
28	-0.1 (0.1)	-0.1 (0.1)	2.4 (1.1)	1.7 (0.8)	3.1 (1.5)	2.2 (1.1)		
29	0.0 (0.1)	0.0 (0.1)						
Avg	-0.1	-0.1	2.2	1.6	2.4	1.7		
n	29	29	26	26	27	27	0	0
SD	0.1	0.1	0.9	0.6	0.8	0.6		
Min	-0.3	-0.2	0.8	0.6	1.0	0.7		
Max	0.4	0.3	4.2	3.1	4.5	3.2		

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for March, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-}
1	0.0 (0.1)							
2	-0.1 (0.1)	-0.1 (0.1)	2.9 (0.6)	2.0 (0.4)	2.5 (0.2)	1.8 (0.2)		
3	0.2 (0.2)	0.1 (0.1)	4.8 (1.2)	3.4 (0.9)	5.1 (2.3)	3.6 (1.6)		
4	0.2 (0.1)	0.1 (0.0)	2.8 (0.4)	2.0 (0.3)	4.0 (0.7)	2.9 (0.5)		
5	0.0 (0.1)	0.0 (0.0)	4.3 (1.6)	3.0 (1.2)	4.6 (1.6)	3.3 (1.1)		
6	0.0 (0.0)	0.0 (0.0)	3.3 (0.5)	2.3 (0.3)	3.8 (0.4)	2.7 (0.3)		
7	0.0 (0.1)	0.0 (0.1)	2.1 (0.3)	1.5 (0.2)	3.1 (0.3)	2.2 (0.2)		
8	-0.1 (0.1)	-0.1 (0.1)	1.7 (0.2)	1.2 (0.1)	2.6 (0.2)	1.9 (0.2)		
9	-0.2 (0.1)	-0.1 (0.1)	2.0 (0.5)	1.4 (0.3)	2.8 (0.4)	2.0 (0.3)		
10	0.0 (0.1)	0.0 (0.1)	3.4 (1.1)	2.4 (0.8)	4.3 (1.3)	3.1 (0.9)		
11	0.5 (0.2)							
12	0.2 (0.2)	0.2 (0.1)	3.4 (0.5)	2.4 (0.4)	2.5 (0.5)	1.8 (0.4)		
13	0.4 (0.2)	0.3 (0.2)	3.5 (0.8)	2.5 (0.5)	2.7 (0.3)	1.9 (0.2)		
14	0.2 (0.1)	0.1 (0.1)			2.7 (0.5)			
15	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.3)	1.3 (0.2)	2.5 (0.4)	1.8 (0.3)		
16	0.0 (0.1)	0.0 (0.0)	3.2 (1.4)	2.3 (1.0)	4.1 (1.3)	2.9 (0.9)		
17	-0.1 (0.1)	-0.1 (0.1)	2.0 (0.5)	1.4 (0.4)	3.0 (0.8)	2.1 (0.6)		
18	-0.1 (0.1)	-0.1 (0.0)	1.8 (0.5)	1.3 (0.4)	2.3 (0.7)	1.7 (0.5)		
19	-0.2 (0.1)	-0.1 (0.0)	2.5 (0.7)	1.8 (0.5)	2.5 (0.4)	1.8 (0.3)		
20	-0.2 (0.1)	-0.1 (0.1)	2.2 (0.3)	1.6 (0.2)	2.0 (0.5)	1.4 (0.4)		
21	-0.1 (0.1)	-0.1 (0.1)	2.9 (0.7)	2.1 (0.5)	2.7 (0.6)	1.9 (0.4)		
22	-0.1 (0.1)	-0.1 (0.1)	2.5 (0.3)	1.7 (0.2)	2.1 (0.2)	1.5 (0.2)		
23	-0.2 (0.1)	-0.1 (0.1)	2.7 (0.6)	1.9 (0.5)	3.2 (1.1)	2.3 (0.7)		
24	-0.1 (0.1)	-0.1 (0.1)	2.1 (0.3)	1.5 (0.2)	2.5 (0.4)	1.8 (0.3)		
25	-0.1 (0.1)	-0.1 (0.1)	2.9 (0.4)	2.0 (0.3)	2.5 (0.4)	1.8 (0.3)		
26	-0.1 (0.1)	0.0 (0.1)	2.5 (0.5)	1.8 (0.4)	2.0 (0.4)	1.4 (0.3)		
27	-0.1 (0.2)	0.0 (0.1)	1.9 (0.3)	1.4 (0.2)	1.6 (0.2)	1.2 (0.2)		
28	-0.1 (0.1)	-0.1 (0.0)	2.3 (0.5)	1.6 (0.4)	2.7 (0.7)	1.9 (0.5)		
29	-0.2 (0.1)	-0.2 (0.0)	1.9 (0.3)	1.4 (0.2)	2.0 (0.6)	1.4 (0.4)		
30	-0.1 (0.0)	-0.1 (0.0)	2.0 (0.1)	1.4 (0.1)	1.6 (0.2)	1.1 (0.2)		
31	-0.1 (0.1)	-0.1 (0.1)						
Avg	0	0	2.6	1.9	2.9	2		
n	31	29	27	27	28	27	0	0
SD	0.2	0.1	0.8	0.5	0.9	0.6		
Min	-0.2	-0.2	1.7	1.2	1.6	1.1		
Max	0.5	0.3	4.8	3.4	5.1	3.6		

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for April, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	-0.1 (0.0)	-0.1 (0.0)						
2	0.0 (0.1)	0.0 (0.1)						
3	-0.1 (0.2)	-0.1 (0.1)	1.9 (0.4)	1.3 (0.3)	1.6 (0.3)	1.2 (0.2)		
4	0.0 (0.2)	0.0 (0.1)	2.5 (0.9)	1.8 (0.6)	2.4 (0.8)	1.7 (0.6)		
5	0.1 (0.2)	0.1 (0.1)	2.2 (0.3)	1.6 (0.2)	2.2 (0.4)	1.6 (0.3)		
6	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.4)	1.3 (0.3)	1.7 (0.3)	1.2 (0.2)		
7	0.0 (0.1)	0.0 (0.1)	2.0 (0.4)	1.4 (0.3)	2.0 (0.6)	1.4 (0.4)		
8	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.4)	1.4 (0.3)	1.8 (0.4)	1.3 (0.3)		
9	0.1 (0.2)	0.1 (0.1)	2.5 (0.8)	1.8 (0.6)	2.3 (0.9)	1.6 (0.6)		
10	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.4)	1.3 (0.3)	1.7 (0.3)	1.2 (0.2)		
11	-0.2 (0.1)	-0.1 (0.1)	2.5 (0.9)	1.8 (0.7)	2.4 (1.0)	1.7 (0.7)		
12	-0.3 (0.1)	-0.2 (0.0)	1.6 (0.2)	1.2 (0.1)	1.6 (0.2)	1.2 (0.1)	-0.2 (0.1)	-0.1 (0.0)
13	-0.3 (0.1)	-0.2 (0.1)	1.6 (0.3)	1.1 (0.2)	1.8 (0.2)	1.3 (0.2)	-0.1 (0.2)	-0.1 (0.1)
14	-0.3 (0.0)	-0.2 (0.0)	1.7 (0.4)	1.2 (0.3)	1.9 (0.5)	1.3 (0.4)	-0.1 (0.1)	-0.1 (0.1)
15	-0.1 (0.1)	-0.1 (0.0)	1.8 (0.3)	1.3 (0.2)	2.4 (0.6)	1.7 (0.4)	0.3 (0.2)	0.2 (0.1)
16	-0.2 (0.0)	-0.1 (0.0)	1.9 (0.4)	1.4 (0.3)	2.1 (0.4)	1.5 (0.3)	0.1 (0.2)	0.1 (0.1)
17	0.2 (0.3)	0.1 (0.2)	2.4 (0.3)	1.7 (0.2)	2.4 (0.5)	1.7 (0.4)	0.3 (0.2)	0.2 (0.2)
18	0.1 (0.1)	0.1 (0.1)	3.5 (1.2)	2.5 (0.9)	3.3 (0.8)	2.4 (0.6)	0.5 (0.1)	0.3 (0.1)
19	-0.1 (0.1)	-0.1 (0.1)	2.2 (0.4)	1.5 (0.3)	2.1 (0.4)	1.5 (0.3)	0.1 (0.1)	0.1 (0.1)
20	0.2 (0.2)	0.1 (0.2)	2.4 (0.6)	1.7 (0.5)	2.4 (0.8)	1.7 (0.6)	0.3 (0.2)	0.2 (0.1)
21	0.1 (0.2)	0.1 (0.2)	3.0 (0.7)	2.1 (0.5)	2.9 (0.6)	2.1 (0.5)	0.4 (0.1)	0.3 (0.1)
22	0.2 (0.2)	0.1 (0.1)	2.6 (0.5)	1.9 (0.3)	2.7 (0.6)	1.9 (0.4)		
23	0.9 (1.0)	0.6 (0.7)	4.0 (1.4)	2.8 (1.0)	3.9 (1.3)	2.8 (0.9)	1.0 (0.3)	0.7 (0.2)
24	0.0 (0.2)	0.0 (0.1)	2.8 (0.4)	2.0 (0.3)	3.0 (0.7)	2.2 (0.5)	0.9 (0.2)	0.6 (0.2)
25	0.3 (0.1)	0.2 (0.0)	4.0 (1.6)	2.9 (1.1)	4.3 (1.8)	3.1 (1.3)	1.0 (0.3)	0.7 (0.2)
26	0.0 (0.1)	0.0 (0.1)	1.6 (0.3)	1.2 (0.2)	1.7 (0.2)	1.2 (0.2)	0.2 (0.1)	0.1 (0.1)
27	-0.2 (0.1)	-0.1 (0.1)	1.4 (0.2)	1.0 (0.1)	1.6 (0.2)	1.1 (0.2)	0.1 (0.1)	0.1 (0.1)
28	-0.2 (0.0)	-0.1 (0.0)	1.4 (0.2)	1.0 (0.2)	1.5 (0.3)	1.1 (0.2)	0.0 (0.1)	0.0 (0.0)
29	-0.2 (0.1)	-0.2 (0.0)	1.7 (0.4)	1.2 (0.3)	2.0 (0.2)	1.4 (0.2)	0.0 (0.1)	0.0 (0.1)
30	-0.1 (0.1)	-0.1 (0.1)	1.6 (0.2)	1.1 (0.1)	1.8 (0.3)	1.3 (0.2)	0.1 (0.1)	0.1 (0.1)
Avg	0	0	2.2	1.6	2.3	1.6	0.3	0.2
n	30	30	28	28	28	28	18	18
SD	0.2	0.2	0.7	0.5	0.7	0.5	0.4	0.3
Min	-0.3	-0.2	1.4	1.0	1.5	1.1	-0.2	-0.1
Max	0.9	0.6	4.0	2.9	4.3	3.1	1.0	0.7

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for May, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.0 (0.2)	0.0 (0.1)	1.8 (0.5)	1.3 (0.4)	2.0 (0.6)	1.5 (0.5)	0.7 (0.3)	0.5 (0.2)
2	0.1 (0.1)	0.1 (0.1)	2.1 (0.4)	1.5 (0.3)	2.2 (0.6)	1.6 (0.4)	0.6 (0.2)	0.4 (0.1)
3	-0.1 (0.1)	0.0 (0.1)	1.7 (0.4)	1.2 (0.3)	1.5 (0.3)	1.1 (0.2)	0.2 (0.1)	0.1 (0.0)
4	0.0 (0.2)	0.0 (0.1)	1.6 (0.2)	1.1 (0.2)	1.6 (0.3)	1.1 (0.2)	0.2 (0.1)	0.1 (0.1)
5	0.1 (0.1)	0.1 (0.1)	2.4 (0.9)	1.7 (0.6)	2.7 (0.9)	1.9 (0.7)	0.4 (0.2)	0.3 (0.1)
6	0.2 (0.3)	0.2 (0.2)	2.2 (0.4)	1.6 (0.3)	2.5 (0.7)	1.8 (0.5)	0.6 (0.1)	0.4 (0.1)
7	0.4 (0.2)	0.3 (0.1)	3.1 (1.2)	2.2 (0.9)	3.3 (1.3)	2.4 (0.9)	0.7 (0.2)	0.5 (0.2)
8	-0.1 (0.1)	-0.1 (0.1)	1.3 (0.3)	0.9 (0.2)	1.4 (0.2)	1.0 (0.2)	0.7 (0.2)	0.5 (0.2)
9	-0.2 (0.1)	-0.2 (0.0)	1.2 (0.2)	0.8 (0.1)	1.2 (0.3)	0.9 (0.2)	0.7 (0.2)	0.5 (0.2)
10	-0.2 (0.1)	-0.1 (0.1)	1.7 (0.5)	1.2 (0.4)	1.5 (0.5)	1.0 (0.3)	0.6 (0.3)	0.4 (0.2)
11	-0.2 (0.1)	-0.2 (0.1)	1.5 (0.2)	1.1 (0.2)	2.2 (0.9)	1.6 (0.7)	0.5 (0.2)	0.4 (0.2)
12	-0.2 (0.1)	-0.1 (0.1)	1.2 (0.2)	0.8 (0.1)	1.4 (0.3)	1.0 (0.2)	0.2 (0.1)	0.1 (0.1)
13	-0.1 (0.1)	-0.1 (0.1)	2.3 (1.1)	1.7 (0.8)	2.5 (1.3)	1.8 (0.9)	0.6 (0.4)	0.4 (0.3)
14	-0.1 (0.1)	-0.1 (0.1)	1.7 (0.4)	1.2 (0.3)	1.8 (0.4)	1.3 (0.3)	0.4 (0.2)	0.3 (0.1)
15	-0.1 (0.1)	-0.1 (0.1)	1.7 (0.5)	1.2 (0.4)	2.4 (1.6)	1.7 (1.2)	0.5 (0.2)	0.4 (0.2)
16	0.0 (0.1)	0.0 (0.1)	1.9 (0.4)	1.3 (0.3)	2.0 (0.4)	1.4 (0.3)	0.8 (0.4)	0.5 (0.3)
17	0.1 (0.1)	0.0 (0.1)	2.0 (0.3)	1.4 (0.2)	2.1 (0.4)	1.5 (0.3)	1.0 (0.2)	0.7 (0.1)
18	0.1 (0.1)	0.0 (0.1)	1.5 (0.2)	1.1 (0.1)	1.6 (0.3)	1.2 (0.2)	0.8 (0.2)	0.6 (0.2)
19	-0.1 (0.1)							
20	0.0 (0.1)							
21	0.0 (0.2)	0.0 (0.1)	2.9 (1.8)	2.1 (1.3)	2.5 (1.1)	1.8 (0.8)		
22	-0.1 (0.1)	0.0 (0.1)	1.4 (0.3)	1.0 (0.2)	1.6 (0.5)	1.2 (0.4)	0.6 (0.3)	0.5 (0.2)
23	-0.2 (0.1)	-0.1 (0.0)	1.7 (0.5)	1.2 (0.4)	1.8 (0.6)	1.3 (0.4)	0.6 (0.4)	0.4 (0.3)
24	0.0 (0.1)	0.0 (0.1)	1.7 (0.3)	1.2 (0.2)	1.9 (0.4)	1.3 (0.3)	0.6 (0.2)	0.5 (0.1)
25	0.2 (0.1)	0.2 (0.1)	2.0 (0.5)	1.5 (0.4)	2.3 (0.6)	1.6 (0.4)	0.9 (0.3)	0.7 (0.2)
26	0.2 (0.1)	0.2 (0.1)	2.8 (0.4)	2.0 (0.3)	3.2 (0.5)	2.3 (0.4)	1.3 (0.2)	1.0 (0.2)
27	-0.1 (0.2)	0.0 (0.1)	1.6 (0.4)	1.1 (0.3)	1.8 (0.4)	1.3 (0.3)	0.9 (0.2)	0.6 (0.2)
28	-0.1 (0.1)	-0.1 (0.1)	1.7 (0.3)	1.2 (0.2)	1.6 (0.5)	1.1 (0.3)	0.6 (0.2)	0.4 (0.1)
29	0.1 (0.3)							
30	0.4 (0.1)	0.3 (0.1)	2.8 (0.4)	2.0 (0.3)	3.0 (0.5)	2.2 (0.4)	1.3 (0.3)	0.9 (0.2)
31	0.5 (0.1)	0.4 (0.1)	3.2 (0.4)	2.3 (0.3)	3.0 (0.5)	2.2 (0.3)	1.5 (0.2)	1.1 (0.1)
Avg	0	0	2	1.4	2.1	1.5	0.7	0.5
n	31	28	28	28	28	28	27	27
SD	0.2	0.1	0.6	0.4	0.6	0.4	0.3	0.2
Min	-0.2	-0.2	1.2	0.8	1.2	0.9	0.2	0.1
Max	0.5	0.4	3.2	2.3	3.3	2.4	1.5	1.1

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for June, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.3 (0.3)	0.2 (0.2)	2.9 (0.5)	2.1 (0.4)	2.9 (0.5)	2.1 (0.3)	1.1 (0.2)	0.8 (0.1)
2	0.8 (0.2)	0.5 (0.1)	4.1 (0.8)	3.0 (0.6)	4.5 (1.1)	3.3 (0.8)	1.3 (0.2)	1.0 (0.1)
3	0.6 (0.3)	0.4 (0.2)	3.6 (0.8)	2.6 (0.6)	3.6 (0.8)	2.6 (0.6)		
4	0.4 (0.1)	0.3 (0.1)	4.5 (1.3)	3.3 (0.9)	4.8 (1.5)	3.5 (1.1)		
5	0.3 (0.1)							
6	0.5 (0.1)							
7	0.7 (0.2)	0.5 (0.1)						
8	0.7 (0.1)	0.5 (0.1)						
9	0.6 (0.2)	0.4 (0.1)						
10	0.3 (0.1)	0.2 (0.1)	2.9 (0.5)	2.0 (0.3)	3.5 (0.9)	2.4 (0.6)	1.4 (0.2)	1.0 (0.1)
11	0.5 (0.2)							
12	0.2 (0.1)	0.1 (0.1)	3.5 (0.8)	2.5 (0.6)	3.9 (0.7)	2.8 (0.5)	1.8 (0.7)	1.3 (0.5)
13	0.5 (0.1)	0.4 (0.1)	4.5 (0.9)	3.2 (0.6)	5.7 (1.8)	4.1 (1.3)	1.9 (0.5)	1.3 (0.3)
14	0.4 (0.2)	0.3 (0.2)	3.4 (0.8)	2.5 (0.5)	4.0 (0.8)	2.9 (0.6)	1.4 (0.3)	1.0 (0.3)
15	0.3 (0.1)	0.2 (0.1)	3.4 (0.6)	2.5 (0.4)	3.6 (0.7)	2.6 (0.5)	1.5 (0.3)	1.1 (0.2)
16	0.0 (0.1)	0.0 (0.1)	2.7 (0.4)	1.9 (0.3)	3.0 (0.5)	2.1 (0.4)	1.1 (0.1)	0.8 (0.1)
17	0.1 (0.1)	0.1 (0.1)	2.8 (0.7)	2.0 (0.5)	3.4 (1.0)	2.5 (0.7)	1.2 (0.3)	0.8 (0.2)
18	0.0 (0.1)	0.0 (0.1)	2.9 (0.6)	2.1 (0.4)	2.7 (0.4)	1.9 (0.3)	1.2 (0.3)	0.9 (0.2)
19	0.3 (0.1)	0.2 (0.1)	3.6 (1.0)	2.6 (0.7)	4.0 (1.2)	2.9 (0.9)	1.3 (0.2)	0.9 (0.2)
20	0.8 (0.5)	0.6 (0.4)	3.6 (0.6)	2.6 (0.4)	3.9 (0.9)	2.8 (0.6)	1.4 (0.2)	1.0 (0.2)
21	0.5 (0.1)							
22	0.3 (0.4)	0.2 (0.3)	3.0 (0.4)	2.2 (0.3)	3.1 (0.5)	2.2 (0.4)	1.2 (0.2)	0.9 (0.1)
23	-0.1 (0.1)	-0.1 (0.1)	2.8 (0.6)	2.0 (0.5)	2.4 (0.5)	1.7 (0.4)	1.1 (0.2)	0.8 (0.1)
24	0.1 (0.2)	0.1 (0.1)	3.3 (0.8)	2.4 (0.5)	3.2 (0.8)	2.3 (0.6)	1.0 (0.2)	0.7 (0.2)
25	0.5 (0.3)	0.4 (0.2)	3.9 (0.7)	2.8 (0.5)	4.2 (0.7)	3.0 (0.5)	1.5 (0.2)	1.0 (0.2)
26	0.6 (0.3)	0.4 (0.2)	4.1 (0.8)	3.0 (0.6)	4.6 (0.8)	3.3 (0.6)	1.7 (0.1)	1.2 (0.1)
27	0.7 (0.1)	0.5 (0.1)	4.3 (0.8)	3.1 (0.6)	4.6 (0.7)	3.3 (0.5)	1.5 (0.3)	1.1 (0.2)
28	0.5 (0.2)	0.4 (0.1)	4.8 (1.2)	3.5 (0.8)	5.2 (1.0)	3.7 (0.7)	1.4 (0.3)	1.0 (0.2)
29	0.2 (0.1)	0.1 (0.0)	3.3 (0.5)	2.4 (0.4)	3.5 (0.6)	2.5 (0.5)	1.3 (0.2)	0.9 (0.1)
30	0.2 (0.2)	0.1 (0.2)	2.4 (0.3)	1.7 (0.2)	2.6 (0.5)	1.8 (0.3)	1.0 (0.2)	0.7 (0.1)
Avg	0.4	0.3	3.5	2.5	3.8	2.7	1.3	1
n	30	26	23	23	23	23	21	21
SD	0.2	0.2	0.7	0.5	0.8	0.6	0.2	0.2
Min	-0.1	-0.1	2.4	1.7	2.4	1.7	1.0	0.7
Max	0.8	0.6	4.8	3.5	5.7	4.1	1.9	1.3

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for July, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.8 (0.4)	0.5 (0.3)	4.0 (1.1)	2.8 (0.8)	3.5 (1.0)	2.5 (0.7)	0.9 (0.2)	0.7 (0.1)
2	0.4 (0.2)	0.3 (0.2)	3.9 (0.4)	2.8 (0.3)	3.9 (0.5)	2.8 (0.3)	1.7 (0.4)	1.2 (0.3)
3	0.2 (0.2)	0.1 (0.1)	3.5 (0.5)	2.5 (0.4)	4.0 (1.4)	2.9 (1.0)	1.3 (0.2)	0.9 (0.1)
4	-0.1 (0.1)	-0.1 (0.1)	2.7 (0.4)	1.9 (0.3)	2.6 (0.4)	1.8 (0.3)	0.9 (0.2)	0.7 (0.1)
5	0.1 (0.4)	0.0 (0.3)	2.6 (0.5)	1.9 (0.3)	2.4 (0.4)	1.7 (0.3)	0.5 (0.1)	0.4 (0.1)
6	0.3 (0.2)	0.2 (0.1)	3.2 (0.7)	2.3 (0.5)	3.5 (0.6)	2.5 (0.5)	0.6 (0.2)	0.4 (0.1)
7	0.6 (0.1)	0.5 (0.1)	5.3 (1.3)	3.8 (1.0)	5.8 (1.6)	4.2 (1.2)	1.3 (0.3)	0.9 (0.2)
8	0.7 (0.2)	0.5 (0.1)	4.3 (0.7)	3.1 (0.5)	4.8 (0.8)	3.5 (0.6)	1.2 (0.2)	0.9 (0.1)
9	0.9 (0.1)							
10	0.3 (0.3)	0.2 (0.2)	3.5 (0.5)	2.5 (0.3)	3.9 (0.8)	2.8 (0.6)	0.8 (0.1)	0.6 (0.1)
11	0.5 (0.2)	0.4 (0.1)	5.1 (1.4)	3.7 (1.1)	5.2 (1.5)	3.8 (1.1)	1.5 (0.5)	1.1 (0.3)
12	0.4 (0.2)	0.3 (0.1)	4.3 (0.7)	3.1 (0.5)	4.4 (0.9)	3.1 (0.7)	2.1 (0.6)	1.5 (0.4)
13	0.1 (0.1)	0.1 (0.1)	2.8 (0.6)	2.0 (0.4)	2.9 (0.6)	2.1 (0.5)	0.9 (0.3)	0.7 (0.2)
14	0.4 (0.4)	0.3 (0.3)	3.7 (0.9)	2.7 (0.6)	4.0 (1.5)	2.9 (1.1)	0.7 (0.2)	0.5 (0.1)
15	1.1 (0.4)	0.8 (0.3)	4.6 (0.7)	3.3 (0.5)	5.1 (1.1)	3.6 (0.8)		
16	0.6 (0.3)	0.4 (0.2)	6.0 (1.4)	4.3 (1.0)	5.7 (0.8)	4.1 (0.5)	1.4 (0.3)	1.0 (0.2)
17	0.7 (0.1)	0.5 (0.1)	4.8 (0.8)	3.5 (0.6)	5.5 (0.8)	3.9 (0.6)	1.5 (0.2)	1.1 (0.2)
18	1.2 (0.4)	0.8 (0.3)	5.7 (1.1)	4.1 (0.8)	7.2 (1.0)	5.2 (0.7)	1.7 (0.2)	1.2 (0.1)
19	0.7 (0.3)	0.5 (0.2)	5.5 (0.9)	4.0 (0.7)	6.0 (1.2)	4.3 (0.9)	1.9 (0.4)	1.4 (0.3)
20	1.0 (0.5)	0.7 (0.3)	5.0 (1.0)	3.6 (0.7)	5.4 (1.2)	3.9 (0.9)	1.8 (0.3)	1.3 (0.2)
21	0.6 (0.4)	0.4 (0.3)	5.0 (0.9)	3.6 (0.7)	5.0 (1.1)	3.6 (0.8)		
22	0.1 (0.1)	0.1 (0.1)	5.0 (1.2)	3.6 (0.9)	4.8 (1.3)	3.4 (0.9)		
23	0.1 (0.0)							
24	0.1 (0.1)	0.1 (0.1)	3.2 (0.8)	2.3 (0.6)	3.1 (0.9)	2.2 (0.6)		
25	0.4 (0.2)	0.3 (0.1)	4.8 (1.1)	3.5 (0.8)	4.7 (1.4)	3.4 (1.0)	1.5 (0.3)	1.1 (0.3)
26	0.9 (0.2)	0.6 (0.1)	4.2 (0.7)	3.1 (0.5)	4.1 (0.7)	2.9 (0.5)	1.5 (0.3)	1.1 (0.3)
27	0.3 (0.3)	0.2 (0.2)	3.7 (0.6)	2.7 (0.4)	3.6 (0.6)	2.6 (0.5)	1.0 (0.2)	0.8 (0.1)
28	0.3 (0.2)	0.2 (0.1)	4.1 (0.6)	2.9 (0.4)	5.0 (1.4)	3.6 (1.0)	1.2 (0.2)	0.9 (0.2)
29	0.5 (0.3)	0.3 (0.2)	5.3 (1.4)	3.8 (1.1)	4.7 (0.8)	3.4 (0.6)	1.2 (0.3)	0.9 (0.2)
30	0.6 (0.3)	0.4 (0.2)	4.1 (0.8)	3.0 (0.6)	4.3 (0.9)	3.1 (0.6)	1.0 (0.1)	0.8 (0.1)
31	1.2 (0.7)	0.8 (0.5)	4.3 (0.9)	3.1 (0.6)	4.6 (0.8)	3.3 (0.6)	1.3 (0.3)	0.9 (0.2)
Avg	0.5	0.4	4.3	3.1	4.5	3.2	1.3	0.9
n	31	29	29	29	29	29	25	25
SD	0.3	0.2	0.9	0.7	1.1	0.8	0.4	0.3
Min	-0.1	-0.1	2.6	1.9	2.4	1.7	0.5	0.4
Max	1.2	0.8	6.0	4.3	7.2	5.2	2.1	1.5

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for August, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	1.2 (0.5)	0.8 (0.4)	6.3 (1.4)	4.6 (1.0)	6.7 (1.6)	4.9 (1.2)	2.2 (0.2)	1.6 (0.2)
2	0.1 (0.1)	0.1 (0.1)	3.8 (0.6)	2.8 (0.5)	3.7 (1.0)	2.6 (0.7)	1.2 (0.2)	0.9 (0.2)
3	0.4 (0.3)	0.3 (0.2)	3.7 (0.6)	2.7 (0.5)	3.7 (0.7)	2.6 (0.5)	1.4 (0.3)	1.0 (0.2)
4	0.9 (0.3)	0.6 (0.2)						
5								
6								
7								
8	0.9 (0.8)	0.6 (0.5)						
9	0.6 (0.5)	0.4 (0.4)						
10	-0.1 (0.1)	-0.1 (0.1)						
11	-0.2 (0.1)	-0.1 (0.1)						
12	0.0 (0.1)							
13	0.2 (0.1)	0.2 (0.1)						
14	0.0 (0.1)	0.0 (0.1)	3.6 (0.8)	2.6 (0.6)	3.7 (0.6)	2.6 (0.4)	0.7 (0.1)	0.5 (0.1)
15	-0.1 (0.2)	0.0 (0.1)	4.1 (1.3)	2.9 (0.9)			0.6 (0.2)	0.5 (0.1)
16	0.2 (0.2)	0.1 (0.1)	3.4 (0.6)	2.5 (0.4)	3.0 (0.6)	2.1 (0.5)	0.7 (0.1)	0.5 (0.1)
17	0.4 (0.1)	0.3 (0.1)	3.4 (0.5)	2.4 (0.4)	3.2 (0.8)	2.3 (0.5)	1.2 (0.3)	0.9 (0.2)
18	1.1 (0.6)	0.8 (0.5)	4.1 (1.0)	3.0 (0.7)	3.8 (1.1)	2.7 (0.8)		
19	0.2 (0.2)	0.2 (0.1)	4.6 (0.8)	3.3 (0.6)	4.6 (1.0)	3.3 (0.7)	1.2 (0.2)	0.9 (0.2)
20	0.2 (0.2)	0.1 (0.1)	3.4 (0.6)	2.5 (0.4)	3.2 (0.7)	2.3 (0.5)	1.2 (0.2)	0.9 (0.1)
21	0.1 (0.1)	0.1 (0.1)	5.3 (1.8)	3.8 (1.3)	4.4 (1.3)	3.1 (0.9)	1.5 (0.5)	1.1 (0.3)
22	0.4 (0.1)	0.3 (0.1)	4.2 (0.6)	3.0 (0.4)	4.0 (0.7)	2.9 (0.5)	1.2 (0.3)	0.9 (0.2)
23	0.8 (0.2)							
24	0.1 (0.1)	0.1 (0.1)	3.3 (0.5)	2.4 (0.3)	2.9 (0.6)	2.1 (0.4)	0.9 (0.1)	0.6 (0.1)
25								
26								
27								
28	0.5 (0.3)	0.4 (0.2)	5.3 (1.2)	3.8 (0.9)	4.6 (1.0)	3.3 (0.7)	1.7 (0.3)	1.3 (0.2)
29	0.4 (0.3)	0.3 (0.2)	4.0 (0.8)	2.9 (0.6)	3.4 (0.9)	2.4 (0.6)	1.5 (0.3)	1.0 (0.2)
30	0.3 (0.2)	0.2 (0.2)	4.0 (0.7)	2.9 (0.5)	3.4 (0.8)	2.4 (0.6)	0.8 (0.1)	0.6 (0.1)
31	0.4 (0.2)	0.3 (0.1)	3.3 (0.6)	2.4 (0.5)	3.2 (0.8)	2.3 (0.5)	0.7 (0.2)	0.5 (0.1)
Avg	0.4	0.3	4.1	3	3.8	2.8	1.2	0.8
n	25	23	17	17	16	16	16	16
SD	0.4	0.3	0.8	0.6	0.9	0.7	0.4	0.3
Min	-0.2	-0.1	3.3	2.4	2.9	2.1	0.6	0.5
Max	1.2	0.8	6.3	4.6	6.7	4.9	2.2	1.6

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for September, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.2 (0.1)	0.1 (0.1)	3.3 (0.6)	2.4 (0.4)	2.6 (0.6)	1.9 (0.4)	0.9 (0.2)	0.7 (0.2)
2	1.0 (1.0)	0.7 (0.7)	4.7 (1.5)	3.4 (1.1)	5.0 (2.0)	3.6 (1.5)	1.6 (0.5)	1.2 (0.4)
3	0.7 (1.0)	0.5 (0.7)						
4	0.2 (0.1)	0.2 (0.1)	3.6 (0.5)	2.6 (0.4)	3.2 (0.5)	2.3 (0.4)	1.3 (0.3)	0.9 (0.2)
5	0.2 (0.1)	0.1 (0.1)						
6	0.0 (0.1)	0.0 (0.1)	2.6 (0.5)	1.9 (0.3)	2.3 (0.5)	1.7 (0.4)	1.2 (0.3)	0.8 (0.2)
7	0.0 (0.1)	0.0 (0.1)	2.7 (0.5)	2.0 (0.4)	2.3 (0.5)	1.7 (0.4)	0.6 (0.2)	0.4 (0.1)
8	0.1 (0.1)	0.1 (0.1)	2.7 (0.3)	2.0 (0.2)	2.4 (0.5)	1.7 (0.4)	0.5 (0.1)	0.4 (0.1)
9	0.1 (0.1)	0.1 (0.1)	2.1 (0.3)	1.5 (0.2)	1.6 (0.4)	1.1 (0.3)	0.5 (0.2)	0.3 (0.1)
10	-0.1 (0.1)	0.0 (0.1)			2.5 (1.2)	1.8 (0.9)		
11	0.1 (0.2)	0.0 (0.1)	3.2 (0.8)	2.3 (0.6)	2.7 (0.9)	1.9 (0.6)	1.1 (0.5)	0.8 (0.4)
12	0.4 (0.1)	0.3 (0.1)	3.9 (0.6)	2.8 (0.4)	3.4 (0.6)	2.5 (0.5)	1.8 (0.2)	1.3 (0.2)
13	0.6 (0.2)	0.5 (0.1)	5.2 (1.0)	3.8 (0.7)	4.1 (0.6)	2.9 (0.4)	2.2 (0.4)	1.6 (0.3)
14	0.1 (0.2)	0.1 (0.1)	3.5 (0.7)	2.5 (0.5)	2.8 (0.7)	2.0 (0.5)	1.4 (0.5)	1.0 (0.4)
15	-0.1 (0.0)	-0.1 (0.0)	2.8 (0.6)	2.0 (0.4)	2.2 (0.5)	1.6 (0.3)	0.6 (0.2)	0.4 (0.2)
16	0.1 (0.2)	0.0 (0.2)	3.7 (1.2)	2.7 (0.9)	3.3 (1.1)	2.4 (0.8)	0.4 (0.1)	0.3 (0.1)
17	0.3 (0.2)	0.2 (0.1)	3.5 (0.6)	2.5 (0.4)	2.9 (0.5)	2.1 (0.4)	1.2 (0.3)	0.9 (0.2)
18	0.0 (0.1)	0.0 (0.1)	3.1 (0.6)	2.2 (0.5)	2.8 (0.8)	2.0 (0.6)	1.2 (0.3)	0.9 (0.2)
19	0.1 (0.1)	0.0 (0.1)	3.4 (0.6)	2.5 (0.5)	2.5 (0.6)	1.8 (0.4)	1.1 (0.3)	0.8 (0.2)
20	0.2 (0.2)	0.1 (0.1)	3.2 (0.4)	2.3 (0.3)	2.6 (0.4)	1.9 (0.3)	1.2 (0.3)	0.8 (0.2)
21	0.6 (0.4)	0.4 (0.3)	3.1 (0.5)	2.2 (0.3)	2.6 (0.4)	1.8 (0.3)	1.2 (0.2)	0.8 (0.2)
22	-0.1 (0.1)	-0.1 (0.1)	3.0 (0.5)	2.2 (0.3)	2.4 (0.6)	1.7 (0.4)	1.0 (0.2)	0.7 (0.1)
23	0.1 (0.3)	0.1 (0.2)						
24	0.1 (0.5)	0.1 (0.3)						
25	-0.1 (0.2)	-0.1 (0.2)						
26	-0.2 (0.1)	-0.1 (0.1)	3.6 (0.9)	2.6 (0.7)	3.1 (0.7)	2.2 (0.5)	0.7 (0.3)	0.5 (0.2)
27	0.0 (0.4)	0.0 (0.3)	2.9 (0.6)	2.1 (0.4)	2.4 (0.6)	1.7 (0.4)	0.8 (0.2)	0.6 (0.2)
28	0.2 (0.4)	0.1 (0.3)	3.3 (0.6)	2.4 (0.4)	2.5 (0.5)	1.8 (0.4)	1.0 (0.2)	0.7 (0.2)
29	0.1 (0.3)	0.1 (0.2)	3.6 (1.0)	2.6 (0.7)	2.9 (0.9)	2.1 (0.6)	0.9 (0.3)	0.6 (0.2)
30	0.0 (0.1)	0.0 (0.1)	2.5 (0.5)	1.8 (0.3)	2.0 (0.4)	1.4 (0.3)	1.1 (0.3)	0.8 (0.2)
Avg	0.2	0.1	3.3	2.4	2.8	2	1.1	0.8
n	30	30	24	24	25	25	24	24
SD	0.3	0.2	0.7	0.5	0.7	0.5	0.4	0.3
Min	-0.2	-0.1	2.1	1.5	1.6	1.1	0.4	0.3
Max	1.0	0.7	5.2	3.8	5.0	3.6	2.2	1.6

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for October, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	-0.1 (0.1)	-0.1 (0.1)	2.7 (1.1)	1.9 (0.8)	2.6 (1.1)	1.8 (0.8)	0.5 (0.3)	0.4 (0.2)
2	-0.1 (0.1)	0.0 (0.1)	2.3 (0.4)	1.6 (0.3)	2.1 (0.2)	1.5 (0.2)	0.2 (0.3)	0.1 (0.2)
3	-0.3 (0.1)	-0.2 (0.0)	1.9 (0.5)	1.3 (0.3)	1.7 (0.4)	1.2 (0.3)	0.2 (0.3)	0.2 (0.2)
4	-0.3 (0.0)	-0.2 (0.0)	2.3 (0.5)	1.7 (0.4)	2.3 (0.7)	1.7 (0.5)	0.6 (0.3)	0.4 (0.2)
5	-0.2 (0.1)	-0.1 (0.1)	2.0 (0.3)	1.4 (0.3)	2.1 (0.4)	1.5 (0.3)	0.7 (0.3)	0.5 (0.2)
6	-0.2 (0.0)	-0.1 (0.0)	2.0 (0.7)	1.5 (0.5)	1.6 (0.6)	1.2 (0.4)	0.6 (0.2)	0.5 (0.2)
7	-0.1 (0.1)	-0.1 (0.1)	3.2 (1.1)	2.3 (0.8)	2.7 (0.7)	2.0 (0.5)	0.8 (0.2)	0.6 (0.2)
8	0.1 (0.2)	0.1 (0.1)	2.5 (0.6)	1.8 (0.5)	2.3 (0.6)	1.6 (0.4)	0.9 (0.3)	0.6 (0.2)
9	0.0 (0.1)	0.0 (0.1)	3.2 (1.0)	2.3 (0.7)	2.8 (0.6)	2.0 (0.4)	0.5 (0.1)	0.4 (0.1)
10	0.0 (0.1)	0.0 (0.1)	2.5 (0.6)	1.8 (0.4)	2.4 (0.4)	1.7 (0.3)	0.3 (0.2)	0.2 (0.1)
11	0.4 (0.7)	0.3 (0.5)	2.8 (0.7)	2.0 (0.5)	3.0 (0.8)	2.1 (0.6)	0.6 (0.3)	0.4 (0.2)
12	0.2 (0.3)	0.1 (0.2)	2.9 (0.4)	2.1 (0.3)	3.4 (0.5)	2.5 (0.3)	1.0 (0.2)	0.7 (0.1)
13	0.3 (0.2)	0.2 (0.1)	4.4 (1.2)	3.1 (0.8)	4.0 (1.9)	2.9 (1.3)	1.1 (0.3)	0.8 (0.2)
14	-0.1 (0.2)	-0.1 (0.1)	3.1 (0.6)	2.2 (0.4)	2.8 (0.7)	2.0 (0.5)	1.1 (0.1)	0.8 (0.1)
15	0.1 (0.2)	0.1 (0.2)						
16	-0.1 (0.1)	-0.1 (0.0)	1.7 (0.5)	1.2 (0.4)	1.5 (0.5)	1.0 (0.4)	0.9 (0.3)	0.6 (0.2)
17	-0.2 (0.1)	-0.2 (0.0)	2.0 (0.5)	1.4 (0.4)	2.3 (0.8)	1.6 (0.5)	0.2 (0.1)	0.1 (0.1)
18	-0.2 (0.1)	-0.1 (0.1)	1.8 (0.3)	1.3 (0.2)	2.0 (0.2)	1.4 (0.2)	0.1 (0.1)	0.1 (0.1)
19	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.4)	1.3 (0.3)	1.9 (0.3)	1.3 (0.2)	0.1 (0.1)	0.1 (0.1)
20	-0.1 (0.1)	0.0 (0.1)	1.6 (0.4)	1.2 (0.3)	1.3 (0.6)	0.9 (0.4)	0.3 (0.3)	0.2 (0.2)
21	-0.2 (0.0)	-0.1 (0.0)	1.9 (0.3)	1.4 (0.2)	2.2 (0.5)	1.6 (0.4)	0.4 (0.3)	0.3 (0.2)
22	-0.2 (0.1)	-0.1 (0.0)	2.0 (0.2)	1.5 (0.2)	1.8 (0.2)	1.3 (0.2)	0.7 (0.3)	0.5 (0.2)
23	-0.2 (0.1)	-0.1 (0.0)	2.0 (0.5)	1.4 (0.3)	1.6 (0.5)	1.1 (0.3)		
24	-0.2 (0.0)							
25	-0.1 (0.1)	-0.1 (0.1)	2.5 (0.6)	1.8 (0.4)	1.8 (0.2)	1.3 (0.1)	0.1 (0.1)	0.1 (0.1)
26	-0.1 (0.1)	0.0 (0.0)	2.2 (0.3)	1.6 (0.2)	1.6 (0.3)	1.2 (0.2)	0.1 (0.1)	0.0 (0.1)
27	0.0 (0.0)	0.0 (0.0)	3.3 (0.7)	2.3 (0.5)	2.4 (0.6)	1.7 (0.4)	0.0 (0.2)	0.0 (0.2)
28	0.0 (0.0)	0.0 (0.0)	2.7 (0.3)	1.9 (0.2)	2.4 (0.8)	1.7 (0.5)	-0.1 (0.1)	-0.1 (0.1)
29	0.0 (0.2)	0.0 (0.1)	3.4 (1.5)	2.4 (1.0)	2.2 (0.6)	1.6 (0.4)		
30	0.0 (0.2)	0.0 (0.1)	2.3 (0.6)	1.7 (0.4)	2.2 (0.6)	1.6 (0.4)	0.0 (0.1)	0.0 (0.1)
31	0.1 (0.2)	0.1 (0.1)	2.4 (0.7)	1.7 (0.5)	2.5 (1.1)	1.8 (0.8)	0.2 (0.2)	0.1 (0.2)
Avg	-0.1	0	2.5	1.8	2.3	1.6	0.4	0.3
n	31	30	29	29	29	29	27	27
SD	0.2	0.1	0.6	0.4	0.6	0.4	0.3	0.3
Min	-0.3	-0.2	1.6	1.2	1.3	0.9	-0.1	-0.1
Max	0.4	0.3	4.4	3.1	4.0	2.9	1.1	0.8

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for November, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.3)	1.4 (0.2)	1.8 (0.4)	1.3 (0.3)	0.6 (0.2)	0.4 (0.2)
2	-0.2 (0.1)	-0.1 (0.1)	2.2 (0.5)	1.6 (0.4)	2.2 (0.6)	1.5 (0.4)	0.3 (0.1)	0.2 (0.1)
3	0.0 (0.1)	0.0 (0.0)	2.1 (0.5)	1.5 (0.3)	2.4 (0.5)	1.7 (0.4)	0.2 (0.1)	0.1 (0.1)
4	0.0 (0.1)	0.0 (0.1)	3.0 (1.2)	2.1 (0.8)	3.1 (1.6)	2.2 (1.1)	0.2 (0.1)	0.1 (0.1)
5	-0.2 (0.0)	-0.1 (0.0)			1.9 (0.4)	1.3 (0.3)		
6	-0.2 (0.1)	-0.1 (0.0)	2.9 (1.1)	2.1 (0.8)	2.5 (0.9)	1.8 (0.6)	0.2 (0.2)	0.2 (0.2)
7	-0.2 (0.0)	-0.2 (0.0)	2.1 (0.4)	1.5 (0.3)	1.6 (0.3)	1.1 (0.2)	0.0 (0.1)	0.0 (0.1)
8	-0.2 (0.0)	-0.1 (0.0)	2.1 (0.2)	1.5 (0.1)	1.8 (0.3)	1.3 (0.2)	-0.1 (0.1)	-0.1 (0.1)
9	-0.2 (0.1)	-0.1 (0.0)	2.1 (0.3)	1.5 (0.2)	2.0 (0.3)	1.4 (0.2)	-0.1 (0.1)	-0.1 (0.1)
10	-0.3 (0.0)	-0.2 (0.0)	1.5 (0.2)	1.1 (0.1)	1.6 (0.3)	1.2 (0.2)	-0.2 (0.1)	-0.1 (0.1)
11	-0.1 (0.1)	-0.1 (0.1)	2.6 (1.1)	1.8 (0.8)	3.0 (1.0)	2.2 (0.7)		
12	-0.3 (0.1)	-0.2 (0.1)	2.2 (0.3)	1.5 (0.2)	1.9 (0.4)	1.3 (0.3)	0.0 (0.1)	0.0 (0.1)
13	-0.2 (0.1)	-0.2 (0.1)	1.4 (0.4)	1.0 (0.3)	1.7 (0.2)	1.2 (0.2)	0.0 (0.1)	0.0 (0.0)
14	-0.3 (0.0)	-0.2 (0.0)	1.4 (0.2)	1.0 (0.1)	1.4 (0.2)	1.0 (0.2)	0.0 (0.1)	0.0 (0.0)
15	0.0 (0.1)	0.0 (0.1)	3.3 (1.0)	2.4 (0.7)	3.1 (1.3)	2.2 (0.9)	0.2 (0.1)	0.1 (0.1)
16	-0.1 (0.1)	-0.1 (0.1)	2.6 (0.4)	1.8 (0.3)	2.5 (0.5)	1.8 (0.3)	0.1 (0.1)	0.1 (0.1)
17	-0.2 (0.0)	-0.1 (0.0)	2.9 (0.8)	2.0 (0.5)	2.5 (0.4)	1.8 (0.3)		
18	-0.3 (0.1)	-0.2 (0.0)	2.0 (0.3)	1.4 (0.2)	2.2 (0.3)	1.5 (0.2)	0.2 (0.1)	0.1 (0.1)
19	-0.2 (1.6)	-0.2 (1.2)						
20	-0.2 (0.1)	-0.1 (0.0)	2.4 (0.7)	1.7 (0.5)	2.6 (0.9)	1.9 (0.6)	-0.2 (0.1)	-0.2 (0.1)
21	-0.3 (0.0)	-0.2 (0.0)	1.2 (0.2)	0.8 (0.2)	1.6 (0.3)	1.1 (0.2)	-0.3 (0.1)	-0.2 (0.1)
22	-0.4 (0.1)	-0.3 (0.0)	0.9 (0.2)	0.7 (0.1)	1.1 (0.2)	0.8 (0.1)	-0.3 (0.1)	-0.2 (0.1)
23	-0.3 (0.0)	-0.2 (0.0)	2.3 (1.1)	1.6 (0.8)	1.8 (0.8)	1.3 (0.6)	-0.3 (0.1)	-0.2 (0.1)
24	-0.3 (0.0)	-0.2 (0.0)	2.1 (0.3)	1.5 (0.2)	1.9 (0.2)	1.4 (0.1)	-0.1 (0.1)	
25	-0.2 (0.1)	-0.1 (0.1)	3.0 (1.1)	2.1 (0.8)	2.7 (0.8)	1.9 (0.5)	0.0 (0.1)	
26	-0.2 (0.1)	-0.2 (0.0)	2.0 (0.3)	1.4 (0.2)	1.9 (0.4)	1.3 (0.3)	-0.2 (0.1)	-0.1 (0.1)
27	-0.2 (0.1)	-0.1 (0.0)	1.6 (0.2)	1.2 (0.2)	1.6 (0.2)	1.1 (0.1)	-0.2 (0.1)	-0.2 (0.1)
28	-0.1 (0.1)	-0.1 (0.1)	2.9 (1.2)	2.1 (0.9)	2.5 (0.7)	1.7 (0.5)	-0.1 (0.1)	-0.1 (0.1)
29	-0.2 (0.1)	-0.1 (0.1)						
30	-0.3 (0.0)	-0.2 (0.0)	1.6 (0.1)	1.1 (0.1)	1.7 (0.2)	1.2 (0.1)	-0.3 (0.1)	-0.2 (0.0)
Avg	-0.2	-0.1	2.2	1.5	2.1	1.5	0	0
n	30	30	27	27	28	28	25	23
SD	0.1	0.1	0.6	0.4	0.5	0.4	0.2	0.2
Min	-0.4	-0.3	0.9	0.7	1.1	0.8	-0.3	-0.2
Max	0.0	0.0	3.3	2.4	3.1	2.2	0.6	0.4

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for December, 2008.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	-0.3 (0.0)	-0.2 (0.0)	1.5 (0.2)	1.0 (0.2)	1.7 (0.3)	1.2 (0.2)	-0.3 (0.1)	-0.2 (0.0)
2	-0.3 (0.1)	-0.2 (0.0)	2.7 (1.1)	1.9 (0.8)	2.5 (1.0)	1.8 (0.7)	0.1 (0.3)	0.1 (0.2)
3	-0.2 (0.1)	-0.2 (0.1)	2.2 (0.3)	1.6 (0.2)	2.0 (0.3)	1.4 (0.2)	-0.1 (0.1)	-0.1 (0.1)
4	-0.3 (0.0)	-0.2 (0.0)	1.4 (0.7)	1.0 (0.5)	1.2 (0.3)	0.8 (0.2)	-0.1 (0.2)	0.0 (0.1)
5	-0.4 (0.0)	-0.3 (0.0)	0.6 (0.1)	0.4 (0.1)	0.6 (0.1)	0.4 (0.1)	0.2 (0.1)	0.1 (0.1)
6	-0.3 (0.1)	-0.2 (0.1)	1.9 (0.9)	1.4 (0.6)	1.5 (0.7)	1.1 (0.5)	-0.1 (0.2)	0.0 (0.1)
7	-0.3 (0.0)	-0.2 (0.0)	0.9 (0.2)	0.6 (0.1)	0.8 (0.2)	0.6 (0.1)	0.0 (0.2)	0.0 (0.1)
8	-0.2 (0.1)	-0.1 (0.1)	2.0 (0.9)	1.4 (0.7)	2.0 (0.9)	1.4 (0.6)	-0.1 (0.1)	
9	-0.3 (0.0)	-0.2 (0.0)	1.8 (0.3)	1.3 (0.2)	1.4 (0.2)	1.0 (0.2)	0.0 (0.2)	
10	-0.2 (0.1)	-0.2 (0.0)	1.6 (0.2)	1.1 (0.1)	1.6 (0.2)	1.1 (0.1)	0.0 (0.1)	
11	-0.3 (0.1)	-0.2 (0.1)	2.1 (0.7)	1.5 (0.5)	2.6 (1.2)	1.9 (0.8)	0.1 (0.1)	
12	-0.3 (0.1)	-0.2 (0.0)	1.3 (0.3)	0.9 (0.2)	1.6 (0.5)	1.2 (0.3)		
13	-0.3 (0.0)	-0.2 (0.0)	2.1 (0.7)	1.5 (0.5)	1.7 (0.5)	1.2 (0.4)		
14	-0.3 (0.0)	-0.2 (0.0)	1.7 (0.6)	1.2 (0.4)	1.5 (0.5)	1.1 (0.4)		
15	-0.3 (0.0)	-0.2 (0.0)	1.5 (0.4)	1.1 (0.3)	1.2 (0.2)	0.9 (0.2)		
16	-0.4 (0.1)	-0.3 (0.0)	0.9 (0.1)	0.6 (0.1)	0.8 (0.1)	0.5 (0.1)		
17	-0.2 (0.1)	-0.1 (0.1)	1.5 (0.6)	1.0 (0.4)	1.4 (0.6)	1.0 (0.4)		
18	-0.3 (0.0)	-0.2 (0.0)	1.0 (0.1)	0.7 (0.1)	1.0 (0.1)	0.7 (0.1)		
19	-0.1 (0.1)	-0.1 (0.0)	2.3 (0.7)	1.6 (0.5)	2.3 (0.7)	1.6 (0.5)		
20	-0.1 (0.1)	-0.1 (0.0)	1.6 (0.4)	1.1 (0.3)	1.8 (0.4)	1.3 (0.3)		
21	-0.4 (0.1)	-0.3 (0.0)	0.4 (0.3)	0.3 (0.2)	0.4 (0.3)	0.3 (0.2)		
22	-0.4 (0.0)	-0.3 (0.0)	0.2 (0.2)	0.2 (0.1)	0.3 (0.1)	0.2 (0.1)		
23	-0.3 (0.1)	-0.2 (0.1)	1.1 (0.5)	0.8 (0.4)	0.7 (0.2)	0.5 (0.2)		
24	-0.3 (0.0)	-0.2 (0.0)	0.9 (0.3)	0.6 (0.2)	0.8 (0.3)	0.6 (0.2)		
25	-0.4 (0.0)	-0.3 (0.0)	0.3 (0.1)	0.2 (0.1)	0.2 (0.1)	0.2 (0.1)		
26	-0.2 (0.0)	-0.2 (0.0)	1.0 (0.2)	0.7 (0.2)	1.0 (0.2)	0.7 (0.1)		
27	-0.1 (0.1)	-0.1 (0.1)	1.5 (0.2)	1.1 (0.1)	1.5 (0.3)	1.1 (0.2)		
28	-0.1 (0.1)	-0.1 (0.1)	2.6 (1.2)	1.9 (0.8)	2.8 (0.9)	2.0 (0.6)		
29	0.0 (0.1)	0.0 (0.1)	2.6 (0.6)	1.9 (0.4)	2.1 (0.5)	1.5 (0.3)		
30	-0.1 (0.1)	-0.1 (0.0)	2.9 (1.0)	2.1 (0.7)	2.9 (0.9)	2.1 (0.7)		
31	-0.2 (0.1)	-0.2 (0.1)	1.1 (0.5)	0.8 (0.3)	1.6 (0.6)	1.1 (0.4)		
Avg	-0.3	-0.2	1.5	1.1	1.5	1.1	0	0
n	31	31	31	31	31	31	11	7
SD	0.1	0.1	0.7	0.5	0.7	0.5	0.1	0.1
Min	-0.4	-0.3	0.2	0.2	0.2	0.2	-0.3	-0.2
Max	0.0	0.0	2.9	2.1	2.9	2.1	0.2	0.1

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for January, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-}
1	-0.2 (0.0)	-0.2 (0.0)	2.0 (0.8)	1.4 (0.6)	1.8 (0.7)	1.3 (0.5)		
2	-0.2 (0.1)	-0.1 (0.1)	1.6 (0.4)	1.1 (0.3)	1.2 (0.2)	0.8 (0.2)		
3	-0.2 (0.1)	-0.1 (0.1)	2.2 (0.9)	1.5 (0.6)	1.5 (0.5)	1.0 (0.4)		
4	-0.3 (0.1)	-0.2 (0.1)	1.6 (0.3)	1.1 (0.2)	0.9 (0.1)	0.7 (0.1)		
5	-0.3 (0.0)							
6	-0.2 (0.1)							
7	-0.1 (0.0)							
8	-0.2 (0.1)	-0.2 (0.0)	1.0 (0.3)	0.7 (0.2)	0.8 (0.2)	0.6 (0.2)		
9	-0.2 (0.0)	-0.2 (0.0)	1.4 (0.7)	1.0 (0.5)	0.9 (0.5)	0.7 (0.3)		
10	-0.2 (0.0)	-0.2 (0.0)	0.9 (0.2)	0.7 (0.1)	0.7 (0.1)	0.5 (0.1)		
11	-0.3 (0.0)	-0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.7 (0.1)	0.5 (0.1)		
12	-0.2 (0.1)	-0.2 (0.0)	1.7 (0.7)	1.2 (0.5)	1.3 (0.6)	0.9 (0.4)		
13	-0.3 (0.1)	-0.2 (0.0)	1.2 (0.6)	0.9 (0.4)	0.7 (0.3)	0.5 (0.2)		
14	-0.3 (0.1)	-0.2 (0.1)	1.2 (0.6)	0.9 (0.5)	1.0 (0.6)	0.7 (0.4)		
15	-0.3 (0.0)	-0.2 (0.0)	1.0 (0.2)	0.7 (0.1)	0.8 (0.1)	0.6 (0.1)		
16	-0.4 (0.0)	-0.3 (0.0)	0.9 (0.3)	0.6 (0.2)	0.5 (0.2)	0.4 (0.2)		
17	-0.3 (0.1)	-0.2 (0.1)	1.4 (0.7)	1.0 (0.5)	0.8 (0.4)	0.6 (0.3)		
18	-0.3 (0.1)	-0.2 (0.1)	1.1 (0.4)	0.8 (0.3)	0.5 (0.2)	0.3 (0.1)		
19	-0.3 (0.0)	-0.2 (0.0)	0.8 (0.4)	0.5 (0.3)	0.4 (0.3)	0.3 (0.2)		
20	-0.4 (0.0)	-0.3 (0.0)	0.4 (0.1)	0.3 (0.1)	0.5 (0.4)	0.3 (0.3)		
21	-0.3 (0.1)	-0.2 (0.1)	1.2 (0.8)	0.9 (0.6)	0.9 (0.7)	0.7 (0.5)		
22	-0.3 (0.0)	-0.2 (0.0)	0.9 (0.2)		0.6 (0.2)	0.4 (0.1)		
23	-0.3 (0.0)	-0.2 (0.0)	0.6 (0.2)	0.5 (0.1)	0.3 (0.1)	0.2 (0.1)		
24	-0.2 (0.2)	-0.2 (0.1)	0.3 (0.2)	0.2 (0.1)	0.3 (0.2)	0.2 (0.1)		
25	0.0 (0.0)	0.0 (0.0)	0.5 (0.1)	0.4 (0.1)	0.6 (0.1)	0.4 (0.0)		
26	0.0 (0.0)	0.0 (0.0)	0.6 (0.1)	0.4 (0.0)	0.6 (0.1)	0.4 (0.1)		
27	0.1 (0.1)	0.1 (0.1)	0.9 (0.4)	0.6 (0.3)	1.1 (0.6)	0.7 (0.5)		
28	0.0 (0.1)	0.0 (0.0)	0.7 (0.2)	0.5 (0.1)	0.8 (0.2)	0.6 (0.1)		
29	0.1 (0.1)	0.0 (0.1)	1.3 (0.7)	0.9 (0.5)	1.4 (0.7)	1.0 (0.5)		
30	0.0 (0.1)	0.0 (0.1)	0.7 (0.2)	0.5 (0.2)	1.1 (0.2)	0.8 (0.2)		
31	0.1 (0.0)	0.0 (0.0)	0.8 (0.3)	0.6 (0.2)	1.0 (0.1)	0.7 (0.1)		
Avg	-0.2	-0.1	1.1	0.8	0.9	0.6		
n	31	28	28	27	28	28	0	0
SD	0.1	0.1	0.5	0.3	0.4	0.3		
Min	-0.4	-0.3	0.3	0.2	0.3	0.2		
Max	0.1	0.1	2.2	1.5	1.8	1.3		

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for February, 2009.

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

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for March, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.1 (0.1)	0.1 (0.0)	1.2 (0.1)	0.8 (0.1)	1.2 (0.1)	0.9 (0.1)	0.4 (0.1)	0.3 (0.1)
2	0.1 (0.1)	0.1 (0.0)	1.7 (0.8)	1.2 (0.5)	1.3 (0.4)	0.9 (0.2)		
3	0.0 (0.1)	0.0 (0.0)	1.3 (0.2)	0.9 (0.1)	1.2 (0.2)	0.8 (0.1)	0.3 (0.2)	0.2 (0.1)
4	0.0 (0.0)	0.0 (0.0)	1.8 (0.5)	1.3 (0.4)	1.2 (0.2)	0.8 (0.2)	0.2 (0.1)	0.2 (0.1)
5	0.1 (0.1)	0.0 (0.0)	2.0 (0.3)	1.4 (0.2)	1.8 (0.5)	1.3 (0.4)	0.6 (0.3)	0.4 (0.2)
6	0.3 (0.2)	0.2 (0.1)	2.8 (0.9)	2.0 (0.7)	2.6 (0.6)	1.8 (0.4)	1.2 (0.4)	0.8 (0.3)
7	0.2 (0.1)	0.1 (0.1)	1.7 (0.4)	1.2 (0.3)	1.6 (0.3)	1.1 (0.2)	0.9 (0.2)	0.7 (0.1)
8	0.1 (0.0)	0.1 (0.0)	1.7 (0.4)	1.2 (0.3)	1.7 (0.3)	1.2 (0.2)	1.4 (0.3)	1.0 (0.2)
9	0.1 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.2)	1.1 (0.2)	0.8 (0.2)	1.0 (0.1)	0.7 (0.1)
10	0.2 (0.1)	0.1 (0.1)	1.9 (0.5)	1.4 (0.4)	2.2 (0.9)	1.6 (0.6)	0.7 (0.2)	0.5 (0.1)
11	0.1 (0.1)	0.1 (0.0)	1.9 (0.4)	1.3 (0.3)	1.6 (0.4)	1.1 (0.3)	0.2 (0.1)	0.1 (0.1)
12	0.0 (0.1)	0.0 (0.0)	1.2 (0.2)	0.8 (0.1)	1.2 (0.2)	0.9 (0.1)	0.0 (0.1)	0.0 (0.1)
13	0.0 (0.1)	0.0 (0.1)	1.3 (0.4)	0.9 (0.3)	1.4 (0.3)	1.0 (0.2)	0.2 (0.1)	0.1 (0.1)
14	0.0 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.3)	1.2 (0.1)	0.9 (0.1)	0.2 (0.1)	0.1 (0.1)
15	0.0 (0.1)	0.0 (0.0)	1.5 (0.2)	1.1 (0.2)	1.3 (0.3)	0.9 (0.2)	0.3 (0.1)	0.2 (0.1)
16	0.1 (0.1)	0.1 (0.1)	2.4 (1.4)	1.7 (1.0)	1.9 (0.9)	1.4 (0.6)		
17	0.3 (0.0)	0.2 (0.0)	2.5 (0.5)	1.8 (0.4)	2.5 (0.5)	1.8 (0.3)	1.4 (0.4)	
18	0.1 (0.2)	0.0 (0.1)	2.5 (1.4)	1.8 (1.0)	2.2 (0.8)	1.6 (0.5)		
19	0.0 (0.0)	0.0 (0.0)	1.7 (0.3)	1.2 (0.2)	1.6 (0.3)	1.2 (0.2)	0.6 (0.1)	0.4 (0.1)
20	0.0 (0.1)	0.0 (0.0)	1.5 (0.2)	1.1 (0.1)	1.5 (0.2)	1.1 (0.2)	0.3 (0.1)	0.2 (0.1)
21	0.1 (0.1)	0.1 (0.1)	1.6 (0.4)	1.1 (0.3)	1.9 (0.6)	1.4 (0.4)	0.4 (0.1)	0.3 (0.0)
22	0.2 (0.1)	0.1 (0.1)	1.8 (0.4)	1.3 (0.3)	2.0 (0.3)	1.4 (0.2)	0.4 (0.1)	0.3 (0.1)
23	0.0 (0.0)	0.0 (0.0)	1.6 (0.3)	1.1 (0.2)	1.5 (0.2)	1.1 (0.2)	0.2 (0.1)	0.2 (0.0)
24	0.2 (0.1)	0.1 (0.1)	2.7 (1.0)	1.9 (0.7)	2.8 (1.0)	2.0 (0.7)	0.8 (0.7)	0.6 (0.5)
25	0.3 (0.0)	0.2 (0.0)	1.9 (0.3)	1.4 (0.2)	2.2 (0.3)	1.5 (0.2)	1.2 (0.2)	0.8 (0.2)
26	0.4 (0.4)	0.3 (0.3)	2.1 (0.4)	1.5 (0.3)	2.6 (1.1)	1.9 (0.8)	0.8 (0.3)	0.6 (0.2)
27	0.2 (0.2)	0.1 (0.2)	2.0 (0.4)	1.4 (0.3)	2.2 (0.6)	1.6 (0.4)	0.7 (0.2)	0.5 (0.1)
28	0.0 (0.0)	0.0 (0.0)	1.5 (0.2)	1.1 (0.2)	1.3 (0.2)	1.0 (0.1)	0.3 (0.1)	0.2 (0.1)
29	0.0 (0.1)	0.0 (0.1)	1.3 (0.2)	0.9 (0.1)	1.1 (0.1)	0.8 (0.1)	0.3 (0.1)	0.2 (0.1)
30	0.1 (0.1)	0.1 (0.1)	1.5 (0.3)	1.1 (0.2)	1.3 (0.5)	0.9 (0.4)	0.2 (0.0)	0.1 (0.0)
31	0.1 (0.0)	0.0 (0.0)	1.6 (0.2)	1.2 (0.2)	1.6 (0.2)	1.2 (0.2)	0.2 (0.1)	0.1 (0.1)
Avg	0.1	0.1	1.8	1.3	1.7	1.2	0.6	0.4
n	31	31	31	31	31	31	28	27
SD	0.1	0.1	0.4	0.3	0.5	0.3	0.4	0.3
Min	0.0	0.0	1.2	0.8	1.1	0.8	0.0	0.0
Max	0.4	0.3	2.8	2.0	2.8	2.0	1.4	1.0

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for April, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.3 (0.2)	0.2 (0.2)	2.1 (0.6)	1.5 (0.4)	2.1 (0.8)	1.5 (0.6)		
2	0.2 (0.1)	0.1 (0.1)	1.9 (0.3)	1.3 (0.2)	1.9 (0.3)	1.4 (0.2)	0.8 (0.3)	0.6 (0.2)
3	0.0 (0.1)	0.0 (0.0)	1.3 (0.1)	1.0 (0.1)	1.3 (0.2)	0.9 (0.1)	0.6 (0.2)	0.4 (0.2)
4	0.1 (0.1)	0.0 (0.0)	1.6 (0.3)	1.2 (0.2)	1.5 (0.5)	1.1 (0.4)	0.3 (0.1)	0.2 (0.0)
5	0.0 (0.0)	0.0 (0.0)	1.3 (0.1)	0.9 (0.1)	1.1 (0.2)	0.8 (0.1)	0.3 (0.1)	0.2 (0.0)
6	0.0 (0.1)	0.0 (0.1)	1.1 (0.1)	0.8 (0.1)	0.8 (0.1)	0.6 (0.1)		
7	0.1 (0.1)	0.1 (0.1)	1.6 (0.5)	1.1 (0.3)	1.2 (0.3)	0.9 (0.2)	0.3 (0.1)	
8								
9								
10								
11								
12								
13								
14								
15								
16	0.0 (0.1)	0.0 (0.1)	2.3 (1.3)	1.7 (0.9)			0.3 (0.2)	0.2 (0.1)
17	0.4 (0.5)	0.3 (0.4)	1.8 (0.5)	1.3 (0.3)	2.7 (0.8)	1.9 (0.5)	0.6 (0.3)	0.4 (0.2)
18	1.2 (0.5)	0.8 (0.4)	2.4 (0.6)	1.7 (0.4)	4.5 (1.3)	3.2 (0.9)	1.3 (0.3)	0.9 (0.2)
19	0.4 (0.3)	0.3 (0.2)	2.2 (0.4)	1.5 (0.3)	3.5 (0.7)	2.5 (0.5)	1.0 (0.2)	0.7 (0.1)
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
Avg	0.2	0.2	1.8	1.3	2.1	1.5	0.6	0.4
n	11	11	11	11	10	10	9	8
SD	0.3	0.2	0.4	0.3	1.1	0.8	0.3	0.2
Min	0.0	0.0	1.1	0.8	0.8	0.6	0.3	0.2
Max	1.2	0.8	2.4	1.7	4.5	3.2	1.3	0.9

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for May, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-}
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	0.5 (0.2)	0.4 (0.1)	3.4 (0.9)	2.4 (0.6)	3.3 (0.8)	2.4 (0.6)	1.6 (0.5)	
17	0.0 (0.2)	0.0 (0.1)	2.4 (0.3)	1.7 (0.2)	2.5 (0.2)	1.8 (0.1)	1.2 (0.4)	
18	0.5 (0.2)		3.4 (0.9)	2.4 (0.6)	3.7 (1.1)	2.7 (0.8)		
19	0.4 (0.2)	0.3 (0.1)	3.4 (0.6)	2.4 (0.5)	3.6 (0.7)	2.5 (0.5)	1.6 (0.3)	
20	0.4 (0.2)	0.3 (0.2)	4.7 (1.6)	3.4 (1.2)	4.7 (1.4)	3.4 (1.0)	1.7 (0.3)	
21	0.6 (0.2)	0.5 (0.1)	3.9 (0.6)	2.8 (0.4)	4.3 (0.6)	3.1 (0.4)	2.0 (0.3)	
22	0.2 (0.1)	0.1 (0.1)	3.3 (0.8)	2.4 (0.6)	3.5 (0.9)	2.5 (0.7)	1.7 (0.5)	
23	0.5 (0.1)	0.3 (0.1)	5.0 (1.5)	3.6 (1.1)	4.6 (1.1)	3.3 (0.8)	2.1 (0.4)	
24	0.2 (0.2)	0.2 (0.1)	3.6 (0.8)	2.6 (0.6)	3.9 (1.0)	2.8 (0.7)	1.9 (0.4)	
25	0.1 (0.1)	0.1 (0.1)	3.4 (0.5)	2.5 (0.3)	3.4 (0.8)	2.4 (0.6)	2.0 (0.5)	
26	0.4 (0.3)	0.3 (0.2)	4.7 (1.5)	3.4 (1.1)	5.0 (1.3)	3.6 (0.9)		
27	1.0 (0.2)	0.7 (0.1)	4.6 (0.7)	3.3 (0.5)	5.4 (1.2)	3.9 (0.8)	2.3 (0.4)	
28	0.4 (0.3)	0.3 (0.2)	3.3 (0.5)	2.4 (0.3)	3.1 (0.7)	2.2 (0.5)	2.0 (0.4)	
29	1.0 (0.7)	0.7 (0.5)	4.7 (2.0)	3.4 (1.4)	4.1 (1.3)	2.9 (1.0)	2.0 (0.3)	
30	0.6 (0.3)	0.4 (0.2)	3.9 (0.5)	2.8 (0.4)	4.0 (0.8)	2.8 (0.5)	2.0 (0.3)	
31	0.2 (0.2)	0.2 (0.2)	3.3 (0.7)	2.4 (0.5)	3.5 (0.9)	2.5 (0.7)	1.6 (0.2)	
Avg	0.4	0.3	3.8	2.7	3.9	2.8	1.8	
n	16	15	16	16	16	16	14	0
SD	0.3	0.2	0.7	0.5	0.7	0.5	0.3	
Min	0.0	0.0	2.4	1.7	2.5	1.8	1.2	
Max	1.0	0.7	5.0	3.6	5.4	3.9	2.3	

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for June, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.3 (0.2)	0.2 (0.1)	4.2 (1.2)	3.0 (0.9)	4.4 (1.6)	3.2 (1.1)	2.1 (0.6)	
2	0.0 (0.1)		2.8 (1.1)	2.0 (0.8)	2.8 (0.9)	2.0 (0.6)		
3	0.2 (0.1)		3.4 (1.5)	2.4 (1.1)	3.1 (0.8)	2.2 (0.6)	1.7 (0.6)	
4	0.1 (0.1)	0.1 (0.1)	3.2 (0.7)	2.3 (0.5)	2.8 (0.5)	2.0 (0.4)	1.7 (0.4)	
5	0.8 (0.3)	0.5 (0.2)	5.3 (1.7)	3.8 (1.3)	4.7 (1.5)	3.4 (1.1)	2.5 (0.5)	
6	0.5 (0.2)	0.3 (0.1)	4.6 (0.7)	3.3 (0.5)	4.3 (0.8)	3.1 (0.6)	2.5 (0.3)	
7	0.5 (0.1)	0.4 (0.1)	4.4 (0.5)	3.2 (0.4)	4.0 (0.6)	2.9 (0.4)	2.4 (0.4)	
8	0.8 (0.1)	0.5 (0.1)	4.3 (1.2)	3.1 (0.8)	4.0 (1.1)	2.9 (0.8)		
9	0.2 (0.1)	0.2 (0.1)	4.6 (0.8)	3.3 (0.6)	4.6 (2.2)	3.3 (1.6)	2.2 (0.4)	1.6 (0.3)
10	0.3 (0.1)	0.2 (0.1)						
11	0.3 (0.1)	0.2 (0.1)	5.1 (1.2)	3.7 (0.9)	5.1 (1.6)	3.7 (1.2)	3.0 (0.6)	2.1 (0.4)
12	0.4 (0.2)	0.3 (0.1)	5.5 (1.4)	3.9 (1.0)	5.3 (1.4)	3.8 (1.0)	2.1 (0.3)	1.5 (0.2)
13	0.3 (0.1)	0.2 (0.1)	4.3 (0.6)	3.1 (0.4)	4.0 (0.5)	2.9 (0.4)	1.8 (0.5)	1.3 (0.3)
14	0.3 (0.2)	0.2 (0.1)	4.4 (0.9)	3.2 (0.7)	4.1 (0.7)	3.0 (0.5)	2.3 (0.6)	1.6 (0.4)
15	0.4 (0.1)	0.3 (0.1)	4.3 (0.9)	3.1 (0.7)	5.0 (2.4)	3.6 (1.7)		
16	0.5 (0.2)	0.3 (0.1)	4.6 (0.5)	3.3 (0.4)	4.4 (0.8)	3.2 (0.5)	2.1 (0.7)	1.5 (0.5)
17	1.0 (0.2)	0.7 (0.2)	5.3 (1.3)	3.8 (1.0)	4.8 (0.8)	3.4 (0.6)	2.4 (0.4)	1.7 (0.3)
18	0.8 (0.2)	0.6 (0.1)	5.1 (1.1)	3.7 (0.8)	5.2 (1.3)	3.7 (0.9)	2.2 (0.6)	
19	0.9 (0.2)	0.6 (0.1)	5.2 (1.4)	3.8 (1.0)	6.2 (1.4)	4.5 (1.0)	2.3 (0.3)	
20	1.2 (0.4)	0.9 (0.3)	5.3 (0.9)	3.8 (0.6)	5.9 (1.2)	4.3 (0.9)	2.5 (0.4)	
21	1.5 (0.6)	1.1 (0.4)	4.7 (0.7)	3.4 (0.5)	6.1 (0.8)	4.4 (0.6)	2.2 (0.3)	
22	1.0 (0.1)	0.7 (0.1)						
23	1.5 (0.5)	1.1 (0.3)			6.9 (1.7)	5.0 (1.3)		
24	2.1 (0.4)	1.5 (0.3)			7.9 (1.4)	5.7 (1.0)		
25	2.0 (0.5)	1.4 (0.3)	8.0 (1.7)	5.8 (1.3)	9.0 (2.1)	6.5 (1.5)	3.1 (0.6)	2.2 (0.4)
26	0.9 (0.2)	0.6 (0.1)	5.8 (1.0)	4.1 (0.7)	6.1 (1.4)	4.4 (1.0)	2.5 (0.4)	1.8 (0.3)
27	1.0 (0.6)	0.7 (0.4)	5.4 (0.9)	3.9 (0.6)	5.5 (1.0)	4.0 (0.7)	2.5 (0.3)	1.8 (0.2)
28	0.9 (0.2)	0.6 (0.2)	4.7 (0.6)	3.3 (0.5)	5.0 (0.8)	3.6 (0.6)	2.4 (0.3)	1.7 (0.2)
29	0.9 (0.3)	0.6 (0.2)	4.7 (0.8)	3.4 (0.6)	5.1 (1.3)	3.7 (0.9)	2.3 (0.3)	1.7 (0.2)
30								
Avg	0.7	0.6	4.8	3.4	5	3.6	2.3	1.7
n	29	27	25	25	27	27	22	12
SD	0.5	0.4	1	0.7	1.4	1	0.3	0.3
Min	0.0	0.1	2.8	2.0	2.8	2.0	1.7	1.3
Max	2.1	1.5	8.0	5.8	9.0	6.5	3.1	2.2

Table F10. Daily means (SD) of NH3 concentrations at Site IN5B for September, 2009.

Day	Inlet		Barn 1		Barn 2		Milking center	
	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}	ppm	mg·dsm^{-3}
1	0.7 (0.2)	0.5 (0.1)	5.0 (2.3)	3.6 (1.7)	3.5 (1.6)	2.5 (1.1)	1.8 (0.3)	1.3 (0.2)
2	0.6 (0.1)	0.4 (0.1)						
3	0.6 (0.1)	0.4 (0.1)	4.6 (1.8)	3.3 (1.3)	3.7 (1.5)	2.7 (1.1)	1.7 (0.3)	1.2 (0.2)
4	0.4 (0.2)	0.3 (0.1)	4.0 (1.2)	2.9 (0.9)	3.2 (0.9)	2.3 (0.7)		
5	0.3 (0.2)	0.2 (0.1)	4.6 (1.4)	3.3 (1.0)	3.5 (0.7)	2.5 (0.5)	1.8 (0.3)	1.3 (0.2)
6	0.3 (0.1)	0.2 (0.1)	5.0 (0.7)	3.6 (0.5)	3.8 (0.5)	2.7 (0.4)	1.8 (0.2)	1.3 (0.1)
7	0.2 (0.1)	0.2 (0.1)	5.4 (1.1)	3.9 (0.8)	3.6 (0.8)	2.6 (0.6)	1.8 (0.2)	1.3 (0.2)
8	0.3 (0.1)	0.2 (0.1)						
9	0.3 (0.1)	0.2 (0.1)	4.3 (1.3)	3.1 (0.9)	3.5 (1.1)	2.5 (0.8)	1.6 (0.3)	1.2 (0.2)
10	0.4 (0.1)	0.3 (0.1)	5.1 (0.9)	3.7 (0.7)	3.7 (0.8)	2.6 (0.6)	2.0 (0.3)	1.4 (0.2)
11	0.4 (0.2)	0.3 (0.1)	6.1 (2.5)	4.4 (1.8)	3.9 (1.3)	2.8 (0.9)	1.8 (0.3)	1.3 (0.2)
12	0.2 (0.1)	0.2 (0.1)	4.9 (1.1)	3.5 (0.8)	3.2 (0.6)	2.3 (0.4)	1.8 (0.3)	1.3 (0.2)
13	0.2 (0.1)	0.1 (0.1)	4.4 (1.1)	3.1 (0.8)	2.8 (0.5)	2.0 (0.4)	1.8 (0.5)	1.3 (0.3)
14	0.6 (0.4)	0.5 (0.3)	5.2 (2.0)	3.7 (1.5)	3.8 (1.3)	2.7 (0.9)		
15	0.9 (0.4)	0.6 (0.3)	5.1 (0.9)	3.7 (0.6)	3.4 (0.6)	2.5 (0.5)	1.9 (0.3)	
16	0.4 (0.1)	0.3 (0.1)	6.0 (2.2)	4.3 (1.6)	3.5 (1.3)	2.5 (0.9)	1.8 (0.3)	
17	0.1 (0.1)	0.0 (0.1)	4.5 (1.9)	3.2 (1.4)	2.7 (1.0)	1.9 (0.7)	1.7 (0.4)	
18	0.3 (0.2)	0.2 (0.1)	5.1 (2.0)	3.7 (1.4)	4.1 (1.6)	2.9 (1.2)	1.6 (0.4)	1.2 (0.3)
19	0.2 (0.1)	0.1 (0.1)	4.2 (0.8)	3.0 (0.6)	3.4 (0.6)	2.4 (0.5)	2.0 (0.2)	1.5 (0.2)
20	0.3 (0.2)	0.2 (0.1)	4.6 (1.1)	3.3 (0.8)	3.4 (0.9)	2.5 (0.6)	1.9 (0.2)	
21	0.5 (0.1)	0.4 (0.1)	5.3 (0.4)	3.8 (0.3)	4.1 (0.5)	2.9 (0.4)	2.4 (0.2)	
22	0.5 (0.1)	0.3 (0.1)	7.7 (3.0)	5.6 (2.2)				
23	0.5 (0.1)	0.3 (0.1)	5.5 (0.8)	4.0 (0.5)	4.3 (0.5)	3.1 (0.3)	2.0 (0.2)	
24	0.2 (0.1)	0.1 (0.1)			4.5 (1.0)	3.2 (0.8)		
25	0.3 (0.0)	0.2 (0.0)						
26	0.7 (0.3)	0.5 (0.2)	5.0 (1.6)	3.6 (1.1)	3.6 (1.2)	2.6 (0.8)	2.3 (0.4)	
27	0.3 (0.1)	0.2 (0.1)	4.5 (0.9)	3.2 (0.6)	3.2 (0.6)	2.3 (0.4)	1.7 (0.3)	
28	0.5 (0.1)	0.3 (0.1)	3.1 (0.3)	2.2 (0.2)	2.4 (0.4)	1.7 (0.3)	1.4 (0.3)	
29	1.1 (0.8)	0.8 (0.6)						
30	1.9 (1.4)	1.4 (1.0)						
Avg	0.5	0.3	5	3.6	3.5	2.5	1.8	1.3
n	30	30	24	24	24	24	21	12
SD	0.3	0.2	0.8	0.6	0.5	0.3	0.2	0.1
Min	0.1	0.0	3.1	2.2	2.4	1.7	1.4	1.2
Max	1.9	1.4	7.7	5.6	4.5	3.2	2.4	1.5

Table F11. Ammonia emissions.

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for September, 2007.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13	38.6 (8.1)	5.6 (1.2)	46.3 (9.3)	36.5 (7.3)	41.7 (13.7)	6.1 (2.0)	48.4 (15.9)	38.1 (12.5)	6.1 (4.4)	2.3 (1.6)
14	38.3 (7.2)	5.6 (1.1)	45.0 (8.5)	35.4 (6.7)	45.3 (12.6)	6.6 (1.8)	52.7 (14.7)	41.5 (11.6)	2.0 (4.1)	0.8 (1.5)
15	30.2 (5.5)	4.4 (0.8)	35.3 (6.4)	27.8 (5.0)	35.1 (11.0)	5.1 (1.6)	40.9 (12.9)	32.2 (10.1)	2.3 (1.9)	0.9 (0.7)
16	32.9 (8.6)	4.8 (1.3)	38.3 (10.1)	30.2 (7.9)	38.5 (11.2)	5.6 (1.6)	45.1 (13.2)	35.5 (10.4)	3.0 (2.3)	1.1 (0.8)
17	49.9 (21.3)	7.3 (3.1)	58.4 (24.9)	46.0 (19.6)	49.7 (21.9)	7.3 (3.2)	58.2 (25.6)	45.8 (20.2)	2.8 (1.6)	1.0 (0.6)
18	50.2 (11.0)	7.3 (1.6)	58.9 (13.0)	46.3 (10.2)	51.4 (12.7)	7.5 (1.9)	61.6 (15.3)	48.5 (12.0)	6.3 (2.5)	2.4 (0.9)
19										
20										
21									4.5 (2.5)	1.7 (0.9)
22	48.0 (9.9)	7.0 (1.5)	56.4 (11.7)	44.4 (9.2)	39.2 (11.6)	5.7 (1.7)	45.3 (13.4)	35.7 (10.6)	4.4 (2.8)	1.6 (1.0)
23	36.1 (9.2)	5.3 (1.4)	42.3 (10.8)	33.3 (8.5)	31.3 (9.8)	4.6 (1.4)	36.2 (11.3)	28.5 (8.9)	3.7 (1.8)	1.4 (0.7)
24										
25	57.4 (7.5)	8.4 (1.1)	69.2 (9.0)	54.5 (7.1)	64.9 (12.4)	9.5 (1.8)	74.6 (14.2)	58.8 (11.2)	3.0 (2.4)	1.1 (0.9)
26	42.9 (11.0)	6.3 (1.6)	51.6 (13.2)	40.6 (10.4)	44.6 (13.8)	6.5 (2.0)	51.2 (15.9)	40.3 (12.5)	3.6 (2.6)	1.3 (1.0)
27	47.8 (13.4)	7.0 (2.0)	57.9 (16.2)	45.6 (12.8)	50.8 (16.5)	7.4 (2.4)	57.9 (18.8)	45.6 (14.8)	4.0 (2.5)	1.5 (0.9)
28	35.8 (7.2)	5.2 (1.1)	42.8 (8.6)	33.7 (6.8)	37.5 (9.9)	5.5 (1.5)	42.8 (11.3)	33.7 (8.9)	3.8 (3.3)	1.4 (1.2)
29	37.0 (12.9)	5.4 (1.9)	43.5 (15.2)	34.2 (12.0)	37.9 (14.3)	5.5 (2.1)	43.3 (16.4)	34.1 (12.9)	3.1 (2.8)	1.1 (1.0)
30	45.9 (12.1)	6.7 (1.8)	53.6 (14.0)	42.2 (11.0)	48.6 (14.8)	7.1 (2.2)	55.1 (16.7)	43.4 (13.1)	4.3 (2.4)	1.6 (0.9)
Avg	42.2	6.2	50.00	39.3	44.0	6.4	50.90	40.1	3.8	1.4
n	14	14	14	14	14	14	14	14	15	15
SD	7.6	1.1	9.18	7.2	8.3	1.2	9.68	7.6	1.2	0.4
Min	30.2	4.4	35.30	27.8	31.3	4.6	36.20	28.5	2.0	0.8
Max	57.4	8.4	69.20	54.5	64.9	9.5	74.60	58.8	6.3	2.4

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for October, 2007.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1					52.3 (9.7)	7.6 (1.4)	59.7 (11.1)	47.0 (8.8)	4.2 (1.8)	1.6 (0.7)
2					52.1 (11.4)	7.6 (1.7)	59.9 (13.1)	47.2 (10.3)	5.3 (3.6)	2.0 (1.4)
3					49.5 (16.5)	7.2 (2.4)	57.0 (19.0)	44.9 (15.0)		
4										
5										
6	57.5 (10.2)	8.4 (1.5)	68.3 (12.4)	53.8 (9.7)	65.1 (15.9)	9.5 (2.3)	74.9 (18.2)	59.0 (14.3)	6.5 (5.0)	2.4 (1.9)
7	62.1 (13.0)	9.1 (1.9)	74.3 (15.6)	58.5 (12.3)	67.4 (19.4)	9.9 (2.8)	77.9 (22.6)	61.3 (17.8)	0.4 (5.4)	0.1 (2.0)
8	86.6 (23.5)	12.7 (3.4)	104.0 (28.1)	81.5 (22.1)	91.8 (22.3)	13.4 (3.3)	107.0 (25.9)	84.2 (20.4)	7.3 (2.4)	2.7 (0.9)
9										
10										
11										
12										
13										
14										
15										
16	66.2 (16.0)	9.7 (2.3)	77.7 (18.8)	61.2 (14.8)	57.1 (16.8)	8.3 (2.5)	66.8 (19.7)	52.6 (15.5)		
17	57.4 (11.9)	8.4 (1.7)	67.3 (13.9)	53.0 (11.0)	53.1 (14.8)	7.8 (2.2)	61.7 (17.0)	48.6 (13.4)	10.5 (1.8)	3.9 (0.7)
18	70.3 (11.5)	10.3 (1.7)	82.6 (13.6)	65.0 (10.7)	60.6 (15.0)	8.9 (2.2)	70.0 (17.4)	55.2 (13.7)	13.5 (6.1)	5.0 (2.3)
19					37.4 (9.1)	5.5 (1.3)	43.2 (10.5)	34.1 (8.3)	10.6 (2.0)	4.0 (0.8)
20					65.4 (29.6)	9.6 (4.3)	75.4 (34.1)	59.4 (26.9)	7.9 (1.4)	2.9 (0.5)
21					68.6 (16.8)	10.0 (2.5)	79.4 (19.5)	62.5 (15.3)	10.1 (2.2)	3.7 (0.8)
22										
23	47.2 (11.5)	6.9 (1.7)	56.1 (13.6)	44.2 (10.7)	45.0 (10.3)	6.6 (1.5)	51.6 (11.7)	40.6 (9.2)	6.2 (2.2)	2.3 (0.8)
24	34.5 (3.7)	5.1 (0.5)	41.2 (4.4)	32.4 (3.5)	40.9 (8.6)	6.0 (1.3)	46.5 (9.8)	36.6 (7.7)	5.0 (2.5)	1.9 (0.9)
25	38.4 (8.4)	5.6 (1.2)	45.4 (9.9)	35.7 (7.8)	35.7 (11.2)	5.2 (1.6)	40.6 (12.7)	32.0 (10.0)	5.3 (3.1)	2.0 (1.1)
26	50.3 (9.7)	7.4 (1.4)	59.5 (11.5)	46.8 (9.0)	42.5 (10.5)	6.2 (1.5)	48.4 (11.9)	38.1 (9.4)	5.6 (1.8)	2.1 (0.7)
27	50.2 (12.8)	7.3 (1.9)	59.3 (15.1)	46.7 (11.9)	47.8 (13.8)	7.0 (2.0)	54.5 (15.8)	42.9 (12.4)	6.9 (1.6)	2.6 (0.6)
28	36.8 (6.7)	5.4 (1.0)	43.6 (7.9)	34.3 (6.3)	43.5 (10.0)	6.4 (1.5)	49.6 (11.4)	39.1 (9.0)		
29	33.5 (8.0)	4.9 (1.2)	39.6 (9.4)	31.2 (7.4)	38.9 (9.2)	5.7 (1.3)	44.4 (10.5)	35.0 (8.2)		
30	39.6 (12.3)	5.8 (1.8)	46.8 (14.5)	36.8 (11.5)	43.4 (15.6)	6.4 (2.3)	49.6 (17.8)	39.1 (14.0)		
31										
Avg	52.2	7.6	61.80	48.7	52.9	7.7	60.90	48.0	7.0	2.6
n	14	14	14	14	20	20	20	20	15	15
SD	15.0	2.2	17.80	14.0	13.5	2.0	15.90	12.5	3.1	1.1
Min	33.5	4.9	39.60	31.2	35.7	5.2	40.60	32.0	0.4	0.1
Max	86.6	12.7	104.00	81.5	91.8	13.4	107.00	84.2	13.5	5.0

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for November, 2007.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1	33.6 (5.6)	4.9 (0.8)	40.2 (6.6)	31.6 (5.2)	31.5 (7.9)	4.6 (1.2)	36.6 (9.2)	28.8 (7.3)		
2	45.2 (15.6)	6.6 (2.3)	54.8 (19.0)	43.1 (14.9)	43.6 (19.9)	6.4 (2.9)	50.7 (23.1)	39.9 (18.2)		
3	35.4 (5.1)	5.2 (0.8)	42.5 (6.3)	33.5 (5.0)	38.4 (9.7)	5.6 (1.4)	44.3 (11.2)	34.9 (8.8)		
4										
5										
6										
7										
8										
9										
10	29.3 (7.2)	4.3 (1.1)	34.9 (8.5)	27.5 (6.7)	29.5 (6.5)	4.3 (0.9)	34.5 (7.5)	27.1 (5.9)		
11					41.3 (15.4)	6.0 (2.3)	48.0 (17.9)	37.8 (14.1)		
12					49.7 (9.7)	7.3 (1.4)	57.8 (11.3)	45.6 (8.9)		
13					40.0 (9.9)	5.9 (1.4)	46.5 (11.5)	36.7 (9.0)		
14										
15	27.1 (3.9)	4.0 (0.6)	32.2 (4.6)	25.4 (3.6)	25.5 (3.5)	3.7 (0.5)	29.6 (4.1)	23.3 (3.2)		
16	24.8 (3.3)	3.6 (0.5)	29.3 (3.8)	23.0 (3.0)	22.4 (3.7)	3.3 (0.5)	26.0 (4.3)	20.5 (3.4)		
17	29.6 (6.3)	4.3 (0.9)	34.6 (7.4)	27.2 (5.8)	29.4 (7.9)	4.3 (1.2)	33.8 (9.0)	26.6 (7.1)		
18	25.8 (2.1)	3.8 (0.3)	30.0 (2.4)	23.7 (1.9)	26.9 (3.0)	3.9 (0.4)	30.7 (3.4)	24.1 (2.7)		
19	39.5 (9.6)	5.8 (1.4)	46.0 (11.1)	36.2 (8.8)	39.4 (11.5)	5.8 (1.7)	44.8 (13.1)	35.3 (10.3)		
20	48.7 (7.2)	7.1 (1.1)	56.7 (8.3)	44.6 (6.5)	47.7 (11.7)	7.0 (1.7)	54.1 (13.2)	42.6 (10.4)		
21	40.2 (9.7)	5.9 (1.4)	46.4 (11.2)	36.6 (8.8)	32.5 (3.7)	4.8 (0.5)	36.9 (4.2)	29.0 (3.3)		
22	25.5 (4.6)	3.7 (0.7)	29.6 (5.1)	23.3 (4.0)	24.1 (3.9)	3.5 (0.6)	27.5 (4.3)	21.7 (3.4)		
23	28.5 (6.5)	4.2 (1.0)	33.5 (7.6)	26.4 (6.0)	25.8 (7.2)	3.8 (1.1)	29.6 (8.3)	23.3 (6.5)		
24	25.5 (4.1)	3.7 (0.6)	30.0 (4.8)	23.6 (3.8)	23.8 (2.9)	3.5 (0.4)	27.1 (3.3)	21.4 (2.6)		
25	21.7 (2.3)	3.2 (0.3)	25.7 (2.8)	20.2 (2.2)	20.0 (1.8)	2.9 (0.3)	22.8 (2.1)	18.0 (1.6)		
26	21.2 (1.4)	3.1 (0.2)	25.2 (1.6)	19.8 (1.3)	19.8 (1.4)	2.9 (0.2)	22.6 (1.5)	17.8 (1.2)		
27	32.9 (11.0)	4.8 (1.6)	39.2 (13.0)	30.8 (10.3)	32.4 (13.4)	4.7 (2.0)	37.1 (15.3)	29.2 (12.1)		
28	32.5 (4.6)	4.8 (0.7)	38.6 (5.4)	30.4 (4.3)	28.4 (5.5)	4.1 (0.8)	32.5 (6.3)	25.6 (5.0)		
29										
30	23.1 (4.1)	3.4 (0.6)	27.0 (5.0)	21.3 (3.9)	22.6 (3.1)	3.3 (0.5)	26.0 (3.6)	20.5 (2.8)	2.2 (1.5)	0.8 (0.6)
Avg	31.1	4.5	36.70	28.9	31.6	4.6	36.30	28.6		
n	19	19	19	19	22	22	22	22	1	1
SD	7.6	1.1	9.01	7.1	8.7	1.3	10.10	8.0		
Min	21.2	3.1	25.20	19.8	19.8	2.9	22.60	17.8		
Max	48.7	7.1	56.70	44.6	49.7	7.3	57.80	45.6		

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for December, 2007.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	29.0 (7.3)	4.2 (1.1)	33.6 (8.4)	26.4 (6.6)	25.1 (8.1)	3.7 (1.2)	28.7 (9.2)	22.6 (7.2)	4.9 (1.4)	1.8 (0.5)
2	33.9 (11.3)	5.0 (1.7)	39.3 (13.1)	30.9 (10.3)	32.8 (11.1)	4.8 (1.6)	37.2 (12.6)	29.3 (9.9)	5.1 (2.9)	1.9 (1.1)
3	25.1 (5.9)	3.7 (0.9)	29.0 (6.8)	22.9 (5.4)	26.5 (9.2)	3.9 (1.3)	30.1 (10.4)	23.7 (8.2)	2.0 (1.7)	0.7 (0.6)
4	23.4 (1.8)	3.4 (0.3)	27.0 (2.1)	21.3 (1.6)	24.0 (3.3)	3.5 (0.5)	27.3 (3.8)	21.5 (3.0)	0.8 (0.8)	0.3 (0.3)
5	16.7 (2.5)	2.4 (0.4)	19.2 (2.8)	15.2 (2.2)	18.6 (2.6)	2.7 (0.4)	21.1 (3.0)	16.6 (2.4)	2.1 (2.1)	0.8 (0.8)
6	15.5 (3.9)	2.3 (0.6)	17.9 (4.5)	14.1 (3.6)	18.0 (6.4)	2.6 (0.9)	20.4 (7.2)	16.0 (5.7)		
7										
8	19.7 (1.7)	2.9 (0.3)	23.2 (2.0)	18.3 (1.6)	19.2 (1.3)	2.8 (0.2)	22.0 (1.5)	17.3 (1.1)	3.5 (2.0)	1.3 (0.7)
9	17.5 (1.4)	2.6 (0.2)	20.7 (1.6)	16.3 (1.3)	16.9 (1.9)	2.5 (0.3)	19.2 (2.1)	15.2 (1.7)	4.9 (1.3)	1.8 (0.5)
10										
11	25.8 (2.8)	3.8 (0.4)	30.4 (3.3)	23.9 (2.6)	26.7 (3.2)	3.9 (0.5)	30.7 (3.7)	24.2 (2.9)	2.9 (1.6)	1.1 (0.6)
12										
13	31.0 (6.5)	4.5 (0.9)	36.3 (7.6)	28.6 (6.0)	28.1 (6.1)	4.1 (0.9)	33.6 (7.5)	26.5 (5.9)	1.4 (0.5)	0.5 (0.2)
14	22.7 (2.6)	3.3 (0.4)	26.8 (3.0)	21.1 (2.3)	20.1 (2.2)	2.9 (0.3)	24.0 (3.0)	18.9 (2.4)	2.8 (2.1)	1.0 (0.8)
15	24.4 (5.1)	3.6 (0.7)	29.0 (6.0)	22.8 (4.8)	25.5 (5.6)	3.7 (0.8)	29.3 (6.4)	23.0 (5.0)	3.9 (2.5)	1.5 (0.9)
16	12.8 (2.7)	1.9 (0.4)	15.3 (3.2)	12.0 (2.6)	19.1 (5.1)	2.8 (0.8)	21.9 (5.9)	17.3 (4.7)	7.5 (2.0)	2.8 (0.8)
17	11.8 (1.0)	1.7 (0.2)	14.0 (1.2)	11.1 (1.0)	12.0 (1.4)	1.8 (0.2)	13.8 (1.6)	10.8 (1.3)		
18	22.1 (7.1)	3.2 (1.0)	26.3 (8.4)	20.7 (6.6)	22.8 (9.5)	3.3 (1.4)	26.2 (11.0)	20.6 (8.6)		
19	15.9 (3.2)	2.3 (0.5)	18.9 (3.8)	14.9 (3.0)	16.7 (3.6)	2.5 (0.5)	19.3 (4.2)	15.2 (3.3)		
20	16.0 (1.9)	2.3 (0.3)	19.1 (2.3)	15.0 (1.8)	15.6 (2.8)	2.3 (0.4)	17.9 (3.3)	14.1 (2.6)		
21	28.0 (8.9)	4.1 (1.3)	33.4 (10.6)	26.3 (8.4)	28.9 (7.8)	4.2 (1.1)	33.1 (8.9)	26.1 (7.0)		
22	40.1 (5.8)	5.9 (0.8)	48.0 (6.9)	37.8 (5.4)	37.8 (4.9)	5.5 (0.7)	43.4 (5.6)	34.2 (4.4)		
23	14.0 (10.4)	2.1 (1.5)	16.8 (12.5)	13.2 (9.8)	14.6 (9.0)	2.1 (1.3)	16.8 (10.4)	13.2 (8.2)		
24	12.7 (1.4)	1.9 (0.2)	15.2 (1.7)	12.0 (1.3)	12.5 (1.4)	1.8 (0.2)	14.4 (1.6)	11.3 (1.3)		
25										
26	37.6 (15.8)	5.5 (2.3)	44.9 (18.8)	35.4 (14.8)	30.4 (15.3)	4.5 (2.2)	34.9 (17.5)	27.5 (13.8)		
27										
28	29.2 (6.5)	4.3 (1.0)	34.8 (7.7)	27.4 (6.1)	19.7 (1.8)	2.9 (0.3)	22.9 (2.1)	18.0 (1.6)		
29	22.3 (3.1)	3.3 (0.5)	26.4 (3.7)	20.8 (2.9)	20.2 (5.1)	3.0 (0.8)	23.7 (6.0)	18.7 (4.7)		
30	21.3 (1.5)	3.1 (0.2)	25.2 (1.8)	19.9 (1.4)	19.3 (2.6)	2.8 (0.4)	22.6 (3.1)	17.8 (2.4)		
31	25.9 (6.7)	3.8 (1.0)	30.6 (7.9)	24.1 (6.2)	26.0 (9.0)	3.8 (1.3)	30.3 (10.4)	23.8 (8.2)		
Avg	22.9	3.3	27.00	21.2	22.2	3.2	25.60	20.1	3.5	1.3
n	26	26	26	26	26	26	26	26	12	12
SD	7.5	1.1	8.89	7.0	6.2	0.9	7.16	5.6	1.8	0.7
Min	11.8	1.7	14.00	11.1	12.0	1.8	13.80	10.8	0.8	0.3
Max	40.1	5.9	48.00	37.8	37.8	5.5	43.40	34.2	7.5	2.8

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for January, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	12.2 (3.2)	1.8 (0.5)	14.3 (3.8)	11.3 (3.0)	12.1 (3.7)	1.8 (0.5)	14.0 (4.3)	11.0 (3.3)		
2	7.5 (1.7)	1.1 (0.3)	8.8 (2.0)	7.0 (1.6)	7.0 (1.3)	1.0 (0.2)	8.2 (1.5)	6.4 (1.2)		
3	12.2 (3.9)	1.8 (0.6)	14.4 (4.6)	11.3 (3.6)	10.5 (3.3)	1.5 (0.5)	12.2 (3.8)	9.6 (3.0)		
4	16.7 (1.8)	2.4 (0.3)	19.8 (2.1)	15.6 (1.7)	12.2 (0.8)	1.8 (0.1)	14.2 (0.9)	11.2 (0.7)		
5	19.4 (5.1)	2.8 (0.7)	23.1 (6.1)	18.2 (4.8)	16.1 (4.7)	2.4 (0.7)	18.4 (5.3)	14.5 (4.2)		
6	44.2 (10.8)	6.5 (1.6)	53.4 (13.2)	42.0 (10.4)	32.7 (6.9)	4.8 (1.0)	37.3 (8.0)	29.4 (6.3)		
7	67.4 (14.5)	9.9 (2.1)	81.9 (17.7)	64.5 (13.9)	45.9 (10.1)	6.7 (1.5)	52.7 (11.5)	41.5 (9.1)		
8	69.6 (18.8)	10.2 (2.8)	83.2 (22.4)	65.5 (17.7)	40.3 (10.9)	5.9 (1.6)	46.3 (12.5)	36.4 (9.9)		
9										
10										
11					21.3 (1.8)	3.1 (0.3)	24.5 (2.1)	19.3 (1.6)		
12	27.6 (6.9)	4.0 (1.0)	32.9 (8.2)	25.9 (6.4)	21.4 (4.7)	3.1 (0.7)	24.8 (5.4)	19.5 (4.2)		
13	22.0 (4.4)	3.2 (0.6)	26.2 (5.3)	20.6 (4.1)	17.5 (2.6)	2.6 (0.4)	20.6 (2.9)	16.2 (2.3)		
14	13.8 (3.0)	2.0 (0.4)	16.5 (3.6)	13.0 (2.8)	12.6 (2.1)	1.8 (0.3)	14.8 (2.6)	11.6 (2.0)		
15	10.5 (2.0)	1.5 (0.3)	12.5 (2.4)	9.9 (1.9)	9.8 (1.2)	1.4 (0.2)	11.3 (1.4)	8.9 (1.1)		
16	22.4 (9.6)	3.3 (1.4)	26.6 (11.4)	21.0 (9.0)	19.0 (9.6)	2.8 (1.4)	21.9 (11.1)	17.2 (8.7)		
17	18.5 (5.1)	2.7 (0.7)	22.1 (6.1)	17.4 (4.8)	16.2 (4.4)	2.4 (0.6)	18.7 (5.0)	14.7 (4.0)		
18	15.7 (7.0)	2.3 (1.0)	19.4 (8.7)	15.3 (6.8)	13.4 (6.0)	2.0 (0.9)	15.4 (6.9)	12.1 (5.5)		
19	7.9 (1.7)	1.2 (0.3)	9.8 (2.2)	7.7 (1.7)	7.1 (1.5)	1.0 (0.2)	8.2 (1.7)	6.5 (1.4)		
20										
21										
22										
23	11.0 (3.9)	1.6 (0.6)	13.5 (4.8)	10.6 (3.8)	10.9 (5.3)	1.6 (0.8)	12.6 (6.1)	9.9 (4.8)		
24										
25										
26	7.7 (1.0)	1.1 (0.1)	9.5 (1.2)	7.5 (0.9)	6.1 (1.3)	0.9 (0.2)	7.3 (1.4)	5.8 (1.1)		
27	7.6 (2.6)	1.1 (0.4)	9.3 (3.2)	7.3 (2.5)	6.3 (1.8)	0.9 (0.3)	7.4 (2.1)	5.8 (1.7)		
28	30.2 (16.1)	4.4 (2.4)	36.9 (19.8)	29.1 (15.6)	10.1 (3.1)	1.5 (0.5)	11.7 (3.6)	9.2 (2.8)		
29										
30										
31	6.8 (1.7)	1.0 (0.3)	8.4 (2.1)	6.6 (1.7)						
Avg	21.5	3.1	25.80	20.3	16.6	2.4	19.20	15.1		
n	21	21	21	21	21	21	21	21	0	0
SD	17.7	2.6	21.30	16.8	10.6	1.6	12.10	9.5		
Min	6.8	1.0	8.35	6.6	6.1	0.9	7.34	5.8		
Max	69.6	10.2	83.20	65.5	45.9	6.7	52.70	41.5		

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for February, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	10.0 (1.9)	1.5 (0.3)	12.2 (2.4)	9.6 (1.9)	16.2 (7.3)	2.4 (1.1)	19.5 (8.7)	15.4 (6.8)		
2	14.4 (2.0)	2.1 (0.3)	17.7 (2.5)	13.9 (2.0)	17.8 (1.9)	2.6 (0.3)	21.1 (2.2)	16.6 (1.7)		
3	15.2 (1.6)	2.2 (0.2)	18.7 (1.9)	14.7 (1.5)	15.0 (1.7)	2.2 (0.3)	17.7 (2.0)	13.9 (1.6)		
4	20.9 (5.6)	3.1 (0.8)	25.6 (6.8)	20.2 (5.3)	20.8 (4.5)	3.0 (0.7)	24.8 (5.5)	19.5 (4.3)		
5					29.0 (7.0)	4.2 (1.0)	34.1 (8.1)	26.9 (6.4)		
6					21.5 (3.8)	3.1 (0.6)	25.0 (4.4)	19.7 (3.5)		
7	29.6 (9.3)	4.3 (1.4)	36.4 (11.4)	28.6 (9.0)	26.1 (8.2)	3.8 (1.2)	30.6 (9.7)	24.1 (7.6)		
8										
9	20.1 (4.6)	2.9 (0.7)	25.0 (5.7)	19.7 (4.5)	19.5 (3.4)	2.9 (0.5)	23.8 (4.4)	18.7 (3.5)		
10	7.1 (2.5)	1.0 (0.4)	8.9 (3.1)	7.0 (2.4)	7.1 (2.5)	1.0 (0.4)	8.3 (3.0)	6.5 (2.4)		
11	14.5 (5.7)	2.1 (0.8)	18.1 (7.1)	14.3 (5.6)	13.1 (5.1)	1.9 (0.8)	15.4 (6.0)	12.1 (4.7)		
12	12.6 (2.0)	1.8 (0.3)	15.5 (2.5)	12.2 (1.9)	9.4 (1.0)	1.4 (0.1)	10.9 (1.1)	8.6 (0.9)		
13										
14										
15	13.0 (2.7)	1.9 (0.4)	16.3 (3.2)	12.8 (2.5)	10.3 (2.3)	1.5 (0.3)	12.2 (2.6)	9.6 (2.1)		
16	19.7 (9.4)	2.9 (1.4)	24.3 (11.5)	19.2 (9.1)	14.1 (6.2)	2.1 (0.9)	16.8 (7.4)	13.2 (5.9)		
17	31.2 (9.2)	4.6 (1.3)	38.0 (11.2)	29.9 (8.8)	28.4 (9.4)	4.1 (1.4)	33.3 (11.1)	26.2 (8.7)		
18	13.3 (4.1)	1.9 (0.6)	16.2 (5.0)	12.8 (4.0)	15.0 (4.3)	2.2 (0.6)	17.3 (5.0)	13.6 (3.9)		
19	8.1 (1.4)	1.2 (0.2)	9.9 (1.7)	7.8 (1.4)	8.8 (1.2)	1.3 (0.2)	10.1 (1.4)	8.0 (1.1)		
20	7.9 (1.3)	1.2 (0.2)	9.7 (1.6)	7.6 (1.3)	9.0 (1.0)	1.3 (0.1)	10.3 (1.1)	8.1 (0.9)		
21	15.9 (7.5)	2.3 (1.1)	19.4 (9.2)	15.3 (7.2)	15.7 (7.7)	2.3 (1.1)	18.1 (8.8)	14.3 (7.0)		
22	15.2 (2.3)	2.2 (0.3)	18.6 (2.9)	14.7 (2.3)	17.7 (2.4)	2.6 (0.4)	21.0 (2.8)	16.5 (2.2)		
23	25.1 (11.3)	3.7 (1.7)	30.9 (14.0)	24.3 (11.0)	26.5 (12.5)	3.9 (1.8)	31.1 (14.6)	24.5 (11.5)		
24	20.5 (1.9)	3.0 (0.3)	25.7 (2.4)	20.2 (1.9)	19.2 (2.5)	2.8 (0.4)	22.0 (2.8)	17.3 (2.2)		
25	20.8 (1.3)	3.0 (0.2)	26.3 (1.6)	20.7 (1.3)	21.3 (1.8)	3.1 (0.3)	24.7 (2.0)	19.4 (1.6)		
26	22.3 (6.1)	3.3 (0.9)	28.0 (7.6)	22.0 (6.0)	31.7 (10.6)	4.6 (1.5)	36.7 (12.2)	28.9 (9.6)		
27	12.3 (2.1)	1.8 (0.3)	15.4 (2.6)	12.1 (2.0)	18.5 (3.3)	2.7 (0.5)	21.4 (3.9)	16.9 (3.1)		
28	19.3 (7.9)	2.8 (1.2)	23.8 (9.7)	18.7 (7.6)	21.4 (9.3)	3.1 (1.4)	24.9 (10.8)	19.6 (8.5)		
29										
Avg	16.9	2.5	20.90	16.5	18.1	2.7	21.20	16.7		
n	23	23	23	23	25	25	25	25	0	0
SD	6.3	0.9	7.78	6.1	6.6	1.0	7.71	6.1		
Min	7.1	1.0	8.87	7.0	7.1	1.0	8.29	6.5		
Max	31.2	4.6	38.00	29.9	31.7	4.6	36.70	28.9		

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for March, 2008.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1										
2	34.5 (12.7)	5.0 (1.9)	41.5 (15.3)	32.7 (12.1)	31.8 (9.7)	4.7 (1.4)	36.3 (11.0)	28.6 (8.7)		
3	47.5 (13.0)	6.9 (1.9)	57.3 (15.6)	45.1 (12.3)						
4	19.9 (2.3)	2.9 (0.3)	24.0 (2.8)	18.9 (2.2)						
5	35.2 (13.8)	5.2 (2.0)	42.6 (16.7)	33.5 (13.2)	32.1 (13.9)	4.7 (2.0)	36.9 (16.0)	29.1 (12.6)		
6	25.8 (4.6)	3.8 (0.7)	31.3 (5.5)	24.6 (4.3)	25.8 (4.6)	3.8 (0.7)	29.6 (5.3)	23.3 (4.2)		
7	15.8 (2.5)	2.3 (0.4)	19.2 (3.0)	15.1 (2.3)						
8	13.9 (2.0)	2.0 (0.3)	16.9 (2.5)	13.3 (1.9)						
9	18.7 (4.9)	2.7 (0.7)	22.8 (6.0)	18.0 (4.7)						
10	27.6 (8.7)	4.0 (1.3)	33.6 (10.6)	26.5 (8.3)						
11										
12										
13	39.7 (9.9)	5.8 (1.5)	48.3 (12.1)	38.0 (9.5)	33.6 (7.8)	4.9 (1.1)	37.9 (8.8)	29.8 (7.0)		
14										
15	24.8 (4.8)	3.6 (0.7)	30.2 (5.9)	23.8 (4.7)	29.9 (4.4)	4.4 (0.7)	34.5 (5.3)	27.2 (4.1)		
16	35.3 (16.8)	5.2 (2.5)	43.0 (20.4)	33.9 (16.1)	33.5 (15.0)	4.9 (2.2)	38.2 (17.1)	30.1 (13.5)		
17	23.4 (3.9)	3.4 (0.6)	28.3 (4.8)	22.3 (3.8)	26.8 (4.1)	3.9 (0.6)	30.4 (4.7)	23.9 (3.7)		
18										
19	30.9 (7.8)	4.5 (1.2)	37.1 (9.4)	29.2 (7.4)	25.3 (4.9)	3.7 (0.7)	28.7 (5.5)	22.6 (4.3)		
20										
21	31.7 (10.7)	4.6 (1.6)	36.8 (12.4)	28.9 (9.8)						
22	22.6 (4.4)	3.3 (0.6)	26.2 (5.1)	20.7 (4.0)	15.1 (3.7)	2.2 (0.5)	17.7 (4.3)	14.0 (3.4)		
23	25.7 (7.4)	3.8 (1.1)	29.9 (8.6)	23.5 (6.8)	26.6 (12.8)	3.9 (1.9)	30.3 (14.5)	23.8 (11.4)		
24	20.7 (4.4)	3.0 (0.7)	24.0 (5.1)	18.9 (4.0)	21.8 (4.0)	3.2 (0.6)	24.9 (4.5)	19.6 (3.6)		
25					32.2 (12.5)	4.7 (1.8)	36.7 (14.3)	28.9 (11.2)		
26	32.1 (6.3)	4.7 (0.9)	37.2 (7.3)	29.3 (5.8)	26.2 (5.6)	3.8 (0.8)	29.9 (6.5)	23.5 (5.1)		
27	24.8 (5.5)	3.6 (0.8)	28.9 (6.4)	22.8 (5.0)	20.5 (4.2)	3.0 (0.6)	23.7 (4.9)	18.7 (3.8)		
28	24.7 (8.9)	3.6 (1.3)	28.9 (10.4)	22.7 (8.2)	26.2 (10.1)	3.8 (1.5)	31.5 (12.3)	24.8 (9.7)		
29	24.1 (6.1)	3.5 (0.9)	28.0 (7.1)	22.1 (5.6)	22.9 (5.0)	3.3 (0.7)	27.3 (5.8)	21.5 (4.6)		
30	27.1 (7.1)	4.0 (1.0)	31.5 (8.2)	24.8 (6.5)	22.6 (6.0)	3.3 (0.9)	26.2 (7.0)	20.6 (5.5)		
31										
Avg	27.2	4.0	32.50	25.6	26.6	3.9	30.60	24.1		
n	23	23	23	23	17	17	17	17	0	0
SD	7.7	1.1	9.32	7.3	5.0	0.7	5.52	4.4		
Min	13.9	2.0	16.90	13.3	15.1	2.2	17.70	14.0		
Max	47.5	6.9	57.30	45.1	33.6	4.9	38.20	30.1		

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for April, 2008.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1										
2										
3										
4	35.6 (11.5)	5.2 (1.7)	41.0 (13.2)	32.3 (10.4)	35.3 (10.3)	5.2 (1.5)	40.2 (11.8)	31.7 (9.3)		
5	32.6 (10.0)	4.8 (1.5)	37.3 (11.4)	29.4 (9.0)	32.6 (9.0)	4.8 (1.3)	37.0 (10.1)	29.2 (8.0)		
6	34.4 (9.2)	5.0 (1.3)	39.4 (10.5)	31.0 (8.3)	34.4 (7.3)	5.0 (1.1)	38.6 (8.2)	30.4 (6.4)		
7	35.3 (6.9)	5.2 (1.0)	40.4 (7.9)	31.8 (6.2)	37.5 (12.3)	5.5 (1.8)	42.2 (13.9)	33.2 (10.9)		
8	35.0 (8.0)	5.1 (1.2)	40.0 (9.2)	31.5 (7.2)	34.6 (9.1)	5.1 (1.3)	38.8 (10.2)	30.6 (8.0)		
9										
10	32.0 (4.0)	4.7 (0.6)	36.6 (4.6)	28.8 (3.6)	30.0 (4.6)	4.4 (0.7)	33.5 (5.1)	26.4 (4.0)		
11	50.5 (20.8)	7.4 (3.0)	58.0 (23.9)	45.6 (18.8)	46.9 (20.7)	6.9 (3.0)	53.4 (23.5)	42.1 (18.5)		
12	24.7 (3.0)	3.6 (0.4)	28.5 (3.4)	22.4 (2.7)	24.1 (3.9)	3.5 (0.6)	27.5 (4.6)	21.7 (3.6)	0.8 (0.6)	0.3 (0.2)
13	22.8 (4.4)	3.3 (0.6)	26.6 (5.1)	21.0 (4.0)	23.2 (4.0)	3.4 (0.6)	26.0 (4.5)	20.5 (3.6)	1.3 (1.3)	0.5 (0.5)
14	24.2 (7.0)	3.5 (1.0)	28.5 (8.3)	22.4 (6.5)	22.2 (4.2)	3.3 (0.6)	25.1 (4.8)	19.8 (3.7)	1.3 (1.0)	0.5 (0.4)
15	27.3 (11.1)	4.0 (1.6)	31.6 (12.7)	24.9 (10.0)	38.6 (19.7)	5.6 (2.9)	43.5 (22.2)	34.3 (17.5)	3.0 (0.9)	1.1 (0.3)
16	36.9 (10.1)	5.4 (1.5)	42.6 (11.6)	33.5 (9.2)	42.3 (9.7)	6.2 (1.4)	47.5 (10.9)	37.4 (8.6)	3.0 (1.5)	1.1 (0.6)
17					41.5 (7.2)	6.1 (1.1)	48.6 (9.2)	38.3 (7.2)	1.5 (1.3)	0.6 (0.5)
18					59.6 (14.8)	8.7 (2.2)	72.4 (18.0)	57.0 (14.1)	4.7 (1.4)	1.7 (0.5)
19					43.3 (8.4)	6.3 (1.2)	50.7 (10.6)	39.9 (8.3)	3.3 (1.4)	1.2 (0.5)
20					45.4 (12.1)	6.6 (1.8)	50.9 (13.6)	40.1 (10.7)	1.7 (1.1)	0.6 (0.4)
21					54.0 (16.1)	7.9 (2.4)	60.7 (18.1)	47.8 (14.2)	4.0 (4.0)	1.5 (1.5)
22										
23	56.8 (33.4)	8.3 (4.9)	66.8 (39.3)	52.6 (31.0)	56.2 (31.5)	8.2 (4.6)	63.3 (35.5)	49.8 (28.0)	1.2 (17.3)	0.4 (6.5)
24	55.5 (8.8)	8.1 (1.3)	65.3 (10.3)	51.4 (8.1)	58.4 (11.9)	8.5 (1.7)	65.9 (13.4)	51.9 (10.6)	12.9 (3.1)	4.8 (1.2)
25									9.3 (3.5)	3.4 (1.3)
26	27.6 (5.0)	4.0 (0.7)	31.8 (5.8)	25.1 (4.6)	25.5 (4.6)	3.7 (0.7)	29.5 (5.4)	23.2 (4.2)	1.4 (1.2)	0.5 (0.4)
27	30.2 (4.0)	4.4 (0.6)	35.0 (4.7)	27.6 (3.7)	31.7 (4.9)	4.6 (0.7)	36.3 (5.6)	28.6 (4.4)	2.9 (1.1)	1.1 (0.4)
28	24.7 (6.6)	3.6 (1.0)	29.0 (7.8)	22.8 (6.1)	23.5 (5.4)	3.4 (0.8)	27.0 (6.2)	21.2 (4.9)	1.5 (0.6)	0.6 (0.2)
29	28.3 (10.9)	4.1 (1.6)	33.4 (12.8)	26.3 (10.1)	28.0 (9.8)	4.1 (1.4)	32.1 (11.2)	25.3 (8.8)	2.2 (0.9)	0.8 (0.4)
30	28.1 (6.9)	4.1 (1.0)	33.0 (8.1)	26.0 (6.4)	28.0 (6.3)	4.1 (0.9)	32.0 (7.2)	25.2 (5.7)	2.5 (1.8)	0.9 (0.7)
Avg	33.8	4.9	39.20	30.9	37.4	5.5	42.60	33.6	3.3	1.2
n	19	19	19	19	24	24	24	24	18	18
SD	9.9	1.4	11.50	9.1	11.3	1.6	13.10	10.3	3.0	1.1
Min	22.8	3.3	26.60	21.0	22.2	3.3	25.10	19.8	0.8	0.3
Max	56.8	8.3	66.80	52.6	59.6	8.7	72.40	57.0	12.9	4.8

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for May, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	36.7 (9.3)	5.4 (1.4)	43.2 (10.9)	34.0 (8.6)	39.3 (10.4)	5.7 (1.5)	44.9 (11.8)	35.4 (9.3)	8.7 (3.2)	3.2 (1.2)
2	42.7 (8.7)	6.3 (1.3)	50.0 (10.2)	39.4 (8.0)	45.9 (11.5)	6.7 (1.7)	53.9 (13.4)	42.4 (10.5)	7.0 (2.7)	2.6 (1.0)
3	32.0 (6.1)	4.7 (0.9)	37.1 (7.1)	29.2 (5.6)	28.1 (4.6)	4.1 (0.7)	32.8 (5.6)	25.8 (4.4)	2.5 (1.6)	0.9 (0.6)
4	28.2 (5.5)	4.1 (0.8)	32.6 (6.4)	25.7 (5.0)	26.0 (5.8)	3.8 (0.9)	29.3 (6.6)	23.1 (5.2)	1.4 (1.6)	0.5 (0.6)
5	44.0 (15.5)	6.4 (2.3)	51.0 (18.0)	40.2 (14.2)	47.8 (17.3)	7.0 (2.5)	53.9 (19.5)	42.4 (15.4)	3.9 (2.8)	1.5 (1.1)
6									4.1 (2.9)	1.5 (1.1)
7	54.2 (22.9)	7.9 (3.4)	62.9 (26.6)	49.5 (20.9)	55.5 (19.8)	8.1 (2.9)	62.8 (22.4)	49.5 (17.6)	4.6 (2.5)	1.7 (1.0)
8	29.1 (5.8)	4.3 (0.9)	33.7 (6.7)	26.5 (5.3)	29.4 (4.8)	4.3 (0.7)	33.3 (5.4)	26.2 (4.2)	10.0 (3.8)	3.7 (1.4)
9	27.6 (4.0)	4.0 (0.6)	31.9 (4.7)	25.2 (3.7)	29.1 (6.8)	4.3 (1.0)	33.6 (7.8)	26.5 (6.1)	11.4 (4.5)	4.3 (1.7)
10					33.7 (8.6)	4.9 (1.3)	39.1 (9.6)	30.8 (7.6)	10.4 (4.4)	3.9 (1.6)
11	34.6 (5.3)	5.1 (0.8)	40.4 (6.2)	31.8 (4.9)	46.2 (18.4)	6.7 (2.7)	52.6 (21.0)	41.4 (16.5)	7.6 (2.7)	2.8 (1.0)
12	26.4 (5.1)	3.9 (0.8)	30.9 (6.0)	24.4 (4.7)	29.0 (5.8)	4.2 (0.9)	33.0 (6.6)	26.0 (5.2)	3.6 (2.2)	1.3 (0.8)
13	51.3 (20.4)	7.5 (3.0)	60.1 (23.9)	47.3 (18.8)	54.6 (23.7)	8.0 (3.5)	62.5 (27.2)	49.2 (21.4)	7.8 (4.8)	2.9 (1.8)
14	38.2 (6.6)	5.6 (1.0)	44.8 (7.7)	35.2 (6.1)	39.8 (7.3)	5.8 (1.1)	45.3 (8.5)	35.6 (6.7)	6.1 (3.5)	2.3 (1.3)
15	33.4 (8.1)	4.9 (1.2)	39.0 (9.4)	30.7 (7.4)	43.3 (22.3)	6.3 (3.3)	48.6 (25.1)	38.3 (19.8)	6.9 (2.9)	2.6 (1.1)
16	36.6 (7.7)	5.3 (1.1)	42.5 (8.9)	33.5 (7.0)	38.0 (7.8)	5.6 (1.1)	43.0 (8.9)	33.9 (7.0)	10.1 (4.9)	3.7 (1.8)
17	38.5 (6.7)	5.6 (1.0)	45.7 (7.9)	36.0 (6.2)	40.1 (8.7)	5.9 (1.3)	45.7 (9.9)	36.0 (7.8)	12.7 (2.8)	4.7 (1.0)
18	30.1 (4.0)	4.4 (0.6)	35.7 (4.7)	28.1 (3.7)	31.8 (7.5)	4.6 (1.1)	35.8 (8.5)	28.2 (6.7)	8.7 (3.7)	3.2 (1.4)
19										
20										
21										
22	31.7 (5.7)	4.6 (0.8)	37.0 (6.6)	29.1 (5.2)	31.3 (5.6)	4.6 (0.8)	35.5 (6.3)	28.0 (5.0)	8.9 (4.5)	3.3 (1.7)
23	36.1 (10.5)	5.3 (1.5)	42.2 (12.2)	33.2 (9.6)	38.8 (11.8)	5.7 (1.7)	45.7 (14.2)	36.0 (11.1)	8.5 (4.6)	3.2 (1.7)
24	34.1 (6.5)	5.0 (1.0)	39.9 (7.6)	31.4 (6.0)	37.8 (8.8)	5.5 (1.3)	44.2 (10.2)	34.8 (8.0)	8.0 (3.1)	3.0 (1.2)
25	37.1 (11.1)	5.4 (1.6)	43.4 (13.0)	34.2 (10.2)	41.8 (13.1)	6.1 (1.9)	47.0 (14.8)	37.0 (11.6)	8.5 (3.5)	3.2 (1.3)
26	48.1 (6.9)	7.0 (1.0)	56.2 (8.0)	44.3 (6.3)	56.9 (8.7)	8.3 (1.3)	63.8 (9.7)	50.3 (7.7)	14.3 (3.0)	5.3 (1.1)
27	32.4 (7.5)	4.7 (1.1)	38.5 (9.0)	30.3 (7.1)	35.1 (8.1)	5.1 (1.2)	39.3 (9.0)	30.9 (7.1)	10.2 (3.8)	3.8 (1.4)
28	36.8 (7.7)	5.4 (1.1)	44.3 (9.3)	34.9 (7.3)	33.3 (8.1)	4.9 (1.2)	37.1 (9.0)	29.2 (7.1)	8.8 (3.6)	3.3 (1.4)
29										
30	44.5 (5.7)	6.5 (0.8)	55.3 (7.5)	43.6 (5.9)	51.9 (10.1)	7.6 (1.5)	58.0 (11.4)	45.7 (9.0)	11.7 (2.9)	4.3 (1.1)
31	46.8 (6.7)	6.8 (1.0)	57.2 (8.2)	45.0 (6.5)	47.6 (9.5)	7.0 (1.4)	53.3 (10.6)	41.9 (8.3)	14.2 (2.7)	5.3 (1.0)
Avg	37.3	5.4	43.80	34.5	39.7	5.8	45.20	35.6	8.2	3.0
n	25	25	25	25	26	26	26	26	27	27
SD	7.4	1.1	8.87	7.0	8.9	1.3	9.93	7.8	3.3	1.2
Min	26.4	3.9	30.90	24.4	26.0	3.8	29.30	23.1	1.4	0.5
Max	54.2	7.9	62.90	49.5	56.9	8.3	63.80	50.3	14.3	5.3

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for June, 2008.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1	46.9 (8.3)	6.9 (1.2)	55.0 (9.7)	43.3 (7.7)	51.4 (7.9)	7.5 (1.2)	57.4 (8.9)	45.2 (7.0)	11.1 (3.3)	4.1 (1.2)
2	58.6 (14.2)	8.6 (2.1)	68.6 (16.6)	54.0 (13.1)	70.9 (17.2)	10.4 (2.5)	79.0 (19.2)	62.2 (15.1)	7.7 (2.4)	2.9 (0.9)
3	59.7 (11.9)	8.7 (1.7)	69.9 (13.9)	55.1 (11.0)	56.1 (13.5)	8.2 (2.0)	62.5 (15.0)	49.2 (11.8)		
4	81.2 (20.3)	11.9 (3.0)	96.0 (24.0)	75.6 (18.9)	82.6 (22.2)	12.1 (3.2)	92.4 (25.0)	72.8 (19.7)		
5										
6										
7										
8										
9										
10	48.4 (9.8)	7.1 (1.4)	58.3 (11.8)	45.9 (9.3)	54.4 (13.9)	8.0 (2.0)	63.2 (16.2)	49.8 (12.7)	15.8 (2.1)	5.9 (0.8)
11										
12	62.8 (19.4)	9.2 (2.8)	75.0 (23.2)	59.1 (18.3)	65.6 (11.8)	9.6 (1.7)	76.4 (13.8)	60.1 (10.8)	20.2 (6.8)	7.5 (2.5)
13	74.9 (14.0)	10.9 (2.1)	89.5 (16.7)	70.5 (13.2)	89.3 (31.3)	13.0 (4.6)	104.0 (36.4)	81.9 (28.7)	17.7 (6.2)	6.6 (2.3)
14	60.1 (11.8)	8.8 (1.7)	71.7 (14.0)	56.4 (11.0)	63.2 (11.7)	9.2 (1.7)	73.5 (13.6)	57.9 (10.7)	13.7 (4.2)	5.1 (1.6)
15					58.3 (12.3)	8.5 (1.8)	68.7 (14.1)	54.1 (11.1)	15.6 (4.8)	5.8 (1.8)
16									16.0 (2.4)	6.0 (0.9)
17	51.6 (9.6)	7.5 (1.4)	61.8 (11.6)	48.7 (9.1)	60.0 (12.8)	8.8 (1.9)	68.4 (14.6)	53.9 (11.5)	15.9 (3.4)	5.9 (1.3)
18	57.8 (10.5)	8.5 (1.5)	69.4 (12.7)	54.7 (10.0)	54.3 (7.8)	7.9 (1.1)	62.1 (8.9)	48.9 (7.0)	18.0 (4.1)	6.7 (1.5)
19	65.0 (16.7)	9.5 (2.5)	77.9 (20.0)	61.4 (15.8)	73.0 (21.3)	10.7 (3.1)	83.7 (24.5)	65.9 (19.3)	14.8 (2.7)	5.5 (1.0)
20	55.5 (12.4)	8.1 (1.8)	66.6 (14.8)	52.4 (11.7)	60.3 (20.4)	8.8 (3.0)	69.4 (23.4)	54.6 (18.5)	8.8 (7.5)	3.3 (2.8)
21										
22	53.5 (10.0)	7.8 (1.5)	64.3 (12.1)	50.6 (9.5)	55.5 (11.0)	8.1 (1.6)	64.2 (12.7)	50.5 (10.0)	12.7 (6.3)	4.7 (2.3)
23	62.8 (9.9)	9.2 (1.5)	75.4 (11.9)	59.4 (9.4)	51.0 (9.3)	7.5 (1.4)	59.1 (10.8)	46.5 (8.5)	16.8 (3.6)	6.2 (1.3)
24	58.5 (12.6)	8.5 (1.8)	70.2 (15.2)	55.3 (11.9)	59.3 (12.2)	8.7 (1.8)	68.7 (14.1)	54.1 (11.1)	11.7 (2.9)	4.4 (1.1)
25	64.0 (8.5)	9.4 (1.2)	77.0 (10.2)	60.7 (8.0)	69.0 (10.7)	10.1 (1.6)	81.2 (12.9)	64.0 (10.2)	12.7 (3.8)	4.7 (1.4)
26	65.7 (14.4)	9.6 (2.1)	79.9 (17.6)	62.9 (13.9)	74.6 (12.7)	10.9 (1.9)	87.6 (14.8)	69.0 (11.7)	14.1 (3.5)	5.2 (1.3)
27	67.4 (14.0)	9.8 (2.0)	82.5 (17.1)	65.0 (13.5)	70.7 (13.5)	10.3 (2.0)	81.3 (15.6)	64.0 (12.3)	11.4 (3.5)	4.2 (1.3)
28	69.9 (12.9)	10.2 (1.9)	85.6 (15.8)	67.4 (12.4)	81.1 (17.6)	11.9 (2.6)	93.2 (20.2)	73.4 (15.9)	11.6 (3.6)	4.3 (1.3)
29	57.3 (10.4)	8.4 (1.5)	69.4 (12.8)	54.6 (10.1)	61.1 (11.6)	8.9 (1.7)	70.4 (13.3)	55.4 (10.5)	15.7 (2.6)	5.8 (1.0)
30	41.2 (7.8)	6.0 (1.1)	49.5 (9.4)	39.0 (7.4)	46.1 (11.1)	6.7 (1.6)	53.1 (12.8)	41.8 (10.0)	11.4 (5.1)	4.2 (1.9)
Avg	60.1	8.8	72.10	56.8	64.0	9.4	73.60	58.0	14.0	5.2
n	21	21	21	21	22	22	22	22	21	21
SD	9.1	1.3	11.00	8.6	11.0	1.6	12.70	10.0	3.1	1.1
Min	41.2	6.0	49.50	39.0	46.1	6.7	53.10	41.8	7.7	2.9
Max	81.2	11.9	96.00	75.6	89.3	13.0	104.00	81.9	20.2	7.5

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for July, 2008.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1	55.5 (17.9)	8.1 (2.6)	66.8 (21.5)	52.6 (16.9)	55.4 (18.9)	8.1 (2.8)	63.2 (21.5)	49.7 (16.9)	2.2 (3.9)	0.8 (1.5)
2	59.6 (8.1)	8.7 (1.2)	72.0 (9.8)	56.7 (7.7)	60.2 (7.3)	8.8 (1.1)	67.9 (8.3)	53.5 (6.5)	16.1 (8.0)	6.0 (3.0)
3	62.7 (9.9)	9.2 (1.5)	75.5 (11.9)	59.5 (9.4)	75.6 (30.7)	11.0 (4.5)	85.2 (34.6)	67.1 (27.2)	16.4 (4.7)	6.1 (1.8)
4	53.6 (8.0)	7.8 (1.2)	64.4 (9.6)	50.7 (7.6)	51.5 (7.3)	7.5 (1.1)	57.8 (8.2)	45.5 (6.5)	15.0 (2.0)	5.6 (0.7)
5	50.1 (8.1)	7.3 (1.2)	60.0 (9.7)	47.3 (7.6)	46.6 (7.3)	6.8 (1.1)	52.5 (8.1)	41.4 (6.4)	6.9 (5.2)	2.6 (2.0)
6	55.8 (12.1)	8.2 (1.8)	65.5 (13.9)	51.6 (11.0)	61.3 (9.1)	9.0 (1.3)	69.2 (10.2)	54.5 (8.1)	3.9 (1.2)	1.4 (0.5)
7	82.4 (21.9)	12.0 (3.2)	95.6 (25.4)	75.3 (20.0)	95.1 (28.4)	13.9 (4.2)	107.0 (32.1)	84.5 (25.2)	8.3 (3.5)	3.1 (1.3)
8	64.4 (12.1)	9.4 (1.8)	74.8 (14.1)	58.9 (11.1)	73.7 (15.7)	10.8 (2.3)	83.3 (17.7)	65.6 (14.0)	7.0 (3.2)	2.6 (1.2)
9										
10	58.5 (10.6)	8.6 (1.6)	67.8 (12.3)	53.4 (9.7)	63.5 (12.8)	9.3 (1.9)	71.8 (14.5)	56.6 (11.4)	6.6 (5.3)	2.4 (2.0)
11	82.8 (22.4)	12.1 (3.3)	97.0 (26.3)	76.4 (20.7)	82.3 (25.8)	12.0 (3.8)	95.3 (30.5)	75.0 (24.0)	13.9 (5.3)	5.2 (2.0)
12	69.5 (12.6)	10.2 (1.9)	82.1 (14.9)	64.6 (11.8)	68.9 (13.3)	10.1 (1.9)	79.2 (14.9)	62.4 (11.8)		
13	48.4 (11.4)	7.1 (1.7)	57.2 (13.5)	45.0 (10.6)	50.4 (11.9)	7.4 (1.7)	56.5 (13.4)	44.5 (10.5)		
14	60.8 (10.6)	8.9 (1.6)	71.3 (12.2)	56.2 (9.7)	68.5 (21.1)	10.0 (3.1)	76.7 (23.6)	60.4 (18.6)		
15	65.6 (12.9)	9.6 (1.9)	76.6 (15.1)	60.3 (11.9)	70.4 (17.0)	10.3 (2.5)	79.1 (19.2)	62.3 (15.1)		
16	98.6 (27.7)	14.4 (4.1)	115.0 (32.4)	90.7 (25.5)	90.0 (16.6)	13.1 (2.4)	101.0 (18.7)	79.8 (14.7)	11.6 (7.6)	4.3 (2.8)
17	76.2 (15.2)	11.1 (2.2)	88.9 (17.8)	70.0 (14.0)	85.9 (12.8)	12.6 (1.9)	100.0 (14.8)	78.8 (11.7)	11.0 (3.3)	4.1 (1.2)
18	85.7 (23.7)	12.5 (3.5)	99.6 (27.6)	78.4 (21.8)	109.0 (17.9)	15.9 (2.6)	127.0 (20.5)	100.0 (16.2)	7.9 (5.6)	2.9 (2.1)
19	86.0 (16.6)	12.6 (2.4)	99.5 (19.2)	78.3 (15.1)	93.4 (19.3)	13.7 (2.8)	106.0 (22.0)	83.9 (17.3)	17.3 (7.5)	6.4 (2.8)
20	74.7 (19.9)	10.9 (2.9)	86.4 (23.0)	68.0 (18.1)	77.8 (17.7)	11.4 (2.6)	89.0 (20.3)	70.1 (16.0)	10.9 (6.3)	4.0 (2.4)
21										
22	90.2 (19.0)	13.2 (2.8)	103.0 (21.7)	81.2 (17.1)	89.2 (22.3)	13.0 (3.3)	101.0 (25.3)	79.7 (19.9)		
23										
24										
25	82.9 (16.9)	12.1 (2.5)	95.1 (19.7)	74.9 (15.5)	82.9 (25.8)	12.1 (3.8)	93.3 (29.1)	73.5 (22.9)	15.0 (3.7)	5.6 (1.4)
26	64.3 (14.5)	9.4 (2.1)	74.5 (16.8)	58.7 (13.2)	61.5 (13.8)	9.0 (2.0)	69.4 (15.6)	54.6 (12.3)	9.2 (6.4)	3.4 (2.4)
27	66.5 (10.6)	9.7 (1.6)	77.0 (12.3)	60.7 (9.7)	63.0 (12.6)	9.2 (1.8)	71.1 (14.2)	56.0 (11.2)	10.1 (4.4)	3.8 (1.6)
28	71.3 (13.5)	10.4 (2.0)	82.5 (15.6)	65.0 (12.3)	86.8 (27.7)	12.7 (4.1)	98.0 (31.3)	77.1 (24.6)	12.3 (4.8)	4.6 (1.8)
29	89.5 (21.6)	13.1 (3.2)	103.0 (24.9)	81.3 (19.6)	78.9 (12.3)	11.5 (1.8)	89.0 (13.9)	70.1 (10.9)	10.4 (2.8)	3.9 (1.0)
30	69.8 (10.8)	10.2 (1.6)	80.4 (12.5)	63.3 (9.8)	70.7 (13.6)	10.3 (2.0)	79.8 (15.4)	62.8 (12.1)	5.3 (4.3)	2.0 (1.6)
31	59.3 (11.3)	8.7 (1.7)	68.1 (13.0)	53.6 (10.2)	61.6 (11.8)	9.0 (1.7)	71.5 (13.2)	56.3 (10.4)	1.8 (6.8)	0.7 (2.5)
Avg	69.8	10.2	81.50	64.2	73.1	10.7	83.00	65.4	10.0	3.7
n	27	27	27	27	27	27	27	27	22	22
SD	13.3	1.9	14.90	11.7	15.1	2.2	17.60	13.8	4.4	1.7
Min	48.4	7.1	57.20	45.0	46.6	6.8	52.50	41.4	1.8	0.7
Max	98.6	14.4	115.00	90.7	109.0	15.9	127.00	100.0	17.3	6.4

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for August, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	92.1 (23.4)	13.5 (3.4)	106.0 (26.9)	83.3 (21.2)	95.8 (25.8)	14.0 (3.8)	111.0 (29.5)	87.2 (23.2)	15.0 (9.5)	5.6 (3.5)
2	72.5 (12.4)	10.6 (1.8)	83.4 (14.2)	65.6 (11.2)	67.6 (14.4)	9.9 (2.1)	75.4 (16.1)	59.4 (12.7)	16.5 (2.8)	6.2 (1.0)
3	65.3 (12.9)	9.5 (1.9)	75.2 (14.8)	59.2 (11.7)	62.8 (8.8)	9.2 (1.3)	70.1 (9.8)	55.2 (7.7)	13.4 (4.3)	5.0 (1.6)
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	68.9 (16.2)	10.1 (2.4)	81.2 (19.0)	63.9 (15.0)	78.2 (12.7)	11.4 (1.9)	89.4 (14.6)	70.4 (11.5)	9.2 (3.4)	3.4 (1.3)
15									10.0 (2.2)	3.7 (0.8)
16	66.2 (11.4)	9.7 (1.7)	78.0 (13.4)	61.4 (10.5)	60.3 (11.1)	8.8 (1.6)	69.0 (12.7)	54.3 (10.0)	6.7 (2.4)	2.5 (0.9)
17	60.9 (8.7)	8.9 (1.3)	71.7 (10.2)	56.5 (8.1)	59.8 (15.2)	8.7 (2.2)	68.4 (17.4)	53.9 (13.7)	11.8 (3.9)	4.4 (1.4)
18										
19	85.7 (16.7)	12.5 (2.4)	101.0 (19.7)	79.5 (15.5)	90.4 (19.7)	13.2 (2.9)	105.0 (22.9)	82.7 (18.0)	13.7 (3.0)	5.1 (1.1)
20	65.1 (10.7)	9.5 (1.6)	76.7 (12.5)	60.4 (9.9)	64.3 (15.7)	9.4 (2.3)	74.8 (18.4)	58.9 (14.5)	15.1 (3.8)	5.6 (1.4)
21	93.1 (26.8)	13.6 (3.9)	109.0 (31.5)	86.1 (24.8)	83.5 (26.2)	12.2 (3.8)	95.3 (29.7)	75.0 (23.4)	18.8 (5.7)	7.0 (2.1)
22	72.5 (11.4)	10.6 (1.7)	85.0 (13.4)	66.9 (10.5)	71.2 (13.7)	10.4 (2.0)	80.7 (15.5)	63.6 (12.2)	10.3 (5.4)	3.9 (2.0)
23										
24	61.4 (8.0)	9.0 (1.2)	72.0 (9.4)	56.7 (7.4)	58.6 (12.3)	8.6 (1.8)	66.7 (14.0)	52.5 (11.1)	11.5 (2.1)	4.3 (0.8)
25										
26										
27										
28	94.8 (26.4)	13.9 (3.9)	113.0 (31.4)	88.8 (24.7)	82.3 (16.7)	12.0 (2.4)	93.0 (18.8)	73.2 (14.8)	17.4 (4.5)	6.5 (1.7)
29	71.5 (16.3)	10.4 (2.4)	85.0 (19.3)	67.0 (15.2)	59.6 (14.6)	8.7 (2.1)	68.4 (16.5)	53.9 (13.0)	15.7 (2.8)	5.8 (1.1)
30	73.8 (14.7)	10.8 (2.2)	87.8 (17.5)	69.1 (13.8)	65.8 (21.5)	9.6 (3.1)	76.2 (24.7)	60.0 (19.5)	6.9 (3.0)	2.6 (1.1)
31	58.8 (10.0)	8.6 (1.5)	69.9 (11.9)	55.1 (9.4)	61.2 (14.9)	8.9 (2.2)	70.1 (17.1)	55.2 (13.4)	4.5 (4.3)	1.7 (1.6)
Avg	73.5	10.7	86.30	68.0	70.8	10.3	80.90	63.7	12.3	4.6
n	15	15	15	15	15	15	15	15	16	16
SD	11.8	1.7	13.70	10.8	11.8	1.7	13.80	10.9	4.0	1.5
Min	58.8	8.6	69.90	55.1	58.6	8.6	66.70	52.5	4.5	1.7
Max	94.8	13.9	113.00	88.8	95.8	14.0	111.00	87.2	18.8	7.0

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for September, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	63.9 (9.0)	9.3 (1.3)	75.9 (10.7)	59.8 (8.5)	53.5 (12.1)	7.8 (1.8)	60.8 (13.8)	47.9 (10.8)	10.9 (2.9)	4.1 (1.1)
2	70.9 (21.7)	10.4 (3.2)	84.2 (25.8)	66.3 (20.3)	81.8 (44.4)	12.0 (6.5)	92.9 (50.4)	73.2 (39.7)	9.1 (11.5)	3.4 (4.3)
3										
4	61.1 (8.6)	8.9 (1.3)	72.4 (10.2)	57.0 (8.0)	53.8 (8.2)	7.9 (1.2)	61.4 (9.4)	48.3 (7.4)	13.2 (2.4)	4.9 (0.9)
5										
6	47.1 (8.0)	6.9 (1.2)	56.1 (9.5)	44.2 (7.5)	45.0 (9.5)	6.6 (1.4)	51.7 (10.9)	40.7 (8.6)	15.7 (3.2)	5.8 (1.2)
7	50.2 (8.6)	7.3 (1.3)	59.8 (10.3)	47.1 (8.1)	45.3 (8.0)	6.6 (1.2)	51.9 (9.2)	40.8 (7.2)	7.8 (3.3)	2.9 (1.2)
8	48.6 (6.2)	7.1 (0.9)	57.8 (7.4)	45.5 (5.8)	44.6 (10.2)	6.5 (1.5)	51.1 (11.7)	40.2 (9.2)	4.9 (1.5)	1.8 (0.5)
9	39.9 (6.3)	5.8 (0.9)	47.4 (7.4)	37.3 (5.9)	32.0 (6.8)	4.7 (1.0)	36.7 (7.8)	28.9 (6.2)	4.5 (3.4)	1.7 (1.3)
10										
11	57.7 (12.4)	8.4 (1.8)	68.8 (14.9)	54.2 (11.7)	51.4 (13.8)	7.5 (2.0)	59.0 (15.8)	46.5 (12.5)	12.7 (4.8)	4.7 (1.8)
12	65.2 (9.9)	9.5 (1.4)	77.5 (11.7)	61.0 (9.2)	57.8 (11.9)	8.4 (1.7)	66.4 (13.7)	52.3 (10.8)	16.9 (3.4)	6.3 (1.3)
13	85.2 (16.9)	12.5 (2.5)	101.0 (20.0)	79.5 (15.7)	64.9 (10.5)	9.5 (1.5)	74.5 (12.1)	58.7 (9.5)	20.5 (5.4)	7.6 (2.0)
14	66.2 (10.6)	9.7 (1.6)	78.8 (12.6)	62.1 (9.9)	57.0 (11.1)	8.3 (1.6)	66.1 (12.7)	52.0 (10.0)	18.6 (5.4)	6.9 (2.0)
15	55.0 (9.2)	8.0 (1.3)	65.8 (11.0)	51.8 (8.7)	48.3 (6.9)	7.1 (1.0)	56.3 (8.1)	44.4 (6.3)	10.1 (3.5)	3.8 (1.3)
16									5.1 (2.7)	1.9 (1.0)
17	65.5 (10.8)	9.6 (1.6)	78.3 (12.9)	61.6 (10.1)	57.4 (10.8)	8.4 (1.6)	67.1 (12.7)	52.8 (10.0)	13.0 (4.0)	4.8 (1.5)
18	65.7 (8.3)	9.6 (1.2)	78.7 (9.9)	62.0 (7.8)	58.9 (14.1)	8.6 (2.1)	69.0 (16.5)	54.3 (13.0)	18.1 (4.4)	6.7 (1.6)
19	66.9 (12.5)	9.8 (1.8)	79.5 (14.7)	62.6 (11.6)	51.8 (13.4)	7.6 (2.0)	60.6 (15.7)	47.8 (12.4)	14.8 (4.1)	5.5 (1.5)
20	62.2 (8.4)	9.1 (1.2)	73.0 (9.8)	57.5 (7.7)	54.2 (10.4)	7.9 (1.5)	62.8 (12.3)	49.5 (9.7)	14.5 (5.7)	5.4 (2.1)
21	54.7 (12.2)	8.0 (1.8)	64.0 (14.2)	50.4 (11.2)	46.4 (11.8)	6.8 (1.7)	53.1 (13.6)	41.8 (10.7)	9.0 (7.1)	3.3 (2.7)
22	62.3 (9.3)	9.1 (1.4)	72.9 (10.9)	57.4 (8.6)	54.7 (9.5)	8.0 (1.4)	62.7 (10.9)	49.4 (8.6)	14.9 (1.5)	5.5 (0.6)
23										
24										
25										
26	73.0 (16.8)	10.7 (2.5)	84.9 (19.5)	66.8 (15.3)	66.0 (11.7)	9.7 (1.7)	78.1 (14.1)	61.5 (11.1)	11.2 (2.9)	4.2 (1.1)
27	57.7 (11.8)	8.4 (1.7)	67.6 (13.8)	53.2 (10.9)	49.4 (9.7)	7.2 (1.4)	58.3 (11.5)	45.9 (9.1)	10.3 (5.2)	3.8 (1.9)
28	63.6 (15.3)	9.3 (2.2)	75.4 (18.1)	59.4 (14.3)	51.0 (12.3)	7.4 (1.8)	58.4 (14.1)	46.0 (11.1)	10.3 (4.8)	3.8 (1.8)
29									8.9 (1.7)	3.3 (0.7)
30	48.9 (8.8)	7.1 (1.3)	57.6 (10.5)	45.4 (8.3)	39.9 (8.4)	5.8 (1.2)	45.7 (9.6)	36.0 (7.6)	13.1 (3.9)	4.9 (1.4)
Avg	60.5	8.8	71.70	56.5	52.9	7.7	61.10	48.1	12.0	4.5
n	22	22	22	22	22	22	22	22	24	24
SD	9.8	1.4	11.60	9.1	9.9	1.4	11.40	9.0	4.2	1.6
Min	39.9	5.8	47.40	37.3	32.0	4.7	36.70	28.9	4.5	1.7
Max	85.2	12.5	101.00	79.5	81.8	12.0	92.90	73.2	20.5	7.6

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for October, 2008.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1	51.6 (15.6)	7.5 (2.3)	60.5 (18.3)	47.6 (14.4)	50.3 (16.3)	7.4 (2.4)	57.5 (18.7)	45.3 (14.7)	7.3 (4.1)	2.7 (1.5)
2	43.7 (8.2)	6.4 (1.2)	51.2 (9.6)	40.3 (7.6)	41.8 (6.3)	6.1 (0.9)	47.9 (7.2)	37.7 (5.7)	3.0 (2.4)	1.1 (0.9)
3	42.4 (8.8)	6.2 (1.3)	50.3 (10.5)	39.6 (8.3)	41.0 (8.1)	6.0 (1.2)	46.6 (9.2)	36.7 (7.3)	6.1 (3.2)	2.3 (1.2)
4	48.1 (10.6)	7.0 (1.6)	57.6 (12.7)	45.4 (10.0)	50.2 (16.2)	7.3 (2.4)	56.5 (18.3)	44.5 (14.4)	9.9 (4.5)	3.7 (1.7)
5	41.2 (7.1)	6.0 (1.0)	49.4 (8.6)	38.9 (6.8)	42.3 (10.2)	6.2 (1.5)	48.3 (11.6)	38.0 (9.2)	10.4 (3.2)	3.9 (1.2)
6					41.0 (8.5)	6.0 (1.3)	47.4 (9.9)	37.4 (7.8)	10.2 (2.8)	3.8 (1.0)
7	67.2 (19.3)	9.8 (2.8)	78.4 (22.5)	61.8 (17.7)	59.0 (14.1)	8.6 (2.1)	68.2 (16.3)	53.7 (12.8)	10.9 (2.8)	4.0 (1.1)
8	49.4 (14.4)	7.2 (2.1)	57.7 (16.8)	45.5 (13.3)	44.1 (16.1)	6.5 (2.4)	51.0 (18.7)	40.2 (14.7)	9.3 (4.8)	3.5 (1.8)
9					49.1 (11.1)	7.2 (1.6)	58.9 (13.7)	46.4 (10.8)		
10	46.1 (10.7)	6.7 (1.6)	53.9 (12.4)	42.4 (9.8)	44.5 (8.2)	6.5 (1.2)	53.5 (9.8)	42.1 (7.7)	2.5 (2.4)	0.9 (0.9)
11	49.7 (10.2)	7.3 (1.5)	57.6 (11.7)	45.4 (9.3)	46.9 (9.1)	6.9 (1.3)	54.7 (10.6)	43.1 (8.3)	1.2 (5.3)	0.5 (2.0)
12	55.6 (10.3)	8.1 (1.5)	64.4 (12.0)	50.7 (9.4)					12.1 (5.1)	4.5 (1.9)
13	84.0 (19.5)	12.3 (2.9)	97.2 (22.5)	76.5 (17.8)					10.8 (2.7)	4.0 (1.0)
14	64.3 (9.8)	9.4 (1.4)	74.5 (11.3)	58.7 (8.9)	56.0 (10.9)	8.2 (1.6)	65.3 (12.7)	51.4 (10.0)	16.7 (3.9)	6.2 (1.4)
15										
16									10.8 (3.4)	4.0 (1.3)
17	46.1 (9.2)	6.7 (1.4)	55.3 (11.1)	43.6 (8.7)	46.1 (13.9)	6.7 (2.0)	53.3 (16.1)	42.0 (12.7)	4.0 (1.2)	1.5 (0.5)
18	40.7 (5.9)	6.0 (0.9)	48.9 (7.0)	38.5 (5.6)	38.8 (6.2)	5.7 (0.9)	44.9 (7.2)	35.4 (5.7)	2.4 (0.9)	0.9 (0.3)
19	38.1 (9.0)	5.6 (1.3)	45.7 (10.8)	36.0 (8.5)	34.5 (7.1)	5.0 (1.0)	40.0 (8.2)	31.5 (6.5)	2.1 (2.3)	0.8 (0.8)
20									4.0 (3.2)	1.5 (1.2)
21	40.1 (6.9)	5.9 (1.0)	47.3 (8.1)	37.3 (6.4)	41.5 (9.6)	6.1 (1.4)	48.1 (11.1)	37.9 (8.7)	6.3 (3.4)	2.4 (1.3)
22	34.8 (6.1)	5.1 (0.9)	40.7 (7.2)	32.1 (5.7)	32.5 (7.2)	4.8 (1.0)	37.6 (8.3)	29.6 (6.5)	8.3 (2.8)	3.1 (1.0)
23										
24										
25	40.5 (3.7)	5.9 (0.5)	47.5 (4.3)	37.4 (3.4)	33.0 (5.4)	4.8 (0.8)	37.3 (6.1)	29.4 (4.8)	2.6 (1.2)	1.0 (0.5)
26	33.3 (7.8)	4.9 (1.1)	39.0 (9.2)	30.7 (7.2)	26.4 (6.7)	3.9 (1.0)	29.9 (7.6)	23.6 (6.0)	1.2 (1.1)	0.5 (0.4)
27	34.2 (9.2)	5.0 (1.4)	40.1 (10.8)	31.5 (8.5)	28.8 (7.8)	4.2 (1.1)	32.6 (8.9)	25.7 (7.0)	-0.2 (1.7)	-0.1 (0.7)
28	26.7 (3.5)	3.9 (0.5)	31.8 (4.2)	25.0 (3.3)	25.3 (3.4)	3.7 (0.5)	28.9 (3.9)	22.7 (3.0)	-0.6 (0.9)	-0.2 (0.3)
29										
30	33.2 (8.9)	4.9 (1.3)	41.0 (10.8)	32.3 (8.5)	32.4 (9.9)	4.7 (1.5)	37.5 (11.5)	29.5 (9.0)	0.4 (2.0)	0.2 (0.8)
31	43.5 (12.4)	6.4 (1.8)	53.0 (15.2)	41.7 (11.9)	44.7 (17.8)	6.5 (2.6)	52.7 (21.3)	41.5 (16.8)	1.4 (1.8)	0.5 (0.7)
Avg	45.9	6.7	54.00	42.6	41.3	6.0	47.80	37.6	5.9	2.2
n	23	23	23	23	23	23	23	23	26	26
SD	12.4	1.8	14.10	11.1	8.7	1.3	10.30	8.2	4.6	1.7
Min	26.7	3.9	31.80	25.0	25.3	3.7	28.90	22.7	-0.6	-0.2
Max	84.0	12.3	97.20	76.5	59.0	8.6	68.20	53.7	16.7	6.2

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for November, 2008.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1	39.1 (6.9)	5.7 (1.0)	47.7 (8.5)	37.6 (6.7)	38.2 (10.6)	5.6 (1.6)	45.2 (12.4)	35.6 (9.8)	10.1 (4.1)	3.8 (1.5)
2	48.3 (10.8)	7.1 (1.6)	59.0 (13.1)	46.5 (10.3)	45.7 (11.4)	6.7 (1.7)	53.3 (13.4)	42.0 (10.5)	7.1 (2.6)	2.7 (1.0)
3	44.2 (8.7)	6.5 (1.3)	54.0 (10.6)	42.5 (8.3)	45.7 (8.6)	6.7 (1.3)	53.4 (10.0)	42.1 (7.9)	1.9 (0.7)	0.7 (0.2)
4	54.8 (20.1)	8.0 (2.9)	66.8 (24.4)	52.6 (19.2)	60.1 (30.6)	8.8 (4.5)	70.4 (35.9)	55.4 (28.2)	2.3 (2.0)	0.9 (0.8)
5										
6	63.9 (22.9)	9.3 (3.3)	77.9 (27.9)	61.3 (22.0)	56.4 (17.7)	8.3 (2.6)	66.0 (20.7)	52.0 (16.3)	5.8 (2.6)	2.2 (1.0)
7	33.5 (7.4)	4.9 (1.1)	41.0 (9.1)	32.3 (7.1)	31.2 (6.9)	4.6 (1.0)	36.7 (8.1)	28.9 (6.4)	2.7 (1.1)	1.0 (0.4)
8	21.3 (1.6)	3.1 (0.2)	26.5 (2.0)	20.9 (1.6)	21.0 (2.6)	3.1 (0.4)	24.7 (3.0)	19.4 (2.4)	0.5 (1.1)	0.2 (0.4)
9	17.8 (2.7)	2.6 (0.4)	22.3 (3.4)	17.6 (2.7)	19.2 (2.7)	2.8 (0.4)	22.5 (3.1)	17.7 (2.5)	0.1 (0.6)	0.0 (0.2)
10	14.6 (2.2)	2.1 (0.3)	18.3 (2.7)	14.4 (2.1)	16.7 (3.2)	2.4 (0.5)	19.6 (3.7)	15.4 (3.0)	0.5 (0.6)	0.2 (0.2)
11										
12	31.3 (4.0)	4.6 (0.6)	38.5 (5.0)	30.3 (3.9)	32.8 (3.5)	4.8 (0.5)	38.6 (4.2)	30.4 (3.3)	3.2 (2.5)	1.2 (0.9)
13	28.1 (3.2)	4.1 (0.5)	34.6 (4.0)	27.3 (3.1)	32.9 (5.7)	4.8 (0.8)	38.7 (6.7)	30.5 (5.2)	3.3 (1.4)	1.2 (0.5)
14	29.5 (4.1)	4.3 (0.6)	36.5 (5.1)	28.7 (4.0)	30.2 (4.0)	4.4 (0.6)	36.5 (4.4)	28.7 (3.5)	5.3 (1.1)	2.0 (0.4)
15	32.6 (6.4)	4.8 (0.9)	40.4 (7.9)	31.8 (6.2)	35.9 (10.9)	5.3 (1.6)	43.1 (13.0)	33.9 (10.3)	2.8 (2.2)	1.1 (0.8)
16	21.2 (3.2)	3.1 (0.5)	26.3 (4.0)	20.7 (3.1)	21.2 (2.9)	3.1 (0.4)	24.6 (3.3)	19.4 (2.6)	1.7 (1.1)	0.6 (0.4)
17	20.7 (5.2)	3.0 (0.8)	25.7 (6.5)	20.2 (5.1)						
18	17.2 (2.0)	2.5 (0.3)	21.3 (2.5)	16.8 (1.9)	16.6 (2.2)	2.4 (0.3)	19.3 (2.5)	15.2 (2.0)	2.9 (0.9)	1.1 (0.3)
19										
20	18.2 (4.6)	2.7 (0.7)	21.8 (5.5)	17.2 (4.3)	22.1 (7.1)	3.2 (1.0)	25.8 (8.3)	20.3 (6.5)	-0.2 (1.1)	-0.1 (0.4)
21	10.3 (1.4)	1.5 (0.2)	12.3 (1.6)	9.7 (1.3)	12.4 (2.0)	1.8 (0.3)	14.8 (2.3)	11.7 (1.8)	0.0 (0.5)	0.0 (0.2)
22	9.3 (1.8)	1.4 (0.3)	11.2 (2.2)	8.8 (1.7)	9.8 (1.3)	1.4 (0.2)	11.6 (1.3)	9.1 (1.1)	0.5 (0.5)	0.2 (0.2)
23	20.9 (10.5)	3.1 (1.5)	25.1 (12.5)	19.8 (9.9)	19.4 (10.6)	2.8 (1.6)	22.2 (12.2)	17.5 (9.6)	0.2 (0.9)	0.1 (0.4)
24	19.6 (3.6)	2.9 (0.5)	23.6 (4.3)	18.6 (3.4)	18.6 (2.3)	2.7 (0.3)	21.1 (2.8)	16.6 (2.2)	1.9 (1.7)	0.7 (0.6)
25	24.7 (10.2)	3.6 (1.5)	29.7 (12.2)	23.4 (9.7)	22.1 (7.5)	3.2 (1.1)	25.1 (8.6)	19.7 (6.8)	1.4 (0.8)	0.5 (0.3)
26	18.0 (3.1)	2.6 (0.5)	21.7 (3.8)	17.1 (3.0)	17.0 (5.0)	2.5 (0.7)	19.5 (5.7)	15.4 (4.5)	0.6 (0.6)	0.2 (0.2)
27	15.3 (2.9)	2.2 (0.4)	18.5 (3.6)	14.6 (2.8)	15.4 (4.5)	2.2 (0.7)	17.8 (5.2)	14.0 (4.1)	-0.4 (0.5)	-0.2 (0.2)
28	25.3 (11.9)	3.7 (1.7)	30.9 (14.5)	24.3 (11.4)	21.6 (9.6)	3.2 (1.4)	26.4 (12.0)	20.8 (9.5)	-0.5 (0.7)	-0.2 (0.3)
29										
30	14.4 (1.2)	2.1 (0.2)	17.9 (1.5)	14.1 (1.2)	16.0 (2.1)	2.3 (0.3)	18.9 (2.5)	14.9 (2.0)	0.0 (0.8)	0.0 (0.3)
Avg	26.7	3.9	32.70	25.7	27.1	4.0	31.80	25.1	2.2	0.8
n	26	26	26	26	25	25	25	25	25	25
SD	13.5	2.0	16.40	12.9	13.2	1.9	15.60	12.3	2.6	1.0
Min	9.3	1.4	11.20	8.8	9.8	1.4	11.60	9.1	-0.5	-0.2
Max	63.9	9.3	77.90	61.3	60.1	8.8	70.40	55.4	10.1	3.8

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for December, 2008.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	12.1 (1.9)	1.8 (0.3)	14.9 (2.5)	11.8 (1.9)	13.5 (2.5)	2.0 (0.4)	16.0 (3.0)	12.6 (2.3)	0.4 (0.5)	0.2 (0.2)
2					17.8 (5.8)	2.6 (0.9)	21.0 (6.9)	16.5 (5.4)	2.2 (1.9)	0.8 (0.7)
3	21.0 (3.4)	3.1 (0.5)	25.6 (4.2)	20.1 (3.3)	17.8 (3.5)	2.6 (0.5)	21.0 (4.2)	16.6 (3.3)	1.2 (1.0)	0.4 (0.4)
4									1.5 (1.0)	0.6 (0.4)
5	7.3 (0.7)	1.1 (0.1)	8.9 (0.8)	7.0 (0.7)	6.3 (0.8)	0.9 (0.1)	7.7 (1.1)	6.0 (0.9)	2.4 (0.7)	0.9 (0.3)
6	16.2 (5.4)	2.4 (0.8)	19.7 (6.6)	15.5 (5.2)	11.8 (3.8)	1.7 (0.6)	13.8 (4.4)	10.9 (3.5)	1.4 (1.3)	0.5 (0.5)
7	9.4 (0.9)	1.4 (0.1)	11.5 (1.1)	9.1 (0.9)	7.7 (1.0)	1.1 (0.1)	9.1 (1.2)	7.1 (0.9)	1.8 (0.9)	0.7 (0.3)
8									0.6 (0.5)	0.2 (0.2)
9	21.9 (5.1)	3.2 (0.8)	26.7 (6.3)	21.1 (4.9)	21.6 (5.3)	3.2 (0.8)	25.1 (6.2)	19.8 (4.9)	3.0 (1.4)	1.1 (0.5)
10	14.6 (1.5)	2.1 (0.2)	17.7 (1.9)	13.9 (1.5)	13.3 (2.3)	1.9 (0.3)	15.3 (2.7)	12.1 (2.1)	1.7 (1.0)	0.6 (0.4)
11	18.2 (5.2)	2.7 (0.8)	22.2 (6.3)	17.5 (5.0)	19.6 (8.5)	2.9 (1.2)	22.9 (10.0)	18.1 (7.9)	2.3 (0.8)	0.9 (0.3)
12	11.9 (2.0)	1.7 (0.3)	14.6 (2.4)	11.5 (1.9)	12.6 (2.6)	1.9 (0.4)	14.9 (3.1)	11.7 (2.4)		
13	21.3 (7.1)	3.1 (1.0)	26.4 (8.8)	20.8 (6.9)	16.0 (5.6)	2.3 (0.8)	18.7 (6.5)	14.7 (5.1)		
14	27.7 (3.9)	4.1 (0.6)	34.8 (5.1)	27.4 (4.0)	28.5 (6.9)	4.2 (1.0)	33.4 (8.1)	26.3 (6.4)		
15	13.6 (3.3)	2.0 (0.5)	17.3 (4.2)	13.6 (3.3)	10.3 (3.3)	1.5 (0.5)	12.1 (3.9)	9.6 (3.1)		
16	9.6 (1.1)	1.4 (0.2)	11.9 (1.5)	9.4 (1.2)	7.4 (0.7)	1.1 (0.1)	8.7 (0.9)	6.8 (0.7)		
17	12.2 (4.1)	1.8 (0.6)	15.0 (5.0)	11.8 (4.0)	10.3 (3.6)	1.5 (0.5)	12.1 (4.3)	9.5 (3.4)		
18	10.2 (0.9)	1.5 (0.1)	12.5 (1.1)	9.8 (0.9)	8.8 (0.8)	1.3 (0.1)	10.4 (1.0)	8.2 (0.8)		
19	18.1 (5.1)	2.7 (0.7)	22.8 (6.5)	18.0 (5.1)	15.7 (4.8)	2.3 (0.7)	18.6 (5.7)	14.6 (4.5)		
20	13.3 (2.9)	2.0 (0.4)	17.0 (3.9)	13.4 (3.1)	12.7 (2.6)	1.9 (0.4)	15.0 (3.1)	11.8 (2.4)		
21	5.5 (1.3)	0.8 (0.2)	6.9 (1.6)	5.4 (1.3)	5.1 (1.4)	0.7 (0.2)	6.0 (1.7)	4.7 (1.3)		
22	5.1 (0.6)	0.8 (0.1)	6.4 (0.7)	5.0 (0.6)	5.4 (1.1)	0.8 (0.2)	6.4 (1.3)	5.0 (1.1)		
23	11.7 (4.1)	1.7 (0.6)	14.6 (5.2)	11.5 (4.1)	6.8 (1.0)	1.0 (0.2)	8.1 (1.2)	6.4 (1.0)		
24	9.0 (3.0)	1.3 (0.4)	11.3 (3.8)	8.9 (3.0)	7.8 (2.8)	1.1 (0.4)	9.2 (3.4)	7.2 (2.6)		
25	5.2 (1.0)	0.8 (0.2)	6.5 (1.3)	5.1 (1.0)	4.1 (0.8)	0.6 (0.1)	4.8 (1.0)	3.8 (0.8)		
26	13.0 (5.7)	1.9 (0.8)	16.4 (7.2)	12.9 (5.7)	13.4 (7.0)	2.0 (1.0)	16.5 (9.0)	13.0 (7.1)		
27	30.7 (4.5)	4.5 (0.7)	38.6 (5.7)	30.4 (4.5)	32.4 (5.9)	4.7 (0.9)	39.5 (7.0)	31.1 (5.5)		
28	20.5 (8.3)	3.0 (1.2)	25.8 (10.5)	20.3 (8.3)	20.6 (6.3)	3.0 (0.9)	24.2 (7.4)	19.1 (5.8)		
29					18.1 (2.7)	2.7 (0.4)	21.4 (3.2)	16.8 (2.5)		
30	25.6 (10.5)	3.8 (1.5)	32.2 (13.1)	25.3 (10.4)	27.4 (13.4)	4.0 (2.0)	32.3 (15.8)	25.5 (12.5)		
31	10.3 (2.5)	1.5 (0.4)	12.9 (3.1)	10.2 (2.5)	12.2 (3.4)	1.8 (0.5)	14.4 (4.1)	11.3 (3.2)		
Avg	14.6	2.1	18.20	14.3	14.0	2.0	16.50	13.0	1.7	0.6
n	27	27	27	27	29	29	29	29	11	11
SD	6.7	1.0	8.42	6.6	7.1	1.0	8.47	6.7	0.7	0.3
Min	5.1	0.8	6.37	5.0	4.1	0.6	4.84	3.8	0.4	0.2
Max	30.7	4.5	38.60	30.4	32.4	4.7	39.50	31.1	3.0	1.1

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for January, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	21.0 (8.6)	3.1 (1.3)	26.3 (10.8)	20.7 (8.5)	20.5 (9.8)	3.0 (1.4)	24.2 (11.5)	19.1 (9.1)		
2	16.4 (3.8)	2.4 (0.6)	20.5 (4.7)	16.2 (3.7)	15.7 (3.9)	2.3 (0.6)	18.5 (4.6)	14.6 (3.6)		
3	25.8 (10.7)	3.8 (1.6)	32.4 (13.5)	25.5 (10.6)	21.8 (10.4)	3.2 (1.5)	25.8 (12.3)	20.3 (9.7)		
4	21.4 (7.6)	3.1 (1.1)	26.8 (9.5)	21.1 (7.5)	18.7 (7.0)	2.7 (1.0)	22.2 (8.2)	17.5 (6.5)		
5										
6										
7										
8	8.9 (1.8)	1.3 (0.3)	11.1 (2.2)	8.7 (1.8)	6.9 (1.1)	1.0 (0.2)	8.2 (1.3)	6.5 (1.0)		
9	16.7 (8.9)	2.4 (1.3)	21.0 (11.2)	16.5 (8.8)	13.1 (7.6)	1.9 (1.1)	15.5 (9.1)	12.2 (7.1)		
10	11.5 (2.3)	1.7 (0.3)	14.5 (2.9)	11.4 (2.3)	9.7 (1.8)	1.4 (0.3)	11.5 (2.2)	9.1 (1.7)		
11	7.8 (1.3)	1.1 (0.2)	9.8 (1.6)	7.7 (1.2)	7.4 (1.1)	1.1 (0.2)	8.7 (1.4)	6.9 (1.1)		
12	17.3 (7.2)	2.5 (1.1)	21.9 (9.1)	17.2 (7.2)	14.6 (7.0)	2.1 (1.0)	17.2 (8.3)	13.6 (6.5)		
13										
14	10.5 (3.8)	1.5 (0.6)	13.2 (4.8)	10.4 (3.8)	8.1 (3.3)	1.2 (0.5)	9.5 (3.9)	7.5 (3.1)		
15	11.3 (1.8)	1.7 (0.3)	14.2 (2.3)	11.2 (1.8)	8.0 (0.7)	1.2 (0.1)	9.4 (0.8)	7.4 (0.6)		
16										
17										
18										
19										
20										
21	12.6 (6.6)	1.8 (1.0)	15.9 (8.3)	12.5 (6.6)	9.5 (5.4)	1.4 (0.8)	11.4 (6.4)	9.0 (5.0)		
22										
23	9.9 (2.6)	1.4 (0.4)	12.4 (3.2)	9.8 (2.5)	8.8 (2.1)	1.3 (0.3)	10.8 (2.4)	8.5 (1.9)		
24	3.6 (0.7)	0.5 (0.1)	4.6 (0.9)	3.6 (0.7)	3.2 (0.7)	0.5 (0.1)	3.9 (0.8)	3.1 (0.7)		
25	4.2 (1.0)	0.6 (0.2)	5.3 (1.3)	4.2 (1.0)	3.7 (0.5)	0.6 (0.1)	4.4 (0.6)	3.5 (0.5)		
26	4.4 (0.7)	0.7 (0.1)	5.6 (0.8)	4.4 (0.7)	3.9 (0.6)	0.6 (0.1)	4.6 (0.7)	3.6 (0.6)		
27										
28	4.9 (1.0)	0.7 (0.2)	6.2 (1.3)	4.9 (1.0)	5.0 (1.2)	0.7 (0.2)	5.9 (1.4)	4.6 (1.1)		
29	9.7 (5.5)	1.4 (0.8)	12.2 (7.0)	9.6 (5.5)	10.4 (6.6)	1.5 (1.0)	12.5 (8.0)	9.8 (6.3)		
30	5.1 (1.3)	0.8 (0.2)	6.5 (1.7)	5.1 (1.3)						
31	7.6 (3.8)	1.1 (0.6)	9.7 (4.9)	7.6 (3.8)	10.5 (4.2)	1.5 (0.6)	12.4 (4.9)	9.8 (3.9)		
Avg	11.5	1.7	14.50	11.4	10.5	1.5	12.50	9.8		
n	20	20	20	20	19	19	19	19	0	0
SD	6.2	0.9	7.78	6.1	5.4	0.8	6.39	5.0		
Min	3.6	0.5	4.59	3.6	3.2	0.5	3.94	3.1		
Max	25.8	3.8	32.40	25.5	21.8	3.2	25.80	20.3		

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for February, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	9.7 (2.7)	1.4 (0.4)	12.3 (3.4)	9.7 (2.7)	9.9 (2.4)	1.5 (0.4)	11.7 (2.9)	9.3 (2.3)		
2	13.1 (8.2)	1.9 (1.2)	16.6 (10.4)	13.1 (8.2)	13.9 (8.7)	2.0 (1.3)	16.3 (10.3)	12.8 (8.1)		
3	5.2 (1.4)	0.8 (0.2)	6.6 (1.7)	5.2 (1.4)	4.6 (1.6)	0.7 (0.2)	5.4 (1.9)	4.3 (1.5)	1.5 (1.4)	0.6 (0.5)
4	7.2 (4.1)	1.1 (0.6)	9.1 (5.1)	7.2 (4.0)	6.8 (3.7)	1.0 (0.5)	8.0 (4.3)	6.3 (3.4)	0.9 (0.5)	0.4 (0.2)
5										
6	17.1 (9.7)	2.5 (1.4)	21.3 (12.1)	16.8 (9.5)	18.4 (12.1)	2.7 (1.8)	22.1 (14.5)	17.4 (11.4)	1.2 (0.5)	0.5 (0.2)
7	24.8 (3.2)	3.6 (0.5)	30.6 (3.9)	24.1 (3.1)	24.1 (4.1)	3.5 (0.6)	28.4 (4.8)	22.4 (3.8)	3.6 (1.7)	1.4 (0.7)
8	17.0 (2.7)	2.5 (0.4)	21.0 (3.3)	16.5 (2.6)	16.4 (3.4)	2.4 (0.5)	19.4 (4.0)	15.3 (3.2)	1.0 (0.4)	0.4 (0.2)
9	24.0 (9.8)	3.5 (1.4)	29.7 (12.1)	23.4 (9.5)	16.9 (4.1)	2.5 (0.6)	20.0 (4.9)	15.7 (3.8)	1.4 (1.3)	0.5 (0.5)
10	34.4 (2.9)	5.0 (0.4)	42.0 (3.4)	33.0 (2.7)	29.4 (4.5)	4.3 (0.7)	34.9 (5.4)	27.5 (4.2)	6.1 (1.6)	2.3 (0.6)
11									0.3 (4.8)	0.1 (1.8)
12	18.9 (2.8)	2.8 (0.4)	22.9 (3.4)	18.0 (2.7)	12.7 (2.5)	1.9 (0.4)	15.6 (3.1)	12.3 (2.4)	-0.1 (0.8)	0.0 (0.3)
13	27.8 (10.7)	4.1 (1.6)	33.6 (12.9)	26.5 (10.2)	20.1 (7.0)	2.9 (1.0)	24.4 (8.4)	19.2 (6.6)	0.1 (0.5)	0.1 (0.2)
14	19.3 (2.9)	2.8 (0.4)	23.3 (3.5)	18.4 (2.8)	17.3 (2.6)	2.5 (0.4)	20.3 (3.0)	16.0 (2.4)	0.0 (0.5)	0.0 (0.2)
15	14.3 (3.1)	2.1 (0.5)	17.4 (3.7)	13.7 (2.9)	12.3 (3.6)	1.8 (0.5)	14.5 (4.3)	11.4 (3.4)	0.4 (0.4)	0.2 (0.2)
16										
17	17.3 (3.4)	2.5 (0.5)	21.3 (4.1)	16.7 (3.2)					0.7 (0.8)	0.3 (0.3)
18									1.1 (0.9)	0.4 (0.4)
19	9.9 (2.1)	1.4 (0.3)	12.1 (2.5)	9.6 (2.0)	9.2 (2.0)	1.4 (0.3)	10.9 (2.3)	8.6 (1.8)	1.2 (1.0)	0.5 (0.4)
20	8.2 (1.1)	1.2 (0.2)	10.1 (1.3)	8.0 (1.1)	7.9 (2.1)	1.2 (0.3)	9.3 (2.5)	7.3 (1.9)	-0.5 (0.8)	-0.2 (0.3)
21	14.0 (4.4)	2.1 (0.7)	17.2 (5.4)	13.5 (4.3)	14.1 (2.8)	2.1 (0.4)	16.7 (3.4)	13.2 (2.6)	0.3 (0.7)	0.1 (0.3)
22	10.4 (2.6)	1.5 (0.4)	12.8 (3.2)	10.1 (2.5)					-0.1 (0.7)	0.0 (0.3)
23	18.0 (11.3)	2.6 (1.7)	22.0 (13.8)	17.3 (10.9)	13.1 (8.1)	1.9 (1.2)	15.5 (9.6)	12.2 (7.5)	-0.2 (0.8)	-0.1 (0.3)
24	18.6 (4.3)	2.7 (0.6)	22.9 (5.3)	18.0 (4.2)	15.6 (5.9)	2.3 (0.9)	18.3 (6.9)	14.4 (5.4)	0.2 (0.6)	0.1 (0.2)
25	23.6 (7.6)	3.5 (1.1)	28.9 (9.3)	22.8 (7.3)	18.7 (5.3)	2.7 (0.8)	21.7 (6.2)	17.1 (4.8)	1.4 (1.0)	0.5 (0.4)
26	26.7 (6.0)	3.9 (0.9)	32.6 (7.4)	25.7 (5.8)	22.2 (5.7)	3.2 (0.8)	25.8 (6.6)	20.3 (5.2)	3.0 (1.2)	1.1 (0.5)
27	25.6 (4.4)	3.7 (0.6)	31.3 (5.3)	24.6 (4.2)	24.1 (5.0)	3.5 (0.7)	28.0 (5.8)	22.0 (4.6)	4.3 (1.0)	1.6 (0.4)
28	15.5 (3.4)	2.3 (0.5)	18.9 (4.1)	14.9 (3.2)	13.8 (3.4)	2.0 (0.5)	16.1 (3.9)	12.7 (3.1)	2.4 (1.2)	0.9 (0.5)
Avg	17.5	2.6	21.50	16.9	15.5	2.3	18.30	14.4	1.3	0.5
n	24	24	24	24	22	22	22	22	24	24
SD	7.2	1.1	8.70	6.9	6.0	0.9	7.04	5.5	1.6	0.6
Min	5.2	0.8	6.57	5.2	4.6	0.7	5.43	4.3	-0.5	-0.2
Max	34.4	5.0	42.00	33.0	29.4	4.3	34.90	27.5	6.1	2.3

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for March, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	9.3 (1.7)	1.4 (0.3)	11.3 (2.1)	8.9 (1.6)	9.8 (2.0)	1.4 (0.3)	11.5 (2.4)	9.0 (1.9)	2.4 (0.5)	0.9 (0.2)
2										
3	11.7 (2.6)	1.7 (0.4)	14.4 (3.2)	11.4 (2.5)	10.9 (3.6)	1.6 (0.5)	12.7 (4.2)	10.0 (3.3)	2.4 (1.0)	0.9 (0.4)
4	23.3 (10.6)	3.4 (1.6)	28.5 (13.1)	22.5 (10.3)	19.1 (8.1)	2.8 (1.2)	22.2 (9.3)	17.5 (7.4)	2.0 (0.8)	0.8 (0.3)
5	34.8 (9.1)	5.1 (1.3)	44.6 (11.9)	35.1 (9.4)	34.3 (9.5)	5.0 (1.4)	39.6 (11.0)	31.2 (8.7)	5.5 (3.1)	2.1 (1.1)
6	45.8 (14.2)	6.7 (2.1)	58.5 (17.9)	46.1 (14.1)	46.2 (11.0)	6.8 (1.6)	53.5 (12.8)	42.1 (10.0)	10.3 (4.1)	3.8 (1.5)
7	30.2 (7.7)	4.4 (1.1)	37.3 (9.5)	29.4 (7.5)	30.1 (4.6)	4.4 (0.7)	34.9 (5.4)	27.5 (4.2)	8.2 (2.1)	3.1 (0.8)
8	27.6 (6.7)	4.0 (1.0)	34.0 (8.3)	26.8 (6.5)	30.4 (6.2)	4.4 (0.9)	35.3 (7.2)	27.8 (5.6)	12.3 (2.7)	4.6 (1.0)
9	22.2 (2.4)	3.3 (0.4)	27.4 (2.9)	21.6 (2.3)	22.4 (5.5)	3.3 (0.8)	26.0 (6.4)	20.5 (5.1)	8.5 (1.8)	3.2 (0.7)
10	34.9 (9.2)	5.1 (1.4)	43.1 (11.4)	33.9 (9.0)	39.5 (15.9)	5.8 (2.3)	46.0 (18.5)	36.2 (14.6)	6.1 (1.8)	2.3 (0.7)
11	16.3 (3.9)	2.4 (0.6)	20.2 (4.8)	15.9 (3.8)	15.3 (3.4)	2.2 (0.5)	17.8 (4.0)	14.0 (3.1)	0.6 (0.7)	0.2 (0.3)
12	10.8 (1.7)	1.6 (0.3)	13.4 (2.1)	10.6 (1.7)	10.6 (2.5)	1.6 (0.4)	12.3 (2.8)	9.7 (2.2)	0.1 (0.6)	0.0 (0.2)
13	15.6 (5.5)	2.3 (0.8)	19.4 (6.8)	15.3 (5.4)	18.9 (9.0)	2.8 (1.3)	21.8 (10.4)	17.2 (8.2)	1.8 (0.8)	0.7 (0.3)
14	23.3 (8.5)	3.4 (1.2)	28.9 (10.6)	22.8 (8.3)	21.4 (4.4)	3.1 (0.6)	24.8 (5.1)	19.5 (4.0)	1.7 (0.8)	0.7 (0.3)
15	28.1 (6.4)	4.1 (0.9)	35.0 (8.0)	27.6 (6.3)	25.8 (6.3)	3.8 (0.9)	29.9 (7.3)	23.6 (5.7)	3.1 (1.5)	1.2 (0.6)
16										
17	43.6 (10.1)	6.4 (1.5)	54.0 (12.4)	42.5 (9.8)	44.0 (8.7)	6.4 (1.3)	50.9 (10.1)	40.1 (7.9)	12.7 (5.1)	4.7 (1.9)
18										
19	28.5 (8.0)	4.2 (1.2)	36.0 (10.0)	28.3 (7.9)	30.2 (8.9)	4.4 (1.3)	34.8 (10.2)	27.4 (8.0)	5.8 (1.4)	2.2 (0.5)
20	21.9 (6.7)	3.2 (1.0)	27.4 (8.1)	21.6 (6.4)	24.2 (7.4)	3.5 (1.1)	27.8 (8.5)	21.9 (6.7)	2.6 (0.8)	1.0 (0.3)
21	29.3 (9.6)	4.3 (1.4)	35.5 (11.7)	28.0 (9.2)	39.3 (13.2)	5.8 (1.9)	45.2 (15.2)	35.6 (12.0)	2.8 (1.4)	1.1 (0.5)
22	32.6 (9.2)	4.8 (1.3)	39.7 (11.2)	31.3 (8.8)	37.3 (6.3)	5.5 (0.9)	42.9 (7.3)	33.8 (5.7)	2.1 (0.9)	0.8 (0.3)
23	32.8 (6.8)	4.8 (1.0)	40.0 (8.3)	31.5 (6.5)	31.2 (5.8)	4.6 (0.8)	35.9 (6.6)	28.3 (5.2)	2.3 (0.7)	0.8 (0.3)
24	52.0 (19.5)	7.6 (2.9)	63.5 (23.8)	50.0 (18.8)	50.9 (15.6)	7.4 (2.3)	58.5 (17.9)	46.0 (14.1)	6.8 (5.8)	2.5 (2.2)
25	32.8 (6.5)	4.8 (1.0)	40.1 (8.0)	31.5 (6.3)	37.5 (6.0)	5.5 (0.9)	44.2 (6.9)	34.8 (5.5)	8.9 (2.7)	3.3 (1.0)
26	30.1 (9.7)	4.4 (1.4)	36.7 (11.8)	28.9 (9.3)	34.7 (9.9)	5.1 (1.5)	40.8 (11.4)	32.1 (9.0)	3.5 (2.8)	1.3 (1.0)
27	35.6 (11.2)	5.2 (1.6)	43.5 (13.7)	34.2 (10.8)	41.6 (13.8)	6.1 (2.0)	47.7 (15.8)	37.6 (12.4)	5.3 (2.2)	2.0 (0.8)
28	26.2 (2.4)	3.8 (0.4)	32.0 (2.9)	25.2 (2.3)	26.2 (4.3)	3.8 (0.6)	30.0 (4.9)	23.6 (3.9)	3.1 (1.5)	1.2 (0.6)
29	20.5 (3.0)	3.0 (0.4)	25.0 (3.6)	19.7 (2.9)	20.0 (2.5)	2.9 (0.4)	22.9 (2.8)	18.1 (2.2)	2.0 (1.4)	0.8 (0.5)
30	27.8 (11.9)	4.1 (1.7)	33.7 (14.4)	26.6 (11.3)	26.9 (11.5)	3.9 (1.7)	30.7 (13.1)	24.2 (10.3)	0.8 (0.9)	0.3 (0.4)
31	32.5 (6.6)	4.7 (1.0)	39.2 (7.9)	30.9 (6.3)	32.5 (5.3)	4.7 (0.8)	37.0 (6.0)	29.1 (4.7)	1.3 (0.8)	0.5 (0.3)
Avg	27.9	4.1	34.40	27.1	29.0	4.2	33.50	26.4	4.5	1.7
n	28	28	28	28	28	28	28	28	28	28
SD	9.9	1.5	12.30	9.7	10.8	1.6	12.40	9.8	3.5	1.3
Min	9.3	1.4	11.30	8.9	9.8	1.4	11.50	9.0	0.1	0.0
Max	52.0	7.6	63.50	50.0	50.9	7.4	58.50	46.0	12.7	4.7

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for April, 2009.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1										
2	34.5 (5.7)	5.0 (0.8)	41.9 (6.9)	33.0 (5.4)	35.5 (6.1)	5.2 (0.9)	41.2 (7.1)	32.4 (5.6)	7.6 (4.1)	2.8 (1.5)
3	24.5 (4.1)	3.6 (0.6)	29.8 (4.9)	23.5 (3.9)	24.3 (3.1)	3.6 (0.5)	28.0 (3.5)	22.0 (2.8)	5.4 (2.3)	2.0 (0.9)
4	27.8 (8.4)	4.1 (1.2)	33.9 (10.2)	26.7 (8.0)	29.7 (12.5)	4.3 (1.8)	34.3 (14.5)	27.0 (11.4)	2.2 (1.1)	0.8 (0.4)
5	25.6 (3.5)	3.8 (0.5)	31.3 (4.3)	24.6 (3.4)	23.5 (3.5)	3.4 (0.5)	27.2 (4.1)	21.4 (3.2)	3.4 (0.8)	1.3 (0.3)
6	19.2 (2.1)	2.8 (0.3)	23.4 (2.6)	18.4 (2.0)	15.9 (1.5)	2.3 (0.2)	18.5 (1.8)	14.5 (1.4)		
7	23.0 (6.6)	3.4 (1.0)	27.8 (8.0)	21.9 (6.3)	19.2 (5.4)	2.8 (0.8)	22.2 (6.2)	17.5 (4.9)	2.0 (1.1)	0.8 (0.4)
8										
9										
10										
11										
12										
13										
14										
15										
16									3.3 (1.7)	1.2 (0.7)
17									1.9 (4.4)	0.7 (1.6)
18									1.3 (6.3)	0.5 (2.3)
19									7.0 (3.2)	2.6 (1.2)
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
Avg	25.86	3.86	31.40	24.76	24.76	3.66	28.60	22.56	3.89	1.49
n	6	6	6	6	6	6	6	6	9	9
SD	4.7	0.7	5.73	4.5	6.5	1.0	7.49	5.9	2.2	0.8
Min	19.2	2.8	23.40	18.4	15.9	2.3	18.50	14.5	1.3	0.5
Max	34.5	5.0	41.90	33.0	35.5	5.2	41.20	32.4	7.6	2.8

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for May, 2009.

Day	Barn 1				Barn 2				Milking center	
	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}	g·d^{-1}hd^{-1}	g·d^{-1}AU^{-1}	kg·d^{-1}	g·d^{-1}m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16	56.2 (14.1)	8.2 (2.1)	69.9 (17.5)	55.1 (13.8)	53.0 (13.5)	7.7 (2.0)	63.3 (16.1)	49.8 (12.7)	15.6 (7.0)	5.8 (2.6)
17	45.5 (10.9)	6.7 (1.6)	56.6 (13.5)	44.6 (10.6)	44.8 (9.8)	6.5 (1.4)	53.5 (11.6)	42.1 (9.2)	15.5 (7.4)	5.8 (2.7)
18	49.1 (16.4)	7.2 (2.4)	61.0 (20.4)	48.0 (16.1)	48.9 (14.5)	7.2 (2.1)	57.8 (17.0)	45.5 (13.4)		
19	59.6 (13.9)	8.7 (2.0)	74.0 (17.3)	58.3 (13.6)	62.0 (15.4)	9.1 (2.3)	72.9 (18.1)	57.4 (14.3)	15.6 (5.7)	5.8 (2.1)
20	86.0 (36.2)	12.6 (5.3)	107.0 (44.9)	84.0 (35.4)	83.2 (27.5)	12.2 (4.0)	97.1 (32.0)	76.5 (25.2)	16.8 (3.7)	6.2 (1.4)
21	63.0 (11.2)	9.2 (1.6)	78.0 (13.9)	61.4 (10.9)	67.2 (9.9)	9.8 (1.4)	78.6 (11.8)	61.9 (9.3)	16.9 (3.8)	6.3 (1.4)
22	62.8 (14.5)	9.2 (2.1)	77.6 (18.0)	61.1 (14.2)	65.4 (16.2)	9.6 (2.4)	77.2 (19.1)	60.8 (15.1)	19.8 (6.0)	7.4 (2.2)
23	85.1 (26.6)	12.4 (3.9)	105.0 (32.8)	82.7 (25.9)	77.0 (19.2)	11.2 (2.8)	90.9 (22.6)	71.6 (17.8)	20.6 (4.5)	7.7 (1.7)
24	67.3 (13.7)	9.8 (2.0)	83.2 (16.9)	65.5 (13.3)	71.0 (18.1)	10.4 (2.7)	83.9 (21.4)	66.0 (16.9)	22.6 (5.6)	8.4 (2.1)
25	67.8 (8.7)	9.9 (1.3)	84.0 (10.8)	66.1 (8.5)	66.0 (13.9)	9.6 (2.0)	78.0 (16.5)	61.4 (13.0)	24.6 (5.4)	9.2 (2.0)
26										
27	69.1 (12.4)	10.1 (1.8)	85.8 (15.4)	67.6 (12.1)	82.3 (18.9)	12.0 (2.8)	103.0 (22.1)	80.8 (17.4)	18.0 (6.1)	6.7 (2.3)
28	60.4 (10.0)	8.8 (1.5)	75.1 (12.5)	59.1 (9.8)	56.0 (14.9)	8.2 (2.2)	70.9 (18.4)	55.8 (14.5)	21.2 (4.8)	7.9 (1.8)
29	74.3 (37.6)	10.9 (5.5)	92.3 (46.6)	72.7 (36.7)	61.4 (23.0)	9.0 (3.4)	73.2 (27.3)	57.6 (21.5)	12.8 (10.2)	4.8 (3.8)
30	67.2 (14.1)	9.8 (2.1)	83.3 (17.4)	65.6 (13.7)	64.9 (16.5)	9.5 (2.4)	75.8 (19.3)	59.7 (15.2)	18.5 (5.3)	6.9 (2.0)
31	62.5 (13.4)	9.1 (2.0)	77.3 (16.5)	60.9 (13.0)	62.9 (18.0)	9.2 (2.6)	73.5 (21.1)	57.9 (16.6)	18.2 (3.0)	6.8 (1.1)
Avg	65.1	9.5	80.60	63.5	64.4	9.4	76.60	60.3	18.3	6.8
n	15	15	15	15	15	15	15	15	14	14
SD	10.8	1.6	13.30	10.5	10.7	1.6	12.90	10.2	3.1	1.1
Min	45.5	6.7	56.60	44.6	44.8	6.5	53.50	42.1	12.8	4.8
Max	86.0	12.6	107.00	84.0	83.2	12.2	103.00	80.8	24.6	9.2

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for June, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	80.9 (17.5)	11.8 (2.6)	100.0 (21.7)	78.8 (17.1)	78.8 (28.5)	11.5 (4.2)	92.3 (33.4)	72.7 (26.3)	24.2 (7.4)	9.0 (2.7)
2	61.9 (16.7)	9.1 (2.4)	76.7 (20.7)	60.4 (16.3)	58.8 (13.0)	8.6 (1.9)	69.0 (15.3)	54.4 (12.0)		
3									20.5 (7.1)	7.6 (2.6)
4	60.3 (14.5)	8.8 (2.1)	74.9 (18.0)	59.0 (14.1)	51.4 (12.8)	7.5 (1.9)	62.8 (15.9)	49.4 (12.6)	21.5 (6.0)	8.0 (2.2)
5	91.0 (34.4)	13.3 (5.0)	113.0 (42.7)	89.0 (33.6)	72.9 (21.9)	10.7 (3.2)	88.9 (25.8)	70.0 (20.3)	22.3 (5.2)	8.3 (1.9)
6	80.5 (16.0)	11.8 (2.3)	99.9 (19.8)	78.7 (15.6)	71.2 (16.3)	10.4 (2.4)	84.3 (19.3)	66.4 (15.2)	26.9 (3.9)	10.0 (1.5)
7	77.0 (9.5)	11.2 (1.4)	95.5 (11.8)	75.2 (9.3)	64.3 (11.9)	9.4 (1.7)	76.2 (14.2)	60.0 (11.1)	24.7 (6.2)	9.2 (2.3)
8					67.9 (13.9)	9.9 (2.0)	80.5 (16.5)	63.4 (13.0)		
9	81.2 (16.1)	11.9 (2.4)	101.0 (20.1)	79.6 (15.8)	84.0 (38.3)	12.3 (5.6)	99.8 (45.6)	78.6 (35.9)	26.9 (5.2)	10.0 (1.9)
10										
11	89.7 (19.2)	13.1 (2.8)	112.0 (24.1)	88.2 (18.9)	91.9 (32.9)	13.4 (4.8)	114.0 (40.7)	89.4 (32.1)	34.5 (7.5)	12.8 (2.8)
12	97.4 (23.5)	14.2 (3.4)	121.0 (29.1)	95.5 (22.9)	92.4 (27.8)	13.5 (4.1)	109.0 (33.0)	86.2 (26.0)	20.1 (4.6)	7.5 (1.7)
13	81.4 (12.9)	11.9 (1.9)	100.0 (15.9)	79.1 (12.5)	73.5 (9.5)	10.7 (1.4)	87.2 (11.3)	68.6 (8.9)	17.8 (5.5)	6.6 (2.0)
14	81.2 (17.2)	11.9 (2.5)	99.9 (21.2)	78.6 (16.7)	73.2 (13.0)	10.7 (1.9)	86.9 (15.4)	68.5 (12.2)	23.0 (6.2)	8.6 (2.3)
15										
16	80.5 (8.3)	11.8 (1.2)	103.0 (10.6)	80.9 (8.3)	75.6 (14.7)	11.0 (2.1)	91.3 (17.7)	71.9 (14.0)	18.3 (8.9)	6.8 (3.3)
17	79.7 (18.2)	11.6 (2.7)	102.0 (23.3)	80.0 (18.3)	72.4 (14.7)	10.6 (2.2)	87.2 (17.7)	68.7 (14.0)	16.8 (4.2)	6.2 (1.5)
18	85.2 (19.6)	12.4 (2.9)	109.0 (25.0)	85.5 (19.7)	85.6 (18.6)	12.5 (2.7)	103.0 (22.4)	80.9 (17.6)	16.7 (5.5)	6.2 (2.0)
19	78.8 (23.3)	11.5 (3.4)	100.0 (29.6)	79.1 (23.3)	94.4 (21.9)	13.8 (3.2)	113.0 (26.3)	89.3 (20.7)	17.0 (2.7)	6.3 (1.0)
20	74.6 (14.4)	10.9 (2.1)	95.0 (18.4)	74.8 (14.5)	84.0 (19.6)	12.3 (2.9)	101.0 (23.6)	79.5 (18.6)	16.1 (8.3)	6.0 (3.1)
21	60.4 (13.0)	8.8 (1.9)	77.9 (16.9)	61.3 (13.3)	84.8 (13.3)	12.4 (2.0)	99.6 (15.6)	78.5 (12.3)	9.5 (5.6)	3.5 (2.1)
22										
23										
24										
25									16.1 (8.8)	6.0 (3.3)
26									22.0 (5.7)	8.2 (2.1)
27	83.0 (13.5)	12.1 (2.0)	98.7 (16.1)	77.8 (12.7)	85.4 (14.5)	12.5 (2.1)	98.5 (16.7)	77.6 (13.2)	19.9 (6.9)	7.4 (2.6)
28	70.0 (10.4)	10.2 (1.5)	83.2 (12.4)	65.5 (9.8)	78.2 (14.3)	11.4 (2.1)	90.6 (16.5)	71.3 (13.0)	20.5 (4.3)	7.6 (1.6)
29	77.0 (14.7)	11.3 (2.1)	91.5 (17.4)	72.0 (13.7)	78.7 (18.9)	11.5 (2.8)	91.3 (22.0)	71.9 (17.3)	19.8 (3.4)	7.4 (1.3)
30										
Avg	78.6	11.5	97.70	77.0	77.1	11.3	91.70	72.3	20.7	7.7
n	20	20	20	20	21	21	21	21	22	22
SD	9.4	1.4	11.80	9.3	10.7	1.6	12.90	10.1	4.9	1.8
Min	60.3	8.8	74.90	59.0	51.4	7.5	62.80	49.4	9.5	3.5
Max	97.4	14.2	121.00	95.5	94.4	13.8	114.00	89.4	34.5	12.8

Table F11. Daily means (SD) of ammonia emissions at Site IN5B for September, 2009.

Day	Barn 1				Barn 2				Milking center	
	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$	$g \cdot d^{-1} hd^{-1}$	$g \cdot d^{-1} AU^{-1}$	$kg \cdot d^{-1}$	$g \cdot d^{-1} m^{-2}$
1	91.2 (49.7)	13.3 (7.3)	107.0 (58.1)	84.0 (45.8)	58.9 (36.2)	8.6 (5.3)	66.5 (41.0)	52.4 (32.3)	14.7 (3.6)	5.5 (1.3)
2										
3	81.5 (32.2)	11.9 (4.7)	95.4 (37.7)	75.1 (29.7)	64.1 (28.6)	9.4 (4.2)	72.5 (32.3)	57.1 (25.4)	14.9 (3.1)	5.5 (1.2)
4										
5	90.3 (28.0)	13.2 (4.1)	104.0 (32.8)	81.9 (25.8)	65.9 (11.7)	9.6 (1.7)	74.9 (13.3)	59.0 (10.4)	19.9 (4.4)	7.4 (1.6)
6	99.7 (12.9)	14.6 (1.9)	117.0 (15.1)	91.8 (11.9)	72.2 (12.2)	10.5 (1.8)	82.0 (13.9)	64.6 (10.9)	19.9 (3.1)	7.4 (1.2)
7	107.0 (20.0)	15.7 (2.9)	126.0 (23.5)	99.0 (18.5)	73.8 (16.5)	10.8 (2.4)	83.8 (18.7)	66.0 (14.7)	20.2 (2.8)	7.5 (1.0)
8										
9	91.5 (18.4)	13.4 (2.7)	105.0 (21.8)	82.4 (17.2)	74.9 (12.6)	10.9 (1.8)	84.3 (13.9)	66.4 (11.0)	17.7 (3.6)	6.6 (1.4)
10	99.1 (17.9)	14.5 (2.6)	116.0 (20.8)	91.0 (16.4)	65.8 (12.1)	9.6 (1.8)	75.2 (14.1)	59.3 (11.1)	21.3 (4.3)	7.9 (1.6)
11	118.0 (47.8)	17.2 (7.0)	137.0 (55.7)	108.0 (43.9)	73.2 (21.1)	10.7 (3.1)	83.6 (23.6)	65.9 (18.6)	19.4 (2.5)	7.2 (0.9)
12	97.3 (23.0)	14.2 (3.4)	113.0 (26.8)	89.3 (21.1)	63.1 (10.7)	9.2 (1.6)	70.9 (12.0)	55.8 (9.5)	21.3 (3.2)	7.9 (1.2)
13	84.9 (21.4)	12.4 (3.1)	98.8 (24.9)	77.8 (19.6)	53.6 (8.7)	7.8 (1.3)	60.3 (9.8)	47.5 (7.7)	21.7 (6.4)	8.1 (2.4)
14										
15	91.4 (22.8)	13.4 (3.3)	106.0 (26.5)	83.8 (20.9)					13.6 (7.2)	5.1 (2.7)
16	116.0 (43.9)	16.9 (6.4)	135.0 (51.2)	106.0 (40.3)	64.8 (19.6)	9.5 (2.9)	72.7 (21.8)	57.2 (17.2)	19.5 (3.2)	7.3 (1.2)
17									21.9 (7.0)	8.2 (2.6)
18									17.0 (4.6)	6.3 (1.7)
19	81.5 (15.1)	11.9 (2.2)	95.4 (17.7)	75.2 (13.9)	78.1 (15.1)	11.4 (2.2)	88.4 (17.1)	69.6 (13.5)	23.4 (3.6)	8.7 (1.3)
20	88.0 (21.6)	12.9 (3.2)	103.0 (25.3)	81.1 (19.9)	82.9 (19.3)	12.1 (2.8)	93.7 (21.8)	73.8 (17.2)	21.1 (2.8)	7.9 (1.1)
21	95.7 (10.4)	14.0 (1.5)	112.0 (12.2)	88.3 (9.6)	87.7 (18.2)	12.8 (2.7)	99.0 (20.6)	78.0 (16.2)	23.1 (3.6)	8.6 (1.4)
22										
23	101.0 (15.0)	14.7 (2.2)	118.0 (17.6)	93.1 (13.9)	93.8 (11.0)	13.7 (1.6)	111.0 (13.0)	87.4 (10.2)	21.0 (1.7)	7.8 (0.6)
24										
25										
26	92.3 (24.9)	13.5 (3.6)	108.0 (29.2)	85.2 (23.0)	76.9 (21.1)	11.2 (3.1)	87.0 (23.9)	68.5 (18.8)	22.0 (7.2)	8.2 (2.7)
27	88.9 (18.9)	13.0 (2.8)	104.0 (22.2)	82.1 (17.5)	69.2 (15.7)	10.1 (2.3)	78.2 (17.7)	61.6 (13.9)	17.3 (3.9)	6.4 (1.5)
28	51.0 (5.6)	7.5 (0.8)	60.0 (6.6)	47.2 (5.2)	47.4 (8.6)	6.9 (1.3)	53.4 (9.7)	42.1 (7.6)	12.6 (4.2)	4.7 (1.6)
29										
30										
Avg	92.9	13.6	108.00	85.4	70.3	10.3	79.90	62.9	19.2	7.2
n	19	19	19	19	18	18	18	18	21	21
SD	13.9	2.0	16.10	12.7	11.2	1.6	13.30	10.5	3.1	1.1
Min	51.0	7.5	60.00	47.2	47.4	6.9	53.40	42.1	12.6	4.7
Max	118.0	17.2	137.00	108.0	93.8	13.7	111.00	87.4	23.4	8.7

Table F9. Completeness of airflow and emission data.

Table F12. Airflow and emission data completeness (%) at Site IN5B for September, 2007.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	0.1	100	0	0	0	0	0	0	0	0	0	0	0	0
2	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0
3	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0
4	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0
5	99.9	0	100	0	0	0	0	0	0	0	0	0	0	0	0
6	99.4	0	99.4	0	0	0	0	0	0	0	0	0	0	0	0
7	99.5	0	99.5	0	0	0	0	0	0	43	0	0	0	0	0
8	100	0	100	0	0	0	0	0	0	100	0	0	0	0	0
9	100	0	100	0	0	0	0	0	0	100	0	0	0	0	0
10	100	0	100	0	0	0	0	0	0	100	0	0	0	0	0
11	52.4	88.4	88.6	13	13	15.8	13	13	15.8	35.8	71.7	0	0	0	0
12	96	96	96	61.3	53.7	62.4	61.5	59.4	73.8	75.7	75.9	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
15	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
17	100	93.2	100	83.4	77.3	83.4	100	93.2	100	100	93.2	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	63.9	0	0	0	0
19	100	100	100	29.3	28.6	48.1	29.3	28.6	48.1	100	0	0	0	0	0
20	100	100	100	34.8	28.5	31.5	34.9	28.7	31.8	100	0	0	0	0	0
21	100	100	100	55.8	58.5	75.8	55.9	67.4	75.8	99.2	0	0	0	0	0
22	98.5	98.5	100	98.5	98.5	100	98.5	98.5	100	98.5	0	0	0	0	0
23	100	100	100	81.5	80.1	100	100	80.2	100	100	0	0	0	0	0
24	99.9	99.9	99.9	55.1	55.1	67.5	55.2	55.2	74.2	96.9	40.1	0	0	0	0
25	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
26	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
28	99	99	99.9	99	99	99.9	99	99	99.9	99	99	0	0	0	0
29	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
30	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
Avg	98.2	65.8	99.4	53.7	53.1	56.1	54.9	54.1	57.3	74.9	44.8	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	8.5	46.6	2.1	44.2	44.2	44.8	45.2	44.6	45.4	40.5	46.5	0	0	0	0
Min	52.4	0	88.6	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

Table F12. Airflow and emission data completeness (%) at Site IN5B for October, 2007.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	12.8	100	100	9.9	100	100	9.9	100	100	12.8	100	0	0	0	0
2	0	100	100	0	100	100	0	100	100	0	100	0	0	0	0
3	54.1	99.7	99.7	29.9	79.8	65.2	30.1	99.7	65.3	54.1	98.5	0	0	0	0
4	49.6	49.6	49.6	43.8	44.4	46.5	43.8	44.4	46.5	49.6	49.6	0	0	0	0
5	64	64	64	29.6	27.4	53.4	29.7	27.6	53.7	64	64	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
8	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
9	60.9	60.9	60.9	31.9	49.8	35.4	32.1	54	35.6	56.6	59.2	0	0	0	0
10	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
12	62.4	57.5	62.4	21	20.3	34.9	21.2	21.9	35.1	62.4	57.5	0	0	0	0
13	13.1	12.8	13.1	0	0	0	0	0	0	13.1	12.8	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	60.7	60.7	60.7	38.5	38.5	38.5	38.5	38.5	38.5	57.1	57.3	0	0	0	0
16	100	94.7	100	100	94.7	55.5	100	94.7	55.9	100	94.7	0	0	0	0
17	100	100	98	80.1	100	98	80.2	100	98	100	100	0	0	0	0
18	80.2	99.7	100	78.1	99.7	100	78.1	99.7	100	80.2	99.7	0	0	0	0
19	0	100	100	0	100	100	0	100	100	0	97.2	0	0	0	0
20	0	100	100	0	100	100	0	100	100	0	100	0	0	0	0
21	0	99.3	100	0	99	94.8	0	99	94.8	0	99.3	0	0	0	0
22	60.8	60.7	99.7	54.1	54.7	39.4	54.2	58	39.4	60.8	60.7	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
25	100	100	100	78.7	77.3	78.1	78.8	77.4	78.1	96.4	96.4	0	0	0	0
26	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
27	100	100	90.1	100	100	81.9	95.1	95.1	81.9	100	99.2	0	0	0	0
28	100	100	0	100	100	0	0	0	0	100	97.4	0	0	0	0
29	100	100	0	100	77.3	0	0	0	0	100	99.1	0	0	0	0
30	100	100	0	93.1	92.4	0	0	0	0	99.8	99.8	0	0	0	0
31	44.9	44.9	0	38.3	37.6	0	21.3	21.3	0	44.9	44.9	0	0	0	0
Avg	60.1	77.6	67.7	52.5	70.7	58.8	42.4	62.3	58.8	59.7	77	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	40.7	33.8	41.6	41.4	36.8	41	41.1	42	41	40.5	33.6	0	0	0	0
Min	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

Table F12. Airflow and emission data completeness (%) at Site IN5B for November, 2007.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	99.7	99.7	0	99.7	99.7	0	99.7	99.7	0	91.9	92.3	0	0	0	0
2	100	100	0	100	100	0	100	100	0	100	97.9	0	0	0	0
3	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
4	46.9	46.9	0	30	30	0	30	30	0	46.9	46.9	0	0	0	0
5	58.9	58.9	0	0	0	0	0	0	0	2.6	2.6	0	0	56.3	56.3
6	100	100	0	24.3	20.8	0	24.4	21	0	0	0	0	0	99.7	100
7	100	100	0	33.5	38.4	0	85.8	100	0	0	0	0	0	83.1	90.9
8	100	100	0	13.2	13.9	0	70.5	70.5	0	0	0	0	0	100	100
9	100	100	0	47.6	67.6	0	47.9	69.1	0	0	0	0	0	100	92.6
10	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
11	10.1	100	0	2.3	100	0	2.3	100	0	0	0	0	0	10.1	100
12	0	100	0	0	100	0	0	100	0	0	0	0	0	0	100
13	0	100	0	0	100	0	0	100	0	0	0	0	0	0	100
14	58.8	71.8	0	49.1	58.3	0	49.2	58.5	0	55.8	55.8	0	0	2.9	16
15	100	100	0	100	100	0	100	100	0	99.8	100	0	0	0	0
16	100	100	0	100	100	0	100	100	0	100	99.8	0	0	0	0
17	100	100	0	100	100	0	100	100	0	100	99.9	0	0	0	0
18	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
19	100	100	0	100	100	0	100	100	0	99.7	99.7	0	0	0	0
20	100	100	0	100	100	0	100	100	0	99.8	99.5	0	0	0	0
21	100	100	0	100	100	0	100	100	0	99.8	100	0	0	0	0
22	100	100	0	100	100	0	100	100	0	99.7	100	0	0	0	0
23	100	100	0	100	100	0	100	100	0	69.9	77.7	0	0	0	0
24	100	100	0	100	100	0	100	100	0	92.6	96.9	0	0	0	0
25	100	100	0	100	100	0	100	100	0	95.7	99.7	0	0	0	0
26	99.9	99.9	0	99.9	99.9	0	99.9	99.9	0	96.5	96.5	0	0	0	0
27	99.9	99.9	0	99.9	99.9	0	99.9	99.9	0	96.3	98.3	0	0	0	0
28	99.9	99.9	0	99.9	99.9	0	99.9	99.9	0	96.6	82.3	0	0	0	0
29	99.4	99.5	35	45.3	64.1	34.7	45.5	64.2	34.7	87.8	90	0	0	0	0
30	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	60.8	65.8	0	0	0	0
Avg	85.8	95.9	4.5	71.5	83.1	4.5	75.2	87.1	4.5	63.1	63.4	0	0	18.4	28.5
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	30.7	12.6	18.8	39.2	30.5	18.8	37	26.4	18.8	43.2	43.3	0	0	36.5	43.1
Min	0	46.9	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	99.9	100	100	99.9	100	100	99.9	100	100	0	0	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for December, 2007.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	49.6	41.2	0	0	0	0
2	100	100	100	100	100	100	100	100	100	100	89.4	0	0	0	0
3	100	99.9	100	100	99.9	100	100	99.9	100	76	82.7	0	0	0	0
4	100	100	100	77.3	78.7	100	77.4	78.8	100	96.2	94.9	0	0	0	0
5	100	100	100	100	100	100	100	100	100	62.7	75.3	0	0	0	0
6	100	100	100	100	100	37.2	100	100	37.2	23.1	20.3	0	0	0	0
7	100	100	100	64.1	64.1	25.3	64.2	64.2	25.3	96.3	98.8	0	0	0	0
8	100	100	100	100	100	100	100	100	100	54.2	63.8	0	0	0	0
9	100	100	100	100	100	100	100	100	100	80.7	83.5	0	0	0	0
10	64.1	64.1	64.1	48.4	48.4	51.3	48.5	48.5	51.3	57.7	63.1	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
12	79.9	79.9	79.9	29.7	37.4	42.6	31.3	37.5	42.6	13.1	13.1	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	99.6	0	0	0	0
14	100	100	100	100	100	100	100	100	100	59.1	59.6	0	0	0	0
15	100	100	100	100	100	100	100	100	100	90.7	97.3	0	0	0	0
16	100	100	100	100	100	100	100	100	100	61.4	79.2	0	0	0	0
17	100	100	100	100	100	32.4	100	100	32.4	0.1	20.8	0	0	0	0
18	100	100	100	100	100	0	100	100	0	69	82.1	0	0	0	0
19	100	100	100	100	100	0	100	100	0	50.2	61.4	0	0	0	0
20	100	100	100	100	100	0	100	100	0	84.3	90.6	0	0	0	0
21	100	100	100	100	100	0	100	100	0	100	99	0	0	0	0
22	100	100	100	100	100	0	100	100	0	100	99.1	0	0	0	0
23	100	99.9	98.5	100	99.9	0	100	99.9	0	88.2	75.6	0	0	0	0
24	99.9	99.9	99.9	99.9	99.9	0	99.9	99.9	0	94.9	78.8	0	0	0	0
25	78.6	78.6	78.6	65.3	64	0	65.5	64.1	0	73.1	57.8	0	0	0	0
26	100	100	100	82.8	100	0	83	100	0	87.1	55.3	0	0	0	0
27	100	100	100	67.6	64.8	0	67.7	64.9	0	100	99.1	0	0	0	0
28	100	100	100	100	100	0	100	100	0	100	92.6	0	0	0	0
29	100	100	100	100	100	0	100	100	0	87.7	23.9	0	0	0	0
30	100	100	100	100	100	0	100	100	0	90.8	64.2	0	0	0	0
31	99.2	99.2	99.2	99.2	99.2	0	99.2	99.2	0	99.2	98.3	0	0	0	0
Avg	97.5	97.5	97.4	91.4	92.1	44.8	91.5	92.2	44.8	75.6	72.9	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	7.9	7.9	7.9	17.7	17	45.9	17.5	16.9	45.9	26.7	25.9	0	0	0	0
Min	64.1	64.1	64.1	29.7	37.4	0	31.3	37.5	0	0.1	13.1	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for January, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	0	100	100	0	35.5	15.4	0	0	0	0
2	100	100	100	100	100	0	100	100	0	0	0	0	0	0	0
3	100	100	100	100	100	0	100	100	0	0	0	0	0	0	0
4	100	100	100	81.5	80.1	0	81.6	80.2	0	4.4	0	0	0	41.6	41.6
5	100	100	100	86.8	88.2	0	86.9	88.3	0	0	0	0	0	100	100
6	100	100	100	100	100	0	100	100	0	0	0	0	0	100	100
7	99.4	99.7	99.7	99.4	99.7	0	99.4	99.7	0	0	0	0	0	99.4	99.7
8	100	100	100	100	100	0	100	100	0	0	0	0	0	100	100
9	64.5	64.5	64.5	55.7	57.8	0	58.5	57.8	0	0	0	0	0	54.8	57.9
10	15.6	64.6	64.6	0	42.6	0	0	42.8	0	0	0	0	0	15.6	64.6
11	88.8	99.6	99.6	45.7	99.6	0	45.8	99.6	0	0	0	41.6	41.6	38.9	49.7
12	100	100	100	100	100	0	100	100	0	0	0	100	100	0	0
13	100	100	100	100	100	0	100	100	0	0	0	100	100	0	0
14	100	100	100	100	100	0	100	100	0	0	0	65.8	93.5	0	0
15	100	100	100	100	100	0	100	100	0	0	0	11.7	7.6	0	0
16	100	100	100	100	100	0	100	100	0	0	0	59.8	67.4	0	0
17	100	100	100	100	100	0	100	100	0	0	0	79.2	99.4	0	0
18	100	100	100	100	100	0	100	100	0	0	0	26.7	43.7	0	0
19	84.9	84.9	84.9	80.1	79.4	0	80.1	79.4	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	43.6	43.6	43.6	36.8	37.5	0	36.9	37.6	0	0	0	25.4	33.4	0	0
22	73.6	73.6	73.6	61.7	61.7	0	61.8	61.8	0	0	0	30.3	33.4	0	0
23	99.6	99.6	99.6	99.6	99.6	0	99.6	99.6	0	0	0	0	2.4	0	0
24	100	100	100	66.2	66.2	0	66.3	66.3	0	0	0	0	0	0	0
25	100	99.9	100	71.7	41.2	0	100	41.3	0	0	0	0	0	0	0
26	100	100	100	100	100	0	100	100	0	48.8	72.2	0	0	0	0
27	100	100	100	100	100	0	100	100	0	55.4	52.8	0	0	0	0
28	100	100	100	100	84.6	0	100	84.6	0	100	91.5	0	0	0	0
29	99.4	99.4	99.4	67	5.9	0	67.2	5.9	0	89.6	54.7	0	0	0	0
30	100	99.9	100	70.7	44.4	0	71.3	44.4	0	0	0.6	0	0	0	0
31	100	100	100	91.2	43.6	0	91.3	43.8	0	2.4	17.5	0	0	0	0
Avg	89.3	91.3	91.3	81.1	78.4	0	82.2	78.5	0	10.8	9.8	17.4	20.1	17.8	19.8
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	24.8	21.4	21.4	27.9	29.5	0	28	29.5	0	26.1	23.3	30.5	34.4	34.4	35.7
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	0	100	100	0	100	91.5	100	100	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for February, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	99.9	99.9	99.9	99.9	99.9	0	99.9	99.9	0	96.2	99.9	0	0	0	0
2	100	100	0	100	100	0	100	100	0	83.4	97.3	0	0	0	0
3	100	100	0	100	100	0	100	100	0	84.4	94.1	0	0	0	0
4	99.8	99.9	0	84.5	99.9	0	84.5	99.9	0	99.8	99.9	0	0	0	0
5	92.2	92.8	0	37.7	78.7	0	37.8	78.8	0	92.2	81.9	0	0	0	0
6	99.6	99.6	0	55	99.5	0	55.1	99.5	0	99.5	99.5	0	0	0	0
7	100	100	0	100	100	0	100	100	0	98.6	97.9	0	0	0	0
8	68.3	70	0	40.1	40.3	0	46.5	50.6	0	68.3	70	0	0	0	0
9	99.2	100	0	99.2	100	0	99.2	100	0	99.1	93.3	0	0	0	0
10	100	100	0	100	100	0	100	100	0	2.5	0	0	0	0	0
11	100	100	0	81.5	78.7	0	81.6	78.8	0	0	0	0	0	0	0
12	99	99	0	99	99	0	99	99	0	1.5	0	0	0	0	0
13	78.6	78.6	0	68.1	66.7	0	68.2	66.8	0	17.2	0	0	0	0	0
14	91.8	91.8	0	59.6	61	0	59.7	61.1	0	52.1	52.1	0	0	0	0
15	99.2	99.2	0	99.2	99.2	0	99.2	99.2	0	22.7	13.9	0	0	0	0
16	100	100	0	100	100	0	100	100	0	55.6	52.4	0	0	0	0
17	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
18	100	100	0	100	100	0	100	100	0	69.1	81.2	0	0	0	0
19	100	100	0	100	100	0	100	100	0	0	1.4	0	0	0	0
20	99.8	99.8	0	99.8	99.8	0	99.8	99.8	0	12.9	13.1	0	0	0	0
21	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
22	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
23	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
24	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
25	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
26	99.9	99.9	0	99.9	99.9	0	99.9	99.9	0	0	0	0	0	0	0
27	99.7	99.7	0	78.8	99.7	0	79	99.7	0	0	0	0	0	0	0
28	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
29	70.6	70.6	0	65.2	64.5	0	65.2	64.5	0	0	0	0	0	0	0
Avg	96.5	96.6	3.5	88.5	92.6	0	88.8	93	0	39.8	39.6	0	0	0	0
n	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
SD	8.5	8.3	18.2	19.1	15.3	0	18.5	14.1	0	42.1	43.6	0	0	0	0
Min	68.3	70	0	37.7	40.3	0	37.8	50.6	0	0	0	0	0	0	0
Max	100	100	99.9	100	100	0	100	100	0	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for March, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	64.8	64.8	0	57.4	59.5	0	57.6	59.7	0	0	0	0	0	0	0
2	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
3	99.9	100	0	99.9	21.9	0	99.9	21.9	0	0	0	0	0	0	0
4	99.9	99.9	0	99.9	51.8	0	99.9	51.9	0	0	0	0	0	0	0
5	99.8	99.8	0	99.8	99.8	0	99.8	99.8	0	0	0	0	0	0	0
6	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
7	99.7	99.7	0	99.7	40.2	0	99.7	40.2	0	0	0	0	0	0	0
8	100	100	0	100	0	0	100	0	0	0	0	0	0	0	0
9	95.8	95.8	0	95.8	0	0	95.8	0	0	0	0	0	0	0	0
10	97.8	97.8	0	91.5	41.9	0	91.5	42	0	0	0	0	0	0	0
11	13.9	13.9	0	7.9	0	0	8.1	0	0	0	0	0	0	0	0
12	83	83	0	73.5	60.3	0	73.6	60.5	0	0	0	0	0	0	0
13	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
14	99.5	99.5	0	64.1	64.1	0	64.2	64.2	0	0	0	0	0	0	0
15	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
16	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
17	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
18	100	100	0	66.9	66.9	0	67	67	0	0	0	0	0	0	0
19	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
20	100	100	0	61.3	56.5	0	70.9	56.6	0	0	0	0	0	0	0
21	100	100	0	100	32.7	0	100	32.7	0	0	0	0	0	0	0
22	100	100	0	100	93.2	0	100	93.3	0	0	0	0	0	0	0
23	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
24	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
25	98.7	100	0	72.4	100	0	98.7	100	0	0	0	0	0	0	0
26	99.8	99.8	0	99.8	99.8	0	99.8	99.8	0	0	0	0	0	0	0
27	98.8	100	0	98.8	100	0	98.8	100	0	39.7	39.7	0	0	0	0
28	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
29	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
30	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
31	55	93	0	39.8	53.7	0	39.8	93	0	55	93	0	0	0	0
Avg	93.8	95.1	0	88	72.3	0	89.2	73.6	0	12.7	14	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	17.8	16.3	0	21.9	34	0	21.4	34	0	30.9	33.2	0	0	0	0
Min	13.9	13.9	0	7.9	0	0	8.1	0	0	0	0	0	0	0	0
Max	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for April, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	0	100	0	0	0	0	0	100	0	0	100	0	0	0	0
2	63.6	99.4	0	57.7	58.4	0	60.6	99.4	0	3.3	39.1	0	0	0	0
3	100	100	0	66.2	64.8	0	66.3	64.9	0	0	0	0	0	0	0
4	100	100	40.9	100	100	0	100	100	0	0	0	0	0	0	0
5	100	100	100	100	100	0	100	100	0	0	0	0	0	0	0
6	100	100	100	100	100	0	100	100	0	0	0	0	0	0	0
7	100	100	100	100	100	0	100	100	0	0	0	0	0	0	0
8	100	100	100	100	100	0	100	100	0	0	0	0	0	0	0
9	82.9	82.9	82.9	70.9	73	0	74.5	73.1	0	0	0	0	0	0	0
10	99.9	100	100	99.9	100	0	99.9	100	0	0	0	0	0	0	0
11	100	100	100	100	100	59.4	100	100	59.4	0	0	0	0	0	0
12	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
14	100	100	100	91.2	78	75.6	91.3	78.1	75.6	46.2	51.5	0	0	0	0
15	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
16	100	100	100	100	100	100	100	100	100	95.9	98.3	0	0	0	0
17	45.4	100	99.5	45.4	100	99.5	45.4	100	99.5	43.8	100	0	0	0	0
18	0	100	100	0	84.7	78.8	0	96.4	78.8	0	100	0	0	0	0
19	0	99.6	100	0	99.6	100	0	99.6	100	0	99.6	0	0	0	0
20	0	99	100	0	99	100	0	99	100	0	99	0	0	0	0
21	63.8	100	100	63.8	100	100	63.8	100	100	63.8	100	0	0	0	0
22	99.5	99.6	99.6	71.3	72.7	73.1	71.4	72.8	73.1	99.5	99.6	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
25	99.9	99.9	99.9	65.5	73.8	99.9	74	74	99.9	95.8	12	0	0	0	0
26	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
27	99.9	100	100	99.9	100	100	99.9	100	100	98.1	0	0	0	0	0
28	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
29	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	94.3	0	0	0	0	0
30	99.9	100	100	99.9	100	100	99.9	100	100	99.9	0	0	0	0	0
Avg	81.6	99.2	87.2	77.5	89.9	62.7	78	95.1	62.7	41.3	40	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	34.6	3.2	31.1	34.2	20.7	45.3	34	10.3	45.3	46	46.8	0	0	0	0
Min	0	82.9	0	0	0	0	0	64.9	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for May, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
2	100	100	100	77.3	75.9	100	77.4	76	100	100	0	0	0	0	0
3	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
4	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
5	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
6	100	100	100	65.5	69.7	75.6	69.8	69.8	75.6	100	0	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
8	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
9	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	0	0	0	0	0
10	100	100	100	73.8	75.2	100	75.3	75.3	100	1.9	0	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
12	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
13	100	100	100	79.4	79.4	76.7	79.5	79.5	76.7	99.2	0	0	0	0	0
14	100	100	100	100	100	75.6	100	100	100	98.6	0	0	0	0	0
15	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
19	35.1	35.1	35.1	28.8	28.1	35.1	28.8	28.1	35.1	35.1	0	0	0	0	0
20	67.3	67.3	67.3	60.6	61.3	56.9	60.8	61.5	56.9	63.7	0	0	0	0	0
21	100	100	100	64.1	65.5	63.8	64.2	65.6	63.8	100	0	0	0	0	0
22	100	100	100	78.7	78.7	100	78.8	100	100	100	0	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
25	100	100	100	100	100	100	100	100	100	67.9	0	0	0	0	0
26	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
27	100	100	100	77.3	100	77.7	77.4	100	77.7	98.2	0	0	0	0	0
28	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
29	69	69	69	37.8	37.8	51.1	38	38	51.1	69	0	0	0	0	0
30	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
31	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
Avg	95.8	95.8	95.8	88.5	89.4	90.7	88.7	90.1	91.5	91.4	0	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	13.6	13.6	13.6	19.2	19	17.3	19	19	17.2	21.9	0	0	0	0	0
Min	35.1	35.1	35.1	28.8	28.1	35.1	28.8	28.1	35.1	1.9	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for June, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
2	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
3	98.3	98.5	98.5	76.4	98.5	71	76.5	98.5	71	94.9	0	0	0	0	0
4	100	100	100	91.4	90.7	62.4	91.4	90.7	62.4	100	0	0	0	0	0
5	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
7	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
9	44	44	43.8	38.4	37.7	34.7	38.5	37.8	34.7	44	0	0	0	0	0
10	87.4	87.4	87.4	87.4	87.4	79.2	87.4	87.4	79.2	87.4	0	0	0	0	0
11	65.4	65.4	65.4	49.6	49.6	42.5	49.7	49.7	42.5	65.4	0	0	0	0	0
12	97.4	96.6	99	97.4	96.6	99	97.4	96.6	99	97.4	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
14	100	100	100	100	100	100	100	100	100	97.9	0	0	0	0	0
15	100	100	100	65.1	100	100	65.1	100	100	83.3	0	0	0	0	0
16	99.3	79.7	99.4	56.4	71	99.4	56.5	71	99.4	52.6	0	0	0	44.4	0
17	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
18	100	99.7	99.4	100	99.7	99.4	100	99.7	99.4	0	0	0	0	100	0
19	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
20	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
21	28.9	28.9	28.9	13.8	13.8	17.6	13.9	13.9	17.6	0	0	0	0	28.9	0
22	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
23	100	100	100	77.3	100	100	77.4	100	100	0	0	0	0	100	0
24	100	100	100	91.2	100	77.7	100	100	77.7	55.9	0	0	0	41	0
25	99.9	100	100	99.9	100	100	99.9	100	100	99.9	0	0	0	0	0
26	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
28	100	100	100	77.3	100	100	77.4	100	100	100	0	0	0	0	0
29	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
30	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
Avg	80.7	80	80.7	74	78.2	76.1	74.4	78.2	76.1	56	0	0	0	23.8	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	35.8	35.6	35.8	35.9	36.8	36.7	36	36.8	36.7	45	0	0	0	39.8	0
Min	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	0	0	0	100	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for July, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	79.4	100	100	79.5	100	100	100	0	0	0	0	0
2	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	87.6	0	0	0	0	0
3	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
4	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
5	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0
6	99.8	100	100	99.8	100	100	99.8	100	100	0.2	0	0	0	0	0
7	99.9	100	100	99.9	100	77.7	99.9	100	77.7	0	0	0	0	0	0
8	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
9	56.7	56.7	56.7	41.3	42.6	45.1	42.8	42.8	45.1	0	0	0	0	0	0
10	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
11	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
12	100	100	62	100	100	62	100	100	62	0	0	0	0	0	0
13	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
14	100	100	0	77.5	77.3	0	77.8	77.4	0	0	0	0	0	0	0
15	100	100	46.4	100	100	45.1	100	100	45.1	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
17	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
18	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0
19	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	0	0	0
20	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
21	100	100	100	73.1	65.5	63.8	73.3	65.6	63.8	0	0	0	0	0	0
22	98.9	98.9	98.9	98.9	98.9	68.5	98.9	98.9	68.5	0	0	0	0	0	0
23	12.9	12.9	12.9	5.8	5.1	12.9	5.8	5.1	12.9	0	0	0	0	0	0
24	76.2	76.2	76.2	69.5	70.2	65.8	69.7	70.3	65.8	0	0	0	0	0	0
25	100	99.7	100	100	99.7	100	100	99.7	100	70.8	69.7	0	0	0	0
26	99.9	100	100	99.9	100	100	99.9	100	100	99.9	100	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
28	100	100	100	100	100	75.6	100	100	75.6	96.3	88.6	0	0	0	0
29	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
30	100	100	100	75.9	84.8	75.6	76	84.9	75.6	26.4	26.4	0	0	0	0
31	100	100	100	100	100	100	100	100	100	16.7	16.7	0	0	0	0
Avg	95	95	85.6	91	91.7	80.4	91	91.7	80.4	32.2	16.2	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	17.3	17.3	30	20.5	20.5	30.2	20.3	20.5	30.2	44.3	33.9	0	0	0	0
Min	12.9	12.9	0	5.8	5.1	0	5.8	5.1	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for August, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	0	0	0	0
2	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
3	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
4	41.5	40.9	41.6	27.2	26.5	34.9	27.2	26.5	34.9	41.5	40.9	0	0	0	0
5	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
7	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
9	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
11	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
13	6.3	6.3	56.3	6.3	4.4	36	6.3	4.5	36	6.3	6.3	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
15	100	100	100	63.4	62	76	100	100	100	100	100	0	0	0	0
16	100	100	100	100	100	100	100	100	100	97.6	97.6	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
18	99.7	99.7	99.7	61	66.5	58.3	61.1	66.7	58.3	99.7	99.7	0	0	0	0
19	100	100	100	100	100	100	100	100	100	97.3	97.3	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
23	40.1	40.1	40.1	30.6	30.6	21.3	30.8	30.8	21.3	40.1	40.1	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
25	78.1	78.1	78.1	3.3	3.3	3.3	29.9	31.3	33.5	67.8	75.1	0	0	0	0
26	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
27	99.7	99.7	99.7	49.7	55.9	45.3	99.7	99.7	77.4	99.7	99.7	0	0	0	0
28	100	100	100	100	100	100	100	100	100	100	100	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	0	0	0	0
30	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
31	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
Avg	66.6	66.6	68.2	56.2	56.4	57.2	63	63.2	63.3	66.1	66.3	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	44.6	44.6	43.3	45.5	45.5	44.9	45.1	45.1	43.8	44.4	44.5	0	0	0	0
Min	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

Table F12. Airflow and emission data completeness (%) at Site IN5B for September, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
2	100	100	100	82.2	79.4	100	82.3	79.5	100	100	100	0	0	0	0
3	100	100	100	29.4	26.6	43.5	30.9	26.7	43.5	100	100	0	0	0	0
4	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
5	97.5	97.4	97.5	58.8	58.8	74.4	58.9	58.9	97.5	95.7	92.6	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
8	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
9	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
10	80.2	80.2	80.2	58.1	58.1	64.8	58.3	58.3	64.8	38.8	38.8	0	0	39.9	39.9
11	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
12	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
13	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
14	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
15	100	100	100	100	80.4	77	100	80.6	77	0	0	0	0	100	98.7
16	100	100	100	66.2	67.6	79.1	66.3	67.7	79.1	0	0	0	0	100	99.9
17	100	100	100	100	100	100	100	100	100	0	0	0	0	96.5	96.5
18	100	100	100	78	77.3	78.1	78.1	77.4	78.1	0	0	0	0	0	0
19	99.8	99.8	99.9	99.8	99.5	99.9	99.8	99.5	99.9	39.6	37.3	0	0	25.7	27.6
20	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
23	92.3	98.6	99	26.9	25.5	29	26.9	38.5	29	86.9	95.8	0	0	0	0
24	100	100	100	0	0	0	0	0	0	100	100	0	0	0	0
25	100	100	100	35.6	34.9	30.4	37.1	35	42.6	39.3	39.3	39.9	44.6	0	0
26	100	100	100	100	100	100	100	100	100	0	0	100	100	0	0
27	100	100	100	100	100	100	100	100	100	0	0	100	100	0	0
28	100	100	100	100	100	100	100	100	100	0	0	100	100	0	0
29	99.7	99.7	99.7	71	71	99.7	71.2	71.2	99.7	59.9	0	74.6	74.6	21.7	16.5
30	100	100	100	100	100	100	100	100	100	50.1	0	100	100	0	0
Avg	99	99.2	99.2	83.5	82.6	85.9	83.7	83.1	87	53.7	50.1	17.2	17.3	26.1	26
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	3.8	3.6	3.6	27.4	27.6	26.1	27.2	26.7	25.3	45.1	47.2	35.7	35.9	41.5	41.4
Min	80.2	80.2	80.2	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	100	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for October, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	78	100	100	89.6	0	0	38.2	38.2	57	51.5
2	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	99.3	0	0	0	0	99.3	99.3
3	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	0	0	0	0	99.8	99.8
4	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
5	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	99.8	0	0	0	0	99.8	99.8
6	99.4	99.7	99.7	74.7	76.1	99.7	76.3	76.3	99.7	0	0	0	0	84.2	83.7
7	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
8	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
9	99.1	99.1	96.2	74.2	75.6	73.9	74.3	75.7	73.9	0	0	0	0	95.3	95.3
10	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
11	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
12	100	42.9	100	100	42.9	100	100	42.9	100	0	0	0	0	100	42.9
13	100	51.8	100	78.7	51.8	100	19.6	0	36.9	46.3	46.9	0	0	52.8	4.6
14	99.9	99.9	99.9	99.9	99.9	99.9	0	0	0	99.9	99.9	0	0	0	0
15	81.3	81.3	81.3	32.5	36.7	42.6	0	0	0	81.3	81.3	0	0	0	0
16	97.3	97.3	97.5	74	71.2	97.5	0	0	0	97.3	97.3	0	0	0	0
17	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
18	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
19	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
20	100	100	100	50.2	50.2	76.8	0	0	0	93.1	93.1	0	0	0	0
21	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
22	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
23	99.7	99.7	99.7	71.8	67.6	71.5	0	0	0	99.7	99.7	0	0	0	0
24	70.2	70.2	70.2	56.9	56.9	59.7	0	0	0	70.2	70.2	0	0	0	0
25	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
26	100	100	100	100	100	100	0	0	0	95.8	95.8	0	0	0	0
27	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
28	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
29	99.4	99.4	100	52.3	52.2	63.8	0	0	0	95.6	95.9	0	0	0	0
30	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
31	99	99	98.3	99	99	98.3	0	0	0	99	99	0	0	0	0
Avg	98.2	94.8	98.1	89.1	86.4	92.3	37.7	35.3	38.7	57.4	57.4	1.2	1.2	38.3	34.7
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	6.1	13.9	6.1	18.6	20.9	14.9	46.6	45.6	46.9	46.8	46.8	6.8	6.8	46.3	45.1
Min	70.2	42.9	70.2	32.5	36.7	42.6	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	38.2	38.2	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for November, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
2	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
3	100	100	100	100	100	75.6	0	0	0	100	100	0	0	0	0
4	99.7	99.9	99.9	99.7	99.9	99.9	0	0	0	99.7	99.9	0	0	0	0
5	100	100	100	61.3	64.1	62.8	0	0	0	100	100	0	0	0	0
6	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
7	100	100	100	100	100	100	0	0	0	98.1	100	0	0	0	0
8	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
9	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
10	100	100	100	80.8	80.8	100	0	0	0	100	100	0	0	0	0
11	100	100	100	67	74	64	0	0	0	98.1	97.8	0	0	0	0
12	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
13	100	100	100	100	75.9	75.6	0	0	0	100	100	0	0	0	0
14	100	100	99.9	100	100	99.9	0	0	0	100	100	0	0	0	0
15	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
16	100	100	100	100	100	100	0	0	0	100	100	0	0	0	0
17	98.1	98.1	98.1	76.3	74.9	67.7	31.1	31.8	28.6	98.1	98.1	0	0	0	0
18	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
19	100	100	100	50.9	52.5	39.2	51	52.8	49.9	64.9	88.3	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	78	78	100	78.1	78.1	100	39.2	98.3	0	0	0	0
25	99.1	99	98.5	99.1	99	98.5	99.1	99	98.5	31.3	79.9	0	10.4	0	0
26	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
27	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
28	100	100	100	92.4	91.7	100	92.4	91.7	100	100	100	0	0	0	0
29	99.9	99.9	99.9	50.1	50.8	46.4	50.3	51	46.4	99.9	99.9	0	0	0	0
30	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
Avg	99.9	99.9	99.9	91.8	91.4	91	40.1	40.1	40.8	94.3	98.7	0	0.3	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	0.4	0.4	0.4	15.2	14.8	17.4	45.6	45.6	46.6	17	4.1	0	1.9	0	0
Min	98.1	98.1	98.1	50.1	50.8	39.2	0	0	0	31.3	79.9	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	10.4	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for December, 2008.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
2	99.5	99.5	98.8	70.2	99.5	78.9	70.3	99.5	78.9	58.9	58.9	0	0	37.2	38.2
3	100	100	100	100	100	75.6	100	100	75.6	0	0	0	0	93.7	93.7
4	100	100	100	64.1	65.5	75.5	64.2	65.6	75.5	40.6	40.6	0	0	59.3	59.3
5	100	100	100	100	100	75.6	100	100	75.6	100	100	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
8	100	100	100	54.1	52.7	100	54.5	54.5	100	39.2	77.9	0	0	0	0
9	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
10	100	100	100	100	100	100	100	100	100	0	44.8	0	0	0	0
11	100	100	100	100	100	99.5	100	100	99.5	0	0	0	0	0	0
12	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
13	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
14	100	100	0	77.3	77.3	0	77.4	77.4	0	0	0	0	0	0	0
15	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
16	99.4	99.4	0	99.4	99.4	0	99.4	99.4	0	0	0	0	0	0	0
17	100	100	0	100	100	0	100	100	0	0	0	0	0	0	0
18	99.2	99.2	0	99.2	99.2	0	99.2	99.2	0	0	0	0	0	33.3	41.9
19	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
20	100	100	0	100	100	0	100	100	0	0	0	0	0	96.3	96.3
21	100	97.8	0	100	97.8	0	100	97.8	0	0	0	0	0	54.5	54.4
22	99.5	99.5	0	76.4	75	0	77.9	77.9	0	0	0	0	0	98	99.5
23	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
24	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
25	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
26	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
27	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
28	100	100	0	100	100	0	100	100	0	0	0	0	0	100	100
29	98.9	98.9	0	69.2	78.2	0	69.3	78.3	0	42.9	38.7	0	0	56	56
30	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
31	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
Avg	99.9	99.8	35.4	93.9	95	32.4	93.9	95.2	32.4	25.2	31	0	0	39.6	40
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	0.3	0.5	47.8	12.9	11.7	44.2	12.7	11.4	44.2	39.7	42.1	0	0	44.4	44.4
Min	98.9	97.8	0	54.1	52.7	0	54.5	54.5	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for January, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
2	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
3	100	100	0	100	100	0	100	100	0	99.8	99.8	0	0	0	0
4	100	100	0	100	100	0	100	100	0	100	33.7	0	0	0	0
5	64.3	64.3	0	38.8	36.7	0	39	36.9	0	59	0	0	0	0	0
6	52.2	52.2	0	35.6	32.8	0	35.8	33	0	50.5	0.1	0	0	0	0
7	60.6	60.6	0	54.6	55.3	0	33.2	31.1	0	60.6	60.6	0	0	0	0
8	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
9	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
10	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
11	100	100	0	79.4	79.4	0	79.5	79.5	0	99.8	99.8	0	0	0	0
12	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
13	100	100	0	66.9	66.9	0	33.8	33.1	0	100	100	0	0	0	0
14	100	100	0	100	100	0	0	0	0	99.8	99.8	0	0	0	0
15	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
16	88.8	88.8	0	24.1	22	0	0	0	0	88.2	88.3	0	0	0	0
17	100	100	0	39.1	43.7	0	0	0	0	100	100	0	0	0	0
18	100	100	0	0	9.3	0	0	0	0	100	84.6	0	0	0	0
19	100	100	0	0.4	0	0	0	0	0	99.8	0	0	0	0	0
20	100	100	0	65.1	56.9	0	0	0	0	89.7	33	0	0	0	0
21	100	100	0	100	100	0	0	0	0	99.8	99.8	0	0	0	0
22	91.3	91	0	58.4	58.4	0	0	0	0	90.8	90.9	0	0	0	0
23	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
24	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
25	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
26	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
27	100	100	0	63.4	62	0	0	0	0	97.1	97.1	0	0	0	0
28	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
29	100	100	0	100	100	0	0	0	0	100	100	0	0	0	0
30	98.7	98.8	0	77.1	70.3	0	16.9	16.9	0	98.7	98.8	0	0	0	0
31	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
Avg	95.4	95.3	0	77.5	77.2	0	36.7	36.5	0	94.6	83.4	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	12.2	12.2	0	31.1	30.8	0	43.9	44	0	12.9	32.3	0	0	0	0
Min	52.2	52.2	0	0	0	0	0	0	0	50.5	0	0	0	0	0
Max	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for February, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	0	100	100	0	100	100	0	100	100	0	0	0	0
2	100	100	45.8	77.3	77.3	45.7	77.4	77.4	45.7	45.3	45.3	29.2	30.8	0	0
3	100	100	100	100	100	100	100	100	100	0	0	100	100	0	0
4	100	100	100	100	100	100	100	100	100	0	0	100	100	0	0
5	97.4	97.4	97.4	70.6	74.7	74.4	15.7	15.7	15.7	0	0	95.3	95.3	0	0
6	100	100	100	100	100	100	0	0	0	0	0	100	100	0	0
7	100	100	100	100	100	100	0	0	0	0	0	100	100	0	0
8	100	100	100	100	100	100	0	0	0	0	0	100	100	0	0
9	100	100	100	100	100	100	0	0	0	0	0	100	100	0	0
10	94	93.7	94.2	94	93.7	94.2	0	0	0	0	0	92.9	92.6	0	0
11	100	100	100	62	62	76	29.1	29.8	46.4	0	0	95.8	95.8	0	0
12	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
14	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0
15	100	100	100	78.7	78.7	100	78.8	78.8	100	0	0	0	0	0	0
16	100	100	100	59.2	57.8	66.9	78.8	77.4	66.9	0	0	2.2	2.1	38.1	33.9
17	99.4	99.5	99.1	75.9	74.5	78.4	76	74.7	78.4	0	0	0	0	96	96
18	100	100	100	71	69.7	77.2	71.2	69.8	77.4	0	0	0	0	100	100
19	100	100	100	79.4	79.4	100	79.5	79.5	100	0	0	0	0	100	100
20	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
21	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
22	100	100	100	80.8	57.1	100	80.9	57.6	100	0	0	0	0	100	100
23	95.6	95.6	95.6	95.6	95.6	77.2	88	95.6	77.2	0	0	0	0	95.6	95.6
24	98	98	98	98	98	77	98	98	77	0	0	0	0	98	98
25	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
26	100	100	100	100	100	100	100	100	100	0	0	0	0	90.7	93.5
27	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
28	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
Avg	99.4	99.4	93.9	90.8	89.9	88.1	70.5	69.8	67.3	5.2	5.2	32.7	32.7	43.5	43.5
n	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
SD	1.5	1.5	20.7	13.2	14.5	21.9	38.5	38.6	40.6	20.1	20.1	45.4	45.4	48	48.2
Min	94	93.7	0	59.2	57.1	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for March, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
2	100	100	100	64.8	66.2	64.9	64.9	66.3	64.9	0	0	0	0	100	100
3	100	100	100	100	100	100	100	100	100	46.9	46.9	0	0	51.8	51.8
4	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
5	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
8	100	100	100	100	100	77	100	100	77	99.7	99.7	0	0	0	0
9	99.5	99.5	100	99.5	95.8	100	99.5	96	100	86	98.4	0	0	0	0
10	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
11	100	100	100	79.4	78	100	79.5	78.1	100	90.6	94.9	0	0	0	0
12	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
15	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
16	95.8	95.8	95.9	60.5	61.9	71.3	71.7	73.1	71.3	94.1	94.1	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
18	97.8	97.9	98.1	56.1	66.5	53.1	66.7	66.7	53.1	97.8	97.9	0	0	0	0
19	100	100	100	100	97.6	100	100	100	100	100	100	0	0	0	0
20	97.4	98.4	100	97.4	98.4	100	97.4	98.4	100	66.3	95	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	100	100	100	99.8	99.8	0	0	0	0
23	99.9	99.9	100	99.9	99.9	100	99.9	99.9	100	48.9	48.9	0	0	45.6	0
24	99.8	100	100	99.8	100	100	99.8	100	100	0	0	0	0	99.8	0
25	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
26	100	100	100	77.3	75.9	100	77.4	77.4	100	0	0	0	0	89	0
27	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
28	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
29	100	100	100	100	100	100	100	100	100	0	0	0	0	100	0
30	98.8	98.8	99	79.2	79.2	99	79.4	79.4	99	0	51	0	0	39.1	0
31	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
Avg	99.7	99.7	99.8	94	94.2	95.7	94.7	94.7	95.7	62.3	68.6	0	0	29.8	8.1
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	0.9	0.9	0.8	12.7	11.6	11.6	10.8	10.7	11.6	45	43	0	0	42.7	25.8
Min	95.8	95.8	95.9	56.1	61.9	53.1	64.9	66.3	53.1	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for April, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	73.1	71.7	63.8	73.3	71.9	63.8	0	100	0	0	0	0
2	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
3	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
4	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
5	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
6	97.4	97.4	97.5	97.4	97.4	70	97.4	97.4	70	1.3	90.5	0	0	0	0
7	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
8	100	100	100	29.3	29.3	29.3	100	100	100	36	100	0	0	0	0
9	100	100	100	0	0	0	100	100	100	99.8	99.8	0	0	0	0
10	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
11	98.9	100	100	0	0	0	98.9	100	100	98.9	100	0	0	0	0
12	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
13	100	100	100	0	0	0	100	100	100	97.4	98.8	0	0	0	0
14	99	100	100	0	0	0	99	100	100	99	100	0	0	0	0
15	97.4	99.9	98.8	21.3	22	22	59.3	61.5	98.8	91.8	94.4	0	0	0	0
16	29.4	99.6	100	22.4	21.7	77.7	22.4	21.7	77.7	29.4	99.6	0	0	0	0
17	0	99.8	100	0	0	100	0	0	100	0	41.9	0	0	0	0
18	0	100	100	0	0	100	0	0	100	0	0	0	0	0	0
19	0	100	100	0	0	100	0	0	100	0	0	0	0	0	0
20	0	100	100	0	0	27.2	0	0	63.8	0	60.1	0	0	0	0
21	0	100	100	0	0	0	0	0	100	0	100	0	0	0	0
22	0	100	100	0	0	0	0	0	100	0	100	0	0	0	0
23	57.5	93.7	93.8	0	0	0	50.6	51.3	72.5	51	86.7	0	0	0	0
24	100	100	100	0	0	0	100	79.5	75.6	100	100	0	0	0	0
25	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
26	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
27	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
28	100	100	100	0	0	0	72.3	100	100	98.7	98.3	0	0	0	0
29	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
30	49.6	49.7	100	0	0	0	25.6	24.9	63.8	49.6	49.7	0	0	0	0
Avg	74.3	98	99.7	24.8	24.7	36.3	70	70.3	92.9	48.4	87.3	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	40.6	9.1	1.2	40.1	40	43.8	40.9	41	13.1	46.2	27.7	0	0	0	0
Min	0	49.7	93.8	0	0	0	0	0	63.8	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for May, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	63.3	63.5	99.5	0	0	0	31.3	32	59.2	63.3	63.5	0	0	0	0
2	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
3	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
4	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
5	100	100	100	0	0	0	72.6	73.8	74.4	89.5	95.7	0	0	0	0
6	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
7	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
8	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
9	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
10	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
11	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
12	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
13	79.8	84.9	84.8	0	0	0	54	67.6	57.8	79	84.1	0	0	0	0
14	71	99.7	99.7	0	0	0	67.3	99.7	99.7	71	99.7	0	0	0	0
15	94.9	94.9	94.9	6.1	6.1	6.1	78.8	78.8	48.1	40.8	83.5	0	0	0	0
16	100	100	100	100	100	100	100	100	100	24.7	100	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
18	99.4	100	100	80.3	79.3	69.2	80.5	79.4	69.2	97	97.2	0	0	0	0
19	100	100	100	100	100	100	100	100	100	96.1	96.1	0	0	0	0
20	100	100	100	100	100	100	100	100	100	98.1	98.1	0	0	0	0
21	100	100	100	100	100	100	100	100	100	99.7	99.7	0	0	0	0
22	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	86.2	93.1	0	0	0	0
23	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
25	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
26	99.8	99.8	99.8	73.8	72.4	72.2	99.8	72.6	72.2	97.8	95.6	0	0	0	0
27	99.4	99.4	99.4	99.4	99.4	79.2	99.4	99.4	79.2	43.5	43.5	0	0	47.7	46.2
28	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
29	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
30	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
31	100	100	100	100	100	100	100	100	100	0	0	0	0	100	100
Avg	97	98.1	99.3	50.3	50.2	49.2	93	93.6	92.2	77	82.3	0	0	14.4	14.4
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	8.7	6.9	2.8	48.6	48.6	47.9	16	14.7	15.1	35.4	33.8	0	0	34	33.9
Min	63.3	63.5	84.8	0	0	0	31.3	32	48.1	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for June, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	98.6	98.6	98.6	79.3	80.7	79	79.4	80.8	79	37.2	37.2	0	0	47.8	48.7
2	99	99	99	76.3	76.3	73.3	99	99	99	99	99	0	0	0	0
3	100	100	100	74.7	74.7	100	74.8	74.8	100	100	100	0	0	0	0
4	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
5	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
8	98.5	98.5	98.5	74.7	81.8	61.5	74.9	81.9	61.5	98.5	98.5	0	0	0	0
9	99.2	99.2	98.8	99.2	99.2	98.8	99.2	99.2	98.8	92.2	96	0	0	0	0
10	99.9	99.9	99.9	51.5	51.5	49.9	57.9	51.7	49.9	99.9	99.9	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
12	100	100	100	100	100	100	100	100	100	94.6	94.6	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
15	99.2	99.2	99.2	62.8	71.1	61.1	62.9	71.3	61.1	99.2	99.2	0	0	0	0
16	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7	95.8	94.7	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
18	96.7	96.9	96.9	96.7	96.9	78	96.7	96.9	78	93.1	93.5	0	0	0	0
19	100	100	100	100	100	100	100	100	100	99.8	99.8	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
22	99.7	100	98.6	55.8	54.4	64	55.9	54.5	64	99.5	99.8	0	0	0	0
23	99.7	99.6	99.7	56	67.2	74.4	56.2	67.2	74.4	91.4	99.2	0	0	0	0
24	100	100	100	60.9	63.7	73.7	62.4	64.6	73.7	42.2	39.9	0	0	0	0
25	60.6	99.4	99.4	28.8	67.5	75.6	28.9	67.6	75.6	13.3	52.1	0	0	0	0
26	56.1	100	100	49.9	71.5	100	50	100	100	56.1	100	0	0	0	0
27	99.9	100	100	99.9	100	100	99.9	100	100	99.9	100	0	0	0	0
28	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
29	100	99.4	100	100	99.4	79.3	100	99.4	79.3	98.6	96	0	0	0	0
30	100	100	100	18.3	18.3	18.3	100	75.3	100	100	100	0	0	0	0
Avg	96.9	99.6	99.6	82.8	85.8	86.2	86.6	89.5	89.8	90.3	93.3	0	0	1.6	1.6
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	10.3	0.7	0.7	23.7	20.1	19.8	20.2	15.5	15.3	21.7	17	0	0	8.6	8.7
Min	56.1	96.9	96.9	18.3	18.3	18.3	28.9	51.7	49.9	13.3	37.2	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	47.8	48.7

Table F12. Airflow and emission data completeness (%) at Site IN5B for July, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	99.3	100	0	0	0	100	99.3	100	100	99.3	0	0	0	0
2	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
3	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
4	100	100	100	0	0	0	100	100	100	100	45.3	0	0	0	0
5	100	100	100	0	0	0	100	100	100	100	0	0	0	0	0
6	99.5	99.5	99.5	0	0	0	99.5	99.5	99.5	94.1	42.8	0	0	0	0
7	17.1	99.8	99.7	0	0	0	17.1	99.8	99.7	17.1	95.1	0	0	0	0
8	0	100	100	0	0	0	0	100	100	0	100	0	0	0	0
9	33.3	99.8	99.8	0	0	0	33.3	77.3	99.8	33.3	99.8	0	0	0	0
10	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
11	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
12	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
13	100	100	100	0	0	0	100	100	100	39	39	0	0	55	55
14	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
15	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
16	99.9	99.9	99.9	0	0	0	76.3	77.7	99.9	0	0	0	0	99.9	99.9
17	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
18	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
19	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
20	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
21	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
22	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
23	100	100	100	0	0	0	100	100	100	0	0	0	0	100	100
24	98.2	99.9	98.6	0	0	0	88.8	92.2	98.6	0	0	0	0	40.3	40.3
25	0	100	100	0	0	0	0	52.1	100	0	0	0	0	0	0
26	74.7	99.8	99.8	0	0	0	70.2	99.8	79.7	0	0	0	0	0	0
27	100	100	100	0	0	0	100	100	100	0	0	0	0	0	0
28	99.9	99.9	99.9	0	0	0	99.9	99.9	99.9	0	0	64.4	64.4	0	0
29	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
30	100	100	100	0	0	0	100	100	100	0	0	100	96.1	0	0
31	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
Avg	87.8	99.9	99.9	0	0	0	86.6	96.7	99.3	31.7	32.9	11.8	11.6	35.3	35.3
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	29.7	0.2	0.3	0	0	0	29.7	9.9	3.6	44.2	44.2	31	30.7	46.1	46.1
Min	0	99.3	98.6	0	0	0	0	52.1	79.7	0	0	0	0	0	0
Max	100	100	100	0	0	0	100	100	100	100	100	100	100	100	100

Table F12. Airflow and emission data completeness (%) at Site IN5B for August, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
2	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
3	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
4	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
5	99.4	99.4	99.4	0	0	0	99.4	99.4	99.4	0	0	98	97.6	0	0
6	100	100	100	0	0	0	100	100	100	0	0	99.8	99.8	0	0
7	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
8	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
9	100	100	100	0	0	0	100	100	100	0	0	100	100	0	0
10	99.5	99.5	99.5	0	0	0	99.5	99.5	73.1	65.2	65.2	32.7	32.7	0	0
11	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
12	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
13	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
14	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
15	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
16	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
17	100	100	100	0	0	0	100	100	100	95.7	95	0	0	0	0
18	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
19	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
20	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
21	93.3	93.3	93.3	0	0	0	93.3	93.3	66	93.3	93.3	0	0	0	0
22	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
23	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
24	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
25	100	100	100	0	0	0	100	100	100	100	100	0	0	0	0
26	98.9	98.8	99.1	0	0	0	98.9	98.8	99.1	89.5	89.4	0	0	0	0
27	100	100	100	0	0	0	100	100	100	23	23	0	0	0	0
28	100	100	100	0	0	0	100	100	100	0	0	0	0	0	0
29	100	100	100	0	0	0	100	100	100	0	0	0	0	0	0
30	100	100	100	0	0	0	100	100	100	0	0	0	0	0	0
31	99.7	99.7	99.7	29.3	29.3	29.3	99.7	99.7	79.8	69.8	69.8	0	0	0	0
Avg	99.7	99.7	99.7	0.9	0.9	0.9	99.7	99.7	97.3	56	56	30	30	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
SD	1.2	1.2	1.2	5.2	5.2	5.2	1.2	1.2	8.2	46.9	46.9	45	45	0	0
Min	93.3	93.3	93.3	0	0	0	93.3	93.3	66	0	0	0	0	0	0
Max	100	100	100	29.3	29.3	29.3	100	100	100	100	100	100	100	0	0

Table F12. Airflow and emission data completeness (%) at Site IN5B for September, 2009.

Day	Airflow			Ammonia			Hydrogen sulfide			PM_{10}		$PM_{2.5}$		TSP	
	B1	B2	MP	B1	B2	MP	B1	B2	MP	B1	B2	B1	B2	B1	B2
1	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	0	0	0	0
2	100	100	100	53.3	51.9	61.4	53.5	52.1	61.4	95.3	95.4	0	0	0	0
3	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
4	95.6	95.6	95.6	67.2	64.4	60.6	67.3	70.5	60.6	53.8	95.2	0	0	0	0
5	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
6	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
7	100	100	100	100	100	100	100	100	100	0	100	0	0	0	0
8	99	99	99	55.6	55.6	47.7	55.8	55.8	47.7	31.8	95.3	0	0	0	0
9	100	100	100	80.4	77.6	78.8	100	77.8	78.8	99.7	100	0	0	0	0
10	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
12	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
14	99.7	99.7	99.7	73.7	70.1	72.6	73.8	70.3	72.6	96.5	96.2	0	0	0	0
15	99.8	99.8	99.8	99.8	68.6	99.8	99.8	68.8	99.8	99.8	99.8	0	0	0	0
16	100	100	100	100	76.3	100	100	76.4	100	100	100	0	0	0	0
17	99.9	100	100	66.7	64	77.7	66.9	64.1	77.7	99.7	99.8	0	0	0	0
18	98.3	100	100	70.9	72.6	100	71	72.7	100	98.3	100	0	0	0	0
19	98.9	100	100	98.9	100	100	98.9	100	100	98.9	100	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
21	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
22	99	99.6	99.8	55.3	49.7	74.4	55.5	54.1	74.6	34.4	34.9	0	0	51.9	51.9
23	99.5	99.5	98.3	99.5	99.5	98.3	99.5	99.5	98.3	0	0	0	0	96.4	96.4
24	100	100	100	33.2	32.5	29	18.6	18.6	18.6	0	0	0	0	95.6	94.6
25	100	100	100	36	31.9	39.9	0	0	0	0	0	0	0	100	100
26	100	100	100	100	100	100	0	0	0	0	0	0	0	100	100
27	100	100	100	100	100	100	0	0	0	0	0	0	0	100	100
28	100	100	100	100	100	100	0	0	0	0	0	0	0	100	100
29	83.9	83.9	83.9	41.5	40.8	44.3	0	0	0	29.6	30.4	0	0	44.4	44.4
30	99.3	99.2	99.3	41.9	40.5	61.7	0	0	0	99.3	99.2	0	0	0	0
Avg	99.1	99.2	99.2	82.5	79.9	84.9	68.7	66	69.7	61.2	74.9	0	0	22.9	22.9
n	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
SD	3	3	3	23.4	23.9	22	39.6	38.4	39.6	45.1	40.9	0	0	39.7	39.6
Min	83.9	83.9	83.9	33.2	31.9	29	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	0	0	100	100