

US EPA ARCHIVE DOCUMENT

**EMISSIONS DATA FROM TWO FREESTALL DAIRY BARNS
IN WISCONSIN**

Final Report for Site WI5B
of the
National Air Emissions Monitoring Study

Submitted to

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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 Monitoring 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. The University of Minnesota (UM) installed, maintained and calibrated equipment, collected samples, and conducted all other on-site activities. Purdue provided rapid feedback (generally within 2-4 business days) to catch aberrations in the data, and later conducted final processing of the data. Both UM and Purdue participated in reviews of the analyzed data.

The overall objective of this report is to present the quality-assured measurements of ammonia (NH_3), hydrogen sulfide (H_2S), particulate matter (PM) and volatile organic compounds (VOC) from two freestall barns at the Wisconsin dairy farm. 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 1,700-cow Holstein dairy site (WI5B) was located in Wisconsin. There were six barns in this complex constructed in the 1990's (Figure 1). The farm was located on a gently rolling landscape, above a level river valley. There was a wooded area to the south and surrounding fields of cultivated row-crops and alfalfa. Other livestock operations within 1.6 km of the farm included an open heifer lot approximately 0.4 km to the northeast, and a small (50-head) hog farm 1.6 km west of the farm.

The freestall barns denoted barns 1 and 2, located on the north side of the farm, were monitored in this study. Barns 1 and 2 were oriented east-west, and were spaced 30 m apart. The barns were connected by a covered breezeway equipped with plastic curtains on each side. The milking center for barns 1 and 2 was connected to the south side of barn 1.

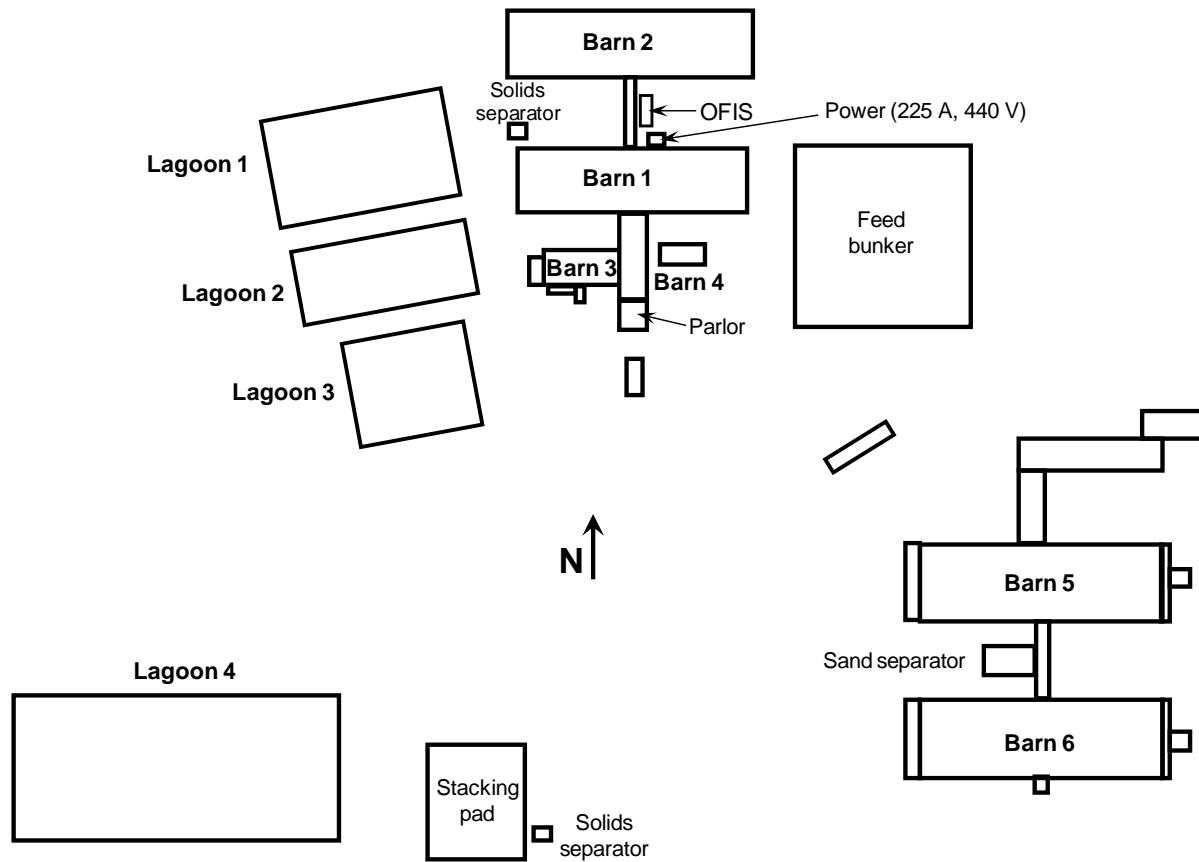


Figure 1. Facility layout. Monitored buildings were barns 1 and 2.

2.2. Monitored Buildings

Emission monitoring was conducted at barns 1 and 2. Barn 1 (B1), the more southern of the two barns, had four rows of freestalls, and was 93 m long x 28 m wide, with 4-m high sidewalls at the center cross alley. Barn 2 (B2) was located north of barn 1 and had five rows of freestalls. Barn 2 was 107 m long by 30 m wide, with 4-m sidewalls at the center cross alley. Both barn roofs had a 4:12 slope. The capacities of B1 and B2 were 275 and 375 cows, respectively. Lactating cows were milked three times per day in a double-10 parallel Bowmatic parlor, with automatic cow identification and milk weight measurement.

The feed was delivered by total mixed ration (TMR) truck, and consisted of a mixture of corn silage, finely-ground shelled corn, ground hay (haylage), cottonseed, corn gluten, molasses, protein and mineral mixes, and cows had free access to salt and sodium carbonate. The milking cows received continuous supplemental (artificial) lighting, in addition to sunlight.

The freestall barns were mechanically-cross-ventilated. There were fifty-nine 127-cm diameter fans (Model VF503GG, J&D Manufacturing, Eau Claire, WI) on the north wall of barn 1, and sixty-six such fans on the south wall of barn 2. The fans were controlled by a Phason Supra Controller, which collected information from four temperature sensors in each barn to determine fan operation (Table 1). The spacing between the wall fans was essentially zero, with only a strip of foam separating them. The walls opposite the fans (south wall of B1 and north wall of B2) had

retractable curtains for admitting ventilation air, and were equipped with two rows of misters to cool the incoming air during summer. There was also a row of misters over one of the feed alley partitions in each barn to assist in the cooling of the barn, resulting in a 3-stage cooling system. The curtains, when maximally open, created an approximately 2-m high opening at the barn ends, and a 2.6-m high opening in the center of the barn's sidewall. The minimum opening width was 3 cm, and the top 60 cm of curtain was controlled by temperature. Each barn was also equipped with at least ten internal 91-cm diameter circulation fans. There were no sources of supplemental heat for cold weather. Each end wall of each barn had a single door. The east doors were used for the feed delivery truck and were closed year-round, except during feed delivery. The west doors remained closed and sealed throughout the study.

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

Stg	Fans	
	Prior to 11/1/07	After 11/1/07
Barn 1		
0	8, 20, 37, 53	8, 20, 37, 53
1	4, 8, 12, 16, 20, 24, 25, 29, 33, 37, 41, 45, 49, 53, 57	8, 16, 20, 29, 37, 41, 49, 53
2	3, 4, 7, 8, 11, 12, 15, 16, 19, 20, 23, 24, 25, 26, 29, 30, 33, 34, 37, 38, 41, 42, 45, 46, 49, 50, 53, 54, 57, 58	7, 8, 15, 16, 20, 23, 29, 30, 37, 38, 41, 46, 49, 50, 53, 58
3	2, 3, 4, 6, 7, 8, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 23, 24, 25, 26, 27, 29, 30, 31, 33, 34, 35, 37, 38, 39, 41, 42, 43, 45, 46, 47, 49, 50, 51, 53, 54, 55, 57, 58	2, 4, 6, 7, 8, 10, 14, 15, 16, 18, 20, 22, 23, 27, 29, 30, 31, 35, 37, 38, 39, 41, 43, 46, 47, 49, 50, 51, 53, 55, 58
4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59
Barn 2		
0	9, 24, 42, 58	9, 24, 42, 58
1	5, 9, 13, 16, 17, 20, 21, 24, 28, 33, 34, 38, 42, 46, 50, 54, 58, 62, 66	5, 9, 24, 38, 42, 46, 54, 58
2	1, 4, 5, 7, 8, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29, 32, 33, 34, 35, 38, 39, 42, 43, 46, 47, 50, 51, 54, 55, 58, 59, 62, 63, 66	1, 5, 8, 9, 12, 24, 25, 32, 35, 38, 42, 43, 46, 47, 54, 55, 58, 59, 63
3	1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 15, 16, 17, 19, 20, 21, 22, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 42, 43, 44, 46, 47, 48, 50, 51, 52, 54, 55, 56, 58, 59, 60, 62, 63, 64, 66	1, 3, 5, 7, 8, 9, 11, 12, 15, 17, 19, 22, 24, 25, 26, 30, 31, 32, 33, 35, 36, 38, 40, 42, 43, 44, 46, 47, 48, 50, 52, 54, 55, 56, 58, 59, 60, 63, 64
4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66

Two manure removal systems were used sequentially in barns 1 and 2. Prior to 9/17/08, manure from the freestall barns was removed by flushing each of the four pens three times per day as each group of cows was being milked. The manure flushed from the parlor, holding pen, and freestall barns flowed to a solids separator (Figure 1), from which the solids were removed and stacked on a pad until they were spread on fields. The liquid effluent from the solids separator was pumped back into the vertical tanks to flush the barns. Once a week, enough water was

removed from the third stage of the 3-stage lagoon or storage system and added to the flush tanks to make up for water lost in the recycled flush system. Overflow from the third-stage lagoon/storage was channeled to lagoon 4 (Figure 1). The lagoons/storages were pumped out by dragline systems or trucks twice a year to nearby cropland and injected into the soil.

After 9/19/08, the flush system was replaced with a tractor scrape system in an effort by the producer to increase milk production and reduce morbidity, based on previous experience with tractor scrape systems in barns 5 and 6. The change in manure handling systems was related to a lack of reliable sources of wood shavings for bedding and overall cow performance.

2.3. Significant Events and Modifications

Barn 1 and barn 2 were originally constructed as naturally-ventilated barns in 1990 and 1994, respectively. The conversion from natural ventilation to mechanical ventilation occurred in the spring of 2007, just prior to the NAEMS monitoring period. The fan stage assignments of fans in both barns were adjusted between 10/29/07 and 11/15/07. Airflow measurements were not available during this time.

The bedding material used in the freestalls changed along with the manure removal system change (Table 2). Shavings and digested solids were used in conjunction with the flush system. The digested manure solids were meant to replace the shavings as bedding. However, the producer observed higher disease incidences and other problems with the composted manure solids and switched back to wood shavings until the scrape manure system was installed in the fall of 2008. New sand was used from November 2008 to March 2009 because the producers observed that the recycled sand was insufficiently thawing and drying.

Table 2. Type of bedding material used in the freestalls.

Start	End	Bedding material
9/12/07	12/15/07	Wood shavings
12/15/07	5/10/08	Composted solids
5/10/08	10/21/08	Wood shavings
10/28/08	11/17/08	Recycled sand
11/25/08	3/16/09	New sand
3/16/09	10/31/09	Recycled sand

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 5/15/07 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 10/31/09. Target pollutants were NH₃, H₂S, PM (PM₁₀, 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, including the models, manufacturers and serial numbers.

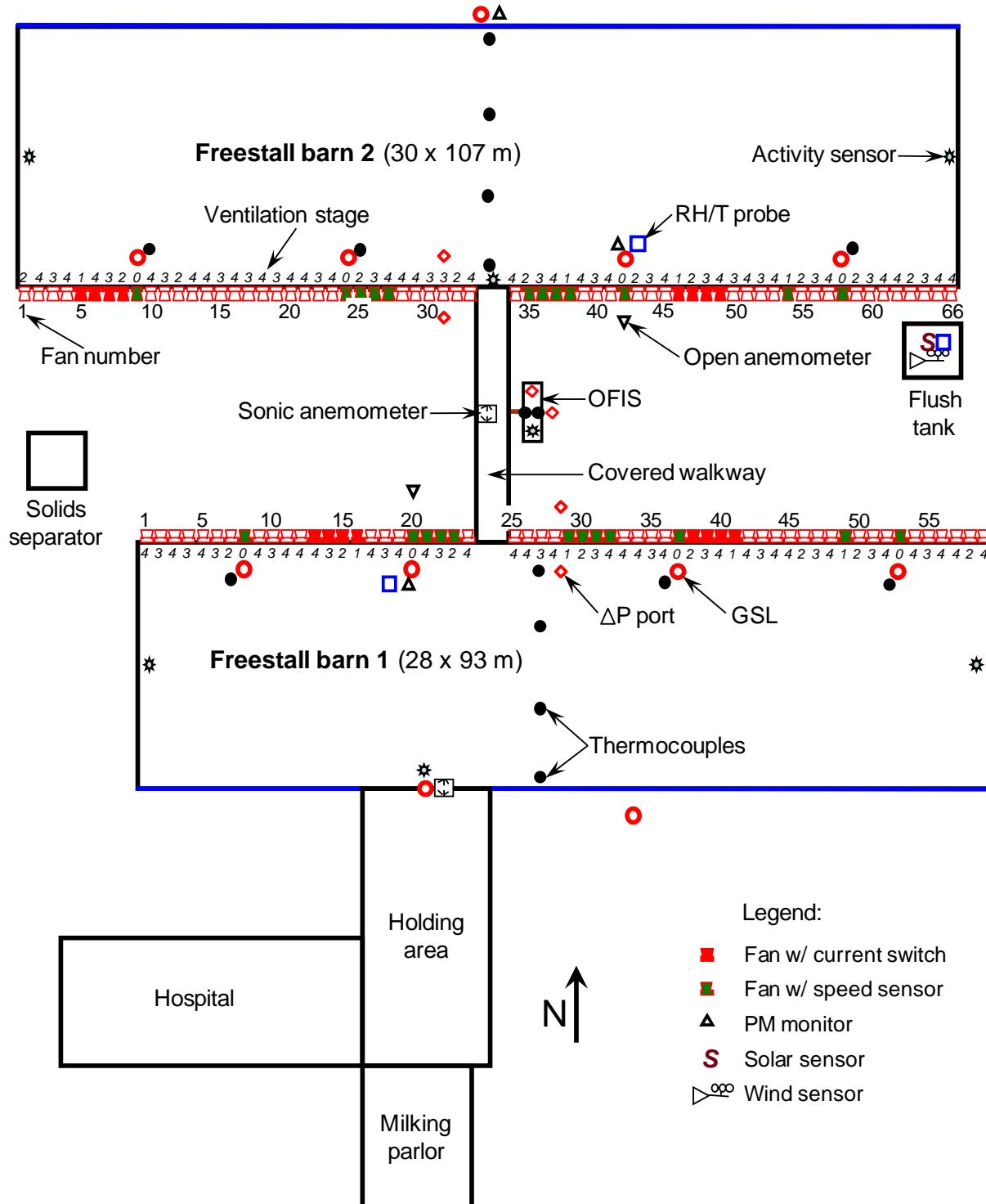


Figure 2. Overhead view of sampling and measurement locations.

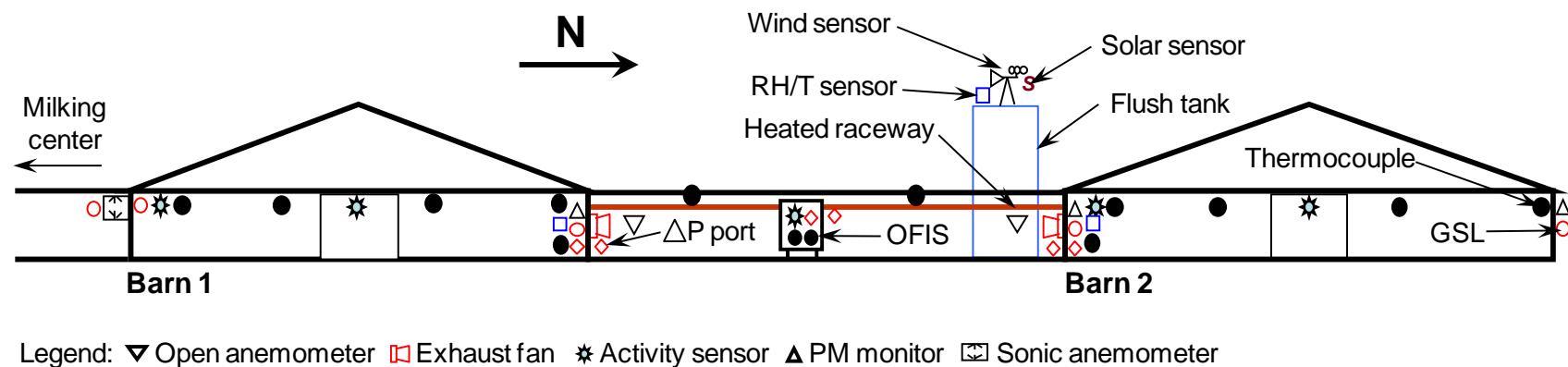


Figure 3. End view of sensor and air sampling locations.

3.2. Instrument Shelter

The on-farm instrument shelter (OFIS) was located in a grassy area between barns 1 and 2, parallel to and east of the connecting breezeway between the two barns. A heated raceway, approximately 3 m long, connected the OFIS to the breezeway and sample lines to the two barns branched off upon entering the breezeway. Heated raceways were used to avoid condensation in the sampling lines during cold weather. The tubing in the conduit was insulated and heated for additional protection against condensation. 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.

Table 3. Major instrumentation.

Analyzer/instrument	Serial number
INNOVA 1412 Multi-gas analyzer	710-190
TEI 450i H ₂ S analyzer	709220683
Environics 4040 dilutor	3915
TEOM 1	26350
TEOM 2	26474
TEI FH 62C14 (Beta Gauge)	E-1274
TEC 17C NH ₃ analyzer	17C-67359-358

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 analog signals from various analyzers and sensors were connected to FP-AI-112 modules. Type T thermocouples were connected to FP-TC-120 modules. Digital signals from current switches 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.

Table 4. Data acquisition hardware configuration for WI5B.

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

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.

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 three such sensors in each freestall barn. Sensors were located at each of the two truck entrances, in the breezeway that connects the two barns, and in the area between the milking parlor holding area and barn 1.

Animal inventory for B1 and B2 were obtained weekly from the producer starting 10/21/08. The producer also provided weekly totals for mortalities and number of head sold, weekly averages for milk production and feed consumption, and information about changes to site operational procedures like bedding.

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 tower mounted on top of the flush water tank on the SE corner of barn 2.

Capacitance-type RH/T probes were located at the primary representative exhaust fan (PREF) in each freestall barn (fan 20 in barn 1 and fan 42 in barn 2) (Figure 2). Type T thermocouples (TCs) were used to monitor temperature at each gas sampling location (GSL) other than the two PREFs. Four TCs were also positioned at equal distances along the center axis of each barn (Figure 2).

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 two fans per barn from each higher 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 1 through 4, and on different fans than those monitored by current switches. 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 wall of B1 and the south wall of B2 with differential static pressure sensors (Model 260, Setra Systems, Boxborough, MA). 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 20 in B1 and fan 42 in B2 (barn PREFs).

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 m³ s⁻¹, and the in-field airflow measurements were corrected for this offset.

A total of 58 in-situ fan tests were conducted during July 2007, October 2008, and July 2009. For the October 2008 and July 2009 testing periods, 20% of the fans in each barn were assessed, and the represented stages are shown in Table 5. The downstream airflow through each fan 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.

Fan stage	Number of fans assessed during testing period					
	July, 2007		October, 2008		July, 2009	
	B1	B2	B1	B2	B1	B2
0 (continuous)	2	2	3	4	4	4
1			5	6	5	5
2			2	2	1	2
3			1	1	1	2
4			1	2	1	2
Total	2	2	12	15	12	15

The airflow curve of a similar fan model (Model VFS503CSCA, J&D Manufacturing, Eau Claire, WI) to the farm fan model (Model VF503GG, J&D Manufacturing, Eau Claire, WI) was obtained from the Bioenvironmental and Structural Systems (BESS) Lab at the University of Illinois at Urbana-Champaign (BESS, 2007). The performance record consisted of airflow (Q_1) measured at several static pressures (P_1), and at a relatively constant speeds ($N_1 = 573$).

The BESS fan curve was adjusted to 558 rpm, the mean speed (N_2) 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 model.

Reference speed (N_2)	Polynomial coefficients of $Q_2=f(\Delta P_2)$ at speed N_2				Coefficients of k	
	a3	a2	a1	a0	b1	b0
558	4.40E-06	1.21E-04	5.49E-02	1.12E+01	8.21E-04	7.77e-01

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

Table 7. Fan designations to sampling streams.

Stream	Fans assigned to stream
B1 stream 1	Barn 1 fans 1 to 14
B1 stream 2	Barn 1 fans 15 to 27
B1 stream 3	Barn 1 fans 28 to 44
B1 stream 4	Barn 1 fans 45 to 59
B2 stream 1	Barn 2 fans 1 to 16
B2 stream 2	Barn 2 fans 17 to 33
B2 stream 3	Barn 2 fans 34 to 50
B2 stream 4	Barn 2 fans 51 to 66

3.4.4. Biomaterials Sampling Methods and Schedule

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

Manure in the barns was sampled quarterly between 3/31/08 and 4/21/09. At each time point, four samples were collected from each of the two barns and analyzed for ammoniacal N, pH and total solids.

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 20 in barn 1 and fan 42 in barn 2) (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 1 m away from the center of B2's north wall, 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 curtain of barn 2, which, for most of the year was not downwind from any obvious sources of PM. The air inlet for barn 1 was downwind from the barn exhausts for part of the year, and was downwind of the feed bunker for 1-2 months (SE and ESE winds), but also had a period where it was not downwind of any obvious PM sources (S winds). 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 PM₁₀, PM_{2.5} or TSP at both TEOMs and the Beta Gauge. The PM_{2.5} size class was measured in January and August, 2008, and January and July, 2009 for 14 to 21 d each time (Table 8). The TSP inlet heads were placed on the TEOMs for twelve, 5-14 d periods. The PM₁₀ concentration was measured at all other times.

3.6. Continuous Gas Sampling and Monitoring

Air samples for continuous gas measurements were collected from multiple gas sampling probes with a custom-designed 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 (4 fans in each barn), the holding area outlet into barn 1, and two locations representing the ventilation inlet air entering B1 and B2, for a total of 11 GSLs (Table 9). The ventilation inlet air of barn 2 was sampled at the center of the north wall (approximately across from fan 33), while the inlet air of barn 1 was sampled near the center of that barn's south wall (approximately across from fan 34). The lagoon and nearby barn exhausts caused the inlet concentrations to be higher at times, but the objective of quantifying the net emission rate from the barns was still met by measuring the inlet and exhaust concentrations. It was unnecessary to differentiate the contributions of lagoon emission and barn exhaust fans to the inlet air. Each GSL was sampled individually with one tube.

Each exhaust location was sampled individually for 10 min. The ventilation inlet location was monitored at least twice daily, with a 20-min sampling period. A statistical analysis confirmed that 10 min was sufficient for the exhaust GSLs and 20 min was sufficient for the inlet GSLs.

Table 8. Sampling periods for TSP, PM₁₀ and PM_{2.5}.

Time and day (m/d/y)		Test duration, d		
Start	Stop	PM10	TSP	PM2.5
9/12/07	12/11/07	90.5		
12/11/07	12/17/07		6.1	
12/17/07	1/15/08	28.9		
1/15/08	2/5/08			21.0
2/5/08	2/19/08	14.0		
2/19/08	2/26/08		6.9	
2/26/08	3/17/08	20.1		
3/17/08	3/25/08		7.9	
3/25/08	4/29/08	34.9		
4/29/08	5/5/08		6.0	
5/5/08	6/19/08	45.0		
6/19/08	6/26/08		7.0	
6/26/08	8/1/08	35.9		
8/1/08	8/18/08			17.0
8/18/08	8/25/08		7.1	
8/25/08	10/14/08	50.0		
10/14/08	10/28/08		14.2	
10/28/08	12/16/08	48.8		
12/16/08	12/30/08		14.0	
12/30/08	1/13/09	13.9		
1/13/09	1/27/09			14.0
1/27/09	2/17/09	21.0		
2/17/09	2/24/09		6.9	
2/24/09	4/6/09	41.1		
4/6/09	4/14/09		7.9	
4/14/09	6/3/09	50.0		
6/3/09	6/8/09		5.3	
6/8/09	7/6/09	28.0		
7/6/09	7/21/09			14.7
7/21/09	8/4/09	14.0		
8/4/09	8/11/09		7.0	
8/11/09	9/15/09	35.0		
Totals		571.2	96.3	66.7

One set of gas analyzers in the OFIS was used to sequence through all the GSLs. Hydrogen sulfide was measured with a fluorescence H₂S analyzer (Model 450i, Thermo Fisher Scientific, Waltham, MA). Concentrations of NH₃, 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).

Table 9. Analyte sampling locations.

Analytes	Barn(s)	Ventilation openings/locations	Qty
NH ₃ , H ₂ S	1	B1 stream 1: fan 8 from W	1
	1	B1 stream 2: fan 20 from W	1
	1	B1 stream 3: fan 37 from W	1
	1	B1 stream 4: fan 53 from W	1
	2	B2 stream 1: fan 9 from W	1
	2	B2 stream 2: fan 24 from W	1
	2	B2 stream 3: fan 42 from W	1
	2	B2 stream 4: fan 58 from W	1
	1, HB	Holding area outlet to barn 1	1
	1	Inlet: S side of B1 (across from fan 34), 2 m from barn wall	1
	2	Inlet: N side of B2 (across from fan 33), 2 m from barn wall	
PM _{2.5} , PM ₁₀ , TSP	1	PREF: fan 20	1
	2	PREF: fan 42	1
	1,2	Inlet: N side of B2 (across from F33), 2 m from barn wall	1
VOC*	1	PREF: fan 20	1
	2	PREF: fan 42	1

**VOC samples are collected at fan hub height, adjacent to the gas-sampling port at that location.

OFIS: On farm instrument shelter

HB: Holding barn

MP: Milking parlor

3.7. PREF: Primary representative exhaust fan VOC Sampling and Analysis

Grab samples of VOC were collected at the PREFs (fan 20 in B1 and fan 42 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 $\frac{1}{4}$ " 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- μ m in-line stainless steel filters. Flow controllers were pre-set to a constant flow rate of 3.4 m L·min⁻¹. Canister sampling was conducted for 24 h, and canister pressures were recorded at the beginning and end of the sampling periods for the calculation of total sample volumes. Sampling was conducted seven times between 4/6/09 and 12/2/09, with duplicate samples typically collected at each location. All canisters were cleaned and passed QC before sample collection.

Canister samples were analyzed at Purdue University's Trace Contaminant Laboratory. The canisters were pressurized to +207 kPa with ultrapure 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 1 μ m column. The detector utilized the full scan mode covering masses from 27-270 Daltons in 8 scans/s. The MS quad hold temperature was 150°C, and the MS source hold temperature was 230°C. 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 350°C prior to each use.

3.8. Documentation of Quality Assurance

3.8.1. Oversight, Maintenance, and Calibration

University of Minnesota personnel visited the site a total of 84 person-days and 105 person-days during years 1 and 2 of the monitoring period respectively.

The Science Advisor audited the site on 8/29/07. The Environmental Protection Agency (EPA) conducted site audits on 8/5/2008 and 7/15/2009.

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

3.8.2. Gas Sampling System

Two types of GSS leak tests were conducted. The first test examined GSS integrity, by briefly creating a “dead head” against the pump by closing all solenoid valves, while measuring exhaust airflow with a portable rotameter, and recording the leakage flow with the GSS mass flow meter. The second test consisted of monitoring GSS flow and pressure after manually setting AirDAC to sample from a particular GSL and plugging the GSL’s gas sampling probe, 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 ($<0.45 \text{ L}\cdot\text{min}^{-1}$) of the normal GSS flow rate of 4 $\text{L}\cdot\text{min}^{-1}$ was indicative of leak-free operation under normal GSS manifold vacuums of -5,000 to -8,000 Pa. Leak tests of the GSS were conducted on 4/29/08, 9/15/08, and 5/12/09. The dead-head leakage flows were verified within the 0.4 $\text{L}\cdot\text{min}^{-1}$ 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.

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 calibrations (MPCs), using zero gas and two or three span concentrations, were conducted through the challenge line. These MPCs (Table 10 and Table 11) conducted simultaneously with the INNOVA 1412 and TEC 17C on most dates; the MPCs for the INNOVA 1412 on 1/28/08 and 3/4/08 are only shown to demonstrate the linearity of this instrument as it pertains to the NH₃ measurements prior to 1/24/08. The MPCs on 3/9/09 and 3/17/09 were run with each point in duplicate. The MPCs used concentrations ranging from 1.5 to 20.0 ppm NH₃, delivered via the Environics dilutor. The R² values for all of these tests exceeded 0.99, indicating linearity in both instruments' responses to calibration gas. A linear relationship between the input ammonia concentration and analyzers' responses was therefore assumed for 0 to 20 ppm standard gas.

Precision checks were performed 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 5/29/08 were done with 20 ppm NH₃; from 5/29/08 to 3/24/09, 5.0 ppm was typically used as the applied span concentration; from 3/31/09 to the end of the study, 3.0 ppm was the applied span concentration. The analyzer response to the zero and span precision checks is shown graphically in Appendix D, and summarized in Table 12.

The average response of the analyzers to the zero and span gas applications was assessed, and results were combined to create linear correction models. One linear correction model was used for the INNOVA 1412 measurement that covered the period from 9/11/07 to 1/24/08, when the TEC 17C became the primary NH₃ measurement, with the linear correction models described in Table 12. The TEC 17C was used at this site as the INNOVA 1412 analyzer was not correctly configured from the manufacturer to accurately measure the low NH₃ levels in the high CH₄ environments of these barns until July 30, 2009. The correction model was then applied to the uncorrected NH₃ measurements to improve the accuracy of the concentration data. Based on the linear-model corrected values for the zero and span checks, the measurement accuracy was assessed and shown in Table 12. The bias and precision for the zero and span checks were below 5%, the data quality objective (DQO) defined in Table 1.4.2 of the QAPP.

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 over the course of the monitoring period. These MPCs (Table 12) used concentrations ranging from 198 to 5675 ppb H₂S, delivered via the Environics dilution system. The R² values for these tests range from 0.983 to 0.998, indicating linearity in the instrument's response to calibration gas. A linear relationship between the input H₂S concentration and analyzer response was therefore assumed for at least the range of 0 to 5000 ppb.

Table 10. Multipoint calibration record and results for the NH₃ measurement (INNOVA).

Date	# points	Span concentration, ppm		R ²
		Minimum	Maximum	
1/28/08	4	5.0	20.0	1.000
3/4/08	4	5.5	20.0	0.990

*Other than zero

Table 11. Multipoint calibration record and results for the NH₃ measurements (TEC)

Date	# points	Span concentration, ppm		R ²
		Minimum	Maximum	
1/28/08	4	5.0	20.0	0.999
3/4/08	4	5.5	20.0	0.986
5/29/08	4	5.0	12.0	0.999
2/11/09	4	1.5	5.0	0.993
3/9/09	4	2.0	5.0	0.999
3/17/09	4	2.0	5.0	0.998
5/12/09	3	3.0	4.7	0.996

*Other than zero

Table 12. Concentration correction and measurement accuracy for ammonia.

Start/end dates	# checks		Linear model	Accuracy, % of Span				
	Zero	Span		Bias		Precision		
				z	s	z	s	
9/11/07-5/12/08*	23	21	y = 1.070(x-0.099)	0.2	0.0	0.4	1.6	
1/24/08-5/12/08	15	11	y = 1.047(x+0.125)	0.1	0.5	0.6	2.4	
5/12/08-11/11/08	23	23	y = 1.019(x+0.006)	0.0	-0.1	0.8	3.1	
11/11/08-2/24/09	15	15	y = 1.037(x+0.083)	-0.2	0.4	1.0	2.4	
2/24/09-6/30/09	15	15	y = 1.018(x-0.043)	-0.1	-0.7	1.3	2.5	
6/30/09-11/2/09	15	15	y = 1.009(x-0.095)	0.1	-5.2	0.9	4.0	

* INNOVA 1412. All other models developed for TEC 17C measurement.

Table 12. Multipoint calibration record and results for the H₂S measurements.

Date	# points	Span concentration, ppb		R ²
		Minimum	Maximum	
9/26/07	3	1991	4607	0.998
5/29/08	4	1658	5675	0.996
1/6/09	3	498	997	0.987
3/3/09	3	499	984	0.976
8/31/09	4	199	498	0.983
10/21/09	4	198	498	0.997

Precision checks were performed 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 12/30/08 were done with 2000 ppb H₂S; after this the span concentration was 500 ppb until 9/8/09 when 350 ppb became the applied span

concentration. The analyzer response to the zero and span precision checks is shown graphically in Appendix D, and summarized in Table 13.

Shifts in the instrument response to calibration gas were detected in the raw (uncorrected) measurements that typically corresponded to changes of the analyzer internal calibration coefficients. Thus, to improve the accuracy of the concentration data, zero and span checks were pooled in three intervals, appropriate zero offsets and span factors were determined, and the resulting linear models were applied to the data. Based on the linear-model corrected values for the zero and span checks, the measurement accuracy was assessed and shown in Table 13. The bias and precision for the zero and span checks were below 5%, which was the data quality objective (DQO) defined in Table 1.4.2 of the QAPP.

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

Start/end dates	# of checks		Linear model	Accuracy, % of span				
	Zero	Span		Bias		Precision		
				z	s	z	s	
9/12/07-4/26/08	20	20	$y = 0.9903(x - 3.165)$	0.0	0.0	0.0	0.9	
4/26/08-1/6/09	33	10	$y = 1.0453(x - 1.784)$	0.0	2.5	0.1	2.0	
1/6/09-11/1/09	32	36	$y = 1.0458(x - 3.880)$	0.0	-0.4	0.2	4.1	

3.8.3.3. 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 (Table 14).

Table 14. Noise test of gas analyzers with dry air on 4/6/2010.

Gas	Statistical variable				Duration, min	T_{dew} , °C
	Min	Max	SD	MDL		
INNOVA 1412 NH ₃ , ppm	0.01	0.17	0.03	0.08	55	-19.70
TEC 17C NH ₃ , ppm	0.07	0.17	0.03	0.08	55	-19.70
TEI 450i H ₂ S, ppb	3.8	5.9	0.6	1.4	30	-19.70

3.8.4. Particulate Matter Monitors

The quality of the exhaust PM data was assessed through periodic mass verifications and flow and leak checks of the TEOMs. The criteria for total and main flows were 16.67 ± 1.0 and 3.0 ± 0.2 L·min⁻¹, respectively. Leakage criteria were total flow ≤ 0.62 L·min⁻¹ and main flow ≤ 0.15 L·min⁻¹, respectively. Mass verifications and flow calibrations of the inlet PM monitor were conducted periodically.

The TEOM measurements were also evaluated based on 24 to 47 h of collocated measurements of TSP with a Minivol sampler (Airmetrics; Eugene, OR) in April 2008, April 2009, and September, 2009 (Table 14.). The differences in average TSP concentrations over the collocation periods were less than 5%.

Table 14. Collocated TSP measurement results.

Date	Location	Time, h	TSP, $\mu\text{g m}^{-3}$		Difference, %
			Minivol	TEOM	
4/29/08	B1	44.0	103	1012	1.9
	B2	43.2	110	115	-3.8
4/6/09	B1	23.0	84	80	4.8
	B2	23.1	115	110	4.0
9/15/09	B1	37.6	175	179	-1.9
	B2	47.1	239	247	-3.2

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. All periods of invalid data that were longer than one day are listed in Appendix D.

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

The zero measurement by the static pressure sensor zero measurements were verified nine times as within ± 0.2 Pa, thus, no adjustments were made to the ΔP readings.

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 three stage 0 fans in each barn.

The solar sensor signal was collocated with a reference solar sensor on 9/22/09.

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. Table 1 describes the representative operational status fan for each barn and stage.

When a fan speed signal provided the operational data, low-level noise was filtered out by setting operational status to “off” (0%) if the average speed was less than 200 rpm.

Table 1. Representative fan operational status signals.

Fan stage	East end	West end
B1 stage 1	B1F41	B1F16
B1 stage 2	B1F38	B1F15
B1 stage 3	B1F39	B1F14
B1 stage 4	B1F40	B1F21
B2 stage 1	B2F54	B2F5
B2 stage 2	B2F47	B2F8
B2 stage 3	B2F48	B2F7
B2 stage 4	B2F49	B2F6

3.9.2.4. Gas Concentrations

Table 2 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 2. Gas concentration data validation and interpolation requirements.

Gas	Equilibration period, min		Maximum interpolation interval, min	
	Inlet	Exhaust	Inlet	Exhaust
NH ₃	15	7	3000	300
H ₂ S	10	5	3000	300

Gas and water vapor concentrations, and sample relative humidity, temperature, pressure, flow rate, and flow direction were invalidated during all gas analyzer MPCs and Z/S checks, and when sample $Q < 3.5 \text{ L}\cdot\text{min}^{-1}$. 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.

There were three extended periods when the GSS signals were invalidated. From 4/22/08 to 4/25/08 and from 7/2/09 to 7/6/09, the GSS continuously sampled from one location only, and was thus invalidated. From 6/23/09 to 6/30/09, the AC system of the OFIS was under repair. To avoid heat damage to the instruments, the GSS system was offline during this period.

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.

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

and

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

where:

C''	Dry standard mass concentration, dry basis ($\text{mg d}^{-1}\text{sm}^3$ or $\mu\text{g d}^{-1}\text{sm}^3$)
C'	Standard mass concentration, moist-air basis (mg sm^{-3} or $\mu\text{g sm}^{-3}$)
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 ($0.08206 \text{ L atm mol}^{-1} \text{ }^\circ\text{K}^{-1}$)
W	Humidity ratio

3.9.2.5. Particulate Matter Concentrations

Prior to 2/19/08, the TEOM flow rates were erroneously internally adjusted to 16.7 L min^{-1} for standard conditions (25°C 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 2/19/08 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 25°C and 1 atm until 2/19/08, at which time they were reconfigured to output the PM data at standard conditions (20°C , 1 atm). All PM concentration data prior to 2/19/08 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 B1 TEOM PM data was invalid between 5/30/08 and 6/4/08 because a cow had disrupted the inlet sampling tube. Between 10/1/08 and 10/8/08 for B1, and 2/23/08 to 2/26/08 and 11/6/08 to 11/11/08 for B2, the PM data was invalid because of problems with the instrument filter loading or placement. There were two occasions during the winter season when the PREF fans were not operating, creating a false PM sampling environment; thus the B1 PM data was invalid between 12/20/08 and 12/30/08, and the B2 PM data was invalid between 2/23/08 and 2/17/08. The PM data in both barns was also invalidated between 9/17/08 and 9/19/08 during changeover of the manure removal system that generated an abnormally dusty environment.

3.9.3. Emission calculations

3.9.3.1. Particulate Matter

PM emissions were calculated with Eqn. 3-3.

(3-3)

where:

E	Net PM emission rate ($\mu\text{g s}^{-1}$)
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Q_0	Exhaust airflow rate at T_o ($\text{m}^3 \text{ s}^{-1}$)
P_0	Pressure of exhaust air (atm)
C_0'	PM concentration of exhaust air ($\mu\text{g m}^{-3}$)
C_i'	Inlet PM concentration ($\mu\text{g m}^{-3}$)
T_0	Temperature of exhaust air ($^\circ\text{C}$)

3.9.3.2. Gases

Stream-specific gas emissions were determined as follows:

$$E = Q_o \cdot \frac{P_o \cdot M}{R \cdot (273 + T_o)} \cdot (c_o - c_i) \quad (3-4)$$

where:

E	Stream or barn emission rate (mg s^{-1} or $\mu\text{g s}^{-1}$)
Q_o	Stream or barn outlet moist airflow rate at T_o ($\text{m}^3 \text{ s}^{-1}$)
P_o	Exhaust air pressure (atm)
M	Gas molecular weight (g mol^{-1})
R	Universal Gas Constant ($0.08206 \text{ L atm/mol}^{-1} \text{ }^\circ\text{K}^{-1}$)
T_o	Exhaust air temperature ($^\circ\text{C}$)
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. The inventory data from 9/13/07 to 10/31/08 is estimated from the average inventory after 10/31/08 available from the producer. The cow mass was an estimate by the producer.

Milk production data from the second year of monitoring indicate milk production ranged from 27 to 34 $\text{L d}^{-1} \text{ cow}^{-1}$, and the ADM was $31 \text{ L d}^{-1} \text{ cow}^{-1}$.

4.2. Characteristics of Biomaterials

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

4.3. Environmental Conditions

4.3.1. Ambient conditions

According to historical climatic information (Table 18), daytime average high temperatures ranges from -6°C in the winter to 29°C in the summer. Average overnight lows range from -16°C in winter to 17°C in summer. Typical prevailing winds for the region are from the northwest in the winter and south and southeast during the rest of the year.

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 7.2°C, while the historical annual average for the area was 7°C (Table 18). The DM temperatures ranged from -23.5°C to 27.9°C during the monitoring period.

Table 3. Monthly averages for weather conditions in the area*.

Month	Temperature*, °C			Wind speed km•h⁻¹	Wind direction
	High	Low	Mean		
January	-6	-16	-11	17	NW
February	-3	-13	-7	17	NW
March	4	-5	-1	19	NW
April	14	2	7	20	N
May	21	9	14	17	ESE
June	26	14	19	17	SE
July	29	17	22	16	S
August	27	16	20	15	S
September	22	10	16	16	S
October	15	4	9	17	NW
November	5	-4	0	17	NW
December	-4	-12	-8	17	NW
Annual average	13	1	7		

* <http://www.weather.com/outlook/health/allergies/wxclimatology/monthly/54002>

4.3.2. Barn Conditions

The environmental conditions in B1 and B2 are shown in Table F3. Figure 4 shows the DM barn exhaust temperature dropped to -6.3°C in B1 and -7.4°C in B2 during the winter, and ice buildup on the exhaust fan shutters was noted by the site personnel.

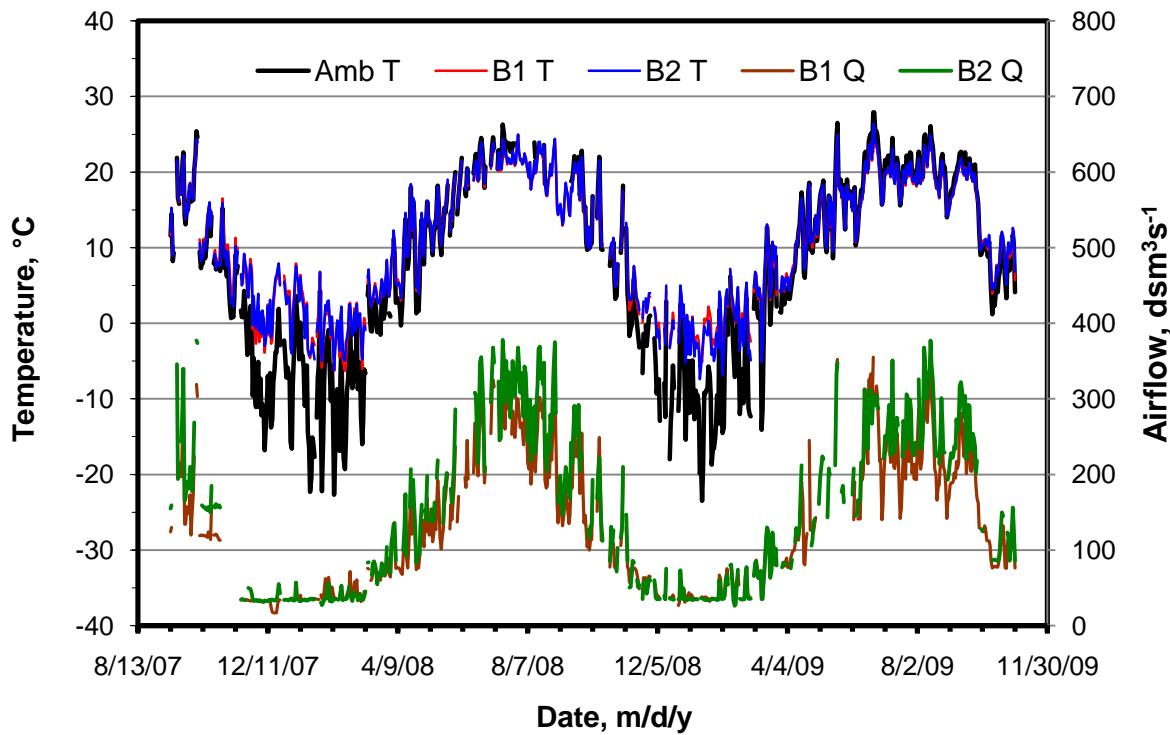


Figure 4. Inlet and exhaust temperatures (T) and airflow rates (Q) for B1 and B2.

4.3.3. Ventilation Rates

The mean (\pm SD) static pressure differential was -8.7 ± 5.9 Pa in B1 and -6.7 ± 5.3 Pa in B2. The fraction of time that the pressure was positive was 3.8% and 8.0% for B1 and B2, respectively. Most of the positive pressures were likely wind-induced. Static pressure was between 0 and -30 Pa over 90% of the time for both barns.

The maximum daily mean airflow measurement for B1 occurred on 6/22/09 and for B2 on 7/15/08. The ventilation rate of B1 ranged from $17 \text{ m}^3 \text{s}^{-1}$ in winter to $355 \text{ m}^3 \text{s}^{-1}$ during the summer. The ventilation rate of B2 ranged from $26 \text{ m}^3 \text{s}^{-1}$ in winter to $378 \text{ m}^3 \text{s}^{-1}$ during the summer.

4.4. Particulate Matter Concentration and Emissions

4.4.1. PM₁₀

The DM inlet PM₁₀ concentration ranged from 2 to $83 \mu\text{g dsm}^{-3}$, whereas the DM B1 and B2 PM₁₀ exhaust concentrations ranged from 0 to 196 and from -42 to $196 \mu\text{g dsm}^{-3}$, respectively (Table F4).

The ADM inlet, B1 and B2 PM₁₀ concentrations were 18 ± 13 , 39 ± 28 and $45 \pm 35 \mu\text{g dsm}^{-3}$, respectively (Table F4).

The overall mean PM₁₀ emission rates were $363 \pm 578 \text{ g d}^{-1}$ ($1751 \pm 2761 \text{ mg d}^{-1} \text{ cow}^{-1}$) for B1 and $563 \pm 818 \text{ g d}^{-1}$ ($1572 \pm 2283 \text{ mg d}^{-1} \text{ cow}^{-1}$) for B2 (Figure 5 and Table F5).

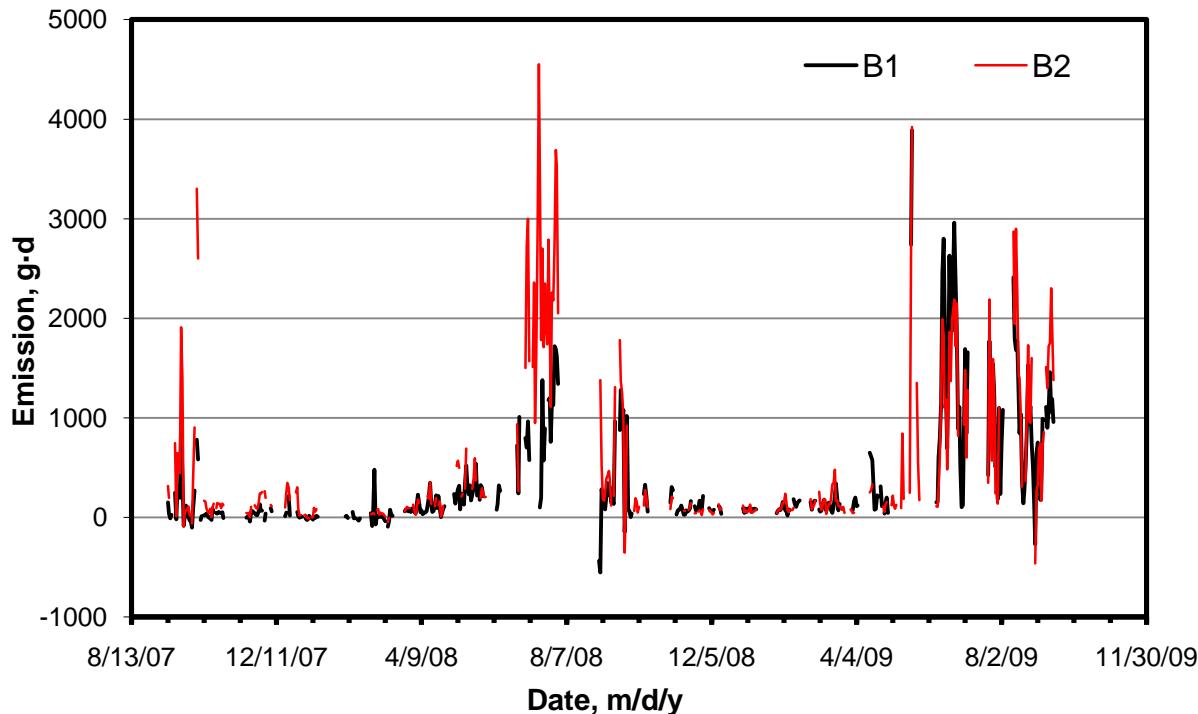


Figure 5. Daily mean PM₁₀ emissions.

4.4.2. PM_{2.5}

Data from the four PM_{2.5} measurement periods are shown in Tables F4 and F6. Daily mean concentrations of PM_{2.5} ranged from 2 to 33 $\mu\text{g dsm}^{-3}$ in the inlet air ($n=62$ d), 6 to 39 $\mu\text{g dsm}^{-3}$ in B1 exhaust air ($n= 52$ d) and from 7 to 35 $\mu\text{g dsm}^{-3}$ in B2 exhaust air ($n= 48$ d) (Table F4).

The ADM inlet, and B1 and B2 exhaust concentrations were 10 ± 7 , 20 ± 7 and $19 \pm 8 \mu\text{g dsm}^{-3}$, respectively (Table F4).

The mean PM_{2.5} emission rates during cold weather sampling (1/16/09 to 2/4/08 and 1/14/09 to 1/26/09) were 25 and 29 g d^{-1} from B1 ($n= 23$ d) and B2 ($n= 18$ d), respectively (Figure 6). The mean PM_{2.5} emission rates from B1 and B2 during hot weather sampling (8/2/08 to 8/17/08 and 7/7/09 to 7/20/09) were 231 and 292 g d^{-1} , respectively.

The overall mean (\pm SD) PM_{2.5} emission rates were $142 \pm 145 \text{ g d}^{-1}$ ($662 \pm 672 \text{ mg d}^{-1} \text{ cow}^{-1}$) from B1, and $187 \pm 204 \text{ g d}^{-1}$ ($529 \pm 576 \text{ mg d}^{-1} \text{ cow}^{-1}$) from B2 (Table F6 and Figure 6).

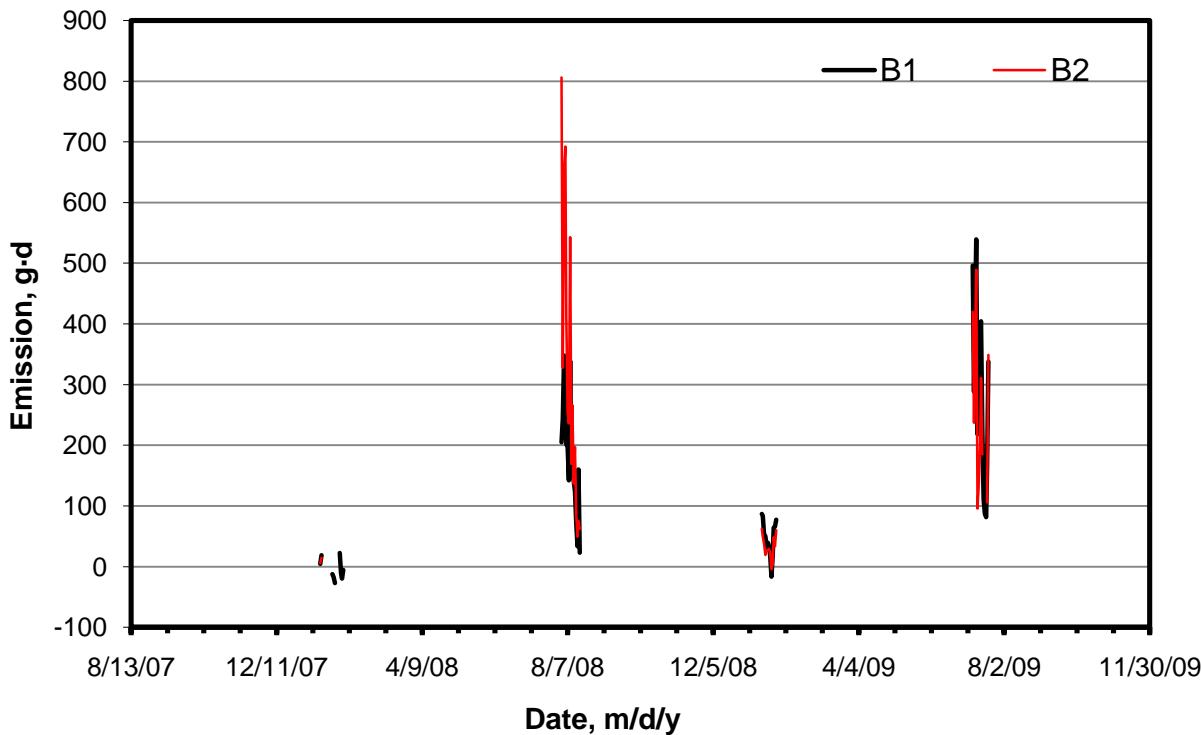


Figure 6. Daily mean PM_{2.5} emissions.

4.4.3. TSP

Data from the thirteen TSP measurement periods are shown in Tables F4 and F7. Daily mean TSP concentrations ranged from 3 to 109 µg dsm⁻³ in the inlet air (n=102 d), -49 to 210 µg dsm⁻³ in B1 exhaust air (n=92 d) and from 15 to 295 µg dsm⁻³ in B2 exhaust air (n=96 d) (Table F4).

The ADM (\pm SD) inlet, and B1 and B2 exhaust concentrations were 22 ± 19 , 83 ± 53 and 80 ± 57 µg dsm⁻³, respectively (Table F4).

Emission rates are shown in Figure 7. The ADM TSP emissions ranged from -450 to 4200 g d⁻¹ (Table F7). The overall mean (\pm SD) TSP emission rates were 850 ± 827 g d⁻¹ (4198 ± 4166 mg d⁻¹ cow⁻¹) for B1 (n= 82 d), and 879 ± 943 sd g d⁻¹ (2437 ± 2601 mg d⁻¹ cow⁻¹) for B2 (n=76 d) (Figure 7).

4.5. VOC Concentrations and Emissions

The 20 most prevalent VOCs detected in the canister samples accounted for 95.4% of the total quantified mass (Table 4). The most prevalent compound was n-Propanol, which accounted for 34.4% of the total mass.

Concentrations of total VOC in exhaust air ranged from 0.49 to 10.14 mg m⁻³ in B1 and from 0.71 to 5.97 mg m⁻³ in B2 (Table 19). The mean total VOC concentrations were 2.52 ± 3.43 and 2.21 ± 1.78 mg m⁻³ in B1 and B2, respectively.

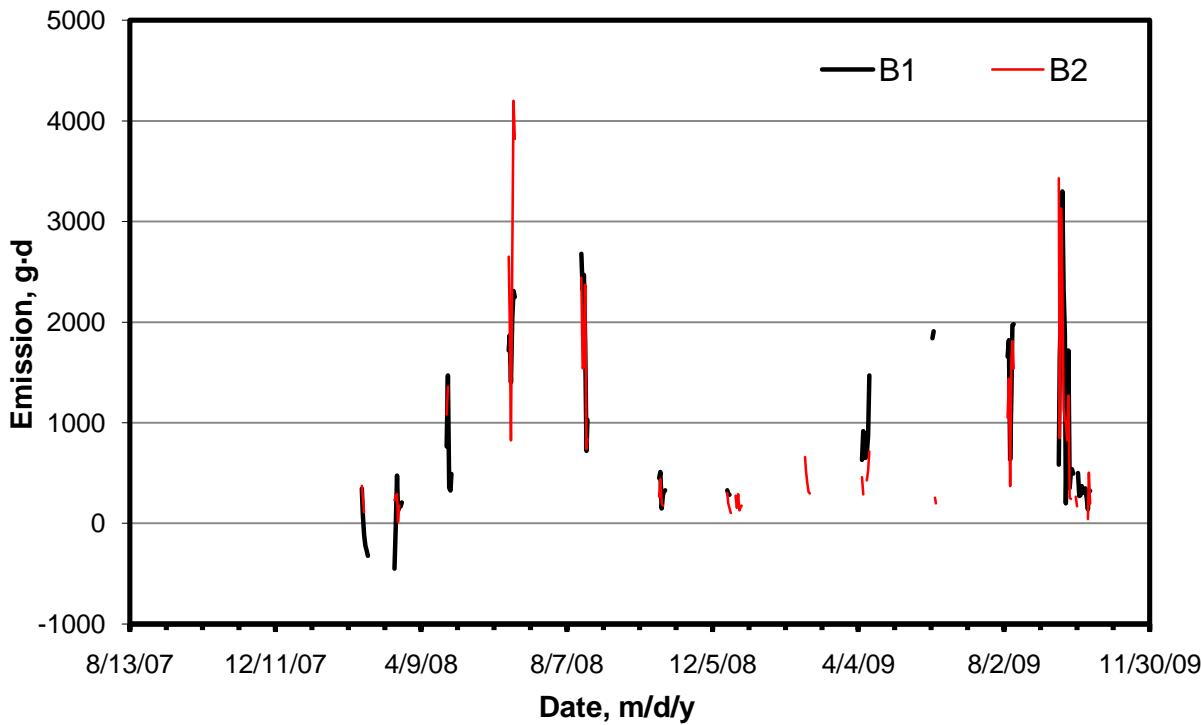


Figure 7. Daily mean TSP emissions.

Total VOC emissions (ng s^{-1}) during each sampling period were determined by multiplying the mean building airflow rate ($\text{m}^3 \text{s}^{-1}$) by the total mass (ng m^{-3}) and converting to kg d^{-1} . The VOC emission rate from B1 and B2 ranged from 12.2 to 20.4 kg d^{-1} , and from 14.3 to 64.4 kg d^{-1} , respectively. The mean VOC emission rates from B1 and B2 were $15.7 \pm 3.0 \text{ kg d}^{-1}$, and $29.5 \pm 20.5 \text{ kg d}^{-1}$, respectively (Table 5).

4.6. Hydrogen Sulfide Concentrations and Emissions

Daily mean inlet and exhaust H₂S concentrations for the entire test are provided in Table F8.

The average daily mean ($\pm \text{SD}$) H₂S concentrations were approximately 5 ± 10 (n=741) and 6 ± 14 (n=737) ppb in the south and north air inlets respectively, and 102 ± 145 (n=699) and 97 ± 151 (n=693) ppb in the exhausts of B1 and B2, respectively.

Daily mean H₂S emissions from B1 and B2 are tabulated in Table F9 and plotted in Figure 8 for the entire test period. A large shift in the emission levels occurred following the change from the flush manure removal system to the scrape manure removal system between 9/17/08 and 9/19/08.

The ADM H₂S emission rates from B1 and B2 were 1.04 ± 1.29 (n=598) and 0.86 ± 1.11 (n=555) kg d^{-1} , respectively.

The ADM cow-specific H₂S emission rates from B1 and B2 were 4.94 ± 6.11 (n=598) and 2.42 ± 3.14 (n=555) $\text{g d}^{-1} \text{ cow}^{-1}$, respectively.

Table 4. Average concentrations of 20 most prevalent VOC.

Compound	Concentration, ng·m ⁻³	% of total	Cumulative %
n-Propanol	8.15E+05	42.08%	42.1
Ethyl acetate	3.87E+05	19.96%	62.0
iso-Propanol	1.76E+05	9.06%	71.1
Acetaldehyde	1.23E+05	6.33%	77.4
n-Propyl acetate	8.70E+04	4.49%	81.9
2-Butanone	4.90E+04	2.53%	84.5
Dimethyl sulfide	4.40E+04	2.27%	86.7
2-Butanol	2.59E+04	1.34%	88.1
Acetic acid	1.50E+04	0.77%	88.8
4-Methyl-phenol	1.32E+04	0.68%	89.5
Phenol	1.31E+04	0.68%	90.2
1-Butanol	1.29E+04	0.67%	90.9
Hexane	9.95E+03	0.51%	91.4
Pentane	9.75E+03	0.50%	91.9
Pentanal	9.61E+03	0.50%	92.4
Propanoic acid	9.27E+03	0.48%	92.9
Hexanal	7.80E+03	0.40%	93.3
Nonanal	7.68E+03	0.40%	93.7
Butanal	7.68E+03	0.40%	94.0
Heptanal	7.15E+03	0.37%	94.4

Table 5. Emission of total VOC.

Date	# canisters		Concentration, mg m ⁻³		Airflow, m ³ s ⁻¹		Emission, kg d ⁻¹	
	B1	B2	B1	B2	B1	B2	B1	B2
04/06/09	2	2	2.39	2.41	75.3	68.8	15.5	14.3
06/15/09	2	2	1.18	1.10	158	210	16.1	20.1
07/20/09	2	2	0.85	2.27	279	329	20.4	64.4
08/24/09	2	2	0.49	1.05	291	343	12.2	31.1
09/07/09	2	2	0.73	0.71	229	288	14.4	17.6
11/09/09	2	2	1.87	1.98	N/A	N/A	N/A	N/A
12/07/09	2	2	4.13	5.97	N/A	N/A	N/A	N/A
Mean	2	2	1.66	2.21	206	248	16.6	32.5

4.7. Ammonia Concentrations and Emissions

Daily mean inlet and exhaust NH₃ concentrations for the entire test are provided in Table F10.

The average daily mean (\pm SD) NH₃ concentrations were approximately 0.1 \pm 0.1 (n=702) ppm in the inlet air, and 1.7 \pm 0.9 (n=661) and 1.8 \pm 1.0 (n=655) ppm in the exhausts of B1 and B2, respectively.

Daily mean NH_3 emissions from B1 and B2 are tabulated in Table F11 and plotted in Figure 9 for the entire test period. The ADM ($\pm\text{SD}$) NH_3 emission rates from B1 and B2 were 8.50 ± 2.88 ($n=564$) and 11.07 ± 4.44 ($n=523$) g d^{-1} , respectively.

The ADM ($\pm\text{SD}$) cow-specific NH_3 emission rates from B1 and B2 were 41.0 ± 15.3 and $30.9 \pm 11.8 \text{ g d}^{-1} \text{ cow}^{-1}$, respectively.

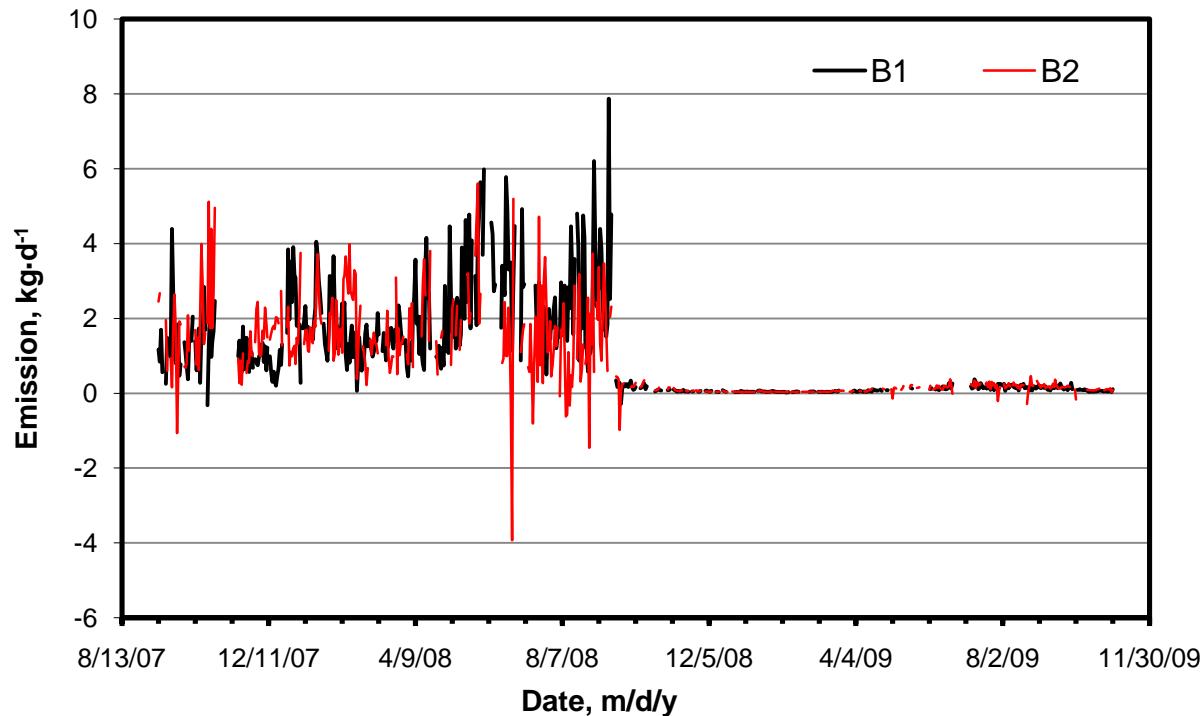


Figure 8. Daily mean H_2S emissions from barns 1 and 2.

4.8. Emission Data Completeness

Daily completeness data is given in Table 21. The number of complete data days (>75% valid required for reporting a daily mean) were calculated for emission measurements conducted from 9/12/07 to 10/31/09.

Table 21. Emission data completeness.

Location	Days with >75% valid emission data				
	NH_3	H_2S	PM_{10}	$\text{PM}_{2.5}$	TSP
Barn 1	564	598	400	53	82
Barn 2	523	555	362	45	76

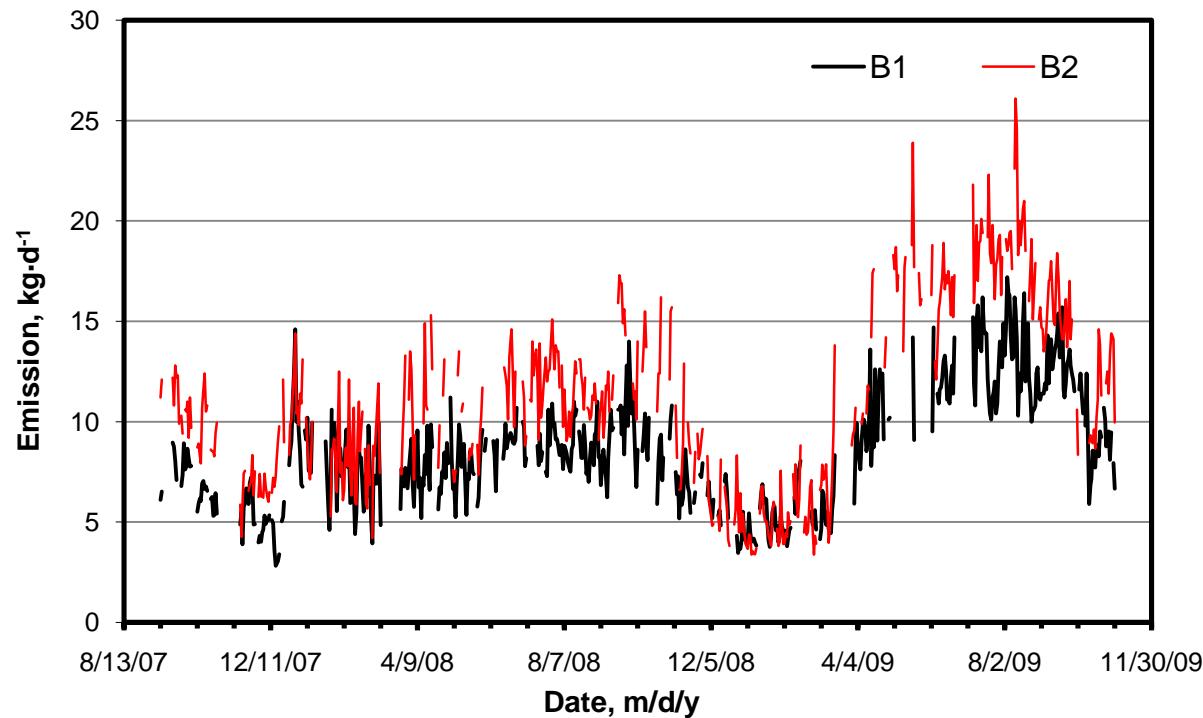


Figure 9. Daily mean NH₃ emissions.

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 $131 \pm 88 \text{ dsm}^3 \text{ s}^{-1}$ ($n=630$) and $150 \pm 105 \text{ dsm}^3 \text{ s}^{-1}$ ($n=589$), respectively. An average of 11.4 fans operated in all rooms at which condition the airflow measurement uncertainty was 4.8%, based on the fan model.

4.9.2. Gas Emissions

The bias and precision of NH₃ concentration measurements were derived from the NH₃ zero/span checks as compared with the NH₃ correction models (Table 11). The bias and precision of NH₃ measurements were 0.0% and 1.7%, respectively.

The bias and precision of H₂S concentration measurements were derived from the H₂S zero and span checks as compared with the H₂S correction models (Table 13). The bias and precision of H₂S measurements were 0.0% and 2.0%, respectively.

Based on these measurement errors calculated for concentrations and airflows, the uncertainties of NH₃ and H₂S emissions from B1 and B2 were 6.6 and 6.9%, respectively.

4.9.3. PM Emissions

The precision of PM₁₀, TSP and PM_{2.5} concentration measurements were 2.6, 5.3, and 5.9% based on collocation tests of TEOMs in exhaust air at a separate monitored dairy. The relative biases of the TEOMs were 0.00 and -0.24% for B1 and B2, also based on tests of TEOMs at a separate monitored dairy. The uncertainties of PM₁₀, TSP and PM_{2.5} emissions from B1 and B2 were 7.7, 12.0 and 13.1%, respectively.

5. SUMMARY

The emissions of NH₃, H₂S, PM₁₀, TSP, PM_{2.5} and VOCs from two freestall barns (B1 and B2) at a dairy facility in Wisconsin were measured during a two-year monitoring study. The buildings were cross-ventilated with single-speed fans.

The overall average emission rates from B1 were 2.88 kg d⁻¹ of NH₃, 1.29 kg d⁻¹ of H₂S, 363 g d⁻¹ of PM₁₀, 141 g d⁻¹ of PM_{2.5}, 850 g d⁻¹ of TSP, and 15.7 kg d⁻¹ of total VOC. The overall average emission rates from B2 were 11.1 kg d⁻¹ of NH₃, 0.86 g d⁻¹ of H₂S, 563 g d⁻¹ of PM₁₀, 187 g d⁻¹ of PM_{2.5}, 879 g d⁻¹ of TSP, and 29.5 kg d⁻¹ of total VOC.

6. REFERENCES

BESS. 2007. Project No. 07366. Bioenvironmental and Structural Systems, Department of Agricultural Engineering, University of Illinois, Urbana, IL.

Ni, J.-Q., A./J. Heber, M.J. Darr, T. T. Lim, C.A. Diehl, and B.W. Bogan. 2009. Air quality monitoring and on-site computer system for livestock and poultry environment studies. *Transactions of the ASABE* 52(3): 937-947.

Ni, J.-Q. and A.J. Heber. 2010. An on-site computer system for comprehensive agricultural air quality research. *Computers and Electronics in Agriculture* 71(1):38-49.

7. DEFINITIONS

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 ₂ S	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
QA	Quality assurance
QAPP	Quality assurance project plan
QC	Quality control
OFIS	On farm instrument shelter
PM	Particulate matter
PREF	Primary representative exhaust fan
RH/T	Relative humidity/temperature
RH	Relative humidity
SD	Standard deviation
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	---			PC clock	---
2	Smpl loc#	---			LabVIEW	---
3	Cal gas #	Environics	Rack		Serial port	---
4	Cal gas, ppm	Environics	Rack		Serial port	---
5	NH3, ppm	Innova 1412	Rack	11 GSLs	Serial port	---
6	CO2, ppm	Innova 1412	Rack	11 GSLs	Serial port	---
10	WV, Tdew	Innova 1412	Rack	11 GSLs	Serial port	---
11	H2S, ppb	H2S analyzer	Rack	11 GSLs	0-10 VDC	FP-AI-112-1
12	SO2, ppb	H2S analyzer	Rack	11 GSLs	0-10 VDC	FP-AI-112-1
13	Smpl P, Pa	Setra 209 P sensor	GSS	11 GSLs	0.5-5.5 V	FP-AI-112-1
14	Smpl Q, L/m	Mass flow	GSS	11 GSLs	0-5 VDC	FP-AI-112-1
15	Smpl RH, %	Humitter 50Y, RH	GSS	11 GSLs	0-1VDC	FP-AI-112-1
16	Smpl T, C	Humitter 50Y, T	GSS	11 GSLs	0-1VDC	FP-AI-112-1
17	Smpl dir, %t	Flow dir sensor	GSS	11 GSLs	-0.1 to 0.1V	FP-AI-112-1
18	GSS T, C	AD 592D T sensor	GSS	GSS	136.5-171.5mV	FP-AI-112-1
19	B1 PM, µg/m3	TEOM #1	B1	B1 fan 20	0-10 VDC	FP-AI-112-1
20	B1 Filter, %	TEOM #1	B1	B1 fan 20	0-10 VDC	FP-AI-112-1
21	B1 Atm P, Pa	TEOM #1	B1	B1 fan 20	0-10 VDC	FP-AI-112-1
22	B2 PM, µg/m3	TEOM #2	B2	B2 fan 42	0-10 VDC	FP-AI-112-1
23	B2 Filter, %	TEOM #2	B2	B2 fan 42	0-10 VDC	FP-AI-112-1
24	Amb PM, µg/m3	Beta Gauge	Inlet	1 m outside of center of B2 N wall	0-10 VDC	FP-AI-112-1
25	Amb filter, %	Beta Gauge	Inlet	1 m outside of center of B2 N wall	0-10 VDC	FP-AI-112-1
26	B1N ΔP, Pa	Setra 260 ΔP sensor #1	B1 N	B1 N wall	0-10 VDC	FP-AI-112-1
27	B1S ΔP, Pa	Setra 260 ΔP sensor #2	B1 S	B2 S wall	0-10 VDC	FP-AI-112-2
28	OFIS ΔP, Pa	Setra 260 ΔP sensor #3	OFIS	Inside and outside of OFIS	0-10 VDC	FP-AI-112-2
29	Wind D, deg	Wind monitor 05103-5	Roof	Manure flush tank tower	0-5 VDC	FP-AI-112-2
30	Wind V, m/s	Wind monitor 05103-5	Roof	Manure flush tank tower	0-5VDC	FP-AI-112-2
31	Solar, W/m2	Solar sensor	Roof	Manure flush tank tower	0-1VDC	FP-AI-112-2
32	Amb RH, %	NOVUS RHT-WM #1	Roof	Manure flush tank tower	0-10 VDC	FP-AI-112-2

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range / target	DAC item
33	Amb T, C	NOVUS RHT-WM #1	Roof	Manure flush tank tower	0-10 VDC	FP-AI-112-2
34	B1F20 RH, %	NOVUS RHT-WM #2	B1F20	B1 fan 20	0-10 VDC	FP-AI-112-2
35	B1F20 T, C	NOVUS RHT-WM #2	B1F20	B1 fan 20	0-10 VDC	FP-AI-112-2
36	B2F42 RH, %	NOVUS RHT-WM #3	B2F42	B2 fan 42	0-10 VDC	FP-AI-112-2
37	B2F42 T, C	NOVUS RHT-WM #3	B2F42	B2 fan 42	0-10 VDC	FP-AI-112-2
38	B1E Act , V	Activity sensor #1	B1E	B1 middle of E wall	-2-2 VDC	FP-AI-112-2
39	B1W Act , V	Activity sensor #2	B1W	B1 middle of W wall	-2-2 VDC	FP-AI-112-2
40	B1S Act , V	Activity sensor #3	B1S	B1 S entrance to holding barn	-2-2 VDC	FP-AI-112-2
41	B2E Act , V	Activity sensor #4	B2E	B2 middle of E wall	-2-2 VDC	FP-AI-112-2
42	B2W Act , V	Activity sensor #5	B2W	B2 middle of W wall	-2-2 VDC	FP-AI-112-2
43	B2S Act , V	Activity sensor #6	B2S	B2 S entrance to hallway	-2-2 VDC	FP-AI-112-3
44	OFIS Act , V	Activity sensor #7	OFIS	OFIS	-2-2 VDC	FP-AI-112-3
45	B1S WV, m/s	81000 sonic	B1S	B1 S entrance to holding barn	0-5 VDC	FP-AI-112-3
46	B1S WD, d	81000 sonic	B1S	B1 S entrance to holding barn	0-5 VDC	FP-AI-112-3
47	B1S Elv, d	81000 sonic	B1S	B1 S entrance to holding barn	0-5 VDC	FP-AI-112-3
48	B1S T, K	81000 sonic	B1S	B1 S entrance to holding barn	0-5 VDC	FP-AI-112-3
49	N Hwy WV, m/s	81000 sonic	B1S	Hallway N end b/w barns	0-5 VDC	FP-AI-112-3
50	N Hwy WD, d	81000 sonic	B1S	Hallway N end b/w barns	0-5 VDC	FP-AI-112-3
51	N Hwy Elv, d	81000 sonic	B1S	Hallway N end b/w barns	0-5 VDC	FP-AI-112-3
52	N Hwy T, K	81000 sonic	B1S	Hallway N end b/w barns	0-5 VDC	FP-AI-112-3
53	Ane 1, V	Anemometer 1		B1 by TEOM fan 20	0-5VDC	FP-AI-112-3
54	Ane 2, V	Anemometer 2		B2 by TEOM fan 42	0-5VDC	FP-AI-112-3
59	B1F20 T, C	TC T type	B1F8	B1 fan 8		FP-TC-120-1
60	B1F53 T, C	TC T type	B1F53	B1 fan 53		FP-TC-120-1
61	B1N T, C	TC T type	B1N	B1 N end in barn center		FP-TC-120-1
62	B1MidN T, C	TC T type	B1MidN	B1 middle of N end of barn center		FP-TC-120-1
63	B1MidS T, C	TC T type	B1MidS	B1 middle of S end of barn center		FP-TC-120-1
64	B1S T, C	TC T type	B1S	B1 S end of barn center		FP-TC-120-1
65	B2F9 T, C	TC T type	B2F9	B2 fan 9		FP-TC-120-1
66	B2F25 T, C	TC T type	B2F25	B2 fan 25		FP-TC-120-1
67	B2F58 T, C	TC T type	B2F58	B2 fan 58		FP-TC-120-2
68	B2N T, C	TC T type	B2N	B2 N end of barn center		FP-TC-120-2

Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range / target	DAC item
69	B2MidN T, C	TC T type	B2MidN	B2 middle of N end of barn center		FP-TC-120-2
70	B2MidS T, C	TC T type	B2MidS	B2 middle of S end of barn center		FP-TC-120-2
71	B2S T, C	TC T type	B2S	B2 S end of barn center		FP-TC-120-2
73	RwyB1 T, C	TC T type	RwyB1	OFIS/B1 rwy		FP-TC-120-2
74	RwyB1 HT, C	TC T type	RwyB1 HT	OFIS/B1 rwy		FP-TC-120-2
77	RwySS T, C	TC T type	RwySS	B1/B2 rwy		FP-TC-120-3
78	RwySS HT, C	TC T type	RwySS HT	B1/B2 rwy		FP-TC-120-3
79	OFIS T, C	TC T type	OFIS	DAC panel		FP-TC-120-3
80	OFIS AC T, C	TC T type	OFIS AC	Wall A/C exhaust		FP-TC-120-3
83	B1F8, rpm	Fan speed sensor #1	B1F8	Fan shaft or support	5-24VDC	USB-4303-1
84	B1F20, rpm	Fan speed sensor #2	B1F20	Fan shaft or support	5-24VDC	USB-4303-1
85	B1F21, rpm	Fan speed sensor #3	B1F21	Fan shaft or support	5-24VDC	USB-4303-1
86	B1F22, rpm	Fan speed sensor #4	B1F22	Fan shaft or support	5-24VDC	USB-4303-1
87	B1F23, rpm	Fan speed sensor #5	B1F23	Fan shaft or support	5-24VDC	USB-4303-1
88	B1F30, rpm	Fan speed sensor #6	B1F30	Fan shaft or support	5-24VDC	USB-4303-1
89	B1F31, rpm	Fan speed sensor #7	B1F31	Fan shaft or support	5-24VDC	USB-4303-1
90	B1F32, rpm	Fan speed sensor #8	B1F32	Fan shaft or support	5-24VDC	USB-4303-1
91	B1F37, rpm	Fan speed sensor #9	B1F37	Fan shaft or support	5-24VDC	USB-4303-1
92	B1F53, rpm	Fan speed sensor #10	B1F53	Fan shaft or support	5-24VDC	USB-4303-1
93	B1F29, rpm	Fan speed sensor #11	B1F29	Fan shaft or support	5-24VDC	USB-4303-2
94	B2F9, rpm	Fan speed sensor #12	B2F9	Fan shaft or support	5-24VDC	USB-4303-2
95	B2F24, rpm	Fan speed sensor #13	B2F24	Fan shaft or support	5-24VDC	USB-4303-2
96	B2F25, rpm	Fan speed sensor #14	B2F25	Fan shaft or support	5-24VDC	USB-4303-2
97	B2F26, rpm	Fan speed sensor #15	B2F26	Fan shaft or support	5-24VDC	USB-4303-2
98	B2F27, rpm	Fan speed sensor #16	B2F27	Fan shaft or support	5-24VDC	USB-4303-2
99	B2F38, rpm	Fan speed sensor #17	B2F38	Fan shaft or support	5-24VDC	USB-4303-2
100	B2F54, rpm	Fan speed sensor #18	B2F54	Fan shaft or support	5-24VDC	USB-4303-2
101	B2F35, rpm	Fan speed sensor #19	B2F35	Fan shaft or support	5-24VDC	USB-4303-2
102	B2F36, rpm	Fan speed sensor #20	B2F36	Fan shaft or support	5-24VDC	USB-4303-2
103	B2F37, rpm	Fan speed sensor #21	B2F37	Fan shaft or support	5-24VDC	USB-4303-3
104	B2F42, rpm	Fan speed sensor #22	B2F42	Fan shaft or support	5-24VDC	USB-4303-3
105	B2F58, rpm	Fan speed sensor #23	B2F58	Fan shaft or support	5-24VDC	USB-4303-3

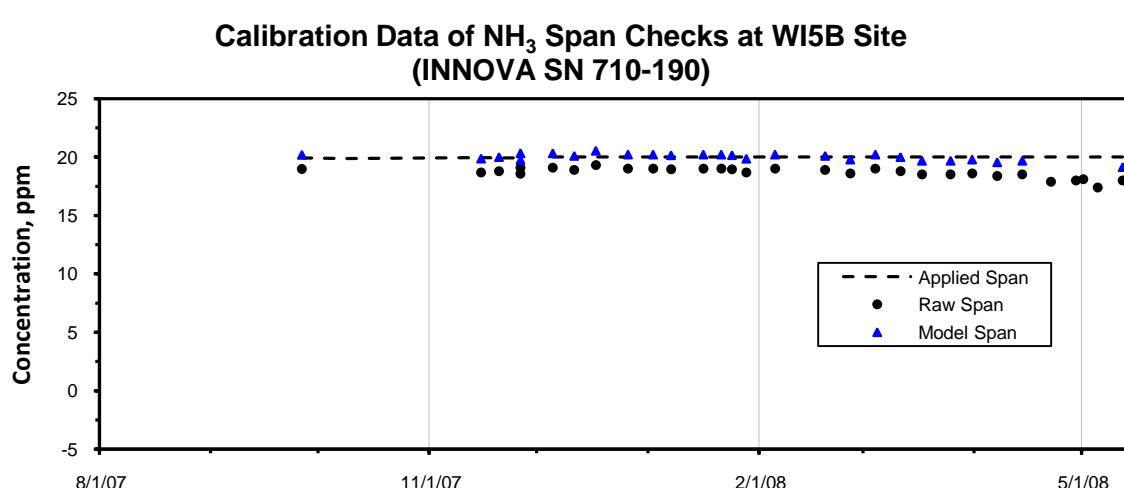
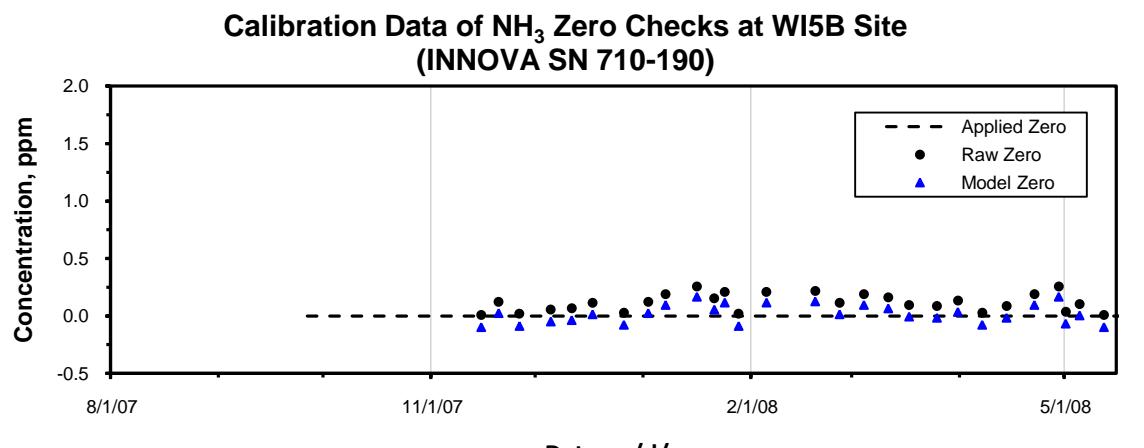
Col#	Data heading	Instrument/sensor	Location	Monitoring/control location	Range / target	DAC item
106	B1F49, rpm	Fan speed sensor #24	B1F49	Fan shaft or support	5-24VDC	USB-4303-3
113	B1Fstg1, %t	Barn controller	B1Fstg1	Barn control cabinet	0/5 VDC	DIO 96H/50
114	B1Fstg2, %t	Barn controller	B1Fstg2	Barn control cabinet	0/5 VDC	DIO 96H/50
115	B1Fstg3, %t	Barn controller	B1Fstg3	Barn control cabinet	0/5 VDC	DIO 96H/50
116	B1Fstg4, %t	Barn controller	B1Fstg4	Barn control cabinet	0/5 VDC	DIO 96H/50
118	B2Fstg1, %t	Barn controller	B2Fstg1	Barn control cabinet	0/5 VDC	DIO 96H/50
119	B2Fstg2, %t	Barn controller	B2Fstg2	Barn control cabinet	0/5 VDC	DIO 96H/50
120	B2Fstg3, %t	Barn controller	B2Fstg3	Barn control cabinet	0/5 VDC	DIO 96H/50
121	B2Fstg4, %t	Barn controller	B2Fstg4	Barn control cabinet	0/5 VDC	DIO 96H/50
123	B1F13, %t	CR9380-NPN #1	B1F13	Current sensor for fan	0/5 VDC	DIO 96H/50
124	B1F14, %t	CR9380-NPN #2	B1F14	Current sensor for fan	0/5 VDC	DIO 96H/50
125	B1F15, %t	CR9380-NPN #3	B1F15	Current sensor for fan	0/5 VDC	DIO 96H/50
126	B1F16, %t	CR9380-NPN #4	B1F16	Current sensor for fan	0/5 VDC	DIO 96H/50
127	B1F38, %t	CR9380-NPN #5	B1F38	Current sensor for fan	0/5 VDC	DIO 96H/50
128	B1F39, %t	CR9380-NPN #6	B1F39	Current sensor for fan	0/5 VDC	DIO 96H/50
129	B1F40, %t	CR9380-NPN #7	B1F40	Current sensor for fan	0/5 VDC	DIO 96H/50
130	B1F41, %t	CR9380-NPN #8	B1F41	Current sensor for fan	0/5 VDC	DIO 96H/50
131	B2F5, %t	CR9380-NPN #9	B2F5	Current sensor for fan	0/5 VDC	DIO 96H/50
132	B2F6, %t	CR9380-NPN #10	B2F6	Current sensor for fan	0/5 VDC	DIO 96H/50
133	B2F7, %t	CR9380-NPN #11	B2F7	Current sensor for fan	0/5 VDC	DIO 96H/50
134	B2F8, %t	CR9380-NPN #12	B2F8	Current sensor for fan	0/5 VDC	DIO 96H/50
135	B2F46, %t	CR9380-NPN #13	B2F46	Current sensor for fan	0/5 VDC	DIO 96H/50
136	B2F47, %t	CR9380-NPN #14	B2F47	Current sensor for fan	0/5 VDC	DIO 96H/50
137	B2F48, %t	CR9380-NPN #15	B2F48	Current sensor for fan	0/5 VDC	DIO 96H/50
138	B2F49, %t	CR9380-NPN #16	B2F49	Current sensor for fan	0/5 VDC	DIO 96H/50

APPENDIX B. MAINTENANCE AND CALIBRATION RECORD

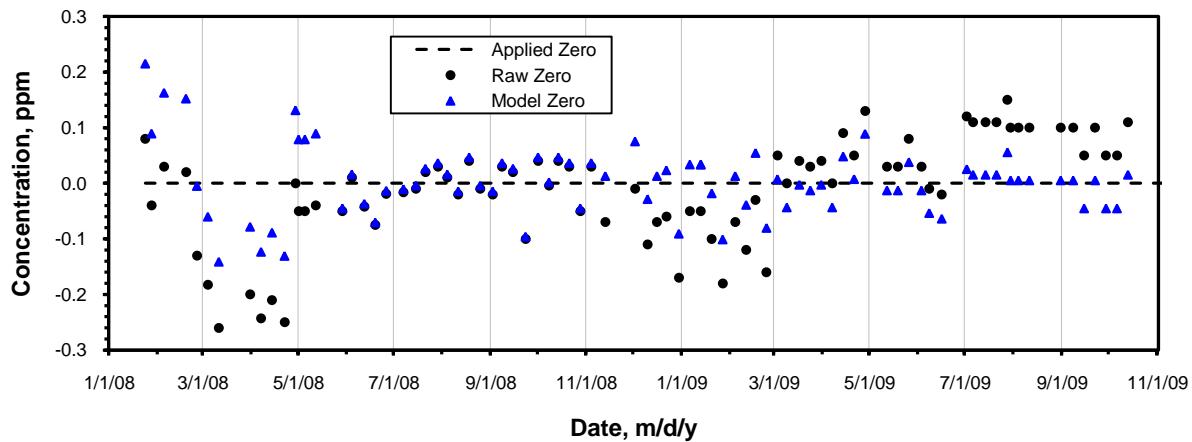
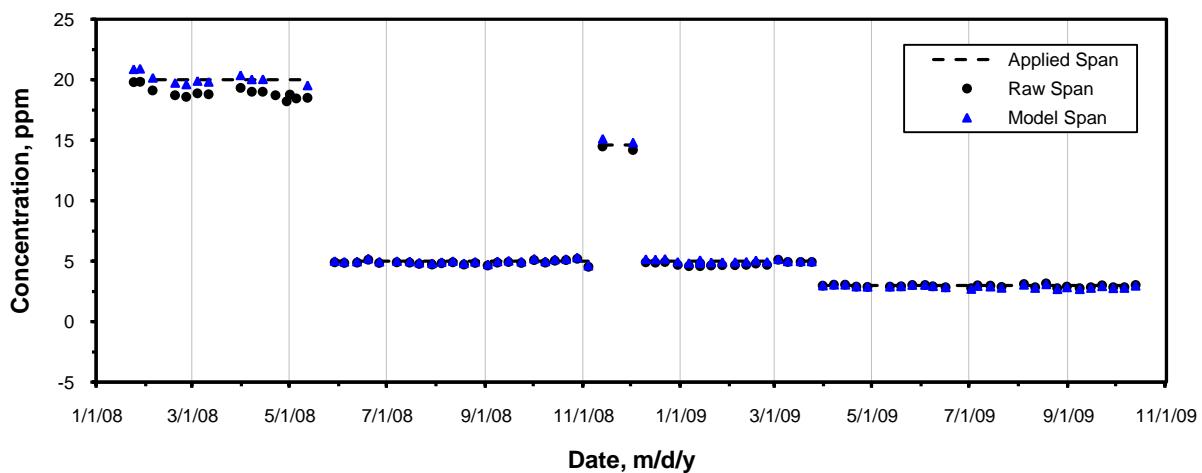
Maintenance and Calibration Tasks	
Category	Times Completed
Environment Sensing and Other	
Clean RH/T probe	31
Calibration check of RH/T probe	2
Calibration check of thermocouples	3
Performance check of weather station	2
Direction verification of wind indicator	0
Clean solar sensor	1
Check solar sensor with collocated sensor	1
Clean motion sensors	9
Air Flow Measurement System	
Fan test events	3
Zero check of pressure sensors (ΔP)	9
Multipoint calibration of pressures sensors (ΔP)	0
Drift & accuracy check of anemometer(s)	0
Particulate Matter Measurement System	
Clean TOEM screens	36
Check/clean TEOM inlet head(s)	36
Replace TEOM filters	46
Verify TEOM mass transducer calibration	1
Leak test of TEOM	4
Verify TEOM flow rate & MFC accuracy	1
Change TEOM in-line filters	0
Check/clean Beta Gauge inlet head	15
Check Beta Gauge airflow	2
Validate Beta Gauge mass w/foil set	1
Calibrate Beta Gauge mass & airflow	0
Gas Measurement System	
Clean/replace GSS membrane filters	13
Leak check of GSS	8
Calibration check of all lines	3
Replace GSS filters	5
Calibrate GSS pressure and flow sensors	0
Flow calibration/check MFC flow of Environics Dilutor	2
Precision check of Multigas Analyzer	98
Multipoint calibration of Multigas Analyzer	7
Precision check of TEC 450I	97
Multipoint calibration of TEC 450I	6

APPENDIX C. GAS ANALYZER ZERO AND SPAN PRECISION CHECKS

Ammonia (INNOVA 1412)

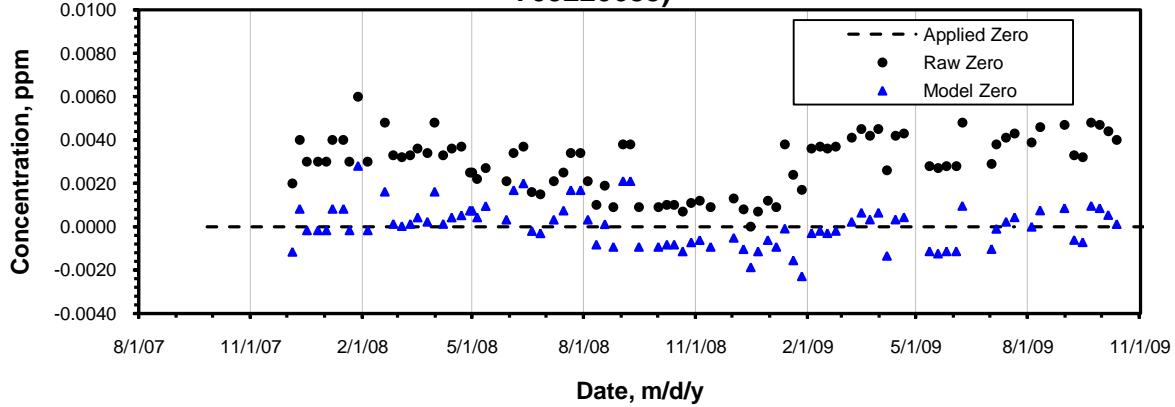


Ammonia (TEC 17C)

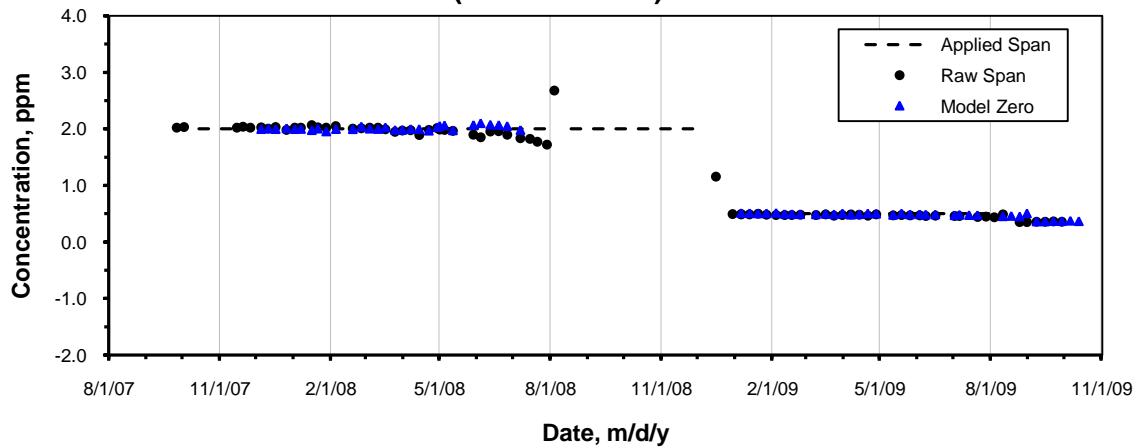
Calibration Data of NH₃ Zero Checks at WI5B Site (17C SN XXXX)**Calibration Data of NH₃ Span Checks at WI5B Site (17C SN XXXX)**

Hydrogen sulfide

**Calibration Data of H₂S Zero Checks at WI5B Site (450i SN
709220683)**



**Calibration Data of H₂S Span Checks at WI5B Site
(450i SN XXXX)**



APPENDIX D. MAJOR DATA INVALIDATIONS

Variable	Start time	End time	Min.	Comment
B2W Act	4/1/2009 8:59	11/2/2009 4:29	309331	DAQ-signal problem attributed to faulty DAC channel
OFIS dP	4/1/2009 13:28	11/2/2009 4:29	309062	Failure-sensor failure
B1F13 CS	9/12/2007 0:00	3/1/2008 0:00	246240	Failure-FN indicate sensor failure
OFIS dP	7/15/2008 12:40	12/3/2008 16:50	203291	Failure-sensor failure
B2F46 RPM	11/12/2007 11:00	3/25/2008 12:30	193050	Failure-sensor failure
B1S Act	10/2/2009 0:47	2/2/2010 4:43	177357	Failure-sensor failure
B1Fstg5	1/1/2009 0:01	5/2/2009 2:31	174391	Off-signals do not exist
B2Fstg5	1/1/2009 0:01	5/2/2009 2:31	174391	Off-signals do not exist
B2W Act	11/6/2008 12:04	3/1/2009 3:09	165066	DAQ-signal problem attributed to faulty DAQ channel
B2W Act	7/21/2008 12:01	11/7/2008 13:10	157030	DAQ-signal problem attributed to faulty DAQ channel
INNOVA NH3	3/8/2009 23:04	6/23/2009 23:36	154113	Out of Range-Analyzer calibration and compensation out of range
B1 PM and filter	10/14/2009 11:46	1/15/2010 13:41	134036	Off-FN indicate TEOMs offline following end of measurements
B2 PM and filter	10/14/2009 11:46	1/15/2010 13:41	134036	Off-FN indicate TEOMs offline following end of measurements
OFIS dP	12/3/2008 10:05	3/1/2009 3:09	126305	Failure-sensor failure
B2F36	5/22/2008 0:01	8/5/2008 15:04	108904	Failure
B2F54	2/2/2008 7:11	4/17/2008 10:51	108221	Failure-FN indicate sensor wires corroded
B1 sonic signals	8/9/2009 11:41	10/9/2009 16:00	88100	Failure-sensor failure
B1F20 RH/T	1/16/2008 18:11	3/17/2008 13:06	87536	Failure
B1F20 RH/T	1/16/2008 18:11	3/17/2008 8:02	87232	Failure-FN and HR comparison show inaccurate RH and T
B2F37	9/3/2009 4:11	11/2/2009 10:02	86752	Failure-site personnel confirm sensor failure
B1 sonic signals	1/2/2009 2:17	3/2/2009 3:47	85051	Failure-FN indicate water damage to anemometer
B2F5-1	12/16/2008 6:05	2/11/2009 11:55	82431	Failure-FN indicate current switch wires were corroded
B1F13- 4	2/29/2008 21:48	4/17/2008 10:01	68414	Failure-FN indicate sensor clip failed to hold sensor closed
Ane 2	2/19/2008 11:26	3/31/2008 9:40	58935	Off-anemometer removed for troubleshooting and repair
B1 sonic signals	9/1/2007 0:00	10/11/2007 11:35	58295	Offline-sensor removed for repairs
B1F29	4/10/2009 0:01	5/19/2009 11:49	56869	Failure-FN indicate water damage to sensor
B1F29	2/14/2009 14:38	3/20/2009 0:42	48125	Failure-FN indicate sensor is not working properly

Variable	Start time	End time	Min.	Comment
OFIS dP	3/1/2009 1:29	4/2/2009 0:41	46033	Failure-sensor failure
B2W Act	3/1/2009 1:29	4/2/2009 0:41	46033	DAQ-signal problem attributed to faulty DAQ channel
B1 sonic signals	3/2/2009 0:54	4/2/2009 0:41	44628	Failure-FN indicate water damage to anemometer
INNOVA signals	6/30/2009 0:01	7/30/2009 9:46	43786	Off-FN indicate INNOVA offline for recalibration
B1S Act	3/12/2009 16:49	4/10/2009 2:32	40904	Failure-sensor failure
55C signals	1/20/2009 11:45	2/17/2009 10:35	40251	Off-FN indicate analyzer offline
B1F8 RPM	9/1/2007 0:00	9/26/2007 14:30	36870	Failure - FN indicate sensor failure
B1S Act	1/27/2009 15:12	2/21/2009 0:31	35120	Systematic error-signal temporarily offline
Ane 2	1/26/2008 12:09	2/19/2008 14:51	34723	Systematic error
B1 sonic signals	10/9/2009 14:29	11/2/2009 10:02	34294	Failure-sensor failure
17C NH3	12/31/2007 22:44	1/24/2008 0:15	33212	Off-17C not installed
Amb RH/T	8/24/2008 17:15	9/15/2008 9:25	31211	Failure-FN indicate sensor failure and sensor tip replaced
B1F29	3/19/2009 23:04	4/10/2009 1:25	30382	Failure-FN indicate sensor is not working properly
Fan stage signals	11/15/2007 10:00	12/5/2007 11:30	28890	DAQ-Fan stage signals incorrect
B1 sonic signals	4/1/2009 20:42	4/21/2009 12:24	28303	Failure-FN indicate water damage to anemometer
Fan stage, current switches,	10/29/2007 0:00	11/15/2007 10:00	25080	Maintenance - Farm was re-wiring fans
INNOVA signals	5/12/2008 11:59	5/29/2008 10:05	24367	Off-INNOVA offline while being recalibrated at CAI
INNOVA NH3	1/16/2008 16:22	1/31/2008 9:38	21197	Systematic error
Amb RH/T	7/28/2008 23:26	8/12/2008 11:46	20901	Failure-FN indicate sensor failure
INNOVA signals	6/5/2008 15:12	6/19/2008 9:21	19810	Off-INNOVA offline while being recalibrated at CAI
17C NH3	3/11/2008 13:39	3/25/2008 3:07	19529	Off-FN indicate 17C offline
B1S Act	4/9/2009 9:55	4/22/2009 3:01	18307	Failure-sensor failure
Fan stage, current switch	12/25/2008 4:54	1/6/2009 12:03	17710	DAQ-DIO96H signals offline following AirDAC restart
B1F53 T	1/15/2009 14:07	1/27/2009 14:30	17304	Noise-noise in TC related to new fluorescent lighting system
B1 PM	12/20/2008 15:09	12/30/2008 12:47	14259	Fan Off-the PREF fan was not working
B1F8 T	1/18/2009 14:17	1/27/2009 14:30	12974	Noise-noise in TC related to new fluorescent lighting system
Fan stage, current switch	11/5/2008 6:11	11/13/2008 11:10	11820	DAQ-DIO96H signals offline following AirDAC restart
B1F8	7/21/2008 10:19	7/29/2008 11:36	11598	Failure-sensor failure attributed to fan washing
Amb PM	8/25/2008 16:53	9/2/2008 17:21	11549	Off-FN indicate Beta Gage was offline
Fan stage, current switch	10/9/2008 6:51	10/16/2008 14:59	10569	DAQ-DIO96H board in error

Variable	Start time	End time	Min.	Comment
All GSS signals	6/23/2009 10:15	6/30/2009 12:51	10237	Off-FN indicate GSS offline in response to AC down
GSS T	6/23/2009 10:30	6/30/2009 13:05	10236	Off-FN indicate GSS turned off while AC not working
B1 PM	10/1/2008 13:12	10/8/2008 11:28	9977	Systematic error-signal variation suggests a problem with the filter
INNOVA NH3	5/29/2008 15:55	6/5/2008 11:06	9792	Systematic error
B1MidS T	1/15/2009 1:22	1/21/2009 12:16	9295	Noise-noise in TC related to new fluorescent lighting system
B1N dP	7/9/2008 10:38	7/15/2008 12:56	8779	Failure-sensor failure
INNOVA signals	3/3/2009 9:22	3/9/2009 8:26	8585	Failure-FN indicate chopper failure
B1MidS T	1/21/2009 11:28	1/27/2009 9:53	8546	Noise-noise in TC related to new fluorescent lighting system
B2F37	6/9/2008 5:58	6/14/2008 16:44	7847	Noise-Signal shows excessive noise when fan should be off
B2 PM	2/12/2009 12:04	2/17/2009 12:36	7233	Fan Off-PREF fan not working
B1MidN T	1/15/2009 11:40	1/20/2009 12:07	7228	Noise-noise in TC related to new fluorescent lighting system
B1 Amb S T	1/15/2009 11:40	1/20/2009 12:07	7228	Noise-noise in TC related to new fluorescent lighting system
Amb RH/T	8/16/2008 4:52	8/21/2008 2:54	7083	Failure-sensor failure
Fan stage, current switch	2/19/2009 18:13	2/24/2009 13:25	6913	DAQ-DIO96H module error
B2N T	1/4/2008 21:57	1/9/2008 16:57	6901	DAQ-Suspected cause of signal variation is faulty DAQ channel
17C NH3	3/19/2009 21:04	3/24/2009 9:14	6491	Systematic error-FN indicate blown fuse in analyzer
B2 PM and filter	11/6/2008 22:46	11/11/2008 10:01	6436	Low Flow-FN indicate filter was loaded
B1 PM	5/30/2008 23:48	6/4/2008 10:13	6386	Systematic error
B1F49	2/18/2008 5:14	2/22/2008 8:08	5935	Systematic error-FN indicate shutters frozen open
Fan stage, current switch	7/2/2009 10:45	7/6/2009 13:38	5934	DAQ-DIO96H signals not working and fixed by reset
Fan stage, current switch	10/31/2008 6:41	11/4/2008 8:58	5898	DAQ-DIO96 module error
Fan stage, current switch	3/27/2009 6:55	3/31/2009 8:30	5856	DAQ-DIO96H module offline
All GSS signals	7/2/2009 12:39	7/6/2009 13:31	5813	DAQ-DAQ system not sequencing between locations
B2 PM	1/24/2008 15:52	1/28/2008 10:38	5447	Systematic error
B1F53	7/25/2008 19:33	7/29/2008 11:33	5281	Failure-sensor failure attributed to fan washing
B2F9 T	1/23/2009 5:01	1/26/2009 18:54	5154	Noise-may be related to lighting system
B2N T	1/17/2008 23:37	1/21/2008 10:19	4963	DAQ-Suspected cause of signal variation is faulty DAQ channel
B2F36	2/3/2008 11:29	2/6/2008 20:52	4884	Systematic error-FN indicate shutters frozen open
B2MidN T	1/24/2008 9:40	1/27/2008 12:01	4462	Noise-Noise in temperature signal may be linked to electric fence
Fan stage, current switch	6/2/2008 8:10	6/5/2008 10:05	4436	DAQ-DIO96H module not working

Variable	Start time	End time	Min.	Comment
B1F49	1/29/2008 8:59	2/1/2008 9:58	4380	Systematic error-FN indicate shutters frozen open
B1MidN T	1/24/2009 16:31	1/27/2009 15:35	4265	Noise-noise in TC related to new fluorescent lighting system
B1 Amb S T	1/24/2009 16:31	1/27/2009 15:35	4265	Noise-noise in TC related to new fluorescent lighting system
B1MidS T	9/21/2009 18:10	9/24/2009 15:21	4152	Noise-common noise in B1 TCs
B2 PM	2/23/2008 12:30	2/26/2008 9:39	4150	Systematic error-noise likely from filter seating
B1F49	2/9/2008 15:23	2/12/2008 12:00	4118	Systematic error-FN indicate shutters frozen open
B1F53	7/20/2008 7:38	7/23/2008 2:05	3988	Systematic error-unstable signal attributed to fan washing
All GSS signals	4/22/2008 12:27	4/25/2008 5:39	3913	DAQ
B2F58 T	1/18/2008 21:46	1/21/2008 12:40	3775	DAQ-FN indicate faulty DAQ channel contributed to signal error
55C signals	6/6/2009 2:47	6/8/2009 14:45	3599	Systematic error-FN indicate H2 supply empty
B2MidN T	1/14/2009 22:48	1/17/2009 9:43	3536	Noise-noise is likely related to electric fence
B1MidS T	8/19/2009 3:13	8/21/2009 12:05	3413	Noise-common noise in B1 TCs
B1F49	2/14/2008 2:23	2/16/2008 10:33	3371	Systematic error-FN indicate shutters frozen open
55C signals	6/1/2009 3:46	6/3/2009 9:04	3199	Systematic error-FN indicate H2 leak
B1 PM	1/29/2008 5:18	1/31/2008 9:37	3140	Low Flow-FN indicate bypass flow restriction
B1MidS T	10/1/2009 11:15	10/3/2009 13:21	3007	Noise-common noise in B1 TCs
Fan stage, current switch	2/9/2009 7:19	2/11/2009 9:20	3002	DAQ-DIO96H module offline following AirDAC restart
B2S T	1/19/2008 9:36	1/21/2008 10:23	2928	DAQ-FN indicate the TC module may have been faulty
B1 PM	1/29/2008 10:05	1/31/2008 9:28	2844	Low Flow-FN indicate bypass flow restriction
B1 PM	3/17/2008 11:12	3/19/2008 10:06	2815	Low Flow
B1 PM	9/17/2008 9:22	9/19/2008 7:00	2739	Maintenance-site personnel noted auger installation
B2 PM	9/17/2008 9:22	9/19/2008 7:00	2739	Maintenance-site personnel noted auger installation
Fan stage, current switches, speed sensors	1/26/2008 13:38	1/28/2008 10:34	2697	Maintenance-During this period there were several fans operated manually out of stage making airflow estimations difficult
B1F8	1/3/2008 14:26	1/5/2008 10:29	2644	Systematic error-signal temporarily offline
Wind V	3/10/2009 16:52	3/12/2009 9:32	2441	Systematic error-signal temporarily offline
B1MidS T	8/7/2009 6:30	8/8/2009 23:06	2437	Noise-common noise in B1 TCs
B1 Amb S T	8/7/2009 6:44	8/8/2009 23:11	2428	Noise-common noise in B1 TCs
B2F37	5/24/2008 23:19	5/26/2008 14:34	2356	DAQ-All signals on one USB RPM module were offline
B2F42	5/24/2008 23:19	5/26/2008 14:34	2356	DAQ-All signals on one USB RPM module were offline

Variable	Start time	End time	Min.	Comment
B2F58	5/24/2008 23:19	5/26/2008 14:34	2356	DAQ-All signals on one USB RPM module were offline
B1F49	5/24/2008 23:19	5/26/2008 14:34	2356	DAQ-All signals on one USB RPM module were offline
B1MidS T	8/12/2009 19:49	8/14/2009 10:16	2308	Noise-common noise in B1 TCs
Fan stage, current switch	6/9/2008 6:30	6/10/2008 20:50	2301	DAQ-DIO96H not working
Fan stage, current switch	6/10/2008 19:58	6/12/2008 10:05	2288	DAQ-DIO96H not working
Fan stage, current switch	6/10/2008 20:38	6/12/2008 10:05	2248	DAQ-DIO96H not working
B2N T	1/1/2008 21:50	1/3/2008 10:41	2212	DAQ-Suspected cause of signal variation is faulty DAQ channel
B1MidS T	7/3/2009 20:31	7/5/2009 8:45	2175	Noise-common noise in B1 TCs
B1MidN T	8/12/2009 21:23	8/14/2009 9:23	2161	Noise-common noise in B1 TCs
55C signals	6/30/2009 23:48	7/2/2009 11:44	2157	Noise-FN indicate noise related to loose connections
17C NH3	6/30/2009 23:55	7/2/2009 11:44	2150	Noise-FN indicate noise related to loose connection
B1MidS T	7/21/2009 3:16	7/22/2009 14:44	2129	Noise-common noise in B1 TCs
B1N T	8/12/2009 21:38	8/14/2009 8:58	2121	Noise-common noise in B1 TCs
B1MidS T	9/25/2009 3:12	9/26/2009 13:40	2069	Noise-common noise in B1 TCs
B2MidN T	7/16/2008 20:53	7/18/2008 6:28	2016	Noise-noise may be related to electric fence
B1MidN T	9/22/2009 0:14	9/23/2009 9:34	2001	Noise-common noise in B1 TCs
B1MidS T	10/29/2009 1:11	10/30/2009 10:05	1975	Noise-common noise in B1 TCs
B1F49	1/6/2008 9:57	1/7/2008 14:45	1729	Systematic error-FN indicate shutters frozen open
B1 Amb S T	10/1/2009 11:11	10/2/2009 15:50	1720	Noise-common noise in B1 TCs
Fan stage, current switch	1/7/2009 8:01	1/8/2009 11:50	1670	DAQ-DIO96H board error
B1MidN T	1/31/2009 12:26	2/1/2009 15:59	1654	Noise-common noise in B1 TCs
B1 PM and filter	7/9/2008 10:55	7/10/2008 12:07	1513	Systematic error-TEOM signal error-likely related to power outage
Fan stage, current switch	12/15/2008 9:26	12/16/2008 10:36	1511	DAQ-DIO96H signals offline following AirDAC restart
B1S Act	3/10/2009 20:03	3/11/2009 20:53	1491	Systematic error-signal temporarily unstable
B2MidN T	1/30/2008 11:22	1/31/2008 11:54	1473	Noise-Noise in signal may be linked to electric fence
Amb RH/T	4/3/2008 15:28	4/4/2008 15:45	1458	Systematic error-sensor chip periodically fails
All speed sensor signals	1/12/2009 9:28	1/13/2009 9:41	1454	DAQ-USB board error resulted in RPM data error
B1 PM and filter	10/13/2009 12:12	10/14/2009 12:23	1452	Sampling Elsewhere-FN indicate collocation outside
B2 PM and filter	10/13/2009 12:12	10/14/2009 12:23	1452	Sampling Elsewhere-FN indicate collocation outside
B1F20	7/21/2008 12:32	7/22/2008 12:43	1452	Systematic error-sensor instability attributed to fan washing

APPENDIX E. BIOMATERIAL CHARACTERISTICS DATA**Table E1. Manure characteristics (mean \pm SD).**

Barn	Date	n	pH (SU)	Percent (wet weight basis)	
				Solids	Ammonia
1	3/31/08	4	7.03 \pm 0.16	13.9 \pm 1.13	0.04 \pm 0.02
1	6/30/08	4	6.75 \pm 0.67	15.9 \pm 0.59	0.06 \pm 0.03
1	10/14/08	4	7.15 \pm 0.20	13.4 \pm 1.21	0.11 \pm 0.06
1	2/17/09	4	7.68 \pm 0.19	33.8 \pm 11.37	0.15 \pm 0.03
1	4/21/09	4	7.79 \pm 0.26	16.1 \pm 3.57	0.14 \pm 0.03
2	3/31/08	4	7.23 \pm 0.25	14.9 \pm 2.32	0.05 \pm 0.02
2	6/30/08	4	6.75 \pm 0.67	15.9 \pm 0.59	0.06 \pm 0.03
2	7/15/08	4	6.41 \pm 0.25	21.4 \pm 3.19	0.05 \pm 0.02
2	10/14/08	4	7.31 \pm 0.24	13.2 \pm 0.74	0.09 \pm 0.02
2	2/17/09	4	7.68 \pm 0.22	29.1 \pm 10.7	0.14 \pm 0.05
2	4/21/09	4	7.76 \pm 0.50	24.2 \pm 14.9	0.17 \pm 0.09

APPENDIX F. DAILY MEAN DATA

Table F1. Weather variables.

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

Day	Temperature, °C	RH, %	Wind speed, m·s ⁻¹	Wind direction, °	Solar, W·m ⁻²	Atm P, kPa
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12	11.6 (4.4)	61.8 (12.6)	2.39 (1.69)	165 (65)	237 (289)	97.5 (0.3)
13	14.5 (2.4)	64.0 (7.9)	3.88 (1.52)	242 (49)	117 (173)	96.8 (0.1)
14	8.2 (2.1)	60.6 (10.3)	3.28 (1.80)	278 (53)		97.7 (0.4)
15	9.3 (5.8)	57.8 (18.5)	2.43 (1.59)	177 (49)	237 (289)	98.0 (0.3)
16						
17						
18	21.9 (1.2)	84.0 (7.4)	3.93 (0.90)	197 (15)	35 (49)	96.7 (0.1)
19	16.6 (2.5)	78.6 (11.4)	2.89 (1.62)	289 (95)	163 (232)	97.7 (0.4)
20	15.8 (5.2)	78.2 (11.7)	4.04 (1.45)	121 (27)		97.6 (0.4)
21						
22	17.1 (4.6)	56.5 (15.4)	2.92 (0.89)	197 (32)	216 (271)	97.4 (0.1)
23	20.9 (5.2)	61.6 (7.8)	3.78 (1.21)	166 (14)	196 (256)	97.3 (0.2)
24	22.6 (2.2)	80.2 (8.0)	3.89 (1.09)	194 (15)	95 (154)	96.7 (0.2)
25	14.2 (2.3)	78.2 (8.5)	3.37 (0.97)	286 (19)	74 (117)	97.2 (0.2)
26	13.1 (3.5)	70.8 (14.0)	2.45 (1.36)	185 (58)	187 (258)	97.2 (0.3)
27	15.5 (3.4)	66.8 (17.2)	2.30 (1.41)	264 (51)	181 (248)	97.1 (0.2)
28	15.0 (3.5)	60.1 (11.4)	1.92 (1.38)	180 (70)		97.7 (0.2)
29	16.2 (2.5)	68.2 (10.5)	5.31 (1.52)	160 (14)	40 (65)	97.2 (0.2)
30	18.2 (1.3)	77.8 (13.6)	3.50 (1.30)	155 (59)	29 (53)	96.9 (0.1)
Avg	15.7	69.1	3.27	199	139	97.3
n	16	16	16	16	13	16
SD	3.9	8.9	0.85	50	75	0.4
Min	8.2	56.5	1.92	121	29	96.7
Max	22.6	84.0	5.31	289	237	98.0

Table F1. Daily means (SD) of weather parameters at Site WI5B for October, 2007.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	16.1 (1.1)	86.6 (4.5)	2.58 (1.36)	214 (85)	48 (66)	97.3 (0.2)
2	16.2 (1.4)	87.5 (3.7)	4.87 (1.44)	184 (49)	21 (30)	96.3 (0.5)
3	16.3 (4.5)	58.3 (19.8)	3.44 (0.99)	200 (24)	194 (250)	96.8 (0.2)
4	20.3 (3.7)	60.3 (10.3)	3.32 (1.17)	183 (25)	181 (235)	96.9 (0.1)
5	22.2 (2.9)	81.6 (8.1)	3.15 (1.05)	139 (43)	89 (160)	
6	25.4 (2.8)	72.6 (10.6)	4.31 (1.02)	188 (13)	163 (229)	96.8 (0.1)
7	24.6 (1.3)	80.5 (3.7)	3.67 (0.71)	192 (11)		97.0 (0.0)
8						
9	9.5 (1.8)	71.7 (6.0)	5.47 (1.76)	275 (30)	68 (101)	97.1 (0.2)
10	7.3 (1.7)	76.2 (5.3)	3.93 (1.00)	266 (92)	63 (102)	97.6 (0.1)
11	8.3 (2.0)	71.4 (7.7)	2.94 (0.96)	42 (46)		97.6 (0.1)
12	7.9 (2.4)	74.2 (5.9)	1.23 (0.67)	111 (78)	78 (140)	97.2 (0.1)
13	11.0 (3.7)	68.1 (13.6)	1.01 (0.77)	82 (77)	166 (224)	97.2 (0.1)
14	8.6 (0.5)	81.5 (7.8)	3.10 (1.34)	75 (29)	17 (28)	97.4 (0.1)
15	9.7 (0.9)	90.0 (0.5)	5.31 (1.16)	89 (12)	19 (26)	97.1 (0.2)
16	12.2 (1.2)	91.1 (1.1)	2.91 (1.28)	128 (40)	21 (28)	96.6 (0.1)
17	14.0 (2.6)	80.9 (10.9)	3.98 (1.45)	140 (31)	87 (154)	96.2 (0.5)
18	14.9 (1.7)	87.6 (6.2)	4.03 (1.26)	171 (48)	71 (135)	94.2 (0.4)
19	11.5 (1.1)	80.9 (8.0)	6.27 (1.90)	268 (16)	36 (66)	94.7 (0.6)
20	14.2 (5.6)	61.9 (14.5)	2.74 (0.97)	184 (32)	136 (186)	95.7 (0.1)
21						
22	7.9 (2.2)	70.5 (12.8)	1.80 (1.12)	281 (61)	82 (115)	97.5 (0.1)
23	8.7 (5.4)	62.6 (15.1)	3.67 (2.58)	239 (62)	146 (204)	97.0 (0.3)
24	7.1 (3.1)	65.4 (13.2)	1.86 (1.19)	256 (81)	145 (204)	98.1 (0.2)
25	7.4 (3.9)	61.6 (14.1)	2.16 (1.59)	154 (41)	145 (201)	98.0 (0.2)
26	7.4 (3.0)	75.1 (7.5)	1.32 (0.84)	88 (92)	62 (90)	97.7 (0.1)
27	7.4 (2.4)	52.4 (9.9)	2.37 (1.26)	272 (61)	138 (197)	98.4 (0.3)
28	6.9 (5.0)	58.0 (14.3)	2.21 (1.55)	178 (53)	132 (190)	98.6 (0.3)
29	11.5 (3.2)	58.7 (6.3)	2.78 (0.84)	191 (29)	133 (186)	97.8 (0.2)
30	15.2 (3.3)	66.7 (9.2)	4.13 (0.84)	187 (15)	116 (166)	96.8 (0.3)
31	9.1 (3.1)	55.6 (9.6)	5.53 (1.83)	277 (25)	129 (188)	97.1 (0.5)
Avg	12.4	72.1	3.31	186	100	97.0
n	29	29	29	29	27	28
SD	5.3	11.1	1.33	67	53	0.9
Min	6.9	52.4	1.01	42	17	94.2
Max	25.4	91.1	6.27	281	194	98.6

Table F1. Daily means (SD) of weather parameters at Site WI5B for November, 2007.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	7.3 (4.0)	52.1 (13.1)	2.75 (1.53)	188 (41)	126 (180)	97.6 (0.2)
2	8.0 (2.2)	48.3 (6.5)	3.64 (1.70)	228 (35)	123 (181)	97.4 (0.2)
3	6.2 (3.0)	57.0 (10.8)	2.25 (1.37)	192 (38)	103 (156)	97.4 (0.4)
4	8.4 (3.3)	56.6 (14.2)	1.90 (1.17)	199 (63)	117 (176)	96.5 (0.3)
5	4.3 (2.2)	63.3 (7.9)	5.90 (1.37)	295 (12)	53 (108)	96.7 (0.5)
6	2.1 (1.2)	60.1 (5.4)	3.51 (1.64)	289 (90)	52 (86)	98.0 (0.3)
7	0.7 (2.9)	65.0 (8.9)	2.78 (1.58)	169 (33)	74 (116)	97.5 (0.6)
8	1.4 (2.3)	71.5 (7.5)	1.19 (0.83)	268 (87)	76 (119)	97.0 (0.2)
9	0.8 (2.2)	80.3 (3.1)	1.17 (0.89)	138 (92)	29 (49)	97.5 (0.2)
10	3.1 (1.7)	77.8 (3.4)	3.61 (1.30)	145 (17)	32 (65)	97.2 (0.5)
11	9.0 (3.9)	72.8 (8.5)	2.75 (1.14)	153 (57)	88 (138)	96.4 (0.2)
12	6.6 (2.3)	56.1 (8.2)	1.92 (0.92)	258 (54)	58 (89)	97.4 (0.2)
13	7.6 (3.8)	49.8 (6.8)	3.80 (1.47)	205 (29)	61 (104)	96.3 (0.5)
14						
15						
16	1.7 (2.3)	63.4 (8.8)	3.30 (1.49)	115 (30)	57 (94)	96.6 (0.3)
17	0.8 (1.3)	66.5 (9.7)	4.20 (1.38)	60 (16)	50 (88)	97.2 (0.4)
18	0.8 (1.8)	72.1 (10.9)	3.78 (1.08)	138 (27)	25 (46)	97.6 (0.3)
19	4.3 (1.3)	89.8 (2.1)	2.11 (1.17)	184 (68)	16 (25)	96.8 (0.2)
20	2.5 (1.5)	81.7 (8.7)	2.34 (1.39)	355 (108)	28 (41)	97.2 (0.2)
21	-0.7 (0.6)	75.3 (4.9)	4.07 (1.39)	271 (95)	25 (41)	97.8 (0.1)
22	-4.2 (1.4)	70.2 (4.2)	3.02 (1.53)	290 (106)	34 (57)	98.3 (0.1)
23	-3.3 (3.8)	70.0 (7.8)	3.02 (1.51)	206 (21)	70 (118)	97.8 (0.3)
24	0.5 (1.1)	66.8 (6.6)	4.08 (1.34)	229 (18)	43 (73)	97.2 (0.1)
25	2.3 (3.4)	64.7 (13.2)	3.77 (1.53)	217 (29)	88 (137)	96.6 (0.2)
26	0.4 (1.4)	68.7 (8.0)	2.97 (1.21)	274 (35)	70 (117)	97.2 (0.2)
27	-9.6 (2.9)	58.3 (7.2)	4.01 (2.13)	299 (94)	74 (119)	97.9 (0.4)
28	-4.6 (2.8)	57.0 (6.1)	5.33 (2.13)	239 (69)	44 (76)	96.9 (0.2)
29	-10.0 (2.0)	60.9 (6.5)	4.32 (1.59)	261 (20)		97.5 (0.2)
30	-11.1 (2.0)	59.6 (9.8)	4.01 (1.77)	254 (37)	87 (137)	98.1 (0.3)
Avg	1.3	65.6	3.27	224	63	97.3
n	28	28	28	28	27	28
SD	5.3	9.8	1.09	65	30	0.5
Min	-11.1	48.3	1.17	60	16	96.3
Max	9.0	89.8	5.90	355	126	98.3

Table F1. Daily means (SD) of weather parameters at Site WI5B for December, 2007.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-7.3 (3.2)	81.9 (10.2)	4.59 (2.30)	123 (25)	13 (20)	97.2 (1.0)
2	-5.1 (2.8)	86.9 (5.4)	3.24 (1.45)	291 (46)	24 (39)	96.7 (0.6)
3	-11.1 (2.5)	78.7 (2.3)	1.68 (0.95)	132 (93)	56 (89)	98.0 (0.2)
4	-7.3 (0.8)	84.5 (4.2)	4.03 (1.01)	89 (20)	31 (50)	97.0 (0.4)
5	-12.2 (3.6)	75.3 (6.1)	1.75 (1.57)	297 (107)	89 (139)	97.6 (0.3)
6	-10.7 (6.6)	83.2 (5.5)	2.97 (1.60)	202 (53)	29 (49)	97.0 (0.3)
7	-11.5 (3.0)	72.4 (9.5)	2.52 (0.96)	268 (20)	83 (131)	97.3 (0.3)
8	-16.8 (2.7)	70.4 (4.6)	1.21 (0.65)	287 (91)	55 (90)	98.6 (0.2)
9	-13.4 (1.6)	68.3 (5.1)	0.78 (0.58)	269 (90)	39 (64)	98.4 (0.2)
10	-10.6 (4.6)	74.1 (7.4)	2.34 (1.48)	184 (54)	81 (129)	97.8 (0.2)
11	-7.0 (1.3)	75.8 (6.1)	2.50 (0.89)	278 (34)	47 (80)	97.7 (0.2)
12	-11.1 (3.3)	72.8 (6.8)	1.52 (1.03)	190 (65)	80 (128)	97.8 (0.3)
13	-6.6 (3.4)	74.8 (7.2)	5.09 (2.25)	248 (40)	57 (95)	96.9 (0.4)
14	-13.8 (2.8)	68.0 (7.4)	0.81 (0.64)	349 (119)	80 (130)	98.3 (0.2)
15	-12.7 (4.5)	68.7 (8.5)	0.29 (0.22)	37 (114)	71 (118)	97.7 (0.4)
16	-7.9 (1.4)	81.3 (4.3)	2.13 (1.00)	275 (39)	34 (55)	97.1 (0.1)
17	-6.1 (1.8)	78.6 (8.4)	2.59 (0.74)	179 (22)	48 (92)	96.9 (0.1)
18	-3.8 (1.1)	82.1 (1.1)	2.26 (0.94)	230 (68)	34 (57)	96.6 (0.2)
19	-3.9 (0.6)	87.1 (1.4)	2.22 (1.17)	158 (42)	32 (60)	97.1 (0.1)
20	-0.4 (2.1)	82.8 (8.1)	3.19 (1.10)	151 (21)		96.6 (0.1)
21	1.9 (0.6)	91.7 (0.8)	2.85 (0.71)	149 (19)	24 (40)	96.6 (0.0)
22	-2.9 (5.2)	85.4 (8.3)			15 (26)	96.4 (0.1)
23						
24						
25						
26	-2.3 (1.0)	84.7 (3.5)	1.51 (0.84)	320 (123)	45 (91)	96.9 (0.1)
27	-4.2 (1.6)	84.9 (3.6)	2.15 (0.89)	301 (108)	54 (99)	97.4 (0.3)
28	-7.2 (1.4)	87.7 (1.7)	2.37 (1.04)	50 (102)	39 (64)	97.1 (0.4)
29	-5.8 (1.4)	84.8 (3.3)	1.57 (0.75)	209 (33)	31 (53)	96.9 (0.0)
30	-6.6 (1.3)	85.5 (1.8)	2.52 (0.89)	157 (22)	46 (78)	96.5 (0.2)
31	-7.0 (1.6)	85.4 (3.9)	2.33 (0.84)	265 (43)	44 (84)	96.7 (0.3)
Avg	-7.6	79.9	2.33	229	47	97.2
n	28	28	27	27	27	28
SD	4.3	6.6	1.07	81	21	0.6
Min	-16.8	68.0	0.29	37	13	96.4
Max	1.9	91.7	5.09	349	89	98.6

Table F1. Daily means (SD) of weather parameters at Site WI5B for January, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-15.7 (1.9)	76.1 (3.6)	3.32 (0.78)	297 (9)	74 (118)	98.1 (0.4)
2	-16.6 (2.5)	73.6 (6.1)	1.58 (0.90)	274 (63)	85 (133)	99.2 (0.2)
3	-8.1 (4.0)	67.0 (8.5)	4.17 (1.33)	188 (16)	84 (138)	97.8 (0.5)
4	-3.7 (2.3)	72.0 (5.1)	3.64 (0.99)	164 (12)	78 (129)	96.7 (0.3)
5	-0.1 (1.8)	88.8 (2.6)	3.61 (0.94)	172 (13)	38 (62)	95.9 (0.1)
6	3.6 (0.8)	90.9 (3.7)	2.20 (1.16)	201 (34)	37 (69)	95.8 (0.3)
7	0.8 (1.1)	88.6 (2.1)	1.45 (0.81)	114 (58)	23 (37)	96.2 (0.1)
8	-0.2 (1.3)	90.0 (4.3)	2.26 (0.92)	281 (84)	21 (34)	96.4 (0.2)
9	-4.8 (2.5)	81.2 (5.2)	2.06 (1.13)	155 (74)	56 (105)	97.0 (0.1)
10	0.1 (1.1)	77.0 (3.0)	2.39 (1.01)	109 (76)	37 (65)	96.2 (0.4)
11	-4.1 (1.7)	85.5 (2.1)	2.60 (1.28)	272 (75)	29 (46)	96.1 (0.3)
12	-4.3 (1.1)	82.1 (2.0)	1.59 (0.85)	346 (119)	46 (77)	97.0 (0.2)
13	-5.9 (1.0)	80.4 (2.6)	2.16 (0.77)	296 (21)	55 (93)	97.2 (0.1)
14	-10.9 (2.6)	74.7 (4.6)	2.84 (1.44)	289 (23)	85 (140)	97.6 (0.2)
15	-10.5 (4.7)	75.0 (5.2)	2.86 (2.04)	169 (53)	82 (141)	97.2 (0.3)
16	-5.6 (1.7)	76.4 (3.7)	3.12 (0.99)	235 (61)	27 (48)	96.8 (0.2)
17	-14.4 (1.6)	84.7 (1.1)	2.98 (0.87)	286 (33)	39 (61)	96.5 (0.3)
18	-16.4 (3.3)	69.5 (8.0)	3.78 (1.15)	285 (28)	87 (143)	97.1 (0.5)
19	-22.3 (2.3)	68.1 (8.1)	2.54 (1.01)	264 (16)	98 (151)	97.9 (0.1)
20	-20.5 (3.3)	63.8 (8.4)	1.89 (0.70)	264 (27)	101 (155)	98.5 (0.2)
21	-15.1 (2.0)	78.5 (7.9)	1.35 (0.73)	107 (84)	47 (73)	98.3 (0.4)
22	-15.8 (1.9)	74.6 (7.3)	2.61 (1.56)	249 (24)	65 (97)	97.1 (0.3)
23	-17.7 (1.2)	66.0 (10.0)	1.88 (1.20)	296 (67)		97.4 (0.2)
24						
25	-12.5 (3.8)	77.3 (6.5)	3.16 (0.83)	162 (19)	56 (88)	97.5 (0.4)
26	-7.3 (1.8)	84.2 (3.3)	1.92 (0.89)	180 (52)	58 (92)	96.7 (0.1)
27	-5.6 (6.5)	71.0 (9.6)	2.14 (1.81)	180 (69)	93 (144)	96.7 (0.3)
28	4.3 (1.7)	72.4 (8.4)	3.89 (1.09)	182 (22)	84 (141)	94.8 (0.6)
29	-14.1 (8.6)	75.5 (9.0)	6.52 (1.36)	291 (15)	32 (50)	95.2 (0.5)
30	-22.2 (2.9)	60.3 (3.5)	3.65 (1.91)	278 (21)	110 (169)	97.2 (0.5)
31	-15.2 (3.1)	56.8 (5.0)	2.17 (0.77)	105 (59)	86 (153)	98.1 (0.3)
Avg	-9.4	76.1	2.74	230	63	97.0
n	30	30	30	30	29	30
SD	7.5	8.5	1.04	68	26	1.0
Min	-22.3	56.8	1.35	105	21	94.8
Max	4.3	90.9	6.52	346	110	99.2

Table F1. Daily means (SD) of weather parameters at Site WI5B for February, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-7.6 (4.2)	74.0 (4.0)	2.39 (1.00)	123 (22)	89 (142)	97.0 (0.2)
2	-2.8 (1.0)	82.5 (1.9)	2.14 (0.64)	203 (45)	35 (55)	96.9 (0.2)
3	-4.9 (1.3)	83.1 (4.9)	2.40 (0.84)	151 (39)	89 (145)	97.3 (0.2)
4	-1.9 (1.8)	89.0 (1.9)	4.07 (1.21)	75 (61)	35 (61)	96.5 (0.2)
5	-0.9 (1.2)	84.1 (3.5)	2.61 (1.18)	271 (96)	70 (102)	97.0 (0.1)
6	-5.4 (2.6)	72.2 (12.3)	3.47 (2.19)	40 (63)	107 (171)	96.6 (0.1)
7	-10.3 (3.3)	80.9 (4.5)	1.70 (1.04)	202 (43)	102 (157)	96.6 (0.2)
8	-5.6 (1.9)	83.0 (4.0)	2.07 (0.81)	105 (57)	87 (137)	96.2 (0.1)
9	-9.7 (6.6)	76.2 (11.5)	4.52 (2.70)	274 (24)	69 (108)	96.5 (0.6)
10	-22.7 (1.6)	59.4 (3.9)	5.12 (1.93)	295 (8)	134 (195)	98.3 (0.3)
11	-18.0 (3.1)	55.7 (5.3)	1.84 (1.10)	81 (87)	118 (180)	98.3 (0.2)
12	-12.5 (2.2)	59.0 (7.1)	1.47 (0.61)	136 (85)	83 (119)	97.4 (0.3)
13	-8.7 (2.1)	76.6 (7.6)	2.40 (0.77)	208 (52)		96.6 (0.2)
14	-10.3 (2.6)	75.1 (10.9)	3.14 (1.22)	301 (97)	104 (151)	96.9 (0.5)
15	-16.9 (2.8)	60.9 (4.9)	1.96 (1.06)	222 (72)	75 (104)	98.1 (0.2)
16	-6.8 (4.4)	68.4 (6.7)	4.06 (1.43)	178 (11)	129 (185)	96.7 (0.6)
17	-2.7 (2.8)	79.8 (5.1)	4.07 (2.18)	264 (85)	58 (86)	95.4 (0.2)
18	-14.4 (1.8)	80.5 (4.8)	5.01 (1.52)	299 (12)	106 (158)	96.2 (0.4)
19	-18.0 (2.7)	71.8 (6.0)	1.98 (1.11)	253 (59)	138 (200)	97.0 (0.2)
20	-19.3 (3.2)	64.4 (9.8)	1.81 (1.26)	317 (101)	161 (221)	98.3 (0.3)
21	-15.5 (5.4)	63.9 (9.4)	1.67 (1.40)	191 (62)	155 (220)	97.6 (0.4)
22	-9.1 (4.6)	65.4 (10.9)	0.54 (0.60)	243 (101)	165 (224)	97.0 (0.1)
23	-7.3 (5.6)	67.3 (9.9)	1.32 (1.09)	179 (73)	156 (221)	97.2 (0.1)
24	-2.8 (4.0)	81.3 (6.0)	2.23 (0.74)	191 (19)	143 (205)	96.8 (0.2)
25	0.2 (1.2)	82.2 (5.5)	2.49 (2.11)	261 (63)	75 (105)	96.7 (0.2)
26	-6.6 (2.1)	64.6 (3.7)	2.83 (1.17)	272 (26)	150 (216)	97.4 (0.1)
27	-8.6 (2.9)	68.5 (7.6)	1.33 (1.16)	275 (60)	175 (239)	97.4 (0.1)
28	-7.4 (4.3)	80.5 (7.6)	2.73 (1.75)	152 (48)	107 (160)	97.0 (0.2)
29	-3.8 (2.8)	73.6 (14.2)	4.46 (2.34)	269 (43)	151 (229)	96.9 (0.3)
Avg	-9.0	73.2	2.68	225	110	97.0
n	29	29	29	29	28	29
SD	5.9	8.8	1.17	74	39	0.7
Min	-22.7	55.7	0.54	40	35	95.4
Max	0.2	89.0	5.12	317	175	98.3

Table F1. Daily means (SD) of weather parameters at Site WI5B for March, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-6.3 (4.5)	59.8 (9.9)	2.84 (1.70)	117 (65)	155 (226)	97.3 (0.3)
2	-0.6 (2.7)	77.4 (9.2)	4.29 (1.44)	129 (82)	67 (110)	96.0 (0.3)
3	-8.7 (2.3)	64.4 (7.2)	3.56 (1.70)	285 (41)	184 (246)	97.1 (0.3)
4	-7.3 (4.3)	59.8 (7.7)	2.37 (1.37)	126 (42)	127 (187)	97.0 (0.3)
5	-5.2 (3.1)	74.8 (10.5)	2.75 (1.14)	245 (58)	94 (128)	96.8 (0.2)
6	-12.3 (2.9)	66.1 (7.4)	1.76 (0.79)	287 (72)	181 (254)	97.6 (0.2)
7	-16.0 (3.4)	52.6 (8.9)	0.94 (0.68)	15 (111)	199 (260)	98.3 (0.3)
8	-12.8 (5.7)	53.1 (12.7)	2.06 (1.48)	152 (54)	170 (226)	97.2 (0.2)
9	-6.1 (3.1)	62.7 (8.7)	1.56 (1.14)	91 (52)	180 (252)	97.7 (0.3)
10	-6.6 (4.0)	68.6 (8.9)	2.17 (1.73)	208 (64)		98.1 (0.3)
11						
12	3.7 (1.5)	70.0 (9.8)	2.72 (1.26)	135 (22)		96.1 (0.3)
13	5.1 (2.8)	73.7 (12.5)	3.24 (1.50)	244 (35)	207 (265)	95.8 (0.1)
14	1.4 (1.7)	68.3 (5.3)	3.33 (1.14)	276 (22)		96.2 (0.2)
15	-1.0 (2.1)	68.3 (8.2)	2.22 (1.13)	299 (100)	177 (252)	97.1 (0.3)
16	-1.1 (3.4)	60.0 (6.8)	2.01 (0.70)	113 (28)	210 (275)	98.2 (0.2)
17	0.1 (1.0)	84.3 (7.6)	3.52 (0.88)	121 (17)	71 (101)	97.7 (0.5)
18	1.9 (1.1)	86.5 (4.3)	1.80 (0.85)	255 (83)	91 (145)	96.7 (0.1)
19	3.1 (3.2)	68.8 (14.4)	1.65 (0.90)	263 (52)	220 (277)	97.0 (0.1)
20	1.4 (2.4)	52.2 (7.5)	2.15 (0.95)	83 (38)	198 (270)	97.7 (0.2)
21	-1.2 (1.4)	83.9 (8.1)	4.47 (1.32)	84 (23)	85 (115)	97.6 (0.2)
22	-0.1 (1.5)	82.9 (5.6)	1.38 (0.81)	254 (81)	150 (201)	98.1 (0.1)
23	-0.6 (1.6)	76.3 (12.1)	2.20 (1.49)	255 (71)	123 (158)	98.2 (0.1)
24	-1.5 (4.2)	72.9 (10.0)	3.91 (2.13)	186 (24)	201 (272)	97.3 (0.7)
25	3.2 (1.4)	73.1 (6.1)	4.16 (2.21)	258 (39)	98 (142)	96.3 (0.5)
26	2.1 (3.3)	68.3 (14.5)	3.15 (1.83)	256 (42)	226 (290)	97.2 (0.0)
27	0.6 (1.8)	52.9 (10.1)	2.73 (1.54)	49 (46)	172 (223)	97.3 (0.1)
28	1.5 (4.0)	47.1 (15.3)	1.17 (0.73)	119 (77)	247 (302)	98.0 (0.2)
29	3.3 (3.2)	48.5 (9.4)	4.35 (1.50)	146 (15)	206 (272)	97.8 (0.3)
30	6.1 (2.9)	62.0 (7.7)	3.48 (1.39)	192 (72)	148 (219)	97.4 (0.1)
31			6.13 (2.30)	42 (48)	36 (54)	96.7 (0.4)
Avg	-1.9	66.9	2.80	186	156	97.3
n	29	29	30	30	27	30
SD	5.5	10.8	1.15	83	55	0.7
Min	-16.0	47.1	0.94	15	36	95.8
Max	6.1	86.5	6.13	299	247	98.3

Table F1. Daily means (SD) of weather parameters at Site WI5B for April, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	1.3 (2.3)	61.2 (12.8)	3.09 (1.69)	262 (40)	252 (313)	97.6 (0.5)
2	0.9 (3.9)	70.9 (11.1)	2.51 (1.19)	191 (23)	201 (265)	98.0 (0.2)
3			2.05 (0.97)	182 (23)	224 (269)	97.3 (0.2)
4			2.48 (1.97)	215 (32)	232 (301)	96.6 (0.2)
5	11.1 (4.5)	60.6 (11.3)	3.47 (1.07)	191 (22)	230 (290)	96.4 (0.1)
6	9.3 (1.6)	72.0 (11.9)	3.61 (1.60)	168 (33)	56 (83)	96.3 (0.1)
7	2.7 (0.9)	82.3 (3.4)	2.94 (1.53)	266 (32)	42 (53)	96.6 (0.5)
8	2.9 (0.8)	79.5 (5.1)	2.41 (1.06)	44 (96)	36 (48)	97.3 (0.1)
9	3.3 (1.7)	76.6 (6.1)	2.36 (0.95)	91 (96)	94 (123)	97.6 (0.2)
10	2.8 (0.9)	82.2 (6.2)	7.78 (2.95)	88 (10)	41 (61)	96.6 (0.8)
11	1.9 (1.2)	88.6 (1.5)	6.99 (1.25)	52 (27)	22 (27)	95.3 (0.3)
12	-0.3 (0.8)	77.7 (9.4)	6.90 (2.38)	44 (59)	134 (161)	96.8 (0.5)
13	2.4 (3.7)	58.4 (10.3)	3.28 (2.01)	47 (65)	263 (309)	97.9 (0.1)
14	5.5 (4.8)	55.5 (18.0)	2.21 (1.60)	181 (58)	288 (334)	97.9 (0.3)
15	11.2 (4.6)	47.3 (8.4)	6.03 (1.86)	179 (11)	271 (316)	96.5 (0.5)
16	13.8 (3.9)	57.5 (8.7)	4.91 (1.81)	218 (46)	190 (249)	96.0 (0.4)
17	7.3 (1.8)	73.6 (8.8)	2.30 (1.54)	76 (83)	52 (63)	97.3 (0.1)
18	7.2 (0.9)	76.8 (5.6)	5.03 (1.53)	51 (18)	31 (38)	96.8 (0.1)
19	8.3 (1.8)	82.9 (3.2)	3.38 (0.84)	38 (55)	66 (82)	96.8 (0.2)
20	13.0 (6.5)	69.9 (15.5)	2.08 (1.06)	104 (52)	236 (304)	97.0 (0.2)
21	18.0 (4.3)	62.0 (15.4)	4.27 (1.65)	154 (53)	227 (293)	96.8 (0.1)
22	11.5 (3.9)	66.1 (20.0)	2.54 (1.35)	266 (46)	217 (288)	97.2 (0.2)
23	16.2 (5.9)	41.5 (17.0)	2.99 (1.74)	169 (43)	288 (336)	97.6 (0.2)
24	14.6 (0.6)	74.9 (21.9)	3.27 (1.54)	151 (33)	40 (56)	96.7 (0.3)
25	9.6 (4.1)	89.5 (1.5)	4.04 (2.10)	38 (93)	37 (48)	95.7 (0.4)
26	1.3 (1.2)	76.1 (9.7)	7.63 (1.84)	265 (18)	109 (150)	96.4 (0.6)
27	2.9 (3.2)	64.8 (17.6)	3.11 (1.30)	269 (77)	221 (298)	97.4 (0.1)
28	1.6 (1.4)	69.8 (9.3)	3.83 (2.28)	181 (90)	105 (117)	97.5 (0.1)
29	4.8 (4.2)	56.0 (16.3)	1.66 (1.11)	178 (62)	294 (335)	97.4 (0.2)
30	10.5 (4.8)	49.8 (8.7)	4.11 (1.55)	125 (19)	289 (335)	96.6 (0.3)
Avg	7.0	68.7	3.77	152	160	96.9
n	28	28	30	30	30	30
SD	5.2	12.2	1.69	77	97	0.6
Min	-0.3	41.5	1.66	38	22	95.3
Max	18.0	89.5	7.78	269	294	98.0

Table F1. Daily means (SD) of weather parameters at Site WI5B for May, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	13.7 (3.8)	55.9 (4.9)	6.19 (1.17)	97 (7)	185 (266)	95.9 (0.2)
2	9.0 (2.1)	87.3 (3.6)	5.75 (1.71)	67 (49)	30 (41)	95.3 (0.2)
3	7.8 (3.2)	58.9 (19.2)	4.70 (1.90)	265 (34)	295 (350)	96.2 (0.5)
4	12.8 (5.0)	44.6 (9.5)	3.89 (1.91)	225 (26)	291 (351)	96.8 (0.1)
5	12.8 (4.5)	49.8 (14.2)	1.71 (0.93)	216 (86)	299 (346)	97.1 (0.2)
6	16.1 (4.6)	59.6 (17.6)	2.22 (1.26)	177 (68)	189 (278)	96.4 (0.3)
7	13.8 (2.9)	61.5 (21.3)	3.60 (2.97)	249 (88)	276 (358)	96.2 (0.3)
8	13.5 (4.1)	49.8 (14.6)	1.45 (0.93)	25 (100)	231 (274)	96.6 (0.1)
9	12.9 (3.6)	48.4 (12.1)	2.49 (2.00)	57 (51)	280 (341)	96.8 (0.1)
10	11.6 (2.1)	64.6 (14.8)	2.98 (1.63)	141 (49)	129 (170)	96.6 (0.2)
11	9.0 (3.3)	65.9 (17.0)	3.92 (2.31)	248 (82)	271 (350)	96.6 (0.2)
12	11.5 (4.3)	51.8 (11.8)	3.43 (1.97)	140 (27)	271 (301)	96.7 (0.2)
13	12.6 (2.5)	70.5 (9.5)	3.82 (1.12)	206 (60)	78 (104)	96.4 (0.1)
14	12.7 (4.6)	54.9 (16.7)	2.16 (1.29)	252 (74)	336 (364)	97.0 (0.2)
15	15.9 (5.6)	46.3 (19.1)	1.74 (1.22)	192 (70)	324 (362)	97.2 (0.2)
16	18.2 (4.6)	51.6 (17.3)	2.68 (2.07)	253 (79)	282 (337)	96.4 (0.4)
17	14.9 (3.6)	48.0 (13.4)	3.75 (2.31)	285 (68)	242 (302)	96.1 (0.1)
18	10.9 (3.5)	52.2 (14.8)	2.60 (1.67)	256 (52)	322 (366)	96.2 (0.1)
19	9.0 (2.4)	65.9 (13.2)	1.82 (1.18)	98 (59)	94 (121)	96.1 (0.1)
20	11.7 (4.4)	59.3 (21.8)	3.09 (1.73)	282 (57)	309 (358)	96.3 (0.1)
21	12.6 (4.7)	53.0 (14.0)	1.99 (1.54)	246 (90)	344 (365)	96.4 (0.1)
22	15.3 (4.3)	49.8 (10.5)	2.49 (1.35)	77 (40)	319 (355)	96.9 (0.2)
23	14.6 (3.8)	56.0 (10.2)	3.84 (1.45)	99 (22)	314 (342)	97.6 (0.1)
24	16.2 (4.3)	52.0 (13.6)	4.10 (1.74)	129 (23)	285 (305)	97.5 (0.3)
25	18.3 (3.1)	76.8 (4.7)	3.63 (1.62)	168 (43)	151 (183)	96.3 (0.4)
26						
27	11.6 (3.4)	50.8 (10.5)	2.95 (2.04)	77 (50)		98.2 (0.1)
28	14.6 (4.2)	47.8 (13.0)	1.70 (1.14)	171 (50)	322 (363)	98.3 (0.2)
29	12.8 (1.1)	72.8 (12.6)	3.84 (1.79)	150 (22)	69 (98)	97.3 (0.5)
30	16.7 (2.6)	84.6 (6.7)	2.45 (1.22)	220 (60)	100 (148)	96.1 (0.1)
31	18.2 (3.3)	71.3 (15.7)	2.78 (1.26)	274 (55)	322 (368)	96.6 (0.2)
Avg	13.4	58.7	3.13	192	240	96.7
n	30	30	30	30	29	30
SD	2.7	11.1	1.14	76	93	0.6
Min	7.8	44.6	1.45	25	30	95.3
Max	18.3	87.3	6.19	285	344	98.3

Table F1. Daily means (SD) of weather parameters at Site WI5B for June, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	20.0 (5.2)	63.1 (20.5)	1.55 (1.25)	247 (80)	336 (360)	96.9 (0.1)
2						
3	14.4 (0.9)	72.2 (8.9)	3.93 (1.47)	93 (12)	95 (133)	96.4 (0.1)
4	16.8 (2.9)	72.5 (6.4)	1.97 (0.85)	103 (48)	123 (149)	96.0 (0.1)
5	18.2 (1.8)	86.6 (3.9)	4.65 (1.96)	78 (34)	91 (135)	95.9 (0.2)
6	20.1 (1.5)	72.3 (8.2)	6.17 (2.06)	195 (29)	154 (207)	95.5 (0.4)
7	21.9 (3.3)	72.5 (8.0)	2.56 (1.41)	186 (79)	220 (304)	96.2 (0.1)
8						
9						
10	17.8 (2.5)	65.2 (10.5)	2.97 (1.69)	233 (72)	290 (334)	96.7 (0.2)
11	16.8 (1.5)	85.5 (3.4)	6.07 (1.83)	99 (20)	80 (158)	96.6 (0.3)
12	20.5 (2.9)	76.2 (14.3)	3.03 (1.66)	185 (45)	216 (311)	96.4 (0.1)
13	17.8 (1.9)	62.1 (10.0)	4.20 (2.47)	225 (32)	280 (320)	96.6 (0.1)
14						
15						
16						
17						
18	19.8 (4.5)	50.7 (20.3)	2.17 (1.77)	221 (81)	367 (371)	97.1 (0.1)
19	21.4 (5.8)	54.3 (18.0)	1.88 (1.13)	215 (73)	332 (350)	96.9 (0.1)
20	22.4 (4.2)	58.1 (17.1)	2.25 (1.46)	252 (80)	320 (358)	97.0 (0.1)
21	21.1 (3.4)	50.8 (11.2)	2.66 (1.69)	277 (39)	328 (365)	97.2 (0.1)
22	19.0 (3.1)	63.4 (9.5)	2.60 (1.79)	278 (89)	286 (333)	97.1 (0.1)
23	21.6 (4.6)	56.6 (16.8)	1.48 (0.97)	129 (79)	350 (373)	97.5 (0.1)
24	23.5 (3.8)	56.7 (10.1)	3.43 (0.91)	192 (18)	316 (355)	97.4 (0.2)
25	24.5 (3.8)	64.5 (11.5)	3.26 (1.38)	222 (42)	297 (326)	96.9 (0.1)
26	23.2 (3.2)	63.4 (10.0)	1.56 (1.13)	208 (65)	212 (216)	96.8 (0.1)
27	20.8 (2.5)	81.1 (8.2)	2.23 (1.19)	196 (61)	126 (237)	96.2 (0.2)
28	17.9 (1.6)	73.5 (8.1)	3.01 (1.58)	254 (28)	233 (290)	96.0 (0.1)
29	20.7 (3.6)	62.1 (15.4)	3.20 (1.77)	254 (41)	291 (311)	96.8 (0.3)
30						
Avg	20.0	66.5	3.04	208	243	96.6
n	22	22	22	22	22	22
SD	2.4	10.1	1.28	59	91	0.5
Min	14.4	50.7	1.48	78	80	95.5
Max	24.5	86.6	6.17	278	367	97.5

Table F1. Daily means (SD) of weather parameters at Site WI5B for July, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s ⁻¹	Wind direction, °	Solar, W·m ⁻²	Atm P, kPa
1						
2						
3						
4	20.9 (4.3)	58.6 (13.5)	2.23 (1.28)	177 (48)	299 (335)	97.4 (0.2)
5	23.4 (3.4)	58.0 (7.6)	3.97 (1.11)	186 (15)	307 (336)	96.9 (0.2)
6	24.6 (3.2)	70.9 (7.0)	3.25 (1.04)	195 (44)	229 (308)	96.6 (0.1)
7	23.2 (2.7)	81.1 (6.5)	2.75 (1.24)	172 (48)	160 (186)	96.5 (0.2)
8						
9						
10	20.4 (3.2)	74.8 (9.5)	3.10 (1.55)	154 (52)	159 (232)	
11	22.9 (3.6)	82.8 (6.0)	4.58 (1.83)	164 (38)	192 (217)	96.4 (0.2)
12	20.5 (2.8)	58.4 (16.4)	4.16 (2.08)	250 (28)	302 (358)	96.7 (0.2)
13	20.4 (3.1)	54.2 (10.2)	5.31 (2.60)	278 (22)	329 (360)	96.6 (0.1)
14	22.2 (4.9)	60.8 (15.2)	2.11 (1.33)	205 (54)	334 (352)	96.8 (0.1)
15	26.3 (4.7)	59.1 (12.7)	2.15 (1.32)	178 (75)	308 (332)	96.9 (0.2)
16	25.0 (3.0)	66.7 (6.9)	2.96 (1.20)	146 (55)	238 (308)	97.3 (0.1)
17	22.5 (1.5)	84.8 (4.8)	2.80 (0.96)	187 (27)	108 (142)	97.1 (0.1)
18	24.0 (3.4)	69.7 (17.1)	1.52 (0.79)	211 (83)	289 (352)	97.1 (0.1)
19			2.49 (1.90)	137 (59)	183 (239)	96.9 (0.2)
20			1.70 (1.03)	278 (69)	261 (330)	97.0 (0.1)
21	23.8 (3.6)	70.7 (13.1)	1.49 (0.93)	311 (107)	295 (353)	97.1 (0.1)
22	22.7 (3.7)	66.5 (13.0)	2.16 (1.05)	80 (27)	302 (343)	97.5 (0.1)
23	22.7 (3.9)	65.4 (10.1)	2.03 (1.15)	156 (44)	290 (329)	97.6 (0.2)
24	23.8 (2.6)	70.3 (9.3)	3.43 (0.93)	188 (16)	251 (320)	97.2 (0.1)
25	23.5 (2.6)	77.5 (11.1)	2.66 (1.15)	231 (48)	189 (276)	97.1 (0.1)
26	23.8 (4.4)	61.8 (16.3)	1.70 (1.17)	262 (63)	302 (330)	97.2 (0.1)
27			1.59 (1.16)	181 (68)	216 (242)	96.8 (0.1)
28			2.55 (1.17)	145 (45)	285 (328)	96.7 (0.1)
29			3.13 (1.24)	237 (55)	261 (322)	96.5 (0.1)
30			1.88 (1.48)	252 (69)	309 (338)	96.4 (0.1)
31			1.20 (1.09)	185 (85)	202 (290)	96.5 (0.1)
Avg	23.0	68.0	2.65	196	254	96.9
n	19	19	26	26	26	25
SD	1.6	8.9	1.00	51	60	0.3
Min	20.4	54.2	1.20	80	108	96.4
Max	26.3	84.8	5.31	311	334	97.6

Table F1. Daily means (SD) of weather parameters at Site WI5B for August, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1			1.94 (1.35)	238 (71)	308 (340)	96.8 (0.1)
2			1.93 (1.31)	147 (52)	280 (325)	97.1 (0.1)
3			3.65 (1.25)	137 (19)	72 (94)	96.8 (0.1)
4			1.63 (1.11)	68 (96)	160 (216)	96.8 (0.1)
5			1.70 (1.19)	248 (70)	274 (317)	97.3 (0.1)
6			1.90 (1.66)	257 (70)	241 (307)	97.4 (0.0)
7			1.68 (1.43)	198 (93)	284 (342)	97.5 (0.1)
8			1.50 (0.90)	181 (51)	212 (253)	97.4 (0.2)
9			2.17 (1.46)	70 (70)	274 (330)	97.1 (0.1)
10			1.96 (0.96)	118 (53)	303 (337)	97.5 (0.1)
11			2.33 (1.27)	173 (33)	269 (313)	97.2 (0.2)
12			2.72 (0.66)	174 (21)	79 (115)	96.7 (0.1)
13	23.9 (3.4)	76.7 (12.3)	1.29 (0.99)	232 (84)	222 (285)	96.7 (0.1)
14	21.9 (2.5)	81.9 (7.4)	1.70 (1.36)	111 (64)	162 (233)	97.1 (0.2)
15	22.9 (4.6)	63.6 (19.8)	1.21 (0.97)	202 (87)	275 (325)	97.9 (0.1)
16			2.13 (1.18)	223 (47)	271 (314)	97.6 (0.2)
17			2.49 (1.30)	215 (37)	273 (314)	97.1 (0.2)
18			2.72 (0.80)	200 (50)	273 (315)	97.0 (0.1)
19			3.14 (0.90)	141 (31)	265 (310)	97.4 (0.1)
20			2.89 (1.02)	159 (15)	220 (289)	97.5 (0.1)
21			3.70 (1.12)	160 (13)	167 (224)	97.1 (0.2)
22	23.6 (2.4)	82.3 (8.1)	4.23 (1.98)	187 (24)	182 (266)	96.7 (0.1)
23	18.4 (2.6)	64.8 (10.4)	2.64 (1.78)	273 (52)	274 (318)	97.4 (0.2)
24			1.63 (1.41)	109 (94)	270 (311)	97.7 (0.1)
25			1.40 (1.02)	135 (49)	276 (319)	97.6 (0.1)
26			2.91 (1.40)	157 (19)	262 (306)	97.3 (0.2)
27			3.03 (1.13)	161 (34)	126 (195)	96.8 (0.2)
28			2.14 (0.95)	257 (61)	208 (283)	96.5 (0.2)
29			2.32 (1.36)	204 (53)	262 (306)	97.1 (0.1)
30			2.39 (1.30)	174 (53)	258 (301)	97.4 (0.1)
31			3.94 (1.02)	174 (13)	250 (304)	97.3 (0.1)
Avg	22.1	73.9	2.35	178	234	97.2
n	5	5	31	31	31	31
SD	2.0	8.1	0.78	52	61	0.3
Min	18.4	63.6	1.21	68	72	96.5
Max	23.9	82.3	4.23	273	308	97.9

Table F1. Daily means (SD) of weather parameters at Site WI5B for September, 2008.

Day	Temperature, °C	RH, %	Wind speed, m s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1			4.30 (1.04)	178 (14)	224 (275)	97.1 (0.1)
2			4.05 (1.38)	233 (49)	99 (148)	97.1 (0.3)
3			2.84 (1.22)	319 (108)	261 (308)	97.7 (0.1)
4			1.80 (1.10)	95 (36)	120 (151)	97.2 (0.2)
5			2.08 (1.61)	194 (62)	186 (264)	97.0 (0.1)
6			2.19 (1.06)	220 (39)	202 (265)	97.1 (0.1)
7			2.28 (0.98)	238 (37)	130 (205)	97.3 (0.1)
8			1.25 (0.82)	245 (68)	143 (206)	97.7 (0.1)
9			1.67 (1.20)	165 (56)	240 (292)	97.7 (0.1)
10			3.63 (1.24)	159 (13)	130 (180)	97.6 (0.1)
11			3.50 (1.16)	185 (45)	71 (116)	96.9 (0.2)
12			2.02 (0.97)	128 (77)	195 (265)	97.1 (0.2)
13			2.22 (1.51)	80 (96)	49 (65)	96.2 (0.2)
14			2.52 (1.38)	258 (74)	65 (108)	96.6 (0.4)
15			2.15 (0.76)	235 (48)	194 (274)	97.7 (0.1)
16	18.8 (5.1)	64.3 (9.8)	2.72 (1.14)	202 (34)	226 (279)	97.4 (0.1)
17	19.0 (4.9)	62.3 (16.2)	1.26 (0.88)	85 (51)	223 (275)	97.9 (0.1)
18	20.0 (4.4)	66.0 (7.5)	4.03 (1.14)	154 (27)	208 (264)	97.8 (0.2)
19	22.1 (3.1)	63.7 (10.9)	4.01 (1.11)	201 (14)	204 (269)	97.3 (0.1)
20	21.3 (3.8)	69.1 (7.1)	1.75 (0.84)	125 (65)	178 (244)	97.6 (0.1)
21	20.8 (4.5)	69.2 (10.9)	2.48 (1.26)	149 (30)	192 (249)	97.9 (0.1)
22	21.2 (2.4)	71.5 (6.0)	4.04 (1.00)	162 (13)	138 (187)	97.9 (0.1)
23	22.0 (2.6)	72.1 (8.8)	4.47 (1.28)	182 (23)	102 (169)	97.6 (0.2)
24	16.9 (3.2)	67.4 (14.4)	2.41 (1.63)	226 (64)	211 (270)	98.1 (0.2)
25	17.9 (4.4)	67.7 (7.6)	3.08 (1.41)	154 (29)	126 (184)	98.0 (0.2)
26	22.8 (3.5)	62.1 (7.9)	4.13 (0.97)	185 (11)	193 (250)	97.4 (0.2)
27	18.1 (2.2)	77.7 (5.0)	3.22 (1.33)	226 (92)	78 (126)	97.5 (0.2)
28	14.8 (1.5)	84.2 (1.6)	1.92 (0.81)	124 (43)	45 (58)	97.8 (0.2)
29	15.4 (2.1)	72.6 (12.5)	2.62 (1.37)	272 (49)	139 (235)	97.4 (0.1)
30	10.7 (1.9)	70.9 (6.2)	2.26 (1.33)	289 (93)	97 (135)	97.4 (0.1)
Avg	18.8	69.4	2.76	188	156	97.4
n	15	15	30	30	30	30
SD	3.2	5.7	0.94	58	60	0.4
Min	10.7	62.1	1.25	80	45	96.2
Max	22.8	84.2	4.47	319	261	98.1

Table F1. Daily means (SD) of weather parameters at Site WI5B for October, 2008.

Day	Temperature, °C	RH, %	Wind speed, m s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	9.7 (3.2)	73.5 (10.2)	1.83 (1.28)	264 (93)	109 (159)	97.5 (0.1)
2	12.5 (4.8)	69.1 (11.9)	2.62 (1.56)	265 (90)	167 (243)	96.9 (0.2)
3	9.9 (4.3)	64.5 (14.9)	0.85 (0.68)	78 (85)	192 (255)	97.5 (0.2)
4	10.4 (5.0)	60.4 (14.7)	1.81 (1.33)	140 (47)	184 (241)	97.8 (0.1)
5	10.6 (1.7)	76.7 (7.9)	4.10 (1.53)	112 (12)	53 (93)	97.6 (0.1)
6	16.8 (3.3)	78.0 (7.2)	5.08 (0.94)	131 (9)		97.5 (0.1)
7						
8						
9						
10	14.0 (3.7)	59.5 (11.3)	3.08 (1.44)	108 (34)	96 (171)	97.5 (0.2)
11	18.1 (4.2)	64.5 (6.8)	3.21 (1.02)	145 (20)	139 (208)	97.6 (0.1)
12	22.0 (2.7)	70.5 (7.2)	3.92 (1.07)	165 (13)	85 (139)	97.6 (0.1)
13	15.7 (5.6)	80.0 (4.2)	3.44 (1.01)	219 (39)	19 (27)	97.5 (0.1)
14	9.8 (2.8)	67.3 (11.0)	2.45 (0.90)	219 (26)	94 (140)	97.8 (0.2)
15	9.7 (1.8)	67.4 (10.3)	3.33 (1.40)	264 (39)	90 (160)	97.5 (0.2)
16						
17						
18						
19						
20						
21						
22	7.6 (1.2)	66.0 (5.3)	5.32 (1.45)	110 (13)	20 (30)	98.1 (0.1)
23	10.0 (2.7)	59.9 (9.1)	4.11 (1.24)	114 (16)	89 (135)	97.8 (0.3)
24	9.1 (1.0)	80.0 (3.2)	1.61 (0.78)	217 (77)	32 (52)	96.8 (0.3)
25	10.7 (3.4)	66.2 (14.7)	3.89 (2.01)	237 (21)	115 (187)	95.8 (0.3)
26	5.9 (2.0)	68.2 (9.6)	6.89 (1.58)	282 (11)	43 (64)	96.5 (0.6)
27	3.2 (1.5)	61.7 (6.6)	3.76 (2.01)	286 (38)	82 (137)	98.2 (0.3)
28	3.6 (3.9)	55.0 (17.1)	1.85 (1.51)	237 (37)	123 (181)	98.2 (0.3)
29	7.8 (4.5)	44.7 (10.5)	1.30 (0.92)	166 (65)	133 (189)	97.7 (0.1)
30						
31						
Avg	10.9	66.7	3.22	188	98	97.5
n	20	20	20	20	19	20
SD	4.6	8.5	1.46	66	50	0.6
Min	3.2	44.7	0.85	78	19	95.8
Max	22.0	80.0	6.89	286	192	98.2

Table F1. Daily means (SD) of weather parameters at Site WI5B for November, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	9.3 (3.3)	53.6 (7.0)	2.96 (1.11)	107 (22)	110 (158)	98.3 (0.2)
2	12.7 (4.1)	65.3 (6.7)	3.22 (1.79)	168 (42)	103 (162)	97.2 (0.3)
3	18.2 (4.3)	68.3 (10.6)	4.27 (1.74)	176 (24)	113 (166)	96.9 (0.2)
4						
5						
6	12.6 (2.8)	77.8 (4.9)	3.72 (1.22)	156 (27)	24 (64)	95.7 (0.2)
7	3.9 (1.6)	81.6 (3.1)	2.14 (1.06)	185 (66)	33 (48)	95.7 (0.1)
8	2.4 (1.1)	81.8 (3.7)	4.23 (1.12)	279 (24)	18 (28)	96.1 (0.4)
9	-1.7 (0.9)	69.9 (2.9)	3.37 (1.36)	289 (20)	34 (53)	97.0 (0.2)
10	-0.7 (2.3)	69.0 (6.1)	1.55 (1.02)	264 (86)	96 (160)	97.7 (0.2)
11	-0.3 (1.8)	78.8 (3.8)	3.12 (1.29)	110 (22)	21 (33)	97.6 (0.3)
12	3.0 (0.7)	87.2 (0.8)	1.75 (0.82)	156 (47)	22 (37)	96.7 (0.2)
13	5.8 (1.5)	87.8 (3.0)	3.28 (0.95)	226 (40)	12 (18)	95.4 (0.3)
14	4.5 (1.2)	79.8 (2.8)	2.56 (1.05)	278 (29)	27 (47)	96.3 (0.5)
15	0.9 (1.3)	74.7 (5.5)	3.29 (1.01)	292 (22)	37 (63)	97.2 (0.1)
16	-0.3 (1.3)	74.9 (3.1)	2.05 (0.92)	267 (78)	51 (98)	97.1 (0.3)
17	-1.5 (1.6)	69.1 (4.0)	2.77 (1.50)	281 (66)	56 (94)	98.3 (0.3)
18	-3.2 (3.2)	68.6 (7.8)	2.88 (2.08)	167 (45)	67 (113)	98.2 (0.6)
19						
20						
21	-6.6 (2.0)	64.2 (5.1)	2.10 (0.81)	234 (56)	94 (147)	98.6 (0.2)
22	-1.4 (2.7)	70.9 (4.3)	3.20 (1.06)	155 (22)	68 (117)	98.0 (0.1)
23						
24	-0.3 (1.6)	76.2 (4.9)	2.71 (1.36)	277 (30)	48 (83)	97.1 (0.2)
25	-3.0 (2.7)	70.5 (7.1)	1.06 (0.76)	232 (63)	71 (112)	97.4 (0.2)
26	-0.8 (4.1)	70.4 (6.2)	0.70 (0.59)	151 (94)	87 (136)	97.1 (0.0)
27	0.8 (3.2)	71.2 (9.7)	3.62 (2.41)	260 (54)	34 (59)	96.8 (0.1)
28	1.0 (2.7)	65.5 (8.1)	2.28 (1.16)	260 (48)		96.8 (0.0)
29						
30						
Avg	2.4	72.9	2.73	221	56	97.1
n	23	23	23	23	22	23
SD	5.8	7.7	0.91	60	32	0.9
Min	-6.6	53.6	0.70	107	12	95.4
Max	18.2	87.8	4.27	292	113	98.6

Table F1. Daily means (SD) of weather parameters at Site WI5B for December, 2008.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1						
2	-2.0 (4.7)	73.8 (4.4)	3.43 (1.45)	204 (35)	56 (97)	96.1 (0.3)
3	-5.3 (2.3)	69.0 (7.3)	3.56 (1.45)	295 (18)	75 (129)	97.0 (0.3)
4	-9.3 (1.8)	67.9 (5.0)	2.76 (1.79)	270 (57)	68 (119)	98.0 (0.3)
5	-8.0 (3.8)	73.1 (5.4)	3.50 (1.22)	206 (25)	52 (91)	97.0 (0.9)
6	-7.4 (3.6)	69.1 (7.3)	4.38 (2.32)	299 (56)	55 (93)	96.8 (0.7)
7	-12.9 (3.4)	71.1 (3.6)	2.24 (1.51)	146 (51)	24 (41)	97.4 (0.4)
8						
9						
10						
11	-7.9 (3.2)	65.6 (4.3)	3.51 (1.32)	287 (34)	60 (104)	97.1 (0.2)
12	-12.4 (4.4)	73.3 (4.2)	2.51 (1.68)	189 (53)	34 (59)	97.1 (0.4)
13	2.9 (2.3)	73.3 (3.0)	3.24 (0.98)	149 (29)	53 (87)	95.8 (0.2)
14						
15						
16	-18.0 (3.0)	72.9 (1.5)	1.89 (1.00)	152 (37)	27 (46)	98.1 (0.6)
17	-13.2 (1.6)	74.5 (2.9)	1.93 (0.97)	220 (34)	77 (125)	97.5 (0.2)
18	-11.0 (3.9)	73.3 (2.7)	1.47 (1.17)	141 (74)	71 (120)	97.7 (0.1)
19	-5.6 (1.7)	70.9 (3.7)	3.02 (1.70)	61 (24)	53 (90)	97.4 (0.2)
20	-8.6 (4.7)	77.6 (2.6)	4.31 (1.83)	129 (74)	26 (44)	96.9 (0.3)
21						
22						
23						
24	-11.6 (2.8)	76.6 (2.3)	2.21 (1.60)	257 (50)		96.7 (0.5)
25	-8.3 (5.2)	68.3 (6.6)	5.04 (2.23)	158 (20)		97.3 (0.4)
26	2.5 (3.3)	83.4 (5.5)	4.43 (1.30)	145 (16)	19 (32)	95.9 (0.3)
27	-1.0 (3.4)	86.1 (3.4)	4.24 (0.95)	261 (21)	20 (31)	95.7 (0.1)
28	-5.8 (3.6)	75.3 (4.4)	3.54 (1.14)	215 (46)	80 (129)	96.5 (0.3)
29	-2.0 (3.2)	67.6 (9.4)	4.07 (1.94)	265 (42)	70 (123)	97.0 (0.6)
30	-8.7 (2.7)	73.9 (5.1)	3.93 (1.77)	70 (96)	19 (32)	97.2 (0.5)
31	-15.4 (3.1)	67.1 (6.4)	2.35 (1.00)	220 (60)	81 (132)	98.2 (0.5)
Avg	-7.7	72.9	3.25	203	51	97.0
n	22	22	22	22	20	22
SD	5.3	4.9	0.95	68	22	0.7
Min	-18.0	65.6	1.47	61	19	95.7
Max	2.9	86.1	5.04	299	81	98.2

Table F1. Daily means (SD) of weather parameters at Site WI5B for January, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-5.0 (2.6)	65.9 (3.4)	4.47 (1.34)	215 (46)	49 (83)	96.2 (0.4)
2	-11.9 (2.5)	66.3 (4.5)	2.36 (1.34)	289 (96)	80 (131)	96.7 (0.2)
3	-5.0 (3.4)	69.6 (6.6)	4.95 (2.85)	101 (42)	22 (39)	96.7 (0.2)
4	-11.8 (4.4)	72.0 (6.9)	4.01 (1.73)	264 (26)	88 (137)	97.5 (0.4)
5	-9.2 (6.0)	69.8 (4.0)	2.42 (1.05)	190 (25)	87 (136)	96.9 (0.5)
6	-4.9 (1.9)	65.2 (4.0)	3.17 (1.63)	166 (32)	63 (107)	95.5 (0.3)
7	-9.3 (1.7)	73.8 (3.5)	3.00 (1.09)	279 (33)	66 (108)	95.2 (0.3)
8	-12.7 (2.2)	70.4 (4.9)	1.56 (0.99)	273 (77)	80 (133)	96.6 (0.3)
9	-8.9 (1.5)	65.2 (2.7)	3.11 (1.46)	67 (34)	39 (62)	97.3 (0.4)
10	-9.7 (2.6)	69.6 (3.7)	1.33 (0.81)	298 (103)	86 (136)	97.7 (0.2)
11	-9.5 (1.9)	74.3 (2.2)	1.66 (1.04)	235 (59)	46 (77)	97.2 (0.1)
12	-11.3 (2.5)	77.3 (1.8)	3.08 (1.95)	143 (89)	35 (59)	97.2 (0.2)
13	-19.9 (2.4)	64.8 (3.9)	1.73 (1.13)	320 (105)	87 (143)	97.7 (0.2)
14	-19.2 (1.4)	62.8 (4.9)	3.86 (1.28)	311 (109)	93 (146)	98.1 (0.5)
15	-23.5 (2.5)	64.6 (2.7)	3.03 (1.03)	262 (22)	92 (144)	99.0 (0.1)
16	-19.3 (5.5)	65.3 (5.4)	2.57 (1.77)	185 (48)	94 (147)	98.3 (0.6)
17	-9.2 (2.4)	74.4 (4.1)	4.37 (2.36)	273 (64)	45 (73)	96.2 (0.3)
18	-9.3 (2.9)	75.6 (1.9)	1.42 (1.33)	278 (104)	49 (78)	96.6 (0.2)
19	-8.8 (3.4)	75.9 (2.7)	1.24 (1.00)	288 (107)	64 (102)	97.0 (0.2)
20	-8.5 (2.3)	75.1 (2.5)	1.85 (1.20)	219 (71)	83 (135)	97.3 (0.3)
21	-5.7 (1.6)	79.7 (1.6)	1.99 (0.82)	234 (40)	61 (96)	96.5 (0.1)
22	-6.8 (2.7)	80.3 (1.6)	0.78 (0.70)	130 (90)	72 (121)	96.3 (0.1)
23	-9.5 (4.0)	72.7 (9.7)	4.66 (2.14)	293 (22)	81 (141)	97.5 (0.8)
24	-18.7 (2.3)	66.2 (3.1)	2.81 (1.27)	255 (22)	103 (157)	98.5 (0.2)
25	-16.4 (3.1)	63.9 (7.7)	2.60 (0.71)	258 (15)	106 (162)	98.2 (0.0)
26	-16.6 (2.1)	65.3 (2.8)	1.81 (1.04)	250 (32)	79 (122)	98.4 (0.1)
27	-15.2 (2.8)	65.7 (5.2)	1.26 (1.00)	222 (50)	90 (140)	98.0 (0.4)
28	-13.1 (4.4)	71.9 (2.5)	2.09 (1.60)	191 (50)	78 (124)	96.4 (0.4)
29	-9.5 (2.0)	70.1 (7.4)	3.75 (1.12)	284 (18)	100 (162)	96.6 (0.3)
30	-13.3 (3.9)	67.8 (4.5)	1.76 (0.98)	241 (50)	103 (163)	97.2 (0.2)
31	1.8 (4.3)	71.1 (9.1)	4.79 (1.73)	227 (33)	109 (164)	95.7 (0.4)
Avg	-11.3	70.1	2.69	247	75	97.1
n	31	31	31	31	31	31
SD	5.3	4.8	1.17	61	22	0.9
Min	-23.5	62.8	0.78	67	22	95.2
Max	1.8	80.3	4.95	320	109	99.0

Table F1. Daily means (SD) of weather parameters at Site WI5B for February, 2009.

Day	Temperature, °C	RH, %	Wind speed, m s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-0.7 (2.0)	65.9 (4.4)	4.89 (1.03)	260 (12)	114 (171)	96.5 (0.3)
2	-11.4 (3.4)	61.3 (4.2)	4.39 (1.61)	285 (18)	109 (168)	97.2 (0.2)
3	-14.5 (2.1)	67.9 (3.2)	1.85 (0.99)	286 (68)	113 (172)	98.3 (0.3)
4	-13.8 (4.4)	64.3 (6.2)	1.69 (1.54)	180 (61)	115 (175)	98.6 (0.3)
5	-4.8 (3.9)	61.6 (4.1)	2.48 (1.65)	184 (31)	119 (175)	97.3 (0.2)
6	0.7 (5.1)	70.9 (7.2)	3.28 (1.71)	149 (36)	105 (158)	96.4 (0.6)
7	2.0 (2.3)	76.8 (4.6)	3.68 (1.32)	261 (35)	83 (145)	96.5 (0.8)
8	-1.5 (3.5)	75.0 (5.9)	2.02 (0.97)	213 (34)	135 (187)	98.0 (0.1)
9						
10	6.2 (2.2)	76.0 (3.7)	7.16 (1.79)	225 (29)	15 (27)	95.1 (0.6)
11	2.2 (0.5)	81.1 (3.2)	3.84 (1.68)	274 (17)	16 (26)	95.9 (0.1)
12	-0.6 (1.2)	72.1 (3.7)	5.32 (1.31)	277 (10)	48 (98)	96.9 (0.4)
13	-3.6 (1.2)	72.1 (3.0)	2.42 (0.85)	284 (41)	69 (108)	97.7 (0.1)
14	-7.1 (1.6)	71.6 (4.6)	2.65 (0.85)	287 (55)	108 (160)	97.8 (0.1)
15	-6.8 (3.2)	66.7 (7.5)	0.92 (0.75)	265 (91)	129 (189)	98.3 (0.1)
16	-2.1 (4.3)	59.3 (8.6)	3.51 (1.61)	188 (30)	85 (133)	97.7 (0.4)
17	2.1 (2.3)	65.0 (7.9)	2.25 (1.07)	136 (42)	105 (170)	96.0 (0.5)
18	-4.5 (4.4)	73.8 (8.8)	3.92 (1.99)	267 (73)	101 (172)	96.2 (0.6)
19	-12.0 (2.8)	62.6 (5.7)	2.59 (1.35)	298 (58)		97.5 (0.1)
20	-9.1 (5.8)	66.1 (7.5)	2.01 (1.50)	127 (60)	128 (201)	97.1 (0.2)
21	-6.1 (1.5)	75.0 (5.8)	4.57 (1.09)	325 (109)	115 (173)	97.1 (0.4)
22	-10.6 (2.8)	68.5 (4.0)	1.93 (1.48)	288 (54)	155 (221)	98.4 (0.3)
23	-9.0 (5.1)	64.2 (8.0)	1.82 (1.46)	134 (70)	156 (221)	98.6 (0.4)
24	-0.2 (4.0)	64.5 (3.7)	4.01 (0.84)	161 (16)	157 (218)	97.2 (0.3)
25	3.3 (2.3)	69.4 (4.9)	3.16 (1.29)	260 (61)	146 (204)	96.9 (0.4)
26	-3.7 (2.6)	76.0 (3.8)	5.53 (3.17)	50 (42)	33 (56)	96.9 (0.4)
27	-11.2 (1.5)	63.4 (10.9)	4.71 (2.00)	34 (58)	175 (237)	98.0 (0.5)
28	-12.1 (4.7)	55.6 (7.1)	1.90 (1.48)	305 (107)	176 (237)	98.6 (0.1)
Avg	-4.8	68.4	3.28	250	108	97.3
n	27	27	27	27	26	27
SD	5.7	6.1	1.44	77	43	0.9
Min	-14.5	55.6	0.92	34	15	95.1
Max	6.2	81.1	7.16	325	176	98.6

Table F1. Daily means (SD) of weather parameters at Site WI5B for March, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	-12.3 (3.3)	57.1 (6.3)	1.52 (1.00)	351 (110)	178 (245)	99.1 (0.2)
2						
3						
4	1.9 (3.8)	56.2 (5.5)	4.64 (1.01)	151 (9)	176 (238)	97.0 (0.3)
5	5.3 (1.2)	75.9 (8.9)	2.79 (1.09)	180 (40)	52 (69)	95.8 (0.2)
6	4.9 (2.3)	79.5 (7.9)	2.47 (1.26)	247 (32)	137 (214)	96.7 (0.4)
7	1.4 (1.6)	70.5 (7.4)	1.80 (0.74)	274 (84)	129 (192)	97.0 (0.1)
8	0.7 (1.5)	69.0 (2.7)	3.04 (1.74)	68 (64)	59 (80)	96.7 (0.2)
9	1.6 (3.3)	77.7 (4.0)	2.05 (1.79)	139 (51)	120 (163)	97.3 (0.1)
10	0.2 (4.9)	84.1 (2.8)		47 (95)	19 (29)	96.2 (0.4)
11	-14.1 (1.7)	67.2 (4.6)		280 (8)	182 (246)	98.4 (0.7)
12	-11.5 (4.8)	60.3 (7.0)		212 (62)	187 (243)	99.1 (0.3)
13	-0.9 (4.6)	65.4 (4.4)	3.17 (1.83)	209 (28)	196 (262)	98.0 (0.3)
14	5.1 (4.1)	63.6 (10.4)	3.26 (1.46)	194 (16)	200 (258)	97.2 (0.2)
15	8.8 (3.9)	56.3 (9.4)	3.54 (1.06)	172 (14)	197 (256)	97.0 (0.0)
16	12.7 (4.5)	63.2 (7.0)	4.11 (1.51)	174 (16)	198 (255)	97.0 (0.1)
17	10.3 (2.2)	65.2 (11.4)	3.27 (1.56)	243 (54)	154 (199)	96.9 (0.3)
18	5.8 (3.0)	55.8 (11.8)	3.31 (2.10)	274 (45)	209 (273)	97.8 (0.2)
19	-0.2 (2.5)	53.7 (9.5)	2.30 (1.16)	248 (94)	221 (278)	98.5 (0.1)
20	2.6 (3.0)	63.3 (11.5)	4.13 (1.55)	151 (12)	96 (156)	98.0 (0.3)
21	10.3 (4.6)	66.1 (10.5)	2.21 (0.82)	153 (45)	214 (273)	97.8 (0.1)
22	8.9 (2.8)	66.1 (6.8)	6.36 (2.14)	111 (9)	183 (251)	97.7 (0.3)
23	6.7 (0.9)	78.8 (2.7)	7.67 (1.14)	117 (8)	56 (105)	96.7 (0.3)
24	8.9 (1.3)	80.3 (4.2)	5.56 (1.64)	132 (37)	38 (63)	95.6 (0.3)
25	2.2 (1.2)	80.0 (3.2)	5.67 (1.47)	231 (22)	45 (67)	95.7 (0.3)
26						
27						
28	1.5 (3.4)	60.7 (9.3)	2.67 (1.48)	55 (56)	193 (265)	96.8 (0.3)
29	1.4 (4.1)	60.2 (12.7)	2.97 (1.75)	264 (94)	237 (302)	96.4 (0.2)
30	4.8 (2.9)	45.7 (11.1)	4.36 (2.73)	97 (31)	132 (195)	96.8 (0.3)
31	4.2 (1.9)	76.0 (9.5)	5.93 (2.05)	124 (37)	39 (67)	95.2 (0.5)
Avg	2.6	66.6	3.70	178	142	97.1
n	27	27	24	27	27	27
SD	6.5	9.6	1.54	75	66	1.0
Min	-14.1	45.7	1.52	47	19	95.2
Max	12.7	84.1	7.67	351	237	99.1

Table F1. Daily means (SD) of weather parameters at Site WI5B for April, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	2.5 (0.6)	79.5 (4.5)	5.16 (1.66)	235 (19)	52 (79)	95.4 (0.6)
2	4.0 (2.5)	65.0 (10.1)	3.03 (1.17)	259 (36)	221 (288)	96.3 (0.1)
3	4.7 (2.7)	60.5 (7.1)	2.28 (1.03)	266 (77)	187 (251)	96.5 (0.2)
4	4.3 (3.9)	64.2 (11.8)	2.43 (1.83)	53 (71)	124 (169)	97.2 (0.1)
5	3.2 (2.2)	70.2 (15.2)	3.43 (3.11)	39 (57)	198 (279)	97.2 (0.1)
6	3.2 (2.5)	52.3 (9.1)	4.31 (1.97)	260 (70)	263 (316)	97.3 (0.1)
7	4.3 (4.2)	45.1 (13.0)	2.73 (1.34)	280 (31)	267 (317)	96.7 (0.3)
8	5.5 (3.8)	52.7 (9.3)	2.47 (1.53)	272 (36)	263 (317)	96.2 (0.1)
9	6.6 (4.2)	52.3 (13.6)	2.05 (1.32)	230 (95)	267 (316)	96.8 (0.1)
10	6.8 (4.2)	44.1 (11.9)	3.47 (1.61)	52 (37)	266 (322)	97.5 (0.2)
11	7.9 (4.6)	33.1 (9.2)	2.31 (1.05)	113 (30)	272 (322)	98.1 (0.1)
12	10.4 (3.7)	28.4 (7.5)	3.25 (1.10)	139 (20)	257 (316)	97.9 (0.2)
13	10.2 (2.9)	28.6 (6.7)	2.82 (1.33)	96 (31)	154 (190)	97.0 (0.2)
14	12.0 (5.5)	27.7 (12.2)	2.01 (1.51)	111 (88)	266 (329)	97.2 (0.1)
15	13.1 (5.1)	24.4 (7.8)	2.35 (1.20)	131 (31)	280 (328)	97.8 (0.1)
16	15.4 (4.6)	30.0 (3.9)	2.72 (1.43)	165 (27)	266 (321)	98.2 (0.1)
17	17.3 (4.5)	38.3 (7.0)	2.49 (1.07)	196 (30)	248 (307)	98.0 (0.3)
18	15.0 (4.1)	56.2 (7.6)	3.34 (1.91)	61 (78)	223 (284)	97.3 (0.2)
19	6.7 (1.3)	79.9 (2.7)	3.11 (1.32)	358 (101)	40 (50)	97.1 (0.1)
20	6.0 (1.4)	76.0 (7.3)	3.16 (1.73)	253 (39)	85 (133)	96.4 (0.1)
21	9.7 (3.9)	50.3 (15.0)	4.77 (1.59)	270 (26)	243 (314)	96.3 (0.1)
22	11.2 (3.7)	42.7 (16.9)	2.87 (1.28)	253 (82)	285 (337)	96.7 (0.2)
23	17.4 (6.3)	39.7 (5.9)	5.83 (1.43)	162 (20)	214 (260)	96.2 (0.3)
24	18.6 (5.8)	59.8 (12.1)	4.72 (1.18)	224 (55)	260 (308)	95.9 (0.3)
25	9.8 (2.6)	67.3 (9.8)	3.92 (1.41)	67 (64)	135 (175)	97.2 (0.3)
26	9.7 (3.3)	82.1 (5.8)	4.72 (1.74)	117 (36)	33 (52)	96.7 (0.5)
27	9.3 (2.4)	73.3 (9.6)	3.45 (1.56)	270 (76)	124 (169)	97.2 (0.6)
28	10.9 (5.2)	54.0 (17.9)	3.06 (1.89)	105 (48)	303 (342)	98.4 (0.1)
29	12.1 (2.6)	61.7 (9.1)	4.19 (1.12)	124 (23)	101 (116)	97.8 (0.4)
30	13.9 (2.1)	74.4 (11.6)	4.21 (1.81)	230 (46)	98 (148)	96.7 (0.2)
Avg	9.4	53.8	3.36	187	200	97.0
n	30	30	30	30	30	30
SD	4.5	17.2	0.98	86	81	0.7
Min	2.5	24.4	2.01	39	33	95.4
Max	18.6	82.1	5.83	358	303	98.4

Table F1. Daily means (SD) of weather parameters at Site WI5B for May, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	10.9 (2.7)	51.0 (16.3)	4.00 (1.55)	273 (26)	242 (318)	97.0 (0.1)
2	12.3 (3.7)	44.2 (10.3)	3.43 (2.11)	252 (42)	250 (321)	96.7 (0.1)
3	14.7 (3.8)	43.0 (13.0)	2.00 (1.44)	255 (64)	294 (341)	96.8 (0.1)
4	16.8 (5.3)	38.9 (10.0)	2.80 (1.40)	152 (53)	255 (309)	97.0 (0.2)
5	17.5 (3.0)	60.2 (11.9)	4.48 (1.81)	183 (22)	213 (300)	96.4 (0.3)
6	18.1 (3.2)	67.9 (8.7)	3.23 (1.10)	200 (22)	212 (255)	96.0 (0.1)
7	18.9 (3.9)	46.9 (19.2)	3.02 (1.85)	238 (36)	276 (322)	96.0 (0.1)
8	14.2 (3.3)	59.5 (11.1)	2.11 (1.35)	270 (92)	201 (274)	96.2 (0.1)
9	10.3 (1.9)	62.2 (8.7)	2.80 (1.44)	267 (74)	162 (189)	97.1 (0.3)
10	9.4 (2.3)	64.7 (9.6)	2.08 (1.18)	258 (82)	137 (164)	97.7 (0.1)
11	12.9 (6.2)	50.7 (18.9)	1.84 (1.19)	201 (64)	299 (352)	97.6 (0.2)
12	16.9 (3.4)	50.0 (10.3)	5.61 (1.74)	173 (11)	192 (243)	96.8 (0.4)
13	16.6 (2.6)	70.8 (16.0)	4.47 (1.56)	210 (43)	97 (150)	95.8 (0.2)
14	12.4 (3.1)	55.2 (8.6)	4.50 (2.27)	254 (54)	309 (352)	97.0 (0.5)
15	15.6 (3.2)	67.2 (9.3)	4.77 (1.85)	175 (55)	197 (259)	96.8 (0.3)
16	8.6 (2.8)	48.5 (15.3)	5.55 (2.24)	293 (17)	298 (355)	97.7 (0.3)
17	13.1 (5.1)	38.7 (14.6)	2.00 (1.10)	207 (48)	332 (360)	98.1 (0.2)
18	18.6 (4.9)	43.7 (8.6)	4.79 (1.58)	187 (21)	308 (337)	97.3 (0.2)
19	24.4 (5.1)	49.9 (10.0)	3.80 (1.53)	173 (41)	311 (340)	97.0 (0.2)
20	26.5 (4.2)	38.3 (12.9)	6.59 (1.43)	206 (9)	299 (324)	96.6 (0.2)
21	19.5 (2.4)	48.5 (7.5)	3.14 (1.69)	252 (80)	204 (262)	97.5 (0.4)
22	18.1 (3.7)	44.0 (11.3)	3.39 (0.86)	146 (53)	267 (313)	97.8 (0.2)
23	19.0 (3.3)	51.3 (22.2)	2.44 (1.34)	211 (77)	267 (324)	97.5 (0.1)
24	17.4 (5.4)	39.5 (15.1)	1.76 (1.19)	110 (50)	342 (363)	97.6 (0.1)
25	18.3 (3.9)	43.6 (6.1)	4.83 (1.80)	127 (18)	299 (330)	97.2 (0.3)
26	15.7 (1.3)	72.0 (7.6)	3.14 (1.24)	111 (43)	95 (116)	96.6 (0.1)
27	12.4 (1.3)	80.1 (2.4)	4.29 (1.80)	31 (81)	47 (48)	96.6 (0.1)
28	17.8 (5.3)	62.1 (16.6)	1.99 (1.02)	267 (48)	323 (361)	96.6 (0.1)
29	19.0 (3.3)	42.5 (11.6)	3.35 (1.47)	247 (71)	313 (365)	96.9 (0.2)
30	16.8 (3.1)	48.0 (22.9)	3.79 (1.99)	251 (69)	335 (370)	96.7 (0.1)
31	17.5 (6.9)	44.1 (15.2)	3.43 (2.24)	172 (44)	318 (362)	96.6 (0.4)
Avg	16.1	52.5	3.53	214	248	96.9
n	31	31	31	31	31	31
SD	3.9	11.1	1.22	59	77	0.5
Min	8.6	38.3	1.76	31	47	95.8
Max	26.5	80.1	6.59	293	342	98.1

Table F1. Daily means (SD) of weather parameters at Site WI5B for June, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	17.4 (4.1)	52.7 (14.4)	3.38 (1.62)	69 (73)	319 (358)	96.9 (0.4)
2	17.2 (4.5)	49.2 (14.3)	3.00 (1.81)	184 (80)	299 (336)	97.5 (0.2)
3	15.3 (4.8)	44.5 (14.2)	1.66 (1.11)	88 (91)	326 (353)	97.8 (0.2)
4	17.5 (6.5)	45.2 (18.8)	2.25 (1.51)	211 (59)	335 (355)	97.2 (0.3)
5	18.0 (3.6)	41.9 (13.5)	3.53 (1.42)	254 (71)	327 (348)	96.8 (0.1)
6	10.3 (0.5)	74.4 (10.2)	3.40 (1.40)	84 (27)	40 (42)	96.9 (0.2)
7	11.2 (1.2)	83.7 (2.2)	3.99 (1.03)	82 (15)	56 (71)	96.8 (0.1)
8	12.6 (1.1)	84.3 (2.0)	2.81 (1.47)	298 (94)	60 (77)	96.5 (0.2)
9	15.3 (2.5)	76.2 (7.2)	1.27 (0.76)	213 (73)	156 (192)	97.0 (0.1)
10	15.8 (1.7)	76.7 (5.2)	1.34 (0.70)	211 (79)	92 (95)	96.9 (0.1)
11	17.6 (4.3)	59.0 (19.8)	1.61 (1.10)	116 (96)	264 (325)	96.9 (0.1)
12	17.3 (4.9)	59.0 (17.0)	1.51 (0.95)	172 (57)	223 (278)	97.1 (0.0)
13	18.8 (5.5)	60.9 (16.0)	2.03 (1.30)	200 (67)	339 (356)	97.2 (0.1)
14	22.5 (5.3)	56.6 (15.2)	1.58 (0.94)	214 (69)	308 (356)	97.1 (0.1)
15	22.7 (3.8)	59.7 (11.5)	2.27 (1.34)	163 (42)	245 (283)	97.1 (0.1)
16	20.9 (2.7)	66.2 (10.9)	3.42 (1.34)	121 (25)	142 (198)	96.8 (0.1)
17	20.5 (2.9)	78.4 (6.5)	2.40 (1.13)	129 (29)	203 (272)	96.7 (0.1)
18	24.1 (2.8)	75.2 (7.2)	3.60 (1.33)	168 (35)	224 (302)	96.1 (0.2)
19	24.7 (2.1)	74.2 (10.8)	2.67 (1.12)	237 (47)	209 (251)	95.9 (0.1)
20	25.1 (4.0)	60.3 (16.0)	1.58 (1.07)	253 (64)	312 (352)	96.5 (0.1)
21	22.6 (2.0)	74.9 (8.8)	3.35 (1.57)	136 (36)	109 (140)	96.5 (0.2)
22	27.9 (4.2)	74.1 (13.3)	2.47 (1.11)	187 (48)	290 (351)	96.3 (0.1)
23	27.9 (4.3)	67.3 (13.9)	1.77 (1.32)	188 (62)	287 (325)	96.8 (0.1)
24	25.4 (2.6)	66.0 (9.9)	1.85 (1.10)	221 (94)	204 (239)	96.9 (0.1)
25	25.4 (3.8)	67.5 (13.9)	1.72 (1.14)	275 (94)	312 (363)	96.7 (0.1)
26	24.8 (4.3)	56.0 (14.6)	1.87 (1.14)	145 (60)	345 (356)	96.8 (0.1)
27	23.1 (2.5)	70.9 (7.2)	3.98 (1.79)	216 (55)	162 (235)	96.3 (0.2)
28	20.9 (2.9)	57.6 (11.1)	5.73 (1.87)	271 (17)	313 (348)	96.2 (0.1)
29	19.1 (1.3)	65.8 (4.4)	4.45 (1.22)	280 (35)	136 (180)	96.1 (0.1)
30	15.7 (1.3)	75.2 (3.7)	3.40 (0.96)	257 (69)	92 (126)	96.3 (0.0)
Avg	19.9	65.1	2.66	192	224	96.8
n	30	30	30	30	30	30
SD	4.7	11.4	1.06	63	96	0.4
Min	10.3	41.9	1.27	69	40	95.9
Max	27.9	84.3	5.73	298	345	97.8

Table F1. Daily means (SD) of weather parameters at Site W15B for July, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	16.3 (1.8)	75.7 (5.8)	2.91 (1.20)	267 (99)	151 (181)	96.7 (0.1)
2	19.0 (4.3)	73.5 (9.3)	1.56 (1.09)	230 (76)	180 (242)	97.2 (0.1)
3	21.6 (4.0)	69.4 (11.5)	1.12 (0.87)	156 (71)	240 (279)	97.4 (0.1)
4	20.8 (2.0)	79.7 (4.2)	1.14 (0.89)	209 (75)	109 (134)	97.1 (0.1)
5	21.8 (4.7)	64.1 (16.6)	1.56 (1.21)	245 (78)	305 (340)	97.0 (0.1)
6	22.2 (4.7)	60.4 (15.9)	1.38 (0.95)	182 (93)	305 (347)	96.8 (0.1)
7	22.1 (4.3)	57.6 (13.3)	1.82 (1.04)	117 (45)	290 (338)	96.7 (0.1)
8	19.8 (2.3)	67.6 (5.7)	3.57 (1.05)	124 (26)	248 (300)	97.0 (0.1)
9	21.5 (3.7)	72.2 (9.2)	4.17 (1.59)	170 (20)	277 (332)	97.1 (0.1)
10	24.5 (3.6)	67.5 (15.6)	2.88 (1.01)	240 (41)	269 (334)	97.1 (0.1)
11	20.1 (3.0)	55.2 (16.6)	2.46 (1.33)	276 (49)	324 (348)	97.5 (0.1)
12	19.9 (4.3)	58.0 (12.7)	1.23 (0.76)	111 (78)	248 (295)	97.5 (0.1)
13	21.1 (4.2)	50.5 (17.4)	1.73 (1.02)	93 (45)	306 (343)	97.5 (0.1)
14	21.9 (1.9)	62.6 (8.0)	4.45 (1.72)	153 (22)	138 (196)	96.8 (0.3)
15	21.1 (2.2)	66.6 (12.6)	4.07 (1.78)	264 (37)	235 (311)	96.7 (0.2)
16	17.5 (2.0)	61.3 (9.9)	3.79 (2.41)	274 (41)	251 (307)	96.9 (0.1)
17	15.6 (1.3)	73.3 (5.2)	3.64 (1.34)	291 (25)	83 (104)	97.0 (0.2)
18	16.9 (1.5)	68.8 (8.9)	2.07 (1.03)	277 (38)	115 (138)	97.4 (0.1)
19	19.1 (3.9)	59.8 (13.0)	1.39 (0.92)	159 (80)	308 (349)	97.5 (0.1)
20	20.8 (3.9)	63.0 (7.8)	3.39 (1.16)	175 (13)	294 (336)	97.2 (0.1)
21	19.6 (2.2)	77.8 (5.5)	2.36 (1.16)	190 (45)	146 (268)	97.0 (0.1)
22	19.2 (4.5)	75.7 (10.9)	1.45 (1.10)	170 (63)	259 (319)	97.1 (0.1)
23	22.2 (5.4)	65.4 (15.4)	1.70 (1.17)	231 (73)	284 (320)	96.9 (0.1)
24	21.6 (2.9)	70.0 (8.8)	2.52 (1.29)	226 (64)	146 (245)	96.3 (0.2)
25	20.2 (2.5)	73.1 (6.1)	3.05 (1.79)	285 (33)	188 (243)	96.4 (0.1)
26	22.6 (3.8)	67.3 (12.7)	2.17 (1.30)	278 (49)	280 (323)	96.7 (0.1)
27	22.5 (3.4)	72.8 (7.2)	1.66 (1.08)	184 (86)	155 (192)	96.5 (0.1)
28	19.6 (2.4)	63.2 (8.5)	2.31 (1.56)	272 (49)	239 (280)	96.6 (0.1)
29	19.4 (4.4)	63.1 (13.7)	1.85 (1.29)	241 (57)	228 (299)	96.7 (0.0)
30	19.0 (2.7)	69.7 (11.7)	1.96 (1.34)	262 (50)	218 (293)	96.6 (0.1)
31	20.2 (4.3)	68.7 (12.6)	2.75 (1.51)	203 (37)	265 (305)	96.7 (0.2)
Avg	20.3	66.9	2.39	216	229	97.0
n	31	31	31	31	31	31
SD	1.9	6.8	0.96	57	67	0.3
Min	15.6	50.5	1.12	93	83	96.3
Max	24.5	79.7	4.45	291	324	97.5

Table F1. Daily means (SD) of weather parameters at Site W15B for August, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	18.4 (2.0)	64.4 (13.8)	4.17 (1.97)	266 (41)	234 (297)	96.6 (0.2)
2	20.9 (4.5)	66.9 (10.0)	2.83 (1.14)	187 (33)	231 (299)	96.4 (0.3)
3	22.7 (3.0)	70.5 (12.9)	2.36 (1.42)	252 (75)	242 (291)	96.2 (0.2)
4	20.7 (2.5)	63.4 (12.1)	2.05 (1.12)	260 (83)	280 (332)	97.0 (0.2)
5	19.6 (4.4)	61.4 (14.2)	1.44 (1.06)	233 (83)	270 (324)	97.5 (0.1)
6	20.8 (4.1)	59.3 (16.6)	1.28 (0.83)	164 (81)	257 (310)	97.5 (0.1)
7	19.3 (0.7)	77.2 (9.5)	3.22 (1.39)	138 (15)	54 (96)	97.0 (0.3)
8	24.7 (3.4)	83.4 (5.2)	3.03 (1.43)	171 (53)	142 (240)	96.4 (0.1)
9	25.0 (2.0)	75.7 (10.5)	1.69 (1.11)	282 (65)	200 (269)	96.8 (0.2)
10	23.0 (3.0)	72.8 (11.1)	1.40 (1.14)	260 (79)	232 (303)	97.1 (0.1)
11	22.7 (5.0)	64.6 (17.7)	0.97 (0.69)	208 (82)	271 (311)	97.4 (0.1)
12	24.1 (4.8)	71.0 (9.3)	2.68 (1.11)	185 (21)	266 (315)	97.3 (0.1)
13	23.9 (2.5)	78.9 (5.9)	3.21 (1.04)	170 (25)	178 (238)	97.2 (0.1)
14	26.1 (3.4)	73.4 (11.8)	3.58 (1.14)	194 (23)	252 (300)	97.0 (0.1)
15	24.4 (1.7)	75.0 (8.3)	3.79 (0.68)	176 (13)	127 (183)	96.8 (0.1)
16	23.4 (2.1)	77.7 (7.4)	3.78 (1.92)	199 (43)	175 (259)	96.5 (0.3)
17	21.6 (3.9)	68.3 (11.4)	2.53 (1.42)	206 (39)	245 (281)	97.0 (0.1)
18	19.9 (3.4)	61.9 (11.1)	2.89 (1.34)	227 (37)	272 (311)	97.0 (0.1)
19	19.1 (1.4)	82.6 (5.1)	2.87 (1.58)	169 (38)	50 (63)	96.2 (0.4)
20	17.9 (0.6)	87.9 (0.6)	2.70 (0.98)	244 (41)	48 (73)	95.6 (0.1)
21	18.1 (2.5)	74.4 (13.3)	2.69 (1.38)	259 (72)	164 (229)	96.5 (0.4)
22	17.8 (4.7)	66.6 (13.5)	1.20 (0.86)	188 (90)	268 (307)	97.4 (0.1)
23	19.3 (4.8)	72.0 (9.8)	2.11 (1.19)	178 (37)	255 (296)	97.3 (0.1)
24	21.9 (3.3)	71.9 (8.3)	4.18 (1.20)	183 (12)	244 (288)	97.1 (0.2)
25	22.4 (2.2)	77.5 (9.5)	2.29 (1.44)	238 (83)	129 (205)	97.1 (0.2)
26	20.8 (3.7)	68.2 (12.2)	1.35 (0.99)	102 (41)	209 (254)	97.6 (0.1)
27	20.7 (3.8)	68.2 (13.1)	1.66 (1.23)	116 (51)	254 (304)	97.5 (0.1)
28	18.9 (3.0)	75.7 (7.4)	2.69 (1.64)	241 (65)	176 (239)	97.2 (0.1)
29	14.0 (2.1)	74.9 (7.4)	3.91 (1.62)	265 (99)	154 (230)	97.3 (0.2)
30	14.8 (4.1)	67.0 (15.9)	1.56 (1.26)	197 (93)	252 (301)	97.9 (0.1)
31	15.3 (5.2)	69.0 (13.1)	1.14 (0.84)	180 (69)	219 (277)	98.0 (0.1)
Avg	20.7	71.7	2.49	205	205	97.0
n	31	31	31	31	31	31
SD	3.0	6.7	0.94	45	67	0.5
Min	14.0	59.3	0.97	102	48	95.6
Max	26.1	87.9	4.18	282	280	98.0

Table F1. Daily means (SD) of weather parameters at Site WI5B for September, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	16.5 (4.5)	69.5 (11.7)	1.98 (1.26)	172 (45)	225 (277)	98.0 (0.1)
2	17.5 (4.2)	70.2 (9.9)	2.10 (1.30)	171 (22)	230 (280)	97.9 (0.1)
3	17.8 (4.8)	70.1 (11.6)	1.32 (0.99)	164 (53)	218 (276)	97.7 (0.1)
4	18.1 (5.3)	70.2 (12.9)	1.21 (0.95)	162 (58)	233 (286)	97.7 (0.1)
5	19.2 (5.3)	68.7 (12.6)	1.62 (0.98)	170 (43)	221 (275)	97.8 (0.1)
6	19.8 (4.3)	68.1 (10.8)	1.70 (1.03)	174 (48)	203 (261)	97.8 (0.1)
7	19.9 (4.9)	72.2 (10.0)	2.02 (1.29)	157 (39)	210 (262)	97.6 (0.1)
8	20.7 (3.5)	68.9 (11.8)	2.57 (1.49)	157 (22)	215 (264)	97.4 (0.1)
9	21.3 (3.2)	73.0 (6.2)	2.36 (0.92)	173 (20)	134 (180)	97.6 (0.1)
10	22.5 (3.4)	73.3 (9.2)	2.21 (1.08)	179 (29)	197 (249)	97.8 (0.1)
11	22.7 (2.7)	75.0 (7.5)	2.82 (0.91)	170 (20)	173 (225)	97.6 (0.1)
12	22.4 (3.6)	71.0 (10.8)	1.92 (1.07)	176 (46)	174 (237)	97.7 (0.0)
13	21.7 (5.3)	70.7 (13.5)	0.98 (0.77)	194 (70)	189 (240)	97.6 (0.1)
14	21.0 (4.7)	70.1 (12.6)	1.29 (0.91)	181 (56)	162 (217)	97.5 (0.1)
15	22.6 (5.8)	65.7 (13.9)	1.47 (1.00)	77 (69)	169 (220)	97.6 (0.1)
16	19.8 (3.2)	71.8 (8.9)	2.19 (0.81)	114 (39)	169 (232)	98.0 (0.1)
17	20.3 (4.7)	73.6 (10.8)	1.88 (0.96)	189 (46)	171 (222)	97.7 (0.1)
18	21.6 (4.2)	72.2 (9.5)	1.76 (0.95)	143 (49)	152 (206)	97.7 (0.1)
19	21.8 (3.4)	73.8 (8.6)	2.82 (0.72)	170 (22)	153 (207)	97.7 (0.1)
20	20.1 (2.3)	72.1 (8.7)	2.96 (0.97)	156 (13)	133 (174)	97.2 (0.3)
21	20.0 (2.7)	74.4 (5.0)	3.15 (0.98)	161 (15)	136 (191)	96.8 (0.1)
22	19.1 (0.9)	86.9 (0.9)	0.92 (0.71)	272 (93)	31 (45)	97.1 (0.1)
23	20.9 (2.0)	80.3 (6.4)	0.98 (0.82)	16 (110)	88 (123)	97.7 (0.1)
24	21.0 (3.8)	67.4 (9.1)	1.17 (0.72)	112 (55)	169 (227)	97.7 (0.1)
25	17.8 (1.3)	84.7 (5.1)	2.09 (1.24)	141 (52)	28 (39)	97.4 (0.1)
26	17.2 (3.9)	79.0 (11.0)	1.82 (1.14)	180 (49)	166 (234)	96.7 (0.4)
27	15.8 (3.5)	71.6 (9.7)	5.12 (1.84)	245 (43)	122 (185)	95.4 (0.2)
28	12.2 (1.1)	69.6 (3.7)	6.64 (1.62)	282 (61)	56 (84)	96.2 (0.5)
29	9.0 (1.7)	70.4 (3.4)	3.21 (1.77)	59 (88)	76 (101)	97.5 (0.2)
30	9.1 (4.1)	67.2 (13.8)	2.94 (1.54)	109 (23)	192 (248)	97.4 (0.3)
Avg	19.0	72.4	2.24	163	160	97.5
n	30	30	30	30	30	30
SD	3.5	4.7	1.19	53	56	0.5
Min	9.0	65.7	0.92	16	28	95.4
Max	22.7	86.9	6.64	282	233	98.0

Table F1. Daily means (SD) of weather parameters at Site W15B for October, 2009.

Day	Temperature, °C	RH, %	Wind speed, m·s⁻¹	Wind direction, °	Solar, W·m⁻²	Atm P, kPa
1	9.6 (1.3)	79.2 (5.4)	5.79 (1.55)	104 (21)	26 (48)	96.3 (0.5)
2	10.0 (0.6)	86.8 (1.1)	5.07 (1.34)	64 (25)	36 (49)	95.3 (0.3)
3	9.8 (1.0)	82.4 (3.4)	3.14 (1.08)	267 (89)	54 (84)	96.3 (0.3)
4	10.2 (1.3)	82.6 (3.3)	2.27 (1.10)	282 (32)	59 (106)	97.1 (0.2)
5	10.0 (2.2)	80.6 (6.0)	0.89 (0.54)	177 (81)	73 (126)	97.2 (0.2)
6	8.8 (0.7)	86.8 (0.6)	3.76 (1.31)	52 (101)	18 (24)	95.9 (0.5)
7	10.8 (4.2)	72.7 (12.5)	2.65 (1.64)	227 (35)	165 (225)	96.5 (0.2)
8	7.8 (2.0)	69.7 (7.2)	2.09 (1.31)	277 (38)	106 (167)	97.0 (0.1)
9	4.3 (2.8)	70.2 (10.6)	1.21 (1.00)	246 (90)	147 (207)	97.2 (0.1)
10	1.2 (1.6)	66.0 (9.4)	4.51 (1.65)	264 (21)	99 (169)	97.7 (0.2)
11	2.9 (1.3)	63.3 (7.8)	1.79 (0.92)	242 (71)	70 (99)	98.1 (0.1)
12	2.3 (0.7)	81.0 (3.7)	0.81 (0.60)	171 (94)	37 (62)	97.8 (0.1)
13	3.6 (2.5)	75.2 (8.9)	1.22 (0.90)	77 (89)	106 (172)	98.4 (0.1)
14	5.5 (1.2)	75.6 (3.0)	2.53 (1.24)	103 (27)	46 (66)	97.8 (0.3)
15	4.1 (1.1)	84.6 (1.3)	2.28 (0.96)	84 (18)	40 (55)	97.3 (0.1)
16	6.1 (2.2)	76.6 (9.2)	0.77 (0.63)	17 (103)	84 (132)	97.8 (0.1)
17	6.7 (2.5)	70.9 (13.2)	2.01 (0.92)	237 (68)	129 (206)	98.1 (0.2)
18	9.9 (4.9)	66.4 (10.3)	3.98 (1.12)	187 (13)	127 (181)	97.1 (0.4)
19	11.6 (2.2)	72.5 (4.4)	2.48 (1.16)	240 (91)	127 (197)	96.7 (0.2)
20	10.3 (0.8)	79.2 (3.3)	2.81 (1.43)	78 (32)	36 (65)	97.2 (0.1)
21	7.9 (1.4)	86.0 (1.0)	4.19 (1.38)	56 (27)	13 (18)	97.1 (0.1)
22	5.8 (1.3)	78.4 (4.9)	5.24 (1.07)	50 (14)	58 (86)	97.3 (0.2)
23	3.3 (0.5)	85.0 (2.8)	4.30 (1.49)	7 (111)	10 (10)	96.0 (0.4)
24	7.6 (3.6)	79.6 (6.2)	2.30 (0.94)	231 (48)	95 (151)	95.9 (0.2)
25	9.4 (0.8)	85.2 (1.8)	1.58 (0.69)	193 (58)	18 (24)	96.7 (0.4)
26	7.0 (1.4)	83.0 (4.8)	1.73 (0.83)	267 (72)	37 (61)	97.2 (0.1)
27	7.8 (3.3)	68.8 (11.5)	3.49 (1.14)	159 (20)	134 (189)	96.6 (0.2)
28	8.5 (2.5)	80.2 (2.4)	3.07 (0.92)	125 (13)	31 (49)	96.8 (0.2)
29	11.7 (0.4)	86.2 (1.2)	4.54 (2.04)	127 (18)	18 (26)	96.4 (0.4)
30	10.6 (4.5)	80.0 (10.6)	5.66 (1.80)	208 (49)	62 (121)	94.7 (0.3)
31	4.1 (1.5)	70.8 (10.0)	4.52 (1.89)	271 (33)	66 (115)	96.3 (0.7)
Avg	7.4	77.6	2.99	190	69	96.9
n	31	31	31	31	31	31
SD	2.9	6.7	1.46	86	43	0.8
Min	1.2	63.3	0.77	7	10	94.7
Max	11.7	86.8	5.79	282	165	98.4

Table F2. Animal characteristics.**Table F2. Daily means of animal characteristics at Site WISB for September, 2007.**

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1							
2							
3							
4							
5							
6							
7							
8							
9							
10		211			355		
11		211			355		
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	21	19	19	21	19	19
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for October, 2007.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for November, 2007.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	30	30	30	30	30	30
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site W15B for December, 2007.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for January, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for February, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	29	29	29	29	29	29
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for March, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site W15B for April, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	30	30	30	30	30	30
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for May, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site W15B for June, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	30	30	30	30	30	30
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site W15B for July, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for August, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
31		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	31	31	31	31	31	31
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site W15B for September, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13		211	703	57	355	703	78
14		211	703	57	355	703	78
15		211	703	57	355	703	78
16		211	703	57	355	703	78
17		211	703	57	355	703	78
18		211	703	57	355	703	78
19		211	703	57	355	703	78
20		211	703	57	355	703	78
21		211	703	57	355	703	78
22		211	703	57	355	703	78
23		211	703	57	355	703	78
24		211	703	57	355	703	78
25		211	703	57	355	703	78
26		211	703	57	355	703	78
27		211	703	57	355	703	78
28		211	703	57	355	703	78
29		211	703	57	355	703	78
30		211	703	57	355	703	78
Avg		211	703	57	355	703	78
n	0.0	30	30	30	30	30	30
SD		0	0	0	0	0	0
Min		211	703	57	355	703	78
Max		211	703	57	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for October, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1		211	703	57	355	703	78
2		211	703	57	355	703	78
3		211	703	57	355	703	78
4		211	703	57	355	703	78
5		211	703	57	355	703	78
6		211	703	57	355	703	78
7		211	703	57	355	703	78
8		211	703	57	355	703	78
9		211	703	57	355	703	78
10		211	703	57	355	703	78
11		211	703	57	355	703	78
12		211	703	57	355	703	78
13	27.9	211	703	57	355	703	78
14	27.8	211	703	57	355	703	78
15	27.6	211	703	57	355	703	78
16	27.5	211	703	57	355	703	78
17	27.4	211	703	57	355	703	78
18	27.3	211	703	57	355	703	78
19	27.1	211	703	57	355	703	78
20	27.0	211	703	57	355	703	78
21	27.0	220	703	59	355	703	78
22	27.1	218	703	59	355	703	78
23	27.2	215	703	58	355	703	78
24	27.3	213	703	58	355	703	78
25	27.4	211	703	57	355	703	78
26	27.5	208	703	56	355	703	78
27	27.7	206	703	56	355	703	78
28	27.8	206	703	56	349	703	77
29	28.0	207	703	56	345	703	76
30	28.3	208	703	56	341	703	75
31	28.5	209	703	57	338	703	74
Avg	27.6	211	703	57	353	703	77
n	19.0	31	31	31	31	31	31
SD	0.4	3	0	1	4	0	1
Min	27.0	206	703	56	338	703	74
Max	28.5	220	703	59	355	703	78

Table F2. Daily means of animal characteristics at Site WI5B for November, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	28.7	210	703	57	334	703	73
2	28.9	211	703	57	330	703	72
3	29.1	212	703	57	328	703	72
4	29.2	213	703	57	329	703	72
5	29.4	213	703	58	330	703	72
6	29.5	213	703	58	331	703	73
7	29.7	214	703	58	332	703	73
8	29.8	214	703	58	333	703	73
9	29.9	215	703	58	334	703	73
10	30.1	215	703	58	335	703	74
11	30.2	216	703	58	336	703	74
12	30.4	216	703	58	337	703	74
13	30.5	216	703	59	338	703	74
14	30.6	217	703	59	339	703	74
15	30.8	217	703	59	340	703	75
16	30.9	218	703	59	341	703	75
17	31.1	218	703	59	342	703	75
18	31.2	219	703	59	341	703	75
19	31.3	219	703	59	340	703	75
20	31.5	220	703	59	339	703	74
21	31.6	220	703	60	339	703	74
22	31.8	221	703	60	338	703	74
23	31.9	221	703	60	337	703	74
24	32.0	222	703	60	336	703	74
25	32.2	222	703	60	335	703	73
26	32.3	223	703	60	333	703	73
27	32.4	224	703	61	331	703	73
28	32.5	225	703	61	330	703	72
29	32.6	226	703	61	328	703	72
30	32.8	227	703	61	326	703	71
Avg	30.8	218	703	59	335	703	73
n	30.0	30	30	30	30	30	30
SD	1.2	4	0	1	4	0	1
Min	28.7	210	703	57	326	703	71
Max	32.8	227	703	61	342	703	75

Table F2. Daily means of animal characteristics at Site WI5B for December, 2008.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	32.9	228	703	61	324	703	71
2	32.7	229	703	62	324	703	71
3	32.1	230	703	62	326	703	71
4	31.6	231	703	62	327	703	72
5	31.1	232	703	63	329	703	72
6	30.6	234	703	63	331	703	72
7	30.0	235	703	64	332	703	73
8	29.5	236	703	64	334	703	73
9	29.4	236	703	64	335	703	73
10	29.6	234	703	63	334	703	73
11	29.8	232	703	63	334	703	73
12	30.1	230	703	62	334	703	73
13	30.3	227	703	61	333	703	73
14	30.5	225	703	61	333	703	73
15	30.8	223	703	60	332	703	73
16	30.9	223	703	60	332	703	73
17	31.0	224	703	60	333	703	73
18	31.2	225	703	61	334	703	73
19	31.3	226	703	61	335	703	74
20	31.4	227	703	61	336	703	74
21	31.5	228	703	62	337	703	74
22	31.5	227	703	61	339	703	74
23	31.4	224	703	61	342	703	75
24	31.4	221	703	60	344	703	75
25	31.3	218	703	59	347	703	76
26	31.3	215	703	58	349	703	76
27	31.2	211	703	57	351	703	77
28	31.2	208	703	56	354	703	78
29	31.1	205	703	55	356	703	78
30	31.1	202	703	54	359	703	79
31	30.9	201	703	54	358	703	78
Avg	31.0	224	703	61	338	703	74
n	31.0	31	31	31	31	31	31
SD	0.8	10	0	3	10	0	2
Min	29.4	201	703	54	324	703	71
Max	32.9	236	703	64	359	703	79

Table F2. Daily means of animal characteristics at Site WI5B for January, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	30.6	202	703	55	354	703	78
2	30.3	203	703	55	350	703	77
3	30.0	204	703	55	346	703	76
4	29.6	205	703	56	342	703	75
5	29.6	207	703	56	340	703	74
6	29.7	208	703	56	339	703	74
7	29.9	209	703	57	339	703	74
8	30.0	210	703	57	339	703	74
9	30.2	212	703	57	338	703	74
10	30.4	213	703	58	338	703	74
11	30.5	214	703	58	338	703	74
12	30.7	215	703	58	337	703	74
13	30.8	216	703	58	337	703	74
14	30.8	217	703	59	337	703	74
15	30.8	217	703	59	338	703	74
16	30.8	218	703	59	338	703	74
17	30.9	218	703	59	338	703	74
18	30.9	219	703	59	338	703	74
19	30.9	219	703	59	338	703	74
20	30.9	220	703	59	339	703	74
21	31.0	220	703	60	339	703	74
22	31.0	221	703	60	339	703	74
23	31.0	221	703	60	339	703	74
24	31.1	222	703	60	339	703	74
25	31.1	222	703	60	340	703	74
26	31.1	223	703	60	340	703	74
27	31.0	222	703	60	340	703	74
28	30.7	221	703	60	339	703	74
29	30.4	220	703	59	338	703	74
30	30.1	218	703	59	337	703	74
31	29.8	217	703	59	336	703	74
Avg	30.5	215	703	58	340	703	74
n	31.0	31	31	31	31	31	31
SD	0.5	6	0	2	4	0	1
Min	29.6	202	703	55	336	703	74
Max	31.1	223	703	60	354	703	78

Table F2. Daily means of animal characteristics at Site W15B for February, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	29.5	216	703	58	335	703	73
2	29.3	215	703	58	335	703	73
3	29.4	214	703	58	336	703	74
4	29.5	213	703	58	338	703	74
5	29.6	213	703	57	339	703	74
6	29.7	212	703	57	340	703	75
7	29.8	211	703	57	342	703	75
8	29.9	211	703	57	343	703	75
9	29.9	210	703	57	345	703	76
10	30.0	209	703	57	346	703	76
11	30.2	210	703	57	346	703	76
12	30.4	212	703	57	343	703	75
13	30.6	214	703	58	340	703	75
14	30.8	217	703	59	337	703	74
15	31.0	219	703	59	334	703	73
16	31.1	220	703	60	334	703	73
17	31.0	221	703	60	336	703	74
18	30.9	222	703	60	338	703	74
19	30.8	222	703	60	339	703	74
20	30.7	223	703	60	341	703	75
21	30.6	224	703	61	343	703	75
22	30.5	225	703	61	345	703	76
23	30.5	225	703	61	345	703	76
24	30.6	224	703	61	344	703	75
25	30.6	224	703	60	343	703	75
26	30.7	223	703	60	342	703	75
27	30.7	223	703	60	341	703	75
28	30.8	222	703	60	340	703	74
Avg	30.3	218	703	59	340	703	75
n	28.0	28	28	28	28	28	28
SD	0.5	5	0	1	4	0	1
Min	29.3	209	703	57	334	703	73
Max	31.1	225	703	61	346	703	76

Table F2. Daily means of animal characteristics at Site W15B for March, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	30.8	222	703	60	339	703	74
2	30.9	221	703	60	338	703	74
3	30.9	221	703	60	336	703	74
4	30.8	222	703	60	335	703	73
5	30.7	223	703	60	333	703	73
6	30.6	224	703	61	331	703	73
7	30.5	225	703	61	330	703	72
8	30.5	226	703	61	328	703	72
9	30.5	226	703	61	328	703	72
10	30.7	224	703	61	331	703	73
11	30.8	222	703	60	334	703	73
12	31.0	220	703	59	337	703	74
13	31.2	218	703	59	340	703	74
14	31.3	216	703	58	343	703	75
15	31.5	214	703	58	346	703	76
16	31.5	214	703	58	346	703	76
17	31.4	215	703	58	343	703	75
18	31.2	216	703	58	341	703	75
19	31.1	217	703	59	339	703	74
20	31.0	218	703	59	336	703	74
21	30.9	219	703	59	334	703	73
22	30.7	220	703	60	331	703	73
23	30.7	221	703	60	331	703	73
24	30.8	220	703	59	333	703	73
25	30.9	219	703	59	335	703	73
26	31.0	218	703	59	336	703	74
27	31.1	217	703	59	338	703	74
28	31.2	216	703	58	340	703	75
29	31.3	215	703	58	342	703	75
30	31.3	215	703	58	343	703	75
31	31.0	216	703	58	343	703	75
Avg	31.0	219	703	59	337	703	74
n	31.0	31	31	31	31	31	31
SD	0.3	4	0	1	5	0	1
Min	30.5	214	703	58	328	703	72
Max	31.5	226	703	61	346	703	76

Table F2. Daily means of animal characteristics at Site W15B for April, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	30.8	217	703	59	342	703	75
2	30.5	218	703	59	342	703	75
3	30.3	220	703	59	342	703	75
4	30.1	221	703	60	341	703	75
5	29.8	222	703	60	341	703	75
6	29.8	223	703	60	341	703	75
7	30.1	223	703	60	341	703	75
8	30.3	223	703	60	341	703	75
9	30.5	223	703	60	341	703	75
10	30.8	223	703	60	341	703	75
11	31.0	223	703	60	341	703	75
12	31.2	223	703	60	341	703	75
13	31.3	222	703	60	341	703	75
14	31.2	221	703	60	342	703	75
15	31.1	219	703	59	342	703	75
16	30.9	218	703	59	343	703	75
17	30.8	217	703	59	344	703	75
18	30.7	215	703	58	344	703	75
19	30.6	214	703	58	345	703	76
20	30.5	213	703	58	345	703	76
21	30.6	214	703	58	346	703	76
22	30.6	215	703	58	347	703	76
23	30.7	216	703	59	348	703	76
24	30.7	217	703	59	349	703	77
25	30.8	218	703	59	350	703	77
26	30.8	219	703	59	351	703	77
27	30.7	219	703	59	354	703	78
28	30.5	218	703	59	359	703	79
29	30.3	216	703	58	364	703	80
30	30.0	214	703	58	368	703	81
Avg	30.6	219	703	59	346	703	76
n	30.0	30	30	30	30	30	30
SD	0.4	3	0	1	7	0	2
Min	29.8	213	703	58	341	703	75
Max	31.3	223	703	60	368	703	81

Table F2. Daily means of animal characteristics at Site W15B for May, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	29.8	213	703	57	373	703	82
2	29.5	211	703	57	378	703	83
3	29.3	209	703	57	382	703	84
4	29.1	208	703	56	387	703	85
5	28.8	206	703	56	392	703	86
6	28.8	206	703	56	391	703	86
7	28.8	209	703	56	386	703	85
8	28.9	211	703	57	381	703	83
9	29.0	214	703	58	376	703	82
10	29.1	217	703	59	371	703	81
11	29.2	218	703	59	367	703	80
12	29.3	218	703	59	365	703	80
13	29.4	219	703	59	363	703	80
14	29.6	219	703	59	361	703	79
15	29.7	219	703	59	359	703	79
16	29.8	220	703	59	357	703	78
17	29.9	220	703	59	355	703	78
18	30.1	220	703	59	354	703	78
19	30.3	220	703	60	354	703	78
20	30.5	221	703	60	353	703	77
21	30.7	221	703	60	353	703	77
22	31.0	221	703	60	353	703	77
23	31.2	221	703	60	353	703	77
24	31.4	222	703	60	352	703	77
25	31.6	222	703	60	352	703	77
26	31.7	222	703	60	352	703	77
27	31.8	223	703	60	352	703	77
28	31.8	223	703	60	352	703	77
29	31.9	224	703	60	352	703	77
30	31.9	224	703	61	352	703	77
31	32.0	225	703	61	352	703	77
Avg	30.2	218	703	59	364	703	80
n	31.0	31	31	31	31	31	31
SD	1.1	6	0	2	14	0	3
Min	28.8	206	703	56	352	703	77
Max	32.0	225	703	61	392	703	86

Table F2. Daily means of animal characteristics at Site W15B for June, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	32.1	225	703	61	351	703	77
2	32.1	226	703	61	350	703	77
3	32.2	227	703	61	348	703	76
4	32.3	228	703	62	347	703	76
5	32.3	229	703	62	345	703	76
6	32.4	230	703	62	343	703	75
7	32.5	231	703	62	342	703	75
8	32.5	230	703	62	340	703	75
9	32.6	229	703	62	339	703	74
10	32.6	228	703	61	338	703	74
11	32.7	226	703	61	336	703	74
12	32.7	225	703	61	335	703	73
13	32.8	223	703	60	333	703	73
14	32.8	222	703	60	332	703	73
15	32.9	221	703	60	331	703	72
16	32.9	220	703	59	331	703	72
17	33.0	220	703	60	332	703	73
18	33.2	220	703	60	333	703	73
19	33.3	221	703	60	334	703	73
20	33.4	221	703	60	335	703	73
21	33.5	221	703	60	336	703	74
22	33.5	221	703	60	337	703	74
23	33.4	222	703	60	337	703	74
24	33.4	223	703	60	338	703	74
25	33.3	224	703	61	338	703	74
26	33.2	225	703	61	338	703	74
27	33.1	226	703	61	338	703	74
28	33.1	227	703	61	339	703	74
29	33.0	228	703	61	339	703	74
30	33.1	228	703	62	338	703	74
Avg	32.9	225	703	61	338	703	74
n	30.0	30	30	30	30	30	30
SD	0.4	3	0	1	5	0	1
Min	32.1	220	703	59	331	703	72
Max	33.5	231	703	62	351	703	77

Table F2. Daily means of animal characteristics at Site W15B for July, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	33.3	227	703	61	337	703	74
2	33.5	227	703	61	336	703	74
3	33.7	226	703	61	335	703	73
4	33.9	226	703	61	334	703	73
5	34.1	225	703	61	333	703	73
6	34.1	225	703	61	333	703	73
7	34.0	224	703	61	336	703	74
8	33.8	224	703	60	339	703	74
9	33.7	223	703	60	342	703	75
10	33.6	222	703	60	345	703	76
11	33.4	222	703	60	348	703	76
12	33.3	221	703	60	351	703	77
13	33.2	219	703	59	355	703	78
14	33.2	214	703	58	359	703	79
15	33.2	210	703	57	363	703	79
16	33.2	206	703	56	366	703	80
17	33.2	201	703	54	370	703	81
18	33.2	197	703	53	374	703	82
19	33.2	192	703	52	378	703	83
20	33.1	190	703	51	380	703	83
21	32.9	190	703	51	380	703	83
22	32.7	189	703	51	381	703	83
23	32.5	189	703	51	381	703	83
24	32.3	189	703	51	381	703	84
25	32.1	188	703	51	382	703	84
26	31.9	188	703	51	382	703	84
27	31.8	189	703	51	381	703	84
28	31.7	191	703	52	380	703	83
29	31.7	193	703	52	379	703	83
30	31.6	195	703	53	378	703	83
31	31.6	198	703	53	376	703	82
Avg	33.0	207	703	56	361	703	79
n	31.0	31	31	31	31	31	31
SD	0.8	16	0	4	19	0	4
Min	31.6	188	703	51	333	703	73
Max	34.1	227	703	61	382	703	84

Table F2. Daily means of animal characteristics at Site WI5B for August, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	31.5	200	703	54	375	703	82
2	31.4	202	703	55	374	703	82
3	31.4	202	703	55	374	703	82
4	31.5	199	703	54	375	703	82
5	31.6	197	703	53	377	703	83
6	31.7	195	703	53	378	703	83
7	31.7	192	703	52	379	703	83
8	31.8	190	703	51	381	703	83
9	31.9	187	703	51	382	703	84
10	31.9	186	703	50	384	703	84
11	31.7	186	703	50	385	703	84
12	31.6	186	703	50	386	703	85
13	31.4	186	703	50	387	703	85
14	31.3	185	703	50	389	703	85
15	31.1	185	703	50	390	703	85
16	31.0	185	703	50	391	703	86
17	31.0	185	703	50	392	703	86
18	31.0	185	703	50	392	703	86
19	31.1	185	703	50	393	703	86
20	31.2	185	703	50	393	703	86
21	31.3	185	703	50	393	703	86
22	31.3	185	703	50	394	703	86
23	31.4	185	703	50	394	703	86
24	31.5	185	703	50	394	703	86
25	31.6	185	703	50	394	703	86
26	31.6	185	703	50	395	703	87
27	31.7	185	703	50	395	703	87
28	31.8	184	703	50	395	703	87
29	31.9	184	703	50	396	703	87
30	31.9	184	703	50	396	703	87
31	32.0	184	703	50	396	703	87
Avg	31.5	188	703	51	388	703	85
n	31.0	31	31	31	31	31	31
SD	0.3	6	0	2	8	0	2
Min	31.0	184	703	50	374	703	82
Max	32.0	202	703	55	396	703	87

Table F2. Daily means of animal characteristics at Site W15B for September, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	32.1	184	703	50	396	703	87
2	32.1	184	703	50	397	703	87
3	32.2	184	703	50	397	703	87
4	32.3	184	703	50	397	703	87
5	32.4	184	703	50	398	703	87
6	32.4	184	703	50	398	703	87
7	32.5	184	703	50	397	703	87
8	32.6	185	703	50	395	703	87
9	32.7	186	703	50	393	703	86
10	32.7	187	703	51	391	703	86
11	32.8	188	703	51	388	703	85
12	32.9	189	703	51	386	703	85
13	32.9	190	703	51	384	703	84
14	33.0	190	703	51	382	703	84
15	33.1	189	703	51	380	703	83
16	33.2	188	703	51	378	703	83
17	33.3	187	703	51	376	703	82
18	33.4	186	703	50	374	703	82
19	33.5	185	703	50	372	703	82
20	33.6	184	703	50	370	703	81
21	33.5	183	703	50	369	703	81
22	33.3	184	703	50	370	703	81
23	33.0	185	703	50	370	703	81
24	32.8	185	703	50	371	703	81
25	32.5	186	703	50	372	703	81
26	32.3	187	703	51	372	703	82
27	32.0	188	703	51	373	703	82
28	31.8	189	703	51	373	703	82
29	31.5	190	703	51	374	703	82
30	31.3	191	703	52	375	703	82
Avg	32.7	186	703	50	382	703	84
n	30.0	30	30	30	30	30	30
SD	0.6	2	0	1	11	0	2
Min	31.3	183	703	50	369	703	81
Max	33.6	191	703	52	398	703	87

Table F2. Daily means of animal characteristics at Site W15B for October, 2009.

Day	Milk, L·d ⁻¹ cow ⁻¹	Barn 1			Barn 2		
		Inv., cows	Mass, kg	kg·m ⁻²	Inv., cows	Mass, kg	kg·m ⁻²
1	31.0	192	703	52	375	703	82
2	30.8	194	703	52	376	703	82
3	30.5	195	703	53	377	703	83
4	30.2	196	703	53	378	703	83
5	30.2	197	703	53	378	703	83
6	30.2	198	703	53	379	703	83
7	30.3	198	703	54	379	703	83
8	30.4	199	703	54	379	703	83
9	30.5	200	703	54	380	703	83
10	30.6	200	703	54	380	703	83
11	30.7	201	703	54	381	703	83
12	30.6	202	703	54	381	703	83
13	30.5	203	703	55	380	703	83
14	30.3	204	703	55	379	703	83
15	30.1	205	703	56	378	703	83
16	30.0	207	703	56	377	703	83
17	29.8	208	703	56	376	703	82
18	29.7	209	703	57	375	703	82
19	29.6	208	703	56	375	703	82
20	29.5	205	703	55	377	703	83
21	29.5	202	703	55	378	703	83
22	29.5	199	703	54	380	703	83
23	29.5	196	703	53	382	703	84
24	29.5	193	703	52	383	703	84
25	29.4	190	703	51	385	703	84
26	29.7	189	703	51	385	703	84
27	30.1	190	703	51	383	703	84
28	30.6	192	703	52	381	703	83
29	31.1	193	703	52	379	703	83
30	31.6	195	703	53	377	703	83
31	32.0	197	703	53	375	703	82
Avg	30.3	199	703	54	379	703	83
n	31.0	31	31	31	31	31	31
SD	0.6	6	0	2	3	0	1
Min	29.4	189	703	51	375	703	82
Max	32.0	209	703	57	385	703	84

Table F3. Building environment.**Table F3. Daily means (SD) of environmental parameters at Site WISB for September, 2007.**

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	11.7 (4.7)		-7.30 (1.00)	124.0 (2.1)	12.1 (4.8)	65.2 (11.7)	-8.70 (2.50)	155.0 (4.5)
13	14.9 (2.4)		-8.10 (2.30)	130.0 (28.7)	15.3 (2.4)	65.8 (6.5)	-8.90 (3.10)	159.0 (25.6)
14	9.1 (2.4)		-10.10 (2.10)		8.9 (2.3)	63.3 (8.7)	-4.60 (4.20)	
15	10.1 (5.7)		-9.00 (1.40)		10.2 (5.9)	60.6 (16.0)	-8.30 (2.20)	150.0 (28.5)
16								
17								
18	21.3 (0.8)		-19.80 (3.10)		21.6 (0.8)	84.6 (5.4)	-13.40 (7.50)	346.0 (46.4)
19	17.0 (2.0)		-9.80 (3.10)		16.7 (2.0)	79.8 (7.4)	-2.70 (2.10)	194.0 (52.8)
20	16.1 (4.4)		-11.40 (6.60)		16.2 (4.6)	78.1 (8.8)	-10.60 (11.80)	215.0 (82.7)
21								
22	17.0 (4.0)		-13.60 (6.50)	197.0 (82.9)	17.0 (4.1)	57.9 (13.7)	-4.80 (5.70)	243.0 (95.1)
23	20.3 (4.2)		-16.40 (6.70)	243.0 (89.9)	20.5 (4.4)	65.1 (6.8)	-13.00 (9.50)	288.0 (97.5)
24	21.9 (1.8)		-20.40 (3.70)	289.0 (37.7)	22.2 (1.8)	81.5 (5.5)	-17.30 (3.70)	340.0 (55.7)
25	15.1 (2.0)		-8.40 (2.10)	134.0 (34.6)	15.2 (2.1)	77.5 (7.1)	-7.90 (3.70)	165.0 (29.6)
26	13.8 (3.7)		-10.50 (3.40)	134.0 (35.0)	13.8 (3.6)	70.7 (12.4)	-4.30 (2.90)	169.0 (34.1)
27	15.7 (3.3)	68.6 (14.1)	-13.50 (4.60)	157.0 (59.5)	15.6 (3.2)	68.1 (15.1)	-2.70 (1.80)	190.0 (50.7)
28	14.9 (3.5)	64.2 (11.7)	-12.60 (3.70)	148.0 (45.5)	14.6 (3.5)	64.0 (11.6)	-3.10 (1.80)	182.0 (45.4)
29	16.9 (2.0)	67.6 (8.1)	-11.60 (4.10)	151.0 (47.2)	16.8 (2.1)	68.6 (8.2)	-10.40 (6.50)	181.0 (50.4)
30	18.6 (0.8)	75.8 (11.0)	-14.60 (4.20)	173.0 (51.2)	18.5 (0.9)	76.6 (11.6)	-4.30 (3.40)	210.0 (58.4)
Avg	15.9	69.0	-12.30	171.0	16.0	70.5	-7.80	212.0
n	16	4	16	11	16	16	16	15
SD	3.5	4.2	3.80	50.0	3.6	7.9	4.20	62.0
Min	9.1	64.2	-20.40	124.0	8.9	57.9	-17.30	150.0
Max	21.9	75.8	-7.30	289.0	22.2	84.6	-2.70	346.0

Table F3. Daily means (SD) of environmental parameters at Site W15B for October, 2007.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	17.0 (0.8)	83.8 (2.6)	-10.10 (1.10)	120.0 (10.0)	16.6 (0.9)	85.3 (2.7)	0.70 (3.40)	
2	17.1 (1.2)	83.6 (2.4)	-12.40 (3.50)	146.0 (45.3)	16.9 (1.3)	84.4 (2.8)	-5.10 (3.20)	178.0 (44.3)
3	16.6 (3.8)	59.5 (16.5)	-15.30 (5.90)	174.0 (74.2)	16.4 (4.1)	59.7 (16.9)	-5.70 (7.20)	214.0 (78.1)
4	20.3 (3.1)	61.0 (7.7)	-19.70 (7.50)	224.0 (81.4)	20.3 (3.2)	61.5 (8.0)	-9.40 (6.50)	269.0 (92.5)
5	21.8 (2.3)	81.3 (5.1)	-22.40 (5.20)		21.9 (2.5)	82.2 (5.4)	-14.70 (8.90)	
6	24.4 (2.2)	75.3 (7.8)	-28.30 (3.80)	319.0 (31.1)	24.4 (2.2)	77.2 (7.3)	-22.70 (7.40)	377.0 (23.8)
7	23.9 (1.1)	81.8 (2.9)	-26.10 (1.30)	303.0 (3.4)	23.9 (1.1)	83.6 (2.8)	-16.20 (4.30)	374.0 (10.4)
8								
9	11.1 (1.4)	70.6 (4.7)	-13.60 (2.50)	119.0 (1.5)	10.6 (1.5)	71.2 (4.9)	-3.20 (2.80)	160.0 (2.2)
10	9.0 (1.5)	73.7 (3.8)	-14.20 (2.50)	120.0 (1.7)	8.2 (1.5)	75.3 (3.9)	-0.90 (3.10)	
11	9.7 (1.9)	71.1 (5.5)	-14.30 (1.30)	119.0 (1.6)	9.0 (1.7)	73.2 (5.4)	-6.60 (2.20)	159.0 (2.4)
12	9.0 (2.0)	73.2 (3.6)	-14.00 (1.20)	120.0 (1.4)	8.6 (2.1)	74.6 (4.0)	-7.00 (1.70)	158.0 (2.3)
13	11.2 (3.2)	70.6 (9.6)	-13.70 (1.30)	119.0 (1.8)	10.7 (3.0)	72.3 (9.9)	-7.40 (1.50)	156.0 (2.5)
14	10.1 (0.6)	77.5 (5.3)	-13.90 (1.50)	119.0 (1.3)	9.6 (0.6)	79.3 (5.6)	-7.90 (1.50)	156.0 (1.8)
15	11.2 (0.8)	83.9 (0.8)	-14.10 (1.40)	118.0 (1.3)	10.8 (0.8)	85.3 (0.5)	-9.00 (2.60)	154.0 (2.8)
16	13.4 (1.0)	85.5 (1.0)	-13.50 (1.10)	117.0 (1.0)	13.2 (1.1)	86.8 (1.1)	-7.70 (1.30)	153.0 (1.4)
17	15.0 (2.1)	77.5 (7.5)	-14.30 (3.80)	124.0 (26.4)	15.0 (2.3)	78.7 (8.1)	-10.80 (6.40)	157.0 (21.8)
18	15.9 (1.5)	82.9 (4.5)	-13.60 (3.40)	120.0 (23.1)	16.0 (1.5)	83.9 (4.9)	-9.70 (4.50)	152.0 (21.0)
19	12.8 (1.0)	77.5 (5.6)	-15.60 (1.70)	114.0 (1.4)	12.6 (1.0)	78.1 (6.4)	-8.40 (1.40)	150.0 (1.8)
20	14.7 (5.0)	62.7 (11.2)	-20.20 (8.40)	157.0 (52.9)	14.7 (5.1)	62.9 (11.6)	-13.30 (9.20)	185.0 (50.9)
21								
22	8.9 (2.3)	71.5 (8.9)	-14.00 (1.10)	120.0 (1.1)	8.6 (2.2)	71.7 (9.7)	-7.80 (1.40)	158.0 (1.5)
23	9.7 (5.3)	63.8 (13.0)	-15.20 (3.40)	120.0 (11.5)	9.2 (5.3)	63.8 (13.3)	-5.60 (5.40)	156.0 (22.6)
24	8.0 (2.9)	67.3 (9.3)	-13.40 (1.10)	121.0 (1.6)	7.3 (2.6)	67.9 (9.6)	-5.60 (2.70)	161.0 (2.6)
25	8.3 (4.1)	63.1 (12.2)	-14.60 (1.20)	120.0 (2.3)	8.1 (4.1)	63.6 (12.4)	-8.60 (1.90)	158.0 (3.7)
26	8.4 (2.9)	74.4 (5.7)	-14.60 (1.40)	116.0 (10.9)	8.0 (2.9)	75.3 (5.3)	-9.50 (2.10)	157.0 (3.3)
27	8.5 (2.6)	58.1 (8.3)	-14.50 (1.20)	113.0 (1.3)	7.8 (2.4)	57.2 (8.6)	-8.30 (3.70)	159.0 (3.4)
28	7.9 (5.1)	60.8 (12.6)	-14.40 (1.00)	113.0 (2.4)	7.6 (5.1)	61.2 (12.6)	-12.00 (2.00)	156.0 (4.4)
29	12.5 (3.0)	60.2 (5.3)	-14.20 (1.00)		12.2 (3.0)	60.8 (5.1)	-11.70 (1.50)	
30	16.5 (3.0)	63.9 (8.3)	-4.60 (5.90)		15.9 (2.9)	66.0 (7.2)	-9.30 (3.10)	
31	11.5 (2.8)	53.3 (6.6)	-4.10 (2.30)		10.7 (2.8)	57.6 (7.2)	-3.10 (1.60)	
Avg	13.3	71.4	-14.90	143.0	12.9	72.4	-8.50	185.0
n	29	29	29	25	29	29	29	23
SD	4.8	9.1	4.90	55.0	4.9	9.3	4.60	64.1
Min	7.9	53.3	-28.30	113.0	7.3	57.2	-22.70	150.0
Max	24.4	85.5	-4.10	319.0	24.4	86.8	0.70	377.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for November, 2007.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³s⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³s⁻¹
1	9.3 (4.0)	50.5 (8.9)	-1.00 (0.90)		8.6 (4.1)	57.9 (10.4)	-4.40 (1.60)	
2	10.4 (2.2)	46.4 (3.7)	-2.10 (1.60)		9.6 (2.5)	53.1 (5.4)	-4.80 (1.20)	
3	8.4 (3.2)	52.8 (7.5)	-1.40 (0.60)		7.6 (3.3)	60.4 (8.8)	-4.30 (1.10)	
4	10.4 (3.2)	53.2 (9.2)	-1.40 (0.60)		9.5 (3.2)	60.1 (10.9)	-4.20 (1.00)	
5	7.9 (1.6)	56.7 (4.2)	-6.80 (3.30)		6.8 (1.8)	61.7 (5.4)	-2.40 (2.20)	
6	6.0 (1.2)	55.3 (3.2)	-7.00 (3.60)		4.0 (1.3)	59.9 (4.5)	-0.20 (3.90)	
7	4.1 (2.6)	57.6 (5.6)	-3.60 (0.90)		2.7 (3.1)	65.1 (6.2)	-5.40 (2.00)	
8	4.3 (2.4)	62.9 (4.7)	-3.80 (0.60)		2.8 (2.2)	70.7 (5.5)	-4.10 (1.40)	
9	3.6 (2.3)	68.4 (1.7)	-3.90 (0.60)		2.2 (2.3)	77.4 (2.0)	-4.70 (0.80)	
10	6.2 (1.3)	66.1 (1.6)	-3.30 (0.80)		5.0 (1.5)	73.8 (2.1)	-6.00 (3.10)	
11	11.3 (3.5)	65.4 (4.6)	-2.90 (1.00)		10.2 (3.7)	72.3 (6.4)	-4.60 (1.80)	
12	8.9 (2.4)	55.4 (5.7)	-3.80 (0.60)		7.3 (2.6)	62.5 (7.9)	-4.30 (0.80)	
13	10.0 (3.3)	49.6 (4.7)	-3.00 (1.40)		9.5 (4.1)	55.5 (5.8)	-6.10 (3.30)	
14								
15								
16	6.0 (1.8)	65.7 (5.7)	-2.40 (1.40)	34.7 (0.4)	6.5 (1.7)	67.9 (5.1)	-4.00 (2.70)	34.1 (0.7)
17	6.0 (1.0)	68.5 (5.0)	-4.20 (1.60)	34.5 (0.4)	5.0 (0.8)	67.5 (5.6)	-1.50 (0.90)	35.0 (0.2)
18	5.3 (1.4)	69.5 (5.6)	-2.50 (1.00)	35.1 (0.4)	6.1 (1.8)	71.9 (4.8)	-5.00 (2.50)	34.2 (0.6)
19	9.1 (1.3)	80.2 (1.9)	-2.80 (0.80)	34.3 (0.2)	9.2 (0.9)	81.5 (1.3)	-2.10 (1.40)	34.1 (0.3)
20	8.1 (1.4)	76.3 (4.3)	-4.80 (2.30)	33.2 (4.7)	8.0 (1.9)	78.5 (3.7)	-3.10 (2.60)	33.7 (3.8)
21	6.1 (1.0)	73.7 (2.1)	-5.10 (2.70)	34.5 (0.5)	7.3 (1.4)	73.2 (2.9)	-0.20 (3.20)	
22	3.9 (2.0)	72.2 (2.3)	-7.20 (3.20)	34.5 (0.5)	4.4 (2.4)	69.7 (2.5)	-4.00 (4.20)	
23	4.4 (3.4)	72.9 (4.0)	-10.80 (2.30)	33.6 (0.9)	3.4 (2.8)	68.9 (5.9)	-11.60 (4.00)	49.8 (1.8)
24	7.3 (0.9)	71.5 (3.1)	-11.20 (2.30)	32.9 (0.5)	6.3 (1.0)	66.6 (4.9)	-11.50 (2.80)	48.9 (0.9)
25	8.5 (2.4)	69.8 (6.2)	-11.40 (2.30)	32.5 (0.6)	7.8 (2.6)	63.7 (10.1)	-12.60 (5.50)	48.1 (1.9)
26	7.0 (1.3)	70.8 (3.6)	-10.80 (3.10)	33.0 (0.6)	6.4 (1.0)	69.2 (4.5)	-7.60 (6.00)	42.1 (9.4)
27	-0.8 (2.2)	70.8 (3.0)	-12.40 (3.70)	33.9 (1.0)	-0.2 (2.3)	72.3 (2.5)	-10.50 (3.70)	34.0 (1.0)
28	2.2 (2.3)	65.8 (3.1)	-14.20 (5.70)	32.7 (1.2)	3.6 (1.9)	69.3 (3.2)	-13.80 (4.20)	32.6 (0.9)
29	-2.2 (1.5)	69.3 (3.6)	-15.00 (3.50)	33.4 (0.7)	0.0 (1.7)	74.0 (2.8)	-13.30 (4.40)	33.3 (1.1)
30	-2.7 (1.7)	70.4 (5.2)	-14.70 (3.20)	33.7 (0.7)	-0.7 (1.7)	73.7 (4.4)	-13.30 (3.70)	33.6 (0.9)
Avg	6.0	64.6	-6.20	33.8	5.7	67.8	-6.10	38.0
n	28	28	28	15	28	28	28	13
SD	3.6	8.8	4.40	0.8	3.0	6.9	4.00	6.4
Min	-2.7	46.4	-15.00	32.5	-0.7	53.1	-13.80	32.6
Max	11.3	80.2	-1.00	35.1	10.2	81.5	-0.20	49.8

Table F3. Daily means (SD) of environmental parameters at Site W15B for December, 2007.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	-0.5 (2.5)	76.7 (2.7)	-9.90 (3.60)	34.1 (1.1)	1.4 (2.5)	78.7 (3.2)	-14.80 (5.20)	32.7 (1.5)
2	2.5 (2.0)	78.0 (1.7)	-15.70 (3.50)	32.4 (0.8)	3.9 (1.8)	80.2 (1.7)	-13.80 (3.70)	32.4 (0.9)
3	-2.5 (2.2)		-13.90 (2.70)	33.8 (0.6)	-1.0 (2.0)	80.3 (1.6)	-14.50 (3.10)	33.3 (0.9)
4	0.7 (1.0)	77.3 (1.1)	-11.50 (3.80)	33.6 (0.9)	1.5 (1.1)	79.3 (1.2)	-14.60 (4.00)	32.7 (0.9)
5	-1.8 (2.8)	78.9 (3.1)	-19.90 (6.50)	32.3 (1.2)	-1.4 (2.3)	78.9 (2.8)	-17.90 (7.60)	32.5 (1.6)
6	0.0 (3.4)	80.0 (3.4)	-18.30 (6.30)	32.3 (1.7)	1.7 (3.5)	83.0 (2.0)	-20.30 (6.30)	31.5 (1.8)
7	-0.5 (2.6)	76.9 (2.5)	-22.00 (6.40)	31.7 (1.4)	0.6 (2.2)	80.0 (2.4)	-22.60 (6.20)	31.2 (1.4)
8	-3.9 (1.7)		-18.30 (4.50)	33.3 (1.0)	-3.0 (1.9)	83.5 (1.3)	-17.90 (5.40)	33.0 (1.3)
9	-1.9 (1.6)	76.7 (2.2)	-17.50 (5.00)	33.1 (1.1)	-2.2 (1.7)	80.8 (1.9)	-17.80 (5.30)	32.9 (1.3)
10	0.1 (3.3)	77.3 (4.0)	-18.80 (4.00)	32.4 (0.9)	-0.3 (3.2)	79.5 (3.8)	-19.90 (4.30)	32.0 (1.0)
11	2.5 (1.5)	76.8 (2.1)	-14.80 (4.90)	32.9 (1.1)	2.3 (1.4)	78.8 (2.1)	-14.70 (4.90)	32.7 (1.1)
12	-1.6 (2.5)		-10.90 (2.10)	34.3 (0.6)	-1.3 (3.1)	80.0 (2.7)	-11.20 (2.60)	34.0 (0.9)
13	1.5 (2.0)	75.7 (3.0)	-13.90 (4.10)	33.0 (1.0)	3.1 (2.0)	78.4 (2.7)	-13.50 (3.10)	32.6 (0.9)
14	-2.7 (2.7)	80.4 (2.7)	-9.10 (2.70)	25.1 (8.5)	-1.9 (2.1)	82.0 (1.9)	-8.40 (2.40)	34.2 (3.1)
15	-2.3 (2.4)		-7.20 (1.40)	17.6 (0.3)	-1.2 (2.4)	83.5 (2.2)	-6.90 (2.00)	34.8 (0.7)
16	2.2 (1.3)	78.6 (1.2)	-8.80 (1.40)	17.0 (0.2)	3.0 (1.5)	81.5 (1.6)	-8.10 (2.00)	33.8 (0.5)
17	3.9 (1.3)	77.2 (3.4)	-8.00 (1.10)	17.0 (0.1)	4.8 (1.4)	80.8 (2.7)	-9.70 (1.50)	33.2 (0.5)
18	5.6 (1.2)	79.1 (0.7)	-7.10 (1.50)	16.9 (0.3)	6.0 (0.9)	82.6 (0.6)	-8.60 (2.40)	33.7 (4.5)
19	5.8 (0.9)	79.2 (1.1)	-5.90 (1.30)	17.1 (0.3)	6.3 (0.6)	82.5 (1.2)	-8.60 (1.90)	33.5 (2.8)
20	6.3 (0.8)		-5.90 (3.00)	29.4 (7.5)	7.3 (0.9)	80.2 (3.9)	-9.20 (4.90)	42.8 (17.9)
21	7.5 (0.5)	79.4 (0.8)	-3.90 (1.60)	34.2 (0.3)	7.9 (0.5)	83.5 (0.6)	-7.70 (3.10)	55.1 (22.7)
22	5.2 (3.3)	78.2 (1.9)	-6.00 (2.70)	34.0 (0.4)	5.0 (3.4)	81.2 (3.1)	-4.40 (3.20)	42.6 (17.3)
23								
24								
25								
26	6.3 (1.0)	77.8 (1.4)	-7.60 (4.20)	33.7 (0.9)	5.5 (1.2)	82.7 (1.5)	-7.00 (4.30)	33.7 (1.0)
27	5.2 (1.3)		-7.20 (2.00)	34.1 (0.5)	4.2 (0.8)	82.3 (1.1)	-5.70 (1.90)	34.3 (0.5)
28	3.3 (1.7)	80.0 (1.2)	-7.00 (2.00)	34.3 (0.6)	2.5 (0.9)	83.4 (1.0)	-6.70 (2.00)	34.1 (0.4)
29	4.2 (1.0)	80.8 (1.5)	-6.90 (1.50)	34.1 (0.3)	3.6 (1.4)	83.9 (0.7)	-7.50 (1.70)	33.8 (0.4)
30	4.3 (1.2)	81.6 (1.0)	-6.90 (1.20)	34.0 (0.4)	3.5 (1.0)	84.4 (0.4)	-8.70 (1.70)	33.4 (0.4)
31	4.3 (1.4)	82.7 (1.4)	-7.60 (1.90)	33.9 (0.5)	2.5 (1.8)	85.2 (0.6)	-7.30 (1.80)	33.9 (0.5)
Avg	1.9	78.6	-11.10	30.1	2.3	81.5	-11.70	34.7
n	28	22	28	28	28	28	28	28
SD	3.3	1.7	5.10	6.3	3.0	1.9	5.00	4.7
Min	-3.9	75.7	-22.00	16.9	-3.0	78.4	-22.60	31.2
Max	7.5	82.7	-3.90	34.3	7.9	85.2	-4.40	55.1

Table F3. Daily means (SD) of environmental parameters at Site W15B for January, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	-1.7 (1.8)	84.0 (1.5)	-7.60 (2.00)	35.1 (0.6)	-3.4 (1.5)	85.3 (0.4)	-6.10 (1.40)	35.4 (0.4)
2	-1.6 (1.5)	84.0 (2.2)	-6.50 (1.10)	35.8 (0.3)	-4.0 (1.5)	85.3 (0.4)	-5.70 (1.50)	36.0 (0.4)
3	1.7 (2.0)		-9.60 (2.40)	34.2 (0.8)	0.3 (2.3)	82.9 (3.5)	-12.50 (3.50)	33.5 (1.1)
4	3.2 (1.0)	74.7 (4.6)	-7.10 (6.10)	34.0 (1.9)	3.4 (2.0)	79.8 (3.9)	-10.50 (5.90)	33.1 (1.3)
5	4.9 (0.9)	80.8 (1.6)	-3.00 (5.60)	34.3 (1.2)	6.1 (1.2)	84.9 (1.0)	-6.60 (5.50)	33.9 (5.2)
6	7.9 (0.8)	80.1 (2.2)	-0.90 (0.70)	34.4 (0.2)	7.6 (0.5)	86.3 (1.1)	-3.10 (1.20)	57.1 (24.1)
7	6.1 (0.9)	82.1 (1.7)	-1.20 (1.00)	35.3 (4.2)	6.1 (1.0)	86.5 (1.2)	-2.10 (0.80)	35.3 (6.4)
8	5.7 (1.0)	82.1 (2.2)	-3.80 (4.80)	34.8 (4.0)	5.2 (0.7)	87.0 (1.4)	-1.20 (6.40)	
9	3.6 (1.5)	80.3 (2.9)	-11.50 (6.00)	33.2 (1.2)	2.9 (2.3)	86.1 (2.6)	-14.10 (6.10)	32.5 (1.4)
10	6.4 (0.5)	77.0 (1.9)	-11.40 (6.20)	40.1 (13.4)	6.1 (0.8)	82.2 (1.9)	-12.50 (4.70)	32.3 (1.7)
11	4.6 (1.3)	79.1 (1.1)	-9.50 (2.30)	33.9 (4.3)	4.0 (1.2)	84.4 (0.9)	-9.90 (2.20)	33.0 (0.5)
12	4.0 (1.0)	79.9 (1.2)	-8.40 (1.90)	33.8 (0.4)	2.8 (0.9)	84.0 (1.5)	-8.10 (2.40)	33.8 (0.6)
13	3.1 (1.0)	78.1 (2.0)	-9.20 (2.20)	33.8 (0.5)	1.9 (1.1)	82.9 (1.7)	-8.40 (2.30)	33.9 (0.5)
14	-0.1 (2.0)	79.7 (2.2)	-11.50 (3.00)	33.9 (0.8)	-2.0 (2.0)	82.9 (2.4)	-6.70 (3.10)	34.9 (0.6)
15	-0.6 (2.6)	73.7 (9.1)	-7.60 (1.90)	34.5 (0.7)	-1.1 (3.2)	83.9 (2.5)	-11.00 (4.30)	33.8 (1.4)
16	2.7 (1.4)		-10.00 (2.10)	33.5 (0.4)	2.4 (1.3)	82.5 (1.1)	-11.80 (2.10)	33.0 (0.5)
17	-3.5 (1.6)		-10.60 (2.20)	34.1 (0.5)	-3.5 (1.3)	85.5 (0.7)	-10.40 (2.10)	33.9 (0.5)
18	-3.8 (1.8)		-10.50 (3.20)	34.4 (0.7)	-4.3 (2.0)	85.2 (2.6)	-10.00 (2.30)	34.4 (0.6)
19	-4.6 (1.4)		-5.80 (1.90)	35.9 (0.5)	-4.2 (2.0)	86.1 (0.4)	-5.40 (2.20)	35.7 (0.4)
20	-3.4 (1.5)		-6.60 (1.90)	35.7 (0.3)	-3.7 (1.7)	86.3 (0.4)	-5.90 (2.20)	35.7 (0.4)
21	-1.9 (1.1)		-7.30 (1.30)	35.2 (0.5)	-2.6 (1.2)	87.2 (0.5)	-7.40 (1.30)	35.1 (0.4)
22	-2.3 (1.5)		-8.00 (1.20)	34.7 (0.3)	-3.6 (1.0)	87.7 (0.5)	-9.90 (1.90)	34.3 (0.5)
23	-2.9 (1.1)		-8.00 (1.90)	34.9 (0.5)	-4.8 (1.1)	87.4 (0.6)	-6.10 (1.50)	35.4 (0.4)
24								
25	-1.8 (1.8)		-5.70 (1.90)	35.3 (0.5)	-1.2 (2.2)	87.8 (0.5)	-10.00 (2.10)	34.1 (0.7)
26	0.7 (2.4)		-4.50 (5.10)	34.8 (0.9)	0.1 (2.7)	87.6 (1.2)	-8.40 (11.50)	
27	0.7 (3.5)		-4.80 (1.20)	34.8 (0.7)	-0.3 (5.5)	81.5 (5.8)	-5.90 (3.60)	
28	6.6 (1.4)		-6.30 (4.10)		6.8 (1.8)	76.5 (4.9)	-7.20 (3.60)	
29	-4.1 (4.6)		-13.70 (6.30)	40.5 (15.5)	-3.2 (4.7)	83.7 (0.7)	-6.30 (6.10)	31.0 (15.0)
30	-5.9 (1.7)		-6.20 (1.60)	35.8 (0.4)	-5.0 (1.3)	85.7 (0.9)	-3.80 (1.10)	26.9 (0.2)
31	-2.9 (1.1)		-5.70 (1.40)	35.6 (0.4)	-2.6 (1.2)	86.0 (2.0)	-6.90 (3.00)	30.6 (4.4)
Avg	0.7	79.7	-7.40	35.1	0.2	84.7	-7.80	34.6
n	30	14	30	29	30	30	30	26
SD	3.9	3.0	3.00	1.6	4.0	2.5	3.10	4.9
Min	-5.9	73.7	-13.70	33.2	-5.0	76.5	-14.10	26.9
Max	7.9	84.0	-0.90	40.5	7.6	87.8	-1.20	57.1

Table F3. Daily means (SD) of environmental parameters at Site W15B for February, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹
1	-0.3 (2.1)		-13.80 (8.40)	46.3 (15.9)	-0.1 (2.4)	84.0 (2.8)	-16.30 (8.00)	34.1 (7.5)
2	1.6 (0.6)		-26.00 (7.60)	62.3 (11.2)	2.4 (0.8)		-25.10 (8.40)	36.3 (12.7)
3	1.1 (0.5)		-19.30 (8.40)	46.9 (16.2)	1.6 (0.8)	83.7 (3.4)	-19.90 (9.00)	35.8 (11.3)
4	2.6 (0.8)		-29.10 (11.00)	56.5 (12.5)	2.9 (1.0)		-30.40 (11.20)	52.1 (17.6)
5	2.7 (0.7)		-33.20 (6.50)	64.0 (4.1)	3.0 (0.7)	82.9 (2.4)	-30.50 (9.10)	55.7 (17.8)
6	0.4 (1.9)		-20.80 (7.80)	50.8 (16.7)	0.5 (1.8)		-16.40 (5.90)	32.4 (2.9)
7	-2.0 (2.5)		-11.70 (3.20)	34.8 (5.7)	-1.5 (2.9)		-11.90 (3.30)	33.4 (1.0)
8	0.7 (0.9)		-19.10 (7.30)	51.1 (17.0)	0.9 (1.0)		-18.80 (6.50)	31.6 (2.5)
9	-2.0 (4.1)		-19.90 (6.20)	45.2 (16.0)	-1.6 (4.0)		-15.30 (6.30)	32.7 (1.8)
10	-6.3 (1.5)		-7.70 (2.60)	35.9 (0.5)	-6.2 (1.3)		-3.50 (1.80)	36.5 (0.4)
11	-3.1 (1.0)		-4.00 (0.80)	36.1 (0.3)	-3.8 (1.3)		-5.50 (2.20)	35.7 (0.6)
12	-1.1 (1.2)		-4.60 (1.90)	36.3 (5.1)	-2.1 (1.6)		-7.40 (1.70)	34.7 (0.5)
13	0.0 (0.6)		-5.20 (2.60)		0.4 (1.7)		-10.50 (4.80)	
14	-1.2 (1.9)		-10.20 (3.30)	34.1 (1.4)	-0.6 (1.8)		-7.20 (3.00)	34.3 (0.8)
15	-4.5 (1.5)		-5.80 (1.70)	35.9 (0.5)	-3.6 (1.6)		-8.00 (2.40)	35.0 (0.8)
16	0.2 (1.9)		-15.40 (11.50)	45.3 (14.8)	0.8 (1.9)		-19.90 (12.10)	42.7 (15.7)
17	2.0 (1.5)		-26.40 (12.90)	51.1 (14.6)	2.2 (1.3)		-22.80 (11.30)	52.9 (18.6)
18	-4.9 (1.7)		-14.50 (3.30)	33.3 (0.8)	-3.6 (1.6)		-10.30 (2.40)	33.8 (0.5)
19	-5.6 (1.5)		-8.30 (2.30)	35.1 (0.6)	-4.7 (1.6)	86.1 (1.4)	-8.80 (2.40)	34.5 (1.1)
20	-6.3 (2.0)		-7.90 (1.70)	35.8 (0.5)	-5.0 (1.8)	85.9 (1.0)	-5.90 (2.70)	35.8 (0.7)
21	-5.6 (3.4)		-7.10 (2.20)	35.6 (1.1)	-2.5 (2.2)	85.2 (2.6)	-8.40 (3.50)	34.6 (1.1)
22	-2.6 (3.3)		-10.70 (7.10)	40.9 (13.0)	-2.0 (2.5)	80.6 (6.4)	-11.50 (8.40)	36.2 (8.5)
23	-1.1 (3.3)		-15.30 (10.40)	46.2 (15.9)	-0.7 (3.0)	75.4 (6.6)	-15.50 (11.80)	40.0 (13.0)
24	2.0 (2.3)		-25.80 (12.80)	51.7 (14.3)	2.5 (2.7)	77.7 (3.5)	-27.60 (14.20)	51.3 (16.5)
25	2.7 (0.9)		-12.10 (14.50)	71.4 (10.1)	2.4 (0.9)		-8.30 (18.10)	
26	-0.1 (1.1)		-23.40 (11.20)	33.9 (8.5)	0.4 (0.9)		-16.60 (12.50)	38.9 (17.2)
27	-0.9 (2.0)		-21.60 (7.80)	39.5 (13.9)	-1.7 (1.7)		-18.20 (8.20)	32.7 (4.2)
28	-0.7 (2.8)		-20.90 (10.40)	48.2 (16.0)	-1.0 (3.3)	80.2 (5.0)	-21.80 (11.80)	41.4 (15.4)
29	2.0 (1.8)		-29.90 (9.70)	57.8 (12.8)	1.5 (1.7)	74.7 (9.0)	-25.40 (10.30)	44.6 (17.8)
Avg	-1.0		-16.20	45.1	-0.7	81.5	-15.40	38.5
n	29	0	29	28	29	11	29	27
SD	2.8		8.30	10.3	2.5	3.9	7.60	6.8
Min	-6.3		-33.20	33.3	-6.2	74.7	-30.50	31.6
Max	2.7		-4.00	71.4	3.0	86.1	-3.50	55.7

Table F3. Daily means (SD) of environmental parameters at Site WISB for March, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³s⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³s⁻¹
1	0.0 (2.4)		-12.60 (6.80)	48.0 (18.0)	-1.0 (2.8)	71.1 (10.0)	-12.40 (7.40)	38.5 (13.3)
2	2.7 (1.4)		-7.60 (5.60)	60.7 (19.4)	2.5 (1.8)	75.2 (5.0)	-5.40 (9.80)	
3	-0.1 (1.5)		-31.20 (11.80)	34.7 (12.2)	-0.1 (1.1)	75.2 (5.1)	-23.40 (13.90)	33.6 (9.5)
4	-0.2 (2.2)		-16.80 (11.90)	38.1 (12.2)	-0.4 (2.4)	73.0 (8.1)	-18.70 (12.50)	41.3 (19.0)
5	0.7 (1.1)		-10.20 (9.10)	42.7 (16.9)	1.3 (0.9)	76.0 (4.0)	-8.20 (9.00)	40.1 (16.3)
6	-2.8 (2.1)		-23.00 (6.50)	31.7 (1.5)	-1.8 (2.2)	79.4 (4.7)	-23.30 (9.20)	35.2 (9.9)
7	-6.0 (2.7)		-14.60 (4.10)	34.2 (1.4)	-4.8 (2.2)	82.0 (4.0)	-14.70 (4.20)	33.7 (1.4)
8	-1.3 (2.3)		-9.80 (5.20)	34.8 (3.8)	-1.6 (2.2)	78.8 (5.7)	-10.90 (6.40)	34.1 (3.5)
9	0.7 (1.8)		-22.70 (11.70)	45.2 (14.8)	-0.3 (1.7)	74.4 (6.7)	-22.40 (12.10)	38.6 (12.7)
10	-0.6 (2.2)		-10.90 (6.80)	43.4 (16.0)	-0.9 (3.3)	74.6 (8.8)	-12.50 (7.90)	45.1 (19.5)
11								
12	5.3 (1.3)		-5.60 (0.50)	75.7 (0.5)	6.0 (1.6)	68.5 (7.3)	-4.80 (2.20)	83.3 (5.5)
13	7.0 (2.6)		-5.80 (1.00)	75.0 (0.7)	7.1 (2.4)	70.4 (9.9)	-4.10 (0.90)	83.8 (0.8)
14	4.0 (1.7)		-7.40 (1.20)		3.9 (1.3)	68.0 (4.0)	-1.60 (2.30)	
15	2.2 (1.3)		-6.20 (1.60)	59.8 (19.7)	2.2 (0.9)	70.3 (5.9)	-2.70 (7.90)	
16	2.4 (1.7)		-9.50 (8.80)	61.4 (20.6)	2.8 (1.7)	65.0 (8.0)	-8.10 (11.00)	66.8 (25.2)
17	3.0 (1.0)		-7.40 (3.60)	70.2 (14.1)	3.3 (0.8)	73.6 (3.0)	-5.90 (3.80)	82.1 (12.2)
18	4.5 (1.0)	76.4 (0.8)	-7.20 (0.70)	75.7 (0.5)	4.2 (0.7)	76.5 (1.1)	-3.10 (1.40)	85.1 (5.4)
19	5.3 (2.9)	69.3 (7.9)	-7.20 (2.50)	74.3 (16.4)	4.9 (2.4)	67.4 (9.0)	-2.30 (3.70)	80.7 (32.5)
20	4.3 (1.7)	60.5 (5.1)	-9.20 (8.30)	68.3 (15.4)	4.3 (1.5)	56.3 (7.7)	-6.10 (9.60)	71.5 (22.7)
21	3.2 (0.7)	71.0 (4.2)	-9.30 (9.70)	60.6 (18.4)	2.9 (0.9)	69.3 (4.8)	-5.80 (10.80)	54.6 (23.6)
22	3.0 (1.1)	74.8 (1.8)	-6.30 (1.10)	70.2 (15.1)	2.7 (0.5)	73.7 (1.7)	-1.90 (1.70)	68.7 (24.5)
23	2.7 (0.9)	72.7 (5.5)	-8.90 (9.40)	70.9 (14.2)	2.6 (0.5)	71.2 (6.2)	-2.10 (10.70)	
24	3.2 (1.7)	68.5 (5.6)	-19.00 (17.40)	60.0 (21.3)	4.1 (1.9)	68.0 (6.4)	-21.30 (17.50)	65.0 (23.2)
25	5.8 (1.5)	68.9 (2.1)	-8.30 (3.30)	74.6 (1.9)	5.8 (1.4)	66.4 (2.9)	-4.10 (2.80)	82.6 (11.6)
26	5.3 (2.9)	66.8 (6.9)	-9.80 (7.60)	72.4 (16.9)	5.1 (2.7)	63.3 (9.0)	-6.80 (8.60)	77.4 (16.6)
27	3.8 (1.5)	61.3 (5.2)	-8.80 (5.30)	70.1 (13.4)	3.5 (0.8)	55.5 (7.7)	-3.40 (7.50)	66.6 (26.6)
28	4.4 (2.7)	57.7 (9.3)	-12.60 (12.40)	65.8 (22.2)	4.4 (1.9)	53.5 (11.4)	-10.60 (15.10)	69.6 (27.2)
29	5.8 (2.6)	53.2 (6.2)	-5.30 (1.00)	73.4 (11.4)	6.4 (2.7)	50.8 (6.8)	-8.50 (5.00)	76.2 (16.6)
30	8.1 (2.1)	58.6 (4.4)	-7.40 (2.80)	91.2 (26.1)	8.4 (2.0)	56.9 (5.1)	-5.70 (4.70)	104.0 (33.9)
31	4.6 (1.6)	72.0 (3.2)	-11.00 (4.10)	70.4 (11.3)	4.2 (1.4)	70.6 (4.4)	-1.20 (4.70)	
Avg	2.7	66.5	-11.10	60.5	2.7	69.2	-8.70	62.3
n	30	14	30	29	30	30	30	25
SD	3.0	6.8	5.90	15.8	2.9	7.8	6.80	20.5
Min	-6.0	53.2	-31.20	31.7	-4.8	50.8	-23.40	33.6
Max	8.1	76.4	-5.30	91.2	8.4	82.0	-1.20	104.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for April, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	3.5 (1.8)	68.4 (7.1)	-9.70 (8.40)	69.4 (14.9)	3.5 (1.0)	63.9 (8.5)	-2.90 (10.80)	
2	4.7 (2.5)	67.9 (5.5)	-13.10 (14.90)	64.5 (19.4)	5.0 (2.7)	64.9 (6.1)	-12.20 (17.60)	69.4 (22.7)
3	8.2 (2.5)	63.0 (6.9)	-6.70 (2.00)	98.3 (29.4)	8.5 (2.7)	59.5 (7.6)	-4.30 (2.60)	109.0 (35.6)
4	9.2 (3.7)	66.0 (8.3)	-6.10 (1.90)	105.0 (30.6)	9.3 (3.6)	62.0 (10.5)	-3.80 (2.40)	118.0 (38.8)
5	12.1 (3.8)	59.5 (8.7)	-6.90 (2.50)	118.0 (34.7)	12.3 (3.9)	56.0 (8.8)	-4.30 (2.60)	134.0 (37.1)
6	10.5 (1.2)	65.2 (8.4)	-6.30 (1.60)	127.0 (24.3)	10.7 (1.2)	64.8 (8.9)	-7.10 (3.50)	136.0 (36.5)
7	5.5 (0.7)	73.8 (1.4)	-6.10 (1.70)	75.9 (0.8)	5.3 (0.6)	70.8 (1.7)	-1.90 (0.90)	86.1 (0.7)
8	5.5 (0.7)	73.2 (1.7)	-5.30 (1.40)	76.7 (0.6)	5.0 (0.8)	69.8 (2.7)	-0.60 (2.40)	
9	5.8 (1.5)	72.2 (2.7)	-5.40 (1.30)	76.8 (0.7)	5.3 (1.6)	68.5 (3.8)	-0.10 (2.50)	
10	5.3 (0.9)	73.3 (2.0)	-5.20 (3.20)	76.2 (1.5)	5.3 (0.9)	69.4 (3.5)	-4.40 (2.50)	84.8 (1.6)
11	4.9 (1.0)	77.3 (0.6)	-8.00 (4.00)	74.1 (2.1)	4.6 (0.6)	74.4 (1.1)	-1.20 (2.80)	
12	3.0 (0.6)	72.1 (3.1)	-5.80 (5.00)	70.2 (14.8)	3.3 (0.6)	66.9 (3.3)	-0.70 (4.80)	
13	5.2 (2.9)	64.6 (5.5)	-8.50 (4.60)	67.8 (16.8)	4.8 (2.4)	57.5 (7.3)	-2.40 (4.70)	
14	7.3 (3.8)	58.4 (12.2)	-5.60 (3.90)	91.8 (37.8)	7.6 (3.9)	53.5 (13.7)	-3.90 (3.40)	99.4 (43.6)
15	12.1 (3.9)	49.7 (7.3)	-3.40 (1.70)	116.0 (30.0)	12.6 (3.9)	47.7 (7.1)	-10.40 (6.20)	130.0 (33.5)
16	14.3 (3.5)	54.9 (5.3)	-7.80 (4.30)	156.0 (45.5)	14.6 (3.5)	53.2 (6.3)	-9.40 (8.60)	174.0 (52.2)
17	8.8 (1.4)	68.9 (4.5)	-4.50 (2.10)	92.0 (34.7)	8.8 (1.4)	66.8 (5.7)	-1.80 (2.60)	92.5 (22.9)
18	9.3 (0.7)	71.5 (2.4)	-8.10 (3.40)	76.3 (10.9)	8.8 (0.7)	68.4 (3.5)	-0.80 (2.00)	
19	9.9 (1.2)	76.2 (1.4)	-6.10 (1.70)	99.6 (31.3)	9.6 (1.3)	74.3 (1.8)	-1.00 (1.80)	
20	13.6 (5.2)	68.2 (10.2)	-5.70 (2.00)	143.0 (69.6)	13.6 (5.5)	65.1 (11.4)	-7.10 (6.20)	156.0 (71.4)
21	18.0 (3.9)	60.5 (10.3)	-8.50 (6.80)	193.0 (62.1)	18.4 (4.1)	56.9 (11.6)	-14.70 (10.70)	207.0 (57.1)
22	12.3 (3.1)	64.6 (12.9)	-8.10 (2.00)	121.0 (31.2)	12.4 (3.3)	59.8 (15.4)	-2.20 (4.00)	
23	16.0 (5.6)	46.2 (15.7)	-9.90 (3.80)	167.0 (69.6)	16.6 (5.7)	40.7 (16.3)	-6.00 (4.10)	193.0 (80.1)
24	15.2 (0.6)	67.2 (16.0)	-6.60 (1.50)	137.0 (1.8)	15.6 (0.6)	65.2 (16.5)	-6.40 (4.10)	161.0 (4.3)
25	11.1 (3.2)	80.5 (1.4)	-7.40 (2.70)	120.0 (26.0)	11.4 (2.8)	76.3 (2.3)	-5.30 (5.50)	136.0 (38.8)
26	4.3 (1.1)	72.3 (4.7)	-9.20 (3.80)	74.3 (3.4)	4.7 (0.9)	63.8 (5.9)	-5.60 (4.00)	82.7 (8.5)
27	5.7 (2.7)	63.3 (9.5)	-7.70 (2.00)	84.4 (22.7)	5.8 (2.7)	58.0 (11.4)	-1.10 (2.90)	88.2 (21.5)
28	4.3 (1.3)	67.9 (5.1)	-4.70 (2.30)	76.4 (6.4)	3.9 (1.0)	63.0 (6.3)	4.50 (5.00)	
29	6.7 (3.4)	59.1 (11.8)	-7.30 (1.20)	89.8 (35.5)	7.3 (3.3)	53.6 (12.8)	-2.10 (1.40)	93.1 (41.8)
30	11.6 (4.1)	51.9 (6.9)	-6.00 (1.10)	116.0 (29.9)	12.1 (4.0)	47.8 (7.1)	-6.00 (4.00)	133.0 (35.7)
Avg	8.8	65.9	-7.00	102.0	8.9	62.1	-4.20	124.0
n	30	30	30	30	30	30	30	20
SD	4.0	8.1	1.90	32.2	4.2	8.3	3.90	38.0
Min	3.0	46.2	-13.10	64.5	3.3	40.7	-14.70	69.4
Max	18.0	80.5	-3.40	193.0	18.4	76.3	4.50	207.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for May, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	14.4 (3.3)	54.7 (3.4)	-6.00 (2.80)	140.0 (40.4)	14.6 (3.3)	52.2 (3.5)	-7.80 (4.00)	160.0 (47.3)
2	10.8 (1.5)	76.0 (3.9)	-7.10 (4.00)	118.0 (28.3)	10.3 (1.9)	75.9 (3.9)	-0.70 (8.00)	
3	9.3 (2.6)	60.4 (12.9)	-9.80 (6.20)	104.0 (30.1)	8.8 (2.9)	57.0 (14.1)	4.80 (7.40)	
4	13.3 (4.3)	47.0 (8.3)	-9.80 (3.80)	140.0 (56.9)	13.8 (4.1)	44.1 (8.9)	-7.20 (6.20)	153.0 (60.0)
5	13.1 (3.5)	50.9 (9.5)	-7.80 (1.60)	124.0 (29.5)	13.1 (3.6)	49.6 (10.3)	-4.20 (2.90)	141.0 (35.9)
6	16.1 (4.1)	56.9 (12.0)	-10.10 (4.20)	169.0 (50.4)	16.2 (4.2)	55.4 (14.5)	-6.30 (3.90)	198.0 (61.1)
7	14.1 (2.7)	60.8 (15.1)	-6.60 (2.70)	135.0 (11.7)	14.0 (2.6)	58.2 (17.1)	3.70 (8.20)	
8	13.5 (3.4)	53.0 (10.8)	-7.50 (1.10)	120.0 (27.0)	13.5 (3.4)	50.0 (11.7)	-3.00 (1.80)	139.0 (36.6)
9	13.3 (3.2)	50.8 (8.9)	-8.20 (2.00)	123.0 (25.4)	13.2 (3.0)	48.7 (9.4)	-2.70 (2.80)	139.0 (36.8)
10	12.3 (2.1)	60.4 (9.0)	-6.90 (1.30)	136.0 (10.8)	12.6 (2.3)	59.5 (11.2)	-4.50 (2.70)	154.0 (26.0)
11	10.3 (2.5)	63.4 (10.8)	-5.40 (3.90)	111.0 (30.9)	9.5 (2.9)	61.6 (12.6)	7.20 (7.80)	
12	12.2 (4.0)	53.8 (10.4)	-5.90 (1.10)	119.0 (28.9)	12.6 (4.1)	50.9 (11.0)	-5.50 (3.80)	138.0 (34.5)
13	13.5 (2.2)	64.5 (6.7)	-7.40 (1.40)	137.0 (1.7)	13.6 (2.4)	63.6 (7.1)	-3.80 (3.80)	163.0 (2.7)
14	13.1 (3.8)	56.3 (11.6)	-7.80 (1.80)	127.0 (30.7)	13.0 (3.8)	52.7 (12.5)	-0.20 (4.00)	
15	15.7 (5.0)	48.4 (15.8)	-10.50 (4.00)	165.0 (70.3)	16.0 (5.1)	44.5 (17.8)	-5.80 (3.70)	195.0 (82.3)
16	17.9 (4.6)	51.2 (14.0)	-12.00 (5.50)	192.0 (60.0)	18.1 (4.5)	48.1 (16.1)	-6.90 (4.30)	219.0 (70.7)
17	15.1 (3.3)	49.1 (10.4)	-9.30 (4.70)	161.0 (43.0)	15.1 (3.4)	46.4 (11.4)	-1.00 (7.00)	
18	11.8 (2.9)	52.2 (10.5)	-7.00 (2.00)	116.0 (28.9)	11.5 (2.9)	49.7 (11.4)	1.00 (4.20)	
19	10.3 (1.8)	62.3 (8.1)	-6.70 (1.00)	101.0 (30.7)	10.3 (2.0)	60.7 (10.0)	-2.90 (1.50)	114.0 (37.8)
20	12.7 (3.8)	58.3 (15.5)	-7.90 (2.70)	117.0 (27.9)	12.5 (3.6)	55.5 (16.4)	0.10 (4.00)	
21	13.1 (4.1)	53.9 (9.9)	-7.50 (2.00)	126.0 (37.3)	13.0 (4.2)	51.3 (10.9)	-1.80 (3.10)	135.0 (46.5)
22	15.2 (3.7)	52.0 (8.7)	-8.70 (2.90)	160.0 (56.7)	15.1 (3.6)	49.8 (8.4)	-5.50 (2.60)	183.0 (64.4)
23	15.2 (3.3)	54.4 (7.0)	-7.90 (3.00)	169.0 (49.5)	15.1 (3.3)	52.4 (7.4)	-5.40 (2.70)	183.0 (52.4)
24	16.6 (4.0)	51.1 (10.5)	-8.50 (3.10)	190.0 (53.9)	16.8 (4.1)	48.6 (11.6)	-9.00 (6.70)	202.0 (59.9)
25	18.7 (2.7)	69.9 (3.4)	-11.10 (6.80)	201.0 (75.6)	19.0 (2.9)	68.6 (3.9)	-8.10 (9.50)	
26								
27	12.3 (2.6)	53.8 (8.3)	-7.90 (1.70)	128.0 (24.6)	12.1 (2.7)	49.5 (7.9)	-2.60 (2.40)	
28	14.6 (3.8)	51.0 (11.8)	-8.90 (3.10)	160.0 (58.7)	15.0 (3.9)	45.7 (12.3)	-3.70 (2.60)	181.0 (75.2)
29	13.5 (1.3)	66.5 (7.4)	-5.60 (2.00)	140.0 (1.2)	13.7 (1.4)	64.7 (8.5)	-5.50 (5.00)	162.0 (10.9)
30	17.1 (2.1)	78.0 (3.4)	-9.10 (3.00)	164.0 (47.2)	17.2 (2.1)	75.7 (5.1)	-3.40 (2.60)	192.0 (50.9)
31	18.3 (3.0)	69.7 (10.4)	-10.60 (3.40)	183.0 (52.1)	18.5 (3.0)	65.9 (12.0)	-5.90 (5.20)	213.0 (58.0)
Avg	13.9	57.7	-8.20	143.0	13.9	55.2	-3.20	168.0
n	30	30	30	30	30	30	30	20
SD	2.3	8.0	1.60	27.0	2.5	8.5	3.80	28.6
Min	9.3	47.0	-12.00	101.0	8.8	44.1	-9.00	114.0
Max	18.7	78.0	-5.40	201.0	19.0	75.9	7.20	219.0

Table F3. Daily means (SD) of environmental parameters at Site W15B for June, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹
1	19.3 (4.7)	63.3 (15.0)	-16.60 (11.30)	237.0 (103.0)	19.6 (4.7)	59.3 (16.7)	-9.40 (6.50)	286.0 (131.0)
2								
3	15.3 (0.8)	67.9 (5.1)	-5.80 (1.00)	137.0 (0.9)	15.2 (0.7)	65.3 (6.8)	-4.00 (0.90)	
4	16.9 (2.3)	68.8 (4.5)	-8.20 (2.70)	171.0 (50.3)	17.1 (2.3)	66.8 (5.1)	-5.20 (2.60)	
5	18.7 (1.5)	78.9 (2.1)	-10.40 (4.50)		18.6 (1.5)	78.6 (2.0)	-5.70 (4.20)	
6	20.4 (1.3)	69.8 (7.2)	-13.10 (4.00)		20.5 (1.4)	65.8 (8.2)	-15.10 (8.10)	
7	21.4 (2.4)	70.9 (4.0)	-16.00 (6.70)	264.0 (82.0)	21.5 (2.4)	68.5 (4.1)	-9.40 (6.00)	299.0 (100.0)
8								
9								
10	18.1 (2.4)	63.0 (7.3)	-8.50 (2.60)	196.0 (55.2)	18.1 (2.3)	59.3 (8.5)	-4.40 (2.90)	
11	17.6 (1.3)	77.0 (2.5)	-5.90 (2.70)	183.0 (54.9)	17.6 (1.4)	75.9 (2.4)	-8.40 (7.60)	
12	20.2 (2.3)	73.5 (10.1)	-10.60 (4.80)	245.0 (56.7)	20.5 (2.2)	70.2 (11.6)	-6.80 (5.40)	
13	18.2 (1.8)	59.8 (7.1)	-8.10 (2.50)	194.0 (55.2)	18.4 (1.8)	55.6 (8.6)	-5.30 (5.00)	217.0 (58.3)
14								
15								
16								
17								
18	18.9 (4.0)	52.5 (16.0)	-8.50 (1.90)	202.0 (54.0)	18.9 (3.9)	50.0 (16.5)	-2.60 (3.70)	
19	20.4 (5.0)	54.6 (13.2)	-14.70 (8.10)	268.0 (107.0)	20.6 (4.9)	52.7 (14.4)	-9.60 (6.60)	308.0 (125.0)
20	21.4 (3.5)	58.6 (12.1)	-13.70 (7.10)	268.0 (96.8)	21.5 (3.3)	56.3 (12.9)	-9.00 (6.30)	304.0 (115.0)
21	20.2 (3.3)	53.2 (9.5)	-10.70 (5.50)	217.0 (76.8)	20.6 (3.0)	49.2 (8.3)	-6.20 (4.80)	262.0 (101.0)
22	18.7 (3.0)	62.8 (7.3)	-8.70 (2.10)	198.0 (54.4)	18.9 (2.8)	59.4 (7.2)	-2.50 (3.30)	214.0 (61.5)
23	20.3 (3.7)	58.0 (12.6)	-11.40 (5.90)	243.0 (88.6)	20.4 (3.6)	55.1 (13.0)	-9.00 (5.40)	284.0 (107.0)
24	22.8 (3.3)	55.4 (8.1)	-17.20 (7.90)	312.0 (90.5)	23.1 (3.3)	53.0 (8.0)	-16.10 (11.50)	349.0 (95.5)
25	23.6 (3.2)	62.9 (8.1)	-16.70 (7.50)	311.0 (77.0)	23.9 (3.1)	60.3 (8.5)	-14.30 (8.90)	355.0 (87.0)
26	21.8 (2.7)	63.6 (7.3)	-13.70 (6.50)	273.0 (85.5)	22.1 (2.7)	60.8 (7.8)	-10.90 (5.90)	329.0 (110.0)
27	20.4 (2.1)	76.1 (4.6)	-11.10 (4.10)	253.0 (48.2)	20.5 (2.0)	74.2 (5.1)	-7.90 (5.00)	284.0 (76.9)
28	18.0 (1.5)	70.7 (6.2)	-8.40 (2.20)	189.0 (54.6)	18.4 (1.6)	65.8 (7.5)	-4.00 (3.20)	203.0 (56.2)
29	20.1 (2.8)	62.8 (10.9)	-8.70 (3.80)	210.0 (59.8)	20.1 (2.9)	59.6 (11.6)	1.00 (6.00)	
30								
Avg	19.7	64.7	-11.20	229.0	19.8	61.9	-7.50	284.0
n	22	22	22	20	22	22	22	13
SD	1.9	7.6	3.40	45.1	2.0	8.0	4.10	47.1
Min	15.3	52.5	-17.20	137.0	15.2	49.2	-16.10	203.0
Max	23.6	78.9	-5.80	312.0	23.9	78.6	1.00	355.0

Table F3. Daily means (SD) of environmental parameters at Site W15B for July, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹
1								
2								
3								
4	20.4 (4.0)	57.4 (11.0)	-11.90 (7.10)	254.0 (96.5)	20.6 (4.1)	55.1 (12.1)	-10.10 (8.40)	295.0 (111.0)
5	22.8 (3.0)	56.6 (5.6)	-15.30 (7.20)	313.0 (79.0)	23.0 (2.9)	55.8 (4.3)	-16.90 (12.70)	340.0 (81.3)
6	23.8 (2.5)	67.8 (6.3)	-16.40 (7.20)	325.0 (80.0)	23.9 (2.4)	68.3 (8.1)	-14.90 (9.20)	368.0 (87.9)
7	22.6 (2.3)	77.2 (3.4)	-15.30 (7.10)	316.0 (83.4)	22.8 (2.3)	75.3 (3.9)	-14.60 (9.80)	348.0 (87.9)
8								
9								
10	20.2 (2.6)	70.5 (6.0)			20.3 (2.7)	69.7 (6.8)	-9.10 (8.30)	
11	22.5 (2.9)	78.8 (3.3)			22.6 (2.8)	78.2 (2.4)	-21.70 (12.50)	323.0 (74.8)
12	20.2 (2.5)	59.3 (13.7)			20.5 (2.4)	54.7 (14.4)	-6.90 (5.50)	245.0 (54.8)
13	20.2 (2.7)	54.6 (7.2)			20.4 (2.5)	51.1 (6.6)	-3.90 (3.00)	248.0 (54.0)
14	21.2 (4.3)	60.3 (11.5)			21.3 (4.4)	58.7 (12.0)	-9.80 (7.70)	319.0 (132.0)
15	24.4 (3.3)	61.3 (8.3)			24.4 (3.3)	60.1 (7.9)	-11.90 (5.40)	378.0 (98.0)
16	23.9 (2.5)	66.7 (4.2)	-13.10 (7.10)	316.0 (80.4)	23.9 (2.5)	65.6 (4.8)	-13.80 (9.70)	349.0 (84.7)
17	22.0 (1.2)	79.8 (2.3)	-9.40 (3.60)	260.0 (42.5)	22.3 (1.2)	77.8 (2.7)	-7.30 (4.40)	295.0 (46.5)
18	22.3 (2.3)	72.3 (11.7)	-12.80 (6.40)	307.0 (79.6)	22.4 (2.2)	70.2 (11.6)	-9.20 (4.20)	350.0 (96.6)
19	21.0 (2.6)	73.0 (7.0)	-11.10 (6.20)	287.0 (76.0)	21.2 (2.6)	70.2 (8.0)	-12.10 (9.40)	305.0 (97.3)
20	21.8 (2.5)	76.7 (7.0)	-12.40 (6.70)	296.0 (73.2)	21.9 (2.6)	74.0 (7.3)	-9.30 (3.90)	336.0 (89.7)
21	21.5 (2.6)	72.6 (9.4)	-17.50 (10.00)		21.7 (2.5)	69.5 (8.0)	-8.60 (4.10)	319.0 (99.0)
22	21.1 (2.6)	66.0 (9.1)	-18.10 (8.80)		21.1 (2.5)	63.7 (8.8)	-8.30 (4.40)	275.0 (101.0)
23	21.1 (3.2)	63.9 (8.2)	-20.40 (10.30)	253.0 (95.1)	21.3 (3.3)	61.0 (7.9)	-9.30 (6.40)	315.0 (128.0)
24	22.4 (2.2)	67.3 (6.6)	-22.00 (8.60)	284.0 (67.1)	22.8 (2.1)	64.2 (6.5)	-12.50 (8.80)	350.0 (87.8)
25	22.0 (1.9)	76.5 (7.2)	-20.10 (7.70)	261.0 (51.8)	22.4 (1.9)	71.9 (7.7)	-9.30 (7.70)	311.0 (67.3)
26	20.8 (3.6)	64.1 (12.9)	-21.70 (11.10)	249.0 (96.8)	21.0 (3.4)	60.0 (12.0)	-9.30 (6.40)	303.0 (129.0)
27	21.2 (3.6)	74.1 (6.5)	-22.60 (10.80)	264.0 (99.8)	21.2 (3.8)	71.4 (7.1)	-10.70 (7.00)	322.0 (130.0)
28	23.1 (3.3)	71.7 (8.1)	-24.80 (9.90)	301.0 (76.3)	23.2 (3.4)	68.9 (8.5)	-14.60 (10.10)	337.0 (120.0)
29	24.9 (3.2)	66.7 (15.9)	-26.10 (10.60)	299.0 (65.7)	25.0 (3.0)	64.4 (15.7)	-13.70 (7.50)	368.0 (91.8)
30	22.6 (3.9)	63.4 (10.7)	-24.90 (11.00)	282.0 (81.0)	22.7 (3.6)	61.3 (9.4)	-11.20 (6.10)	345.0 (117.0)
31	21.5 (3.2)	74.7 (7.8)	-20.80 (9.40)	262.0 (81.0)	21.6 (3.1)	72.3 (7.4)	-9.90 (5.90)	308.0 (116.0)
Avg	22.0	68.2	-17.80	285.0	22.1	65.9	-11.10	322.0
n	26	26	20	18	26	26	26	25
SD	1.3	7.1	4.90	24.5	1.3	7.3	3.50	33.3
Min	20.2	54.6	-26.10	249.0	20.3	51.1	-21.70	245.0
Max	24.9	79.8	-9.40	325.0	25.0	78.2	-3.90	378.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for August, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹
1	21.7 (3.3)	65.3 (15.2)	-24.70 (13.30)	268.0 (79.0)	21.7 (3.2)	63.4 (14.1)	-8.80 (5.20)	334.0 (127.0)
2	21.1 (4.3)	62.8 (12.0)	-21.50 (10.70)	262.0 (101.0)	21.0 (4.6)	60.7 (12.8)	-12.40 (9.80)	317.0 (125.0)
3	21.2 (1.2)	72.1 (2.5)	-14.80 (0.70)	239.0 (1.6)	21.4 (1.2)	68.6 (2.9)	-9.70 (3.70)	276.0 (12.9)
4	22.3 (2.4)	79.4 (5.3)	-22.10 (9.80)	283.0 (64.7)	22.5 (2.3)	76.9 (5.3)	-11.40 (4.80)	343.0 (92.0)
5	21.8 (3.1)	68.3 (14.9)	-25.00 (11.50)	284.0 (72.8)	21.9 (3.0)	65.6 (14.3)	-9.60 (5.80)	334.0 (127.0)
6	20.8 (2.7)	71.2 (11.0)	-19.30 (7.90)	259.0 (62.2)	21.0 (2.4)	67.4 (10.3)	-7.80 (5.10)	299.0 (92.9)
7	20.0 (3.3)	67.4 (11.4)	-14.60 (6.60)	216.0 (79.6)	20.1 (3.1)	63.3 (11.3)	-4.90 (3.00)	244.0 (82.9)
8	19.2 (3.8)	68.0 (9.9)	-14.30 (2.70)	207.0 (47.9)	19.3 (4.0)	63.5 (11.5)	-5.20 (1.80)	242.0 (56.4)
9	21.3 (3.3)	62.3 (11.2)	-19.80 (9.90)	270.0 (87.6)	21.3 (3.1)	58.6 (11.0)	-9.30 (6.30)	299.0 (130.0)
10	17.7 (3.8)	60.0 (8.5)	-12.00 (2.30)	187.0 (53.2)	17.7 (3.9)	56.2 (9.7)	-5.20 (2.10)	218.0 (58.8)
11	19.0 (4.4)	66.2 (8.5)	-14.60 (4.90)	213.0 (62.2)	19.1 (4.6)	62.5 (9.9)	-6.50 (5.80)	253.0 (70.1)
12	19.3 (1.0)	77.4 (4.3)	-15.20 (1.30)	233.0 (23.7)	19.6 (1.0)	73.8 (4.1)	-5.70 (2.30)	270.0 (38.5)
13	21.1 (2.9)	75.7 (9.6)	-20.70 (8.50)	266.0 (65.0)	21.5 (2.9)	71.1 (10.6)	-8.70 (6.10)	290.0 (117.0)
14	19.8 (2.4)	77.6 (6.0)	-13.80 (2.80)	203.0 (51.7)	19.9 (2.4)	74.4 (6.6)	-5.70 (2.50)	229.0 (58.6)
15	20.2 (3.8)	63.3 (15.8)	-19.30 (10.20)	235.0 (103.0)	20.3 (4.0)	59.2 (17.2)	-8.10 (6.20)	287.0 (132.0)
16	22.0 (4.3)	64.9 (9.5)	-22.30 (10.80)	262.0 (101.0)	22.1 (4.5)	61.1 (10.4)	-9.80 (7.90)	320.0 (129.0)
17	23.7 (3.5)	64.1 (12.3)	-24.00 (8.50)	302.0 (71.3)	24.0 (3.5)	59.7 (12.6)	-11.90 (7.60)	366.0 (91.8)
18	23.8 (3.5)	61.8 (11.2)	-24.70 (10.00)	302.0 (68.2)	24.0 (3.4)	58.6 (11.4)	-12.50 (7.70)	369.0 (91.9)
19	22.4 (3.0)	70.1 (6.1)	-20.30 (9.70)	285.0 (79.2)	22.5 (3.0)	67.5 (6.2)	-12.50 (8.90)	327.0 (105.0)
20	22.7 (2.4)	71.3 (9.5)	-21.50 (8.50)	293.0 (70.4)	23.0 (2.4)	68.0 (9.8)	-15.70 (11.90)	341.0 (75.0)
21	21.7 (2.1)	75.3 (5.7)	-19.70 (7.80)	274.0 (62.0)	22.1 (2.1)	72.2 (6.4)	-14.70 (10.80)	319.0 (68.3)
22	23.4 (2.6)	78.1 (6.4)	-24.40 (9.50)	298.0 (69.0)	23.6 (2.5)	75.4 (6.7)	-17.30 (12.40)	348.0 (75.7)
23	18.6 (2.5)	64.2 (9.0)	-14.50 (3.10)	192.0 (51.6)	18.5 (2.5)	60.3 (8.8)	-4.40 (2.50)	223.0 (60.1)
24	17.1 (3.9)	63.2 (11.1)	-12.30 (2.20)	182.0 (52.7)	16.9 (4.0)	60.8 (12.5)	-3.50 (2.70)	214.0 (60.1)
25	16.8 (5.0)	55.6 (16.4)	-12.00 (2.10)	184.0 (53.2)	17.0 (5.1)	52.5 (18.3)	-4.70 (2.80)	204.0 (75.2)
26	18.9 (4.1)	61.7 (10.1)	-14.60 (6.30)	214.0 (74.8)	19.0 (4.4)	58.5 (12.0)	-9.30 (9.30)	253.0 (84.7)
27	19.3 (2.6)	71.5 (5.0)	-13.00 (2.40)	196.0 (51.4)	19.6 (2.8)	68.8 (5.7)	-5.80 (4.10)	230.0 (56.6)
28	20.8 (2.1)	72.4 (10.5)	-16.90 (6.00)	238.0 (51.6)	21.1 (1.9)	68.2 (12.1)	-6.60 (3.00)	279.0 (61.1)
29	19.5 (4.0)	63.9 (9.8)	-16.50 (8.00)	219.0 (80.1)	19.6 (4.0)	60.6 (10.3)	-8.10 (8.70)	256.0 (91.7)
30	21.2 (4.2)	62.7 (13.4)	-19.40 (9.90)	253.0 (101.0)	21.3 (4.3)	60.4 (14.3)	-12.30 (11.30)	299.0 (116.0)
31	22.9 (2.8)	64.0 (9.8)	-20.80 (8.00)	297.0 (72.5)	23.0 (2.7)	61.4 (9.7)	-16.40 (12.10)	340.0 (73.5)
Avg	20.7	67.8	-18.30	246.0	20.8	64.5	-9.20	288.0
n	31	31	31	31	31	31	31	31
SD	1.8	6.0	4.10	38.4	1.9	6.0	3.70	47.6
Min	16.8	55.6	-25.00	182.0	16.9	52.5	-17.30	204.0
Max	23.8	79.4	-12.00	302.0	24.0	76.9	-3.50	369.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for September, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹
1	24.4 (2.8)	71.4 (5.4)	-25.80 (9.20)	328.0 (68.9)	24.4 (2.8)	69.4 (5.4)	-21.60 (11.20)	375.0 (75.7)
2	21.4 (3.3)	76.2 (5.7)	-18.80 (8.00)	251.0 (81.0)	21.4 (3.3)	73.7 (7.3)	-10.20 (10.10)	281.0 (87.5)
3	15.5 (2.5)	65.1 (8.7)	-11.60 (2.20)	160.0 (45.2)	15.1 (2.6)	63.1 (8.9)	-0.30 (3.90)	
4	14.4 (2.3)	68.0 (5.2)	-9.60 (1.00)	136.0 (8.8)	14.3 (2.3)	65.6 (5.9)	-3.50 (0.80)	163.0 (11.4)
5	15.0 (4.2)	69.1 (8.5)	-12.10 (2.70)	161.0 (58.9)	15.3 (4.1)	65.6 (9.8)	-3.00 (3.00)	177.0 (78.0)
6	15.7 (2.9)	68.8 (10.5)	-12.40 (2.10)	170.0 (50.1)	15.8 (2.9)	65.3 (12.0)	-3.90 (2.90)	198.0 (54.4)
7	14.7 (2.2)	72.9 (8.1)	-11.60 (1.60)	153.0 (40.1)	14.8 (2.2)	69.0 (9.7)	-3.00 (3.10)	165.0 (7.0)
8	12.9 (2.9)	68.5 (8.9)	-10.50 (0.60)	132.0 (14.3)	13.0 (2.7)	64.8 (9.5)	-2.10 (1.40)	147.0 (34.2)
9	13.7 (4.4)	61.3 (13.7)	-11.40 (2.60)	143.0 (62.6)	13.6 (4.7)	57.9 (14.9)	-2.60 (2.00)	164.0 (70.8)
10	16.1 (2.3)	60.3 (4.7)	-10.40 (2.10)	155.0 (41.6)	16.4 (2.5)	57.4 (5.2)	-5.00 (4.50)	185.0 (43.6)
11	18.2 (2.1)	78.4 (6.1)	-12.30 (3.90)	178.0 (50.5)	18.6 (2.2)	75.5 (5.8)	-7.50 (6.20)	210.0 (56.0)
12	17.5 (2.2)	74.1 (7.3)	-12.20 (2.20)	167.0 (49.5)	17.6 (2.1)	70.9 (8.1)	-5.40 (2.40)	197.0 (55.3)
13	17.0 (1.1)	81.9 (1.1)	-11.10 (2.40)	154.0 (42.4)	17.1 (1.2)	79.6 (1.1)	-2.20 (4.10)	177.0 (39.5)
14	14.9 (1.6)	80.6 (2.5)	-10.20 (1.20)	135.0 (8.7)	14.7 (1.7)	77.9 (3.1)	0.20 (3.50)	
15	14.2 (2.2)	71.1 (9.1)	-10.90 (1.70)	145.0 (29.1)	14.2 (2.4)	66.5 (10.8)	-1.40 (1.20)	168.0 (1.4)
16	17.7 (4.3)	65.4 (8.3)	-14.90 (7.80)	195.0 (77.3)	18.0 (4.5)	60.3 (9.1)	-5.60 (6.30)	242.0 (102.0)
17	17.6 (3.9)	64.9 (12.6)	-11.20 (1.80)	182.0 (53.6)	17.4 (3.9)	62.2 (13.7)	-5.10 (2.10)	215.0 (58.6)
18	19.1 (3.8)	67.6 (5.3)	-12.80 (6.00)	219.0 (74.5)	19.4 (3.8)	63.3 (5.8)	-9.10 (7.60)	250.0 (76.3)
19	21.0 (2.6)	64.4 (9.2)	-17.40 (8.10)	255.0 (74.8)	21.3 (2.5)	60.3 (8.7)	-10.00 (9.40)	291.0 (94.8)
20	20.0 (2.9)	70.5 (4.6)	-15.60 (7.40)	224.0 (84.5)	20.0 (3.0)	67.6 (5.0)	-5.80 (4.30)	260.0 (94.5)
21	19.8 (3.8)	69.3 (8.4)	-16.50 (8.40)	234.0 (93.8)	20.0 (3.8)	66.2 (8.8)	-8.30 (8.10)	255.0 (72.6)
22	20.3 (1.9)	71.6 (3.8)	-12.70 (2.00)	223.0 (42.3)	20.5 (1.9)	68.2 (4.2)	-7.40 (4.00)	250.0 (51.6)
23	21.1 (2.2)	72.0 (6.6)	-17.10 (6.70)	276.0 (62.3)	21.4 (2.3)	68.3 (7.3)	-12.30 (8.80)	292.0 (24.8)
24	16.2 (3.0)	67.9 (11.6)	-12.50 (3.20)	175.0 (50.8)	16.3 (3.1)	62.9 (13.4)	-3.10 (2.30)	204.0 (56.6)
25	17.1 (4.0)	67.4 (5.7)	-12.50 (2.80)	198.0 (51.8)	17.5 (4.2)	62.8 (6.9)	-5.80 (3.40)	229.0 (59.0)
26	21.5 (3.0)	63.3 (6.0)	-18.60 (8.90)	255.0 (95.9)	22.0 (2.9)	59.6 (6.0)	-10.40 (9.60)	222.0 (46.3)
27	17.7 (1.7)	75.5 (3.6)	-11.70 (2.40)	178.0 (52.2)	17.8 (2.0)	72.6 (4.8)	1.00 (4.30)	
28	14.8 (1.3)	79.7 (1.3)	-9.50 (0.90)	136.0 (1.1)	15.0 (1.4)	76.3 (2.1)	-2.80 (1.10)	166.0 (1.4)
29	15.3 (1.9)	70.5 (10.7)	-11.00 (2.00)	146.0 (33.0)	15.3 (1.9)	65.8 (11.5)	0.00 (3.00)	
30	11.2 (1.6)	68.5 (5.0)	-10.30 (0.90)	125.0 (23.7)	11.3 (1.4)	64.1 (5.3)	-0.80 (1.90)	127.0 (41.2)
Avg	17.2	70.2	-13.20	186.0	17.3	66.8	-5.20	216.0
n	30	30	30	30	30	30	30	26
SD	3.0	5.4	3.50	49.3	3.0	5.7	4.60	54.8
Min	11.2	60.3	-25.80	125.0	11.3	57.4	-21.60	127.0
Max	24.4	81.9	-9.50	328.0	24.4	79.6	1.00	375.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for October, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	10.3 (2.4)	70.3 (8.2)	-9.70 (1.10)	104.0 (30.9)	10.2 (2.4)	65.5 (8.8)	0.10 (2.60)	
2	12.7 (4.2)	67.6 (9.1)	-10.80 (2.10)	118.0 (40.1)	12.8 (4.1)	62.5 (9.9)	-1.30 (1.40)	127.0 (39.6)
3	10.1 (3.1)	64.9 (11.0)	-9.60 (1.00)	100.0 (30.4)	9.8 (3.0)	60.6 (11.9)	-2.00 (1.20)	117.0 (39.3)
4	10.6 (4.4)	60.8 (11.9)	-9.10 (0.70)	115.0 (29.7)	10.6 (4.5)	56.3 (12.9)	-2.10 (1.20)	132.0 (39.6)
5	11.1 (1.2)	73.4 (6.0)	-6.90 (2.00)	114.0 (31.7)	11.2 (1.3)	70.0 (6.3)	-3.00 (1.90)	132.0 (39.6)
6	16.4 (2.9)	75.2 (5.3)	-8.20 (4.50)	173.0 (48.3)	16.7 (3.0)	70.3 (6.3)	-7.80 (3.60)	193.0 (50.0)
7								
8								
9								
10	13.7 (3.3)	60.4 (9.0)	-9.40 (2.00)	151.0 (36.3)	13.8 (3.3)	55.5 (9.8)	-4.10 (3.30)	168.0 (50.9)
11	17.5 (3.8)	64.4 (5.4)	-12.00 (3.00)	201.0 (52.1)	17.8 (4.0)	60.7 (6.3)	-5.10 (2.60)	198.0 (28.9)
12	21.2 (2.4)	69.4 (5.9)	-16.00 (7.40)	249.0 (79.8)	21.6 (2.5)	65.7 (6.7)	-8.60 (7.90)	222.0 (39.1)
13	15.7 (4.8)	76.4 (3.0)	-12.30 (1.90)	182.0 (64.5)	15.9 (5.0)	73.2 (3.0)	-3.00 (2.50)	179.0 (58.3)
14	10.2 (2.0)	64.9 (9.0)	-10.10 (0.70)	113.0 (30.4)	10.2 (2.2)	59.6 (10.1)	-1.60 (1.00)	135.0 (41.1)
15	10.2 (1.6)	66.1 (7.7)	-10.40 (1.30)	116.0 (29.4)	10.4 (1.4)	61.6 (8.4)	-1.00 (1.40)	112.0 (38.7)
16								
17								
18								
19								
20								
21								
22	8.5 (1.0)	65.2 (3.5)	-2.50 (1.70)	77.5 (2.5)	8.6 (1.2)	60.3 (3.5)	-4.20 (2.70)	85.2 (5.6)
23	10.2 (2.2)	60.5 (7.3)	-4.40 (1.50)	113.0 (31.7)	10.6 (2.1)	55.6 (7.5)	-4.40 (2.00)	131.0 (39.4)
24	9.9 (0.6)	76.2 (2.3)	-4.90 (1.10)	97.8 (30.2)	10.3 (0.4)	71.8 (2.2)	-2.60 (1.50)	105.0 (34.2)
25	10.9 (2.8)	65.0 (11.2)	-5.30 (1.20)	109.0 (30.9)	11.3 (2.5)	59.9 (11.8)	-4.60 (3.80)	126.0 (39.1)
26	7.0 (1.5)	65.7 (6.0)	-8.80 (2.80)	78.9 (17.2)	7.4 (1.6)	61.5 (6.6)	-0.20 (1.10)	
27	4.9 (1.4)	63.0 (4.8)	-6.70 (1.90)	75.4 (6.9)	4.8 (1.1)	57.8 (5.0)	1.20 (3.90)	
28	5.1 (2.8)	60.1 (12.0)	-7.50 (5.30)	80.1 (54.1)	5.7 (2.4)	54.3 (13.3)	-4.70 (4.90)	71.4 (22.4)
29	7.8 (3.7)	53.7 (9.3)	-6.30 (1.90)	93.7 (30.1)	7.9 (3.5)	47.0 (8.9)	-4.80 (2.80)	103.0 (38.1)
30								
31								
Avg	11.2	66.2	-8.60	123.0	11.4	61.5	-3.20	137.0
n	20	20	20	20	20	20	20	17
SD	4.0	5.8	3.00	44.6	4.0	6.4	2.40	40.1
Min	4.9	53.7	-16.00	75.4	4.8	47.0	-8.60	71.4
Max	21.2	76.4	-2.50	249.0	21.6	73.2	1.20	222.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for November, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹
1	9.6 (2.6)	57.3 (4.7)	-4.00 (0.90)	106.0 (32.5)	9.7 (2.7)	52.5 (5.4)	-2.90 (1.30)	116.0 (38.9)
2	12.4 (3.6)	64.8 (5.4)	-4.50 (2.20)	128.0 (51.5)	12.8 (3.5)	61.0 (6.0)	-4.20 (2.40)	131.0 (45.2)
3	17.3 (4.1)	68.1 (8.6)	-6.50 (2.70)	201.0 (58.9)	17.5 (4.2)	63.3 (9.2)	-9.10 (5.20)	210.0 (64.8)
4								
5								
6	13.0 (2.4)	74.2 (3.9)	-3.50 (1.20)	131.0 (22.9)	13.3 (2.3)	70.7 (4.9)	-4.00 (1.90)	147.0 (31.1)
7	6.1 (1.2)	75.6 (2.1)	-5.10 (1.40)	76.7 (0.4)	6.1 (1.5)	71.0 (2.0)	-2.20 (0.80)	85.5 (0.7)
8	4.6 (1.1)	75.6 (2.4)	-7.60 (2.00)	75.9 (2.5)	4.3 (1.0)	71.3 (2.8)	4.60 (3.20)	
9	1.7 (0.4)	69.0 (1.6)	-7.60 (2.20)	57.1 (20.1)	3.1 (0.4)	65.7 (2.0)	-3.10 (3.00)	50.3 (22.0)
10	2.4 (1.1)	69.8 (4.2)	-8.10 (3.10)	62.9 (18.5)	3.1 (0.6)	64.9 (5.1)	-3.20 (2.00)	51.4 (23.4)
11	2.8 (0.5)	75.7 (2.1)	-6.30 (2.40)	65.3 (19.2)	3.1 (0.6)	70.8 (2.3)	-5.60 (3.10)	69.0 (23.8)
12	4.9 (0.6)	80.5 (0.9)	-5.80 (0.60)	77.5 (0.5)	5.0 (0.7)	75.9 (1.1)	-3.40 (0.70)	86.0 (0.5)
13	7.4 (1.3)	80.4 (1.8)	-5.80 (0.90)	75.3 (1.1)	7.6 (1.2)	75.7 (1.9)	-4.10 (1.70)	83.4 (1.0)
14	6.7 (1.2)	74.9 (2.4)	-6.80 (1.20)	75.7 (2.7)	6.3 (1.2)	69.8 (2.4)	-0.80 (3.20)	
15	3.7 (1.0)	71.5 (3.2)	-7.90 (3.60)	73.4 (10.1)	3.7 (0.5)	66.8 (3.7)	-1.20 (6.00)	
16	2.6 (0.7)	72.4 (2.3)	-9.70 (3.80)	67.4 (17.0)	3.2 (0.5)	67.9 (2.9)	-6.40 (8.60)	60.7 (23.6)
17	1.8 (0.5)	69.1 (3.4)	-9.30 (4.30)	60.2 (20.1)	2.9 (0.8)	64.9 (3.2)	-6.90 (6.40)	50.6 (21.6)
18	1.2 (1.2)	70.6 (6.6)	-8.30 (5.10)	48.7 (18.8)	1.7 (1.7)	65.8 (6.9)	-8.90 (4.00)	53.7 (24.4)
19								
20								
21	0.1 (1.8)	72.9 (3.7)	-12.10 (4.00)	40.0 (12.3)	0.7 (1.4)	68.0 (5.2)	-9.10 (3.50)	35.0 (4.0)
22	2.4 (0.8)	71.5 (3.4)	-10.40 (5.80)	63.5 (19.3)	2.9 (1.1)	67.2 (4.3)	-10.40 (7.40)	56.7 (25.9)
23								
24	2.5 (1.1)	74.8 (3.2)	-8.50 (3.90)	63.5 (18.7)	3.3 (0.6)	69.1 (3.8)	-5.70 (6.90)	59.9 (24.2)
25	1.4 (1.1)	73.1 (5.0)	-11.00 (7.20)	54.4 (19.8)	1.4 (1.4)	68.1 (5.9)	-9.40 (6.20)	42.5 (18.6)
26	2.6 (2.1)	73.9 (4.8)	-7.80 (5.70)	58.1 (20.4)	2.4 (2.1)	68.4 (5.9)	-7.70 (5.60)	52.3 (24.7)
27	3.5 (1.8)	72.8 (5.3)	-8.70 (3.90)	65.8 (17.5)	4.0 (1.6)	67.4 (7.9)	-5.70 (4.70)	62.1 (25.9)
28	3.5 (2.2)	69.3 (5.1)	-5.50 (4.90)	64.9 (18.5)	4.0 (1.2)	62.7 (7.0)	-5.40 (6.60)	59.8 (24.8)
29								
30								
Avg	5.0	72.1	-7.40	77.9	5.3	67.3	-5.00	78.2
n	23	23	23	23	23	23	23	20
SD	4.3	4.8	2.20	34.0	4.2	4.8	3.40	41.8
Min	0.1	57.3	-12.10	40.0	0.7	52.5	-10.40	35.0
Max	17.3	80.5	-3.50	201.0	17.5	75.9	4.60	210.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for December, 2008.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm ³ s ⁻¹
1								
2	2.1 (2.1)	75.7 (4.7)	-6.80 (4.00)	58.8 (20.4)	2.0 (2.4)	69.7 (4.6)	-8.50 (5.00)	60.2 (25.5)
3	1.2 (0.9)	74.8 (2.2)	-13.40 (7.10)	50.0 (18.1)	0.6 (1.5)	68.1 (3.1)	-8.80 (5.20)	37.4 (10.7)
4	-0.8 (1.6)	78.1 (2.4)	-10.10 (3.30)	36.6 (5.3)	-1.9 (1.6)	71.8 (3.0)	-8.70 (2.70)	35.1 (0.7)
5	-0.1 (2.0)	78.9 (2.2)	-10.10 (3.70)	40.2 (11.4)	-0.9 (2.9)	73.3 (2.3)	-12.00 (3.50)	34.9 (6.5)
6	0.1 (1.9)	77.5 (1.3)	-13.10 (5.10)	37.8 (10.5)	-0.9 (3.0)	70.7 (2.5)	-5.20 (4.10)	35.8 (5.4)
7	-2.2 (2.0)	81.8 (0.9)	-4.60 (2.50)	36.4 (0.8)	-3.4 (2.2)	76.1 (1.2)	-8.50 (2.70)	35.1 (1.0)
8								
9								
10								
11	-0.1 (1.2)	76.6 (1.2)	-10.50 (3.10)	36.2 (5.8)	-0.7 (1.9)	68.7 (1.6)	-9.20 (4.40)	39.2 (12.8)
12	-2.2 (2.3)	81.9 (1.2)	-6.20 (2.50)	36.5 (2.9)	-2.8 (2.7)	75.5 (1.5)	-8.90 (3.10)	34.9 (1.2)
13	4.3 (1.4)	74.4 (3.0)	-4.20 (5.20)	71.5 (14.3)	5.0 (1.4)	68.1 (4.1)	-8.60 (6.50)	75.4 (18.2)
14								
15								
16	-3.1 (1.3)	83.6 (0.6)	-3.40 (1.10)	37.2 (0.7)	-3.3 (1.3)	76.9 (0.6)	-5.70 (1.40)	35.8 (0.6)
17	-1.4 (1.5)	83.7 (1.3)	-3.80 (0.80)	36.8 (0.3)	-2.3 (1.6)	77.3 (0.9)	-6.60 (1.10)	35.4 (0.5)
18	-0.9 (2.1)	83.7 (1.1)	-4.70 (2.10)	36.7 (2.7)	-1.4 (1.6)	76.7 (1.4)	-6.80 (2.20)	35.2 (0.7)
19	1.4 (0.7)	80.5 (1.7)	-9.60 (4.50)	40.6 (12.2)	0.4 (0.8)	73.0 (2.5)	-9.80 (3.70)	34.4 (2.4)
20	0.1 (2.8)	80.5 (0.5)	-10.50 (3.70)	36.8 (12.2)	-0.7 (2.6)	74.5 (0.6)	-10.40 (3.40)	34.1 (0.9)
21								
22								
23								
24	-1.2 (1.8)	79.5 (1.2)	-7.10 (1.20)	26.6 (0.4)	-2.6 (1.4)	75.8 (0.8)	-7.70 (1.40)	34.8 (0.6)
25	0.2 (2.3)	78.8 (2.3)	-7.50 (4.30)	30.1 (10.3)	-0.2 (2.9)	75.3 (2.2)	-14.20 (8.40)	34.8 (6.9)
26	4.5 (2.3)	78.2 (2.4)	-5.80 (6.80)	61.6 (14.1)	5.0 (2.1)	74.7 (2.3)	-12.20 (10.40)	73.1 (18.1)
27	2.8 (2.0)	78.0 (1.6)	-6.40 (5.20)	50.0 (19.9)	3.7 (1.6)	76.4 (1.6)	-6.20 (4.60)	49.9 (22.6)
28	1.0 (1.2)	75.8 (2.6)	-10.00 (4.20)	39.0 (17.8)	0.7 (2.4)	71.6 (3.0)	-10.20 (3.40)	35.1 (7.2)
29	2.2 (0.9)	70.9 (3.6)	-9.60 (4.20)	50.0 (19.8)	2.5 (1.6)	67.6 (4.5)	-8.50 (6.60)	48.9 (21.9)
30	0.0 (1.8)	76.4 (1.7)	-11.20 (4.40)	30.9 (6.2)	-1.8 (2.2)	71.6 (1.1)	-7.60 (3.50)	34.9 (0.9)
31	-3.8 (1.3)	81.0 (1.1)	-8.70 (2.70)	36.3 (0.8)	-5.2 (1.8)	73.9 (0.9)	-8.40 (3.10)	35.7 (0.9)
Avg	0.2	78.7	-8.00	41.7	-0.4	73.1	-8.80	41.4
n	22	22	22	22	22	22	22	22
SD	2.1	3.2	2.90	10.7	2.6	3.1	2.10	12.2
Min	-3.8	70.9	-13.40	26.6	-5.2	67.6	-14.20	34.1
Max	4.5	83.7	-3.40	71.5	5.0	77.3	-5.20	75.4

Table F3. Daily means (SD) of environmental parameters at Site W15B for January, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	0.8 (1.2)	75.9 (2.0)	-12.30 (5.00)	39.8 (12.6)	1.1 (1.8)	69.8 (1.8)	-12.20 (3.20)	33.4 (1.9)
2	-2.6 (1.7)	79.2 (1.4)	-11.60 (2.60)	35.0 (0.7)	-4.1 (1.4)	72.0 (1.5)	-10.10 (2.10)	34.6 (0.5)
3	0.0 (1.8)	76.9 (1.8)	-9.70 (7.60)	43.4 (15.0)	0.2 (2.5)	71.1 (2.0)	-14.10 (6.10)	36.2 (10.4)
4	-3.0 (2.7)	79.2 (0.9)	-10.40 (3.40)	37.4 (7.5)	-4.2 (3.7)	71.6 (2.6)	-9.00 (3.40)	35.9 (5.5)
5	-1.1 (2.8)	79.6 (3.2)	-10.40 (6.40)	41.0 (12.0)	-1.7 (3.2)	72.0 (3.5)	-9.80 (4.90)	34.3 (1.5)
6	0.9 (0.9)	74.9 (2.3)	-10.30 (3.40)	38.6 (11.6)	0.7 (1.3)	68.6 (2.4)	-11.20 (3.30)	33.7 (3.8)
7	-1.0 (1.3)	78.8 (0.8)	-10.00 (1.90)	34.6 (0.5)	-2.2 (1.3)	72.9 (1.2)	-8.80 (1.70)	34.1 (0.4)
8	-4.0 (1.2)	79.9 (1.4)	-8.70 (2.70)	35.7 (0.6)	-4.4 (1.7)	73.9 (1.6)	-8.30 (2.30)	35.0 (0.4)
9	-1.8 (1.5)	77.8 (1.6)	-10.80 (3.20)	35.2 (0.8)	-2.4 (1.1)	71.4 (2.5)	-10.00 (2.20)	34.6 (0.5)
10	-1.8 (1.8)	78.3 (1.8)	-11.60 (2.10)	35.4 (1.4)	-3.2 (1.9)	71.6 (2.7)	-10.20 (1.80)	34.8 (0.5)
11	-1.6 (1.7)	78.2 (0.8)	-10.40 (2.00)	35.3 (0.8)	-2.6 (1.7)	72.4 (1.4)	-8.80 (2.80)	34.9 (0.6)
12	-2.5 (1.6)	80.6 (1.0)	-11.70 (5.10)		-3.7 (1.8)	74.2 (1.2)	-5.20 (3.70)	
13	-5.7 (1.5)	81.9 (1.1)	-6.60 (2.90)		-7.4 (2.0)	74.5 (1.1)	-5.30 (1.70)	
14	-4.3 (1.3)	83.7 (0.2)	-5.80 (2.80)	37.0 (0.7)	-5.7 (1.4)	75.5 (0.5)	-3.20 (2.00)	36.6 (0.5)
15	-5.1 (1.1)	83.9 (0.3)	-2.80 (1.90)	38.1 (0.3)	-3.9 (2.1)	76.1 (0.4)	-4.20 (1.50)	36.4 (0.4)
16	-2.9 (1.9)	84.4 (0.4)	-3.00 (0.90)	37.4 (0.4)	-2.5 (2.0)	76.8 (0.5)	-5.50 (2.60)	35.5 (0.9)
17	0.6 (1.2)	83.3 (1.7)	-6.00 (4.90)	35.4 (4.2)	-0.4 (1.3)	77.5 (1.0)	-6.10 (2.10)	34.1 (0.4)
18	0.2 (1.8)	81.8 (0.8)	-4.40 (3.60)	38.0 (9.5)	-1.1 (1.7)	76.7 (0.7)	-6.80 (2.20)	34.0 (0.4)
19	0.7 (1.9)	81.8 (1.3)	-5.60 (4.00)	37.2 (8.1)	-1.3 (1.8)	76.5 (1.1)	-8.00 (2.30)	33.9 (0.5)
20	0.6 (1.8)	80.5 (1.3)	-7.90 (3.20)	35.9 (6.3)	-1.6 (2.0)	75.3 (1.1)	-9.30 (2.40)	33.8 (0.7)
21	2.2 (0.5)	80.1 (1.1)	-10.20 (4.00)	35.5 (12.3)	0.4 (1.2)	76.1 (0.8)	-8.90 (3.20)	33.5 (1.9)
22	1.4 (1.2)	80.8 (1.2)	-10.00 (3.20)	32.0 (13.7)	-0.5 (1.5)	77.3 (0.9)	-8.50 (2.70)	33.8 (2.3)
23	0.6 (2.3)	78.7 (2.1)	-13.60 (4.80)	34.1 (10.4)	-2.3 (2.7)	74.2 (3.2)	-7.40 (2.60)	34.6 (0.7)
24	-3.3 (1.2)	81.6 (1.1)	-5.40 (2.90)	36.3 (0.7)	-4.2 (1.9)	75.0 (1.1)	-5.60 (2.00)	35.4 (0.5)
25	-2.1 (1.7)	82.2 (1.5)	-5.80 (3.40)	35.9 (0.8)	-3.4 (1.8)	74.9 (0.9)	-5.40 (2.20)	35.2 (0.4)
26	-2.7 (1.2)	82.5 (1.0)	-7.30 (3.20)	35.8 (0.7)	-5.0 (1.1)	75.4 (0.4)	-5.90 (1.90)	35.4 (0.5)
27	-2.9 (1.6)	82.4 (1.4)	-8.30 (1.80)	35.5 (0.7)	-4.2 (1.7)	75.3 (0.8)	-6.30 (2.10)	35.1 (0.7)
28	-1.4 (1.6)	83.0 (1.2)	-5.40 (3.00)	35.4 (0.9)	-1.4 (1.8)	76.4 (0.6)	-6.80 (3.40)	34.1 (1.1)
29	-0.5 (1.6)	79.6 (2.1)	-10.10 (1.70)	34.6 (3.1)	-1.3 (1.5)	73.4 (3.2)	-8.20 (1.70)	33.8 (0.4)
30	-2.3 (2.2)	80.4 (1.7)	-9.50 (2.20)	34.9 (1.4)	-3.3 (2.2)	73.7 (1.0)	-8.00 (2.70)	34.3 (0.8)
31	3.9 (2.2)	74.2 (5.2)	-9.10 (7.40)	66.9 (15.9)	4.2 (2.2)	68.3 (6.4)	-9.50 (7.10)	60.4 (25.0)
Avg	-1.3	80.2	-8.50	37.5	-2.3	73.9	-8.00	35.6
n	31	31	31	29	31	31	31	29
SD	2.2	2.6	2.80	6.0	2.3	2.5	2.40	4.8
Min	-5.7	74.2	-13.60	32.0	-7.4	68.3	-14.10	33.4
Max	3.9	84.4	-2.80	66.9	4.2	77.5	-3.20	60.4

Table F3. Daily means (SD) of environmental parameters at Site W15B for February, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3 \text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3 \text{s}^{-1}$
1	1.9 (0.9)	70.3 (2.5)	-5.80 (6.70)	61.6 (19.9)	3.2 (1.0)	64.7 (4.1)	-7.60 (5.60)	46.6 (21.5)
2	-2.1 (2.0)	74.3 (1.8)	-10.80 (3.30)	36.5 (6.1)	-4.0 (2.6)	66.5 (2.0)	-8.10 (2.80)	35.1 (0.9)
3	-4.3 (1.8)	78.5 (1.4)	-9.40 (2.20)	36.0 (0.7)	-6.9 (1.7)	71.5 (1.1)	-6.40 (3.20)	36.1 (0.8)
4	-2.7 (2.3)	79.7 (2.3)	-5.80 (3.20)	36.9 (0.9)	-3.9 (2.5)	71.7 (2.5)	-7.30 (3.80)	35.7 (1.1)
5	0.2 (1.9)	73.2 (4.1)	-7.40 (3.60)	43.8 (16.1)	0.2 (2.6)	66.3 (5.1)	-10.30 (4.80)	39.6 (14.6)
6	3.4 (2.9)	73.8 (4.8)	-6.20 (5.10)	61.9 (20.2)	3.4 (3.4)	67.7 (5.9)	-9.10 (5.10)	61.6 (24.4)
7	4.1 (1.6)	75.5 (2.5)	-3.10 (3.10)	75.3 (10.8)	4.5 (1.3)	70.0 (3.1)	-3.50 (4.00)	67.1 (23.6)
8	2.2 (1.6)	74.4 (4.1)	-7.40 (5.90)	60.8 (20.8)	2.4 (2.0)	68.7 (5.0)	-9.20 (5.60)	54.0 (24.7)
9								
10	6.9 (1.7)	74.3 (2.0)	-0.10 (3.60)		7.2 (1.9)	68.2 (2.2)	-12.30 (7.50)	80.2 (9.4)
11	4.2 (0.5)	77.5 (1.4)	-3.30 (1.60)	78.0 (0.8)	4.1 (0.3)	71.6 (1.8)	-2.70 (1.10)	80.7 (14.1)
12	2.2 (0.5)	73.8 (2.0)	-6.60 (4.60)	61.2 (20.3)	3.3 (0.5)	65.6 (3.8)	-9.90 (8.90)	53.8 (22.7)
13	1.6 (0.5)	74.8 (2.3)	-11.00 (7.20)	52.6 (18.0)	2.4 (0.7)	64.5 (3.2)	-10.90 (5.50)	33.1 (16.5)
14	1.1 (0.8)	76.2 (2.2)	-9.70 (5.00)	41.6 (12.6)	0.9 (0.8)	63.8 (5.9)	-7.60 (2.20)	26.1 (0.7)
15	0.1 (1.7)	75.2 (4.4)	-7.40 (4.10)	40.9 (11.8)	0.3 (2.2)	62.9 (7.4)	-7.40 (3.10)	28.2 (8.5)
16	2.0 (1.7)	68.2 (8.1)	-5.80 (5.20)	57.9 (21.0)	2.5 (2.2)	56.9 (9.3)	-11.90 (5.80)	49.5 (23.9)
17	4.3 (1.8)	68.1 (5.1)	-4.10 (2.20)	68.3 (16.5)	4.8 (1.7)	59.6 (7.3)	-8.40 (6.70)	73.9 (16.5)
18	1.4 (2.1)	76.1 (2.7)	-13.30 (9.20)	53.6 (19.9)	0.8 (2.4)	69.2 (4.1)	-1.50 (3.30)	
19	-2.6 (2.3)	76.8 (2.5)	-8.90 (2.40)		-3.7 (2.2)	67.8 (5.1)	-7.30 (2.70)	35.4 (0.9)
20	-0.7 (3.2)	76.8 (4.4)	-8.80 (4.90)		-0.8 (3.4)	69.7 (4.6)	-8.70 (3.80)	34.6 (2.3)
21	1.3 (0.8)	75.6 (2.3)	-13.40 (5.80)		0.6 (1.0)	70.4 (2.9)	-7.40 (4.30)	34.5 (1.0)
22	-1.9 (2.4)	76.1 (2.7)	-9.80 (2.30)		-3.0 (2.3)	70.5 (3.6)	-8.90 (2.90)	35.2 (0.5)
23	-0.9 (3.2)	75.8 (5.0)	-10.80 (5.70)		-1.5 (3.2)	69.3 (5.5)	-10.50 (5.00)	34.7 (1.4)
24	3.4 (1.7)	70.1 (3.9)	-6.60 (5.40)		3.5 (2.0)	64.5 (4.9)	-9.10 (5.50)	63.0 (25.3)
25	5.3 (1.9)	71.0 (3.0)	-3.80 (2.40)	74.8 (11.8)	5.4 (1.3)	65.1 (3.6)	-3.80 (3.70)	77.5 (18.3)
26	1.9 (0.7)	76.1 (1.7)	-13.10 (7.40)	44.8 (15.3)	1.8 (1.7)	71.3 (1.6)	-11.70 (8.60)	42.3 (16.2)
27	-1.0 (1.5)	77.2 (2.6)	-10.20 (2.80)	35.5 (0.6)	-4.0 (1.3)	68.7 (4.0)	-7.00 (3.40)	35.5 (0.8)
28	-1.7 (2.9)	77.0 (4.0)	-8.70 (4.00)	38.1 (7.6)	-3.6 (2.8)	67.5 (6.0)	-7.50 (3.10)	35.6 (0.9)
Avg	1.1	74.7	-7.80	53.0	0.7	67.2	-8.00	47.3
n	27	27	27	20	27	27	27	26
SD	2.7	2.9	3.30	14.0	3.5	3.6	2.70	16.8
Min	-4.3	68.1	-13.40	35.5	-6.9	56.9	-12.30	26.1
Max	6.9	79.7	-0.10	78.0	7.2	71.7	-1.50	80.7

Table F3. Daily means (SD) of environmental parameters at Site WISB for March, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	-2.4 (2.6)	75.9 (2.6)	-9.80 (1.90)	36.1 (3.5)	-4.9 (2.2)	66.7 (5.1)	-8.80 (2.20)	35.4 (0.7)
2								
3								
4	4.1 (2.1)	63.8 (4.9)	-5.80 (6.60)	66.2 (18.7)	4.7 (1.9)	58.9 (6.4)	-11.20 (6.70)	65.7 (23.1)
5	6.7 (1.2)	74.2 (5.2)	-2.50 (1.00)	77.8 (0.7)	6.8 (1.2)	69.3 (5.9)	-3.90 (1.20)	84.0 (0.9)
6	6.5 (1.9)	75.8 (4.8)	-2.50 (1.80)	86.7 (21.1)	6.4 (2.0)	70.6 (6.2)	-3.70 (0.90)	84.6 (3.9)
7	3.7 (1.4)	70.4 (4.9)	-4.10 (1.60)	75.3 (11.4)	3.9 (0.7)	65.5 (5.5)	-3.80 (5.70)	66.7 (23.1)
8	3.2 (1.2)	70.1 (1.8)	-7.10 (5.20)	66.1 (17.6)	3.5 (0.5)	64.9 (2.7)	-8.50 (9.70)	62.7 (22.6)
9	4.1 (2.2)	74.9 (2.7)	-4.60 (3.50)	66.0 (18.5)	4.7 (1.7)	69.5 (4.0)	-7.60 (5.40)	67.8 (23.2)
10	3.7 (2.3)	79.4 (1.0)	-6.20 (3.30)	68.7 (17.2)	3.2 (2.3)	74.9 (1.3)	-5.40 (4.00)	72.5 (22.2)
11	-3.7 (1.6)	77.8 (1.6)	-12.40 (3.30)	35.3 (1.2)	-5.1 (1.9)	69.2 (2.8)	-10.10 (2.00)	35.1 (0.9)
12	-2.2 (3.2)	76.0 (4.2)	-9.40 (2.60)	37.0 (4.5)	-3.1 (3.5)	68.0 (4.7)	-9.50 (2.40)	35.3 (1.1)
13	2.5 (2.3)	70.3 (4.9)	-4.90 (5.10)	61.6 (21.4)	3.0 (2.4)	63.2 (6.0)	-7.80 (3.60)	61.9 (25.2)
14	6.3 (3.2)	66.4 (6.9)	-3.40 (2.30)	89.2 (32.7)	7.0 (3.0)	59.4 (7.8)	-5.30 (3.20)	79.8 (26.2)
15	9.5 (3.2)	60.8 (7.1)	-5.10 (2.60)	109.0 (30.7)	9.7 (3.3)	54.2 (7.5)	-5.90 (3.10)	116.0 (37.2)
16	12.9 (3.7)	65.0 (4.5)	-5.90 (4.00)	128.0 (45.2)	13.1 (3.7)	59.8 (5.6)	-8.20 (4.00)	130.0 (35.5)
17	10.8 (1.9)	66.1 (7.2)	-5.90 (2.90)	122.0 (27.7)	10.8 (1.8)	60.9 (8.7)	-5.70 (2.70)	126.0 (39.1)
18	7.3 (2.7)	60.9 (6.9)	-4.00 (2.40)	97.9 (28.3)	7.2 (2.7)	54.7 (8.2)	-3.10 (2.00)	96.9 (27.6)
19	3.1 (1.6)	61.0 (5.4)	-5.20 (5.00)	66.9 (18.7)	3.3 (0.8)	56.2 (6.9)	-4.70 (5.70)	63.0 (25.0)
20	4.9 (2.1)	66.1 (6.1)	-2.10 (1.90)	71.0 (16.4)	5.4 (2.1)	60.4 (7.3)	-6.60 (3.80)	73.5 (19.8)
21	10.6 (3.6)	67.2 (6.7)	-3.70 (1.80)	116.0 (31.5)	10.8 (3.7)	61.1 (7.7)	-5.30 (2.30)	123.0 (38.5)
22	9.2 (2.3)	65.7 (4.9)	1.10 (2.60)		9.8 (2.2)	61.1 (4.9)	-8.80 (4.40)	106.0 (35.5)
23	7.4 (0.8)	74.1 (2.1)	3.30 (1.50)		8.2 (0.9)	68.9 (1.8)	-11.40 (4.50)	80.7 (2.2)
24	9.6 (0.9)	76.2 (2.9)	0.70 (1.90)		10.1 (0.9)	71.3 (3.2)	-8.60 (4.00)	102.0 (33.8)
25	3.7 (1.2)	74.4 (1.7)	1.80 (2.40)		4.5 (1.1)	69.7 (2.1)	-6.60 (3.80)	79.5 (12.5)
26								
27								
28	4.4 (2.3)	66.9 (6.1)	-4.40 (3.10)		4.2 (1.5)	59.3 (8.4)	-2.10 (3.80)	
29	4.4 (2.8)	65.0 (7.7)	-3.90 (3.40)		4.1 (2.1)	57.2 (9.7)	0.30 (3.40)	
30	6.2 (2.4)	56.6 (7.4)	-2.80 (1.40)		6.2 (2.2)	47.6 (9.8)	-4.40 (2.40)	76.9 (17.8)
31	5.8 (1.8)	71.2 (6.3)	-1.50 (1.40)		5.8 (1.7)	66.6 (6.7)	-7.30 (3.30)	83.3 (13.6)
Avg	5.3	69.3	-4.10	77.7	5.3	63.3	-6.40	80.4
n	27	27	27	19	27	27	27	25
SD	3.9	6.0	3.40	26.8	4.3	6.3	2.80	26.0
Min	-3.7	56.6	-12.40	35.3	-5.1	47.6	-11.40	35.1
Max	12.9	79.4	3.30	128.0	13.1	74.9	0.30	130.0

Table F3. Daily means (SD) of environmental parameters at Site WI5B for April, 2009.

Day	Barn 1				Barn 2			
	Temp, °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹	Temp, °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹
1	4.2 (0.5)	74.2 (2.3)	-1.10 (1.70)	78.6 (0.7)	4.4 (0.6)	69.6 (2.9)	-5.30 (1.80)	82.7 (6.8)
2	6.1 (2.5)	66.4 (6.0)	-3.30 (1.80)	84.8 (18.5)	5.9 (2.4)	59.6 (7.5)	-2.90 (1.50)	81.4 (12.7)
3	6.6 (2.2)	63.3 (4.9)	-4.40 (2.30)	89.3 (23.7)	6.0 (2.2)	56.8 (5.2)	-1.00 (2.50)	
4	6.1 (3.1)	67.0 (7.2)	-5.10 (3.10)	77.0 (22.7)	6.1 (2.5)	60.0 (9.4)	-3.80 (6.10)	74.7 (19.7)
5	5.3 (1.6)	69.2 (7.7)	-5.60 (3.60)	77.6 (1.1)	4.3 (1.3)	62.0 (11.0)	1.70 (4.70)	
6	4.9 (2.1)	58.8 (6.0)	-5.40 (4.30)	77.2 (5.9)	4.4 (1.4)	50.2 (7.4)	3.90 (5.90)	
7	5.9 (3.4)	55.2 (9.3)	-4.90 (3.00)	89.3 (30.2)	6.2 (2.9)	47.2 (10.3)	-3.10 (6.10)	75.6 (22.8)
8	6.8 (3.4)	59.2 (7.5)	-5.00 (2.90)	95.8 (27.8)	6.7 (3.1)	52.3 (7.4)	-2.10 (3.00)	87.3 (36.7)
9	7.6 (3.5)	59.1 (9.4)	-3.10 (1.60)	98.8 (31.1)	7.2 (3.1)	51.5 (10.5)	-1.30 (2.70)	
10	7.8 (3.3)	52.8 (9.7)	-3.70 (2.30)	99.3 (30.3)	7.3 (3.1)	45.4 (9.8)	0.20 (3.40)	
11	8.3 (3.8)	44.8 (9.2)	-1.90 (1.30)	108.0 (33.2)	8.3 (3.8)	38.2 (9.7)	-2.60 (1.30)	110.0 (44.3)
12	10.6 (3.1)	39.3 (6.9)	-1.50 (1.90)	123.0 (30.7)	10.9 (3.2)	33.0 (6.9)	-3.70 (2.00)	129.0 (39.8)
13	10.4 (2.2)	39.2 (5.2)	-2.40 (1.20)	117.0 (32.0)	10.4 (2.2)	33.4 (5.9)	-3.30 (1.40)	122.0 (39.6)
14	11.9 (4.5)	40.1 (10.9)	-2.80 (1.90)	113.0 (31.7)	11.5 (4.4)	33.6 (10.5)	-2.00 (2.00)	119.0 (38.7)
15	12.7 (4.3)	37.6 (8.6)	-2.60 (1.60)	131.0 (52.9)	12.8 (4.6)	30.9 (8.2)	-3.20 (1.60)	133.0 (39.2)
16	14.5 (4.4)	40.4 (6.5)	-3.30 (2.70)	165.0 (66.7)	15.1 (4.4)	34.4 (5.5)	-3.90 (3.10)	176.0 (73.2)
17	16.1 (4.3)	45.0 (6.8)	-4.00 (3.00)	191.0 (54.4)	16.5 (4.4)	39.8 (7.5)	-3.60 (2.70)	212.0 (66.2)
18	14.5 (3.6)	58.7 (5.5)	-4.40 (2.30)	166.0 (49.6)	14.5 (3.4)	55.1 (5.8)	-0.30 (4.20)	
19	8.4 (1.2)	74.3 (1.8)	-2.10 (1.90)	82.8 (15.7)	7.9 (0.9)	71.3 (1.9)	2.90 (3.60)	
20	7.3 (1.1)	71.6 (5.0)	-4.90 (3.60)	80.5 (14.1)	7.1 (1.0)	66.6 (5.8)	4.00 (4.90)	
21	10.1 (3.0)	54.4 (10.1)	-7.00 (5.30)	113.0 (31.3)	9.7 (3.0)	46.8 (11.3)	9.40 (7.80)	
22	11.4 (2.7)	48.9 (12.6)	-2.20 (2.00)	122.0 (30.8)	11.1 (2.8)	42.3 (12.5)	1.50 (4.70)	
23	16.8 (5.6)	45.0 (4.9)	-2.40 (5.40)		17.3 (5.6)	40.7 (5.4)	-10.70 (8.60)	217.0 (113.0)
24	18.1 (5.0)	59.7 (9.1)	-5.40 (6.90)	245.0 (111.0)	18.4 (5.2)	56.0 (10.3)	-2.00 (9.50)	
25	10.6 (1.6)	65.5 (6.5)	-1.90 (2.70)	126.0 (26.6)	10.5 (2.0)	61.8 (6.7)	-2.00 (6.50)	
26	10.5 (2.7)	76.3 (4.5)	-0.40 (1.60)		11.4 (2.6)	72.0 (4.3)	-5.60 (3.40)	106.0 (36.5)
27	10.0 (1.8)	71.0 (7.6)	-1.70 (1.60)	122.0 (30.7)	10.8 (1.7)	65.5 (7.4)	-1.80 (2.70)	113.0 (39.6)
28	11.0 (4.5)	57.7 (12.6)	-1.70 (1.20)	123.0 (31.0)	11.5 (4.0)	50.6 (14.1)	-3.40 (1.90)	136.0 (42.4)
29	12.2 (2.2)	62.5 (6.5)	-1.10 (1.20)	135.0 (24.2)	12.5 (2.2)	57.9 (7.3)	-2.90 (2.00)	141.0 (36.9)
30	13.9 (1.9)	72.8 (7.9)	-1.20 (1.80)	143.0 (1.7)	14.3 (1.8)	67.1 (10.2)	0.30 (1.10)	
Avg	10.0	57.7	-3.20	117.0	10.0	51.7	-1.60	124.0
n	30	30	30	28	30	30	30	17
SD	3.7	11.9	1.70	38.0	3.9	12.3	3.60	42.0
Min	4.2	37.6	-7.00	77.0	4.3	30.9	-10.70	74.7
Max	18.1	76.3	-0.40	245.0	18.4	72.0	9.40	217.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for May, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹	Temp., °C	RH, %	ΔP, Pa	Airflow, dsm³ s⁻¹
1	11.4 (2.4)	54.8 (11.9)	-0.30 (1.70)		11.7 (2.0)	48.0 (12.5)	0.90 (1.50)	
2	12.3 (3.4)	49.7 (8.0)	-0.70 (2.10)		12.6 (3.2)	43.5 (8.7)	0.00 (1.30)	
3	14.1 (3.6)	49.0 (10.6)	-1.00 (2.20)		14.4 (3.5)	42.6 (10.8)	-1.50 (2.10)	161.0 (53.0)
4	16.1 (4.8)	45.4 (10.1)	-0.80 (2.10)		16.5 (4.9)	40.1 (10.0)	-3.20 (2.80)	196.0 (82.7)
5	17.1 (2.6)	60.5 (8.9)	0.30 (2.50)		17.5 (2.7)	56.6 (9.9)	-5.40 (6.20)	207.0 (53.6)
6	17.4 (2.8)	67.2 (6.4)	-0.50 (2.00)		17.9 (3.0)	61.8 (7.9)	-2.30 (2.10)	224.0 (60.2)
7	17.8 (3.8)	50.7 (15.5)	-1.70 (3.50)		18.3 (3.6)	44.2 (15.7)	-3.10 (2.60)	220.0 (59.0)
8	14.0 (2.9)	61.3 (8.0)	0.00 (1.40)		14.0 (2.7)	57.8 (8.4)	0.00 (2.90)	
9	10.7 (1.5)	62.4 (6.2)	-1.00 (2.00)		10.7 (1.6)	57.8 (6.6)	2.70 (4.00)	
10	9.9 (1.6)	64.4 (6.9)	0.10 (1.60)		9.9 (1.8)	59.9 (7.4)	1.80 (3.40)	
11	12.8 (5.3)	53.5 (15.1)	0.30 (1.80)		13.0 (5.4)	47.9 (15.9)	-0.70 (1.30)	143.0 (44.4)
12	16.5 (3.1)	52.2 (7.4)	0.90 (2.50)		16.9 (3.2)	48.5 (8.3)	-8.00 (7.10)	208.0 (52.3)
13	16.3 (2.1)	69.0 (11.0)	-0.40 (3.30)		16.6 (2.2)	65.0 (13.4)	-2.70 (3.00)	200.0 (56.9)
14	12.7 (2.7)	56.1 (6.3)	-1.20 (3.70)		12.9 (2.5)	51.4 (7.2)	0.40 (2.60)	
15	15.5 (3.0)	65.7 (6.8)	0.20 (2.40)		16.0 (3.1)	62.5 (8.0)	-5.20 (6.90)	189.0 (45.2)
16	9.6 (2.3)	52.5 (11.4)	-2.30 (3.70)		9.5 (2.3)	46.8 (11.7)	3.10 (3.40)	
17	12.9 (4.6)	45.2 (13.5)	0.60 (1.60)		13.4 (4.7)	40.5 (13.9)	-0.60 (1.50)	
18	17.9 (4.4)	47.1 (7.3)	-0.70 (2.80)		18.2 (4.4)	46.2 (9.0)	-7.10 (5.50)	212.0 (62.0)
19	22.8 (4.4)	54.0 (7.4)	-8.10 (6.90)	341.0 (107.0)	23.0 (4.3)	50.6 (7.8)	-17.20 (14.40)	332.0 (109.0)
20	24.7 (3.7)	43.9 (10.9)	-9.30 (7.70)	352.0 (83.0)	24.9 (3.7)	41.0 (10.5)	-24.70 (12.10)	348.0 (73.0)
21	18.6 (2.0)	52.3 (5.4)	-1.40 (2.10)		18.7 (2.1)	48.4 (6.1)	-0.50 (6.10)	
22	17.6 (3.3)	48.6 (8.4)	-0.60 (1.50)		17.7 (3.5)	45.0 (9.4)	-4.20 (3.00)	192.0 (28.3)
23	17.9 (2.9)	55.1 (16.5)	-0.30 (2.10)		18.2 (2.8)	50.7 (18.3)	-1.30 (3.20)	
24	16.5 (4.5)	45.8 (12.3)	-0.30 (1.90)		16.7 (4.5)	41.8 (12.3)	-4.10 (2.30)	177.0 (48.3)
25	17.6 (3.5)	48.0 (5.1)	-0.50 (2.00)		17.9 (3.6)	44.9 (5.4)	-10.20 (7.60)	185.0 (23.1)
26	15.8 (1.1)	69.4 (6.0)	0.60 (1.60)		15.9 (1.0)	67.6 (6.2)	-3.60 (2.80)	163.0 (3.9)
27	12.9 (1.2)	75.8 (2.3)	-0.40 (2.40)		12.5 (1.2)	72.8 (2.6)	2.80 (4.30)	
28	16.9 (4.3)	64.5 (11.4)	-0.10 (1.60)		17.1 (4.6)	59.1 (13.1)	-3.20 (3.20)	219.0 (58.0)
29	18.2 (2.7)	47.3 (9.1)	-1.10 (2.40)		18.2 (2.9)	42.5 (10.4)	-0.50 (5.20)	
30	16.4 (2.8)	51.1 (17.5)	-0.80 (3.60)		16.4 (2.8)	46.6 (19.3)	0.90 (5.90)	
31	17.1 (5.8)	48.8 (11.8)	-1.10 (4.00)		17.3 (5.9)	44.7 (12.8)	-7.40 (7.80)	216.0 (92.0)
Avg	15.8	55.2	-1.00	347.0	16.0	50.9	-3.40	211.0
n	31	31	31	2	31	31	31	18
SD	3.3	8.4	2.10	5.4	3.4	8.7	5.70	50.6
Min	9.6	43.9	-9.30	341.0	9.5	40.1	-24.70	143.0
Max	24.7	75.8	0.90	352.0	24.9	72.8	3.10	348.0

Table F3. Daily means (SD) of environmental parameters at Site W15B for June, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	17.0 (3.3)	55.3 (10.2)	-1.40 (2.80)		16.8 (3.5)	51.7 (11.9)	-0.90 (4.90)	
2	16.6 (3.9)	52.8 (10.7)	-0.40 (2.30)		16.6 (4.1)	48.3 (12.3)	-0.10 (4.20)	
3	14.8 (4.0)	51.4 (11.5)	-1.50 (2.70)		14.9 (4.0)	44.7 (12.1)	-2.60 (2.30)	173.0 (71.8)
4	16.9 (5.3)	49.6 (16.0)	-3.30 (2.50)	140.0 (47.2)	17.1 (5.5)	44.0 (16.0)	-2.80 (3.10)	208.0 (88.2)
5	17.5 (3.4)	46.8 (10.9)	-3.20 (2.50)	190.0 (64.4)	17.6 (3.4)	41.8 (11.3)	-1.30 (3.10)	
6	10.7 (0.5)	71.8 (7.8)	-0.40 (1.00)		10.8 (0.3)	69.4 (8.2)	-2.60 (1.50)	145.0 (35.3)
7	11.6 (1.1)	78.7 (1.8)	-0.50 (1.00)		11.7 (0.9)	75.3 (1.8)	-2.40 (1.50)	147.0 (33.8)
8	12.9 (1.0)	79.9 (1.6)	-1.40 (1.30)	141.0 (1.0)	12.8 (1.0)	76.1 (1.8)	-2.00 (1.90)	166.0 (1.6)
9	15.0 (2.3)	74.8 (5.5)	-1.90 (0.70)	143.0 (11.6)	14.9 (2.4)	69.7 (6.9)	-1.70 (1.30)	165.0 (5.9)
10	15.4 (1.5)	75.5 (3.8)	-1.60 (0.40)	141.0 (1.0)	15.5 (1.5)	70.8 (4.4)	-1.80 (1.30)	165.0 (1.2)
11	16.5 (3.6)	61.9 (15.0)	-2.80 (1.60)	195.0 (56.9)	16.6 (3.6)	57.0 (16.3)	-4.10 (1.90)	216.0 (60.5)
12	16.3 (4.2)	61.5 (12.9)	-3.00 (1.80)	193.0 (56.4)	16.5 (4.2)	56.3 (14.9)	-3.40 (2.60)	215.0 (70.4)
13	17.6 (4.8)	63.1 (12.1)	-3.40 (2.10)	204.0 (58.1)	18.0 (4.8)	57.6 (14.0)	-3.20 (2.20)	220.0 (70.4)
14	20.6 (4.4)	61.1 (11.5)	-8.20 (6.20)	292.0 (120.0)	21.0 (4.6)	55.7 (12.4)	-7.90 (5.70)	313.0 (126.0)
15	21.2 (3.3)	63.5 (8.7)	-6.80 (5.60)	281.0 (110.0)	21.5 (3.5)	58.4 (9.9)	-10.30 (9.40)	266.0 (65.5)
16	20.0 (2.0)	68.4 (6.5)	-3.10 (1.50)	237.0 (42.8)	20.2 (2.1)	63.9 (8.2)	-7.40 (3.30)	253.0 (48.7)
17	19.8 (2.3)	78.0 (3.4)	-2.50 (1.50)	214.0 (54.5)	20.0 (2.5)	73.3 (5.1)	-5.60 (3.00)	234.0 (56.6)
18	23.1 (2.6)	75.7 (6.4)	-7.90 (5.90)	325.0 (85.5)	23.6 (2.7)	69.9 (7.5)	-14.50 (8.70)	298.0 (30.4)
19	23.3 (1.7)	75.6 (7.4)	-9.80 (6.20)	326.0 (86.1)	23.7 (1.9)	69.7 (9.0)	-10.00 (6.40)	312.0 (36.0)
20	22.9 (3.4)	65.3 (12.7)	-9.20 (5.20)	333.0 (88.5)	23.5 (3.4)	59.2 (13.4)	-9.50 (3.90)	307.0 (34.7)
21	21.5 (1.7)	76.1 (6.6)	-4.80 (4.00)	282.0 (65.2)	21.7 (1.8)	72.2 (8.2)	-10.10 (7.00)	267.0 (33.6)
22	25.6 (3.3)	77.4 (10.3)	-12.80 (7.40)	355.0 (79.3)	26.4 (3.7)	72.0 (12.5)	-13.00 (6.40)	304.0 (35.0)
23	25.8 (4.0)	71.6 (12.1)	-14.10 (7.70)		26.1 (4.2)	66.6 (13.9)	-12.20 (6.10)	304.0 (35.3)
24	23.3 (2.1)	71.5 (7.6)	-11.40 (7.30)	302.0 (76.3)	23.7 (2.2)	66.1 (8.7)	-9.90 (4.60)	292.0 (37.0)
25	23.6 (3.2)	72.4 (10.4)	-12.50 (7.20)	317.0 (80.2)	23.8 (3.3)	68.0 (11.3)	-10.90 (4.30)	305.0 (41.4)
26	22.8 (3.7)	61.6 (12.6)	-12.30 (8.60)	304.0 (102.0)	23.1 (3.8)	56.7 (13.7)	-11.10 (5.80)	289.0 (70.4)
27	21.9 (2.1)	73.5 (5.2)	-9.80 (7.00)	270.0 (55.0)	22.2 (2.3)	69.4 (6.1)	-10.00 (6.90)	287.0 (26.5)
28	20.0 (2.4)	61.5 (7.8)	-8.60 (4.00)	217.0 (45.4)	20.3 (2.4)	55.7 (8.0)	-3.60 (3.30)	
29	18.8 (1.0)	65.6 (2.9)	-5.70 (2.80)	220.0 (48.2)	18.8 (1.1)	62.0 (3.6)	0.50 (4.10)	
30	16.1 (1.2)	72.4 (2.8)	-1.90 (1.30)	140.0 (7.4)	15.6 (1.3)	69.7 (3.4)	3.80 (3.20)	
Avg	19.0	67.1	-5.50	240.0	19.2	62.4	-5.70	244.0
n	30	30	30	24	30	30	30	24
SD	3.9	9.2	4.30	69.6	4.1	9.6	4.70	58.1
Min	10.7	46.8	-14.10	140.0	10.8	41.8	-14.50	145.0
Max	25.8	79.9	-0.40	355.0	26.4	76.1	3.80	313.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for July, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3 \text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3 \text{s}^{-1}$
1	16.3 (1.6)	73.8 (4.2)	-2.60 (1.80)	157.0 (38.9)	16.0 (1.7)	70.3 (4.6)	1.60 (3.10)	
2	18.1 (3.5)	74.4 (5.2)	-5.00 (2.90)	198.0 (54.6)	18.1 (3.6)	70.7 (6.2)	-3.60 (2.60)	221.0 (59.9)
3	20.0 (3.1)	72.2 (7.2)	-5.50 (3.70)	227.0 (63.6)	20.1 (3.3)	68.1 (8.9)	-6.10 (3.40)	251.0 (59.4)
4	19.6 (1.7)	80.2 (2.5)	-5.20 (2.10)	231.0 (44.0)	19.8 (1.7)	75.8 (4.1)	-4.90 (2.10)	245.0 (56.5)
5	20.2 (4.0)	68.4 (12.5)	-8.30 (8.30)	261.0 (114.0)	20.2 (4.2)	64.4 (12.9)	-7.10 (5.00)	251.0 (79.0)
6	20.5 (3.7)	64.7 (11.4)	-8.10 (7.70)	261.0 (107.0)	20.4 (3.8)	61.9 (12.1)	-7.90 (5.40)	276.0 (108.0)
7	20.6 (3.4)	61.3 (10.0)	-7.70 (7.50)	263.0 (99.9)	20.6 (3.6)	57.6 (11.4)	-9.10 (6.20)	292.0 (110.0)
8	19.3 (1.9)	68.0 (4.3)	-3.50 (2.20)	216.0 (53.6)	19.4 (2.0)	64.9 (4.9)	-7.00 (4.40)	225.0 (57.3)
9	20.8 (3.1)	72.6 (6.1)	-7.50 (7.80)	260.0 (101.0)	21.1 (3.2)	69.1 (7.5)	-13.60 (13.00)	272.0 (97.4)
10	22.8 (2.9)	70.3 (12.1)	-13.70 (8.10)	312.0 (77.0)	23.1 (3.0)	66.0 (13.5)	-12.50 (8.90)	351.0 (89.2)
11	19.1 (2.6)	59.3 (13.1)	-4.50 (2.50)	210.0 (54.4)	19.2 (2.6)	55.2 (13.6)	-4.10 (3.30)	229.0 (60.0)
12	18.5 (3.4)	61.8 (8.9)	-4.20 (2.60)	208.0 (54.8)	18.4 (3.5)	59.7 (10.2)	-6.30 (3.10)	231.0 (57.5)
13	19.7 (3.3)	55.2 (13.0)	-4.30 (3.00)	224.0 (59.3)	19.6 (3.5)	52.0 (14.3)	-7.30 (3.80)	252.0 (78.4)
14	20.9 (1.7)	64.6 (7.6)	-4.80 (2.70)	255.0 (33.3)	21.2 (1.8)	61.1 (7.7)	-12.70 (8.10)	275.0 (58.3)
15	20.3 (2.1)	68.2 (9.9)	-7.10 (2.30)	237.0 (33.9)	20.4 (2.0)	63.8 (10.6)	-4.60 (2.10)	265.0 (44.7)
16	17.2 (2.3)	62.4 (8.7)	-5.20 (5.10)	182.0 (64.7)	17.4 (2.1)	57.9 (9.0)	-1.50 (2.70)	
17	15.9 (1.0)	70.3 (4.3)	-1.70 (1.10)	142.0 (11.2)	15.8 (1.0)	67.7 (4.6)	1.90 (3.20)	
18	16.6 (1.3)	68.1 (7.1)	-1.90 (1.50)	156.0 (36.6)	16.8 (1.3)	64.3 (7.6)	-0.20 (2.10)	
19	17.8 (3.4)	62.9 (10.1)	-3.40 (2.60)	196.0 (55.9)	18.0 (3.5)	59.0 (11.1)	-4.70 (2.40)	223.0 (59.5)
20	19.9 (3.6)	64.9 (5.7)	-5.60 (5.20)	231.0 (77.4)	20.3 (3.7)	61.3 (6.8)	-8.90 (9.70)	271.0 (90.8)
21	18.9 (1.9)	76.3 (4.0)	-5.80 (2.50)	227.0 (45.6)	19.2 (2.1)	72.9 (4.9)	-4.40 (2.30)	261.0 (49.8)
22	18.2 (3.7)	75.8 (7.2)	-3.70 (2.70)	194.0 (54.8)	18.5 (3.9)	71.6 (8.9)	-5.00 (4.20)	234.0 (78.7)
23	20.6 (4.4)	68.7 (10.9)	-9.60 (8.50)	263.0 (105.0)	20.9 (4.5)	64.5 (11.4)	-9.40 (7.70)	306.0 (122.0)
24	20.4 (2.4)	71.2 (5.9)	-9.20 (6.70)	267.0 (68.4)	20.7 (2.4)	67.8 (6.2)	-9.40 (6.10)	301.0 (80.2)
25	19.4 (2.3)	73.9 (4.1)	-5.30 (2.40)	217.0 (50.6)	19.6 (2.2)	70.2 (4.6)	-5.00 (3.40)	247.0 (53.0)
26	21.2 (3.2)	70.2 (8.9)	-9.10 (7.60)	273.0 (104.0)	21.4 (3.1)	66.6 (9.1)	-10.00 (7.80)	299.0 (121.0)
27	21.0 (2.6)	75.1 (4.2)	-7.20 (5.90)	240.0 (76.3)	21.3 (2.8)	71.1 (5.1)	-9.20 (6.10)	285.0 (95.0)
28	18.8 (2.5)	65.3 (7.4)	-4.10 (2.50)	202.0 (55.4)	19.0 (2.3)	61.0 (7.0)	-4.40 (3.20)	232.0 (58.6)
29	18.4 (4.2)	64.6 (11.5)	-5.40 (4.80)	213.0 (66.5)	18.7 (4.3)	59.8 (13.0)	-5.50 (4.70)	238.0 (69.5)
30	18.6 (2.5)	69.9 (9.1)	-3.90 (2.60)	194.0 (55.5)	18.7 (2.4)	65.5 (10.3)	-3.40 (3.00)	225.0 (59.0)
31	19.1 (3.8)	69.5 (9.1)	-4.70 (2.80)	214.0 (50.8)	19.5 (4.0)	65.3 (11.0)	-3.30 (2.70)	242.0 (56.4)
Avg	19.3	68.5	-5.70	224.0	19.5	64.7	-6.00	259.0
n	31	31	31	31	31	31	31	27
SD	1.5	5.5	2.50	37.1	1.6	5.4	3.70	31.0
Min	15.9	55.2	-13.70	142.0	15.8	52.0	-13.60	221.0
Max	22.8	80.2	-1.70	312.0	23.1	75.8	1.90	351.0

Table F3. Daily means (SD) of environmental parameters at Site W15B for August, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	18.1 (1.9)	65.6 (10.6)	-4.60 (3.00)	193.0 (55.5)	18.3 (1.9)	60.6 (11.7)	-1.80 (3.00)	
2	19.9 (4.1)	67.8 (7.3)	-6.70 (6.20)	245.0 (97.3)	20.2 (4.1)	64.0 (8.7)	-7.40 (10.60)	
3	21.6 (2.5)	71.6 (9.3)	-10.50 (7.90)	287.0 (83.0)	21.8 (2.5)	68.1 (10.6)	-7.80 (5.90)	326.0 (102.0)
4	19.8 (2.1)	65.8 (9.1)	-4.00 (2.20)	221.0 (50.5)	19.6 (2.0)	62.7 (9.9)	-3.30 (2.70)	247.0 (57.5)
5	18.5 (3.8)	64.9 (10.3)	-3.60 (2.40)	207.0 (55.1)	18.4 (3.9)	61.3 (11.8)	-3.90 (2.20)	234.0 (60.0)
6	19.4 (3.2)	63.7 (11.5)	-4.30 (2.30)	219.0 (51.8)	19.5 (3.3)	59.6 (13.6)	-4.50 (2.20)	235.0 (59.0)
7	18.9 (0.6)	74.5 (7.4)	-5.40 (0.80)	254.0 (11.0)	19.2 (0.6)	72.3 (8.3)	-8.40 (4.90)	258.0 (45.0)
8	23.4 (2.8)	83.6 (2.6)	-13.10 (7.70)	338.0 (80.2)	23.6 (2.8)	80.6 (4.1)	-15.30 (9.60)	368.0 (86.9)
9	23.1 (1.5)	80.2 (7.3)	-11.40 (7.90)	308.0 (80.4)	23.4 (1.5)	76.6 (9.2)	-10.10 (5.40)	351.0 (93.5)
10	21.4 (2.7)	75.6 (8.3)	-9.30 (7.40)	278.0 (86.2)	21.7 (2.5)	72.0 (9.0)	-8.20 (5.20)	310.0 (105.0)
11	20.6 (3.7)	69.1 (12.2)	-8.50 (8.00)	269.0 (113.0)	20.8 (3.8)	65.1 (13.6)	-8.40 (6.40)	300.0 (136.0)
12	22.5 (4.3)	73.0 (7.1)	-11.40 (9.00)	301.0 (114.0)	22.6 (4.6)	70.0 (8.4)	-12.60 (10.90)	335.0 (122.0)
13	22.9 (2.0)	79.1 (3.7)	-10.50 (6.70)	304.0 (77.7)	23.0 (2.0)	76.9 (4.6)	-14.10 (10.60)	334.0 (75.9)
14	24.6 (2.8)	74.4 (8.4)	-16.60 (8.60)	343.0 (76.9)	24.9 (3.0)	71.5 (10.4)	-18.20 (11.30)	377.0 (79.7)
15	23.1 (1.3)	76.4 (6.1)	-13.30 (8.20)	302.0 (75.7)	23.4 (1.3)	73.4 (7.5)	-14.80 (10.70)	346.0 (81.2)
16	22.2 (1.9)	78.3 (5.1)	-12.30 (8.90)	277.0 (64.3)	22.6 (1.9)	74.2 (7.0)	-12.40 (7.90)	325.0 (81.5)
17	20.3 (3.3)	69.3 (9.4)	-7.30 (7.30)	248.0 (95.6)	20.5 (3.7)	64.8 (10.7)	-9.00 (10.70)	296.0 (109.0)
18	19.0 (2.9)	63.7 (8.6)	-5.60 (3.60)	207.0 (52.4)	19.2 (2.9)	58.1 (9.7)	-2.90 (3.20)	252.0 (53.4)
19	18.7 (1.2)	79.4 (4.0)	-4.50 (3.30)	200.0 (53.5)	19.0 (1.3)	76.8 (4.4)	-5.20 (5.80)	224.0 (56.3)
20	17.8 (0.4)	83.8 (0.4)	-3.80 (2.60)	166.0 (46.6)	18.2 (0.4)	80.1 (1.0)	0.30 (1.40)	
21	17.5 (2.0)	74.1 (9.5)	-3.80 (3.00)	184.0 (54.1)	17.6 (2.0)	68.8 (10.6)	1.10 (3.80)	
22	16.5 (4.0)	69.4 (9.6)	-3.70 (2.90)	186.0 (53.6)	16.7 (4.0)	65.1 (10.7)	-4.00 (2.20)	214.0 (60.1)
23	18.2 (4.3)	72.6 (6.9)	-5.40 (3.20)	209.0 (51.8)	18.6 (4.6)	67.9 (8.8)	-3.80 (2.00)	242.0 (57.3)
24	21.0 (2.7)	72.3 (5.5)	-8.00 (6.90)	242.0 (86.8)	21.5 (2.7)	68.1 (6.1)	-10.00 (11.00)	301.0 (98.2)
25	21.1 (1.6)	78.1 (5.6)	-7.70 (1.90)	241.0 (26.2)	21.4 (1.6)	74.8 (6.4)	-7.20 (2.20)	270.0 (33.5)
26	19.4 (3.0)	70.7 (8.2)	-5.20 (3.00)	210.0 (52.9)	19.6 (3.1)	67.0 (9.4)	-6.60 (3.10)	229.0 (57.3)
27	19.5 (3.0)	70.2 (8.9)	-5.00 (3.10)	205.0 (53.8)	19.6 (3.3)	66.8 (10.4)	-6.00 (3.10)	229.0 (57.4)
28	18.4 (2.5)	75.2 (5.2)	-4.40 (3.40)	189.0 (54.0)	18.4 (2.7)	71.3 (6.0)	-0.90 (4.30)	
29	14.5 (1.9)	72.0 (5.7)	-1.10 (1.40)	142.0 (1.2)	14.1 (1.8)	68.4 (6.5)	3.90 (4.20)	
30	14.4 (3.6)	67.1 (12.0)	-2.90 (2.70)	165.0 (50.6)	14.2 (3.5)	63.8 (12.8)	-2.60 (3.10)	193.0 (54.8)
31	14.7 (4.3)	69.0 (9.6)	-3.70 (3.40)	167.0 (64.6)	14.8 (4.3)	65.0 (11.4)	-3.20 (2.90)	201.0 (77.2)
Avg	19.7	72.6	-7.00	236.0	19.9	68.9	-6.70	280.0
n	31	31	31	31	31	31	31	25
SD	2.6	5.5	3.70	52.9	2.7	5.8	5.10	54.1
Min	14.4	63.7	-16.60	142.0	14.1	58.1	-18.20	193.0
Max	24.6	83.8	-1.10	343.0	24.9	80.6	3.90	377.0

Table F3. Daily means (SD) of environmental parameters at Site WISB for September, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	15.8 (4.2)	69.2 (8.9)	-4.30 (3.40)	186.0 (54.3)	15.8 (4.6)	65.0 (11.2)	-2.60 (2.20)	219.0 (62.4)
2	16.6 (4.2)	70.4 (7.7)	-4.40 (3.30)	189.0 (53.5)	16.8 (4.5)	66.2 (9.9)	-2.40 (2.60)	228.0 (61.5)
3	16.7 (4.1)	71.0 (8.5)	-4.40 (3.40)	189.0 (53.4)	16.8 (4.5)	67.0 (11.2)	-3.10 (2.40)	222.0 (60.2)
4	17.0 (4.5)	70.8 (9.1)	-4.50 (3.50)	191.0 (53.3)	17.0 (4.7)	67.2 (11.3)	-3.20 (1.80)	224.0 (60.4)
5	17.9 (4.7)	69.9 (9.1)	-5.10 (3.30)	202.0 (53.4)	18.0 (5.0)	66.3 (11.2)	-3.50 (2.30)	237.0 (65.4)
6	18.5 (3.7)	69.9 (7.8)	-4.60 (3.30)	195.0 (54.1)	18.5 (4.3)	66.6 (10.4)	-3.20 (2.80)	234.0 (78.1)
7	18.9 (4.4)	72.4 (7.0)	-6.70 (5.50)	217.0 (63.4)	19.0 (4.7)	68.8 (8.8)	-6.60 (6.60)	273.0 (105.0)
8	19.7 (3.1)	69.6 (8.7)	-5.60 (5.10)	208.0 (67.1)	20.0 (3.3)	65.6 (10.2)	-6.80 (7.30)	257.0 (96.5)
9	20.2 (2.8)	73.8 (4.0)	-6.20 (3.20)	216.0 (50.1)	20.5 (3.1)	69.7 (5.5)	-4.30 (4.20)	269.0 (90.6)
10	21.0 (2.9)	74.1 (7.1)	-12.30 (9.20)	277.0 (89.7)	21.2 (3.2)	70.5 (8.4)	-7.90 (7.70)	317.0 (120.0)
11	21.5 (2.3)	75.5 (5.5)	-11.80 (7.50)	281.0 (67.9)	21.8 (2.4)	71.6 (6.2)	-8.90 (8.20)	322.0 (86.7)
12	20.9 (2.8)	72.1 (8.1)	-11.50 (8.80)	268.0 (84.6)	21.3 (3.0)	68.0 (9.3)	-7.10 (5.70)	313.0 (119.0)
13	19.9 (4.0)	72.7 (9.1)	-9.90 (10.30)	244.0 (109.0)	20.0 (4.2)	69.1 (10.6)	-6.30 (5.30)	291.0 (137.0)
14	19.5 (3.7)	71.4 (8.8)	-8.50 (9.00)	223.0 (91.7)	19.7 (4.0)	67.1 (11.1)	-6.50 (6.10)	276.0 (128.0)
15	20.6 (4.3)	69.4 (8.4)	-11.40 (10.20)	267.0 (108.0)	20.5 (4.5)	66.7 (9.2)	-9.10 (6.20)	304.0 (129.0)
16	19.0 (2.4)	71.8 (5.4)	-5.10 (3.40)	201.0 (54.5)	19.0 (2.5)	69.1 (6.7)	-4.70 (2.50)	220.0 (59.4)
17	19.0 (3.8)	73.5 (7.2)	-7.80 (7.40)	222.0 (77.9)	19.0 (4.3)	70.4 (9.3)	-4.10 (5.20)	269.0 (107.0)
18	20.3 (3.4)	73.1 (6.6)	-10.20 (9.30)	245.0 (98.4)	20.4 (3.6)	70.2 (7.9)	-8.30 (6.80)	292.0 (118.0)
19	20.9 (2.6)	73.1 (6.0)	-9.80 (8.40)	248.0 (85.7)	21.2 (2.6)	70.0 (6.9)	-7.40 (6.80)	291.0 (110.0)
20	19.6 (1.9)	71.1 (6.3)	-5.40 (2.80)	205.0 (52.4)	19.9 (1.9)	67.3 (7.5)	-5.80 (4.30)	231.0 (57.2)
21	19.6 (2.2)	73.1 (3.0)	-5.10 (2.70)	204.0 (52.4)	19.8 (2.4)	69.8 (4.6)	-5.70 (4.20)	239.0 (55.1)
22	18.7 (0.7)	83.4 (1.2)	-6.00 (2.30)	219.0 (46.2)	18.7 (0.7)	81.4 (1.0)	-5.80 (3.20)	254.0 (51.4)
23	19.7 (1.4)	80.9 (3.7)	-7.20 (1.70)	237.0 (27.0)	19.9 (1.5)	76.6 (4.9)	-5.90 (2.50)	249.0 (54.4)
24	19.6 (2.8)	70.4 (5.5)	-5.30 (3.40)	210.0 (57.1)	19.7 (2.9)	65.8 (6.5)	-4.50 (2.20)	237.0 (58.6)
25	17.8 (1.1)	80.6 (3.7)	-3.40 (2.70)	184.0 (56.8)	17.9 (1.2)	79.0 (3.6)	-2.70 (3.30)	202.0 (55.9)
26	16.7 (3.1)	77.0 (7.8)	-3.30 (2.80)	169.0 (51.6)	17.0 (3.3)	72.4 (10.5)	-1.60 (1.80)	218.0 (60.0)
27	15.8 (2.9)	69.9 (6.5)	-4.90 (3.70)	162.0 (49.7)	16.0 (3.0)	65.2 (8.3)	-1.40 (2.80)	
28	12.5 (1.1)	68.7 (2.8)	-5.50 (4.20)	129.0 (3.4)	12.5 (1.1)	63.3 (3.2)	4.00 (4.80)	
29	9.9 (1.3)	68.9 (2.9)	-1.00 (2.10)		9.6 (1.3)	64.7 (3.3)	4.10 (4.50)	
30	10.0 (3.4)	67.0 (10.3)	-0.70 (0.70)	111.0 (27.9)	9.9 (3.3)	61.6 (11.5)	-1.90 (1.70)	128.0 (39.5)
Avg	18.1	72.5	-6.40	210.0	18.3	68.7	-4.40	253.0
n	30	30	30	29	30	30	30	27
SD	2.9	3.7	3.00	39.1	3.0	4.2	3.10	41.5
Min	9.9	67.0	-12.30	111.0	9.6	61.6	-9.10	128.0
Max	21.5	83.4	-0.70	281.0	21.8	81.4	4.10	322.0

Table F3. Daily means (SD) of environmental parameters at Site W15B for October, 2009.

Day	Barn 1				Barn 2			
	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$	Temp., °C	RH, %	ΔP, Pa	Airflow, $\text{dsm}^3\text{s}^{-1}$
1	10.3 (1.0)	74.3 (4.2)	1.10 (1.90)		10.3 (1.1)	71.5 (4.8)	-5.40 (2.80)	
2	11.0 (0.6)	80.0 (1.0)	-4.00 (3.50)	124.0 (18.0)	10.6 (0.7)	78.1 (1.4)	1.10 (4.70)	
3	10.5 (0.8)	77.7 (2.5)	-1.60 (1.40)	132.0 (8.5)	10.6 (0.8)	73.7 (3.0)	3.40 (3.30)	
4	10.9 (1.1)	78.4 (2.5)	-2.70 (0.80)	128.0 (16.8)	11.2 (0.9)	73.9 (3.0)	-0.10 (1.30)	
5	10.8 (1.6)	76.7 (4.0)	-1.70 (0.90)	112.0 (27.5)	10.8 (1.6)	72.6 (5.5)	-0.90 (1.30)	
6	9.8 (0.7)	80.4 (0.5)	-1.30 (2.00)		10.1 (0.6)	76.6 (0.6)	1.90 (4.70)	
7	11.4 (3.5)	70.8 (9.1)	-1.60 (1.10)	112.0 (26.7)	11.7 (3.4)	64.8 (10.5)	-0.60 (2.40)	
8	9.3 (1.7)	68.6 (5.3)	-1.80 (1.20)	106.0 (28.1)	9.4 (1.6)	63.8 (6.2)	0.70 (1.60)	
9	6.2 (2.5)	69.2 (7.3)	-1.30 (1.00)	86.0 (19.3)	5.9 (2.3)	64.7 (9.0)	1.10 (2.80)	
10	3.9 (1.3)	67.6 (5.0)	-3.90 (2.00)	76.4 (7.0)	4.4 (1.1)	61.1 (7.0)	-1.30 (1.60)	86.3 (6.8)
11	5.3 (1.6)	65.2 (4.6)	-2.40 (0.60)	78.2 (0.5)	5.3 (1.2)	59.0 (5.8)	-1.80 (0.70)	87.3 (0.5)
12	4.7 (0.6)	76.1 (2.5)	-2.40 (0.50)	78.1 (0.3)	4.7 (0.7)	72.4 (2.7)	-1.90 (0.50)	87.1 (0.4)
13	5.8 (1.8)	73.7 (4.9)	-2.30 (0.60)	78.3 (0.6)	5.2 (1.9)	68.5 (6.5)	-1.80 (1.10)	86.7 (5.1)
14	7.7 (1.1)	72.7 (1.8)	-1.60 (0.70)	77.6 (0.5)	7.5 (1.3)	68.3 (2.5)	-2.70 (1.00)	85.8 (1.0)
15	6.8 (1.0)	78.2 (0.6)	-1.70 (0.80)	77.4 (0.5)	6.3 (1.1)	74.9 (0.9)	-2.60 (0.70)	85.8 (0.5)
16	7.8 (1.6)	73.8 (6.0)	-2.70 (1.00)	83.3 (17.1)	7.6 (1.8)	69.8 (7.6)	-2.20 (1.00)	88.0 (10.7)
17	8.2 (1.6)	69.7 (8.8)	-3.00 (1.70)	90.0 (23.0)	8.3 (1.5)	64.9 (10.4)	-2.30 (2.30)	99.0 (28.3)
18	10.8 (3.9)	65.7 (7.3)	-4.60 (2.40)	108.0 (25.5)	11.2 (3.9)	61.5 (7.7)	-6.60 (3.70)	130.0 (35.9)
19	11.9 (2.4)	70.6 (3.6)	-6.20 (1.00)	130.0 (4.5)	12.1 (2.0)	67.2 (4.2)	-6.30 (2.80)	150.0 (26.9)
20	10.9 (0.8)	75.6 (2.1)	-5.60 (1.30)	132.0 (3.2)	11.0 (0.7)	72.6 (2.9)	-7.70 (2.70)	145.0 (30.4)
21	9.6 (0.8)	79.5 (0.7)	-4.80 (2.20)	108.0 (27.3)	9.4 (1.5)	76.0 (1.0)	-0.40 (4.50)	
22	8.2 (1.2)	74.6 (2.8)	-4.60 (2.40)	76.6 (6.7)	7.4 (1.3)	68.9 (3.9)	-0.30 (2.50)	
23	6.2 (0.6)	78.2 (1.5)	-3.10 (2.30)	75.8 (0.8)	5.1 (0.5)	75.0 (2.3)	2.80 (3.10)	
24	8.6 (2.5)	75.3 (4.3)	-4.50 (1.70)	106.0 (26.9)	9.0 (2.8)	70.6 (5.3)	-3.90 (2.80)	123.0 (38.1)
25	10.0 (0.4)	80.0 (1.2)	-4.30 (2.00)	114.0 (25.6)	10.7 (0.4)	76.3 (1.5)	-3.90 (2.40)	117.0 (38.1)
26	8.7 (1.1)	77.7 (3.4)	-2.60 (1.40)	87.2 (21.8)	9.2 (1.2)	73.7 (4.2)	-1.60 (0.80)	85.8 (6.3)
27	8.9 (2.8)	68.5 (8.3)	-2.80 (1.90)	99.3 (26.6)	9.5 (2.5)	63.1 (8.9)	-5.50 (4.20)	110.0 (34.8)
28	9.6 (1.8)	76.1 (1.8)	-3.70 (2.20)	107.0 (27.3)	10.1 (1.9)	72.1 (2.1)	-6.20 (3.50)	127.0 (37.3)
29	12.0 (0.3)	81.3 (0.9)	-1.30 (2.90)		12.6 (0.5)	77.5 (0.8)	-12.20 (5.20)	156.0 (5.2)
30	11.3 (3.8)	76.8 (7.5)	-1.60 (1.80)	115.0 (24.8)	12.1 (3.6)	72.3 (8.5)	-10.10 (7.20)	130.0 (32.1)
31	5.7 (1.3)	70.3 (5.7)	-3.50 (1.70)	76.2 (1.1)	6.8 (1.3)	64.7 (6.8)	-1.40 (0.70)	85.4 (0.7)
Avg	8.8	74.3	-2.80	99.1	8.9	70.0	-2.50	109.0
n	31	31	31	28	31	31	31	20
SD	2.2	4.5	1.50	19.5	2.4	5.2	3.50	24.0
Min	3.9	65.2	-6.20	75.8	4.4	59.0	-12.20	85.4
Max	12.0	81.3	1.10	132.0	12.6	78.1	3.40	156.0

Table F4. PM concentrations.**Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for September, 2007.**

Day	PM ₁₀ , $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} , $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12	27 (32)	43 (40)	50 (32)						
13	21 (12)	23 (13)	34 (19)						
14	13 (6)		19 (8)						
15	20 (10)		32 (17)						
16									
17									
18	48 (30)		69 (49)						
19	17 (7)		18 (8)						
20	26 (15)		50 (47)						
21									
22	23 (12)	28 (22)	35 (29)						
23	52 (31)	87 (67)	114 (88)						
24	47 (40)	63 (38)	90 (57)						
25	12 (8)	5 (11)	5 (13)						
26	13 (8)	12 (13)	15 (17)						
27	10 (7)	16 (12)	15 (17)						
28	11 (5)	13 (13)	16 (16)						
29	22 (10)	23 (12)	30 (13)						
30	27 (19)	23 (13)	25 (11)						
Avg	24	30	39						
n	16	11	16	0	0	0	0	0	0
SD	13	23	29						
Min	10	5	5						
Max	52	87	114						

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for October, 2007.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	24 (10)	20 (10)	24 (10)						
2	21 (16)	13 (11)	18 (10)						
3	14 (7)	18 (17)	32 (27)						
4	23 (14)	34 (28)	56 (47)						
5	36 (28)								
6	43 (27)	72 (35)	145 (64)						
7	44 (20)	66 (17)	125 (35)						
8									
9	7 (4)	5 (14)	11 (21)						
10	6 (5)	10 (96)	16 (120)						
11	5 (4)								
12	9 (7)	11 (5)	21 (10)						
13	11 (6)	14 (8)	23 (12)						
14	10 (6)	13 (7)	17 (12)						
15	10 (6)	12 (6)	14 (5)						
16	11 (6)	11 (4)	15 (5)						
17	12 (7)	11 (3)	18 (6)						
18	10 (10)	7 (4)	10 (4)						
19	4 (5)	13 (42)	12 (5)						
20	9 (6)	13 (6)	18 (5)						
21									
22	8 (4)	12 (8)	14 (6)						
23	9 (8)	13 (6)	19 (9)						
24	7 (6)	12 (4)	17 (9)						
25	8 (5)	12 (5)	18 (7)						
26	9 (10)	13 (10)	15 (6)						
27	9 (9)	14 (5)	19 (8)						
28	17 (8)	17 (4)	26 (5)						
29	28 (13)	25 (8)	40 (13)						
30	30 (15)	28 (6)	42 (7)						
31	18 (13)	15 (7)	29 (12)						
Avg	16	19	30						
n	29	27	27	0	0	0	0	0	0
SD	11	16	32						
Min	4	5	10						
Max	44	72	145						

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for November, 2007.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	21 (16)	21 (12)	43 (25)						
2	19 (6)	18 (7)	34 (15)						
3	17 (10)	18 (12)	32 (13)						
4	19 (12)	19 (8)	34 (13)						
5	16 (14)	13 (6)	23 (12)						
6	6 (7)	10 (5)	14 (9)						
7		22 (11)	39 (19)						
8		25 (10)	38 (12)						
9		18 (7)	25 (11)						
10		17 (6)	24 (7)						
11	38 (20)	39 (75)	37 (11)						
12	10 (6)	9 (9)	16 (9)						
13	22 (11)	18 (9)	37 (18)						
14									
15									
16	20 (7)	19 (12)	35 (19)						
17	10 (6)	14 (13)	23 (13)						
18	13 (9)	14 (10)	28 (19)						
19	66 (30)	52 (19)	67 (27)						
20	13 (11)	37 (51)	53 (41)						
21	4 (4)	26 (14)							
22	5 (4)	21 (8)							
23	11 (5)	26 (14)	39 (13)						
24	13 (4)	22 (14)	36 (11)						
25	16 (6)	24 (22)	37 (13)						
26	12 (5)	32 (30)	51 (26)						
27	12 (8)	58 (74)	95 (70)						
28	24 (12)	47 (31)	108 (72)						
29	13 (6)	37 (22)	102 (135)						
30	15 (5)								
Avg	17	25	43						
n	24	27	25	0	0	0	0	0	0
SD	12	12	24						
Min	4	9	14						
Max	66	58	108						

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for December, 2007.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	55 (74)	45 (45)	155 (89)						
2	11 (4)	24 (32)	82 (34)						
3	11 (6)								
4	10 (7)	17 (11)	48 (29)						
5	8 (6)								
6	17 (6)	52 (166)	63 (26)						
7	15 (5)	37 (60)	57 (36)						
8	16 (5)								
9	21 (6)								
10	25 (9)	28 (19)							
11									
12							32 (11)		
13							24 (16)	61 (30)	295 (153)
14							13 (7)		
15							26 (9)		
16							22 (5)	42 (27)	266 (86)
17									
18	40 (9)	48 (36)	74 (68)						
19	42 (7)	76 (126)	132 (180)						
20	50 (12)		133 (81)						
21	30 (8)	104 (357)	94 (106)						
22	10 (7)	18 (44)	57 (83)						
23									
24									
25									
26	24 (5)	31 (34)							
27	8 (7)		93 (66)						
28	9 (4)	27 (34)	111 (153)						
29	18 (6)	22 (13)	48 (31)						
30	31 (7)	30 (12)	37 (16)						
31	27 (9)	32 (28)	35 (32)						
Avg	23	39	81				23	52	281
n	21	15	15	0	0	0	5	2	2
SD	14	23	36				6	10	14
Min	8	17	35				13	42	266
Max	55	104	155				32	61	295

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for January, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	8 (5)	10 (9)							
2	8 (6)								
3	13 (7)		22 (14)						
4	16 (6)	13 (11)	25 (17)						
5	28 (6)	19 (9)	26 (10)						
6	22 (10)	16 (6)	19 (8)						
7	21 (7)	27 (81)	18 (14)						
8	15 (6)	15 (13)	23 (19)						
9	22 (8)	19 (12)	24 (16)						
10	22 (9)	17 (11)	22 (18)						
11	27 (8)	30 (18)	61 (63)						
12	24 (10)	22 (14)	44 (19)						
13	9 (5)	14 (10)	38 (15)						
14	10 (6)	13 (10)							
15									
16				16 (9)	19 (13)	18 (15)			
17					7 (4)	13 (12)	12 (14)		
18					6 (4)				
19					6 (5)				
20					7 (5)				
21					8 (4)				
22				10 (7)	18 (20)				
23					7 (5)				
24									
25					15 (5)				
26					27 (8)	22 (7)			
27						18 (9)	11 (11)		
28						13 (6)			
29						11 (7)	30 (31)		
30						7 (4)			
31						8 (4)			
Avg	18	18	29	11	17	20			
n	14	12	11	15	5	3	0	0	0
SD	7	5	13	6	4	7			
Min	8	10	18	6	11	12			
Max	28	30	61	27	22	30			

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for February, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1				15 (5)	23 (20)	26 (19)			
2				28 (10)	26 (22)				
3				33 (5)	30 (36)	35 (28)			
4				20 (10)	19 (12)				
5									
6	7 (5)	10 (6)							
7	17 (6)	23 (18)							
8	24 (4)	23 (15)							
9	31 (11)								
10	18 (11)								
11	9 (6)								
12	11 (5)	28 (25)							
13	23 (6)								
14	14 (11)	14 (10)							
15	9 (6)								
16	20 (6)	15 (7)							
17	20 (11)	13 (14)							
18	14 (5)	12 (8)							
19									
20							10 (7)	121 (377)	133 (691)
21							20 (8)	50 (113)	109 (520)
22							31 (8)	2 (60)	62 (247)
23							46 (9)	-9 (96)	
24							49 (9)	-10 (68)	
25							40 (19)	-6 (56)	
26									
27	8 (6)	19 (65)	20 (9)						
28	18 (7)	0 (17)	28 (16)						
29	14 (9)	18 (148)	25 (14)						
Avg	16	16	24	24	25	31	33	25	102
n	16	11	3	4	4	2	6	6	3
SD	6	7	3	7	4	5	14	48	30
Min	7	0	20	15	19	26	10	-10	62
Max	31	28	28	33	30	35	49	121	133

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for March, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	9 (5)	93 (626)	19 (11)						
2	28 (17)	16 (17)	27 (18)						
3	9 (5)	14 (16)	35 (28)						
4	14 (5)	17 (15)	40 (25)						
5	15 (6)	16 (11)	24 (9)						
6	11 (5)	17 (17)	27 (13)						
7	8 (6)	11 (15)	22 (15)						
8	13 (7)	14 (10)	26 (16)						
9	18 (6)	14 (8)	25 (9)						
10	26 (8)	16 (9)	28 (13)						
11									
12	28 (11)	14 (8)	22 (9)						
13	12 (11)	8 (10)	12 (6)						
14	6 (4)		12 (6)						
15	6 (4)	11 (11)	15 (7)						
16	9 (5)	13 (10)	24 (16)						
17							20 (8)	-49 (51)	53 (23)
18							16 (20)	12 (47)	57 (96)
19							9 (5)	91 (78)	60 (34)
20							44 (61)	63 (28)	51 (23)
21							7 (4)	36 (24)	38 (14)
22							8 (6)	36 (16)	42 (19)
23							12 (6)	55 (30)	64 (24)
24									
25									
26	9 (5)	19 (11)	18 (9)						
27	7 (4)	20 (16)	21 (16)						
28	6 (4)	20 (23)	25 (30)						
29	13 (6)	23 (19)	28 (20)						
30	14 (6)	24 (13)	25 (18)						
31	5 (4)	14 (12)	10 (8)						
Avg	13	20	23				17	35	52
n	21	20	21	0	0	0	7	7	7
SD	7	17	7				12	41	9
Min	5	8	10				7	-49	38
Max	28	93	40				44	91	64

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for April, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	7 (5)	22 (24)	27 (41)						
2	11 (4)	30 (43)	39 (95)						
3	15 (5)	22 (13)	23 (8)						
4	16 (9)	21 (13)	19 (14)						
5	15 (6)	26 (15)	22 (9)						
6	18 (5)	38 (17)	34 (14)						
7	5 (4)	26 (17)	25 (20)						
8	6 (3)	14 (9)	13 (7)						
9	7 (4)	18 (13)	17 (9)						
10	7 (7)	12 (12)	10 (8)						
11	3 (5)	11 (11)	11 (9)						
12	4 (3)	12 (11)	16 (8)						
13	5 (4)	15 (13)	21 (14)						
14	7 (5)	21 (15)	32 (20)						
15	20 (13)	40 (26)	37 (20)						
16	24 (10)	48 (24)	46 (17)						
17	7 (5)	23 (23)	24 (23)						
18	6 (4)	14 (13)	10 (7)						
19	6 (4)	14 (11)	12 (6)						
20	13 (10)	24 (18)	23 (13)						
21	22 (7)	33 (16)	32 (15)						
22	9 (7)	18 (19)	18 (19)						
23	16 (6)	30 (16)	26 (14)						
24	15 (8)	24 (20)	27 (23)						
25	3 (3)	3 (14)	3 (12)						
26	4 (4)	12 (12)	11 (8)						
27	7 (5)	20 (15)	21 (19)						
28	5 (4)	23 (20)	16 (12)						
29									
30							31 (19)	104 (68)	123 (68)
Avg	10	22	22						
n	28	28	28	0	0	0	1	1	1
SD	6	10	10						
Min	3	3	3						
Max	24	48	46						

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for May, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1							40 (19)	155 (96)	137 (69)
2							8 (8)	42 (18)	56 (41)
3							5 (5)	39 (21)	43 (34)
4							15 (6)	54 (24)	61 (44)
5									
6	18 (10)	33 (25)	41 (25)						
7	13 (9)	25 (21)	35 (25)						
8	12 (5)	33 (17)	55 (23)						
9	15 (10)	42 (23)	63 (29)						
10	19 (9)	46 (34)	57 (38)						
11	5 (5)	14 (13)	16 (22)						
12	9 (6)	31 (22)	27 (29)						
13	15 (10)	32 (25)	30 (33)						
14	8 (7)	19 (17)	19 (31)						
15	19 (9)	42 (24)	37 (34)						
16	22 (9)	53 (30)	56 (38)						
17	11 (10)	33 (28)	55 (58)						
18	6 (4)	29 (19)	40 (36)						
19	11 (10)	46 (34)	41 (34)						
20	8 (8)	25 (20)	26 (32)						
21	13 (14)	35 (20)	39 (40)						
22	17 (12)	39 (29)	41 (51)						
23	26 (20)	55 (45)	66 (53)						
24	22 (13)	54 (50)	46 (39)						
25	21 (9)	34 (21)	46 (44)						
26									
27	14 (12)	30 (25)	41 (48)						
28	18 (9)	42 (35)	34 (51)						
29	25 (16)	50 (50)	46 (48)						
30	11 (7)	26 (16)	27 (41)						
31	8 (5)	19 (36)							
Avg	15	36	40				17	73	74
n	25	24	25	0	0	0	4	4	4
SD	6	11	13				14	48	37
Min	5	14	16				5	39	43
Max	26	55	66				40	155	137

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for June, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	10 (5)		20 (51)						
2									
3	10 (5)		33 (49)						
4	20 (11)		57 (41)						
5	13 (7)	33 (14)	33 (21)						
6	11 (8)	28 (17)	29 (25)						
7	15 (10)	44 (28)	56 (38)						
8									
9									
10	15 (20)	20 (11)	32 (51)						
11	10 (6)	19 (7)	23 (10)						
12	11 (10)	26 (23)	39 (39)						
13	8 (4)	24 (9)	26 (11)						
14									
15									
16									
17									
18	13 (6)	53 (36)	51 (34)						
19									
20							23 (22)	87 (58)	104 (85)
21							21 (15)	114 (78)	101 (71)
22							9 (6)	84 (111)	58 (38)
23							18 (17)	106 (77)	111 (77)
24							62 (31)	142 (79)	188 (105)
25							46 (24)	125 (65)	158 (94)
26									
27	19 (15)	49 (53)	50 (58)						
28	9 (5)	23 (30)	23 (29)						
29	7 (5)	55 (54)	49 (45)						
30									
Avg	12	34	37				30	110	120
n	14	11	14	0	0	0	6	6	6
SD	4	13	13				18	20	42
Min	7	19	20				9	84	58
Max	20	55	57				62	142	188

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for July, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1									
2									
3									
4	32 (21)	66 (55)	80 (70)						
5	46 (19)	70 (45)	130 (76)						
6	40 (19)	69 (53)	124 (95)						
7	31 (24)	50 (63)	77 (93)						
8									
9									
10									
11	27 (18)	67 (62)	104 (86)						
12	17 (8)	51 (81)	54 (86)						
13	10 (7)	68 (65)	75 (79)						
14	31 (21)	92 (65)	116 (94)						
15	34 (19)	27 (180)	163 (87)						
16	46 (23)	45 (80)	156 (64)						
17	29 (17)	38 (38)	98 (52)						
18	10 (6)	54 (47)	87 (61)						
19	27 (27)	45 (58)	78 (88)						
20	13 (8)	45 (40)	82 (69)						
21	11 (9)	63 (51)	71 (60)						
22	10 (6)	67 (61)	71 (66)						
23	33 (23)	80 (62)	114 (91)						
24	34 (14)	80 (48)	94 (79)						
25	15 (8)	46 (48)	51 (69)						
26	32 (20)	74 (56)	98 (77)						
27	30 (13)	72 (51)	93 (71)						
28	52 (27)	113 (69)	131 (85)						
29	36 (17)	102 (61)	146 (83)						
30	41 (54)	98 (69)	143 (135)						
31	22 (20)	73 (62)	85 (78)						
Avg	28	66	101						
n	25	25	25	0	0	0	0	0	0
SD	12	21	30						
Min	10	27	51						
Max	52	113	163						

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for August, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1									
2				12 (7)	20 (36)	35 (24)			
3				12 (6)	24 (19)	26 (12)			
4				11 (5)	25 (27)	31 (15)			
5				6 (5)	15 (39)	25 (15)			
6				6 (5)	15 (34)	19 (14)			
7				4 (4)	13 (29)	15 (10)			
8				9 (8)	16 (35)	19 (15)			
9				5 (4)	15 (33)	21 (17)			
10				5 (5)	13 (32)	12 (12)			
11				8 (6)	17 (28)	19 (15)			
12				8 (4)	15 (14)	14 (5)			
13				7 (4)	13 (38)	15 (12)			
14				7 (4)	10 (25)	11 (6)			
15				5 (4)	6 (40)	8 (9)			
16				8 (4)	15 (21)	11 (5)			
17				8 (4)	9 (18)	10 (5)			
18									
19							40 (27)	148 (130)	119 (95)
20							54 (35)	144 (112)	104 (82)
21							51 (27)	152 (106)	108 (75)
22							52 (24)	114 (91)	126 (72)
23							15 (8)	57 (51)	51 (53)
24							18 (27)	80 (60)	59 (76)
25									
26		86 (84)	57 (47)						
27		39 (36)	40 (29)						
28		20 (52)	29 (45)						
29		55 (69)	73 (72)						
30		103 (95)	156 (119)						
31		100 (64)	148 (95)						
Avg		67	84	7	15	18	38	116	94
n	0	6	6	16	16	16	6	6	6
SD		32	50	2	5	8	16	36	29
Min		20	29	4	6	8	15	57	51
Max		103	156	12	25	35	54	152	126

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for September, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1		131 (52)	176 (62)						
2		63 (65)	108 (63)						
3	39 (46)	10 (34)	42 (64)						
4	83 (79)	36 (30)	181 (181)						
5	14 (9)	32 (24)	42 (46)						
6	8 (5)	16 (14)	20 (10)						
7	9 (6)	16 (11)	20 (11)						
8	14 (19)	22 (23)	33 (34)						
9	14 (15)	29 (27)	42 (40)						
10	22 (12)	47 (46)	49 (32)						
11	17 (13)	30 (26)	39 (35)						
12	10 (10)	27 (24)	29 (29)						
13	7 (6)	19 (14)	15 (12)						
14	6 (5)	21 (23)	16 (15)						
15	9 (8)	20 (20)	24 (21)						
16	25 (23)	70 (69)	72 (68)						
17	20 (21)								
18	35 (23)								
19	65 (75)								
20	47 (29)	85 (66)	109 (99)						
21	43 (30)	95 (79)	96 (77)						
22	37 (12)	84 (50)	91 (53)						
23	32 (18)	72 (57)	70 (53)						
24	26 (25)	15 (24)	8 (21)						
25	19 (14)	31 (34)	26 (28)						
26	33 (14)	73 (41)	75 (53)						
27	16 (12)	20 (25)	16 (20)						
28	8 (5)	13 (15)	11 (7)						
29	9 (5)	9 (17)	12 (17)						
30	7 (5)	10 (14)	13 (12)						
Avg	24	41	53						
n	28	27	27	0	0	0	0	0	0
SD	18	31	47						
Min	6	9	8						
Max	83	131	181						

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for October, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	24 (46)		-42 (93)						
2	32 (32)		34 (63)						
3	13 (14)		34 (54)						
4	13 (10)		28 (30)						
5	12 (5)		18 (9)						
6	15 (5)		22 (7)						
7									
8									
9									
10	10 (6)	28 (18)	19 (7)						
11	21 (8)	39 (20)	37 (16)						
12	19 (4)	29 (19)	31 (12)						
13	8 (6)	11 (31)	14 (10)						
14									
15							12 (8)	54 (29)	52 (29)
16									
17									
18									
19									
20									
21									
22							19 (17)	89 (93)	55 (75)
23							22 (16)	69 (80)	60 (78)
24							14 (6)	33 (23)	36 (14)
25							12 (6)	39 (31)	30 (14)
26							11 (11)	59 (37)	36 (27)
27							7 (7)	58 (57)	43 (63)
28									
29	18 (10)	42 (36)	34 (24)						
30									
31									
Avg	17	30	21				14	57	45
n	11	5	11	0	0	0	7	7	7
SD	7	11	21				5	17	11
Min	8	11	-42				7	33	30
Max	32	42	37				22	89	60

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for November, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	10 (7)	26 (20)	19 (13)						
2	29 (16)	54 (49)	45 (31)						
3	28 (6)	44 (18)	39 (14)						
4									
5									
6	9 (8)	12 (25)	11 (17)						
7	3 (3)	14 (19)							
8	2 (2)	15 (18)							
9	3 (3)	22 (27)							
10	6 (5)	29 (23)							
11	13 (7)	28 (18)							
12	11 (6)	15 (8)	20 (10)						
13	10 (5)	15 (7)	19 (13)						
14	4 (4)	16 (7)	13 (5)						
15	4 (3)	13 (5)	12 (6)						
16	5 (5)	17 (6)	20 (9)						
17	4 (4)	23 (14)	26 (13)						
18	18 (11)	55 (74)	48 (26)						
19									
20									
21	20 (16)	51 (38)	34 (23)						
22	23 (6)	35 (14)	32 (10)						
23									
24	10 (6)	23 (15)	19 (13)						
25	19 (17)	50 (49)	35 (35)						
26	22 (9)	51 (38)	36 (20)						
27	17 (9)	32 (23)	23 (19)						
28	17 (15)	53 (49)	32 (25)						
29									
30									
Avg	13	30	27						
n	23	23	18	0	0	0	0	0	0
SD	8	15	11						
Min	2	12	11						
Max	29	55	48						

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for December, 2008.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1									
2	9 (4)								
3	9 (5)	31 (19)	32 (16)						
4	13 (13)	34 (18)	32 (25)						
5	10 (6)	29 (14)	27 (19)						
6	13 (10)	32 (17)	21 (7)						
7	10 (8)	35 (25)	24 (19)						
8									
9									
10									
11	9 (5)	47 (64)	48 (49)						
12	11 (6)	41 (29)	37 (26)						
13	11 (4)	17 (13)	25 (20)						
14									
15									
16									
17							18 (6)	122 (44)	117 (34)
18							29 (6)	121 (51)	95 (59)
19							17 (14)	96 (42)	68 (25)
20							38 (44)		73 (26)
21									
22									
23									
24							19 (8)		112 (30)
25							52 (48)		104 (33)
26							19 (21)		64 (40)
27							13 (6)		47 (24)
28							13 (5)		63 (24)
29							9 (5)		52 (25)
30									
31	9 (4)	39 (24)	47 (33)						
Avg	10	34	33				23	113	80
n	10	9	9	0	0	0	10	3	10
SD	1	8	9				13	12	24
Min	9	17	21				9	96	47
Max	13	47	48				52	122	117

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for January, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	13 (8)	27 (11)	32 (13)						
2	8 (6)	38 (24)	34 (12)						
3	15 (7)	30 (18)	33 (21)						
4	10 (8)	37 (22)	31 (11)						
5	9 (5)	37 (19)	31 (11)						
6	12 (5)	38 (26)	56 (39)						
7	15 (6)	33 (13)	32 (10)						
8	11 (7)	38 (25)	27 (10)						
9	9 (6)	38 (18)	29 (10)						
10	8 (5)	37 (15)	33 (10)						
11	15 (4)	42 (17)	43 (12)						
12	18 (8)	47 (32)	40 (13)						
13									
14				5 (4)	33 (27)	28 (21)			
15				9 (5)	35 (20)	25 (42)			
16				9 (4)	28 (19)	22 (22)			
17				10 (4)	27 (20)	17 (10)			
18				9 (5)	20 (11)	19 (12)			
19				7 (5)	19 (11)	16 (9)			
20				7 (4)	17 (20)	17 (20)			
21				15 (7)	20 (16)	23 (12)			
22				33 (11)	28 (10)	32 (17)			
23				12 (15)	17 (12)	13 (13)			
24				7 (4)	27 (17)	23 (21)			
25				9 (4)	30 (18)	20 (11)			
26				14 (5)	39 (21)	34 (27)			
27									
28	26 (7)	40 (16)	42 (12)						
29	13 (10)	36 (15)	35 (9)						
30	8 (6)	36 (17)	39 (15)						
31	9 (6)	22 (12)	27 (16)						
Avg	13	36	35	11	26	22			
n	16	16	16	13	13	13	0	0	0
SD	5	6	7	7	7	6			
Min	8	22	27	5	17	13			
Max	26	47	56	33	39	34			

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for February, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	4 (3)	25 (10)	33 (14)						
2	5 (4)	55 (21)	54 (15)						
3	5 (4)	44 (24)	54 (26)						
4	12 (5)	34 (15)	90 (59)						
5	19 (7)	36 (14)	61 (29)						
6	33 (5)	38 (12)	47 (13)						
7	21 (6)	34 (14)	32 (8)						
8	8 (5)	24 (13)	28 (14)						
9									
10	4 (4)	14 (8)	15 (8)						
11	7 (4)	34 (17)	21 (11)						
12	8 (4)	33 (15)							
13	9 (3)	33 (16)							
14	8 (4)	49 (21)							
15	9 (5)	54 (22)							
16	18 (8)	56 (30)							
17									
18							12 (7)	103 (46)	191 (70)
19							5 (5)	155 (70)	222 (79)
20							17 (10)	177 (87)	191 (54)
21							11 (13)	178 (65)	148 (82)
22							8 (5)	191 (83)	111 (36)
23							15 (8)	210 (107)	115 (48)
24									
25	16 (7)	40 (25)	44 (16)						
26	13 (9)	32 (14)	35 (16)						
27	5 (3)	50 (23)	39 (11)						
28	9 (6)	61 (26)	52 (16)						
Avg	11	39	43				11	169	163
n	19	19	14	0	0	0	6	6	6
SD	7	12	18				4	34	41
Min	4	14	15				5	103	111
Max	33	61	90				17	210	222

Table F4. Daily means (SD) of particulate matter concentrations at Site WI5B for March, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	8 (5)	61 (21)	64 (15)						
2									
3									
4	20 (7)	36 (15)	74 (26)						
5	28 (7)	37 (10)	48 (12)						
6	25 (9)	34 (12)	35 (11)						
7	9 (6)	30 (13)	32 (13)						
8	9 (5)	40 (19)	44 (18)						
9	15 (5)	37 (22)	53 (30)						
10	11 (7)	23 (13)	18 (10)						
11	11 (5)	56 (29)	40 (17)						
12	13 (6)	60 (32)	56 (27)						
13	18 (4)	41 (24)	48 (23)						
14	15 (4)	28 (16)	44 (17)						
15	20 (5)	25 (7)	54 (17)						
16	20 (7)	30 (10)	54 (23)						
17	12 (6)	32 (29)	55 (34)						
18	8 (5)	49 (37)	29 (12)						
19	7 (4)	44 (33)	39 (31)						
20	16 (7)	28 (15)	36 (14)						
21	20 (4)	34 (20)	31 (12)						
22	23 (8)	25 (6)	34 (10)						
23	18 (4)	20 (6)	29 (8)						
24	15 (9)	21 (10)	26 (13)						
25	5 (4)	18 (10)	12 (6)						
26									
27									
28	6 (4)	28 (20)	16 (13)						
29	6 (4)	26 (13)	16 (9)						
30	12 (5)	37 (29)	24 (15)						
31	9 (5)	21 (12)	18 (11)						
Avg	14	34	38						
n	27	27	27	0	0	0	0	0	0
SD	6	12	16						
Min	5	18	12						
Max	28	61	74						

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for April, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	5 (4)	16 (11)	11 (5)						
2	6 (3)	29 (25)	13 (5)						
3	5 (4)	30 (36)	13 (7)						
4	5 (4)	22 (12)	16 (10)						
5	3 (3)	20 (19)	9 (7)						
6									
7							12 (8)	96 (72)	88 (90)
8							12 (7)	116 (124)	55 (36)
9							9 (5)	93 (57)	47 (30)
10							12 (11)	92 (69)	59 (66)
11							12 (9)	92 (70)	59 (74)
12							22 (15)	110 (74)	69 (55)
13							18 (10)	159 (166)	80 (77)
14									
15	20 (10)	80 (77)	42 (29)						
16	27 (12)	76 (74)	46 (27)						
17	34 (14)	72 (59)	53 (30)						
18	22 (16)	44 (42)	41 (34)						
19	3 (3)	13 (19)	11 (6)						
20	3 (3)	16 (19)	13 (9)						
21	7 (7)	30 (24)	20 (15)						
22	5 (3)	27 (30)	16 (11)						
23	26 (15)	51 (30)	45 (20)						
24	26 (32)	36 (28)	32 (16)						
25	3 (3)	13 (20)	12 (10)						
26	5 (4)	16 (16)	16 (10)						
27	3 (3)	8 (18)	10 (11)						
28	5 (4)	19 (23)	18 (12)						
29	8 (5)	25 (21)	22 (11)						
30	13 (9)	15 (23)	15 (15)						
Avg	11	31	22				14	108	65
n	21	21	21	0	0	0	7	7	7
SD	10	21	14				4	23	13
Min	3	8	9				9	92	47
Max	34	80	53				22	159	88

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for May, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	7 (4)	17 (20)	13 (11)						
2	16 (7)	31 (27)	25 (17)						
3	15 (8)	31 (25)	24 (16)						
4	22 (11)	53 (37)	36 (21)						
5	13 (7)	22 (25)	21 (14)						
6	13 (7)	19 (25)	17 (12)						
7	12 (5)	27 (26)	19 (15)						
8	14 (8)	27 (28)	25 (17)						
9	4 (4)	12 (19)	13 (12)						
10	4 (4)	12 (18)	14 (10)						
11	14 (8)	34 (34)	23 (14)						
12	25 (11)	47 (31)	64 (67)						
13	11 (6)	18 (6)	21 (33)						
14	10 (6)	25 (14)	22 (7)						
15	13 (8)	30 (29)	19 (66)						
16	8 (6)	22 (12)	18 (12)						
17	16 (14)	26 (16)	34 (126)						
18	25 (12)	53 (43)	40 (34)						
19	41 (19)	120 (67)	113 (72)						
20	74 (51)	196 (110)	196 (108)						
21	15 (10)	38 (30)	32 (33)						
22	21 (12)	72 (58)	59 (44)						
23	14 (7)	41 (30)	41 (31)						
24	68 (86)	75 (66)	144 (171)						
25	45 (27)	76 (55)	77 (53)						
26	17 (10)	29 (19)	30 (21)						
27	5 (4)	14 (13)	10 (6)						
28	12 (7)	43 (46)	27 (30)						
29	19 (28)	38 (37)	32 (34)						
30	11 (6)	18 (19)	14 (17)						
31	25 (14)	82 (69)	69 (61)						
Avg	20	44	42						
n	31	31	31	0	0	0	0	0	0
SD	16	37	41						
Min	4	12	10						
Max	74	196	196						

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for June, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	12 (8)	35 (33)	26 (27)						
2	16 (13)	38 (33)	30 (25)						
3									
4							36 (21)	184 (140)	113 (88)
5							24 (12)	124 (92)	75 (54)
6							6 (6)	39 (34)	29 (25)
7							5 (4)	34 (20)	21 (8)
8									
9	8 (5)	20 (15)	16 (6)						
10	7 (5)	20 (25)	15 (8)						
11	9 (5)	39 (32)	23 (17)						
12	13 (7)	52 (47)	39 (32)						
13	16 (9)	70 (61)	65 (62)						
14	19 (17)	95 (99)	79 (57)						
15	40 (27)	137 (107)	110 (75)						
16	27 (20)	119 (108)	74 (74)						
17	24 (12)	83 (66)	76 (60)						
18	12 (7)	42 (50)	32 (40)						
19	13 (6)	63 (52)	54 (44)						
20	21 (13)	102 (68)	89 (62)						
21	24 (15)	98 (71)	81 (58)						
22	32 (15)	91 (51)	105 (54)						
23	34 (22)	114 (88)	112 (85)						
24	29 (21)	141 (76)	115 (69)						
25	13 (7)	97 (66)	75 (61)						
26	50 (39)	114 (101)	125 (108)						
27	50 (59)	85 (75)	80 (67)						
28	15 (8)	69 (69)	60 (63)						
29	6 (4)	32 (38)	9 (24)						
30	5 (4)	13 (30)	5 (20)						
Avg	21	74	62				18	95	59
n	24	24	24	0	0	0	4	4	4
SD	13	37	36				13	62	37
Min	5	13	5				5	34	21
Max	50	141	125				36	184	113

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for July, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	4 (3)	13 (33)	6 (24)						
2	9 (5)	62 (51)	51 (49)						
3	17 (10)	96 (79)	78 (63)						
4	14 (11)	54 (46)	40 (35)						
5	12 (5)	71 (51)	61 (43)						
6									
7				7 (5)	27 (20)	22 (16)			
8				7 (5)	22 (14)	19 (10)			
9				10 (4)	26 (15)	25 (12)			
10				6 (5)	25 (17)	21 (14)			
11				4 (4)	15 (14)	9 (10)			
12				4 (4)	19 (16)	11 (10)			
13				5 (4)	24 (22)	15 (16)			
14				11 (7)	30 (17)	24 (14)			
15				4 (4)	15 (14)	12 (11)			
16				3 (3)	11 (11)	7 (6)			
17				2 (3)	10 (8)	7 (5)			
18				4 (3)	9 (8)	8 (6)			
19				5 (4)	13 (12)	10 (9)			
20				8 (6)	24 (15)	22 (12)			
21									
22	27 (57)	49 (50)	44 (48)						
23	17 (10)	79 (58)	83 (60)						
24	12 (6)	47 (39)	42 (37)						
25	9 (7)	43 (38)	33 (30)						
26	9 (5)	63 (49)	58 (45)						
27	18 (13)	72 (59)	62 (52)						
28	8 (5)	35 (36)	21 (22)						
29	20 (11)	60 (57)	35 (27)						
30	9 (6)	20 (17)	18 (14)						
31	16 (12)	69 (54)	60 (52)						
Avg	13	55	46	6	19	15			
n	15	15	15	14	14	14	0	0	0
SD	6	21	21	2	7	6			
Min	4	13	6	2	9	7			
Max	27	96	83	11	30	25			

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for August, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	6 (4)	19 (19)	18 (18)						
2	20 (17)	52 (43)	68 (53)						
3	13 (6)	50 (39)	55 (40)						
4									
5							15 (10)	101 (58)	63 (37)
6							14 (8)	106 (62)	77 (59)
7							16 (11)	45 (39)	32 (18)
8							25 (17)	70 (33)	72 (48)
9							9 (7)	81 (40)	65 (39)
10							12 (4)	88 (53)	62 (40)
11									
12	39 (19)	121 (67)	123 (72)						
13	32 (20)	94 (71)	91 (63)						
14	32 (15)	84 (48)	115 (60)						
15	38 (10)	105 (37)	111 (44)						
16	15 (9)	67 (38)	62 (39)						
17	16 (12)	49 (47)	59 (56)						
18	14 (9)	66 (58)	50 (49)						
19	11 (7)	29 (31)	26 (29)						
20	5 (3)	15 (13)	14 (19)						
21	6 (4)	21 (24)	13 (22)						
22	6 (3)	33 (35)	24 (29)						
23	15 (10)	59 (57)	63 (64)						
24	24 (14)	87 (64)	79 (56)						
25	11 (6)	55 (49)	51 (47)						
26	9 (5)	62 (63)	50 (52)						
27	39 (45)	74 (69)	109 (118)						
28	9 (5)	35 (45)	27 (42)						
29	4 (3)	13 (32)	8 (22)						
30	39 (145)	16 (36)	11 (33)						
31	18 (21)	55 (75)	31 (40)						
Avg	18	55	55				15	82	62
n	23	23	23	0	0	0	6	6	6
SD	12	29	35				5	21	14
Min	4	13	8				9	45	32
Max	39	121	123				25	106	77

Table F4. Daily means (SD) of particulate matter concentrations at Site WISB for September, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1	19 (12)	61 (52)	35 (32)						
2	35 (32)	70 (60)	63 (68)						
3	68 (72)	73 (70)	95 (123)						
4	63 (39)	79 (80)	68 (70)						
5	47 (35)	102 (90)	78 (71)						
6	44 (35)	97 (90)	83 (74)						
7	60 (39)								
8	51 (34)	103 (77)	111 (79)						
9	55 (37)	101 (64)	104 (79)						
10	60 (38)	102 (64)	112 (74)						
11	54 (31)	111 (73)	112 (76)						
12	62 (49)	101 (64)	132 (116)						
13	59 (56)	113 (99)	120 (102)						
14	75 (71)	120 (98)	127 (150)						
15									
16							109 (92)	142 (116)	266 (256)
17							69 (63)	148 (117)	88 (73)
18							84 (63)	184 (140)	193 (197)
19							62 (43)	199 (185)	138 (150)
20							47 (35)	166 (154)	100 (81)
21							42 (22)	140 (106)	88 (65)
22							19 (13)	30 (16)	59 (57)
23							14 (5)	62 (42)	51 (22)
24							14 (8)	99 (85)	70 (52)
25							17 (18)	39 (24)	26 (10)
26							22 (20)	52 (40)	30 (17)
27							12 (13)	50 (30)	34 (18)
28							8 (4)	50 (38)	31 (36)
29							3 (3)	47 (57)	32 (60)
30							9 (9)	73 (43)	34 (31)
Avg	54	95	95				35	99	83
n	14	13	13	0	0	0	15	15	15
SD	14	17	27				31	57	67
Min	19	61	35				3	30	26
Max	75	120	132				109	199	266

Table F4. Daily means (SD) of particulate matter concentrations at Site W15B for October, 2009.

Day	PM ₁₀ Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			PM _{2.5} Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$			TSP Concentration, $\mu\text{g}\cdot\text{dsm}^{-3}$		
	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2	Inlet	Barn 1	Barn 2
1							10 (8)	46 (64)	27 (25)
2							3 (2)	48 (52)	16 (9)
3							3 (3)	28 (21)	16 (4)
4							3 (3)	29 (17)	16 (5)
5							6 (4)	43 (46)	23 (11)
6							3 (3)	34 (22)	15 (5)
7							8 (5)	39 (25)	24 (9)
8							5 (4)	42 (34)	26 (19)
9							6 (4)	42 (43)	31 (32)
10							29 (94)	47 (36)	33 (28)
11							7 (4)	54 (37)	73 (420)
12							6 (4)	55 (54)	33 (16)
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
Avg	0	0	0	0	0	0	7	42	28
n	0	0	0	0	0	0	12	12	12
SD							7	8	15
Min							3	28	15
Max							29	55	73

Table F5. PM10 emissions.**Table F5. Daily means (SD) of PM10 emissions at Site W15B for September, 2007.**

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	151.0 (472.0)	58.0 (181.0)	716 (2230)	509 (1590)	315.0 (542.0)	98.0 (169.0)	886 (1530)	630 (1090)
13	38.1 (164.0)	14.6 (63.0)	181 (778)	128 (553)	198.0 (298.0)	61.7 (93.0)	558 (841)	397 (598)
14	-9.1 (84.2)	-3.5 (32.3)	-43 (399)	-31 (284)				
15	25.7 (155.0)	9.9 (59.6)	122 (736)	87 (523)	154.0 (204.0)	48.0 (63.5)	434 (574)	308 (408)
16								
17								
18	248.0 (1070.0)	95.1 (411.0)	1170 (5070)	834 (3600)	746.0 (1550.0)	233.0 (483.0)	2100 (4360)	1500 (3100)
19	-18.0 (114.0)	-6.9 (43.7)	-85 (539)	-61 (383)	12.9 (180.0)	4.0 (56.2)	36 (508)	26 (362)
20	319.0 (687.0)	123.0 (264.0)	1510 (3260)	1080 (2320)	646.0 (1100.0)	201.0 (344.0)	1820 (3110)	1290 (2210)
21								
22	195.0 (492.0)	75.0 (189.0)	926 (2330)	659 (1660)	445.0 (841.0)	139.0 (262.0)	1250 (2370)	891 (1680)
23	941.0 (1140.0)	361.0 (438.0)	4460 (5400)	3170 (3840)	1910.0 (2050.0)	594.0 (637.0)	5370 (5760)	3820 (4100)
24	442.0 (1430.0)	170.0 (550.0)	2090 (6790)	1490 (4830)	1400.0 (2190.0)	435.0 (684.0)	3930 (6180)	2800 (4400)
25	-84.5 (152.0)	-32.4 (58.5)	-400 (722)	-285 (514)	-93.6 (207.0)	-29.2 (64.4)	-264 (582)	-188 (414)
26	0.6 (170.0)	0.2 (65.3)	3 (806)	2 (573)	36.2 (238.0)	11.3 (74.1)	102 (670)	73 (476)
27	118.0 (258.0)	45.2 (99.1)	558 (1220)	396 (870)	66.4 (308.0)	20.7 (96.1)	187 (869)	133 (618)
28	22.8 (206.0)	8.8 (79.0)	108 (975)	77 (694)	82.4 (303.0)	25.7 (94.4)	232 (854)	165 (607)
29	6.6 (155.0)	2.5 (59.5)	31 (735)	22 (522)	110.0 (166.0)	34.4 (51.7)	311 (467)	221 (332)
30	-32.2 (252.0)	-12.4 (96.8)	-153 (1190)	-109 (849)	19.2 (335.0)	6.0 (104.0)	54 (943)	38 (671)
Avg	148.0	56.7	700	498	403.0	125.0	1130	807
n	16	16	16	16	15	15	15	15
SD	248.0	95.1	1170	834	549.0	171.0	1550	1100
Min	-84.5	-32.4	-400	-285	-93.6	-29.2	-264	-188
Max	941.0	361.0	4460	3170	1910.0	594.0	5370	3820

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for October, 2007.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	-36.3 (126.0)	-13.9 (48.3)	-172 (596)	-122 (424)				
2	-104.0 (273.0)	-39.8 (105.0)	-491 (1290)	-349 (920)	-61.3 (252.0)	-19.1 (78.5)	-173 (709)	-123 (505)
3	109.0 (344.0)	41.8 (132.0)	516 (1630)	367 (1160)	449.0 (767.0)	140.0 (239.0)	1260 (2160)	899 (1540)
4	270.0 (634.0)	104.0 (243.0)	1280 (3000)	910 (2140)	903.0 (1400.0)	281.0 (436.0)	2540 (3940)	1810 (2800)
5								
6	782.0 (1100.0)	300.0 (424.0)	3710 (5230)	2630 (3720)	3300.0 (2210.0)	1030.0 (688.0)	9300 (6220)	6620 (4420)
7	581.0 (838.0)	223.0 (322.0)	2750 (3970)	1960 (2820)	2600.0 (1470.0)	811.0 (457.0)	7340 (4130)	5220 (2940)
8								
9	-24.0 (148.0)	-9.2 (57.0)	-114 (703)	-81 (500)	60.0 (275.0)	18.7 (85.5)	169 (773)	120 (550)
10	13.0 (161.0)	5.0 (61.7)	61 (761)	44 (541)				
11								
12	23.5 (75.3)	9.0 (28.9)	111 (357)	79 (254)	167.0 (155.0)	51.9 (48.2)	469 (436)	334 (310)
13	24.4 (108.0)	9.4 (41.4)	116 (511)	82 (364)	157.0 (186.0)	48.9 (58.1)	442 (525)	314 (373)
14	40.2 (86.6)	15.4 (33.2)	190 (410)	135 (292)	95.1 (164.0)	29.6 (51.1)	268 (462)	190 (328)
15	16.9 (70.3)	6.5 (27.0)	80 (333)	57 (237)	56.7 (81.9)	17.7 (25.5)	160 (231)	114 (164)
16	-4.1 (58.1)	-1.6 (22.3)	-19 (275)	-14 (196)	45.5 (88.4)	14.2 (27.5)	128 (249)	91 (177)
17	-7.9 (71.3)	-3.0 (27.4)	-37 (338)	-27 (240)	85.8 (135.0)	26.7 (42.0)	242 (379)	172 (270)
18	-25.2 (99.7)	-9.7 (38.3)	-119 (472)	-85 (336)	2.2 (114.0)	0.7 (35.6)	6 (322)	4 (229)
19	86.1 (414.0)	33.1 (159.0)	408 (1960)	290 (1400)	98.5 (62.2)	30.7 (19.4)	278 (175)	197 (125)
20	52.7 (111.0)	20.3 (42.5)	250 (525)	178 (373)	139.0 (78.0)	43.4 (24.3)	392 (220)	279 (156)
21								
22	42.1 (102.0)	16.2 (39.1)	199 (483)	142 (343)	92.9 (103.0)	29.0 (32.1)	262 (290)	186 (206)
23	39.4 (83.7)	15.1 (32.1)	187 (397)	133 (282)	146.0 (120.0)	45.4 (37.5)	411 (339)	292 (241)
24	54.3 (79.0)	20.9 (30.3)	257 (374)	183 (266)	136.0 (139.0)	42.3 (43.3)	382 (392)	272 (279)
25	48.2 (80.5)	18.5 (30.9)	228 (381)	162 (271)	136.0 (128.0)	42.4 (39.8)	384 (360)	273 (256)
26	40.8 (144.0)	15.7 (55.4)	193 (684)	137 (486)	92.8 (155.0)	28.9 (48.2)	261 (436)	186 (310)
27	51.7 (77.3)	19.9 (29.7)	245 (366)	174 (261)	140.0 (117.0)	43.5 (36.5)	393 (330)	280 (235)
28	-5.3 (79.4)	-2.0 (30.5)	-25 (376)	-18 (268)	124.0 (110.0)	38.6 (34.3)	349 (310)	248 (220)
29								
30								
31								
Avg	86.2	33.1	408	291	408.0	127.0	1150	817
n	24	24	24	24	22	22	22	22
SD	193.0	74.2	915	651	833.0	260.0	2350	1670
Min	-104.0	-39.8	-491	-349	-61.3	-19.1	-173	-123
Max	782.0	300.0	3710	2630	3300.0	1030.0	9300	6620

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for November, 2007.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	-1.6 (32.7)	-0.6 (12.6)	-8 (155)	-6 (110)	46.4 (53.0)	14.4 (16.5)	131 (149)	93 (106)
17	10.6 (35.3)	4.1 (13.6)	50 (167)	36 (119)	37.8 (38.9)	11.8 (12.1)	107 (110)	76 (78)
18	3.8 (31.3)	1.5 (12.0)	18 (148)	13 (106)	43.9 (56.2)	13.7 (17.5)	124 (158)	88 (112)
19	-41.6 (109.0)	-16.0 (42.0)	-197 (519)	-140 (369)	2.6 (140.0)	0.8 (43.7)	7 (395)	5 (281)
20	59.3 (136.0)	22.8 (52.3)	281 (646)	200 (459)	105.0 (114.0)	32.6 (35.4)	295 (320)	210 (228)
21	65.8 (43.7)	25.3 (16.8)	312 (207)	222 (147)				
22	47.7 (24.2)	18.3 (9.3)	226 (115)	161 (82)				
23	42.1 (41.9)	16.2 (16.1)	200 (199)	142 (141)	121.0 (68.1)	37.8 (21.2)	342 (192)	243 (136)
24	25.7 (40.5)	9.9 (15.5)	122 (192)	87 (136)	96.6 (49.1)	30.1 (15.3)	272 (138)	193 (98)
25	22.3 (65.4)	8.6 (25.1)	106 (310)	75 (220)	88.7 (63.4)	27.6 (19.8)	250 (179)	178 (127)
26	56.8 (86.5)	21.8 (33.2)	269 (410)	191 (292)	140.0 (91.7)	43.5 (28.6)	394 (258)	280 (184)
27	133.0 (214.0)	51.0 (82.2)	629 (1010)	447 (721)	241.0 (210.0)	75.2 (65.5)	680 (593)	484 (421)
28	68.9 (92.1)	26.5 (35.4)	327 (436)	232 (310)	237.0 (204.0)	74.0 (63.6)	669 (575)	476 (409)
29	67.2 (64.1)	25.8 (24.6)	318 (304)	226 (216)	254.0 (400.0)	79.1 (125.0)	715 (1130)	508 (801)
30								
Avg	40.0	15.4	189	135	118.0	36.7	332	236
n	14	14	14	14	12	12	12	12
SD	40.2	15.4	191	136	81.8	25.5	230	164
Min	-41.6	-16.0	-197	-140	2.6	0.8	7	5
Max	133.0	51.0	629	447	254.0	79.1	715	508

Table F5. Daily means (SD) of PM₁₀ emissions at Site W15B for December, 2007.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	-30.3 (254.0)	-11.6 (97.6)	-144 (1200)	-102 (857)	264.0 (251.0)	82.2 (78.1)	743 (706)	528 (502)
2	37.7 (85.2)	14.5 (32.7)	179 (404)	127 (287)	198.0 (93.8)	61.6 (29.2)	557 (264)	396 (188)
3								
4	18.3 (33.8)	7.0 (13.0)	87 (160)	62 (114)	107.0 (84.0)	33.2 (26.2)	301 (237)	214 (168)
5								
6	93.5 (450.0)	35.9 (173.0)	443 (2130)	315 (1520)	125.0 (79.9)	38.9 (24.9)	351 (225)	250 (160)
7	60.0 (160.0)	23.0 (61.3)	284 (756)	202 (538)	112.0 (96.6)	34.9 (30.1)	315 (272)	224 (193)
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18	14.4 (50.7)	5.5 (19.5)	68 (240)	48 (171)	99.1 (208.0)	30.9 (64.9)	279 (587)	199 (417)
19	47.3 (184.0)	18.2 (70.8)	224 (874)	159 (621)	260.0 (525.0)	81.0 (164.0)	732 (1480)	521 (1050)
20					348.0 (410.0)	108.0 (128.0)	979 (1150)	696 (821)
21	216.0 (1040.0)	82.9 (399.0)	1020 (4920)	728 (3500)	302.0 (477.0)	94.1 (149.0)	851 (1340)	605 (956)
22	20.1 (130.0)	7.7 (50.1)	95 (618)	68 (440)	174.0 (345.0)	54.2 (108.0)	490 (973)	349 (692)
23								
24								
25								
26	23.9 (94.7)	9.2 (36.4)	113 (449)	81 (319)	252.0 (203.0)	78.4 (63.1)	709 (571)	504 (406)
27								
28	55.1 (103.0)	21.2 (39.7)	261 (490)	186 (348)	304.0 (457.0)	94.7 (142.0)	856 (1290)	609 (916)
29	12.4 (34.7)	4.8 (13.3)	59 (164)	42 (117)	87.6 (92.4)	27.3 (28.8)	247 (260)	175 (185)
30	-2.8 (39.2)	-1.1 (15.1)	-13 (186)	-10 (132)	18.6 (48.7)	5.8 (15.2)	52 (137)	37 (98)
31	13.2 (78.3)	5.1 (30.1)	63 (371)	45 (264)	22.8 (92.2)	7.1 (28.7)	64 (260)	46 (185)
Avg	41.3	15.9	196	139	178.0	55.5	502	357
n	14	14	14	14	15	15	15	15
SD	56.4	21.7	267	190	102.0	31.8	287	204
Min	-30.3	-11.6	-144	-102	18.6	5.8	52	37
Max	216.0	82.9	1020	728	348.0	108.0	979	696

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for January, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	7.9 (33.2)	3.0 (12.7)	38 (157)	27 (112)				
2					23.8 (42.9)	7.4 (13.4)	67 (121)	48 (86)
3					25.2 (51.5)	7.9 (16.0)	71 (145)	51 (103)
4	-7.7 (35.8)	-3.0 (13.8)	-37 (170)	-26 (121)	-5.9 (34.7)	-1.8 (10.8)	-17 (98)	-12 (70)
5	-24.4 (29.9)	-9.4 (11.5)	-115 (142)	-82 (101)	-10.8 (62.2)	-3.4 (19.4)	-30 (175)	-22 (125)
6	-17.7 (32.6)	-6.8 (12.5)	-84 (155)	-60 (110)	-9.5 (49.0)	-3.0 (15.3)	-27 (138)	-19 (98)
7	16.9 (256.0)	6.5 (98.3)	80 (1210)	57 (863)				
8	0.1 (36.9)	0.0 (14.2)	0 (175)	0 (124)				
9	-7.4 (36.0)	-2.8 (13.8)	-35 (171)	-25 (121)	4.7 (47.3)	1.5 (14.7)	13 (133)	10 (95)
10	-21.2 (52.7)	-8.1 (20.3)	-100 (250)	-71 (178)	1.1 (52.7)	0.3 (16.4)	3 (148)	2 (106)
11	5.7 (44.5)	2.2 (17.1)	27 (211)	19 (150)	97.6 (177.0)	30.4 (55.0)	275 (497)	196 (354)
12	-6.2 (25.5)	-2.4 (9.8)	-29 (121)	-21 (86)	57.4 (46.1)	17.9 (14.4)	162 (130)	115 (92)
13	16.6 (34.2)	6.4 (13.1)	79 (162)	56 (115)	84.6 (46.6)	26.4 (14.5)	238 (131)	170 (93)
14	8.3 (34.3)	3.2 (13.2)	39 (162)	28 (116)				
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Avg	-2.4	-0.9	-12	-8	26.8	8.4	76	54
n	12	12	12	12	10	10	10	10
SD	13.4	5.2	64	45	37.8	11.8	106	76
Min	-24.4	-9.4	-115	-82	-10.8	-3.4	-30	-22
Max	16.9	6.5	80	57	97.6	30.4	275	196

Table F5. Daily means (SD) of PM₁₀ emissions at Site W15B for February, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6	10.3 (35.2)	4.0 (13.5)	49 (167)	35 (119)				
7	15.2 (55.9)	5.8 (21.5)	72 (265)	51 (189)				
8	-5.0 (84.9)	-1.9 (32.6)	-24 (402)	-17 (286)				
9								
10								
11								
12	53.6 (93.1)	20.6 (35.7)	254 (441)	181 (314)				
13	-10.7 (32.2)	-4.1 (12.4)	-51 (153)	-36 (109)				
14	-7.4 (23.1)	-2.8 (8.9)	-35 (110)	-25 (78)				
15								
16	-19.1 (36.2)	-7.3 (13.9)	-90 (172)	-64 (122)				
17	-30.4 (68.2)	-11.7 (26.2)	-144 (323)	-102 (230)				
18	-10.4 (26.6)	-4.0 (10.2)	-50 (126)	-35 (90)				
19								
20								
21								
22								
23								
24								
25								
26								
27	43.4 (222.0)	16.7 (85.2)	206 (1050)	146 (748)	32.7 (27.4)	10.2 (8.5)	92 (77)	66 (55)
28	-86.5 (92.5)	-33.2 (35.5)	-410 (438)	-292 (312)	32.2 (73.1)	10.0 (22.8)	91 (206)	65 (146)
29	38.7 (845.0)	14.9 (324.0)	183 (4000)	130 (2850)	45.5 (50.7)	14.2 (15.8)	128 (143)	91 (102)
Avg	-0.7	-0.3	-3	-2	36.8	11.5	104	74
n	12	12	12	12	3	3	3	3
SD	36.1	13.9	171	122	6.2	1.9	17	12
Min	-86.5	-33.2	-410	-292	32.2	10.0	91	65
Max	53.6	20.6	254	181	45.5	14.2	128	91

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for March, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	479.0 (3680.0)	184.0 (1410.0)	2270 (17400)	1610 (12400)	33.7 (40.4)	10.5 (12.6)	95 (114)	68 (81)
2	-68.7 (137.0)	-26.4 (52.5)	-326 (648)	-232 (461)				
3	15.1 (48.3)	5.8 (18.5)	71 (229)	51 (163)	76.3 (86.3)	23.8 (26.9)	215 (243)	153 (173)
4	12.2 (58.2)	4.7 (22.3)	58 (276)	41 (196)	84.6 (74.8)	26.3 (23.3)	238 (211)	169 (150)
5	3.1 (42.8)	1.2 (16.4)	15 (203)	10 (144)	25.8 (34.0)	8.0 (10.6)	73 (96)	52 (68)
6	16.1 (51.6)	6.2 (19.8)	76 (244)	54 (174)	49.4 (46.0)	15.4 (14.3)	139 (130)	99 (92)
7	8.2 (45.6)	3.2 (17.5)	39 (216)	28 (154)	40.4 (49.7)	12.6 (15.5)	114 (140)	81 (100)
8	5.1 (40.3)	2.0 (15.5)	24 (191)	17 (136)	39.8 (53.6)	12.4 (16.7)	112 (151)	80 (107)
9	-15.8 (38.6)	-6.1 (14.8)	-75 (183)	-53 (130)	21.5 (31.4)	6.7 (9.8)	61 (88)	43 (63)
10	-37.2 (33.7)	-14.3 (12.9)	-176 (160)	-125 (114)	9.3 (38.9)	2.9 (12.1)	26 (109)	19 (78)
11								
12	-91.7 (86.8)	-35.2 (33.3)	-435 (411)	-309 (292)	-43.5 (89.0)	-13.6 (27.7)	-123 (251)	-87 (178)
13	-31.0 (84.4)	-11.9 (32.4)	-147 (400)	-104 (284)	-5.5 (68.3)	-1.7 (21.3)	-16 (192)	-11 (137)
14	76.9 (338.0)	29.5 (130.0)	364 (1600)	259 (1140)				
15	26.4 (65.5)	10.2 (25.2)	125 (311)	89 (221)				
16	15.1 (53.4)	5.8 (20.5)	72 (253)	51 (180)	75.3 (96.2)	23.4 (30.0)	212 (271)	151 (193)
17								
18								
19								
20								
21								
22								
23								
24								
25								
26	62.1 (77.3)	23.9 (29.7)	294 (366)	209 (260)	60.2 (60.7)	18.8 (18.9)	170 (171)	121 (122)
27	79.6 (97.1)	30.6 (37.3)	377 (460)	268 (327)	84.6 (99.8)	26.3 (31.1)	238 (281)	169 (200)
28	74.8 (126.0)	28.7 (48.3)	354 (597)	252 (424)	108.0 (178.0)	33.7 (55.4)	305 (501)	217 (356)
29	63.0 (118.0)	24.2 (45.4)	299 (560)	212 (398)	93.2 (122.0)	29.0 (38.1)	262 (345)	187 (245)
30	69.1 (103.0)	26.5 (39.5)	328 (488)	233 (347)	93.9 (142.0)	29.3 (44.1)	265 (399)	188 (284)
31	55.6 (73.0)	21.4 (28.0)	263 (346)	187 (246)				
Avg	38.9	14.9	184	131	49.8	15.5	140	100
n	21	21	21	21	17	17	17	17
SD	109.0	41.8	516	367	39.4	12.3	111	79
Min	-91.7	-35.2	-435	-309	-43.5	-13.6	-123	-87
Max	479.0	184.0	2270	1610	108.0	33.7	305	217

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for April, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	91.3 (161.0)	35.1 (62.0)	433 (765)	308 (544)				
2	89.9 (196.0)	34.5 (75.1)	426 (927)	303 (659)	129.0 (413.0)	40.1 (129.0)	362 (1160)	258 (827)
3	56.4 (105.0)	21.7 (40.1)	267 (495)	190 (352)	68.3 (77.6)	21.3 (24.2)	192 (219)	137 (156)
4	39.3 (124.0)	15.1 (47.8)	186 (590)	132 (420)	26.3 (116.0)	8.2 (36.2)	74 (327)	53 (233)
5	117.0 (170.0)	45.0 (65.1)	555 (804)	395 (572)	84.3 (110.0)	26.3 (34.4)	237 (311)	169 (221)
6	229.0 (188.0)	87.9 (72.1)	1090 (890)	772 (633)	180.0 (143.0)	56.0 (44.5)	507 (402)	360 (286)
7	142.0 (111.0)	54.4 (42.8)	672 (528)	478 (376)	148.0 (154.0)	46.1 (48.0)	417 (434)	297 (309)
8	50.5 (65.2)	19.4 (25.1)	239 (309)	170 (220)				
9	70.1 (85.7)	26.9 (32.9)	332 (406)	236 (289)				
10	33.1 (81.7)	12.7 (31.4)	157 (387)	111 (275)	23.3 (70.9)	7.3 (22.1)	66 (200)	47 (142)
11	47.1 (74.3)	18.1 (28.5)	223 (352)	159 (250)				
12	48.9 (67.6)	18.8 (26.0)	232 (320)	165 (228)				
13	62.6 (85.8)	24.0 (32.9)	296 (406)	211 (289)				
14	116.0 (156.0)	44.5 (60.0)	549 (741)	391 (527)	216.0 (248.0)	67.4 (77.1)	609 (697)	433 (496)
15	204.0 (208.0)	78.4 (79.8)	967 (985)	688 (700)	187.0 (158.0)	58.3 (49.4)	527 (446)	375 (317)
16	349.0 (288.0)	134.0 (111.0)	1650 (1370)	1180 (972)	351.0 (234.0)	109.0 (72.7)	987 (658)	702 (468)
17	118.0 (185.0)	45.2 (71.2)	558 (879)	397 (625)	134.0 (182.0)	41.9 (56.6)	379 (512)	269 (364)
18	56.0 (86.0)	21.5 (33.0)	265 (408)	189 (290)				
19	66.1 (95.9)	25.4 (36.8)	313 (454)	223 (323)				
20	123.0 (228.0)	47.3 (87.4)	584 (1080)	415 (767)	112.0 (175.0)	35.0 (54.6)	316 (494)	225 (351)
21	222.0 (306.0)	85.2 (117.0)	1050 (1450)	748 (1030)	195.0 (249.0)	60.8 (77.5)	550 (701)	391 (499)
22	92.0 (196.0)	35.3 (75.4)	436 (930)	310 (661)				
23	216.0 (282.0)	82.8 (108.0)	1020 (1340)	726 (952)	124.0 (198.0)	38.6 (61.7)	349 (558)	248 (397)
24	99.4 (189.0)	38.2 (72.5)	471 (895)	335 (637)	160.0 (243.0)	49.8 (75.7)	451 (684)	320 (487)
25	3.0 (154.0)	1.1 (59.2)	14 (731)	10 (520)	9.4 (167.0)	2.9 (52.1)	27 (471)	19 (335)
26	52.0 (77.9)	20.0 (29.9)	246 (369)	175 (262)	50.1 (57.6)	15.6 (17.9)	141 (162)	100 (115)
27	86.2 (122.0)	33.1 (47.0)	409 (580)	291 (413)	113.0 (142.0)	35.4 (44.2)	320 (400)	227 (284)
28	112.0 (133.0)	43.1 (51.1)	532 (631)	378 (449)				
29								
30								
Avg	107.0	41.0	506	360	128.0	40.0	362	257
n	28	28	28	28	18	18	18	18
SD	74.4	28.6	353	251	80.6	25.1	227	161
Min	3.0	1.1	14	10	9.4	2.9	27	19
Max	349.0	134.0	1650	1180	351.0	109.0	987	702

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for May, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6	234.0 (395.0)	89.8 (152.0)	1110 (1870)	788 (1330)	400.0 (443.0)	124.0 (138.0)	1130 (1250)	800 (887)
7	139.0 (204.0)	53.4 (78.3)	658 (967)	468 (688)				
8	215.0 (204.0)	82.5 (78.2)	1020 (965)	724 (686)	518.0 (347.0)	161.0 (108.0)	1460 (977)	1040 (695)
9	284.0 (253.0)	109.0 (97.3)	1350 (1200)	958 (854)	570.0 (363.0)	178.0 (113.0)	1610 (1020)	1140 (727)
10	317.0 (347.0)	122.0 (133.0)	1500 (1640)	1070 (1170)	498.0 (418.0)	155.0 (130.0)	1400 (1180)	998 (838)
11	81.1 (141.0)	31.1 (54.3)	384 (670)	273 (476)				
12	239.0 (246.0)	91.9 (94.4)	1130 (1160)	807 (828)	210.0 (367.0)	65.5 (114.0)	592 (1030)	421 (735)
13	198.0 (230.0)	76.0 (88.2)	938 (1090)	667 (775)	237.0 (425.0)	73.8 (133.0)	667 (1200)	474 (852)
14	128.0 (187.0)	49.0 (71.9)	605 (888)	430 (631)				
15	333.0 (364.0)	128.0 (140.0)	1580 (1730)	1120 (1230)	290.0 (627.0)	90.3 (195.0)	816 (1760)	581 (1260)
16	521.0 (500.0)	200.0 (192.0)	2470 (2370)	1760 (1680)	691.0 (995.0)	215.0 (310.0)	1950 (2800)	1390 (1990)
17	298.0 (337.0)	114.0 (130.0)	1410 (1600)	1000 (1140)				
18	233.0 (216.0)	89.5 (83.0)	1110 (1020)	786 (728)				
19	321.0 (343.0)	123.0 (132.0)	1520 (1620)	1080 (1150)	287.0 (367.0)	89.6 (114.0)	810 (1030)	576 (735)
20	172.0 (195.0)	66.2 (74.7)	817 (922)	581 (656)				
21	227.0 (276.0)	87.1 (106.0)	1070 (1310)	764 (931)	287.0 (507.0)	89.3 (158.0)	808 (1430)	574 (1020)
22	294.0 (401.0)	113.0 (154.0)	1390 (1900)	991 (1350)	390.0 (888.0)	122.0 (277.0)	1100 (2500)	782 (1780)
23	382.0 (604.0)	147.0 (232.0)	1810 (2860)	1290 (2030)	595.0 (825.0)	185.0 (257.0)	1670 (2320)	1190 (1650)
24	540.0 (805.0)	208.0 (309.0)	2560 (3810)	1820 (2710)	369.0 (702.0)	115.0 (219.0)	1040 (1980)	739 (1410)
25	219.0 (435.0)	84.2 (167.0)	1040 (2060)	739 (1470)				
26								
27	177.0 (309.0)	68.1 (119.0)	841 (1470)	598 (1040)				
28	326.0 (515.0)	125.0 (198.0)	1540 (2440)	1100 (1740)	199.0 (855.0)	61.9 (266.0)	559 (2410)	398 (1710)
29	304.0 (555.0)	117.0 (213.0)	1440 (2630)	1030 (1870)	294.0 (641.0)	91.7 (200.0)	829 (1800)	590 (1280)
30	211.0 (284.0)	81.0 (109.0)	1000 (1340)	711 (956)	235.0 (650.0)	73.3 (202.0)	662 (1830)	471 (1300)
31					203.0 (728.0)	63.3 (227.0)	572 (2050)	407 (1460)
Avg	266.0	102.0	1260	898	369.0	115.0	1040	739
n	24	24	24	24	17	17	17	17
SD	107.0	41.0	506	360	149.0	46.5	420	299
Min	81.1	31.1	384	273	199.0	61.9	559	398
Max	540.0	208.0	2560	1820	691.0	215.0	1950	1390

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for June, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					206.0 (1350.0)	64.2 (421.0)	581 (3800)	413 (2700)
2								
3								
4								
5								
6								
7	721.0 (679.0)	277.0 (261.0)	3420 (3220)	2430 (2290)	1150.0 (1020.0)	359.0 (319.0)	3250 (2890)	2310 (2050)
8								
9								
10	76.5 (354.0)	29.4 (136.0)	362 (1680)	258 (1190)				
11	133.0 (125.0)	51.1 (48.1)	631 (594)	449 (422)				
12	323.0 (422.0)	124.0 (162.0)	1530 (2000)	1090 (1420)				
13	267.0 (211.0)	103.0 (81.0)	1270 (999)	901 (711)	347.0 (282.0)	108.0 (87.9)	978 (794)	696 (565)
14								
15								
16								
17								
18	783.0 (814.0)	301.0 (312.0)	3710 (3860)	2640 (2740)				
19								
20								
21								
22								
23								
24								
25								
26								
27	725.0 (1080.0)	278.0 (415.0)	3440 (5120)	2440 (3640)	936.0 (1490.0)	292.0 (464.0)	2640 (4200)	1880 (2980)
28	241.0 (537.0)	92.7 (206.0)	1140 (2550)	814 (1810)	263.0 (553.0)	81.8 (172.0)	740 (1560)	526 (1110)
29	1010.0 (1160.0)	386.0 (446.0)	4770 (5500)	3390 (3910)				
30								
Avg	475.0	182.0	2250	1600	581.0	181.0	1640	1160
n	9	9	9	9	5	5	5	5
SD	316.0	121.0	1500	1060	387.0	121.0	1090	775
Min	76.5	29.4	362	258	206.0	64.2	581	413
Max	1010.0	386.0	4770	3390	1150.0	359.0	3250	2310

Table F5. Daily means (SD) of PM₁₀ emissions at Site W15B for July, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4	799.0 (1060.0)	307.0 (409.0)	3790 (5050)	2690 (3590)	1500.0 (1760.0)	467.0 (550.0)	4220 (4970)	3000 (3540)
5	700.0 (1260.0)	269.0 (484.0)	3320 (5970)	2360 (4250)	2730.0 (2350.0)	851.0 (733.0)	7690 (6630)	5470 (4720)
6	964.0 (1310.0)	370.0 (502.0)	4570 (6190)	3250 (4400)	3000.0 (3000.0)	934.0 (935.0)	8440 (8450)	6010 (6010)
7	577.0 (1390.0)	222.0 (534.0)	2740 (6590)	1950 (4680)	1570.0 (2460.0)	488.0 (767.0)	4410 (6940)	3140 (4930)
8								
9								
10					1510.0 (2890.0)	472.0 (899.0)	4270 (8130)	3030 (5780)
11					2360.0 (2350.0)	734.0 (731.0)	6640 (6610)	4720 (4700)
12					950.0 (1850.0)	296.0 (577.0)	2670 (5220)	1900 (3710)
13					1650.0 (1840.0)	516.0 (574.0)	4660 (5190)	3320 (3690)
14					2880.0 (3240.0)	898.0 (1010.0)	8120 (9130)	5770 (6500)
15					4550.0 (3700.0)	1420.0 (1150.0)	12800 (10400)	9120 (7410)
16	98.5 (1730.0)	37.8 (665.0)	467 (8210)	332 (5840)	3510.0 (2100.0)	1090.0 (655.0)	9880 (5920)	7030 (4210)
17	195.0 (750.0)	75.0 (288.0)	925 (3560)	658 (2530)	1780.0 (1200.0)	555.0 (374.0)	5010 (3380)	3570 (2410)
18	1380.0 (1530.0)	528.0 (586.0)	6520 (7230)	4640 (5140)	2700.0 (2580.0)	840.0 (805.0)	7600 (7280)	5400 (5180)
19	572.0 (1030.0)	220.0 (394.0)	2710 (4870)	1930 (3460)	1710.0 (2300.0)	533.0 (715.0)	4820 (6470)	3430 (4600)
20	893.0 (1020.0)	343.0 (392.0)	4230 (4840)	3010 (3440)	2350.0 (2540.0)	733.0 (790.0)	6620 (7140)	4710 (5080)
21					1940.0 (2140.0)	603.0 (666.0)	5450 (6020)	3880 (4280)
22					1740.0 (1930.0)	542.0 (601.0)	4900 (5430)	3480 (3860)
23	1180.0 (1190.0)	454.0 (458.0)	5610 (5660)	3990 (4020)	2790.0 (2860.0)	869.0 (891.0)	7860 (8050)	5590 (5730)
24	1200.0 (1110.0)	461.0 (425.0)	5690 (5240)	4040 (3730)	1940.0 (2330.0)	604.0 (725.0)	5460 (6560)	3880 (4670)
25	758.0 (1200.0)	291.0 (460.0)	3590 (5670)	2560 (4030)	1110.0 (2050.0)	347.0 (638.0)	3130 (5770)	2230 (4100)
26	1180.0 (1590.0)	451.0 (611.0)	5570 (7540)	3960 (5360)	2260.0 (2790.0)	703.0 (871.0)	6350 (7870)	4520 (5600)
27	1130.0 (1340.0)	435.0 (515.0)	5370 (6360)	3820 (4520)	2180.0 (2420.0)	679.0 (753.0)	6140 (6810)	4370 (4840)
28	1720.0 (1610.0)	661.0 (618.0)	8160 (7620)	5800 (5420)	2750.0 (2440.0)	855.0 (761.0)	7730 (6880)	5500 (4890)
29	1690.0 (1720.0)	651.0 (659.0)	8030 (8130)	5710 (5780)	3690.0 (3380.0)	1150.0 (1050.0)	10400 (9510)	7390 (6760)
30	1620.0 (2140.0)	623.0 (822.0)	7690 (10100)	5470 (7210)	3530.0 (4050.0)	1100.0 (1260.0)	9960 (11400)	7080 (8120)
31	1340.0 (1870.0)	516.0 (718.0)	6370 (8870)	4530 (6310)	2050.0 (2740.0)	639.0 (853.0)	5780 (7710)	4110 (5480)
Avg	1000.0	384.0	4740	3370	2340.0	728.0	6580	4680
n	18	18	18	18	26	26	26	26
SD	459.0	176.0	2180	1550	839.0	261.0	2360	1680
Min	98.5	37.8	467	332	950.0	296.0	2670	1900
Max	1720.0	661.0	8160	5800	4550.0	1420.0	12800	9120

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for September, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3	-438.0 (718.0)	-168.0 (276.0)	-2080 (3400)	-1480 (2420)				
4	-553.0 (802.0)	-212.0 (308.0)	-2620 (3800)	-1860 (2700)	1380.0 (1770.0)	429.0 (551.0)	3880 (4990)	2760 (3550)
5	284.0 (416.0)	109.0 (160.0)	1350 (1970)	958 (1400)	527.0 (1100.0)	164.0 (342.0)	1490 (3100)	1060 (2200)
6	140.0 (266.0)	53.6 (102.0)	661 (1260)	470 (895)	184.0 (157.0)	57.3 (48.9)	519 (442)	369 (315)
7	95.7 (149.0)	36.7 (57.0)	454 (704)	323 (501)	169.0 (174.0)	52.7 (54.4)	477 (492)	339 (350)
8	79.8 (307.0)	30.6 (118.0)	378 (1450)	269 (1030)	251.0 (459.0)	78.1 (143.0)	706 (1290)	502 (920)
9	213.0 (446.0)	81.6 (171.0)	1010 (2120)	716 (1500)	392.0 (519.0)	122.0 (162.0)	1100 (1460)	786 (1040)
10	345.0 (572.0)	132.0 (220.0)	1630 (2710)	1160 (1930)	421.0 (384.0)	131.0 (120.0)	1190 (1080)	844 (769)
11	230.0 (403.0)	88.2 (155.0)	1090 (1910)	774 (1360)	465.0 (700.0)	145.0 (218.0)	1310 (1970)	931 (1400)
12	307.0 (455.0)	118.0 (175.0)	1450 (2160)	1030 (1530)	369.0 (548.0)	115.0 (171.0)	1040 (1540)	740 (1100)
13	147.0 (164.0)	56.4 (63.1)	697 (779)	495 (554)	120.0 (169.0)	37.3 (52.6)	337 (476)	240 (338)
14	172.0 (245.0)	66.2 (94.2)	817 (1160)	581 (827)				
15	135.0 (223.0)	51.9 (85.5)	641 (1060)	456 (751)	217.0 (278.0)	67.6 (86.6)	611 (783)	435 (557)
16	964.0 (1280.0)	370.0 (492.0)	4570 (6070)	3250 (4320)	1310.0 (1620.0)	408.0 (505.0)	3690 (4570)	2630 (3250)
17								
18								
19								
20	878.0 (1100.0)	337.0 (421.0)	4160 (5190)	2960 (3690)	1780.0 (2450.0)	554.0 (762.0)	5010 (6890)	3560 (4900)
21	1280.0 (1490.0)	492.0 (573.0)	6070 (7070)	4320 (5030)	1370.0 (1430.0)	428.0 (446.0)	3870 (4040)	2750 (2870)
22	954.0 (904.0)	366.0 (347.0)	4520 (4280)	3210 (3050)	1250.0 (1070.0)	388.0 (334.0)	3510 (3020)	2490 (2150)
23	1080.0 (1360.0)	416.0 (522.0)	5130 (6440)	3650 (4580)	1000.0 (1050.0)	312.0 (327.0)	2820 (2950)	2000 (2100)
24	-148.0 (493.0)	-56.6 (189.0)	-699 (2340)	-497 (1660)	-354.0 (653.0)	-110.0 (203.0)	-998 (1840)	-710 (1310)
25	261.0 (570.0)	100.0 (219.0)	1240 (2700)	880 (1920)	144.0 (537.0)	44.9 (167.0)	406 (1510)	289 (1080)
26	1020.0 (961.0)	392.0 (369.0)	4840 (4560)	3440 (3240)	923.0 (1020.0)	288.0 (318.0)	2600 (2880)	1850 (2040)
27	86.2 (350.0)	33.1 (134.0)	409 (1660)	291 (1180)				
28	60.0 (185.0)	23.1 (71.0)	285 (876)	202 (623)	45.3 (120.0)	14.1 (37.5)	128 (339)	91 (241)
29	2.1 (243.0)	0.8 (93.5)	10 (1150)	7 (820)				
30	39.4 (163.0)	15.1 (62.8)	187 (775)	133 (551)	61.1 (135.0)	19.0 (42.0)	172 (380)	122 (270)
Avg	306.0	117.0	1450	1030	572.0	178.0	1610	1150
n	25	25	25	25	21	21	21	21
SD	457.0	176.0	2170	1540	556.0	173.0	1570	1110
Min	-553.0	-212.0	-2620	-1860	-354.0	-110.0	-998	-710
Max	1280.0	492.0	6070	4320	1780.0	554.0	5010	3560

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for October, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					63.3 (509.0)	19.7 (159.0)	178 (1440)	127 (1020)
2					194.0 (550.0)	60.5 (171.0)	547 (1550)	389 (1100)
3					155.0 (250.0)	48.4 (78.0)	437 (705)	311 (501)
4					50.1 (87.0)	15.6 (27.1)	141 (245)	100 (174)
5					108.0 (112.0)	33.7 (34.9)	305 (316)	217 (224)
6								
7								
8								
9								
10	236.0 (254.0)	90.7 (97.5)	1120 (1200)	796 (856)	120.0 (111.0)	37.3 (34.5)	337 (312)	240 (222)
11	327.0 (382.0)	126.0 (147.0)	1550 (1810)	1100 (1290)	275.0 (255.0)	85.6 (79.5)	774 (719)	550 (511)
12	214.0 (508.0)	82.3 (195.0)	1020 (2410)	723 (1710)	204.0 (183.0)	63.5 (57.0)	574 (515)	408 (367)
13	57.4 (436.0)	22.0 (167.0)	272 (2060)	193 (1470)	102.0 (148.0)	31.8 (46.1)	287 (417)	204 (296)
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29	185.0 (329.0)	71.0 (126.0)	895 (1590)	636 (1130)	128.0 (184.0)	39.9 (57.3)	371 (532)	264 (379)
30								
31								
Avg	204.0	78.3	970	690	140.0	43.6	395	281
n	5	5	5	5	10	10	10	10
SD	87.3	33.5	413	294	65.1	20.3	183	130
Min	57.4	22.0	272	193	50.1	15.6	141	100
Max	327.0	126.0	1550	1100	275.0	85.6	774	550

Table F5. Daily means (SD) of PM₁₀ emissions at Site W15B for November, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	147.0 (211.0)	56.5 (81.0)	700 (1000)	497 (714)	83.3 (164.0)	25.9 (51.2)	249 (493)	177 (350)
2	307.0 (569.0)	118.0 (218.0)	1450 (2690)	1030 (1910)	208.0 (353.0)	64.7 (110.0)	631 (1070)	448 (763)
3	273.0 (306.0)	105.0 (117.0)	1290 (1440)	914 (1030)	193.0 (203.0)	60.0 (63.4)	587 (619)	417 (440)
4								
5								
6	27.8 (274.0)	10.7 (105.0)	130 (1280)	93 (912)	19.7 (219.0)	6.1 (68.1)	59 (660)	42 (469)
7	69.3 (128.0)	26.6 (49.2)	324 (599)	230 (426)				
8	80.3 (122.0)	30.8 (46.9)	374 (569)	266 (405)				
9	81.0 (134.0)	31.1 (51.6)	377 (626)	268 (445)				
10	118.0 (125.0)	45.3 (47.9)	548 (579)	390 (412)				
11	75.5 (97.6)	29.0 (37.5)	350 (452)	249 (322)				
12	26.5 (64.5)	10.2 (24.8)	123 (298)	87 (212)	69.4 (84.3)	21.6 (26.3)	206 (250)	146 (178)
13	29.8 (47.2)	11.4 (18.1)	138 (218)	98 (155)	63.4 (85.4)	19.7 (26.6)	187 (252)	133 (179)
14	71.9 (48.0)	27.6 (18.4)	331 (221)	236 (157)				
15	58.8 (34.5)	22.6 (13.3)	270 (159)	192 (113)				
16	68.9 (47.0)	26.5 (18.1)	316 (216)	225 (153)	74.8 (63.7)	23.3 (19.8)	219 (187)	156 (133)
17	90.3 (73.9)	34.7 (28.4)	414 (339)	294 (241)	98.9 (80.9)	30.8 (25.2)	289 (237)	206 (168)
18	165.0 (420.0)	63.2 (161.0)	752 (1920)	535 (1360)	142.0 (162.0)	44.4 (50.5)	418 (476)	297 (338)
19								
20								
21	114.0 (149.0)	43.6 (57.1)	516 (675)	367 (480)	43.3 (62.2)	13.5 (19.4)	128 (184)	91 (131)
22	69.0 (93.0)	26.5 (35.7)	313 (421)	222 (300)	43.7 (62.7)	13.6 (19.5)	129 (186)	92 (132)
23								
24	75.5 (97.3)	29.0 (37.4)	340 (439)	242 (312)	58.6 (87.6)	18.2 (27.3)	174 (260)	124 (185)
25	167.0 (267.0)	64.1 (103.0)	750 (1200)	534 (853)	70.0 (183.0)	21.8 (56.9)	209 (545)	148 (388)
26	143.0 (203.0)	54.9 (77.9)	640 (908)	455 (646)	58.5 (98.3)	18.2 (30.6)	176 (295)	125 (210)
27	76.8 (104.0)	29.5 (39.9)	342 (464)	244 (330)	22.1 (75.3)	6.9 (23.5)	67 (227)	47 (162)
28	215.0 (277.0)	82.6 (106.0)	956 (1230)	680 (875)	83.0 (162.0)	25.9 (50.5)	252 (492)	179 (350)
29								
30								
Avg	111.0	42.6	511	363	83.2	25.9	249	177
n	23	23	23	23	16	16	16	16
SD	72.3	27.7	338	240	52.6	16.4	160	113
Min	26.5	10.2	123	87	19.7	6.1	59	42
Max	307.0	118.0	1450	1030	208.0	64.7	631	448

Table F5. Daily means (SD) of PM₁₀ emissions at Site W15B for December, 2008.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3	92.6 (105.0)	35.6 (40.2)	403 (456)	286 (324)	73.3 (53.3)	22.8 (16.6)	225 (164)	160 (116)
4	66.3 (70.7)	25.5 (27.1)	287 (306)	204 (217)	57.1 (92.3)	17.8 (28.7)	175 (282)	124 (201)
5	65.1 (67.2)	25.0 (25.8)	280 (289)	199 (206)	48.9 (59.4)	15.2 (18.5)	149 (180)	106 (128)
6	62.9 (64.4)	24.1 (24.7)	269 (276)	191 (196)	28.3 (28.1)	8.8 (8.7)	86 (85)	61 (60)
7	79.0 (71.5)	30.3 (27.4)	336 (304)	239 (216)	44.4 (59.0)	13.8 (18.4)	134 (178)	95 (126)
8								
9								
10								
11	117.0 (193.0)	45.0 (74.1)	505 (833)	359 (592)	132.0 (163.0)	41.0 (50.6)	394 (487)	280 (346)
12	96.0 (91.4)	36.9 (35.1)	418 (398)	298 (283)	77.3 (78.3)	24.1 (24.4)	232 (235)	165 (167)
13	37.3 (69.9)	14.3 (26.8)	164 (307)	117 (218)	87.9 (100.0)	27.4 (31.3)	264 (301)	188 (214)
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31	95.2 (77.7)	36.5 (29.8)	474 (387)	337 (276)	119.0 (104.0)	37.2 (32.3)	334 (290)	237 (206)
Avg	79.1	30.4	349	248	74.3	23.1	221	157
n	9	9	9	9	9	9	9	9
SD	22.5	8.6	104	74	32.5	10.1	93	66
Min	37.3	14.3	164	117	28.3	8.8	86	61
Max	117.0	45.0	505	359	132.0	41.0	394	280

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for January, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	45.7 (44.0)	17.6 (16.9)	226 (218)	161 (155)	51.9 (42.7)	16.2 (13.3)	147 (121)	104 (86)
2	91.3 (77.3)	35.0 (29.7)	450 (381)	320 (271)	77.9 (38.3)	24.3 (11.9)	223 (109)	158 (78)
3	56.0 (57.8)	21.5 (22.2)	274 (283)	195 (201)	52.6 (59.6)	16.4 (18.6)	152 (172)	108 (122)
4	85.3 (72.9)	32.8 (28.0)	415 (355)	295 (252)	64.3 (46.5)	20.0 (14.5)	188 (136)	134 (97)
5	96.9 (71.5)	37.2 (27.5)	469 (346)	334 (246)	63.7 (35.4)	19.9 (11.0)	188 (104)	133 (74)
6	83.0 (90.5)	31.9 (34.8)	399 (436)	284 (310)	129.0 (123.0)	40.3 (38.4)	382 (363)	271 (258)
7	54.8 (46.9)	21.0 (18.0)	262 (224)	186 (159)	51.1 (32.1)	15.9 (10.0)	151 (95)	107 (67)
8	82.7 (82.1)	31.7 (31.5)	393 (390)	279 (277)	48.9 (32.9)	15.2 (10.2)	144 (97)	103 (69)
9	86.7 (59.7)	33.3 (22.9)	410 (282)	291 (201)	60.3 (37.7)	18.8 (11.8)	178 (112)	127 (79)
10	87.3 (49.5)	33.5 (19.0)	410 (233)	292 (165)	71.8 (34.6)	22.4 (10.8)	212 (102)	151 (73)
11	81.8 (55.0)	31.4 (21.1)	382 (257)	272 (183)	82.3 (34.6)	25.6 (10.8)	244 (103)	173 (73)
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28	41.3 (56.4)	15.9 (21.7)	187 (255)	133 (181)	46.7 (43.3)	14.5 (13.5)	138 (128)	98 (91)
29	67.7 (52.1)	26.0 (20.0)	308 (237)	219 (169)	64.1 (35.3)	20.0 (11.0)	190 (105)	135 (75)
30	82.1 (54.5)	31.5 (20.9)	376 (250)	267 (178)	90.7 (41.3)	28.3 (12.9)	270 (123)	192 (87)
31	74.0 (69.7)	28.4 (26.7)	341 (321)	243 (228)	77.2 (59.2)	24.0 (18.4)	230 (176)	164 (125)
Avg	74.4	28.6	354	251	68.9	21.5	202	144
n	15	15	15	15	15	15	15	15
SD	16.7	6.4	81	58	20.6	6.4	61	44
Min	41.3	15.9	187	133	46.7	14.5	138	98
Max	96.9	37.2	469	334	129.0	40.3	382	271

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for February, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	107.0 (68.3)	41.2 (26.2)	497 (317)	353 (225)	104.0 (46.4)	32.3 (14.4)	310 (139)	221 (99)
2	156.0 (65.1)	59.8 (25.0)	726 (303)	516 (216)	148.0 (45.9)	46.2 (14.3)	443 (137)	315 (98)
3	121.0 (77.6)	46.3 (29.8)	564 (362)	401 (258)	151.0 (84.3)	47.0 (26.3)	449 (251)	319 (178)
4	72.4 (53.0)	27.8 (20.4)	339 (248)	241 (177)	239.0 (178.0)	74.5 (55.6)	708 (528)	504 (376)
5	57.8 (54.3)	22.2 (20.9)	272 (255)	193 (182)	138.0 (99.2)	42.9 (30.9)	406 (293)	289 (208)
6	20.0 (62.1)	7.7 (23.9)	95 (293)	67 (208)	70.3 (76.0)	21.9 (23.7)	206 (223)	147 (159)
7	80.7 (97.9)	31.0 (37.6)	382 (463)	271 (329)	50.4 (52.7)	15.7 (16.4)	148 (154)	105 (110)
8	73.9 (62.6)	28.4 (24.0)	351 (297)	249 (211)	81.7 (43.3)	25.5 (13.5)	238 (126)	169 (90)
9								
10					75.8 (57.6)	23.6 (17.9)	219 (166)	156 (118)
11	182.0 (121.0)	69.9 (46.3)	866 (575)	616 (409)	98.4 (89.6)	30.7 (27.9)	284 (259)	202 (184)
12	133.0 (103.0)	51.0 (39.6)	625 (486)	445 (346)				
13	107.0 (77.4)	41.2 (29.7)	500 (361)	355 (257)				
14	145.0 (90.9)	55.6 (34.9)	668 (419)	475 (298)				
15	158.0 (97.3)	60.6 (37.4)	721 (444)	513 (316)				
16	170.0 (114.0)	65.1 (43.9)	770 (518)	547 (369)				
17								
18								
19								
20								
21								
22								
23								
24								
25	154.0 (152.0)	59.3 (58.4)	690 (679)	491 (483)	184.0 (98.3)	57.4 (30.6)	536 (286)	382 (204)
26	76.7 (74.2)	29.5 (28.5)	344 (332)	244 (236)	81.1 (61.6)	25.3 (19.2)	237 (180)	169 (128)
27	138.0 (70.6)	52.8 (27.1)	618 (317)	439 (225)	105.0 (34.3)	32.6 (10.7)	307 (101)	218 (72)
28	168.0 (91.9)	64.3 (35.3)	754 (414)	536 (294)	133.0 (52.9)	41.3 (16.5)	391 (156)	278 (111)
Avg	118.0	45.2	543	386	118.0	36.9	349	248
n	18	18	18	18	14	14	14	14
SD	44.4	17.0	203	144	49.1	15.3	146	104
Min	20.0	7.7	95	67	50.4	15.7	148	105
Max	182.0	69.9	866	616	239.0	74.5	708	504

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for March, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	167.0 (70.1)	63.9 (26.9)	751 (316)	534 (225)	171.0 (49.7)	53.2 (15.5)	504 (147)	359 (104)
2								
3								
4	79.7 (95.6)	30.6 (36.7)	358 (430)	255 (306)	258.0 (128.0)	80.3 (39.7)	770 (381)	548 (271)
5	59.7 (53.2)	22.9 (20.4)	267 (238)	190 (169)	139.0 (83.2)	43.3 (25.9)	418 (250)	297 (178)
6	69.0 (65.6)	26.5 (25.2)	307 (292)	219 (208)	74.2 (58.1)	23.1 (18.1)	224 (175)	159 (125)
7	133.0 (77.8)	51.0 (29.9)	589 (345)	419 (245)	129.0 (78.9)	40.0 (24.6)	390 (239)	277 (170)
8	176.0 (120.0)	67.4 (46.1)	775 (530)	551 (377)	188.0 (97.3)	58.7 (30.3)	574 (296)	409 (211)
9	111.0 (118.0)	42.5 (45.2)	490 (520)	348 (370)	180.0 (129.0)	56.0 (40.3)	548 (394)	390 (280)
10	66.3 (56.7)	25.5 (21.8)	296 (253)	211 (180)	34.8 (46.2)	10.8 (14.4)	105 (140)	75 (99)
11	135.0 (93.0)	51.9 (35.7)	608 (419)	433 (298)	87.4 (52.9)	27.2 (16.5)	261 (158)	186 (113)
12	149.0 (104.0)	57.2 (39.8)	677 (471)	481 (335)	131.0 (80.7)	40.9 (25.1)	389 (239)	277 (170)
13	118.0 (121.0)	45.2 (46.5)	540 (555)	384 (395)	131.0 (76.2)	40.9 (23.7)	386 (224)	275 (159)
14	72.0 (90.5)	27.7 (34.8)	333 (418)	237 (298)	188.0 (120.0)	58.7 (37.3)	549 (349)	391 (249)
15	47.0 (70.6)	18.0 (27.1)	219 (330)	156 (235)	331.0 (173.0)	103.0 (53.8)	957 (499)	681 (355)
16	109.0 (108.0)	42.0 (41.5)	512 (505)	364 (359)	344.0 (144.0)	107.0 (44.8)	994 (416)	707 (296)
17	208.0 (337.0)	79.9 (129.0)	969 (1570)	689 (1120)	480.0 (499.0)	149.0 (155.0)	1400 (1450)	993 (1030)
18	340.0 (277.0)	130.0 (106.0)	1570 (1280)	1120 (912)	169.0 (103.0)	52.7 (32.1)	496 (302)	353 (215)
19	204.0 (190.0)	78.2 (72.9)	939 (875)	668 (622)	173.0 (206.0)	53.8 (64.2)	510 (609)	363 (433)
20	71.4 (102.0)	27.4 (39.0)	327 (466)	233 (332)	120.0 (108.0)	37.3 (33.7)	356 (321)	253 (228)
21	135.0 (156.0)	51.8 (59.8)	615 (710)	438 (505)	106.0 (95.2)	32.9 (29.7)	317 (285)	225 (203)
22					103.0 (113.0)	32.1 (35.1)	311 (341)	221 (242)
23					78.8 (56.1)	24.5 (17.5)	238 (169)	169 (120)
24					105.0 (92.5)	32.7 (28.8)	316 (278)	224 (198)
25					46.3 (45.8)	14.4 (14.3)	138 (137)	99 (97)
26								
27								
28								
29								
30					81.3 (110.0)	25.3 (34.1)	237 (320)	169 (227)
31					60.1 (74.8)	18.7 (23.3)	176 (218)	125 (155)
Avg	129.0	49.5	587	417	156.0	48.7	462	329
n	19	19	19	19	25	25	25	25
SD	68.5	26.3	318	226	101.0	31.4	292	208
Min	47.0	18.0	219	156	34.8	10.8	105	75
Max	340.0	130.0	1570	1120	480.0	149.0	1400	993

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for April, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	76.4 (78.5)	29.3 (30.2)	352 (362)	250 (257)	42.0 (42.4)	13.1 (13.2)	123 (124)	87 (88)
2	164.0 (201.0)	62.8 (77.3)	749 (922)	533 (656)	49.3 (44.4)	15.4 (13.8)	144 (130)	102 (92)
3	201.0 (345.0)	77.0 (133.0)	913 (1570)	649 (1120)				
4	114.0 (117.0)	43.9 (44.9)	517 (528)	368 (376)	66.2 (62.7)	20.6 (19.5)	194 (184)	138 (131)
5	118.0 (133.0)	45.5 (51.1)	533 (599)	379 (426)				
6								
7								
8								
9								
10								
11								
12								
13								
14								
15	649.0 (746.0)	249.0 (286.0)	2960 (3400)	2100 (2420)	252.0 (349.0)	78.4 (109.0)	735 (1020)	523 (725)
16	615.0 (995.0)	236.0 (382.0)	2820 (4560)	2000 (3250)	270.0 (446.0)	84.2 (139.0)	788 (1300)	560 (925)
17	576.0 (806.0)	221.0 (310.0)	2660 (3720)	1890 (2650)	333.0 (534.0)	104.0 (166.0)	968 (1560)	688 (1110)
18	299.0 (450.0)	115.0 (173.0)	1390 (2090)	989 (1480)				
19	76.6 (144.0)	29.4 (55.2)	358 (672)	255 (478)				
20	85.3 (147.0)	32.7 (56.5)	399 (689)	284 (490)				
21	221.0 (231.0)	84.9 (88.9)	1030 (1080)	733 (767)				
22	210.0 (327.0)	80.8 (126.0)	977 (1520)	695 (1080)				
23					317.0 (278.0)	98.8 (86.6)	910 (797)	647 (567)
24	313.0 (843.0)	120.0 (324.0)	1440 (3870)	1030 (2750)				
25	113.0 (223.0)	43.5 (85.8)	518 (1020)	368 (726)				
26					110.0 (101.0)	34.3 (31.4)	313 (286)	223 (204)
27	40.4 (193.0)	15.5 (74.0)	185 (879)	132 (625)	55.9 (118.0)	17.4 (36.8)	157 (333)	112 (237)
28	142.0 (265.0)	54.6 (102.0)	654 (1220)	465 (868)	133.0 (147.0)	41.5 (45.9)	371 (410)	264 (291)
29	199.0 (239.0)	76.2 (91.9)	920 (1110)	654 (788)	156.0 (148.0)	48.5 (46.0)	428 (406)	304 (289)
30	45.2 (208.0)	17.4 (80.0)	211 (973)	150 (692)				
Avg	224.0	86.1	1030	733	162.0	50.5	467	332
n	19	19	19	19	11	11	11	11
SD	184.0	70.8	845	601	106.0	33.1	309	220
Min	40.4	15.5	185	132	42.0	13.1	123	87
Max	649.0	249.0	2960	2100	333.0	104.0	968	688

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for May, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					122.0 (203.0)	38.1 (63.3)	319 (531)	227 (378)
2					220.0 (313.0)	68.6 (97.6)	568 (809)	404 (576)
3					113.0 (217.0)	35.1 (67.7)	287 (554)	204 (394)
4					87.5 (228.0)	27.3 (71.2)	223 (584)	159 (416)
5					126.0 (327.0)	39.4 (102.0)	328 (848)	233 (603)
6								
7								
8								
9								
10								
11					93.3 (181.0)	29.1 (56.5)	254 (495)	181 (352)
12					844.0 (1550.0)	263.0 (482.0)	2310 (4240)	1650 (3020)
13					186.0 (430.0)	57.9 (134.0)	511 (1190)	364 (843)
14								
15					141.0 (992.0)	43.8 (309.0)	391 (2760)	278 (1960)
16								
17								
18					248.0 (628.0)	77.1 (196.0)	700 (1770)	498 (1260)
19	2740.0 (1890.0)	1050.0 (727.0)	12400 (8590)	8840 (6110)	2640.0 (2100.0)	823.0 (655.0)	7470 (5950)	5320 (4230)
20	3890.0 (2910.0)	1490.0 (1120.0)	17600 (13200)	12500 (9380)	3920.0 (2510.0)	1220.0 (782.0)	11100 (7100)	7890 (5050)
21								
22					699.0 (694.0)	218.0 (216.0)	1980 (1970)	1410 (1400)
23								
24					1350.0 (2470.0)	420.0 (769.0)	3820 (7000)	2720 (4980)
25					539.0 (599.0)	168.0 (187.0)	1530 (1700)	1090 (1210)
26					175.0 (253.0)	54.6 (78.8)	498 (719)	354 (511)
27								
28					360.0 (707.0)	112.0 (220.0)	1020 (2010)	727 (1430)
29								
30								
31					1020.0 (1260.0)	316.0 (393.0)	2880 (3580)	2050 (2550)
Avg	3310.0	1270.0	15000	10700	715.0	223.0	2010	1430
n	2	2	2	2	18	18	18	18
SD	575.0	221.0	2600	1850	996.0	310.0	2820	2010
Min	2740.0	1050.0	12400	8840	87.5	27.3	223	159
Max	3890.0	1490.0	17600	12500	3920.0	1220.0	11100	7890

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for June, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9	150.0 (177.0)	57.6 (68.0)	655 (775)	466 (551)	112.0 (90.1)	34.8 (28.1)	330 (266)	234 (189)
10	153.0 (303.0)	58.9 (116.0)	674 (1330)	479 (947)	108.0 (106.0)	33.7 (33.1)	320 (314)	228 (224)
11	604.0 (735.0)	232.0 (282.0)	2670 (3250)	1900 (2310)	299.0 (433.0)	93.1 (135.0)	890 (1290)	633 (917)
12	797.0 (992.0)	306.0 (381.0)	3550 (4410)	2520 (3140)	609.0 (745.0)	190.0 (232.0)	1820 (2220)	1290 (1580)
13	1150.0 (1230.0)	441.0 (472.0)	5140 (5510)	3650 (3920)	1230.0 (1420.0)	382.0 (443.0)	3680 (4270)	2610 (3040)
14	2460.0 (3630.0)	945.0 (1390.0)	11100 (16400)	7880 (11600)	1990.0 (1780.0)	620.0 (553.0)	5990 (5350)	4260 (3800)
15	2800.0 (2990.0)	1080.0 (1150.0)	12700 (13500)	9040 (9630)	1830.0 (1420.0)	571.0 (441.0)	5550 (4280)	3940 (3050)
16	2070.0 (2040.0)	796.0 (784.0)	9420 (9280)	6700 (6600)	1100.0 (1360.0)	343.0 (422.0)	3330 (4100)	2370 (2920)
17	1260.0 (1250.0)	485.0 (480.0)	5730 (5680)	4070 (4040)	1190.0 (1200.0)	370.0 (373.0)	3580 (3600)	2550 (2560)
18	696.0 (1150.0)	267.0 (440.0)	3160 (5200)	2250 (3700)	483.0 (902.0)	151.0 (281.0)	1450 (2710)	1030 (1930)
19	1620.0 (1790.0)	622.0 (688.0)	7340 (8130)	5220 (5780)	1150.0 (1220.0)	360.0 (381.0)	3450 (3660)	2460 (2600)
20	2630.0 (2390.0)	1010.0 (916.0)	11900 (10800)	8460 (7690)	1860.0 (1540.0)	578.0 (481.0)	5530 (4600)	3940 (3270)
21	1880.0 (1640.0)	720.0 (631.0)	8490 (7440)	6040 (5290)	1370.0 (1200.0)	426.0 (374.0)	4070 (3570)	2890 (2540)
22	1870.0 (1820.0)	719.0 (700.0)	8450 (8230)	6010 (5850)	1980.0 (1440.0)	615.0 (450.0)	5860 (4280)	4170 (3040)
23	2520.0 (2770.0)	968.0 (1060.0)	11300 (12400)	8060 (8840)	2090.0 (2090.0)	650.0 (650.0)	6180 (6190)	4400 (4400)
24	2960.0 (2200.0)	1140.0 (844.0)	13300 (9850)	9430 (7000)	2190.0 (1610.0)	682.0 (501.0)	6490 (4760)	4610 (3390)
25	2400.0 (2060.0)	922.0 (791.0)	10700 (9190)	7620 (6530)	1720.0 (1720.0)	535.0 (536.0)	5080 (5090)	3610 (3620)
26	1880.0 (2430.0)	722.0 (935.0)	8360 (10800)	5940 (7700)	2150.0 (2510.0)	671.0 (781.0)	6370 (7420)	4530 (5270)
27	890.0 (2320.0)	342.0 (893.0)	3940 (10300)	2800 (7320)	819.0 (2210.0)	255.0 (688.0)	2420 (6530)	1720 (4640)
28	1110.0 (1340.0)	428.0 (516.0)	4910 (5930)	3490 (4210)				
29	518.0 (770.0)	199.0 (296.0)	2280 (3380)	1620 (2410)				
30	102.0 (362.0)	39.2 (139.0)	449 (1590)	319 (1130)				
Avg	1480.0	568.0	6650	4730	1280.0	398.0	3810	2710
n	22	22	22	22	19	19	19	19
SD	900.0	346.0	4070	2890	693.0	216.0	2060	1470
Min	102.0	39.2	449	319	108.0	33.7	320	228
Max	2960.0	1140.0	13300	9430	2190.0	682.0	6490	4610

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for July, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	124.0 (450.0)	47.6 (173.0)	546 (1980)	388 (1410)				
2	1030.0 (1040.0)	394.0 (398.0)	4530 (4580)	3220 (3260)	929.0 (1150.0)	289.0 (359.0)	2770 (3430)	1970 (2440)
3	1690.0 (1670.0)	648.0 (640.0)	7460 (7370)	5300 (5240)	1480.0 (1430.0)	461.0 (445.0)	4420 (4270)	3150 (3040)
4	842.0 (888.0)	323.0 (341.0)	3730 (3930)	2650 (2800)	603.0 (723.0)	188.0 (225.0)	1810 (2170)	1290 (1540)
5	1660.0 (1570.0)	637.0 (604.0)	7370 (6980)	5240 (4960)	1280.0 (1260.0)	400.0 (391.0)	3860 (3780)	2750 (2690)
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22	425.0 (1230.0)	163.0 (474.0)	2240 (6520)	1600 (4640)	346.0 (1380.0)	108.0 (431.0)	910 (3630)	647 (2580)
23	1770.0 (1840.0)	678.0 (707.0)	9340 (9740)	6640 (6930)	2190.0 (2120.0)	682.0 (661.0)	5740 (5570)	4080 (3960)
24	906.0 (1040.0)	348.0 (399.0)	4800 (5500)	3420 (3910)	878.0 (1100.0)	274.0 (343.0)	2300 (2890)	1640 (2050)
25	710.0 (833.0)	273.0 (320.0)	3770 (4420)	2680 (3150)	568.0 (779.0)	177.0 (243.0)	1490 (2040)	1060 (1450)
26	1540.0 (1540.0)	592.0 (590.0)	8200 (8160)	5830 (5800)	1590.0 (1620.0)	494.0 (506.0)	4160 (4250)	2960 (3020)
27	1240.0 (1220.0)	477.0 (470.0)	6560 (6470)	4670 (4600)	1230.0 (1310.0)	382.0 (407.0)	3220 (3430)	2290 (2440)
28	504.0 (726.0)	194.0 (279.0)	2640 (3800)	1870 (2700)	243.0 (506.0)	75.6 (158.0)	639 (1330)	454 (947)
29	736.0 (1020.0)	283.0 (393.0)	3810 (5290)	2710 (3760)	281.0 (570.0)	87.4 (178.0)	741 (1510)	527 (1070)
30	183.0 (348.0)	70.2 (134.0)	935 (1780)	665 (1260)	137.0 (336.0)	42.8 (105.0)	364 (891)	259 (634)
31	1100.0 (998.0)	424.0 (383.0)	5580 (5040)	3970 (3590)	1100.0 (1100.0)	344.0 (343.0)	2930 (2930)	2090 (2080)
Avg	964.0	370.0	4770	3390	918.0	286.0	2530	1800
n	15	15	15	15	14	14	14	14
SD	519.0	199.0	2540	1810	577.0	180.0	1580	1120
Min	124.0	47.6	546	388	137.0	42.8	364	259
Max	1770.0	678.0	9340	6640	2190.0	682.0	5740	4080

Table F5. Daily means (SD) of PM₁₀ emissions at Site WISB for August, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	235.0 (402.0)	90.2 (154.0)	1170 (2010)	835 (1430)				
2	742.0 (968.0)	285.0 (372.0)	3670 (4790)	2610 (3410)				
3	1080.0 (1250.0)	413.0 (479.0)	5340 (6190)	3800 (4400)	1350.0 (1410.0)	421.0 (438.0)	3620 (3760)	2570 (2680)
4								
5								
6								
7								
8								
9								
10								
11								
12	2410.0 (1890.0)	926.0 (725.0)	13000 (10200)	9240 (7230)	2870.0 (2220.0)	894.0 (693.0)	7430 (5750)	5280 (4090)
13	1790.0 (1810.0)	687.0 (695.0)	9650 (9750)	6860 (6940)	1940.0 (1810.0)	604.0 (563.0)	5000 (4660)	3560 (3320)
14	1680.0 (1250.0)	643.0 (479.0)	9040 (6730)	6430 (4790)	2900.0 (1880.0)	905.0 (586.0)	7470 (4830)	5310 (3440)
15	1770.0 (1000.0)	681.0 (384.0)	9570 (5410)	6800 (3840)	2260.0 (1410.0)	704.0 (440.0)	5790 (3620)	4120 (2570)
16	1260.0 (981.0)	485.0 (377.0)	6830 (5300)	4860 (3770)	1430.0 (1320.0)	444.0 (412.0)	3640 (3380)	2590 (2400)
17	847.0 (1120.0)	325.0 (430.0)	4580 (6050)	3260 (4300)	1400.0 (1510.0)	437.0 (471.0)	3580 (3860)	2550 (2740)
18	1040.0 (1120.0)	401.0 (432.0)	5640 (6080)	4010 (4320)	1040.0 (1190.0)	326.0 (369.0)	2660 (3020)	1890 (2150)
19	350.0 (587.0)	134.0 (225.0)	1890 (3170)	1350 (2260)	308.0 (625.0)	95.8 (195.0)	783 (1590)	557 (1130)
20	141.0 (210.0)	54.1 (80.6)	762 (1140)	542 (808)				
21	260.0 (454.0)	100.0 (175.0)	1410 (2460)	1000 (1750)				
22	509.0 (754.0)	196.0 (290.0)	2760 (4080)	1960 (2900)	362.0 (655.0)	113.0 (204.0)	919 (1660)	654 (1180)
23	890.0 (1050.0)	342.0 (402.0)	4820 (5670)	3430 (4030)	1150.0 (1370.0)	358.0 (428.0)	2920 (3490)	2070 (2480)
24	1530.0 (1440.0)	588.0 (555.0)	8290 (7820)	5900 (5560)	1730.0 (1480.0)	538.0 (462.0)	4380 (3770)	3120 (2680)
25	945.0 (1020.0)	363.0 (393.0)	5120 (5540)	3640 (3940)	964.0 (1110.0)	300.0 (347.0)	2450 (2820)	1740 (2010)
26	1120.0 (1310.0)	432.0 (502.0)	6100 (7090)	4330 (5040)	947.0 (1200.0)	295.0 (374.0)	2400 (3040)	1710 (2160)
27	744.0 (1520.0)	286.0 (582.0)	4030 (8220)	2870 (5840)	1600.0 (2300.0)	499.0 (717.0)	4050 (5830)	2880 (4140)
28	505.0 (888.0)	194.0 (341.0)	2740 (4810)	1950 (3420)				
29	112.0 (375.0)	43.1 (144.0)	609 (2030)	433 (1450)				
30	-269.0 (1860.0)	-103.0 (713.0)	-1460 (10100)	-1040 (7160)	-463.0 (2350.0)	-144.0 (733.0)	-1170 (5940)	-831 (4220)
31	643.0 (1380.0)	247.0 (529.0)	3490 (7470)	2480 (5320)	265.0 (844.0)	82.6 (263.0)	669 (2130)	476 (1520)
Avg	884.0	340.0	4740	3370	1300.0	404.0	3330	2370
n	23	23	23	23	17	17	17	17
SD	633.0	243.0	3420	2430	876.0	273.0	2260	1600
Min	-269.0	-103.0	-1460	-1040	-463.0	-144.0	-1170	-831
Max	2410.0	926.0	13000	9240	2900.0	905.0	7470	5310

Table F5. Daily means (SD) of PM₁₀ emissions at Site W15B for September, 2009.

Day	PM ₁₀							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	752.0 (915.0)	289.0 (351.0)	4080 (4970)	2900 (3530)	326.0 (597.0)	102.0 (186.0)	823 (1510)	585 (1070)
2	608.0 (1140.0)	233.0 (437.0)	3300 (6180)	2350 (4400)	695.0 (1240.0)	217.0 (385.0)	1750 (3120)	1250 (2220)
3	176.0 (1330.0)	67.6 (510.0)	955 (7210)	680 (5130)	742.0 (2380.0)	231.0 (741.0)	1870 (5990)	1330 (4260)
4	253.0 (1120.0)	97.0 (429.0)	1370 (6070)	976 (4320)	167.0 (1180.0)	52.1 (369.0)	421 (2980)	299 (2120)
5	990.0 (1350.0)	380.0 (520.0)	5380 (7360)	3820 (5230)	714.0 (1100.0)	222.0 (344.0)	1790 (2780)	1280 (1970)
6	978.0 (1460.0)	376.0 (562.0)	5310 (7950)	3780 (5650)	855.0 (1240.0)	266.0 (387.0)	2150 (3120)	1530 (2220)
7								
8	1110.0 (1550.0)	428.0 (596.0)	6010 (8370)	4270 (5950)	1510.0 (1490.0)	471.0 (463.0)	3830 (3770)	2720 (2680)
9	901.0 (1120.0)	346.0 (430.0)	4830 (6000)	3440 (4270)	1300.0 (1380.0)	404.0 (429.0)	3300 (3510)	2350 (2490)
10	1080.0 (1510.0)	415.0 (581.0)	5760 (8070)	4100 (5740)	1720.0 (1800.0)	537.0 (561.0)	4420 (4610)	3140 (3280)
11	1460.0 (1690.0)	559.0 (650.0)	7730 (8970)	5490 (6380)	1750.0 (1690.0)	546.0 (526.0)	4510 (4350)	3210 (3090)
12	1060.0 (1800.0)	405.0 (689.0)	5570 (9470)	3960 (6730)	2300.0 (2910.0)	716.0 (905.0)	5950 (7530)	4230 (5360)
13	1190.0 (2120.0)	459.0 (815.0)	6270 (11100)	4460 (7920)	1910.0 (2440.0)	595.0 (759.0)	4980 (6350)	3540 (4520)
14	958.0 (2150.0)	368.0 (825.0)	5030 (11300)	3580 (8020)	1380.0 (3130.0)	431.0 (974.0)	3620 (8190)	2580 (5830)
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
Avg	886.0	340.0	4740	3370	1180.0	368.0	3030	2160
n	13	13	13	13	13	13	13	13
SD	347.0	133.0	1830	1300	625.0	195.0	1630	1160
Min	176.0	67.6	955	680	167.0	52.1	421	299
Max	1460.0	559.0	7730	5490	2300.0	716.0	5950	4230

Table F6. PM 2.5 emissions.**Table F6. Daily means (SD) of PM_{2.5} emissions at Site WISB for January, 2008.**

Day	PM _{2.5}							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	4.3 (33.9)	1.6 (13.0)	20 (161)	14 (114)	5.7 (43.0)	1.8 (13.4)	16 (121)	12 (86)
17	18.9 (38.6)	7.3 (14.8)	90 (183)	64 (130)	14.8 (41.7)	4.6 (13.0)	42 (118)	30 (84)
18								
19								
20								
21								
22	26.4 (60.9)	10.1 (23.4)	125 (289)	89 (205)				
23								
24								
25								
26	-12.3 (29.8)	-4.7 (11.4)	-58 (141)	-42 (100)				
27	-17.8 (28.9)	-6.8 (11.1)	-84 (137)	-60 (97)				
28	-27.1 (45.4)	-10.4 (17.4)	-129 (215)	-91 (153)				
29					47.2 (75.2)	14.7 (23.4)	133 (212)	95 (151)
30								
31								
Avg	-1.3	-0.5	-6	-4	22.6	7.0	64	45
n	6	6	6	6	3	3	3	3
SD	19.4	7.5	92	66	17.8	5.6	50	36
Min	-27.1	-10.4	-129	-91	5.7	1.8	16	12
Max	26.4	10.1	125	89	47.2	14.7	133	95

Table F6. Daily means (SD) of PM_{2.5} emissions at Site WI5B for February, 2008.

Day	PM _{2.5}							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	22.3 (83.5)	8.6 (32.1)	105 (396)	75 (281)	30.7 (59.2)	9.6 (18.4)	87 (167)	62 (119)
2	-11.1 (122.0)	-4.3 (46.8)	-53 (578)	-38 (411)				
3	-19.7 (118.0)	-7.6 (45.3)	-94 (559)	-67 (398)	7.7 (89.8)	2.4 (28.0)	22 (253)	15 (180)
4	-5.6 (55.8)	-2.2 (21.4)	-27 (265)	-19 (188)				
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26								
27								
28								
29								
Avg	-3.6	-1.4	-17	-12	19.2	6.0	54	39
n	4	4	4	4	2	2	2	2
SD	15.7	6.0	75	53	11.5	3.6	33	23
Min	-19.7	-7.6	-94	-67	7.7	2.4	22	15
Max	22.3	8.6	105	75	30.7	9.6	87	62

Table F6. Daily means (SD) of PM_{2.5} emissions at Site WISB for August, 2008.

Day	PM _{2.5}							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2	205.0 (909.0)	78.6 (349.0)	970 (4310)	690 (3060)	806.0 (804.0)	251.0 (251.0)	2270 (2270)	1610 (1610)
3	244.0 (367.0)	93.9 (141.0)	1160 (1740)	824 (1240)	328.0 (199.0)	102.0 (62.1)	923 (562)	657 (400)
4	348.0 (709.0)	134.0 (272.0)	1650 (3360)	1170 (2390)	651.0 (542.0)	203.0 (169.0)	1830 (1530)	1300 (1090)
5	286.0 (1130.0)	110.0 (435.0)	1350 (5370)	963 (3820)	692.0 (684.0)	215.0 (213.0)	1950 (1930)	1390 (1370)
6	201.0 (858.0)	77.3 (330.0)	955 (4070)	679 (2890)	411.0 (538.0)	128.0 (167.0)	1160 (1510)	823 (1080)
7	198.0 (618.0)	76.2 (237.0)	940 (2930)	668 (2080)	254.0 (285.0)	79.0 (88.9)	714 (804)	508 (572)
8	142.0 (646.0)	54.5 (248.0)	672 (3060)	478 (2180)	236.0 (314.0)	73.4 (97.7)	664 (884)	472 (628)
9	339.0 (882.0)	130.0 (339.0)	1610 (4180)	1140 (2970)	543.0 (642.0)	169.0 (200.0)	1530 (1810)	1090 (1290)
10	150.0 (560.0)	57.7 (215.0)	712 (2650)	506 (1890)	169.0 (234.0)	52.6 (73.0)	476 (660)	338 (470)
11	175.0 (478.0)	67.3 (184.0)	830 (2270)	591 (1610)	266.0 (281.0)	82.9 (87.5)	749 (791)	533 (563)
12	141.0 (284.0)	54.2 (109.0)	669 (1350)	476 (959)	137.0 (111.0)	42.7 (34.6)	386 (313)	275 (222)
13	125.0 (1070.0)	48.0 (411.0)	593 (5070)	422 (3610)	197.0 (404.0)	61.3 (126.0)	554 (1140)	394 (810)
14	71.6 (441.0)	27.5 (169.0)	340 (2090)	241 (1490)	85.0 (133.0)	26.5 (41.5)	239 (375)	170 (267)
15	33.3 (1090.0)	12.8 (417.0)	158 (5150)	112 (3660)	49.2 (276.0)	15.3 (85.9)	138 (777)	99 (552)
16	160.0 (516.0)	61.6 (198.0)	760 (2440)	540 (1740)	75.3 (174.0)	23.4 (54.1)	212 (489)	151 (348)
17	23.2 (563.0)	8.9 (216.0)	110 (2670)	78 (1900)	62.7 (213.0)	19.5 (66.2)	177 (599)	126 (426)
18								
19								
20								
21								
22								
23								
24								
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26								
27								
28								
29								
30								
31								
Avg	178.0	68.2	842	599	310.0	96.6	873	621
n	16	16	16	16	16	16	16	16
SD	91.9	35.3	436	310	235.0	73.1	661	470
Min	23.2	8.9	110	78	49.2	15.3	138	99
Max	348.0	134.0	1650	1170	806.0	251.0	2270	1610

Table F6. Daily means (SD) of PM_{2.5} emissions at Site WISB for January, 2009.

Day	PM _{2.5}							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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12								
13								
14	86.9 (88.6)	33.4 (34.0)	401 (409)	285 (291)	62.5 (53.5)	19.5 (16.7)	185 (159)	132 (113)
15	83.6 (66.2)	32.1 (25.4)	385 (305)	274 (217)	49.4 (131.0)	15.4 (40.8)	146 (389)	104 (276)
16	52.5 (51.8)	20.2 (19.9)	241 (238)	171 (169)	37.7 (73.2)	11.8 (22.8)	112 (217)	79 (154)
17	50.4 (61.1)	19.4 (23.5)	231 (280)	164 (199)	19.3 (29.6)	6.0 (9.2)	57 (88)	41 (62)
18	32.6 (40.7)	12.5 (15.6)	149 (186)	106 (132)	27.0 (40.1)	8.4 (12.5)	80 (119)	57 (84)
19	39.5 (37.7)	15.2 (14.5)	180 (172)	128 (122)	27.0 (29.1)	8.4 (9.1)	80 (86)	57 (61)
20	33.2 (68.8)	12.8 (26.4)	151 (313)	108 (223)	29.1 (60.8)	9.1 (18.9)	86 (180)	61 (128)
21	18.9 (53.5)	7.3 (20.5)	86 (243)	61 (173)	24.2 (38.0)	7.5 (11.8)	71 (112)	51 (80)
22	-16.5 (30.5)	-6.4 (11.7)	-75 (138)	-53 (98)	-4.3 (47.4)	-1.3 (14.8)	-13 (140)	-9 (99)
23	17.7 (37.1)	6.8 (14.3)	80 (168)	57 (119)	3.9 (29.2)	1.2 (9.1)	11 (86)	8 (61)
24	64.0 (55.2)	24.6 (21.2)	288 (249)	205 (177)	48.3 (65.9)	15.0 (20.5)	142 (194)	101 (138)
25	65.9 (56.5)	25.3 (21.7)	296 (254)	211 (181)	33.7 (38.0)	10.5 (11.8)	99 (112)	71 (80)
26	77.3 (66.5)	29.7 (25.5)	347 (299)	247 (212)	60.0 (84.4)	18.7 (26.3)	177 (248)	126 (177)
27								
28								
29								
30								
31								
Avg	46.6	17.9	212	151	32.1	10.0	95	68
n	13	13	13	13	13	13	13	13
SD	28.7	11.0	131	93	19.0	5.9	56	40
Min	-16.5	-6.4	-75	-53	-4.3	-1.3	-13	-9
Max	86.9	33.4	401	285	62.5	19.5	185	132

Table F6. Daily means (SD) of PM_{2.5} emissions at Site WISB for July, 2009.

Day	PM _{2.5}							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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2								
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6								
7	496.0 (488.0)	190.0 (187.0)	2210 (2180)	1570 (1550)	420.0 (462.0)	131.0 (144.0)	1250 (1370)	888 (976)
8	288.0 (279.0)	111.0 (107.0)	1290 (1250)	917 (887)	237.0 (204.0)	74.0 (63.6)	699 (601)	497 (427)
9	439.0 (387.0)	168.0 (149.0)	1970 (1730)	1400 (1230)	392.0 (343.0)	122.0 (107.0)	1140 (1000)	814 (712)
10	539.0 (569.0)	207.0 (218.0)	2420 (2560)	1720 (1820)	489.0 (527.0)	152.0 (164.0)	1410 (1520)	1010 (1080)
11	218.0 (312.0)	83.6 (120.0)	982 (1400)	698 (999)	95.7 (233.0)	29.8 (72.6)	274 (668)	195 (475)
12	283.0 (342.0)	109.0 (131.0)	1280 (1540)	911 (1100)	137.0 (227.0)	42.7 (70.6)	390 (645)	277 (458)
13	395.0 (461.0)	152.0 (177.0)	1810 (2110)	1290 (1500)	198.0 (384.0)	61.5 (120.0)	556 (1080)	395 (769)
14	404.0 (273.0)	155.0 (105.0)	1890 (1280)	1340 (908)	311.0 (250.0)	96.9 (77.7)	866 (695)	616 (494)
15	226.0 (277.0)	86.8 (106.0)	1080 (1320)	767 (940)	185.0 (232.0)	57.6 (72.2)	510 (638)	362 (454)
16	111.0 (219.0)	42.6 (84.2)	541 (1070)	385 (759)				
17	87.3 (99.3)	33.5 (38.1)	434 (494)	309 (351)				
18	81.4 (127.0)	31.3 (48.9)	415 (649)	295 (462)				
19	167.0 (269.0)	64.2 (103.0)	871 (1400)	619 (996)	106.0 (212.0)	32.9 (65.9)	280 (559)	199 (398)
20	338.0 (298.0)	130.0 (115.0)	1780 (1570)	1270 (1120)	349.0 (312.0)	109.0 (97.3)	917 (822)	652 (584)
21								
22								
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27								
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29								
30								
31								
Avg	291.0	112.0	1360	964	265.0	82.7	754	536
n	14	14	14	14	11	11	11	11
SD	145.0	55.6	643	457	128.0	40.0	377	268
Min	81.4	31.3	415	295	95.7	29.8	274	195
Max	539.0	207.0	2420	1720	489.0	152.0	1410	1010

Table F7. TSP emissions.**Table F7. Daily means (SD) of particulate matter emissions at Site WISB for December, 2007.**

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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12								
13	107.0 (92.3)	41.3 (35.4)	509 (437)	362 (311)	764.0 (425.0)	238.0 (133.0)	2150 (1200)	1530 (852)
14								
15								
16	29.4 (39.6)	11.3 (15.2)	139 (188)	99 (134)	713.0 (257.0)	222.0 (80.0)	2010 (724)	1430 (515)
17								
18								
19								
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26								
27								
28								
29								
30								
31								
Avg	68.4	26.3	324	231	738.0	230.0	2080	1480
n	2	2	2	2	2	2	2	2
SD	39.0	15.0	185	132	25.5	8.0	72	51
Min	29.4	11.3	139	99	713.0	222.0	2010	1430
Max	107.0	41.3	509	362	764.0	238.0	2150	1530

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for February, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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19								
20	345.0 (1170.0)	132.0 (451.0)	1630 (5560)	1160 (3950)	373.0 (2070.0)	116.0 (646.0)	1050 (5840)	747 (4150)
21	94.5 (361.0)	36.3 (138.0)	448 (1710)	319 (1220)	255.0 (1510.0)	79.5 (469.0)	719 (4240)	511 (3020)
22	-110.0 (220.0)	-42.4 (84.3)	-523 (1040)	-372 (740)	110.0 (780.0)	34.4 (243.0)	311 (2200)	221 (1560)
23	-220.0 (501.0)	-84.5 (193.0)	-1040 (2380)	-742 (1690)				
24	-269.0 (251.0)	-103.0 (96.4)	-1270 (1190)	-906 (846)				
25	-322.0 (269.0)	-124.0 (103.0)	-1530 (1280)	-1090 (907)				
26								
27								
28								
29								
Avg	-80.4	-30.9	-381	-271	246.0	76.7	693	493
n	6	6	6	6	3	3	3	3
SD	233.0	89.5	1100	785	107.0	33.5	303	215
Min	-322.0	-124.0	-1530	-1090	110.0	34.4	311	221
Max	345.0	132.0	1630	1160	373.0	116.0	1050	747

Table F7. Daily means (SD) of particulate matter emissions at Site WI5B for March, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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17								
18	-450.0 (339.0)	-173.0 (130.0)	-2130 (1610)	-1520 (1140)	232.0 (159.0)	72.4 (49.7)	655 (449)	466 (319)
19	-26.2 (367.0)	-10.1 (141.0)	-124 (1740)	-88 (1240)	265.0 (347.0)	82.6 (108.0)	747 (979)	531 (696)
20	476.0 (504.0)	183.0 (194.0)	2260 (2390)	1600 (1700)	291.0 (212.0)	90.8 (65.9)	821 (596)	584 (424)
21	126.0 (296.0)	48.5 (114.0)	599 (1410)	426 (999)	15.0 (354.0)	4.7 (110.0)	42 (997)	30 (709)
22	177.0 (163.0)	68.1 (62.6)	841 (773)	598 (550)	178.0 (98.0)	55.3 (30.5)	500 (276)	356 (196)
23	168.0 (113.0)	64.5 (43.3)	797 (534)	567 (380)				
24	209.0 (194.0)	80.2 (74.4)	990 (918)	704 (653)	283.0 (176.0)	88.1 (54.7)	797 (495)	567 (352)
25								
26								
27								
28								
29								
30								
31								
Avg	97.2	37.3	461	328	211.0	65.6	594	422
n	7	7	7	7	6	6	6	6
SD	263.0	101.0	1250	886	95.3	29.7	268	191
Min	-450.0	-173.0	-2130	-1520	15.0	4.7	42	30
Max	476.0	183.0	2260	1600	291.0	90.8	821	584

Table F7. Daily means (SD) of particulate matter emissions at Site WISB for April, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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28								
29								
30	764.0 (732.0)	293.0 (281.0)	3620 (3470)	2580 (2470)	1080.0 (833.0)	335.0 (260.0)	3030 (2350)	2150 (1670)
Avg								
n	1	1	1	1	1	1	1	1
SD								
Min								
Max								

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for May, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	1470.0 (1550.0)	566.0 (595.0)	6980 (7340)	4960 (5220)	1360.0 (1200.0)	423.0 (373.0)	3830 (3380)	2720 (2400)
2	354.0 (222.0)	136.0 (85.1)	1680 (1050)	1190 (747)				
3	326.0 (223.0)	125.0 (85.5)	1540 (1060)	1100 (751)				
4	492.0 (381.0)	189.0 (146.0)	2330 (1810)	1660 (1280)	565.0 (563.0)	176.0 (175.0)	1590 (1590)	1130 (1130)
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28								
29								
30								
31								
Avg	661.0	254.0	3130	2230	962.0	300.0	2710	1930
n	4	4	4	4	2	2	2	2
SD	473.0	182.0	2240	1590	396.0	124.0	1120	794
Min	326.0	125.0	1540	1100	565.0	176.0	1590	1130
Max	1470.0	566.0	6980	4960	1360.0	423.0	3830	2720

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for June, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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19								
20	1720.0 (1740.0)	662.0 (668.0)	8170 (8250)	5810 (5870)	2650.0 (3170.0)	826.0 (988.0)	7470 (8930)	5310 (6350)
21	1870.0 (1690.0)	720.0 (647.0)	8880 (7990)	6320 (5680)	2040.0 (2030.0)	636.0 (631.0)	5750 (5710)	4090 (4060)
22	1400.0 (2360.0)	538.0 (908.0)	6640 (11200)	4720 (7970)	824.0 (712.0)	257.0 (222.0)	2320 (2010)	1650 (1430)
23	2030.0 (1920.0)	778.0 (739.0)	9610 (9120)	6830 (6480)	2610.0 (2410.0)	812.0 (750.0)	7340 (6780)	5220 (4820)
24	2310.0 (2090.0)	888.0 (804.0)	11000 (9920)	7790 (7060)	4200.0 (3190.0)	1310.0 (994.0)	11800 (8990)	8410 (6390)
25	2250.0 (1790.0)	866.0 (686.0)	10700 (8460)	7600 (6020)	3820.0 (3330.0)	1190.0 (1040.0)	10800 (9370)	7650 (6660)
26								
27								
28								
29								
30								
Avg	1930.0	742.0	9160	6510	2690.0	838.0	7580	5390
n	6	6	6	6	6	6	6	6
SD	313.0	120.0	1480	1050	1120.0	347.0	3140	2230
Min	1400.0	538.0	6640	4720	824.0	257.0	2320	1650
Max	2310.0	888.0	11000	7790	4200.0	1310.0	11800	8410

Table F7. Daily means (SD) of particulate matter emissions at Site WISB for August, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
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17								
18								
19	2680.0 (2840.0)	1030.0 (1090.0)	12700 (13500)	9020 (9570)	2440.0 (2610.0)	761.0 (813.0)	6880 (7350)	4890 (5230)
20	2320.0 (2660.0)	891.0 (1020.0)	11000 (12600)	7820 (8950)	1540.0 (2110.0)	481.0 (656.0)	4350 (5930)	3090 (4220)
21	2470.0 (2540.0)	949.0 (974.0)	11700 (12000)	8330 (8550)	1560.0 (1740.0)	487.0 (542.0)	4400 (4910)	3130 (3490)
22	1780.0 (2260.0)	683.0 (867.0)	8430 (10700)	6000 (7610)	2370.0 (2090.0)	738.0 (651.0)	6680 (5880)	4750 (4190)
23	721.0 (995.0)	277.0 (382.0)	3420 (4710)	2430 (3350)	740.0 (1030.0)	230.0 (321.0)	2080 (2900)	1480 (2060)
24	1030.0 (1210.0)	397.0 (464.0)	4900 (5720)	3490 (4070)	837.0 (1370.0)	261.0 (427.0)	2360 (3860)	1680 (2750)
25								
26								
27								
28								
29								
30								
31								
Avg	1830.0	704.0	8690	6180	1580.0	493.0	4460	3170
n	6	6	6	6	6	6	6	6
SD	734.0	282.0	3480	2470	662.0	206.0	1860	1330
Min	721.0	277.0	3420	2430	740.0	230.0	2080	1480
Max	2680.0	1030.0	12700	9020	2440.0	761.0	6880	4890

Table F7. Daily means (SD) of particulate matter emissions at Site WI5B for October, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15	413.0 (309.0)	159.0 (118.0)	1960 (1460)	1390 (1040)	341.0 (217.0)	106.0 (67.7)	962 (612)	684 (436)
16								
17								
18								
19								
20								
21								
22	450.0 (586.0)	173.0 (225.0)	2070 (2690)	1470 (1920)	264.0 (539.0)	82.3 (168.0)	745 (1520)	530 (1080)
23	511.0 (939.0)	196.0 (361.0)	2380 (4380)	1690 (3110)	441.0 (659.0)	137.0 (205.0)	1240 (1860)	884 (1320)
24	149.0 (191.0)	57.1 (73.2)	697 (894)	496 (636)	200.0 (149.0)	62.3 (46.3)	563 (419)	401 (298)
25	283.0 (337.0)	109.0 (129.0)	1340 (1600)	956 (1140)	175.0 (156.0)	54.4 (48.6)	492 (439)	350 (313)
26	314.0 (190.0)	121.0 (73.0)	1510 (911)	1070 (648)				
27	329.0 (370.0)	126.0 (142.0)	1590 (1790)	1130 (1270)				
28								
29								
30								
31								
Avg	350.0	134.0	1650	1170	284.0	88.6	801	570
n	7	7	7	7	5	5	5	5
SD	111.0	42.7	510	363	97.4	30.3	274	195
Min	149.0	57.1	697	496	175.0	54.4	492	350
Max	511.0	196.0	2380	1690	441.0	137.0	1240	884

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for December, 2008.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
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7								
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10								
11								
12								
13								
14								
15								
16								
17	330.0 (139.0)	127.0 (53.3)	1470 (620)	1050 (441)	303.0 (103.0)	94.4 (32.0)	908 (307)	646 (219)
18	291.0 (167.0)	112.0 (64.1)	1290 (742)	919 (528)	200.0 (176.0)	62.3 (55.0)	598 (528)	425 (375)
19	285.0 (204.0)	109.0 (78.3)	1260 (902)	895 (642)	151.0 (85.3)	46.9 (26.6)	449 (254)	319 (181)
20					103.0 (126.0)	32.1 (39.1)	306 (373)	218 (265)
21								
22								
23								
24					276.0 (89.5)	86.0 (27.9)	802 (260)	571 (185)
25					155.0 (180.0)	48.1 (56.0)	446 (519)	317 (369)
26					290.0 (259.0)	90.5 (80.5)	833 (741)	592 (527)
27					130.0 (102.0)	40.4 (31.8)	368 (290)	262 (207)
28					154.0 (90.0)	47.9 (28.0)	435 (254)	309 (181)
29					177.0 (125.0)	55.2 (38.8)	497 (349)	353 (249)
30								
31								
Avg	302.0	116.0	1340	954	194.0	60.4	564	401
n	3	3	3	3	10	10	10	10
SD	20.0	7.7	94	67	67.6	21.1	200	143
Min	285.0	109.0	1260	895	103.0	32.1	306	218
Max	330.0	127.0	1470	1050	303.0	94.4	908	646

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for February, 2009.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
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9								
10								
11								
12								
13								
14								
15								
16								
17								
18	387.0 (211.0)	149.0 (81.0)	1740 (951)	1240 (677)	661.0 (239.0) 519.0 (164.0) 403.0 (228.0) 314.0 (104.0) 298.0 (142.0)	206.0 (74.5) 162.0 (51.2) 125.0 (71.0) 97.7 (32.3) 92.8 (44.2)	1950 (705) 1520 (482) 1170 (665) 909 (301) 863 (411)	1380 (501) 1080 (343) 834 (473) 646 (214) 613 (292)
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
Avg					439.0 5 136.0 298.0 661.0	137.0 5 42.4 92.8 206.0	1280 5 407 863 1950	912 5 289 613 1380
n	1	1	1	1				
SD								
Min								
Max								

Table F7. Daily means (SD) of particulate matter emissions at Site WISB for April, 2009.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7	632.0 (518.0)	243.0 (199.0)	2830 (2320)	2010 (1650)	461.0 (562.0)	144.0 (175.0)	1350 (1650)	961 (1170)
8	917.0 (1330.0)	352.0 (510.0)	4110 (5960)	2930 (4240)	288.0 (230.0)	89.7 (71.7)	844 (675)	601 (480)
9	740.0 (577.0)	284.0 (221.0)	3320 (2590)	2360 (1840)				
10	650.0 (573.0)	250.0 (220.0)	2910 (2570)	2070 (1830)				
11	692.0 (640.0)	266.0 (246.0)	3100 (2870)	2210 (2040)	429.0 (680.0)	134.0 (212.0)	1260 (1990)	895 (1420)
12	871.0 (789.0)	335.0 (303.0)	3910 (3540)	2780 (2520)	520.0 (702.0)	162.0 (219.0)	1530 (2060)	1090 (1460)
13	1470.0 (2000.0)	566.0 (769.0)	6630 (9020)	4710 (6410)	714.0 (1070.0)	222.0 (333.0)	2090 (3130)	1490 (2220)
14								
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17								
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20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
Avg	854.0	328.0	3830	2720	482.0	150.0	1410	1010
n	7	7	7	7	5	5	5	5
SD	272.0	104.0	1230	872	139.0	43.2	406	289
Min	632.0	243.0	2830	2010	288.0	89.7	844	601
Max	1470.0	566.0	6630	4710	714.0	222.0	2090	1490

Table F7. Daily means (SD) of particulate matter emissions at Site WISB for June, 2009.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4	1840.0 (1480.0)	705.0 (570.0)	8050 (6510)	5730 (4630)	1670.0 (2170.0)	520.0 (676.0)	4820 (6260)	3420 (4450)
5	1910.0 (1890.0)	734.0 (727.0)	8350 (8280)	5940 (5890)	256.0 (254.0)	79.8 (79.1)	746 (739)	531 (526)
6					199.0 (124.0)	61.9 (38.5)	581 (362)	413 (258)
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
Avg	1870.0	720.0	8200	5830	708.0	220.0	2050	1460
n	2	2	2	2	3	3	3	3
SD	37.7	14.5	150	107	680.0	212.0	1960	1390
Min	1840.0	705.0	8050	5730	199.0	61.9	581	413
Max	1910.0	734.0	8350	5940	1670.0	520.0	4820	3420

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for August, 2009.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5	1660.0 (1240.0)	639.0 (474.0)	8450 (6280)	6010 (4470)	1050.0 (958.0)	328.0 (298.0)	2790 (2540)	1990 (1810)
6	1820.0 (1340.0)	697.0 (514.0)	9340 (6890)	6640 (4900)	1440.0 (1460.0)	447.0 (454.0)	3800 (3850)	2700 (2740)
7	636.0 (748.0)	244.0 (287.0)	3310 (3880)	2350 (2760)	372.0 (380.0)	116.0 (118.0)	982 (1000)	698 (712)
8	1320.0 (818.0)	506.0 (314.0)	6950 (4320)	4940 (3070)	1630.0 (1400.0)	509.0 (438.0)	4290 (3690)	3050 (2620)
9	1970.0 (1410.0)	757.0 (542.0)	10500 (7560)	7500 (5380)	1810.0 (1450.0)	565.0 (452.0)	4740 (3790)	3370 (2700)
10	1980.0 (1590.0)	760.0 (610.0)	10600 (8550)	7570 (6080)	1540.0 (1480.0)	479.0 (462.0)	4000 (3860)	2850 (2750)
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Avg	1560.0	601.0	8210	5840	1310.0	407.0	3430	2440
n	6	6	6	6	6	6	6	6
SD	471.0	181.0	2530	1800	478.0	149.0	1250	887
Min	636.0	244.0	3310	2350	372.0	116.0	982	698
Max	1980.0	760.0	10600	7570	1810.0	565.0	4740	3370

Table F7. Daily means (SD) of particulate matter emissions at Site W15B for September, 2009.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	585.0 (1690.0)	225.0 (648.0)	3110 (8970)	2210 (6380)	3430.0 (4360.0)	1070.0 (1360.0)	9090 (11500)	6460 (8200)
17	1660.0 (2210.0)	638.0 (848.0)	8890 (11800)	6330 (8390)	846.0 (2050.0)	263.0 (638.0)	2250 (5450)	1600 (3870)
18	2190.0 (2650.0)	841.0 (1020.0)	11800 (14300)	8380 (10200)	3130.0 (4370.0)	975.0 (1360.0)	8370 (11700)	5950 (8310)
19	3300.0 (3860.0)	1270.0 (1480.0)	17900 (20900)	12700 (14800)	2400.0 (4770.0)	747.0 (1490.0)	6450 (12800)	4580 (9120)
20	2330.0 (2680.0)	894.0 (1030.0)	12700 (14600)	9010 (10400)	1140.0 (1300.0)	356.0 (406.0)	3090 (3520)	2200 (2500)
21	1880.0 (1940.0)	723.0 (745.0)	10300 (10600)	7300 (7530)	1020.0 (1270.0)	317.0 (396.0)	2750 (3440)	1960 (2450)
22	198.0 (284.0)	76.0 (109.0)	1070 (1540)	764 (1100)	1010.0 (1490.0)	315.0 (464.0)	2730 (4030)	1940 (2860)
23	998.0 (858.0)	383.0 (330.0)	5400 (4640)	3840 (3300)	824.0 (551.0)	257.0 (172.0)	2220 (1490)	1580 (1060)
24	1720.0 (1780.0)	661.0 (683.0)	9270 (9580)	6600 (6810)	1270.0 (1200.0)	394.0 (374.0)	3410 (3240)	2430 (2300)
25	350.0 (390.0)	134.0 (150.0)	1880 (2090)	1340 (1490)	253.0 (197.0)	78.8 (61.2)	681 (529)	485 (376)
26	523.0 (750.0)	201.0 (288.0)	2800 (4010)	1990 (2860)	243.0 (598.0)	75.7 (186.0)	652 (1610)	464 (1140)
27	538.0 (469.0)	207.0 (180.0)	2870 (2500)	2040 (1780)				
28	494.0 (421.0)	190.0 (162.0)	2620 (2230)	1860 (1590)				
29								
30	621.0 (416.0)	239.0 (160.0)	3250 (2170)	2310 (1540)	266.0 (264.0)	82.8 (82.3)	709 (705)	504 (501)
Avg	1240.0	477.0	6700	4760	1320.0	411.0	3530	2510
n	14	14	14	14	12	12	12	12
SD	905.0	348.0	4920	3500	1040.0	324.0	2770	1970
Min	198.0	76.0	1070	764	243.0	75.7	652	464
Max	3300.0	1270.0	17900	12700	3430.0	1070.0	9090	6460

Table F7. Daily means (SD) of particulate matter emissions at Site WISB for October, 2009.

Day	TSP							
	Barn 1				Barn 2			
	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	g·d ⁻¹	mg·d ⁻¹ m ⁻²	mg·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					171.0 (285.0)			
2	501.0 (601.0)	192.0 (231.0)	2590 (3110)	1840 (2210)		53.2 (88.9)	454 (759)	323 (540)
3	273.0 (249.0)	105.0 (95.6)	1400 (1280)	994 (909)				
4	282.0 (196.0)	108.0 (75.3)	1440 (999)	1020 (710)				
5	371.0 (536.0)	142.0 (206.0)	1880 (2710)	1340 (1930)				
6								
7	303.0 (267.0)	116.0 (102.0)	1520 (1340)	1080 (956)				
8	349.0 (405.0)	134.0 (155.0)	1750 (2030)	1250 (1450)				
9	260.0 (298.0)	99.8 (115.0)	1300 (1500)	926 (1060)				
10	139.0 (629.0)	53.3 (242.0)	693 (3150)	492 (2240)	44.1 (765.0)	13.7 (238.0)	116 (2010)	82 (1430)
11	321.0 (244.0)	123.0 (93.8)	1600 (1220)	1140 (866)	504.0 (3190.0)	157.0 (993.0)	1320 (8370)	941 (5950)
12	323.0 (365.0)	124.0 (140.0)	1600 (1810)	1140 (1290)	200.0 (118.0)	62.3 (36.7)	526 (310)	374 (220)
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Avg	312.0	120.0	1580	1120	230.0	71.5	605	430
n	10	10	10	10	4	4	4	4
SD	87.2	33.5	453	322	169.0	52.6	443	315
Min	139.0	53.3	693	492	44.1	13.7	116	82
Max	501.0	192.0	2590	1840	504.0	157.0	1320	941

Table F8. Hydrogen sulfide concentrations.**Table F8. Daily means (SD) of H₂S concentrations at Site WISB for September, 2007. MDL = 5 ppb.**

Day	South inlet		Barn 1		North inlet		Barn 2	
	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	7 (16)	10 (23)	89 (123)	129 (179)	7 (9)	9 (13)	124 (152)	177 (216)
13	17 (24)	24 (34)	75 (101)	107 (145)	20 (22)	28 (31)	142 (82)	203 (116)
14	6 (7)	9 (11)	124 (142)		2 (9)	3 (14)	98 (94)	120 (124)
15	0 (2)	1 (3)	42 (84)		7 (8)	10 (12)	112 (88)	160 (125)
16	0 (1)				30 (32)			
17	-1 (0)				17 (16)			
18	1 (3)	1 (4)	8 (7)		5 (4)	7 (5)	53 (52)	77 (74)
19	3 (4)	5 (5)	79 (73)		0 (2)	0 (3)	25 (36)	35 (51)
20	0 (1)	0 (2)	102 (127)		1 (2)	1 (3)		
21	5 (3)	6 (5)			6 (3)	9 (4)		
22	0 (2)	1 (3)	51 (105)	73 (150)	16 (18)	23 (25)	56 (48)	80 (69)
23	0 (1)	0 (1)	163 (251)	234 (359)	31 (30)	45 (43)	35 (45)	50 (65)
24	0 (1)	0 (1)	74 (84)	106 (121)			59 (85)	85 (122)
25	49 (66)	70 (94)	105 (122)	150 (174)			152 (105)	218 (150)
26	3 (8)	4 (11)	54 (66)	77 (94)			85 (71)	121 (101)
27	102 (160)	146 (228)	175 (150)	249 (214)			56 (51)	80 (73)
28	3 (5)	5 (6)	93 (114)	142 (165)			32 (39)	50 (57)
29	0 (0)	-1 (0)	22 (29)	32 (42)	2 (5)	3 (7)	92 (93)	132 (133)
30	1 (2)	1 (2)	37 (90)	54 (129)	7 (12)	10 (17)	77 (91)	110 (130)
Avg	10	17	81	123	11	12	80	113
n	19	17	16	11	14	12	15	15
SD	24	36	45	66	10	13	39	54
Min	-1	-1	8	32	0	0	25	35
Max	102	146	175	249	31	45	152	218

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for October, 2007. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	7 (1)	10 (2)			1 (1)	2 (1)		
2	10 (2)	14 (3)			3 (1)	4 (1)		
3	2 (1)	3 (2)	80 (185)	114 (265)	22 (21)	31 (30)	45 (38)	64 (54)
4	1 (0)	1 (0)	36 (75)	51 (107)	37 (44)	54 (63)	58 (69)	83 (98)
5	1 (0)	2 (1)	24 (36)		9 (12)	14 (17)	27 (51)	
6	0 (0)	1 (1)	10 (11)	15 (16)	2 (1)	3 (1)	49 (51)	70 (74)
7	0 (0)	1 (0)	42 (83)	60 (119)	9 (6)	13 (8)	34 (39)	49 (56)
8	1 (0)	1 (1)			9 (4)	12 (6)		
9	11 (11)	16 (16)	103 (224)	147 (320)	3 (5)	5 (8)	114 (204)	163 (290)
10	6 (17)	8 (24)	161 (223)	227 (320)	0 (0)	-1 (1)	16 (20)	24 (28)
11	0 (1)	1 (1)			0 (1)	0 (1)		
12	1 (1)	1 (1)	98 (95)	140 (136)	1 (0)	1 (0)	73 (73)	104 (104)
13	11 (16)	15 (22)	54 (58)	77 (83)	1 (1)	1 (1)	36 (43)	51 (61)
14	0 (1)	0 (1)	86 (106)	123 (151)	0 (1)	0 (1)	81 (136)	115 (194)
15	1 (1)	1 (1)	137 (221)	196 (316)	0 (1)	0 (1)	30 (27)	44 (38)
16	0 (1)	1 (1)	19 (19)	27 (28)	13 (27)	19 (39)	114 (117)	164 (167)
17	0 (1)	0 (1)	119 (152)	170 (218)	4 (3)	5 (4)	187 (159)	267 (227)
18	1 (2)	1 (3)	115 (148)	164 (212)	4 (4)	6 (5)	150 (179)	214 (256)
19	18 (6)	26 (8)	217 (225)	310 (322)	5 (9)	7 (12)	64 (80)	91 (115)
20	0 (1)	-1 (1)	83 (129)	118 (183)	19 (17)	27 (25)	84 (67)	119 (95)
21	3 (9)	4 (12)			-1 (1)	-1 (1)		
22	61 (109)	87 (155)	39 (26)	56 (38)	2 (6)	3 (8)	97 (132)	138 (188)
23	25 (32)	36 (45)	111 (140)	159 (200)	3 (5)	4 (6)	212 (233)	303 (332)
24	28 (49)	39 (69)	172 (136)	246 (194)	2 (7)	3 (10)	83 (99)	118 (142)
25	5 (11)	6 (15)	68 (63)	97 (89)	37 (30)	53 (42)	269 (233)	383 (332)
26	13 (21)	18 (30)	107 (97)	152 (139)	7 (12)	10 (18)	101 (136)	145 (193)
27	37 (34)	53 (49)	153 (165)	218 (236)	25 (41)	35 (59)	158 (155)	225 (220)
28	5 (7)	8 (11)	182 (229)	258 (325)	36 (25)	51 (36)	297 (309)	423 (439)
29	-1 (0)	-1 (1)	90 (120)	128 (171)	46 (32)	66 (45)	107 (142)	153 (202)
30	-1 (1)	-1 (1)	102 (226)	146 (323)	8 (8)	11 (11)	131 (122)	187 (175)
31	16 (14)	22 (21)	178 (221)	254 (316)	1 (4)	1 (5)	230 (256)	328 (366)
Avg	8	12	99	146	10	14	109	161
n	31	31	26	25	31	31	26	25
SD	13	19	54	75	13	19	75	106
Min	-1	-1	10	15	-1	-1	16	24
Max	61	87	217	310	46	66	297	423

Table F8. Daily means (SD) of H2S concentrations at Site W15B for November, 2007. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	-1 (2)	-1 (2)	158 (191)	225 (272)	18 (23)	26 (32)	269 (198)	383 (282)
2	7 (9)	10 (12)	124 (132)	176 (188)	20 (22)	29 (31)	235 (256)	335 (364)
3	-1 (5)	-1 (7)	52 (57)	73 (81)	28 (26)	39 (38)	237 (214)	337 (305)
4	17 (32)	24 (46)	142 (151)	202 (216)	18 (21)	26 (30)	210 (210)	300 (299)
5	13 (6)	19 (8)	225 (171)	320 (243)	-1 (1)	-2 (1)	85 (206)	121 (294)
6	9 (6)	12 (9)	294 (262)	418 (373)	-1 (1)	-1 (1)	130 (262)	185 (372)
7	-1 (1)	-1 (2)	117 (127)	166 (181)	1 (3)	1 (4)	63 (39)	90 (55)
8	5 (6)	7 (8)	110 (121)	157 (173)	5 (13)	8 (19)	98 (119)	139 (169)
9	4 (7)	6 (10)	71 (89)	101 (127)	6 (8)	8 (11)	137 (143)	195 (204)
10	-1 (0)	-2 (0)	144 (153)	205 (218)	8 (18)	11 (26)	150 (150)	213 (213)
11	2 (2)	2 (3)	161 (210)	229 (300)	0 (1)	0 (1)	197 (178)	281 (254)
12	2 (2)	3 (3)	73 (87)	104 (123)	63 (141)	90 (201)	97 (92)	138 (131)
13								
14								
15								
16	1 (5)	2 (7)	235 (163)	335 (232)	64 (106)	91 (151)	284 (178)	404 (253)
17	0 (2)	0 (2)	334 (308)	476 (439)	2 (6)	2 (8)	68 (109)	97 (155)
18	-1 (1)	-2 (1)	154 (214)	219 (305)	1 (3)	2 (4)	207 (188)	294 (268)
19	0 (2)	0 (2)	134 (225)	191 (321)	4 (11)	6 (16)	69 (90)	99 (128)
20	11 (19)	16 (26)	458 (302)	653 (431)	3 (9)	4 (12)	209 (200)	316 (286)
21	7 (7)	10 (10)	157 (144)	224 (205)	-1 (0)	-1 (1)		
22	8 (10)	12 (14)	266 (235)	379 (335)	-1 (0)	-2 (1)		
23	0 (1)	0 (1)	364 (310)	519 (442)	6 (4)	9 (5)	126 (140)	179 (199)
24	10 (23)	14 (32)	196 (211)	279 (300)	9 (11)	13 (15)	185 (234)	263 (333)
25	18 (39)	25 (55)	158 (152)	226 (216)	8 (6)	11 (9)	189 (193)	270 (275)
26	4 (4)	5 (6)	278 (177)	396 (253)	1 (3)	1 (5)	357 (324)	508 (461)
27	3 (5)	4 (6)	264 (223)	375 (317)	-1 (1)	-1 (1)	242 (140)	344 (199)
28	5 (7)	7 (9)	166 (156)	250 (222)	-1 (1)	-1 (1)	251 (146)	357 (207)
29	64 (54)	91 (77)	196 (151)	278 (215)	-1 (0)	-2 (0)		
30	-1 (1)	-1 (1)	217 (249)	309 (354)	0 (2)	0 (2)	329 (285)	468 (406)
Avg	7	10	194	277	10	14	184	263
n	27	27	27	27	27	27	24	24
SD	13	18	93	132	17	24	82	116
Min	-1	-2	52	73	-1	-2	63	90
Max	64	91	458	653	64	91	357	508

Table F8. Daily means (SD) of H2S concentrations at Site W15B for December, 2007. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	0 (1)	0 (2)	192 (202)	273 (287)	-1 (1)	-1 (1)	559 (345)	794 (491)
2	2 (2)	3 (3)	188 (148)	268 (211)	-1 (0)	-2 (0)	612 (514)	872 (733)
3	11 (13)	16 (18)	246 (200)	350 (285)	-1 (1)	-1 (1)	264 (175)	376 (250)
4	-1 (1)	-1 (1)	246 (215)	350 (306)	-1 (0)	-2 (0)	247 (135)	352 (192)
5	33 (63)	47 (90)	332 (308)	472 (438)	2 (5)	3 (8)	258 (132)	366 (187)
6	8 (17)	12 (25)	347 (266)	494 (379)	5 (5)	7 (7)	431 (394)	613 (561)
7	6 (3)	8 (5)	216 (217)	308 (309)	2 (5)	3 (6)	385 (360)	547 (512)
8	4 (3)	5 (4)	311 (284)	442 (403)	1 (3)	1 (4)	565 (322)	803 (457)
9	4 (4)	6 (5)	153 (103)	217 (147)	1 (3)	2 (4)	470 (483)	668 (686)
10	9 (10)	12 (14)	319 (232)	453 (330)	3 (2)	5 (3)	385 (290)	547 (412)
11	5 (5)	7 (7)	506 (652)	721 (927)	0 (1)	0 (1)	395 (203)	562 (288)
12	1 (1)	1 (2)	236 (262)	335 (373)	1 (1)	2 (2)	346 (214)	492 (304)
13	1 (2)	2 (3)	145 (185)	207 (263)	1 (3)	2 (5)	400 (223)	569 (317)
14	6 (9)	8 (13)	134 (101)	190 (143)	-1 (1)	-1 (1)	412 (258)	585 (367)
15	8 (14)	12 (20)	181 (222)	257 (315)	1 (1)	1 (1)	421 (177)	599 (251)
16	1 (1)	1 (2)	107 (117)	152 (167)	0 (2)	0 (3)	412 (231)	587 (328)
17	0 (1)	0 (1)	95 (106)	135 (152)	5 (5)	7 (7)	483 (456)	688 (649)
18	1 (1)	1 (1)	221 (389)	315 (554)	1 (1)	1 (2)	486 (254)	692 (363)
19	1 (1)	1 (1)	294 (444)	405 (620)	1 (1)	2 (2)	462 (236)	651 (336)
20	1 (0)	1 (1)	323 (473)	461 (674)	1 (1)	1 (1)	419 (211)	597 (300)
21	0 (1)	0 (1)	181 (446)	257 (636)	1 (1)	1 (1)	433 (402)	617 (573)
22	4 (5)	5 (7)	314 (450)	447 (640)	0 (1)	0 (2)	211 (299)	301 (426)
23								
24								
25								
26	4 (4)	5 (5)	384 (546)	548 (778)	0 (0)	0 (1)	425 (363)	606 (517)
27	8 (11)	11 (15)	923 (972)	1320 (1390)	0 (0)	0 (1)	546 (595)	777 (847)
28	4 (7)	6 (9)	473 (548)	674 (781)	0 (0)	0 (1)	176 (238)	250 (339)
29	0 (1)	0 (1)	839 (769)	1190 (1100)	16 (25)	23 (35)	283 (242)	403 (344)
30	0 (1)	0 (1)	585 (477)	833 (679)	18 (30)	25 (43)	256 (228)	365 (324)
31	2 (1)	2 (2)	937 (829)	1340 (1180)	2 (4)	3 (6)	291 (302)	414 (430)
Avg	4	6	337	479	2	3	394	561
n	28	28	28	28	28	28	28	28
SD	6	9	227	323	4	6	111	157
Min	-1	-1	95	135	-1	-2	176	250
Max	33	47	937	1340	18	25	612	872

Table F8. Daily means (SD) of H2S concentrations at Site W15B for January, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	3 (2)	5 (3)	729 (714)	1040 (1020)	-1 (1)	-1 (1)	293 (313)	417 (445)
2	3 (3)	5 (4)	709 (563)	1010 (800)	0 (1)	0 (1)	176 (167)	251 (237)
3	0 (1)	0 (1)	427 (241)	608 (343)	2 (6)	3 (9)	362 (292)	514 (416)
4	0 (1)	0 (1)	436 (364)	620 (518)	8 (8)	12 (11)	335 (266)	477 (379)
5	1 (1)	1 (1)	422 (401)	602 (571)	17 (17)	24 (25)	535 (342)	763 (487)
6	2 (2)	3 (3)	70 (70)	99 (100)	11 (12)	16 (17)	519 (339)	740 (483)
7	2 (1)	2 (1)	298 (295)	424 (421)	62 (127)	88 (180)	196 (307)	280 (437)
8	5 (6)	7 (8)	415 (224)	591 (319)	0 (0)	0 (1)	472 (409)	672 (583)
9	1 (0)	1 (0)	464 (414)	660 (590)	0 (0)	1 (1)	333 (289)	474 (412)
10	3 (2)	4 (2)	436 (311)	621 (443)	0 (1)	1 (1)	420 (373)	599 (532)
11	3 (4)	4 (6)	348 (257)	495 (365)	0 (0)	0 (1)	420 (376)	597 (536)
12	1 (1)	1 (2)	428 (237)	609 (337)	0 (1)	-1 (1)	275 (329)	392 (468)
13	3 (3)	5 (4)	385 (349)	549 (497)	-1 (1)	-1 (1)	267 (323)	380 (460)
14	2 (1)	2 (1)	378 (290)	538 (413)	0 (0)	0 (1)	406 (379)	577 (538)
15	4 (4)	6 (6)	411 (237)	507 (323)	2 (1)	3 (2)	392 (317)	538 (455)
16	1 (1)	1 (1)	338 (336)	548 (508)	1 (1)	2 (2)	330 (290)	472 (413)
17	2 (2)	2 (2)	458 (350)	651 (498)	1 (1)	1 (2)	468 (361)	664 (513)
18	2 (2)	3 (3)	531 (456)	755 (649)	0 (1)	0 (2)	420 (424)	597 (603)
19	4 (4)	6 (5)	880 (549)	1250 (781)	4 (5)	5 (7)	660 (570)	937 (809)
20	3 (3)	4 (4)	794 (552)	1130 (785)	3 (4)	4 (5)	850 (640)	1210 (909)
21	3 (2)	4 (3)	729 (759)	1040 (1080)	2 (2)	2 (2)	610 (555)	866 (789)
22	2 (2)	3 (3)	618 (404)	879 (575)	2 (3)	3 (4)	500 (372)	711 (529)
23	13 (9)	18 (13)	533 (391)	759 (556)	0 (0)	0 (1)	413 (449)	587 (637)
24	2 (2)	2 (2)			2 (1)	3 (1)		
25	0 (0)	0 (1)	429 (295)	610 (419)	7 (7)	10 (11)	383 (332)	544 (473)
26	1 (2)	2 (2)	306 (200)	436 (285)	12 (16)	16 (23)		
27	2 (3)	3 (4)	256 (310)	364 (441)	7 (6)	10 (8)		
28	1 (0)	1 (0)	147 (231)		6 (11)	9 (16)		
29	3 (3)	4 (4)	369 (490)	525 (696)	-1 (0)	-1 (1)	288 (279)	410 (397)
30	6 (4)	9 (5)	619 (363)	879 (516)	-1 (1)	-1 (1)	598 (383)	850 (544)
31	1 (1)	1 (2)	435 (364)	619 (518)	0 (0)	0 (1)	525 (318)	746 (452)
Avg	3	4	460	669	5	7	424	602
n	31	31	30	29	31	31	27	27
SD	2	3	179	244	11	16	145	207
Min	0	0	70	99	-1	-1	176	251
Max	13	18	880	1250	62	88	850	1210

Table F8. Daily means (SD) of H₂S concentrations at Site WI5B for February, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	0 (1)	0 (1)	350 (245)	498 (349)	1 (1)	1 (2)	612 (369)	870 (525)
2	1 (1)	1 (1)	484 (414)	688 (589)	10 (12)	14 (17)	228 (220)	325 (313)
3	1 (1)	2 (1)	349 (314)	497 (447)	9 (13)	13 (18)	279 (300)	397 (426)
4	3 (5)	4 (7)	202 (269)	287 (383)	2 (4)	3 (6)	307 (254)	437 (361)
5	4 (6)	5 (9)	192 (237)	273 (338)	0 (1)	0 (1)	312 (341)	445 (486)
6	5 (6)	7 (8)	227 (186)	322 (265)	1 (1)	1 (2)	258 (280)	368 (398)
7	3 (3)	4 (4)	297 (275)	422 (391)	7 (7)	10 (10)	420 (288)	596 (409)
8	3 (3)	4 (5)	246 (205)	349 (292)	0 (1)	0 (1)	437 (372)	622 (529)
9	3 (3)	4 (4)	467 (377)	664 (535)	1 (1)	1 (1)	271 (225)	386 (320)
10	5 (4)	7 (6)	475 (369)	675 (524)	1 (1)	1 (1)	697 (497)	990 (706)
11	3 (6)	5 (8)	548 (360)	779 (512)	1 (1)	2 (1)	717 (387)	1020 (550)
12	1 (1)	2 (1)	241 (303)	343 (431)	18 (24)	25 (34)	874 (413)	1240 (587)
13	2 (1)	3 (1)	127 (169)	216 (260)	3 (3)	5 (4)	763 (765)	
14	10 (12)	14 (17)	269 (315)	382 (449)	1 (0)	1 (1)	628 (400)	894 (569)
15	2 (2)	3 (3)	195 (193)	278 (275)	4 (3)	5 (4)	931 (489)	1320 (695)
16	1 (1)	1 (1)	318 (366)	452 (521)	9 (11)	13 (15)	595 (435)	846 (619)
17	8 (8)	12 (11)	358 (417)	509 (594)	1 (2)	1 (2)	468 (334)	666 (476)
18	5 (5)	6 (7)	241 (224)	343 (319)	0 (1)	0 (1)	601 (287)	855 (408)
19	5 (6)	8 (8)	352 (326)	500 (463)	3 (1)	4 (2)	776 (426)	1100 (605)
20	8 (4)	11 (6)	378 (218)	537 (310)	2 (2)	3 (2)	724 (489)	1030 (694)
21	1 (1)	2 (1)	15 (13)	21 (18)	2 (2)	2 (3)	87 (183)	124 (260)
22	2 (2)	3 (2)	142 (292)	201 (416)	1 (1)	2 (2)	214 (362)	305 (514)
23	6 (10)	9 (14)	328 (477)	467 (679)	6 (4)	8 (6)	384 (270)	546 (384)
24	1 (1)	2 (1)	135 (170)	193 (243)	5 (3)	7 (4)	404 (350)	575 (497)
25	7 (8)	10 (11)	82 (87)	117 (124)	1 (1)	2 (1)	151 (225)	216 (320)
26	9 (10)	13 (14)	278 (275)	396 (392)	1 (1)	1 (1)	303 (224)	431 (319)
27	9 (7)	12 (10)	211 (257)	300 (365)	1 (0)	1 (1)	285 (327)	405 (465)
28	3 (4)	4 (6)	284 (266)	404 (379)	1 (1)	1 (1)	175 (194)	249 (276)
29	1 (1)	2 (1)	256 (227)	365 (322)	1 (2)	2 (2)	46 (42)	65 (60)
Avg	4	5	277	396	3	4	447	619
n	29	29	29	29	29	29	29	28
SD	3	4	121	171	4	6	241	338
Min	0	0	15	21	0	0	46	65
Max	10	14	548	779	18	25	931	1320

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for March, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	0 (0)	0 (1)	234 (192)	333 (273)	0 (0)	0 (0)	143 (130)	203 (184)
2	1 (1)	1 (1)	235 (257)	335 (365)	1 (0)	1 (1)	89 (104)	126 (148)
3	1 (1)	2 (1)	312 (288)	444 (410)	0 (1)	0 (2)	296 (182)	421 (259)
4	1 (1)	1 (1)	226 (182)	322 (259)	2 (2)	3 (2)	229 (208)	326 (295)
5	1 (1)	1 (1)	186 (148)	265 (210)	1 (1)	1 (1)	291 (229)	414 (326)
6	2 (1)	3 (1)	290 (245)	412 (349)	0 (0)	0 (1)	333 (237)	474 (337)
7	4 (2)	6 (3)	319 (294)	454 (417)	0 (0)	1 (1)	325 (270)	462 (384)
8	2 (2)	4 (3)	309 (267)	440 (380)	1 (1)	2 (1)	308 (349)	438 (495)
9	3 (4)	4 (5)	317 (327)	451 (466)	2 (2)	2 (2)	250 (206)	356 (294)
10	3 (5)	5 (6)	291 (229)	414 (326)	6 (2)	8 (4)	352 (354)	575 (504)
11	5 (5)	7 (6)	120 (117)		2 (1)	3 (2)	211 (416)	301 (591)
12	1 (0)	1 (1)	165 (222)	235 (316)	9 (10)	13 (14)	177 (211)	252 (301)
13	1 (1)	2 (1)	106 (119)	151 (170)	3 (7)	5 (10)	161 (141)	229 (201)
14	8 (9)	12 (14)	149 (136)		2 (4)	3 (6)	181 (160)	258 (228)
15	10 (13)	14 (18)	203 (172)	289 (244)	0 (0)	1 (0)	174 (267)	247 (380)
16	0 (0)	0 (0)	131 (107)	186 (152)	0 (0)	0 (1)	205 (215)	291 (306)
17	1 (1)	1 (1)	179 (202)	254 (288)	0 (0)	1 (0)	288 (322)	410 (458)
18	3 (2)	4 (3)	125 (87)	178 (123)	0 (1)	1 (1)	81 (112)	115 (160)
19	2 (1)	3 (1)	206 (184)	293 (262)	2 (3)	3 (4)	76 (100)	108 (143)
20	1 (0)	1 (1)	215 (188)	306 (268)	0 (0)	0 (0)	74 (112)	105 (159)
21	1 (1)	1 (1)	226 (204)	322 (291)	0 (0)	0 (1)	172 (244)	244 (347)
22	5 (2)	7 (3)	159 (113)	226 (160)	0 (0)	1 (1)	158 (262)	225 (373)
23	12 (9)	16 (13)	249 (260)	354 (370)	3 (5)	5 (7)	213 (314)	303 (447)
24	3 (5)	4 (7)	217 (220)	308 (313)	2 (3)	3 (4)	351 (330)	499 (470)
25	4 (3)	6 (4)	228 (290)	325 (412)	9 (8)	13 (11)	56 (81)	80 (116)
26	5 (3)	7 (4)	299 (217)	426 (309)	3 (3)	4 (4)	210 (186)	299 (265)
27	3 (4)	4 (6)	269 (201)	383 (286)	0 (0)	0 (1)	155 (190)	221 (270)
28	1 (0)	1 (1)	250 (319)	355 (454)	2 (6)	3 (8)	208 (239)	296 (340)
29	0 (0)	0 (1)	176 (193)	251 (275)	23 (26)	33 (37)	142 (123)	201 (174)
30	1 (2)	2 (2)	119 (156)	169 (223)	3 (4)	5 (6)	99 (103)	141 (147)
31	2 (2)	2 (3)	176 (198)	251 (281)	0 (0)	0 (0)	122 (165)	174 (234)
Avg	3	4	216	315	3	4	198	284
n	31	31	31	29	31	31	31	31
SD	3	4	64	88	4	6	86	127
Min	0	0	106	151	0	0	56	80
Max	12	16	319	454	23	33	352	575

Table F8. Daily means (SD) of H₂S concentrations at Site WI5B for April, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	6 (4)	8 (5)	164 (175)	234 (249)	0 (1)	1 (1)	202 (199)	288 (283)
2	1 (0)	1 (1)	130 (168)	185 (239)	9 (3)	13 (4)	119 (82)	169 (117)
3	2 (2)	3 (2)	39 (34)	55 (49)	25 (22)	36 (31)	79 (89)	113 (127)
4	2 (1)	3 (1)	114 (127)	162 (181)	6 (5)	8 (7)	196 (169)	279 (241)
5	1 (0)	2 (1)	100 (132)	142 (188)	10 (10)	15 (15)	91 (97)	130 (139)
6	1 (0)	2 (1)	58 (86)	83 (123)	5 (5)	8 (7)	140 (135)	200 (192)
7	5 (2)	7 (3)	262 (248)	373 (353)	2 (2)	2 (2)	65 (76)	92 (109)
8	4 (4)	5 (5)	290 (289)	413 (411)	1 (0)	1 (1)	142 (239)	202 (340)
9	3 (5)	5 (7)	339 (238)	483 (339)	1 (0)	1 (1)	120 (159)	171 (226)
10	1 (0)	1 (0)	240 (157)	342 (223)	1 (1)	1 (1)	42 (59)	59 (83)
11	9 (16)	12 (22)	276 (260)	394 (371)	0 (1)	0 (1)	168 (176)	239 (250)
12	4 (7)	5 (10)	152 (163)	217 (232)	0 (0)	0 (1)	130 (131)	185 (186)
13	5 (8)	7 (12)	247 (172)	352 (245)	1 (1)	2 (2)	135 (140)	192 (199)
14	3 (2)	4 (3)	178 (228)	253 (324)	17 (20)	24 (29)	190 (182)	270 (259)
15	1 (0)	1 (1)	66 (96)	94 (136)	20 (16)	28 (23)	197 (154)	281 (220)
16	3 (2)	4 (4)	35 (48)	49 (69)	14 (14)	20 (21)	192 (211)	274 (300)
17	20 (30)	29 (42)	278 (281)	396 (400)	1 (1)	2 (1)	161 (229)	229 (327)
18	4 (3)	5 (5)	542 (307)	773 (438)	0 (0)	0 (0)	100 (141)	142 (200)
19	1 (1)	2 (1)	204 (127)	291 (182)	1 (0)	1 (1)	168 (191)	240 (272)
20	1 (1)	1 (1)	186 (178)	265 (255)	1 (1)	2 (1)	102 (122)	145 (174)
21	3 (4)	4 (6)	60 (78)	86 (112)	3 (2)	4 (3)	132 (135)	189 (193)
22								
23								
24								
25	1 (0)	1 (1)	59 (48)	84 (68)			122 (237)	174 (337)
26	1 (2)	2 (2)	97 (92)	138 (131)	0 (1)	0 (1)	161 (144)	230 (206)
27	1 (1)	2 (1)	105 (128)	150 (182)	0 (0)	0 (1)	39 (57)	55 (81)
28	5 (5)	7 (7)	118 (135)	168 (192)	0 (0)	0 (0)	18 (20)	26 (29)
29	0 (1)	0 (1)	58 (84)	83 (120)	1 (0)	1 (1)	144 (185)	205 (263)
30	1 (0)	1 (0)	58 (64)	83 (91)	1 (0)	1 (1)	98 (105)	140 (149)
Avg	3	5	165	235	5	7	128	182
n	27	27	27	27	26	26	27	27
SD	4	5	115	164	7	10	50	71
Min	0	0	35	49	0	0	18	26
Max	20	29	542	773	25	36	202	288

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for May, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	1 (0)	1 (1)	79 (80)	113 (114)	2 (1)	2 (1)	93 (86)	133 (122)
2	1 (0)	1 (0)	65 (76)	93 (109)	1 (0)	2 (1)	29 (46)	42 (65)
3	2 (1)	2 (1)	205 (195)	291 (278)	1 (0)	1 (0)	60 (101)	85 (144)
4	4 (6)	6 (8)	81 (156)	115 (222)	11 (9)	15 (12)	270 (336)	384 (478)
5	10 (10)	14 (15)	86 (124)	123 (177)	3 (3)	4 (4)	24 (83)	34 (118)
6	1 (1)	2 (1)	54 (77)	77 (110)	1 (1)	2 (1)	64 (83)	92 (118)
7	10 (18)	15 (26)	212 (206)	302 (294)	2 (0)	2 (0)	24 (35)	34 (50)
8	32 (61)	45 (87)	250 (304)	356 (433)	1 (0)	1 (1)	38 (53)	54 (76)
9	3 (2)	4 (3)	117 (93)	167 (132)	1 (0)	1 (1)	157 (378)	224 (539)
10	4 (7)	6 (10)	89 (113)	127 (162)	1 (1)	2 (1)	141 (181)	201 (258)
11	27 (34)	38 (48)	185 (121)	264 (173)	0 (1)	1 (1)	51 (80)	72 (114)
12	8 (19)	11 (28)	116 (196)	166 (279)	3 (2)	4 (2)	89 (91)	126 (130)
13	3 (2)	4 (3)	133 (182)	189 (259)	2 (1)	2 (1)	103 (113)	147 (161)
14	12 (9)	17 (12)	156 (205)	222 (292)	5 (8)	7 (11)	47 (71)	68 (101)
15	12 (23)	17 (32)	100 (139)	143 (199)	21 (15)	29 (22)	63 (59)	90 (84)
16	27 (30)	38 (43)	113 (135)	161 (192)	6 (6)	9 (9)	80 (122)	114 (174)
17	37 (44)	52 (63)	261 (173)	372 (247)	1 (0)	2 (1)	94 (103)	133 (146)
18	41 (36)	58 (51)	240 (148)	342 (211)	28 (90)	40 (128)	95 (124)	135 (177)
19	12 (18)	18 (26)	214 (249)	305 (355)	32 (70)	48 (101)	125 (157)	178 (223)
20	5 (5)	8 (7)	427 (362)	609 (516)	10 (26)	14 (37)	91 (146)	129 (208)
21	40 (62)	56 (89)	239 (189)	340 (270)	96 (128)	136 (182)	235 (193)	335 (276)
22	1 (0)	1 (0)	201 (229)	287 (327)	1 (1)	2 (1)	113 (170)	162 (243)
23	1 (0)	2 (1)	258 (379)	367 (541)	3 (2)	5 (4)	79 (112)	113 (160)
24	1 (0)	2 (1)	75 (69)	107 (99)	6 (6)	9 (9)	134 (188)	191 (267)
25	5 (8)	7 (12)	147 (193)	211 (277)	61 (81)	88 (117)	149 (159)	213 (229)
26	47 (11)				70 (93)			
27	18 (27)	27 (44)	286 (165)	407 (235)	6 (8)	11 (12)	50 (73)	72 (104)
28	25 (43)	35 (61)	219 (225)	312 (321)	22 (12)	31 (18)	210 (241)	299 (343)
29	1 (1)	2 (2)	107 (154)	152 (220)	22 (31)	31 (44)	226 (248)	323 (354)
30	20 (33)	29 (47)	223 (183)	320 (263)	8 (14)	11 (19)	258 (246)	369 (352)
31	39 (19)	55 (27)	278 (282)	398 (403)	24 (28)	34 (40)	98 (112)	140 (161)
Avg	14	19	174	248	15	18	110	156
n	31	30	30	30	31	30	30	30
SD	14	19	85	121	22	29	68	98
Min	1	1	54	77	0	1	24	34
Max	47	58	427	609	96	136	270	384

Table F8. Daily means (SD) of H2S concentrations at Site W15B for June, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	44 (41)	62 (58)	268 (159)	384 (228)	21 (27)	31 (39)	108 (152)	154 (218)
2	2 (1)	3 (2)			1 (0)	1 (0)		
3	1 (1)	2 (1)	231 (199)	330 (285)	2 (2)	3 (3)	199 (309)	283 (441)
4	4 (4)	6 (5)	271 (249)	388 (356)	12 (22)	18 (31)	113 (169)	161 (241)
5	2 (1)	3 (1)	177 (154)	254 (221)	5 (11)	8 (16)	100 (178)	143 (255)
6	3 (1)	4 (1)	137 (184)	196 (264)	27 (23)	38 (33)	95 (135)	136 (193)
7	3 (7)	5 (10)	191 (151)	274 (217)	13 (18)	19 (25)	121 (240)	174 (344)
8	61 (53)				7 (4)			
9	7 (4)				48 (41)			
10	12 (7)	17 (10)	189 (161)	273 (230)	5 (7)	7 (9)	209 (203)	300 (292)
11	2 (1)	3 (1)	174 (220)	250 (315)	3 (2)	4 (3)	151 (152)	216 (218)
12	4 (2)	5 (3)	102 (101)	146 (147)	22 (25)	31 (35)	145 (149)	208 (215)
13	8 (4)	12 (6)	130 (198)	185 (283)	8 (7)	12 (11)	124 (146)	177 (209)
14	8 (5)				16 (17)			
15	17 (2)				1 (1)			
16	53 (61)				0 (0)			
17	52 (47)				7 (15)			
18	47 (24)	67 (35)	117 (68)	167 (99)	28 (33)	38 (46)	59 (69)	84 (100)
19	20 (20)	28 (29)	134 (134)	192 (192)	51 (81)	73 (116)	52 (41)	74 (58)
20	28 (32)	40 (46)	140 (118)	201 (169)	5 (6)	7 (9)	36 (32)	52 (46)
21	33 (33)	47 (47)	145 (119)	207 (171)	4 (5)	6 (7)	74 (101)	106 (144)
22	13 (9)	18 (13)	233 (252)	333 (361)	10 (15)	14 (21)	51 (112)	72 (160)
23	1 (1)	1 (1)	207 (242)	296 (346)	14 (23)	21 (33)	42 (37)	61 (53)
24	1 (1)	1 (1)	80 (114)	114 (163)	27 (17)	38 (25)	85 (83)	122 (119)
25	9 (9)	12 (13)	97 (75)	140 (107)	5 (2)	7 (3)	53 (55)	76 (79)
26	8 (8)	12 (11)	140 (252)	201 (361)	52 (84)	74 (120)	49 (46)	71 (66)
27	10 (9)	15 (13)	49 (35)	70 (50)	159 (220)	228 (316)	37 (29)	52 (42)
28	43 (52)	62 (74)	178 (168)	254 (241)	11 (14)	16 (21)	209 (187)	300 (268)
29	14 (19)	21 (27)	201 (240)	288 (343)	9 (13)	13 (19)	21 (33)	31 (48)
30								
Avg	18	19	163	234	20	31	97	139
n	29	23	22	22	29	23	22	22
SD	18	21	57	82	30	46	56	80
Min	1	1	49	70	0	1	21	31
Max	61	67	271	388	159	228	209	300

Table F8. Daily means (SD) of H2S concentrations at Site W15B for July, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1								
2								
3								
4	21 (31)	29 (44)	61 (85)	86 (121)	45 (39)	65 (56)	81 (91)	115 (130)
5	1 (1)	1 (1)	113 (190)	161 (273)	19 (26)	27 (38)	64 (63)	91 (90)
6	2 (2)	2 (3)	84 (160)	120 (230)	26 (31)	37 (44)	69 (49)	99 (70)
7	4 (2)	5 (4)	97 (134)	139 (193)	8 (4)	11 (6)	53 (35)	76 (50)
8	17 (4)				7 (8)			
9	19 (12)				11 (14)			
10	8 (13)		194 (285)		40 (87)		69 (68)	
11	5 (6)	7 (8)	32 (37)	47 (54)	29 (39)	42 (56)	44 (38)	64 (55)
12	14 (11)	20 (15)	57 (44)	82 (63)	9 (5)	13 (7)	64 (93)	91 (133)
13	12 (10)	17 (14)	117 (106)	167 (152)	6 (18)	9 (26)	29 (48)	42 (69)
14	14 (20)	20 (28)	64 (56)	91 (80)	78 (90)	112 (129)	57 (58)	81 (83)
15	4 (8)	6 (12)	78 (86)	111 (124)	16 (25)	23 (36)	33 (66)	47 (95)
16	4 (7)	6 (10)	85 (87)	122 (125)	7 (27)	10 (39)	56 (66)	80 (94)
17	3 (1)	4 (1)	57 (69)	82 (99)	34 (33)	49 (48)	64 (89)	92 (128)
18	30 (40)	43 (57)	91 (149)	130 (214)	5 (6)	7 (8)	13 (13)	19 (18)
19	3 (1)	4 (2)	91 (114)	131 (164)	7 (8)	10 (11)	129 (182)	185 (262)
20	4 (1)	6 (2)	64 (67)	91 (96)	8 (10)	11 (15)	29 (48)	42 (69)
21	11 (7)	16 (11)	132 (152)	189 (218)	6 (8)	9 (11)	96 (170)	138 (244)
22	3 (2)	4 (3)	103 (145)	148 (207)	2 (4)	3 (5)	11 (11)	15 (16)
23	1 (1)	2 (1)	78 (106)	111 (152)	20 (25)	29 (35)	79 (65)	113 (93)
24	1 (1)	2 (1)	58 (102)	84 (147)	12 (17)	17 (24)	102 (173)	146 (249)
25	15 (20)	21 (29)	31 (35)	45 (50)	5 (3)	7 (4)	76 (116)	109 (166)
26	11 (5)	15 (7)	68 (44)	97 (64)	36 (53)	52 (76)	64 (51)	92 (73)
27	6 (6)	9 (8)	114 (150)	164 (214)	16 (29)	23 (42)	47 (59)	67 (84)
28	4 (4)	6 (5)	39 (45)	56 (64)	4 (7)	6 (10)	53 (60)	77 (86)
29	11 (9)	15 (13)	58 (45)	84 (66)	20 (32)	29 (47)	31 (43)	45 (61)
30	7 (4)	10 (6)	59 (53)	85 (76)	10 (9)	14 (14)	31 (39)	44 (56)
31	4 (2)	6 (3)	78 (47)	112 (67)	7 (5)	10 (7)	45 (57)	64 (82)
Avg	8	11	81	109	18	25	57	81
n	28	25	26	25	28	25	26	25
SD	7	10	34	37	17	24	27	39
Min	1	1	31	45	2	3	11	15
Max	30	43	194	189	78	112	129	185

Table F8. Daily means (SD) of H2S concentrations at Site W15B for August, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	9 (19)	14 (27)	91 (79)	130 (114)	14 (20)	21 (29)	66 (92)	94 (132)
2	30 (58)	43 (84)	71 (96)	101 (138)	15 (29)	22 (42)	40 (54)	57 (77)
3	1 (1)	1 (1)	57 (58)	82 (84)	2 (1)	4 (1)	56 (83)	80 (119)
4	90 (72)	129 (103)	75 (116)	108 (166)	12 (21)	17 (30)	19 (16)	27 (23)
5	51 (56)	73 (81)	114 (115)	163 (164)	46 (64)	66 (92)	52 (110)	74 (157)
6	13 (10)	18 (15)	111 (90)	159 (128)	57 (50)	82 (72)	95 (100)	136 (144)
7	7 (6)	11 (8)	89 (78)	128 (112)	22 (42)	31 (60)	64 (71)	92 (102)
8	9 (11)	13 (16)	92 (92)	131 (132)	7 (3)	10 (4)	86 (109)	124 (157)
9	2 (1)	3 (1)	124 (209)	177 (298)	2 (3)	3 (4)	31 (32)	44 (46)
10	3 (4)	4 (6)	111 (132)	159 (189)	41 (56)	59 (80)	35 (80)	50 (114)
11	6 (8)	9 (11)	71 (92)	101 (132)	52 (83)	74 (119)	47 (40)	67 (57)
12	4 (6)	5 (9)	106 (162)	152 (233)	48 (46)	69 (66)	73 (81)	105 (116)
13	11 (7)	15 (10)	95 (112)	137 (160)	63 (65)	91 (93)	57 (92)	82 (132)
14	3 (1)	4 (2)	169 (235)	243 (337)	19 (28)	28 (41)	42 (79)	61 (114)
15	6 (3)	9 (4)	139 (133)	199 (191)	22 (18)	32 (25)	46 (51)	66 (73)
16	11 (11)	15 (15)	64 (84)	92 (121)	19 (21)	27 (30)	40 (26)	57 (37)
17	6 (2)	9 (3)	100 (145)	143 (209)	38 (41)	54 (59)	100 (121)	143 (173)
18	3 (2)	5 (3)	53 (84)	76 (121)	92 (83)	131 (119)	140 (239)	200 (343)
19	2 (1)	2 (1)	153 (273)	220 (393)	4 (2)	6 (3)	27 (45)	38 (64)
20	1 (1)	2 (1)	99 (98)	143 (141)	4 (2)	6 (3)	71 (58)	102 (83)
21	2 (1)	4 (1)	33 (40)	47 (58)	20 (32)	29 (46)	106 (117)	153 (168)
22	2 (1)	3 (1)	76 (78)	109 (112)	75 (140)	108 (201)	70 (84)	101 (121)
23	43 (40)	61 (57)	142 (132)	203 (189)	6 (7)	8 (10)	31 (38)	44 (54)
24	50 (41)	72 (58)	268 (220)	383 (315)	2 (2)	3 (2)	48 (72)	68 (103)
25	9 (5)	13 (7)	246 (361)	351 (515)	1 (1)	2 (2)	179 (235)	256 (336)
26	3 (3)	4 (4)	65 (66)	93 (95)	13 (15)	18 (22)	42 (53)	59 (76)
27	1 (1)	2 (1)	77 (142)	111 (202)	8 (7)	11 (10)	45 (42)	64 (61)
28	17 (23)	24 (34)	41 (36)	58 (52)	6 (5)	8 (8)	89 (129)	128 (184)
29	6 (9)	9 (13)	47 (43)	67 (62)	59 (66)	85 (94)	20 (21)	29 (30)
30	2 (1)	3 (2)	50 (77)	72 (111)	32 (39)	46 (57)	106 (146)	152 (209)
31	1 (1)	1 (1)	49 (55)	70 (79)	3 (0)	4 (1)	38 (42)	55 (60)
Avg	13	19	99	142	26	37	63	91
n	31	31	31	31	31	31	31	31
SD	20	28	53	76	24	35	35	51
Min	1	1	33	47	1	2	19	27
Max	90	129	268	383	92	131	179	256

Table F8. Daily means (SD) of H2S concentrations at Site W15B for September, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	1 (0)	2 (1)	60 (87)	86 (126)	8 (10)	12 (15)	94 (136)	136 (196)
2	4 (2)	6 (2)	215 (320)	308 (461)	30 (36)	43 (51)	43 (43)	62 (62)
3	39 (47)	55 (67)	215 (203)	307 (290)	1 (0)	2 (1)	33 (38)	47 (54)
4	2 (2)	3 (2)	126 (144)	180 (206)	8 (17)	12 (24)	138 (201)	197 (287)
5	5 (5)	7 (7)	165 (168)	236 (239)	23 (27)	33 (39)	90 (129)	129 (185)
6	2 (1)	3 (1)	136 (175)	195 (250)	12 (13)	17 (19)	156 (178)	223 (254)
7	3 (1)	4 (1)	228 (252)	326 (361)	19 (33)	28 (47)	91 (150)	129 (215)
8	9 (6)	13 (9)	285 (312)	407 (446)	11 (4)	15 (5)	64 (101)	92 (144)
9	3 (3)	4 (5)	144 (160)	206 (228)	3 (1)	4 (1)	103 (111)	147 (159)
10	1 (1)	2 (2)	78 (146)	112 (208)	21 (23)	30 (33)	164 (171)	235 (244)
11	1 (0)	2 (1)	115 (134)	165 (192)	18 (23)	25 (33)	123 (159)	176 (228)
12	3 (1)	4 (2)	79 (85)	113 (122)	12 (19)	17 (27)	84 (92)	121 (132)
13	7 (9)	11 (13)	107 (169)	153 (243)	3 (2)	4 (2)	31 (29)	45 (41)
14	27 (29)	39 (42)	512 (461)	733 (659)	2 (1)	3 (1)	115 (149)	164 (213)
15	33 (46)	47 (65)	182 (141)	260 (202)	1 (2)	2 (3)	88 (132)	126 (188)
16	9 (8)	13 (12)	211 (225)	302 (322)	74 (73)	106 (104)	166 (189)	237 (270)
17	3 (4)	4 (6)			1 (1)	2 (1)		
18	1 (0)	1 (0)			2 (1)	3 (2)		
19	1 (0)	1 (1)			21 (23)	30 (33)		
20	3 (3)	5 (5)	17 (11)	24 (16)	1 (1)	2 (1)	16 (5)	24 (7)
21	1 (1)	2 (1)	8 (3)	11 (4)	3 (2)	4 (3)	17 (8)	25 (12)
22	1 (0)	1 (0)	8 (3)	12 (4)	2 (1)	3 (2)	13 (5)	19 (7)
23	0 (1)	0 (1)	9 (7)	13 (9)	39 (40)	57 (57)	13 (7)	18 (10)
24	66 (57)	94 (81)	54 (48)	77 (68)	41 (47)	58 (67)	37 (50)	53 (72)
25	2 (3)	3 (4)	7 (5)	11 (7)	1 (1)	2 (1)	10 (3)	14 (4)
26	0 (1)	1 (1)	6 (2)	9 (2)	2 (1)	3 (2)	12 (4)	18 (6)
27	1 (1)	1 (1)	12 (2)	17 (3)	0 (0)	0 (1)	10 (2)	14 (2)
28	1 (1)	2 (1)	12 (3)	17 (5)	0 (1)	1 (2)	11 (3)	15 (4)
29	1 (1)	2 (1)	15 (5)	22 (7)	0 (1)	0 (2)	11 (3)	16 (5)
30	1 (1)	1 (2)	13 (4)	18 (6)	0 (0)	0 (1)	13 (7)	18 (10)
Avg	8	11	112	160	12	17	65	93
n	30	30	27	27	30	30	27	27
SD	14	21	115	164	16	23	53	75
Min	0	0	6	9	0	0	10	14
Max	66	94	512	733	74	106	166	237

Table F8. Daily means (SD) of H2S concentrations at Site W15B for October, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	1 (1)	2 (2)	20 (10)	29 (14)	2 (5)	3 (7)	12 (6)	18 (8)
2	13 (17)	18 (24)	44 (33)	63 (47)	4 (8)	6 (12)	15 (7)	22 (9)
3	0 (1)	0 (1)	14 (6)	21 (9)	1 (2)	1 (3)	15 (5)	21 (8)
4	3 (4)	5 (6)	10 (6)	15 (8)	0 (1)	0 (2)	12 (5)	17 (8)
5	0 (0)	0 (1)	9 (3)	13 (5)	0 (0)	0 (0)	11 (4)	16 (5)
6	0 (0)	0 (0)	9 (3)	13 (5)	0 (0)	0 (1)	11 (4)	16 (6)
7	1 (0)	1 (1)			0 (0)	-1 (1)		
8	1 (1)	1 (1)			1 (1)	1 (1)		
9	2 (2)	3 (2)			1 (1)	1 (2)		
10	0 (1)	0 (1)	7 (2)	10 (3)	1 (2)	1 (3)	9 (3)	12 (4)
11	0 (1)	0 (1)	7 (2)	10 (3)	2 (3)	3 (4)	10 (3)	14 (4)
12	1 (1)	1 (1)	8 (3)	11 (4)	3 (1)	4 (1)	14 (5)	20 (8)
13	3 (3)	4 (4)	17 (13)	24 (18)	4 (5)	6 (6)	21 (8)	30 (12)
14	1 (1)	1 (1)	10 (4)	14 (6)	8 (10)	12 (15)	23 (12)	32 (17)
15	48 (74)	68 (106)	81 (163)	116 (233)	1 (2)	1 (3)	17 (7)	24 (10)
16								
17								
18								
19								
20								
21								
22	0 (0)	0 (1)	6 (3)	9 (5)	0 (1)	0 (1)	8 (3)	11 (5)
23	0 (0)	-1 (0)	5 (1)	7 (2)	0 (0)	0 (1)	5 (1)	7 (2)
24	1 (1)	1 (2)	9 (3)	12 (4)	3 (4)	4 (5)	10 (4)	15 (6)
25	0 (1)	0 (1)	7 (2)	11 (3)	1 (2)	1 (3)	9 (3)	13 (5)
26	2 (1)	3 (1)	12 (4)	17 (6)	-1 (1)	-1 (1)	8 (3)	11 (4)
27	0 (1)	0 (1)	8 (3)	12 (4)	0 (1)	0 (1)	6 (3)	9 (5)
28	1 (1)	1 (2)	8 (2)	11 (3)	0 (1)	0 (1)	12 (4)	17 (6)
29	0 (2)	0 (2)	7 (3)	9 (4)	0 (1)	1 (1)	8 (2)	11 (3)
30	0 (0)	0 (1)			0 (1)	0 (1)		
31	0 (0)	0 (1)			-1 (0)	-1 (0)		
Avg	3	4	15	21	1	2	12	17
n	25	25	20	20	25	25	20	20
SD	9	14	17	25	2	3	4	6
Min	0	-1	5	7	-1	-1	5	7
Max	48	68	81	116	8	12	23	32

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for November, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	0 (0)	0 (1)	6 (2)	9 (3)	-1 (0)	-1 (0)	6 (2)	9 (3)
2	1 (2)	1 (2)	7 (4)	10 (5)	0 (1)	1 (2)	10 (4)	14 (5)
3	0 (1)	0 (1)	4 (2)	6 (3)	1 (1)	1 (1)	6 (2)	9 (3)
4	0 (0)	-1 (1)			0 (1)	1 (1)		
5	-1 (0)	-1 (1)			0 (0)	0 (0)		
6	0 (0)	-1 (1)	6 (2)	9 (2)	0 (1)	0 (1)	8 (2)	11 (3)
7	0 (1)	0 (2)	8 (2)	11 (3)	1 (1)	1 (2)	9 (3)	12 (4)
8	0 (1)	0 (1)	7 (2)	10 (3)	-1 (0)	-1 (1)	4 (1)	6 (2)
9	1 (1)	1 (2)	6 (3)	9 (5)	-1 (1)	-1 (1)	8 (4)	12 (5)
10	0 (1)	-1 (1)	7 (2)	10 (3)	-1 (1)	-1 (1)	10 (5)	15 (7)
11	0 (0)	-1 (1)	6 (3)	8 (4)	0 (0)	-1 (1)	6 (2)	9 (3)
12	-1 (1)	-1 (1)	5 (2)	6 (3)	0 (0)	0 (1)	6 (3)	9 (4)
13	0 (1)	-1 (1)	6 (3)	8 (4)	0 (1)	0 (1)	7 (2)	10 (3)
14	0 (0)	0 (1)	10 (4)	14 (6)	0 (0)	-1 (1)	7 (3)	11 (4)
15	-1 (0)	-1 (1)	6 (2)	8 (2)	-1 (0)	-1 (1)	6 (2)	8 (3)
16	0 (0)	-1 (1)	5 (2)	7 (3)	-1 (0)	-1 (1)	8 (4)	12 (6)
17	-1 (0)	-1 (0)	7 (3)	9 (5)	0 (1)	-1 (1)	9 (5)	13 (7)
18	-1 (0)	-1 (0)	7 (4)	9 (5)	0 (1)	0 (1)	10 (4)	14 (6)
19	-1 (0)	-1 (0)			-1 (1)	-2 (1)		
20	-1 (0)	-1 (0)			-1 (0)	-2 (0)		
21	-1 (0)	-1 (1)	10 (4)	14 (6)	-1 (1)	-1 (1)	12 (5)	17 (7)
22	-1 (0)	-1 (1)	6 (2)	9 (3)	0 (1)	0 (1)	8 (2)	12 (3)
23	0 (2)	0 (3)			0 (0)	0 (1)		
24	-1 (0)	-1 (1)	6 (2)	9 (3)	-1 (0)	-2 (0)	9 (3)	13 (4)
25	1 (2)	1 (3)	9 (2)	13 (3)	-1 (0)	-1 (0)	12 (4)	17 (6)
26	2 (2)	3 (3)	9 (2)	12 (3)	1 (1)	1 (1)	9 (3)	13 (5)
27	1 (2)	1 (3)	7 (3)	9 (4)	-1 (0)	-1 (0)	7 (3)	10 (5)
28	-1 (0)	-1 (1)	7 (4)	10 (5)	-1 (0)	-1 (1)	9 (3)	13 (4)
29	-1 (0)	-1 (0)			0 (0)	-1 (0)		
30	-1 (0)	-1 (0)			0 (1)	-1 (1)		
Avg	0	0	7	10	0	0	8	12
n	30	30	23	23	30	30	23	23
SD	1	1	1	2	1	1	2	3
Min	-1	-1	4	6	-1	-2	4	6
Max	2	3	10	14	1	1	12	17

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for December, 2008. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	0 (0)	0 (0)			0 (0)	-1 (0)		
2	-1 (0)	-1 (0)	8 (2)	11 (3)	-1 (0)	-1 (0)	7 (2)	11 (3)
3	-1 (0)	-1 (0)	10 (5)	15 (7)	-1 (0)	-1 (0)	9 (3)	13 (4)
4	0 (1)	-1 (1)	11 (2)	16 (3)	-1 (0)	-1 (1)	10 (3)	15 (4)
5	-1 (0)	-1 (0)	10 (4)	14 (5)	-1 (0)	-1 (0)	8 (4)	12 (5)
6	0 (0)	-1 (1)	9 (5)	13 (8)	0 (1)	-1 (1)	9 (3)	12 (4)
7	-1 (0)	-1 (0)	13 (3)	18 (4)	-1 (0)	-1 (0)	10 (2)	14 (3)
8								
9								
10								
11	0 (1)	0 (1)	9 (3)	13 (4)	-1 (0)	-1 (0)	9 (3)	12 (4)
12	0 (1)	1 (1)	10 (3)	14 (4)	-1 (0)	-1 (1)	9 (3)	13 (4)
13	-1 (0)	-1 (0)	3 (2)	5 (2)	-1 (0)	-1 (1)	4 (2)	6 (2)
14	0 (0)	0 (1)			-1 (0)	-1 (0)		
15	0 (0)	0 (0)			-1 (0)	-1 (0)		
16	1 (2)	1 (3)	18 (6)	25 (9)	0 (1)	0 (1)	16 (5)	22 (8)
17	-1 (1)	-1 (1)	13 (4)	18 (6)	0 (1)	0 (1)	12 (4)	17 (6)
18	0 (1)	1 (1)	11 (3)	16 (5)	0 (1)	0 (1)	11 (3)	15 (4)
19	0 (0)	-1 (1)	7 (3)	10 (4)	-1 (0)	-1 (1)	6 (3)	9 (4)
20	0 (0)	-1 (1)	9 (4)	13 (5)	0 (0)	-1 (1)	8 (3)	11 (5)
21								
22								
23								
24	0 (1)	1 (1)	12 (3)	18 (5)	0 (1)	0 (1)	11 (3)	16 (4)
25	-1 (0)	-1 (1)	11 (4)	15 (6)	0 (0)	0 (1)	9 (3)	13 (4)
26	0 (1)	0 (1)	4 (1)	6 (2)	0 (1)	0 (1)	4 (2)	6 (2)
27	0 (0)	-1 (1)	6 (3)	8 (4)	0 (0)	0 (1)	7 (3)	10 (5)
28	-1 (0)	-1 (1)	7 (1)	9 (2)	0 (0)	-1 (0)	8 (3)	12 (4)
29	0 (0)	-1 (0)	6 (5)	9 (8)	-1 (0)	-1 (0)	7 (4)	11 (5)
30	-1 (0)	-1 (1)	10 (3)	14 (4)	-1 (0)	-1 (0)	7 (2)	9 (2)
31	0 (0)	0 (1)	14 (6)	19 (8)	-1 (0)	-1 (0)	10 (5)	15 (7)
Avg	0	0	10	14	-1	-1	9	12
n	25	25	22	22	25	25	22	22
SD	0	1	3	5	0	0	2	4
Min	-1	-1	3	5	-1	-1	4	6
Max	1	1	18	25	0	0	16	22

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for January, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	-1 (0)	-1 (1)	7 (3)	11 (4)	0 (1)	0 (1)	8 (3)	11 (5)
2	0 (0)	-1 (1)	10 (4)	15 (5)	-1 (0)	-1 (1)	7 (2)	11 (3)
3	-1 (0)	-1 (0)	6 (2)	9 (3)	-1 (1)	-1 (1)	6 (2)	9 (3)
4	0 (1)	0 (2)	9 (5)	13 (7)	-1 (0)	-1 (0)	8 (3)	11 (4)
5	1 (2)	2 (3)	10 (3)	14 (4)	-1 (1)	-1 (1)	9 (2)	13 (4)
6	0 (1)	-1 (1)	7 (2)	10 (3)	0 (1)	0 (1)	8 (2)	11 (3)
7	0 (0)	0 (0)	9 (3)	12 (5)	-1 (0)	-1 (1)	7 (3)	10 (4)
8	0 (1)	-1 (1)	8 (3)	12 (4)	0 (2)	1 (3)	8 (4)	11 (5)
9	-1 (0)	-1 (1)	7 (3)	11 (5)	-1 (0)	-1 (1)	6 (2)	9 (3)
10	-1 (0)	-1 (1)	8 (3)	11 (5)	-1 (1)	-1 (1)	7 (3)	10 (5)
11	0 (1)	-1 (1)	8 (3)	11 (4)	-1 (1)	-1 (1)	7 (3)	11 (4)
12	0 (1)	-1 (1)	9 (4)	13 (6)	0 (0)	-1 (1)	8 (2)	11 (3)
13	-1 (1)	-1 (1)	11 (6)	16 (9)	-1 (1)	-1 (1)	10 (5)	14 (7)
14	-1 (1)	-2 (1)	11 (4)	16 (6)	-1 (0)	-1 (1)	11 (4)	15 (6)
15	0 (0)	0 (0)	15 (6)	21 (9)	-1 (0)	-1 (1)	16 (6)	23 (9)
16	0 (1)	0 (1)	15 (4)	22 (5)	-1 (0)	-1 (0)	15 (5)	22 (7)
17	0 (0)	0 (0)	11 (3)	16 (5)	-1 (0)	-1 (0)	10 (3)	15 (4)
18	0 (1)	-1 (1)	12 (3)	17 (5)	-1 (0)	-1 (1)	11 (4)	16 (5)
19	0 (1)	0 (1)	11 (4)	16 (5)	-1 (0)	-2 (1)	9 (3)	13 (4)
20	-1 (0)	-1 (1)	9 (2)	13 (3)	-1 (1)	-1 (1)	8 (3)	11 (4)
21	-1 (0)	-1 (1)	7 (2)	10 (4)	-1 (0)	-1 (0)	7 (3)	10 (4)
22	0 (0)	-1 (0)	9 (2)	13 (2)	-1 (0)	-2 (1)	9 (2)	12 (3)
23	-1 (0)	-2 (1)	7 (2)	11 (3)	-1 (1)	-2 (1)	7 (2)	9 (3)
24	-1 (0)	-1 (0)	10 (2)	15 (3)	-1 (0)	-1 (0)	11 (2)	16 (3)
25	-1 (0)	-1 (1)	12 (3)	16 (4)	-1 (0)	-1 (1)	11 (3)	15 (5)
26	-1 (1)	-2 (1)	12 (3)	16 (4)	0 (0)	-1 (0)	9 (3)	13 (4)
27	1 (1)	1 (2)	11 (3)	15 (5)	0 (1)	-1 (1)	10 (3)	14 (4)
28	0 (1)	-1 (1)	10 (3)	14 (4)	-1 (0)	-1 (0)	10 (2)	15 (4)
29	-1 (0)	-1 (1)	7 (2)	10 (3)	-1 (1)	-2 (1)	7 (2)	9 (2)
30	-1 (0)	-1 (0)	9 (3)	13 (4)	-1 (1)	-2 (1)	9 (3)	12 (4)
31	-1 (0)	-1 (1)	3 (2)	5 (3)	-1 (0)	-1 (1)	4 (1)	5 (2)
Avg	-1	-1	9	13	-1	-1	9	13
n	31	31	31	31	31	31	31	31
SD	0	1	2	3	0	1	2	4
Min	-1	-2	3	5	-1	-2	4	5
Max	1	2	15	22	0	1	16	23

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for February, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	-1 (1)	-2 (1)	3 (1)	4 (2)	-1 (0)	-2 (1)	5 (2)	7 (3)
2	-1 (0)	-2 (0)	8 (3)	11 (4)	-2 (1)	-2 (1)	7 (2)	10 (3)
3	-1 (1)	-2 (1)	6 (1)	9 (2)	-1 (0)	-1 (1)	5 (1)	7 (2)
4	-1 (0)	-1 (1)	8 (2)	12 (3)	-1 (0)	-1 (1)	7 (2)	10 (2)
5	0 (1)	0 (2)	5 (2)	7 (2)	-1 (0)	-2 (0)	5 (2)	8 (2)
6	0 (1)	0 (1)	3 (2)	5 (3)	-1 (0)	-1 (1)	4 (1)	5 (2)
7	0 (0)	0 (1)	3 (1)	4 (2)	-1 (0)	-2 (0)	3 (1)	5 (2)
8	-1 (0)	-1 (1)	3 (1)	5 (2)	-1 (0)	-2 (0)	4 (1)	6 (1)
9	-1 (0)	-1 (0)			-1 (0)	-1 (1)		
10	-1 (0)	-2 (0)	2 (1)	3 (1)	-1 (0)	-1 (0)	2 (0)	3 (1)
11	-1 (0)	-1 (1)	3 (1)	4 (2)	-1 (0)	-2 (1)	3 (1)	4 (2)
12	-1 (0)	-2 (1)	3 (2)	5 (2)	-1 (0)	-2 (1)	5 (2)	7 (3)
13	-1 (0)	-1 (1)	5 (1)	7 (1)	-1 (1)	-2 (1)	7 (2)	10 (3)
14	-1 (0)	-2 (1)	8 (3)	11 (4)	-2 (0)	-3 (0)	8 (3)	12 (4)
15	-1 (0)	-2 (1)	8 (2)	11 (3)	-2 (0)	-2 (1)	10 (3)	14 (4)
16	-1 (0)	-1 (1)	5 (3)	8 (4)	-1 (1)	-2 (1)	7 (2)	9 (3)
17	-1 (1)	-1 (1)	8 (9)	11 (13)	-1 (0)	-1 (1)	5 (2)	7 (2)
18	-1 (0)	-1 (1)	6 (3)	9 (5)	-1 (0)	-2 (1)	7 (4)	11 (5)
19	0 (1)	-1 (1)	11 (6)	16 (9)	-1 (0)	-2 (1)	9 (4)	13 (6)
20	0 (0)	0 (1)	8 (3)	12 (4)	-1 (0)	-1 (1)	9 (2)	13 (3)
21	-1 (0)	-1 (1)	8 (4)	12 (5)	-1 (1)	-1 (1)	8 (3)	11 (4)
22	-1 (0)	-1 (0)	8 (3)	12 (4)	-1 (1)	-1 (1)	8 (2)	12 (3)
23	-1 (0)	-1 (0)	9 (3)	13 (4)	-1 (1)	-1 (1)	8 (1)	12 (2)
24	-1 (0)	-1 (0)	5 (2)	8 (2)	-1 (0)	-1 (1)	5 (1)	7 (1)
25	0 (1)	-1 (1)	4 (1)	6 (2)	-1 (0)	-1 (1)	4 (2)	6 (2)
26	-1 (1)	-1 (1)	8 (5)	11 (8)	-1 (0)	-1 (1)	7 (2)	10 (3)
27	-1 (0)	-1 (0)	10 (3)	14 (4)	-1 (0)	-1 (0)	8 (3)	11 (4)
28	-1 (1)	-2 (1)	9 (2)	13 (3)	-1 (0)	-1 (1)	8 (2)	12 (2)
Avg	-1	-1	6	9	-1	-1	6	9
n	28	28	27	27	28	28	27	27
SD	0	1	3	4	0	0	2	3
Min	-1	-2	2	3	-2	-3	2	3
Max	0	0	11	16	-1	-1	10	14

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for March, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	-1 (0)	-2 (0)	9 (4)	13 (6)	-1 (0)	-1 (0)	7 (4)	10 (5)
2	-1 (1)				-1 (0)			
3	0 (0)				-1 (0)			
4	0 (1)	0 (1)	5 (4)	7 (6)	0 (0)	0 (1)	5 (1)	7 (1)
5	0 (0)	-1 (1)	4 (2)	6 (2)	0 (1)	0 (1)	5 (2)	7 (2)
6	0 (0)	0 (1)	4 (1)	6 (1)	0 (0)	0 (1)	4 (1)	6 (2)
7	1 (1)	1 (1)	4 (1)	6 (2)	-1 (1)	-1 (1)	5 (1)	7 (2)
8	-1 (0)	-1 (1)	4 (1)	6 (2)	0 (0)	0 (1)	5 (1)	7 (2)
9	1 (0)	1 (0)	5 (2)	7 (2)	0 (0)	0 (0)	5 (2)	7 (2)
10	0 (0)	1 (0)	5 (2)	7 (3)	-1 (0)	-1 (1)	4 (2)	5 (3)
11	-1 (0)	-1 (1)	8 (2)	12 (3)	-1 (0)	-1 (0)	8 (3)	11 (5)
12	-1 (0)	-1 (1)	8 (3)	12 (4)	0 (0)	-1 (1)	8 (3)	11 (4)
13	0 (0)	0 (1)	5 (2)	7 (4)	0 (1)	-1 (1)	5 (1)	7 (1)
14	0 (0)	0 (1)	3 (1)	4 (1)	0 (0)	0 (1)	4 (1)	6 (1)
15	-1 (1)	-1 (1)	2 (0)	3 (1)	-1 (0)	-1 (1)	3 (1)	4 (1)
16	0 (1)	0 (1)	3 (1)	4 (1)	-1 (0)	-1 (1)	4 (1)	6 (2)
17	0 (1)	0 (1)	4 (1)	5 (2)	0 (1)	-1 (1)	4 (1)	6 (2)
18	0 (1)	0 (1)	5 (1)	6 (2)	0 (1)	0 (1)	5 (2)	8 (3)
19	-1 (0)	-1 (1)	6 (1)	9 (2)	0 (0)	-1 (0)	7 (2)	10 (3)
20	0 (1)	-1 (1)	4 (1)	6 (1)	0 (1)	-1 (1)	5 (1)	7 (1)
21	-1 (0)	-1 (0)	4 (3)	6 (4)	0 (1)	0 (2)	6 (3)	8 (5)
22	0 (0)	0 (1)	3 (1)	4 (1)	-1 (0)	-1 (0)	4 (1)	6 (2)
23	-1 (1)	-1 (1)	3 (1)	4 (2)	0 (0)	0 (1)	5 (1)	8 (2)
24	0 (0)	1 (0)	3 (1)	5 (2)	0 (0)	-1 (1)	5 (1)	7 (2)
25	0 (1)	-1 (1)	4 (1)	6 (1)	0 (0)	0 (1)	6 (2)	9 (3)
26	0 (0)	0 (0)			-1 (1)	-1 (1)		
27	0 (0)	0 (0)			-1 (0)	-1 (0)		
28	-1 (0)	-1 (1)	6 (1)	8 (2)	-1 (0)	-1 (0)	5 (1)	7 (2)
29	-1 (1)	-1 (1)	6 (3)	8 (4)	0 (0)	-1 (1)	5 (2)	7 (2)
30	0 (0)	0 (1)	6 (2)	8 (2)	-1 (0)	-1 (0)	4 (1)	6 (1)
31	0 (0)	0 (1)	4 (1)	6 (2)	0 (0)	-1 (1)	5 (2)	7 (3)
Avg	0	0	5	7	0	-1	5	7
n	31	29	27	27	31	29	27	27
SD	0	1	2	2	0	0	1	2
Min	-1	-2	2	3	-1	-1	3	4
Max	1	1	9	13	0	0	8	11

Table F8. Daily means (SD) of H2S concentrations at Site W15B for April, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	-1 (0)	-1 (0)	4 (1)	6 (1)	0 (0)	0 (1)	5 (2)	7 (2)
2	0 (0)	-1 (1)	6 (2)	9 (4)	-1 (0)	-1 (1)	6 (2)	8 (2)
3	0 (0)	0 (1)	7 (4)	9 (6)	-1 (0)	-1 (0)	4 (1)	6 (2)
4	0 (1)	-1 (1)	5 (1)	7 (2)	-1 (1)	-1 (1)	4 (1)	6 (2)
5	-1 (0)	-1 (1)	4 (1)	6 (2)	-1 (0)	-2 (0)	3 (1)	4 (1)
6	0 (0)	-1 (1)	4 (1)	6 (2)	-1 (0)	-1 (1)	3 (1)	5 (2)
7	0 (1)	0 (1)	6 (4)	9 (5)	-1 (1)	-1 (1)	5 (2)	8 (2)
8	0 (0)	-1 (1)	4 (1)	6 (2)	-1 (0)	-1 (0)	4 (1)	5 (2)
9	0 (0)	0 (1)	4 (2)	5 (3)	0 (1)	-1 (1)	4 (1)	5 (2)
10	0 (1)	-1 (1)	3 (1)	5 (1)	-1 (0)	-1 (1)	3 (1)	4 (1)
11	-1 (0)	-1 (0)	3 (2)	5 (3)	-1 (1)	-1 (1)	3 (2)	5 (2)
12	0 (0)	0 (0)	2 (1)	3 (1)	0 (0)	-1 (0)	3 (1)	4 (1)
13	0 (0)	0 (1)	3 (1)	4 (1)	-1 (0)	-1 (0)	3 (1)	5 (2)
14	0 (1)	0 (1)	5 (1)	7 (2)	-1 (1)	-1 (1)	5 (2)	6 (3)
15	1 (1)	1 (2)	4 (1)	6 (2)	-1 (0)	-1 (1)	5 (1)	7 (2)
16	0 (1)	1 (2)	4 (2)	5 (3)	0 (1)	0 (1)	5 (2)	7 (3)
17	2 (1)	3 (2)	4 (2)	6 (3)	1 (1)	1 (1)	5 (2)	8 (3)
18	0 (1)	0 (2)	6 (2)	8 (3)	0 (0)	0 (0)	5 (2)	7 (3)
19	0 (1)	0 (1)	8 (2)	12 (3)	-1 (0)	-1 (1)	7 (3)	10 (4)
20	0 (1)	0 (1)	8 (3)	11 (4)	0 (0)	0 (1)	6 (2)	9 (3)
21	0 (0)	0 (0)	5 (1)	7 (2)	-1 (0)	-1 (1)	3 (1)	5 (2)
22	0 (1)	0 (1)	5 (1)	7 (2)	0 (0)	0 (1)	5 (1)	7 (2)
23	0 (1)	0 (1)	3 (1)	4 (1)	0 (0)	0 (1)	5 (2)	7 (3)
24	0 (1)	0 (1)	4 (1)	6 (2)	1 (1)	1 (1)	5 (1)	7 (2)
25	0 (0)	0 (1)	5 (2)	7 (3)	0 (0)	0 (1)	6 (3)	9 (4)
26	1 (0)	1 (0)	5 (1)	7 (1)	0 (1)	0 (1)	9 (2)	12 (3)
27	1 (0)	1 (0)	6 (1)	9 (2)	0 (0)	0 (1)	8 (2)	12 (3)
28	0 (1)	0 (1)	5 (2)	8 (3)	1 (1)	1 (1)	6 (3)	9 (4)
29	0 (0)	0 (1)	5 (2)	7 (3)	1 (1)	1 (1)	5 (1)	7 (1)
30	1 (0)	1 (0)	6 (3)	9 (4)	1 (1)	1 (1)	7 (2)	9 (3)
Avg	0	0	5	7	0	0	5	7
n	30	30	30	30	30	30	30	30
SD	1	1	1	2	1	1	1	2
Min	-1	-1	2	3	-1	-2	3	4
Max	2	3	8	12	1	1	9	12

Table F8. Daily means (SD) of H2S concentrations at Site W15B for May, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	1 (0)	1 (0)	6 (1)	8 (2)	0 (0)	0 (1)	6 (2)	8 (2)
2	1 (1)	1 (1)	6 (1)	8 (2)	0 (1)	0 (1)	6 (1)	8 (2)
3	0 (1)	1 (1)	5 (2)	7 (2)	-1 (0)	-1 (0)	5 (2)	8 (3)
4	1 (1)	1 (1)	4 (3)	6 (4)	9 (8)	12 (12)	6 (2)	8 (3)
5	0 (0)	0 (0)	4 (2)	6 (2)	1 (0)	1 (0)	6 (2)	9 (3)
6	1 (1)	1 (1)	5 (2)	7 (3)	1 (1)	1 (1)	7 (2)	10 (3)
7	1 (1)	1 (1)	6 (1)	8 (2)	1 (1)	1 (1)	6 (2)	8 (3)
8	1 (0)	1 (1)	8 (2)	11 (3)	0 (0)	0 (0)	8 (3)	12 (5)
9	1 (0)	1 (0)	6 (1)	8 (2)	0 (1)	0 (1)	6 (3)	9 (4)
10	0 (0)	0 (1)	6 (3)	9 (4)	0 (1)	0 (1)	7 (4)	9 (6)
11	0 (1)	0 (1)	6 (2)	8 (3)	1 (0)	1 (0)	6 (1)	9 (2)
12	-1 (0)	-1 (1)	4 (1)	5 (2)	0 (1)	1 (1)	6 (2)	8 (3)
13	0 (1)	0 (1)	6 (3)	8 (4)	0 (0)	-1 (0)	8 (4)	12 (5)
14	1 (1)	1 (2)	7 (3)	10 (4)	0 (1)	1 (1)	7 (3)	10 (4)
15	0 (1)	0 (1)	5 (2)	8 (3)	1 (1)	1 (1)	6 (2)	9 (2)
16	2 (1)	3 (1)	8 (2)	11 (3)	0 (1)	0 (1)	6 (3)	8 (4)
17	0 (1)	0 (1)	5 (2)	7 (3)	0 (1)	0 (1)	8 (2)	11 (3)
18	0 (1)	0 (1)	3 (1)	5 (1)	1 (0)	1 (1)	7 (2)	9 (3)
19	0 (0)	0 (0)	4 (1)	6 (2)	1 (0)	1 (1)	6 (1)	9 (1)
20	0 (0)	1 (0)	3 (1)	5 (1)	1 (1)	1 (1)	6 (1)	9 (2)
21	1 (1)	1 (1)	6 (1)	9 (2)	1 (1)	1 (2)	7 (2)	9 (3)
22	0 (0)	0 (1)	4 (1)	5 (2)	1 (1)	1 (1)	7 (2)	10 (3)
23	1 (1)	1 (1)	6 (3)	9 (4)	0 (1)	1 (1)	8 (3)	12 (4)
24	1 (1)	1 (1)	4 (2)	6 (4)	0 (1)	0 (1)	7 (2)	10 (3)
25	0 (0)	0 (1)	3 (1)	4 (1)	0 (0)	1 (1)	8 (3)	11 (4)
26	0 (0)	0 (1)	6 (2)	9 (3)	0 (0)	0 (0)	8 (2)	12 (3)
27	0 (0)	0 (1)	8 (2)	11 (4)	-1 (0)	-1 (1)	5 (2)	7 (2)
28	1 (1)	2 (1)	7 (2)	10 (3)	1 (2)	1 (3)	7 (4)	10 (5)
29	1 (0)	1 (0)	6 (2)	8 (3)	1 (2)	2 (3)	7 (4)	10 (5)
30	1 (1)	1 (1)	6 (2)	8 (2)	1 (2)	1 (3)	7 (4)	10 (6)
31	1 (2)	2 (3)	5 (4)	8 (6)	0 (1)	1 (1)	9 (6)	13 (8)
Avg	0	1	5	8	1	1	7	10
n	31	31	31	31	31	31	31	31
SD	1	1	1	2	2	2	1	1
Min	-1	-1	3	4	-1	-1	5	7
Max	2	3	8	11	9	12	9	13

Table F8. Daily means (SD) of H₂S concentrations at Site WI5B for June, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	0 (1)	0 (1)	7 (5)	10 (7)	-1 (1)	-1 (1)	7 (2)	10 (3)
2	0 (0)	0 (1)	6 (3)	8 (4)	1 (1)	1 (1)	5 (2)	8 (3)
3	1 (1)	1 (2)	7 (2)	10 (3)	4 (8)	6 (11)	9 (4)	13 (5)
4	3 (2)	4 (2)	14 (15)	19 (21)	5 (5)	7 (7)	14 (8)	20 (11)
5	1 (1)	2 (2)	8 (3)	11 (4)	1 (1)	1 (1)	9 (5)	12 (7)
6	0 (0)	0 (1)	5 (2)	7 (3)	0 (0)	0 (1)	6 (2)	9 (3)
7	0 (0)	0 (1)	6 (2)	8 (3)	0 (0)	-1 (1)	6 (1)	9 (2)
8	2 (2)	3 (2)	8 (3)	11 (5)	0 (0)	0 (1)	6 (1)	9 (2)
9	1 (1)	1 (1)	9 (5)	13 (7)	1 (1)	1 (1)	11 (3)	15 (5)
10	1 (1)	1 (1)	7 (2)	11 (3)	2 (1)	3 (2)	9 (2)	13 (3)
11	2 (0)	2 (0)	6 (3)	8 (4)	0 (1)	0 (1)	8 (5)	12 (7)
12	1 (1)	1 (1)	8 (5)	11 (7)	3 (3)	4 (5)	9 (3)	12 (4)
13	2 (3)	3 (4)	9 (4)	12 (6)	6 (4)	9 (6)	10 (2)	14 (3)
14	2 (1)	3 (2)	9 (5)	12 (7)	8 (4)	11 (5)	10 (4)	14 (6)
15	3 (3)	4 (4)	7 (8)	10 (11)	2 (3)	3 (4)	8 (2)	12 (3)
16	1 (0)	1 (0)	5 (2)	7 (2)	0 (1)	1 (1)	7 (2)	9 (2)
17	1 (1)	1 (1)	5 (1)	7 (2)	0 (0)	1 (1)	6 (1)	9 (2)
18	1 (0)	1 (0)	4 (2)	6 (2)	3 (1)	4 (1)	7 (2)	10 (3)
19	8 (5)	11 (8)	15 (8)	21 (12)	5 (3)	8 (4)	11 (4)	15 (6)
20	7 (4)	10 (6)	13 (6)	19 (9)	1 (1)	1 (1)	11 (6)	15 (8)
21	3 (3)	5 (5)	7 (3)	9 (4)	1 (0)	2 (1)	9 (4)	12 (6)
22	2 (2)	2 (3)	7 (3)	10 (5)	9 (6)	13 (8)	9 (3)	13 (5)
23								
24								
25								
26								
27								
28								
29								
30								
Avg	2	3	8	11	2	3	8	12
n	22	22	22	22	22	22	22	22
SD	2	3	3	4	3	4	2	3
Min	0	0	4	6	-1	-1	5	8
Max	8	11	15	21	9	13	14	20

Table F8. Daily means (SD) of H2S concentrations at Site W15B for July, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	0 (0)	0 (0)	8 (5)	12 (7)	0 (1)	0 (1)	7 (3)	10 (4)
2								
3								
4								
5								
6								
7	1 (1)	2 (1)	8 (6)	12 (8)	0 (0)	1 (1)	8 (6)	12 (9)
8	1 (0)	1 (1)	6 (2)	8 (2)	0 (1)	0 (1)	8 (2)	11 (3)
9	1 (1)	1 (1)	5 (1)	8 (2)	1 (2)	2 (2)	7 (2)	10 (3)
10	2 (1)	3 (2)	11 (4)	16 (5)	6 (4)	9 (6)	14 (14)	21 (20)
11	2 (2)	3 (2)	15 (8)	22 (11)	2 (2)	4 (3)	8 (4)	12 (6)
12	2 (3)	3 (4)	12 (8)	17 (11)	2 (3)	3 (4)	14 (9)	20 (13)
13	1 (1)	2 (1)	6 (3)	9 (5)	0 (1)	0 (1)	7 (3)	11 (5)
14	0 (1)	0 (1)	4 (1)	6 (1)	1 (0)	1 (0)	7 (2)	10 (3)
15	3 (2)	5 (2)	13 (3)	19 (5)	1 (1)	2 (1)	9 (4)	13 (6)
16	3 (1)	4 (2)	14 (6)	20 (9)	1 (1)	2 (2)	11 (6)	15 (9)
17	2 (1)	3 (2)	9 (2)	13 (3)	0 (0)	0 (1)	7 (2)	9 (2)
18	0 (1)	1 (1)	10 (4)	14 (6)	-1 (1)	-1 (1)	8 (3)	11 (4)
19	1 (1)	1 (1)	9 (7)	13 (9)	0 (0)	1 (1)	10 (6)	14 (9)
20	1 (0)	1 (1)	6 (5)	9 (7)	1 (0)	1 (0)	10 (2)	14 (2)
21	3 (1)	4 (1)	11 (6)	15 (9)	6 (5)	9 (6)	12 (4)	17 (5)
22	4 (2)	5 (3)	14 (10)	20 (14)	2 (1)	3 (1)	12 (4)	17 (6)
23	7 (3)	10 (4)	11 (5)	16 (7)	7 (5)	10 (7)	10 (3)	14 (5)
24	3 (1)	4 (1)	7 (3)	10 (4)	4 (2)	5 (3)	12 (5)	17 (8)
25	4 (1)	5 (1)	10 (3)	15 (4)	2 (2)	2 (3)	9 (4)	12 (6)
26	6 (4)	9 (5)	9 (3)	13 (5)	0 (1)	0 (1)	8 (6)	12 (9)
27	4 (3)	6 (4)	10 (4)	15 (6)	3 (3)	5 (5)	8 (2)	12 (2)
28	7 (2)	10 (3)	13 (4)	18 (6)	6 (8)	8 (12)	14 (7)	19 (10)
29	7 (1)	10 (1)	17 (5)	24 (7)	22 (8)	32 (11)	15 (4)	21 (6)
30	6 (1)	8 (1)	17 (5)	25 (7)	10 (8)	15 (12)	13 (4)	18 (6)
31	5 (1)	7 (1)	16 (8)	22 (11)	7 (1)	10 (2)	13 (2)	19 (3)
Avg	3	4	10	15	3	5	10	14
n	26	26	26	26	26	26	26	26
SD	2	3	4	5	5	7	3	4
Min	0	0	4	6	-1	-1	7	9
Max	7	10	17	25	22	32	15	21

Table F8. Daily means (SD) of H2S concentrations at Site W15B for August, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	7 (1)	9 (2)	19 (7)	27 (10)	5 (2)	7 (4)	14 (7)	20 (10)
2	5 (1)	7 (1)	13 (12)	19 (18)	6 (1)	9 (1)	12 (4)	18 (6)
3	6 (1)	9 (2)	14 (6)	20 (8)	5 (1)	7 (2)	11 (3)	16 (4)
4	8 (5)	12 (8)	11 (3)	16 (5)	5 (5)	7 (7)	10 (3)	14 (4)
5	6 (1)	8 (1)	14 (6)	20 (9)	6 (4)	9 (5)	12 (6)	17 (9)
6	6 (3)	9 (5)	14 (3)	20 (4)	5 (3)	7 (4)	12 (5)	17 (7)
7	3 (0)	4 (0)	7 (1)	10 (2)	4 (1)	5 (1)	12 (5)	17 (8)
8	4 (1)	5 (1)	9 (2)	13 (3)	5 (1)	7 (1)	9 (1)	12 (2)
9	5 (0)	7 (1)	11 (3)	16 (4)	4 (1)	5 (1)	8 (3)	11 (4)
10	6 (1)	8 (1)	13 (3)	19 (5)	5 (3)	8 (5)	12 (4)	17 (5)
11	10 (5)	14 (8)	16 (4)	23 (6)	6 (4)	8 (6)	14 (5)	20 (7)
12	5 (2)	7 (2)	12 (8)	17 (11)	6 (2)	9 (3)	12 (2)	17 (3)
13	3 (1)	5 (1)	7 (1)	10 (2)	5 (1)	7 (1)	10 (3)	15 (5)
14	3 (1)	5 (1)	8 (2)	11 (3)	8 (1)	12 (2)	11 (3)	16 (4)
15	4 (0)	5 (1)	6 (1)	8 (2)	5 (2)	7 (3)	9 (2)	13 (2)
16	6 (3)	9 (5)	11 (5)	16 (7)	10 (6)	15 (9)	14 (6)	20 (9)
17	7 (3)	10 (4)	16 (7)	23 (9)	7 (1)	10 (2)	12 (3)	18 (4)
18	6 (3)	8 (4)	14 (5)	20 (7)	6 (2)	8 (3)	13 (3)	18 (4)
19	5 (3)	7 (5)	14 (13)	21 (19)	5 (1)	7 (2)	13 (3)	18 (4)
20	11 (8)	16 (12)	18 (7)	26 (11)	3 (1)	4 (1)	12 (3)	18 (5)
21	4 (1)	6 (2)	11 (3)	15 (4)	7 (7)	10 (10)	9 (3)	13 (4)
22	4 (1)	6 (1)	12 (5)	17 (7)	25 (15)	35 (21)	12 (5)	18 (7)
23	4 (2)	5 (2)	10 (4)	14 (6)	13 (10)	18 (14)	13 (5)	18 (7)
24	3 (1)	5 (1)	6 (1)	8 (1)	4 (1)	6 (1)	10 (3)	15 (4)
25	5 (1)	7 (1)	12 (6)	18 (9)	3 (1)	4 (1)	18 (21)	26 (30)
26	5 (1)	8 (2)	8 (2)	11 (3)	3 (0)	4 (0)	10 (1)	14 (2)
27	4 (1)	6 (2)	12 (7)	17 (10)	6 (5)	8 (7)	13 (6)	19 (8)
28	5 (2)	7 (2)	13 (4)	18 (5)	11 (8)	16 (11)	12 (5)	17 (7)
29	3 (1)	4 (1)	9 (1)	13 (2)	3 (0)	4 (0)	8 (1)	12 (2)
30	9 (9)	12 (12)	17 (16)	25 (22)	3 (2)	5 (2)	17 (12)	24 (17)
31	8 (6)	11 (8)	20 (11)	29 (16)	6 (1)	8 (2)	19 (7)	28 (10)
Avg	5	8	12	17	6	9	12	17
n	31	31	31	31	31	31	31	31
SD	2	3	4	5	4	6	3	4
Min	3	4	6	8	3	4	8	11
Max	11	16	20	29	25	35	19	28

Table F8. Daily means (SD) of H₂S concentrations at Site W15B for September, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³	ppb	µg·dsm ⁻³
1	4 (1)	6 (1)	14 (5)	20 (7)	3 (0)	4 (0)	11 (2)	16 (3)
2	5 (2)	7 (3)	12 (5)	17 (7)	5 (2)	7 (3)	10 (1)	15 (2)
3	6 (4)	8 (5)	14 (7)	20 (9)	5 (2)	7 (2)	13 (4)	18 (6)
4	6 (3)	8 (4)	13 (5)	19 (8)	4 (1)	6 (1)	11 (4)	16 (6)
5	6 (5)	8 (7)	12 (5)	17 (6)	3 (0)	5 (1)	12 (3)	17 (4)
6	4 (1)	6 (2)	13 (6)	19 (9)	7 (3)	10 (4)	12 (3)	17 (4)
7	5 (2)	7 (3)	10 (4)	14 (6)	4 (1)	6 (1)	10 (2)	14 (3)
8	6 (8)	9 (12)	10 (5)	14 (7)	5 (2)	7 (2)	10 (3)	15 (4)
9	5 (5)	8 (7)	11 (5)	16 (8)	5 (1)	7 (1)	10 (3)	15 (4)
10	8 (3)	12 (4)	10 (4)	15 (5)	6 (3)	9 (4)	9 (1)	14 (2)
11	4 (1)	5 (2)	9 (3)	13 (4)	5 (2)	7 (3)	8 (1)	12 (2)
12	5 (3)	8 (4)	11 (5)	16 (7)	7 (3)	9 (4)	13 (6)	18 (9)
13	10 (2)	14 (2)	16 (8)	23 (11)	8 (5)	11 (7)	14 (4)	19 (5)
14	7 (2)	10 (3)	16 (5)	22 (8)	5 (1)	7 (1)	16 (6)	22 (9)
15	4 (1)	6 (2)	11 (4)	15 (5)	4 (3)	6 (4)	9 (2)	13 (3)
16	3 (2)	4 (3)	9 (2)	12 (4)	3 (2)	4 (2)	9 (2)	13 (2)
17	6 (3)	9 (4)	14 (6)	19 (9)	10 (5)	14 (7)	11 (3)	16 (5)
18	4 (1)	6 (1)	16 (14)	23 (20)	9 (7)	13 (10)	12 (6)	17 (9)
19	3 (1)	4 (1)	10 (7)	14 (10)	5 (1)	7 (1)	10 (2)	14 (2)
20	3 (0)	4 (0)	8 (3)	12 (4)	4 (1)	6 (1)	10 (2)	14 (3)
21	3 (1)	4 (2)	7 (2)	11 (3)	3 (1)	5 (1)	10 (2)	14 (3)
22	4 (2)	6 (4)	10 (3)	14 (4)	3 (0)	4 (1)	8 (2)	12 (3)
23	4 (1)	6 (1)	9 (2)	13 (3)	4 (2)	6 (2)	9 (2)	13 (3)
24	6 (3)	9 (4)	9 (2)	13 (3)	3 (1)	4 (1)	10 (2)	14 (3)
25	3 (1)	5 (1)	9 (4)	14 (5)	3 (0)	4 (1)	11 (2)	15 (3)
26	4 (1)	6 (1)	11 (4)	16 (6)	4 (1)	5 (1)	11 (2)	15 (3)
27	15 (10)	22 (14)	33 (22)	46 (32)	3 (1)	4 (1)	13 (5)	19 (7)
28	20 (17)	28 (24)	31 (20)	44 (29)	2 (1)	3 (1)	8 (1)	11 (1)
29	5 (2)	7 (3)			2 (0)	3 (0)		
30	3 (1)	5 (2)	8 (3)	12 (4)	2 (1)	3 (1)	9 (2)	13 (3)
Avg	6	8	13	18	4	6	11	15
n	30	30	29	29	30	30	29	29
SD	4	5	6	8	2	3	2	2
Min	3	4	7	11	2	3	8	11
Max	20	28	33	46	10	14	16	22

Table F8. Daily means (SD) of H2S concentrations at Site W15B for October, 2009. MDL = 5 ppb.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$	ppb	$\mu\text{g}\cdot\text{dsm}^{-3}$
1	5 (2)	7 (3)	7 (1)	10 (2)	16 (16)	22 (23)	8 (3)	11 (4)
2	3 (0)	4 (0)	9 (2)	13 (3)	2 (0)	3 (1)	7 (1)	10 (2)
3	4 (1)	5 (1)	9 (1)	13 (2)	2 (0)	3 (1)	8 (2)	11 (2)
4	5 (1)	7 (2)	13 (2)	18 (3)	2 (0)	3 (1)	10 (2)	14 (2)
5	3 (1)	5 (2)	10 (4)	14 (5)	2 (0)	3 (1)	9 (2)	13 (3)
6	4 (3)	6 (4)	10 (3)	14 (4)	2 (0)	3 (0)	9 (3)	13 (4)
7	5 (3)	8 (4)	12 (3)	17 (4)	4 (1)	6 (2)	12 (2)	16 (3)
8	4 (1)	6 (1)	13 (5)	19 (7)	4 (1)	5 (2)	11 (3)	16 (4)
9	3 (1)	5 (1)	11 (3)	15 (5)	4 (3)	6 (5)	11 (4)	16 (5)
10	9 (3)	12 (5)	19 (11)	27 (15)	3 (2)	4 (2)	12 (3)	18 (5)
11	7 (3)	9 (4)	11 (3)	15 (4)	4 (3)	6 (4)	12 (3)	17 (4)
12	4 (1)	6 (2)	9 (3)	13 (4)	3 (1)	4 (1)	10 (3)	14 (4)
13	4 (1)	5 (1)	8 (1)	12 (2)	3 (1)	4 (1)	10 (2)	14 (3)
14	5 (1)	7 (1)	11 (7)	16 (10)	3 (0)	5 (0)	11 (4)	16 (6)
15	4 (1)	5 (1)	9 (2)	12 (3)	3 (0)	4 (1)	10 (2)	14 (3)
16	4 (1)	5 (1)	8 (1)	12 (2)	3 (0)	4 (1)	10 (2)	15 (4)
17	3 (0)	5 (0)	8 (1)	11 (1)	3 (1)	5 (1)	10 (2)	14 (2)
18	3 (0)	4 (1)	7 (1)	10 (1)	4 (1)	5 (1)	10 (2)	15 (3)
19	4 (1)	5 (1)	8 (2)	12 (3)	3 (1)	5 (1)	9 (2)	13 (2)
20	3 (1)	5 (1)	7 (1)	10 (1)	3 (0)	4 (0)	9 (3)	13 (4)
21	3 (1)	4 (1)			2 (1)	3 (1)	9 (2)	12 (3)
22	1 (1)	2 (1)	8 (2)	11 (3)	1 (0)	2 (1)	6 (1)	8 (2)
23	1 (1)	2 (1)	7 (1)	10 (2)	1 (0)	1 (0)	6 (2)	8 (3)
24	2 (1)	3 (1)	10 (12)	14 (17)	2 (1)	2 (1)	8 (2)	11 (3)
25	4 (4)	6 (5)	8 (3)	11 (4)	3 (1)	4 (2)	9 (2)	13 (4)
26	3 (1)	4 (2)	10 (2)	15 (3)	1 (0)	2 (0)	11 (4)	16 (6)
27	2 (0)	2 (1)	5 (1)	8 (2)	1 (0)	2 (0)	9 (2)	13 (3)
28	1 (1)	1 (1)	6 (2)	9 (3)	1 (1)	2 (1)	8 (2)	12 (3)
29	2 (0)	2 (1)	4 (1)	6 (1)	1 (0)	2 (1)	8 (2)	11 (3)
30			12 (9)	17 (12)	9 (5)	13 (7)	11 (3)	16 (4)
31			14 (6)	21 (8)	1 (1)	2 (1)	9 (3)	13 (4)
Avg	4	5	9	13	3	4	9	14
n	29	29	30	30	31	31	31	31
SD	2	2	3	4	3	4	2	2
Min	1	1	4	6	1	1	6	8
Max	9	12	19	27	16	22	12	18

Table F9. Hydrogen sulfide emissions.Table F9. Daily means (SD) of H₂S emissions at Site W15B for September, 2007.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	1.17 (1.66)	448 (636)	5.53 (7.85)	3.93 (5.58)	2.45 (3.29)	764 (1030)	6.91 (9.28)	4.91 (6.60)
13	0.84 (1.51)	324 (580)	4.00 (7.15)	2.84 (5.09)	2.67 (1.97)	831 (613)	7.52 (5.54)	5.35 (3.94)
14	1.70 (2.33)	655 (897)	8.08 (11.10)	5.75 (7.87)				
15	0.56 (1.05)	215 (404)	2.66 (4.98)	1.89 (3.54)	2.09 (1.82)	651 (568)	5.89 (5.13)	4.19 (3.65)
16								
17								
18	0.25 (0.18)	98 (70)	1.20 (0.86)	0.86 (0.62)	1.95 (1.95)	608 (607)	5.50 (5.49)	3.91 (3.90)
19	1.48 (1.40)	570 (538)	7.03 (6.64)	5.00 (4.72)	0.60 (0.89)	187 (277)	1.69 (2.50)	1.20 (1.78)
20								
21								
22	0.97 (1.68)	371 (644)	4.58 (7.95)	3.26 (5.65)	0.94 (1.04)	294 (325)	2.66 (2.94)	1.89 (2.09)
23	4.39 (5.61)	1690 (2150)	20.80 (26.60)	14.80 (18.90)	0.16 (2.08)	50 (649)	0.45 (5.87)	0.32 (4.17)
24	2.66 (3.01)	1020 (1160)	12.60 (14.30)	8.95 (10.20)	1.71 (2.86)	532 (892)	4.81 (8.07)	3.42 (5.74)
25	1.09 (1.73)	419 (666)	5.17 (8.22)	3.68 (5.84)	2.64 (3.04)	824 (946)	7.45 (8.55)	5.30 (6.08)
26	0.80 (0.98)	305 (376)	3.77 (4.64)	2.68 (3.30)	1.67 (1.67)	519 (520)	4.69 (4.71)	3.34 (3.35)
27	1.31 (3.24)	502 (1240)	6.20 (15.40)	4.41 (10.90)	-1.06 (3.35)	-331 (1040)	-3.00 (9.43)	-2.13 (6.71)
28	1.84 (2.12)	706 (816)	8.71 (10.10)	6.19 (7.16)	0.20 (0.92)	61 (286)	0.55 (2.58)	0.39 (1.84)
29	0.47 (0.75)	182 (287)	2.25 (3.55)	1.60 (2.52)	1.92 (1.80)	599 (560)	5.42 (5.07)	3.85 (3.60)
30	0.77 (1.76)	294 (676)	3.63 (8.34)	2.58 (5.93)	1.84 (2.26)	572 (703)	5.17 (6.35)	3.68 (4.52)
Avg	1.35	520	6.41	4.56	1.41	440	3.98	2.83
n	15	15	15	15	14	14	14	14
SD	1.00	385	4.75	3.38	1.06	329	2.97	2.11
Min	0.25	98	1.20	0.86	-1.06	-331	-3.00	-2.13
Max	4.39	1690	20.80	14.80	2.67	831	7.52	5.35

Table F9. Daily means (SD) of H₂S emissions at Site W15B for October, 2007.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3	1.36 (2.99)	522 (1150)	6.45 (14.20)	4.59 (10.10)	0.71 (1.26)	220 (391)	1.99 (3.54)	1.41 (2.52)
4	1.12 (2.56)	430 (983)	5.30 (12.10)	3.77 (8.63)	0.68 (3.33)	212 (1040)	1.92 (9.37)	1.37 (6.67)
5	0.73 (1.10)	279 (421)	3.45 (5.20)	2.45 (3.70)	0.78 (2.32)	244 (724)	2.21 (6.55)	1.57 (4.66)
6	0.37 (0.40)	143 (155)	1.77 (1.91)	1.26 (1.36)	2.08 (2.22)	647 (690)	5.85 (6.24)	4.16 (4.44)
7	1.47 (2.90)	563 (1110)	6.95 (13.70)	4.94 (9.76)	1.14 (1.73)	355 (539)	3.21 (4.88)	2.28 (3.47)
8								
9	1.40 (3.49)	538 (1340)	6.64 (16.50)	4.72 (11.70)	2.11 (3.63)	658 (1130)	5.95 (10.20)	4.23 (7.28)
10	2.05 (2.82)	789 (1080)	9.73 (13.40)	6.92 (9.52)				
11								
12	1.39 (1.42)	532 (546)	6.57 (6.74)	4.67 (4.79)	1.69 (1.72)	527 (535)	4.77 (4.84)	3.39 (3.44)
13	0.61 (0.91)	233 (350)	2.88 (4.32)	2.05 (3.07)	0.76 (0.95)	237 (296)	2.14 (2.68)	1.52 (1.90)
14	1.32 (1.65)	507 (635)	6.25 (7.84)	4.45 (5.58)	1.48 (2.32)	460 (721)	4.16 (6.52)	2.96 (4.64)
15	1.73 (2.65)	663 (1020)	8.18 (12.60)	5.82 (8.94)	0.62 (0.57)	194 (178)	1.75 (1.61)	1.25 (1.14)
16	0.28 (0.30)	106 (116)	1.31 (1.43)	0.93 (1.02)	2.08 (2.25)	649 (700)	5.87 (6.33)	4.17 (4.50)
17	1.59 (1.98)	612 (762)	7.56 (9.41)	5.37 (6.69)	3.99 (3.53)	1240 (1100)	11.20 (9.95)	7.99 (7.07)
18	1.70 (2.24)	652 (858)	8.04 (10.60)	5.72 (7.53)	2.90 (3.52)	905 (1100)	8.18 (9.91)	5.82 (7.05)
19	2.84 (3.26)	1090 (1250)	13.50 (15.40)	9.57 (11.00)	1.31 (1.91)	407 (595)	3.68 (5.38)	2.62 (3.83)
20	1.69 (2.54)	647 (977)	7.99 (12.10)	5.68 (8.57)	1.60 (1.97)	498 (613)	4.50 (5.54)	3.20 (3.94)
21								
22	-0.32 (1.66)	-124 (638)	-1.52 (7.88)	-1.08 (5.60)	1.88 (2.37)	585 (740)	5.29 (6.69)	3.76 (4.76)
23	1.25 (2.39)	481 (920)	5.94 (11.30)	4.23 (8.07)	5.12 (5.56)	1600 (1730)	14.40 (15.70)	10.30 (11.10)
24	2.23 (2.45)	858 (941)	10.60 (11.60)	7.53 (8.26)	1.74 (2.09)	543 (651)	4.91 (5.89)	3.49 (4.19)
25	0.97 (0.92)	372 (355)	4.59 (4.38)	3.27 (3.11)	4.39 (3.98)	1370 (1240)	12.40 (11.20)	8.78 (7.97)
26	1.37 (1.48)	525 (567)	6.47 (7.00)	4.60 (4.98)	1.74 (2.42)	543 (753)	4.91 (6.81)	3.49 (4.84)
27	1.65 (2.39)	634 (919)	7.82 (11.30)	5.56 (8.06)	2.66 (2.89)	828 (902)	7.48 (8.15)	5.32 (5.80)
28	2.47 (3.47)	948 (1330)	11.70 (16.40)	8.32 (11.70)	4.95 (5.41)	1540 (1690)	14.00 (15.20)	9.92 (10.80)
29								
30								
31								
Avg	1.36	522	6.44	4.58	2.11	657	5.94	4.23
n	23	23	23	23	22	22	22	22
SD	0.70	270	3.33	2.37	1.34	417	3.77	2.68
Min	-0.32	-124	-1.52	-1.08	0.62	194	1.75	1.25
Max	2.84	1090	13.50	9.57	5.12	1600	14.40	10.30

Table F9. Daily means (SD) of H₂S emissions at Site WI5B for November, 2007.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	0.99 (0.70)	381 (269)	4.70 (3.33)	3.34 (2.36)	0.92 (0.81)	288 (253)	2.60 (2.29)	1.85 (1.63)
17	1.41 (1.30)	543 (498)	6.70 (6.15)	4.76 (4.37)	0.27 (0.43)	83 (133)	0.75 (1.20)	0.53 (0.86)
18	0.66 (0.92)	255 (352)	3.15 (4.34)	2.24 (3.09)	0.87 (0.81)	271 (254)	2.45 (2.29)	1.74 (1.63)
19	0.57 (0.94)	218 (362)	2.69 (4.46)	1.91 (3.17)	0.23 (0.32)	72 (100)	0.65 (0.90)	0.46 (0.64)
20	1.78 (1.20)	683 (461)	8.43 (5.69)	5.99 (4.05)	1.06 (0.84)	331 (261)	2.99 (2.36)	2.13 (1.68)
21	0.64 (0.61)	245 (235)	3.03 (2.90)	2.15 (2.07)				
22	1.10 (1.00)	423 (386)	5.22 (4.76)	3.71 (3.38)				
23	1.48 (1.25)	570 (479)	7.03 (5.91)	5.00 (4.20)	0.54 (0.62)	169 (193)	1.53 (1.75)	1.08 (1.24)
24	0.75 (0.85)	287 (324)	3.55 (4.00)	2.52 (2.85)	0.86 (0.95)	269 (295)	2.43 (2.67)	1.73 (1.90)
25	0.57 (0.63)	217 (240)	2.68 (2.97)	1.90 (2.11)	0.82 (0.80)	254 (248)	2.29 (2.24)	1.63 (1.59)
26	1.12 (0.73)	429 (281)	5.29 (3.46)	3.76 (2.46)	1.65 (1.29)	514 (403)	4.64 (3.65)	3.30 (2.59)
27	1.08 (0.92)	416 (352)	5.14 (4.34)	3.65 (3.09)	1.02 (0.60)	316 (186)	2.86 (1.68)	2.04 (1.20)
28	0.68 (0.66)	262 (254)	3.24 (3.13)	2.30 (2.23)	1.00 (0.61)	312 (190)	2.82 (1.72)	2.01 (1.22)
29								
30	0.91 (1.04)	348 (398)	4.30 (4.91)	3.06 (3.49)	1.36 (1.17)	422 (364)	3.82 (3.29)	2.72 (2.34)
Avg	0.98	377	4.65	3.31	0.88	275	2.49	1.77
n	14	14	14	14	12	12	12	12
SD	0.36	139	1.71	1.22	0.39	121	1.09	0.78
Min	0.57	217	2.68	1.90	0.23	72	0.65	0.46
Max	1.78	683	8.43	5.99	1.65	514	4.64	3.30

Table F9. Daily means (SD) of H2S emissions at Site W15B for December, 2007.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.81 (0.86)	309 (329)	3.82 (4.06)	2.71 (2.89)	2.26 (1.43)	705 (446)	6.38 (4.03)	4.53 (2.87)
2	0.75 (0.60)	287 (230)	3.54 (2.84)	2.52 (2.02)	2.44 (2.00)	759 (623)	6.86 (5.63)	4.88 (4.01)
3	0.98 (0.84)	375 (322)	4.63 (3.97)	3.29 (2.82)	1.08 (0.71)	336 (221)	3.04 (2.00)	2.16 (1.42)
4	1.03 (0.90)	394 (345)	4.87 (4.26)	3.46 (3.03)	1.00 (0.55)	311 (170)	2.81 (1.54)	2.00 (1.09)
5	1.21 (1.27)	463 (488)	5.71 (6.02)	4.06 (4.28)	1.02 (0.50)	316 (154)	2.86 (1.39)	2.03 (0.99)
6	1.35 (1.09)	519 (417)	6.41 (5.15)	4.56 (3.66)	1.67 (1.61)	519 (502)	4.69 (4.54)	3.34 (3.23)
7	0.83 (0.86)	317 (329)	3.91 (4.07)	2.78 (2.89)	1.46 (1.37)	456 (425)	4.12 (3.85)	2.93 (2.74)
8	1.25 (1.14)	480 (440)	5.92 (5.42)	4.21 (3.86)	2.29 (1.32)	713 (410)	6.45 (3.71)	4.58 (2.64)
9	0.61 (0.42)	232 (160)	2.87 (1.98)	2.04 (1.41)	1.87 (1.90)	581 (590)	5.26 (5.34)	3.74 (3.80)
10	1.22 (0.94)	468 (361)	5.78 (4.45)	4.11 (3.17)	1.49 (1.17)	464 (363)	4.20 (3.28)	2.99 (2.33)
11								
12	0.99 (1.10)	380 (421)	4.69 (5.19)	3.34 (3.69)	1.43 (0.89)	447 (277)	4.04 (2.50)	2.87 (1.78)
13	0.57 (0.72)	220 (276)	2.72 (3.41)	1.93 (2.43)	1.59 (0.89)	496 (278)	4.49 (2.51)	3.19 (1.79)
14	0.30 (0.25)	115 (97)	1.42 (1.19)	1.01 (0.85)	1.74 (1.09)	543 (341)	4.91 (3.08)	3.49 (2.19)
15	0.58 (0.95)	221 (366)	2.73 (4.51)	1.94 (3.21)	1.80 (0.75)	560 (234)	5.07 (2.12)	3.60 (1.51)
16	0.35 (0.46)	136 (175)	1.68 (2.16)	1.19 (1.54)	1.71 (0.94)	532 (292)	4.81 (2.64)	3.42 (1.88)
17	0.20 (0.23)	78 (88)	0.96 (1.09)	0.68 (0.78)	2.03 (1.86)	634 (580)	5.73 (5.24)	4.08 (3.73)
18	0.46 (0.82)	177 (314)	2.18 (3.88)	1.55 (2.76)	2.01 (1.05)	625 (327)	5.65 (2.96)	4.02 (2.10)
19	0.66 (0.97)	254 (371)	3.13 (4.58)	2.23 (3.26)	1.87 (0.96)	583 (299)	5.27 (2.71)	3.75 (1.93)
20	1.16 (1.88)	446 (722)	5.51 (8.92)	3.92 (6.34)				
21	0.76 (1.89)	293 (727)	3.62 (8.97)	2.57 (6.38)	2.73 (2.62)	849 (817)	7.68 (7.39)	5.46 (5.25)
22	1.30 (1.86)	499 (716)	6.15 (8.84)	4.38 (6.28)	1.28 (2.19)	397 (683)	3.59 (6.17)	2.55 (4.39)
23								
24								
25								
26	1.61 (2.34)	618 (897)	7.63 (11.10)	5.42 (7.87)	1.77 (1.55)	552 (483)	4.99 (4.37)	3.55 (3.11)
27	3.84 (4.06)	1470 (1560)	18.20 (19.20)	12.90 (13.70)	2.31 (2.53)	719 (789)	6.50 (7.14)	4.62 (5.08)
28	1.97 (2.30)	758 (884)	9.35 (10.90)	6.65 (7.75)	0.74 (1.00)	230 (312)	2.08 (2.82)	1.48 (2.01)
29	3.52 (3.23)	1350 (1240)	16.70 (15.30)	11.80 (10.90)	1.11 (1.04)	346 (325)	3.13 (2.94)	2.22 (2.09)
30	2.43 (1.98)	933 (759)	11.50 (9.37)	8.18 (6.66)	0.99 (0.93)	307 (291)	2.78 (2.63)	1.97 (1.87)
31	3.90 (3.48)	1500 (1330)	18.50 (16.50)	13.10 (11.70)	1.20 (1.23)	374 (385)	3.38 (3.48)	2.41 (2.47)
Avg	1.28	492	6.08	4.32	1.65	514	4.64	3.30
n	27	27	27	27	26	26	26	26
SD	1.00	384	4.74	3.37	0.50	157	1.42	1.01
Min	0.20	78	0.96	0.68	0.74	230	2.08	1.48
Max	3.90	1500	18.50	13.10	2.73	849	7.68	5.46

Table F9. Daily means (SD) of H2S emissions at Site WISB for January, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	3.12 (3.06)	1200 (1180)	14.80 (14.50)	10.50 (10.30)	1.27 (1.34)	396 (419)	3.58 (3.78)	2.55 (2.69)
2	3.10 (2.46)	1190 (946)	14.70 (11.70)	10.50 (8.30)	0.78 (0.74)	243 (231)	2.20 (2.09)	1.56 (1.49)
3	1.80 (1.02)	690 (393)	8.52 (4.86)	6.06 (3.45)	1.48 (1.20)	460 (375)	4.16 (3.39)	2.96 (2.41)
4	1.86 (1.52)	715 (582)	8.82 (7.19)	6.28 (5.11)	1.32 (1.08)	412 (338)	3.73 (3.06)	2.65 (2.17)
5	1.84 (1.65)	707 (635)	8.72 (7.84)	6.20 (5.57)	2.17 (1.46)	675 (454)	6.11 (4.11)	4.34 (2.92)
6	0.28 (0.30)	108 (114)	1.34 (1.41)	0.95 (1.00)	3.75 (3.52)	1170 (1100)	10.60 (9.91)	7.52 (7.05)
7								
8	1.73 (0.96)	665 (367)	8.21 (4.53)	5.84 (3.22)				
9	1.93 (1.75)	741 (671)	9.14 (8.28)	6.50 (5.89)	1.31 (1.11)	410 (345)	3.70 (3.12)	2.63 (2.22)
10	2.33 (2.10)	894 (807)	11.00 (9.96)	7.85 (7.09)	1.68 (1.50)	522 (466)	4.72 (4.22)	3.36 (3.00)
11	1.45 (1.11)	558 (426)	6.88 (5.26)	4.89 (3.74)	1.70 (1.53)	531 (476)	4.80 (4.31)	3.41 (3.06)
12	1.77 (0.99)	682 (379)	8.41 (4.67)	5.98 (3.32)	1.14 (1.35)	354 (421)	3.20 (3.81)	2.28 (2.71)
13	1.58 (1.44)	608 (551)	7.51 (6.81)	5.34 (4.84)	1.11 (1.34)	346 (417)	3.13 (3.77)	2.23 (2.68)
14	1.56 (1.21)	600 (466)	7.40 (5.75)	5.26 (4.09)	1.76 (1.61)	548 (501)	4.95 (4.53)	3.52 (3.22)
15	1.72 (1.05)	660 (402)	8.15 (4.97)	5.79 (3.53)	1.54 (1.30)	478 (404)	4.32 (3.66)	3.08 (2.60)
16	1.42 (1.39)	546 (532)	6.74 (6.57)	4.79 (4.67)	1.34 (1.20)	419 (372)	3.79 (3.37)	2.69 (2.39)
17	1.92 (1.49)	738 (572)	9.11 (7.06)	6.48 (5.02)	1.94 (1.50)	606 (467)	5.48 (4.22)	3.89 (3.00)
18	2.27 (2.01)	872 (773)	10.80 (9.54)	7.66 (6.79)	1.77 (1.79)	553 (558)	5.00 (5.05)	3.56 (3.59)
19	4.05 (2.52)	1560 (967)	19.20 (11.90)	13.70 (8.49)	2.89 (2.52)	900 (786)	8.14 (7.11)	5.79 (5.06)
20	3.71 (2.58)	1420 (991)	17.60 (12.20)	12.50 (8.70)	3.71 (2.80)	1160 (874)	10.40 (7.90)	7.43 (5.62)
21	3.00 (2.52)	1150 (966)	14.20 (11.90)	10.10 (8.48)	2.68 (2.07)	836 (645)	7.56 (5.83)	5.38 (4.15)
22	2.63 (1.73)	1010 (666)	12.50 (8.21)	8.87 (5.84)	2.10 (1.58)	654 (492)	5.92 (4.45)	4.21 (3.16)
23	2.14 (1.56)	823 (597)	10.20 (7.37)	7.23 (5.24)	1.86 (2.00)	580 (624)	5.25 (5.64)	3.73 (4.01)
24								
25	1.86 (1.29)	716 (495)	8.84 (6.11)	6.28 (4.35)	1.56 (1.36)	486 (423)	4.40 (3.82)	3.13 (2.72)
26	1.31 (0.87)	502 (333)	6.19 (4.11)	4.41 (2.92)				
27	1.10 (1.35)	422 (519)	5.21 (6.41)	3.71 (4.56)				
28	0.87 (1.13)	332 (434)	4.10 (5.36)	2.91 (3.81)				
29	1.71 (2.32)	657 (890)	8.11 (11.00)	5.77 (7.81)	1.13 (0.96)	351 (298)	3.18 (2.70)	2.26 (1.92)
30	3.13 (1.97)	1200 (757)	14.80 (9.34)	10.50 (6.64)	2.14 (1.70)	666 (530)	6.02 (4.79)	4.28 (3.41)
31					2.09 (1.53)	650 (475)	5.88 (4.30)	4.18 (3.06)
Avg	2.04	785	9.68	6.89	1.85	576	5.21	3.70
n	28	28	28	28	25	25	25	25
SD	0.83	319	3.94	2.80	0.73	228	2.06	1.47
Min	0.28	108	1.34	0.95	0.78	243	2.20	1.56
Max	4.05	1560	19.20	13.70	3.75	1170	10.60	7.52

Table F9. Daily means (SD) of H₂S emissions at Site W15B for February, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	2.34 (2.16)	899 (830)	11.10 (10.20)	7.89 (7.28)	2.55 (1.61)	793 (502)	7.17 (4.54)	5.10 (3.23)
2	3.66 (3.42)	1410 (1310)	17.40 (16.20)	12.30 (11.50)	0.87 (0.89)	272 (276)	2.46 (2.50)	1.75 (1.78)
3	2.17 (2.08)	834 (801)	10.30 (9.88)	7.32 (7.03)	1.07 (1.09)	333 (340)	3.01 (3.07)	2.14 (2.19)
4	1.20 (1.90)	461 (728)	5.69 (8.99)	4.05 (6.39)	2.49 (2.87)	777 (895)	7.02 (8.10)	4.99 (5.76)
5	1.82 (2.51)	700 (963)	8.64 (11.90)	6.14 (8.45)	2.09 (2.35)	652 (733)	5.89 (6.63)	4.19 (4.71)
6	1.26 (1.17)	484 (448)	5.97 (5.53)	4.25 (3.93)	1.03 (1.13)	322 (352)	2.91 (3.18)	2.07 (2.26)
7	1.26 (1.17)	483 (451)	5.97 (5.56)	4.24 (3.96)	1.70 (1.19)	528 (370)	4.78 (3.34)	3.40 (2.38)
8	1.66 (1.45)	638 (557)	7.87 (6.87)	5.60 (4.89)	1.72 (1.50)	537 (466)	4.85 (4.21)	3.45 (3.00)
9	2.40 (1.72)	922 (660)	11.40 (8.14)	8.09 (5.79)	1.08 (0.89)	337 (277)	3.05 (2.50)	2.17 (1.78)
10	2.07 (1.64)	797 (631)	9.83 (7.78)	6.99 (5.54)	3.06 (2.22)	953 (692)	8.61 (6.26)	6.13 (4.45)
11	2.42 (1.60)	929 (614)	11.50 (7.58)	8.16 (5.39)	3.14 (1.69)	978 (527)	8.84 (4.76)	6.29 (3.39)
12	1.03 (1.33)	396 (510)	4.89 (6.29)	3.48 (4.48)	3.65 (1.79)	1140 (558)	10.30 (5.05)	7.31 (3.59)
13	0.62 (0.90)	239 (345)	2.95 (4.25)	2.10 (3.02)	3.11 (3.30)	968 (1030)	8.76 (9.28)	6.23 (6.60)
14	1.31 (1.94)	502 (744)	6.20 (9.18)	4.41 (6.53)	2.66 (1.69)	830 (527)	7.50 (4.77)	5.34 (3.39)
15	0.82 (0.84)	315 (324)	3.89 (4.00)	2.77 (2.84)	3.98 (2.10)	1240 (656)	11.20 (5.93)	7.98 (4.22)
16	1.45 (1.33)	557 (512)	6.87 (6.32)	4.89 (4.50)	2.72 (2.13)	847 (664)	7.66 (6.00)	5.45 (4.27)
17	1.81 (2.11)	694 (812)	8.56 (10.00)	6.09 (7.13)	2.61 (1.44)	814 (450)	7.36 (4.07)	5.23 (2.89)
18	0.96 (0.93)	370 (357)	4.56 (4.41)	3.25 (3.13)	2.49 (1.18)	776 (369)	7.02 (3.34)	4.99 (2.37)
19	1.55 (1.49)	594 (571)	7.33 (7.04)	5.21 (5.01)	3.29 (1.82)	1030 (566)	9.27 (5.11)	6.59 (3.64)
20	1.63 (0.96)	625 (370)	7.71 (4.57)	5.49 (3.25)	3.19 (2.20)	994 (686)	8.98 (6.20)	6.39 (4.41)
21	0.06 (0.06)	23 (22)	0.28 (0.28)	0.20 (0.20)	0.38 (0.81)	118 (253)	1.07 (2.28)	0.76 (1.62)
22	0.60 (1.24)	230 (474)	2.84 (5.85)	2.02 (4.16)	0.88 (1.49)	275 (464)	2.49 (4.19)	1.77 (2.98)
23	1.50 (2.00)	576 (770)	7.10 (9.50)	5.05 (6.76)	1.76 (1.20)	548 (375)	4.95 (3.39)	3.52 (2.41)
24	1.01 (1.62)	389 (622)	4.81 (7.68)	3.42 (5.46)	2.34 (1.77)	730 (552)	6.60 (4.99)	4.70 (3.55)
25	0.60 (0.77)	230 (295)	2.84 (3.64)	2.02 (2.59)				
26	1.06 (1.03)	405 (395)	5.00 (4.88)	3.56 (3.47)	1.25 (0.92)	388 (285)	3.51 (2.58)	2.49 (1.83)
27	0.90 (0.96)	345 (368)	4.26 (4.54)	3.03 (3.23)	1.10 (1.21)	342 (378)	3.09 (3.42)	2.20 (2.43)
28	1.59 (1.43)	610 (547)	7.52 (6.76)	5.35 (4.80)	0.80 (0.87)	249 (271)	2.25 (2.45)	1.60 (1.74)
29	1.83 (1.11)	701 (428)	8.66 (5.28)	6.16 (3.75)	0.22 (0.18)	67 (56)	0.61 (0.51)	0.43 (0.36)
Avg	1.47	564	6.96	4.95	2.04	637	5.76	4.09
n	29	29	29	29	28	28	28	28
SD	0.71	273	3.37	2.39	1.03	320	2.90	2.06
Min	0.06	23	0.28	0.20	0.22	67	0.61	0.43
Max	3.66	1410	17.40	12.30	3.98	1240	11.20	7.98

Table F9. Daily means (SD) of H2S emissions at Site WISB for March, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	1.25 (0.91)	482 (351)	5.95 (4.33)	4.23 (3.08)	0.67 (0.65)	209 (203)	1.89 (1.84)	1.34 (1.31)
2	1.44 (1.57)	553 (602)	6.82 (7.43)	4.85 (5.29)				
3	1.28 (1.10)	493 (423)	6.09 (5.22)	4.33 (3.71)	1.43 (1.54)	445 (481)	4.02 (4.35)	2.86 (3.09)
4	1.17 (1.32)	448 (507)	5.52 (6.25)	3.93 (4.45)	1.03 (0.91)	321 (284)	2.91 (2.57)	2.07 (1.83)
5	0.98 (0.88)	375 (338)	4.63 (4.17)	3.29 (2.96)	1.34 (1.10)	417 (342)	3.77 (3.10)	2.68 (2.20)
6	1.11 (0.97)	425 (373)	5.24 (4.60)	3.73 (3.27)	1.62 (1.68)	504 (523)	4.56 (4.73)	3.24 (3.37)
7	1.33 (1.23)	510 (474)	6.29 (5.85)	4.48 (4.16)	1.35 (1.13)	420 (352)	3.80 (3.18)	2.70 (2.26)
8	1.41 (1.27)	543 (489)	6.70 (6.03)	4.76 (4.29)	1.30 (1.53)	405 (477)	3.66 (4.31)	2.60 (3.07)
9	2.14 (2.71)	823 (1040)	10.20 (12.90)	7.23 (9.15)	1.06 (0.88)	330 (273)	2.98 (2.47)	2.12 (1.76)
10	1.57 (1.29)	603 (495)	7.44 (6.10)	5.29 (4.34)				
11								
12								
13	1.12 (1.43)	430 (549)	5.31 (6.77)	3.78 (4.82)	1.53 (1.41)	478 (440)	4.32 (3.98)	3.07 (2.83)
14	1.61 (1.56)	617 (601)	7.61 (7.41)	5.41 (5.27)				
15	1.30 (1.13)	500 (435)	6.17 (5.36)	4.39 (3.81)				
16	0.88 (0.53)	337 (204)	4.16 (2.52)	2.96 (1.79)	1.29 (1.18)	402 (368)	3.64 (3.33)	2.59 (2.37)
17	1.20 (1.38)	460 (532)	5.68 (6.56)	4.04 (4.67)	2.20 (2.20)	685 (684)	6.19 (6.18)	4.40 (4.40)
18	1.30 (0.91)	498 (351)	6.14 (4.33)	4.37 (3.08)	0.96 (1.34)	300 (416)	2.71 (3.76)	1.93 (2.67)
19	1.71 (1.33)	659 (512)	8.13 (6.32)	5.78 (4.49)	0.54 (0.79)	167 (245)	1.51 (2.22)	1.07 (1.58)
20	1.75 (1.49)	671 (572)	8.27 (7.06)	5.88 (5.02)	0.75 (1.31)	232 (409)	2.10 (3.70)	1.49 (2.63)
21	1.62 (1.60)	624 (614)	7.70 (7.58)	5.48 (5.39)	0.99 (1.28)	310 (397)	2.80 (3.59)	1.99 (2.55)
22	1.19 (0.86)	459 (328)	5.66 (4.05)	4.02 (2.88)	0.98 (1.52)	306 (472)	2.77 (4.27)	1.97 (3.04)
23	1.69 (1.38)	648 (531)	8.00 (6.55)	5.69 (4.66)				
24	1.41 (1.39)	543 (535)	6.70 (6.61)	4.76 (4.70)	3.09 (3.08)	962 (960)	8.69 (8.68)	6.18 (6.17)
25	2.09 (2.94)	804 (1130)	9.92 (13.90)	7.06 (9.89)	0.51 (0.91)	158 (282)	1.43 (2.55)	1.02 (1.82)
26	2.35 (1.69)	901 (649)	11.10 (8.01)	7.90 (5.69)	1.74 (1.56)	543 (486)	4.91 (4.40)	3.49 (3.13)
27	2.15 (1.72)	826 (662)	10.20 (8.17)	7.25 (5.81)	1.01 (1.30)	316 (404)	2.86 (3.65)	2.03 (2.60)
28	1.70 (1.77)	653 (679)	8.05 (8.37)	5.73 (5.96)	1.32 (1.40)	413 (437)	3.73 (3.95)	2.65 (2.81)
29	1.33 (1.44)	512 (554)	6.31 (6.84)	4.49 (4.86)	1.34 (1.58)	419 (491)	3.78 (4.44)	2.69 (3.16)
30	1.36 (1.70)	523 (651)	6.45 (8.04)	4.59 (5.72)	1.51 (1.56)	471 (487)	4.26 (4.40)	3.03 (3.13)
31								
Avg	1.48	568	7.02	4.99	1.29	400	3.62	2.58
n	28	28	28	28	23	23	23	23
SD	0.36	139	1.71	1.22	0.55	170	1.54	1.09
Min	0.88	337	4.16	2.96	0.51	158	1.43	1.02
Max	2.35	901	11.10	7.90	3.09	962	8.69	6.18

Table F9. Daily means (SD) of H₂S emissions at Site W15B for April, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	1.42 (1.35)	544 (519)	6.71 (6.41)	4.77 (4.56)				
2	0.70 (0.86)	269 (331)	3.32 (4.08)	2.36 (2.90)	1.04 (1.01)	325 (313)	2.93 (2.83)	2.09 (2.02)
3	0.45 (0.43)	171 (163)	2.11 (2.02)	1.50 (1.43)	0.77 (1.15)	238 (357)	2.16 (3.23)	1.53 (2.29)
4	1.22 (1.45)	470 (555)	5.80 (6.85)	4.12 (4.87)	2.27 (1.74)	708 (543)	6.41 (4.91)	4.56 (3.49)
5	1.34 (1.64)	514 (631)	6.34 (7.79)	4.51 (5.54)	1.48 (2.10)	461 (654)	4.17 (5.91)	2.97 (4.20)
6	0.87 (1.31)	336 (505)	4.14 (6.23)	2.95 (4.43)	2.41 (2.46)	750 (765)	6.78 (6.92)	4.82 (4.92)
7	2.09 (1.83)	801 (705)	9.88 (8.70)	7.03 (6.18)	0.70 (0.71)	218 (222)	1.97 (2.01)	1.40 (1.43)
8	2.57 (1.90)	988 (729)	12.20 (8.99)	8.67 (6.40)				
9	3.57 (2.61)	1370 (1000)	16.90 (12.40)	12.00 (8.79)				
10	1.86 (1.49)	713 (573)	8.81 (7.07)	6.26 (5.03)	0.50 (0.74)	155 (231)	1.40 (2.09)	1.00 (1.49)
11	2.05 (2.06)	785 (792)	9.69 (9.77)	6.89 (6.95)				
12	1.05 (1.19)	404 (457)	4.98 (5.64)	3.54 (4.01)				
13	2.04 (1.42)	784 (546)	9.68 (6.74)	6.88 (4.79)				
14	1.11 (1.25)	427 (478)	5.27 (5.91)	3.75 (4.20)	1.52 (1.78)	473 (554)	4.27 (5.01)	3.04 (3.57)
15	0.78 (1.01)	300 (389)	3.70 (4.80)	2.63 (3.41)	2.92 (3.11)	909 (969)	8.22 (8.76)	5.84 (6.23)
16	0.62 (0.98)	237 (376)	2.92 (4.64)	2.08 (3.30)	3.58 (3.54)	1110 (1100)	10.10 (9.97)	7.17 (7.09)
17	3.44 (4.47)	1320 (1720)	16.30 (21.20)	11.60 (15.10)	2.61 (4.22)	813 (1320)	7.35 (11.90)	5.23 (8.46)
18	4.15 (2.29)	1590 (881)	19.70 (10.90)	14.00 (7.73)				
19	2.56 (1.74)	984 (668)	12.10 (8.25)	8.63 (5.86)				
20	2.70 (2.90)	1030 (1110)	12.80 (13.80)	9.08 (9.78)	1.40 (1.45)	435 (452)	3.93 (4.09)	2.80 (2.91)
21	1.19 (1.73)	457 (664)	5.64 (8.20)	4.01 (5.83)	3.80 (4.56)	1180 (1420)	10.70 (12.80)	7.62 (9.13)
22								
23								
24								
25								
26	0.98 (1.04)	377 (399)	4.65 (4.93)	3.31 (3.51)	1.39 (1.15)	433 (359)	3.91 (3.24)	2.78 (2.31)
27	0.93 (1.18)	356 (454)	4.39 (5.60)	3.12 (3.98)	0.50 (1.00)	156 (310)	1.41 (2.80)	1.00 (1.99)
28	1.27 (1.63)	487 (627)	6.01 (7.74)	4.27 (5.50)				
29	0.75 (1.28)	286 (493)	3.53 (6.08)	2.51 (4.33)				
30	0.65 (0.65)	250 (251)	3.08 (3.09)	2.19 (2.20)	1.48 (1.35)	460 (421)	4.16 (3.81)	2.96 (2.71)
Avg	1.63	625	7.72	5.49	1.77	552	4.99	3.55
n	26	26	26	26	16	16	16	16
SD	0.99	379	4.68	3.33	1.02	317	2.86	2.04
Min	0.45	171	2.11	1.50	0.50	155	1.40	1.00
Max	4.15	1590	19.70	14.00	3.80	1180	10.70	7.62

Table F9. Daily means (SD) of H₂S emissions at Site WISB for May, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	1.22 (1.35)	469 (517)	5.78 (6.38)	4.11 (4.54)	1.66 (1.48)	519 (462)	4.69 (4.18)	3.34 (2.97)
2	0.74 (0.81)	285 (309)	3.52 (3.82)	2.50 (2.71)				
3	2.87 (3.00)	1100 (1150)	13.60 (14.20)	9.66 (10.10)				
4	1.12 (2.00)	430 (767)	5.30 (9.46)	3.77 (6.73)	3.24 (3.51)	1010 (1090)	9.13 (9.89)	6.49 (7.03)
5								
6	1.07 (1.64)	411 (631)	5.07 (7.79)	3.60 (5.54)	1.28 (1.46)	397 (454)	3.59 (4.11)	2.56 (2.92)
7	4.46 (5.22)	1710 (2010)	21.10 (24.70)	15.00 (17.60)				
8	2.58 (3.35)	991 (1290)	12.20 (15.90)	8.70 (11.30)	0.76 (1.24)	238 (385)	2.15 (3.48)	1.53 (2.48)
9	1.65 (1.53)	634 (588)	7.82 (7.25)	5.56 (5.16)	2.24 (4.49)	697 (1400)	6.30 (12.60)	4.48 (8.99)
10	1.51 (1.85)	581 (711)	7.17 (8.77)	5.10 (6.24)	2.51 (2.72)	783 (847)	7.08 (7.66)	5.03 (5.45)
11	2.42 (2.13)	931 (818)	11.50 (10.10)	8.17 (7.18)				
12	1.19 (1.79)	458 (688)	5.65 (8.49)	4.02 (6.03)	1.54 (2.02)	479 (629)	4.33 (5.68)	3.08 (4.04)
13	2.55 (3.87)	979 (1490)	12.10 (18.30)	8.59 (13.00)	2.33 (2.84)	727 (885)	6.58 (8.00)	4.68 (5.69)
14	2.30 (3.39)	884 (1300)	10.90 (16.10)	7.76 (11.40)				
15	1.27 (1.67)	490 (643)	6.04 (7.93)	4.30 (5.64)	1.16 (1.93)	360 (600)	3.26 (5.43)	2.31 (3.86)
16	1.58 (2.09)	606 (804)	7.48 (9.93)	5.32 (7.06)	1.95 (3.43)	608 (1070)	5.50 (9.66)	3.91 (6.87)
17	3.89 (3.24)	1490 (1240)	18.40 (15.30)	13.10 (10.90)				
18	3.30 (2.90)	1270 (1110)	15.60 (13.80)	11.10 (9.78)				
19	1.99 (2.83)	764 (1090)	9.42 (13.40)	6.70 (9.54)	1.17 (1.37)	365 (427)	3.30 (3.86)	2.35 (2.75)
20	4.63 (3.82)	1780 (1470)	22.00 (18.10)	15.60 (12.90)				
21	2.44 (2.52)	938 (966)	11.60 (11.90)	8.23 (8.48)	3.16 (5.15)	984 (1600)	8.90 (14.50)	6.33 (10.30)
22	2.92 (2.98)	1120 (1140)	13.90 (14.10)	9.85 (10.00)	3.20 (5.50)	997 (1710)	9.01 (15.50)	6.41 (11.00)
23	4.77 (7.51)	1830 (2880)	22.60 (35.60)	16.10 (25.30)	1.86 (2.85)	579 (887)	5.24 (8.02)	3.72 (5.70)
24	1.73 (1.80)	664 (692)	8.19 (8.55)	5.83 (6.08)	2.14 (2.69)	668 (837)	6.04 (7.56)	4.29 (5.38)
25	4.08 (6.34)	1570 (2440)	19.30 (30.10)	13.80 (21.40)				
26								
27								
28	3.13 (3.15)	1200 (1210)	14.80 (14.90)	10.60 (10.60)	3.67 (5.06)	1140 (1580)	10.30 (14.30)	7.34 (10.10)
29	1.82 (2.86)	701 (1100)	8.65 (13.60)	6.15 (9.64)	4.67 (6.15)	1450 (1920)	13.20 (17.30)	9.35 (12.30)
30	4.10 (3.83)	1570 (1470)	19.40 (18.10)	13.80 (12.90)	5.60 (5.58)	1740 (1740)	15.80 (15.70)	11.20 (11.20)
31	4.77 (5.00)	1830 (1920)	22.60 (23.70)	16.10 (16.80)	1.86 (2.61)	580 (812)	5.25 (7.34)	3.73 (5.22)
Avg	2.58	989	12.20	8.68	2.42	754	6.82	4.85
n	28	28	28	28	19	19	19	19
SD	1.23	474	5.85	4.16	1.22	379	3.42	2.43
Min	0.74	285	3.52	2.50	0.76	238	2.15	1.53
Max	4.77	1830	22.60	16.10	5.60	1740	15.80	11.20

Table F9. Daily means (SD) of H₂S emissions at Site W15B for June, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	5.64 (4.30)	2160 (1650)	26.70 (20.40)	19.00 (14.50)	2.65 (4.50)	826 (1400)	7.47 (12.70)	5.31 (9.01)
2								
3	3.70 (3.42)	1420 (1310)	17.50 (16.20)	12.50 (11.50)				
4	5.98 (7.30)	2300 (2800)	28.30 (34.60)	20.10 (24.60)				
5								
6								
7	6.06 (4.91)	2330 (1890)	28.70 (23.30)	20.40 (16.60)	4.17 (8.08)	1300 (2520)	11.70 (22.80)	8.35 (16.20)
8								
9								
10	4.56 (4.24)	1750 (1630)	21.60 (20.10)	15.40 (14.30)				
11	4.25 (5.45)	1630 (2090)	20.10 (25.80)	14.30 (18.40)				
12	2.72 (2.75)	1040 (1060)	12.90 (13.00)	9.16 (9.27)				
13	2.90 (5.06)	1110 (1940)	13.70 (24.00)	9.76 (17.10)	2.95 (3.83)	920 (1190)	8.32 (10.80)	5.92 (7.66)
14								
15								
16								
17								
18	1.75 (1.99)	671 (764)	8.28 (9.43)	5.89 (6.71)				
19	3.41 (3.47)	1310 (1330)	16.20 (16.40)	11.50 (11.70)	0.81 (2.65)	252 (826)	2.28 (7.47)	1.62 (5.31)
20	2.90 (2.58)	1110 (992)	13.70 (12.20)	9.76 (8.70)	0.93 (0.98)	290 (305)	2.62 (2.76)	1.86 (1.96)
21	2.62 (2.79)	1010 (1070)	12.40 (13.20)	8.82 (9.40)	2.43 (4.01)	756 (1250)	6.83 (11.30)	4.86 (8.04)
22	5.77 (7.80)	2220 (3000)	27.40 (37.00)	19.50 (26.30)	1.00 (2.36)	310 (736)	2.81 (6.65)	2.00 (4.73)
23	4.94 (4.75)	1900 (1820)	23.40 (22.50)	16.70 (16.00)	1.00 (1.05)	311 (328)	2.81 (2.97)	2.00 (2.11)
24	3.30 (5.06)	1270 (1940)	15.70 (24.00)	11.10 (17.00)	2.29 (3.41)	714 (1060)	6.46 (9.62)	4.59 (6.84)
25	3.35 (3.26)	1290 (1250)	15.90 (15.40)	11.30 (11.00)	1.78 (1.88)	555 (587)	5.02 (5.31)	3.57 (3.77)
26	3.49 (5.85)	1340 (2250)	16.60 (27.70)	11.80 (19.70)	-0.25 (3.26)	-79 (1010)	-0.71 (9.18)	-0.51 (6.53)
27	1.14 (1.06)	439 (408)	5.41 (5.04)	3.85 (3.58)	-3.93 (7.60)	-1220 (2370)	-11.10 (21.40)	-7.87 (15.20)
28	2.98 (4.19)	1140 (1610)	14.10 (19.90)	10.00 (14.10)	5.19 (5.99)	1620 (1870)	14.60 (16.90)	10.40 (12.00)
29	4.47 (5.32)	1720 (2040)	21.20 (25.20)	15.10 (17.90)				
30								
Avg	3.80	1460	18.00	12.80	1.62	504	4.55	3.24
n	20	20	20	20	13	13	13	13
SD	1.35	519	6.40	4.55	2.14	666	6.02	4.28
Min	1.14	439	5.41	3.85	-3.93	-1220	-11.10	-7.87
Max	6.06	2330	28.70	20.40	5.19	1620	14.60	10.40

Table F9. Daily means (SD) of H2S emissions at Site WISB for July, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2								
3								
4	0.88 (1.56)	337 (599)	4.16 (7.39)	2.96 (5.26)	1.10 (3.17)	343 (987)	3.10 (8.93)	2.21 (6.35)
5	4.92 (8.65)	1890 (3320)	23.30 (41.00)	16.60 (29.10)	1.41 (2.95)	439 (920)	3.97 (8.32)	2.82 (5.92)
6	2.83 (5.27)	1090 (2030)	13.40 (25.00)	9.55 (17.80)	1.69 (2.59)	526 (806)	4.76 (7.28)	3.38 (5.18)
7	2.91 (4.04)	1120 (1550)	13.80 (19.10)	9.82 (13.60)	1.84 (1.42)	575 (442)	5.20 (4.00)	3.70 (2.84)
8								
9								
10					0.70 (4.19)	218 (1310)	1.97 (11.80)	1.40 (8.39)
11					0.57 (1.63)	179 (508)	1.62 (4.59)	1.15 (3.27)
12					1.85 (3.40)	577 (1060)	5.22 (9.58)	3.71 (6.81)
13					0.76 (1.12)	238 (350)	2.15 (3.17)	1.53 (2.25)
14					-0.81 (3.67)	-253 (1140)	-2.29 (10.30)	-1.63 (7.35)
15					0.79 (2.87)	246 (894)	2.22 (8.08)	1.58 (5.75)
16	2.88 (3.55)	1110 (1360)	13.70 (16.80)	9.72 (12.00)	2.04 (2.73)	635 (850)	5.74 (7.68)	4.08 (5.46)
17	1.75 (2.32)	671 (890)	8.28 (11.00)	5.89 (7.81)	1.22 (3.85)	381 (1200)	3.44 (10.80)	2.45 (7.71)
18	2.04 (5.27)	784 (2030)	9.68 (25.00)	6.89 (17.80)	0.30 (0.39)	95 (121)	0.85 (1.09)	0.61 (0.78)
19	2.96 (3.37)	1140 (1300)	14.00 (16.00)	9.97 (11.40)	4.71 (6.53)	1470 (2040)	13.30 (18.40)	9.43 (13.10)
20	1.81 (1.80)	693 (693)	8.56 (8.55)	6.09 (6.08)	0.75 (1.50)	232 (467)	2.10 (4.23)	1.49 (3.01)
21					2.88 (5.38)	898 (1680)	8.12 (15.20)	5.78 (10.80)
22					0.27 (0.31)	85 (97)	0.77 (0.88)	0.55 (0.62)
23	2.31 (3.28)	888 (1260)	11.00 (15.60)	7.80 (11.10)	2.99 (3.85)	931 (1200)	8.42 (10.80)	5.99 (7.72)
24	1.99 (3.57)	762 (1370)	9.41 (16.90)	6.69 (12.00)	3.64 (6.92)	1130 (2160)	10.30 (19.50)	7.29 (13.90)
25	0.50 (1.06)	193 (407)	2.39 (5.03)	1.70 (3.57)	2.44 (4.12)	761 (1280)	6.88 (11.60)	4.89 (8.26)
26	1.62 (1.33)	620 (509)	7.66 (6.29)	5.44 (4.47)	1.09 (2.97)	339 (927)	3.06 (8.38)	2.18 (5.96)
27	2.25 (2.60)	865 (997)	10.70 (12.30)	7.59 (8.75)	1.19 (2.18)	370 (680)	3.35 (6.14)	2.38 (4.37)
28	1.44 (1.99)	551 (764)	6.80 (9.43)	4.84 (6.71)	1.93 (2.32)	601 (722)	5.43 (6.53)	3.86 (4.64)
29	1.91 (1.91)	732 (733)	9.03 (9.04)	6.42 (6.43)	0.45 (1.98)	140 (615)	1.26 (5.56)	0.90 (3.96)
30	1.76 (1.88)	676 (723)	8.35 (8.93)	5.94 (6.35)	0.71 (1.48)	221 (461)	2.00 (4.17)	1.42 (2.96)
31	2.25 (1.49)	865 (571)	10.70 (7.05)	7.59 (5.01)	1.15 (1.65)	359 (514)	3.24 (4.65)	2.31 (3.31)
Avg	2.17	832	10.30	7.30	1.45	451	4.08	2.90
n	18	18	18	18	26	26	26	26
SD	0.93	357	4.41	3.14	1.15	358	3.24	2.30
Min	0.50	193	2.39	1.70	-0.81	-253	-2.29	-1.63
Max	4.92	1890	23.30	16.60	4.71	1470	13.30	9.43

Table F9. Daily means (SD) of H₂S emissions at Site WISB for August, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	2.56 (2.27)	984 (872)	12.10 (10.80)	8.64 (7.65)	1.80 (3.10)	559 (967)	5.06 (8.75)	3.60 (6.22)
2	1.20 (1.31)	459 (504)	5.66 (6.22)	4.03 (4.42)	1.26 (2.20)	392 (686)	3.55 (6.20)	2.52 (4.41)
3	1.53 (1.56)	588 (598)	7.25 (7.37)	5.16 (5.24)	1.75 (2.95)	545 (918)	4.93 (8.30)	3.51 (5.90)
4								
5	1.50 (4.26)	574 (1640)	7.09 (20.20)	5.04 (14.40)	-0.08 (2.33)	-26 (724)	-0.23 (6.55)	-0.17 (4.66)
6	2.96 (3.17)	1140 (1220)	14.00 (15.00)	9.97 (10.70)	1.70 (4.13)	531 (1290)	4.80 (11.60)	3.41 (8.27)
7	1.98 (1.99)	762 (764)	9.40 (9.43)	6.69 (6.71)	1.53 (2.55)	476 (795)	4.30 (7.19)	3.06 (5.11)
8	1.74 (1.81)	669 (696)	8.26 (8.59)	5.87 (6.11)	2.41 (3.82)	751 (1190)	6.79 (10.80)	4.83 (7.65)
9	2.88 (4.32)	1100 (1660)	13.60 (20.50)	9.70 (14.50)	1.17 (1.48)	364 (461)	3.29 (4.16)	2.34 (2.96)
10	2.20 (2.23)	843 (856)	10.40 (10.60)	7.40 (7.51)	-0.62 (2.34)	-192 (729)	-1.73 (6.60)	-1.23 (4.69)
11	1.40 (1.73)	539 (664)	6.66 (8.20)	4.73 (5.83)	-0.57 (3.37)	-177 (1050)	-1.60 (9.51)	-1.14 (6.76)
12	2.83 (4.23)	1090 (1620)	13.40 (20.00)	9.54 (14.30)	1.10 (2.69)	344 (837)	3.11 (7.56)	2.21 (5.38)
13	2.27 (2.88)	871 (1100)	10.80 (13.60)	7.65 (9.69)	-0.33 (3.92)	-101 (1220)	-0.92 (11.00)	-0.65 (7.84)
14	4.46 (7.22)	1710 (2770)	21.20 (34.20)	15.00 (24.30)	0.48 (1.70)	150 (529)	1.35 (4.78)	0.96 (3.40)
15	3.44 (2.88)	1320 (1100)	16.30 (13.60)	11.60 (9.70)	0.17 (1.32)	52 (411)	0.47 (3.71)	0.34 (2.64)
16	1.58 (3.23)	607 (1240)	7.50 (15.30)	5.33 (10.90)	0.74 (0.81)	232 (253)	2.09 (2.28)	1.49 (1.62)
17	3.59 (5.79)	1380 (2220)	17.00 (27.50)	12.10 (19.50)	2.88 (5.07)	897 (1580)	8.11 (14.30)	5.77 (10.20)
18								
19	4.80 (8.84)	1840 (3390)	22.80 (41.90)	16.20 (29.80)	0.92 (1.61)	286 (502)	2.58 (4.54)	1.84 (3.23)
20	3.88 (4.23)	1490 (1620)	18.40 (20.00)	13.10 (14.20)	2.73 (2.34)	851 (730)	7.70 (6.61)	5.47 (4.70)
21	0.87 (1.17)	334 (448)	4.12 (5.53)	2.93 (3.93)	3.18 (3.95)	991 (1230)	8.96 (11.10)	6.37 (7.92)
22	2.51 (2.88)	965 (1100)	11.90 (13.60)	8.47 (9.69)	0.31 (6.71)	97 (2090)	0.88 (18.90)	0.63 (13.40)
23	1.73 (1.98)	666 (760)	8.22 (9.39)	5.85 (6.67)	0.64 (1.01)	199 (314)	1.80 (2.84)	1.28 (2.02)
24	4.75 (5.07)	1820 (1950)	22.50 (24.00)	16.00 (17.10)	1.30 (1.97)	406 (613)	3.67 (5.54)	2.61 (3.94)
25	4.16 (4.05)	1600 (1550)	19.70 (19.20)	14.00 (13.60)				
26	1.26 (1.40)	486 (538)	5.99 (6.64)	4.26 (4.72)	0.78 (1.92)	242 (598)	2.19 (5.41)	1.55 (3.85)
27	1.17 (1.50)	449 (576)	5.54 (7.11)	3.94 (5.05)	1.03 (1.18)	322 (367)	2.91 (3.31)	2.07 (2.36)
28	0.58 (1.06)	221 (409)	2.73 (5.04)	1.94 (3.59)	2.55 (3.49)	795 (1090)	7.19 (9.84)	5.11 (7.00)
29	1.02 (1.19)	392 (457)	4.84 (5.65)	3.44 (4.01)	-1.46 (2.18)	-454 (678)	-4.10 (6.13)	-2.92 (4.36)
30	1.09 (1.62)	417 (624)	5.15 (7.70)	3.66 (5.47)	2.13 (4.74)	663 (1480)	5.99 (13.40)	4.26 (9.50)
31	1.45 (1.56)	558 (599)	6.89 (7.39)	4.90 (5.26)	1.30 (1.41)	404 (440)	3.65 (3.98)	2.60 (2.83)
Avg	2.32	893	11.00	7.83	1.10	343	3.10	2.20
n	29	29	29	29	28	28	28	28
SD	1.21	466	5.75	4.09	1.11	347	3.13	2.23
Min	0.58	221	2.73	1.94	-1.46	-454	-4.10	-2.92
Max	4.80	1840	22.80	16.20	3.18	991	8.96	6.37

Table F9. Daily means (SD) of H2S emissions at Site W15B for September, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	3.04 (4.93)	1170 (1890)	14.40 (23.40)	10.30 (16.60)	3.73 (5.16)	1160 (1610)	10.50 (14.50)	7.47 (10.30)
2	6.20 (8.56)	2380 (3290)	29.40 (40.50)	20.90 (28.80)	0.57 (1.24)	178 (385)	1.61 (3.49)	1.14 (2.48)
3	3.92 (4.54)	1500 (1740)	18.60 (21.50)	13.20 (15.30)				
4	2.32 (2.89)	890 (1110)	11.00 (13.70)	7.81 (9.74)	2.43 (4.02)	756 (1250)	6.84 (11.30)	4.86 (8.06)
5	3.01 (2.64)	1160 (1010)	14.30 (12.50)	10.10 (8.90)	1.96 (3.70)	612 (1150)	5.53 (10.40)	3.93 (7.42)
6	2.78 (3.78)	1070 (1450)	13.20 (17.90)	9.37 (12.70)	3.37 (4.02)	1050 (1250)	9.49 (11.30)	6.75 (8.05)
7	4.39 (5.44)	1690 (2090)	20.80 (25.80)	14.80 (18.30)	1.34 (2.69)	416 (837)	3.77 (7.56)	2.68 (5.38)
8	3.88 (3.66)	1490 (1410)	18.40 (17.30)	13.10 (12.30)	0.87 (1.62)	270 (504)	2.45 (4.56)	1.74 (3.24)
9	2.45 (3.42)	941 (1310)	11.60 (16.20)	8.26 (11.50)	1.99 (2.30)	619 (715)	5.60 (6.47)	3.98 (4.60)
10	1.70 (3.46)	654 (1330)	8.07 (16.40)	5.74 (11.60)	3.47 (3.68)	1080 (1150)	9.78 (10.40)	6.95 (7.38)
11	1.84 (1.61)	706 (618)	8.71 (7.62)	6.19 (5.42)	2.59 (3.24)	808 (1010)	7.30 (9.13)	5.19 (6.50)
12	1.51 (1.60)	580 (615)	7.16 (7.59)	5.09 (5.40)	1.71 (2.14)	534 (666)	4.83 (6.02)	3.44 (4.28)
13	1.84 (3.19)	708 (1220)	8.74 (15.10)	6.21 (10.70)	0.59 (0.56)	185 (175)	1.67 (1.59)	1.19 (1.13)
14	7.87 (6.67)	3020 (2560)	37.30 (31.60)	26.50 (22.50)				
15	2.52 (1.97)	968 (756)	11.90 (9.33)	8.49 (6.64)	2.04 (3.14)	634 (979)	5.73 (8.85)	4.08 (6.29)
16	4.77 (5.29)	1830 (2030)	22.60 (25.10)	16.10 (17.80)	2.31 (4.05)	718 (1260)	6.50 (11.40)	4.62 (8.12)
17								
18								
19								
20	0.35 (0.23)	134 (88)	1.66 (1.09)	1.18 (0.78)	0.45 (0.15)	141 (47)	1.28 (0.43)	0.91 (0.30)
21	0.17 (0.05)	66 (19)	0.81 (0.24)	0.58 (0.17)	0.43 (0.25)	132 (78)	1.20 (0.71)	0.85 (0.50)
22	0.21 (0.05)	81 (19)	1.00 (0.24)	0.71 (0.17)	0.36 (0.20)	113 (63)	1.02 (0.57)	0.73 (0.40)
23	0.28 (0.18)	106 (68)	1.31 (0.84)	0.93 (0.60)	-0.98 (1.39)	-306 (433)	-2.77 (3.91)	-1.97 (2.78)
24	-0.29 (1.00)	-111 (382)	-1.37 (4.71)	-0.97 (3.35)	0.04 (0.85)	11 (264)	0.10 (2.39)	0.07 (1.70)
25	0.12 (0.05)	45 (20)	0.55 (0.24)	0.39 (0.17)	0.23 (0.08)	71 (24)	0.64 (0.21)	0.45 (0.15)
26	0.18 (0.07)	67 (27)	0.83 (0.33)	0.59 (0.23)	0.26 (0.11)	80 (36)	0.72 (0.32)	0.51 (0.23)
27	0.24 (0.08)	92 (30)	1.13 (0.37)	0.81 (0.26)				
28	0.18 (0.07)	68 (25)	0.84 (0.31)	0.60 (0.22)	0.21 (0.06)	65 (19)	0.59 (0.17)	0.42 (0.12)
29	0.24 (0.09)	93 (34)	1.14 (0.42)	0.81 (0.30)				
30	0.17 (0.05)	66 (19)	0.81 (0.24)	0.58 (0.17)	0.19 (0.08)	59 (24)	0.53 (0.21)	0.38 (0.15)
Avg	2.07	795	9.81	6.98	1.31	408	3.69	2.63
n	27	27	27	27	23	23	23	23
SD	2.05	787	9.71	6.91	1.24	387	3.50	2.49
Min	-0.29	-111	-1.37	-0.97	-0.98	-306	-2.77	-1.97
Max	7.87	3020	37.30	26.50	3.73	1160	10.50	7.47

Table F9. Daily means (SD) of H₂S emissions at Site WI5B for October, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.24 (0.15)	93 (59)	1.15 (0.73)	0.82 (0.52)				
2	0.34 (0.32)	130 (124)	1.61 (1.53)	1.15 (1.09)	0.17 (0.10)	54 (32)	0.49 (0.29)	0.35 (0.20)
3	0.16 (0.05)	62 (18)	0.76 (0.22)	0.54 (0.15)	0.19 (0.09)	60 (28)	0.54 (0.26)	0.39 (0.18)
4	0.09 (0.03)	33 (13)	0.41 (0.15)	0.29 (0.11)	0.17 (0.05)	52 (15)	0.47 (0.14)	0.34 (0.10)
5	0.11 (0.04)	42 (17)	0.51 (0.21)	0.37 (0.15)	0.19 (0.08)	59 (25)	0.54 (0.23)	0.38 (0.16)
6	0.17 (0.08)	65 (32)	0.80 (0.40)	0.57 (0.28)	0.28 (0.11)	87 (34)	0.79 (0.31)	0.56 (0.22)
7								
8								
9								
10	0.13 (0.03)	48 (12)	0.59 (0.15)	0.42 (0.11)	0.16 (0.06)	49 (20)	0.45 (0.18)	0.32 (0.13)
11	0.16 (0.06)	62 (24)	0.76 (0.30)	0.54 (0.21)	0.18 (0.07)	55 (22)	0.49 (0.20)	0.35 (0.14)
12	0.22 (0.07)	82 (29)	1.02 (0.35)	0.72 (0.25)	0.29 (0.15)	91 (48)	0.83 (0.43)	0.59 (0.31)
13	0.26 (0.18)	101 (69)	1.24 (0.86)	0.88 (0.61)	0.35 (0.18)	109 (56)	0.98 (0.51)	0.70 (0.36)
14	0.11 (0.04)	42 (14)	0.52 (0.18)	0.37 (0.13)				
15	0.18 (1.02)	68 (392)	0.84 (4.84)	0.60 (3.44)	0.21 (0.09)	67 (27)	0.60 (0.25)	0.43 (0.18)
16								
17								
18								
19								
20								
21								
22	0.05 (0.03)	21 (13)	0.25 (0.15)	0.18 (0.11)	0.07 (0.03)	23 (9)	0.21 (0.08)	0.15 (0.06)
23	0.07 (0.04)	28 (15)	0.34 (0.19)	0.24 (0.13)	0.08 (0.02)	25 (6)	0.22 (0.06)	0.16 (0.04)
24	0.09 (0.04)	33 (15)	0.41 (0.18)	0.29 (0.13)	0.09 (0.05)	27 (17)	0.24 (0.15)	0.17 (0.11)
25	0.09 (0.04)	36 (17)	0.45 (0.21)	0.32 (0.15)	0.15 (0.11)	45 (34)	0.41 (0.31)	0.29 (0.22)
26	0.08 (0.05)	32 (18)	0.40 (0.23)	0.29 (0.16)				
27	0.07 (0.04)	28 (14)	0.36 (0.18)	0.25 (0.13)				
28								
29	0.07 (0.03)	25 (10)	0.32 (0.13)	0.23 (0.09)	0.09 (0.04)	27 (11)	0.25 (0.11)	0.18 (0.08)
30								
31								
Avg	0.14	54	0.67	0.48	0.18	55	0.50	0.36
n	19	19	19	19	15	15	15	15
SD	0.08	29	0.36	0.26	0.08	25	0.22	0.16
Min	0.05	21	0.25	0.18	0.07	23	0.21	0.15
Max	0.34	130	1.61	1.15	0.35	109	0.98	0.70

Table F9. Daily means (SD) of H₂S emissions at Site W15B for November, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.08 (0.03)	32 (11)	0.40 (0.13)	0.28 (0.09)	0.10 (0.05)	32 (17)	0.31 (0.17)	0.22 (0.12)
2	0.08 (0.04)	32 (16)	0.40 (0.20)	0.28 (0.14)	0.16 (0.09)	49 (29)	0.47 (0.28)	0.34 (0.20)
3	0.10 (0.03)	37 (12)	0.46 (0.14)	0.33 (0.10)	0.15 (0.07)	46 (22)	0.45 (0.21)	0.32 (0.15)
4								
5								
6	0.10 (0.04)	39 (15)	0.47 (0.18)	0.34 (0.13)	0.14 (0.03)	42 (10)	0.41 (0.10)	0.29 (0.07)
7	0.07 (0.02)	27 (6)	0.32 (0.07)	0.23 (0.05)	0.08 (0.03)	26 (9)	0.25 (0.09)	0.18 (0.06)
8	0.07 (0.02)	25 (8)	0.31 (0.10)	0.22 (0.07)				
9	0.04 (0.02)	14 (6)	0.17 (0.08)	0.12 (0.05)	0.06 (0.03)	18 (8)	0.17 (0.08)	0.12 (0.05)
10	0.06 (0.02)	22 (8)	0.26 (0.10)	0.19 (0.07)	0.06 (0.03)	20 (10)	0.19 (0.09)	0.13 (0.06)
11	0.05 (0.02)	19 (8)	0.23 (0.09)	0.16 (0.07)	0.05 (0.02)	16 (7)	0.16 (0.07)	0.11 (0.05)
12	0.05 (0.02)	19 (7)	0.23 (0.09)	0.16 (0.06)	0.07 (0.03)	22 (9)	0.21 (0.08)	0.15 (0.06)
13	0.06 (0.02)	23 (9)	0.28 (0.10)	0.20 (0.07)	0.07 (0.02)	22 (5)	0.21 (0.05)	0.15 (0.04)
14	0.09 (0.04)	34 (16)	0.41 (0.19)	0.29 (0.13)				
15	0.05 (0.01)	21 (5)	0.25 (0.07)	0.18 (0.05)				
16	0.05 (0.02)	18 (8)	0.21 (0.09)	0.15 (0.07)	0.07 (0.03)	21 (9)	0.19 (0.08)	0.14 (0.06)
17	0.05 (0.02)	19 (8)	0.22 (0.09)	0.16 (0.07)	0.05 (0.02)	16 (6)	0.15 (0.06)	0.11 (0.04)
18	0.04 (0.02)	16 (6)	0.19 (0.07)	0.13 (0.05)	0.06 (0.02)	20 (7)	0.19 (0.07)	0.13 (0.05)
19								
20								
21	0.05 (0.03)	20 (12)	0.24 (0.14)	0.17 (0.10)	0.05 (0.02)	16 (6)	0.16 (0.06)	0.11 (0.04)
22	0.05 (0.02)	20 (8)	0.24 (0.09)	0.17 (0.07)	0.06 (0.03)	18 (9)	0.17 (0.08)	0.12 (0.06)
23								
24	0.05 (0.02)	19 (7)	0.23 (0.08)	0.16 (0.06)	0.07 (0.03)	22 (9)	0.21 (0.09)	0.15 (0.06)
25					0.07 (0.04)	20 (12)	0.19 (0.11)	0.14 (0.08)
26	0.05 (0.02)	19 (9)	0.22 (0.11)	0.16 (0.08)	0.05 (0.02)	16 (7)	0.15 (0.07)	0.11 (0.05)
27	0.04 (0.03)	17 (10)	0.19 (0.12)	0.14 (0.09)	0.05 (0.01)	15 (4)	0.14 (0.04)	0.10 (0.03)
28	0.06 (0.04)	23 (15)	0.27 (0.17)	0.19 (0.12)	0.07 (0.03)	21 (10)	0.21 (0.10)	0.15 (0.07)
29								
30								
Avg	0.06	23	0.28	0.20	0.08	24	0.23	0.16
n	22	22	22	22	20	20	20	20
SD	0.02	7	0.09	0.06	0.03	10	0.10	0.07
Min	0.04	14	0.17	0.12	0.05	15	0.14	0.10
Max	0.10	39	0.47	0.34	0.16	49	0.47	0.34

Table F9. Daily means (SD) of H₂S emissions at Site WISB for December, 2008.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1								
2	0.06 (0.02)	22 (7)	0.25 (0.08)	0.18 (0.05)	0.05 (0.02)	17 (5)	0.17 (0.05)	0.12 (0.04)
3	0.07 (0.03)	26 (13)	0.29 (0.15)	0.21 (0.11)	0.05 (0.01)	14 (5)	0.14 (0.05)	0.10 (0.03)
4	0.05 (0.02)	20 (6)	0.23 (0.07)	0.16 (0.05)	0.05 (0.01)	15 (4)	0.15 (0.04)	0.10 (0.03)
5	0.05 (0.03)	21 (11)	0.23 (0.12)	0.16 (0.09)	0.04 (0.02)	12 (5)	0.12 (0.05)	0.08 (0.03)
6	0.04 (0.02)	17 (9)	0.19 (0.10)	0.13 (0.07)	0.04 (0.02)	13 (5)	0.13 (0.05)	0.09 (0.03)
7	0.06 (0.01)	23 (5)	0.26 (0.06)	0.18 (0.04)	0.05 (0.01)	14 (3)	0.14 (0.03)	0.10 (0.02)
8								
9								
10								
11	0.04 (0.01)	15 (5)	0.17 (0.06)	0.12 (0.04)	0.04 (0.02)	14 (5)	0.13 (0.05)	0.09 (0.03)
12	0.04 (0.01)	16 (5)	0.19 (0.06)	0.13 (0.04)	0.04 (0.01)	13 (3)	0.13 (0.03)	0.09 (0.02)
13	0.03 (0.01)	13 (6)	0.15 (0.06)	0.11 (0.05)	0.04 (0.01)	14 (5)	0.13 (0.04)	0.09 (0.03)
14								
15								
16	0.08 (0.02)	30 (8)	0.35 (0.10)	0.25 (0.07)	0.07 (0.02)	22 (8)	0.21 (0.07)	0.15 (0.05)
17	0.06 (0.02)	23 (8)	0.27 (0.09)	0.19 (0.07)	0.05 (0.02)	17 (6)	0.16 (0.05)	0.11 (0.04)
18	0.05 (0.02)	19 (6)	0.22 (0.07)	0.16 (0.05)	0.05 (0.01)	15 (3)	0.14 (0.03)	0.10 (0.02)
19	0.04 (0.02)	15 (8)	0.17 (0.09)	0.12 (0.06)	0.03 (0.01)	9 (4)	0.09 (0.04)	0.06 (0.03)
20					0.03 (0.02)	11 (5)	0.10 (0.05)	0.07 (0.03)
21								
22								
23								
24	0.04 (0.01)	15 (4)	0.18 (0.05)	0.13 (0.04)	0.05 (0.01)	15 (4)	0.14 (0.04)	0.10 (0.03)
25					0.04 (0.01)	13 (4)	0.12 (0.04)	0.08 (0.03)
26	0.03 (0.01)	12 (5)	0.15 (0.06)	0.11 (0.04)	0.04 (0.01)	12 (3)	0.11 (0.03)	0.08 (0.02)
27	0.03 (0.02)	13 (8)	0.17 (0.10)	0.12 (0.07)	0.04 (0.02)	11 (5)	0.10 (0.05)	0.07 (0.03)
28	0.04 (0.02)	14 (7)	0.17 (0.09)	0.12 (0.07)	0.04 (0.02)	12 (5)	0.11 (0.04)	0.08 (0.03)
29	0.03 (0.02)	12 (8)	0.15 (0.10)	0.11 (0.07)	0.05 (0.02)	14 (6)	0.13 (0.05)	0.09 (0.04)
30	0.04 (0.01)	15 (5)	0.19 (0.07)	0.14 (0.05)	0.03 (0.01)	10 (2)	0.09 (0.02)	0.06 (0.02)
31	0.06 (0.02)	24 (9)	0.31 (0.12)	0.22 (0.09)	0.05 (0.02)	15 (7)	0.13 (0.06)	0.10 (0.04)
Avg	0.05	18	0.21	0.15	0.04	14	0.13	0.09
n	20	20	20	20	22	22	22	22
SD	0.01	5	0.06	0.04	0.01	3	0.03	0.02
Min	0.03	12	0.15	0.11	0.03	9	0.09	0.06
Max	0.08	30	0.35	0.25	0.07	22	0.21	0.15

Table F9. Daily means (SD) of H₂S emissions at Site WISB for January, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.04 (0.02)	15 (8)	0.20 (0.10)	0.14 (0.07)	0.03 (0.01)	10 (4)	0.09 (0.04)	0.06 (0.03)
2	0.05 (0.02)	18 (6)	0.23 (0.08)	0.16 (0.06)	0.03 (0.01)	11 (3)	0.10 (0.03)	0.07 (0.02)
3	0.04 (0.02)	15 (7)	0.19 (0.08)	0.13 (0.06)	0.03 (0.01)	9 (4)	0.09 (0.04)	0.06 (0.03)
4	0.04 (0.02)	16 (7)	0.20 (0.09)	0.14 (0.06)	0.04 (0.01)	12 (4)	0.11 (0.04)	0.08 (0.03)
5	0.05 (0.03)	18 (11)	0.22 (0.13)	0.16 (0.09)	0.04 (0.01)	13 (3)	0.12 (0.03)	0.09 (0.02)
6	0.04 (0.01)	14 (5)	0.18 (0.06)	0.12 (0.05)	0.03 (0.01)	10 (3)	0.10 (0.03)	0.07 (0.02)
7	0.04 (0.01)	15 (5)	0.19 (0.07)	0.13 (0.05)	0.04 (0.01)	11 (4)	0.11 (0.04)	0.08 (0.03)
8	0.04 (0.01)	14 (5)	0.18 (0.06)	0.13 (0.04)	0.03 (0.01)	10 (4)	0.09 (0.04)	0.07 (0.03)
9	0.04 (0.01)	13 (5)	0.17 (0.07)	0.12 (0.05)	0.03 (0.01)	9 (4)	0.09 (0.03)	0.06 (0.02)
10	0.04 (0.01)	14 (5)	0.17 (0.07)	0.12 (0.05)	0.03 (0.02)	11 (5)	0.10 (0.05)	0.07 (0.03)
11	0.04 (0.01)	14 (5)	0.17 (0.06)	0.12 (0.04)	0.04 (0.01)	11 (4)	0.11 (0.04)	0.08 (0.03)
12								
13								
14	0.06 (0.02)	21 (6)	0.26 (0.08)	0.18 (0.05)	0.05 (0.02)	17 (5)	0.16 (0.05)	0.11 (0.03)
15	0.07 (0.03)	27 (12)	0.32 (0.14)	0.23 (0.10)	0.07 (0.03)	23 (9)	0.22 (0.08)	0.16 (0.06)
16	0.07 (0.02)	27 (7)	0.33 (0.08)	0.23 (0.06)	0.07 (0.02)	21 (6)	0.20 (0.06)	0.14 (0.04)
17	0.05 (0.01)	19 (5)	0.23 (0.06)	0.16 (0.05)	0.05 (0.01)	14 (4)	0.14 (0.03)	0.10 (0.02)
18	0.05 (0.03)	21 (10)	0.25 (0.12)	0.18 (0.09)	0.05 (0.02)	15 (5)	0.15 (0.05)	0.10 (0.03)
19	0.05 (0.03)	20 (11)	0.24 (0.12)	0.17 (0.09)	0.04 (0.01)	14 (4)	0.13 (0.03)	0.09 (0.02)
20	0.05 (0.02)	18 (7)	0.21 (0.08)	0.15 (0.06)	0.04 (0.01)	11 (3)	0.11 (0.03)	0.07 (0.02)
21	0.03 (0.01)	13 (4)	0.15 (0.05)	0.11 (0.04)	0.03 (0.01)	10 (4)	0.09 (0.04)	0.07 (0.03)
22	0.04 (0.02)	14 (6)	0.16 (0.07)	0.12 (0.05)	0.04 (0.01)	13 (3)	0.12 (0.03)	0.09 (0.02)
23	0.04 (0.01)	14 (5)	0.16 (0.06)	0.12 (0.04)	0.03 (0.01)	10 (3)	0.10 (0.03)	0.07 (0.02)
24	0.05 (0.01)	19 (3)	0.22 (0.04)	0.16 (0.03)	0.05 (0.01)	16 (4)	0.15 (0.03)	0.11 (0.02)
25	0.05 (0.01)	21 (5)	0.24 (0.06)	0.17 (0.04)	0.05 (0.01)	15 (4)	0.15 (0.04)	0.10 (0.03)
26	0.06 (0.01)	21 (4)	0.25 (0.05)	0.18 (0.03)	0.04 (0.01)	13 (4)	0.13 (0.03)	0.09 (0.02)
27	0.05 (0.01)	18 (4)	0.21 (0.05)	0.15 (0.03)				
28	0.05 (0.01)	18 (3)	0.21 (0.04)	0.15 (0.03)	0.05 (0.01)	15 (4)	0.14 (0.03)	0.10 (0.02)
29	0.03 (0.01)	13 (3)	0.15 (0.04)	0.11 (0.03)	0.03 (0.01)	10 (3)	0.10 (0.03)	0.07 (0.02)
30	0.04 (0.01)	17 (4)	0.20 (0.05)	0.14 (0.04)	0.04 (0.01)	13 (4)	0.12 (0.04)	0.09 (0.03)
31	0.03 (0.01)	12 (5)	0.14 (0.06)	0.10 (0.04)	0.03 (0.01)	9 (3)	0.09 (0.02)	0.06 (0.02)
Avg	0.04	17	0.21	0.15	0.04	13	0.12	0.09
n	29	29	29	29	28	28	28	28
SD	0.01	4	0.05	0.03	0.01	3	0.03	0.02
Min	0.03	12	0.14	0.10	0.03	9	0.09	0.06
Max	0.07	27	0.33	0.23	0.07	23	0.22	0.16

Table F9. Daily means (SD) of H₂S emissions at Site WISB for February, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.03 (0.01)	11 (4)	0.13 (0.05)	0.09 (0.03)	0.03 (0.01)	10 (4)	0.09 (0.04)	0.07 (0.03)
2	0.04 (0.01)	15 (5)	0.19 (0.06)	0.13 (0.04)	0.04 (0.01)	11 (4)	0.11 (0.03)	0.08 (0.02)
3	0.03 (0.01)	13 (3)	0.16 (0.03)	0.12 (0.02)	0.03 (0.01)	8 (2)	0.08 (0.02)	0.06 (0.01)
4	0.04 (0.01)	15 (3)	0.19 (0.03)	0.13 (0.02)	0.03 (0.01)	10 (2)	0.10 (0.02)	0.07 (0.01)
5	0.03 (0.01)	11 (3)	0.13 (0.04)	0.09 (0.03)	0.03 (0.01)	10 (4)	0.09 (0.04)	0.07 (0.03)
6	0.02 (0.01)	10 (2)	0.12 (0.03)	0.08 (0.02)	0.03 (0.01)	9 (3)	0.09 (0.03)	0.06 (0.02)
7	0.02 (0.01)	9 (4)	0.12 (0.05)	0.08 (0.03)	0.03 (0.01)	10 (3)	0.10 (0.03)	0.07 (0.02)
8	0.03 (0.01)	12 (3)	0.15 (0.04)	0.11 (0.03)	0.04 (0.02)	11 (5)	0.10 (0.05)	0.07 (0.03)
9								
10					0.03 (0.01)	9 (2)	0.09 (0.02)	0.06 (0.02)
11	0.03 (0.01)	13 (4)	0.16 (0.05)	0.11 (0.04)	0.04 (0.02)	13 (5)	0.12 (0.04)	0.08 (0.03)
12	0.03 (0.01)	12 (6)	0.15 (0.07)	0.11 (0.05)	0.04 (0.02)	12 (6)	0.11 (0.06)	0.08 (0.04)
13	0.04 (0.01)	14 (5)	0.17 (0.06)	0.12 (0.04)	0.03 (0.02)	11 (7)	0.10 (0.06)	0.07 (0.05)
14	0.05 (0.03)	18 (10)	0.22 (0.12)	0.16 (0.08)	0.03 (0.01)	10 (3)	0.09 (0.03)	0.07 (0.02)
15	0.05 (0.02)	18 (8)	0.21 (0.09)	0.15 (0.07)	0.04 (0.02)	12 (5)	0.12 (0.05)	0.08 (0.03)
16	0.04 (0.01)	14 (4)	0.17 (0.05)	0.12 (0.03)	0.04 (0.01)	13 (4)	0.12 (0.04)	0.09 (0.03)
17								
18	0.04 (0.02)	16 (6)	0.19 (0.07)	0.13 (0.05)				
19					0.04 (0.01)	13 (4)	0.13 (0.04)	0.09 (0.03)
20					0.04 (0.01)	13 (4)	0.12 (0.03)	0.09 (0.02)
21					0.04 (0.01)	12 (4)	0.11 (0.04)	0.08 (0.03)
22					0.04 (0.01)	12 (3)	0.12 (0.03)	0.08 (0.02)
23					0.04 (0.01)	11 (2)	0.11 (0.02)	0.08 (0.01)
24					0.04 (0.01)	13 (5)	0.12 (0.04)	0.08 (0.03)
25	0.04 (0.02)	15 (6)	0.18 (0.07)	0.13 (0.05)	0.04 (0.01)	13 (3)	0.13 (0.03)	0.09 (0.02)
26	0.05 (0.03)	18 (12)	0.20 (0.15)	0.15 (0.10)	0.04 (0.02)	12 (5)	0.11 (0.05)	0.08 (0.03)
27	0.05 (0.01)	18 (5)	0.21 (0.05)	0.15 (0.04)	0.04 (0.01)	12 (4)	0.11 (0.03)	0.08 (0.02)
28	0.05 (0.02)	19 (7)	0.22 (0.08)	0.16 (0.05)	0.04 (0.01)	12 (2)	0.11 (0.02)	0.08 (0.02)
Avg	0.04	14	0.17	0.12	0.04	11	0.11	0.08
n	19	19	19	19	25	25	25	25
SD	0.01	3	0.03	0.02	0.00	1	0.01	0.01
Min	0.02	9	0.12	0.08	0.03	8	0.08	0.06
Max	0.05	19	0.22	0.16	0.04	13	0.13	0.09

Table F9. Daily means (SD) of H₂S emissions at Site WISB for March, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.05 (0.02)	18 (8)	0.21 (0.09)	0.15 (0.06)	0.03 (0.02)	11 (5)	0.10 (0.05)	0.07 (0.03)
2								
3								
4	0.04 (0.03)	15 (11)	0.17 (0.12)	0.12 (0.09)	0.04 (0.02)	12 (5)	0.11 (0.05)	0.08 (0.03)
5	0.04 (0.01)	16 (5)	0.18 (0.06)	0.13 (0.04)	0.04 (0.02)	14 (5)	0.13 (0.05)	0.09 (0.03)
6	0.04 (0.02)	16 (6)	0.18 (0.07)	0.13 (0.05)	0.04 (0.01)	13 (4)	0.13 (0.04)	0.09 (0.03)
7	0.04 (0.02)	14 (6)	0.16 (0.07)	0.11 (0.05)	0.04 (0.02)	13 (5)	0.13 (0.05)	0.09 (0.03)
8	0.04 (0.02)	14 (6)	0.17 (0.07)	0.12 (0.05)	0.04 (0.02)	11 (5)	0.11 (0.05)	0.08 (0.03)
9	0.03 (0.01)	12 (4)	0.14 (0.05)	0.10 (0.04)	0.04 (0.01)	11 (3)	0.11 (0.03)	0.08 (0.02)
10	0.03 (0.01)	13 (5)	0.16 (0.06)	0.11 (0.04)	0.03 (0.01)	11 (4)	0.10 (0.04)	0.07 (0.03)
11	0.04 (0.01)	15 (5)	0.18 (0.05)	0.13 (0.04)	0.04 (0.01)	12 (4)	0.11 (0.04)	0.08 (0.03)
12	0.04 (0.01)	16 (6)	0.19 (0.07)	0.13 (0.05)	0.04 (0.01)	11 (4)	0.11 (0.04)	0.08 (0.03)
13	0.04 (0.01)	14 (4)	0.16 (0.05)	0.12 (0.03)	0.04 (0.01)	12 (4)	0.11 (0.04)	0.08 (0.03)
14	0.03 (0.01)	13 (5)	0.16 (0.06)	0.11 (0.04)	0.04 (0.01)	14 (4)	0.13 (0.04)	0.09 (0.03)
15	0.04 (0.02)	17 (8)	0.21 (0.10)	0.15 (0.07)	0.05 (0.01)	16 (4)	0.14 (0.04)	0.10 (0.03)
16	0.04 (0.01)	17 (6)	0.21 (0.07)	0.15 (0.05)	0.07 (0.02)	22 (7)	0.21 (0.06)	0.15 (0.04)
17								
18	0.06 (0.03)	21 (11)	0.26 (0.13)	0.18 (0.09)	0.06 (0.02)	19 (5)	0.18 (0.05)	0.13 (0.04)
19	0.05 (0.02)	20 (6)	0.24 (0.08)	0.17 (0.06)	0.05 (0.02)	17 (6)	0.16 (0.06)	0.11 (0.04)
20	0.04 (0.01)	16 (4)	0.19 (0.05)	0.13 (0.04)	0.05 (0.01)	15 (5)	0.15 (0.04)	0.10 (0.03)
21	0.07 (0.03)	26 (13)	0.31 (0.15)	0.22 (0.11)	0.07 (0.02)	23 (8)	0.22 (0.07)	0.15 (0.05)
22					0.06 (0.02)	20 (6)	0.19 (0.06)	0.14 (0.04)
23					0.06 (0.02)	17 (6)	0.17 (0.06)	0.12 (0.04)
24					0.07 (0.02)	23 (6)	0.22 (0.06)	0.16 (0.04)
25					0.06 (0.02)	19 (7)	0.18 (0.06)	0.13 (0.04)
26								
27								
28								
29								
30					0.04 (0.01)	14 (4)	0.13 (0.03)	0.09 (0.02)
31					0.05 (0.01)	16 (4)	0.15 (0.04)	0.11 (0.03)
Avg	0.04	16	0.19	0.14	0.05	15	0.15	0.10
n	18	18	18	18	24	24	24	24
SD	0.01	3	0.04	0.03	0.01	4	0.04	0.03
Min	0.03	12	0.14	0.10	0.03	11	0.10	0.07
Max	0.07	26	0.31	0.22	0.07	23	0.22	0.16

Table F9. Daily means (SD) of H₂S emissions at Site WI5B for April, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.04 (0.01)	16 (3)	0.19 (0.03)	0.14 (0.02)	0.05 (0.01)	14 (4)	0.13 (0.04)	0.09 (0.03)
2	0.06 (0.03)	25 (12)	0.30 (0.14)	0.21 (0.10)	0.06 (0.02)	18 (7)	0.17 (0.07)	0.12 (0.05)
3	0.07 (0.04)	26 (15)	0.31 (0.17)	0.22 (0.12)				
4	0.05 (0.02)	20 (7)	0.23 (0.08)	0.16 (0.06)	0.05 (0.01)	14 (4)	0.13 (0.04)	0.10 (0.03)
5	0.04 (0.01)	17 (5)	0.20 (0.06)	0.14 (0.04)				
6	0.04 (0.02)	17 (8)	0.20 (0.09)	0.14 (0.07)				
7	0.07 (0.04)	28 (15)	0.33 (0.18)	0.23 (0.13)	0.06 (0.02)	18 (7)	0.17 (0.07)	0.12 (0.05)
8	0.05 (0.02)	21 (7)	0.24 (0.08)	0.17 (0.06)	0.05 (0.01)	15 (4)	0.14 (0.04)	0.10 (0.03)
9	0.05 (0.02)	19 (8)	0.22 (0.10)	0.16 (0.07)				
10	0.04 (0.02)	17 (6)	0.20 (0.07)	0.14 (0.05)				
11	0.05 (0.02)	19 (8)	0.23 (0.09)	0.16 (0.07)	0.05 (0.02)	16 (7)	0.15 (0.07)	0.11 (0.05)
12	0.04 (0.02)	16 (6)	0.19 (0.07)	0.14 (0.05)	0.05 (0.02)	16 (5)	0.15 (0.05)	0.11 (0.04)
13	0.04 (0.02)	17 (7)	0.20 (0.08)	0.14 (0.06)	0.05 (0.02)	17 (6)	0.16 (0.06)	0.11 (0.04)
14	0.08 (0.03)	30 (11)	0.35 (0.13)	0.25 (0.09)	0.07 (0.02)	21 (6)	0.20 (0.06)	0.14 (0.04)
15	0.05 (0.02)	18 (7)	0.21 (0.08)	0.15 (0.06)	0.09 (0.03)	27 (10)	0.25 (0.09)	0.18 (0.07)
16	0.06 (0.02)	22 (7)	0.26 (0.09)	0.19 (0.06)	0.08 (0.04)	26 (14)	0.25 (0.13)	0.18 (0.09)
17	0.04 (0.04)	16 (15)	0.19 (0.18)	0.14 (0.13)	0.12 (0.04)	36 (12)	0.33 (0.11)	0.24 (0.08)
18	0.11 (0.04)	44 (16)	0.53 (0.19)	0.37 (0.14)				
19	0.09 (0.03)	33 (11)	0.41 (0.14)	0.29 (0.10)				
20	0.08 (0.04)	31 (15)	0.37 (0.18)	0.27 (0.13)				
21	0.07 (0.03)	28 (11)	0.34 (0.14)	0.24 (0.10)				
22	0.07 (0.03)	27 (10)	0.33 (0.12)	0.23 (0.08)				
23				0.14 (0.10)	43 (33)	0.40 (0.30)	0.28 (0.21)	
24	0.10 (0.03)	39 (11)	0.47 (0.13)	0.33 (0.09)				
25	0.06 (0.02)	25 (7)	0.30 (0.09)	0.21 (0.06)				
26				0.12 (0.06)	37 (19)	0.34 (0.18)	0.24 (0.13)	
27	0.08 (0.03)	30 (10)	0.35 (0.12)	0.25 (0.08)	0.11 (0.03)	34 (10)	0.31 (0.09)	0.22 (0.07)
28								
29	0.08 (0.03)	30 (12)	0.36 (0.15)	0.26 (0.10)	0.07 (0.03)	23 (9)	0.20 (0.08)	0.14 (0.05)
30	0.08 (0.03)	31 (13)	0.38 (0.16)	0.27 (0.12)				
Avg	0.06	24	0.29	0.21	0.08	23	0.22	0.16
n	27	27	27	27	16	16	16	16
SD	0.02	7	0.09	0.06	0.03	9	0.08	0.06
Min	0.04	16	0.19	0.14	0.05	14	0.13	0.09
Max	0.11	44	0.53	0.37	0.14	43	0.40	0.28

Table F9. Daily means (SD) of H₂S emissions at Site WISB for May, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					0.11 (0.03)	35 (11)	0.29 (0.09)	0.21 (0.06)
2					-0.14 (0.27)	-45 (83)	-0.37 (0.68)	-0.26 (0.49)
3					0.14 (0.05)	44 (14)	0.36 (0.12)	0.26 (0.08)
4					0.15 (0.04)	46 (12)	0.38 (0.10)	0.27 (0.07)
5					0.12 (0.03)	38 (9)	0.32 (0.07)	0.23 (0.05)
6								
7								
8								
9								
10								
11					0.09 (0.02)	27 (7)	0.24 (0.07)	0.17 (0.05)
12					0.13 (0.05)	41 (15)	0.36 (0.13)	0.25 (0.09)
13					0.19 (0.05)	58 (16)	0.51 (0.14)	0.36 (0.10)
14								
15								
16								
17								
18								
19	0.14 (0.05)	54 (18)	0.64 (0.21)	0.45 (0.15)	0.15 (0.05)	45 (15)	0.41 (0.13)	0.29 (0.10)
20	0.12 (0.03)	45 (11)	0.53 (0.13)	0.38 (0.09)	0.22 (0.06)	69 (18)	0.62 (0.16)	0.44 (0.12)
21								
22								
23								
24					0.14 (0.04)	44 (11)	0.40 (0.10)	0.29 (0.07)
25					0.14 (0.04)	45 (13)	0.41 (0.12)	0.29 (0.08)
26					0.15 (0.05)	47 (16)	0.43 (0.14)	0.31 (0.10)
27					0.16 (0.04)	51 (13)	0.47 (0.12)	0.33 (0.08)
28								
29								
30								
31					0.15 (0.07)	47 (22)	0.43 (0.20)	0.30 (0.14)
					0.18 (0.06)	57 (19)	0.52 (0.17)	0.37 (0.12)
Avg	0.13	49	0.58	0.41	0.13	42	0.37	0.27
n	2	2	2	2	18	18	18	18
SD	0.01	5	0.06	0.04	0.08	24	0.21	0.15
Min	0.12	45	0.53	0.38	-0.14	-45	-0.37	-0.26
Max	0.14	54	0.64	0.45	0.22	70	0.63	0.45

Table F9. Daily means (SD) of H₂S emissions at Site W15B for June, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					0.09 (0.09)	28 (30)	0.25 (0.27)	0.18 (0.19)
2								
3								
4	0.11 (0.11)	43 (40)	0.49 (0.46)	0.35 (0.33)	0.20 (0.10)	61 (30)	0.56 (0.28)	0.40 (0.20)
5	0.13 (0.07)	51 (25)	0.58 (0.29)	0.41 (0.21)				
6					0.10 (0.04)	32 (12)	0.30 (0.11)	0.22 (0.08)
7					0.11 (0.04)	35 (12)	0.33 (0.11)	0.24 (0.08)
8	0.10 (0.03)	38 (11)	0.43 (0.12)	0.31 (0.09)	0.13 (0.03)	39 (11)	0.37 (0.10)	0.26 (0.07)
9	0.14 (0.07)	52 (26)	0.59 (0.29)	0.42 (0.21)	0.21 (0.07)	64 (21)	0.60 (0.20)	0.43 (0.14)
10	0.11 (0.03)	41 (12)	0.47 (0.14)	0.34 (0.10)	0.14 (0.04)	45 (11)	0.43 (0.11)	0.30 (0.07)
11	0.08 (0.04)	33 (14)	0.37 (0.17)	0.27 (0.12)	0.20 (0.10)	63 (32)	0.61 (0.31)	0.43 (0.22)
12	0.13 (0.06)	51 (23)	0.59 (0.26)	0.42 (0.19)	0.14 (0.06)	43 (17)	0.41 (0.16)	0.29 (0.12)
13	0.13 (0.08)	50 (30)	0.58 (0.35)	0.41 (0.25)	0.10 (0.17)	32 (52)	0.31 (0.50)	0.22 (0.36)
14	0.18 (0.13)	70 (48)	0.82 (0.56)	0.58 (0.40)	0.10 (0.14)	30 (45)	0.29 (0.43)	0.21 (0.31)
15	0.12 (0.14)	45 (52)	0.53 (0.62)	0.38 (0.44)	0.20 (0.09)	62 (29)	0.60 (0.29)	0.43 (0.20)
16	0.11 (0.05)	44 (19)	0.52 (0.23)	0.37 (0.16)	0.20 (0.08)	61 (24)	0.60 (0.23)	0.42 (0.17)
17	0.11 (0.05)	41 (17)	0.49 (0.21)	0.35 (0.15)	0.17 (0.06)	54 (19)	0.52 (0.18)	0.37 (0.13)
18	0.12 (0.05)	46 (21)	0.54 (0.25)	0.39 (0.18)	0.15 (0.07)	47 (23)	0.46 (0.22)	0.33 (0.16)
19	0.27 (0.15)	102 (57)	1.21 (0.67)	0.86 (0.48)	0.19 (0.14)	58 (45)	0.55 (0.43)	0.39 (0.31)
20	0.25 (0.23)	97 (88)	1.14 (1.04)	0.81 (0.74)	0.37 (0.19)	116 (58)	1.11 (0.55)	0.79 (0.39)
21	0.12 (0.07)	44 (25)	0.52 (0.30)	0.37 (0.21)	0.24 (0.12)	74 (38)	0.71 (0.37)	0.50 (0.26)
22	0.26 (0.13)	100 (50)	1.17 (0.58)	0.84 (0.41)	-0.01 (0.12)	-5 (39)	-0.04 (0.37)	-0.03 (0.26)
23								
24								
25								
26								
27								
28								
29								
30								
Avg	0.15	56	0.65	0.46	0.16	49	0.47	0.34
n	17	17	17	17	19	19	19	19
SD	0.06	22	0.26	0.18	0.08	24	0.23	0.16
Min	0.08	33	0.37	0.27	-0.01	-5	-0.04	-0.03
Max	0.27	102	1.21	0.86	0.37	116	1.11	0.79

Table F9. Daily means (SD) of H₂S emissions at Site WISB for July, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.15 (0.08)	57 (30)	0.65 (0.35)	0.46 (0.25)				
2								
3								
4								
5								
6								
7	0.18 (0.08)	71 (32)	0.82 (0.37)	0.59 (0.26)	0.24 (0.12)	73 (38)	0.70 (0.37)	0.50 (0.26)
8	0.12 (0.04)	48 (15)	0.55 (0.17)	0.39 (0.12)	0.21 (0.08)	66 (26)	0.63 (0.25)	0.45 (0.18)
9	0.14 (0.07)	55 (26)	0.65 (0.31)	0.46 (0.22)	0.19 (0.06)	60 (18)	0.56 (0.17)	0.40 (0.12)
10	0.37 (0.18)	140 (69)	1.64 (0.81)	1.17 (0.57)	0.34 (0.54)	107 (169)	1.00 (1.58)	0.71 (1.12)
11	0.28 (0.11)	109 (41)	1.27 (0.48)	0.91 (0.34)	0.14 (0.06)	45 (20)	0.41 (0.18)	0.29 (0.13)
12	0.20 (0.11)	78 (44)	0.92 (0.52)	0.65 (0.37)	0.30 (0.19)	93 (59)	0.85 (0.54)	0.60 (0.38)
13	0.11 (0.05)	41 (19)	0.49 (0.22)	0.35 (0.16)	0.21 (0.09)	67 (28)	0.60 (0.26)	0.43 (0.18)
14	0.13 (0.04)	52 (14)	0.63 (0.17)	0.45 (0.12)	0.23 (0.10)	71 (30)	0.63 (0.27)	0.45 (0.19)
15	0.27 (0.11)	103 (42)	1.28 (0.51)	0.91 (0.37)	0.25 (0.12)	78 (37)	0.69 (0.33)	0.49 (0.24)
16	0.21 (0.10)	80 (37)	1.01 (0.46)	0.72 (0.33)				
17	0.13 (0.05)	48 (17)	0.62 (0.23)	0.44 (0.16)				
18	0.16 (0.06)	62 (24)	0.82 (0.31)	0.58 (0.22)				
19	0.16 (0.08)	59 (30)	0.80 (0.40)	0.57 (0.29)	0.24 (0.13)	76 (40)	0.65 (0.34)	0.46 (0.24)
20	0.12 (0.06)	44 (23)	0.61 (0.31)	0.43 (0.22)	0.29 (0.08)	91 (25)	0.77 (0.21)	0.55 (0.15)
21	0.20 (0.16)	77 (62)	1.06 (0.85)	0.75 (0.60)	0.17 (0.17)	51 (54)	0.43 (0.45)	0.31 (0.32)
22	0.19 (0.18)	75 (68)	1.03 (0.94)	0.73 (0.67)	0.31 (0.15)	95 (48)	0.80 (0.40)	0.57 (0.29)
23	0.09 (0.13)	34 (49)	0.47 (0.67)	0.33 (0.48)	0.11 (0.13)	33 (42)	0.28 (0.35)	0.20 (0.25)
24	0.14 (0.10)	54 (40)	0.75 (0.55)	0.53 (0.39)	0.30 (0.19)	93 (58)	0.78 (0.49)	0.56 (0.35)
25	0.16 (0.07)	63 (26)	0.87 (0.36)	0.62 (0.25)	0.21 (0.10)	66 (32)	0.55 (0.27)	0.39 (0.19)
26	0.08 (0.07)	30 (27)	0.41 (0.38)	0.29 (0.27)	0.27 (0.16)	85 (49)	0.71 (0.41)	0.51 (0.29)
27	0.14 (0.10)	53 (37)	0.73 (0.51)	0.52 (0.36)	0.14 (0.11)	44 (34)	0.37 (0.29)	0.26 (0.21)
28	0.12 (0.08)	47 (31)	0.64 (0.42)	0.46 (0.30)	0.23 (0.12)	70 (38)	0.59 (0.33)	0.42 (0.23)
29	0.25 (0.11)	97 (42)	1.30 (0.56)	0.93 (0.40)	-0.21 (0.22)	-65 (69)	-0.55 (0.58)	-0.39 (0.42)
30	0.24 (0.11)	92 (44)	1.23 (0.58)	0.87 (0.41)	0.09 (0.16)	28 (49)	0.24 (0.42)	0.17 (0.30)
31	0.25 (0.19)	95 (74)	1.25 (0.97)	0.89 (0.69)	0.16 (0.09)	51 (27)	0.44 (0.23)	0.31 (0.17)
Avg	0.18	68	0.86	0.62	0.20	63	0.55	0.39
n	26	26	26	26	22	22	22	22
SD	0.07	26	0.31	0.22	0.11	35	0.30	0.22
Min	0.08	30	0.41	0.29	-0.21	-65	-0.55	-0.39
Max	0.37	140	1.64	1.17	0.34	107	1.00	0.71

Table F9. Daily means (SD) of H₂S emissions at Site WISB for August, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.23 (0.10)	89 (37)	1.15 (0.47)	0.82 (0.34)				
2	0.21 (0.35)	81 (134)	1.04 (1.72)	0.74 (1.22)				
3	0.25 (0.19)	98 (72)	1.26 (0.92)	0.90 (0.66)	0.25 (0.09)	77 (28)	0.66 (0.24)	0.47 (0.17)
4	0.06 (0.14)	23 (53)	0.30 (0.69)	0.22 (0.49)	0.13 (0.11)	41 (34)	0.35 (0.29)	0.25 (0.20)
5	0.17 (0.08)	64 (32)	0.85 (0.42)	0.60 (0.30)	0.17 (0.16)	52 (51)	0.45 (0.43)	0.32 (0.31)
6	0.20 (0.11)	77 (42)	1.03 (0.56)	0.73 (0.40)	0.19 (0.10)	60 (32)	0.51 (0.27)	0.36 (0.20)
7	0.13 (0.03)	49 (12)	0.67 (0.16)	0.48 (0.11)	0.27 (0.15)	83 (47)	0.70 (0.39)	0.50 (0.28)
8	0.20 (0.06)	76 (25)	1.04 (0.34)	0.74 (0.24)	0.18 (0.07)	57 (23)	0.48 (0.19)	0.34 (0.14)
9	0.23 (0.12)	87 (44)	1.21 (0.62)	0.86 (0.44)				
10	0.23 (0.10)	89 (38)	1.24 (0.53)	0.88 (0.38)	0.21 (0.12)	64 (39)	0.53 (0.32)	0.38 (0.23)
11	0.17 (0.23)	67 (87)	0.94 (1.22)	0.67 (0.87)	0.29 (0.19)	92 (59)	0.76 (0.49)	0.54 (0.35)
12	0.15 (0.12)	56 (46)	0.78 (0.64)	0.56 (0.46)	0.21 (0.11)	65 (33)	0.54 (0.28)	0.38 (0.20)
13	0.13 (0.06)	50 (23)	0.70 (0.32)	0.50 (0.23)	0.23 (0.15)	70 (46)	0.58 (0.38)	0.41 (0.27)
14	0.19 (0.11)	72 (41)	1.01 (0.57)	0.72 (0.41)	0.15 (0.13)	46 (42)	0.38 (0.34)	0.27 (0.24)
15	0.07 (0.03)	28 (10)	0.40 (0.15)	0.28 (0.10)	0.19 (0.14)	59 (44)	0.48 (0.36)	0.34 (0.26)
16	0.18 (0.11)	70 (44)	0.99 (0.62)	0.70 (0.44)	0.11 (0.31)	35 (96)	0.28 (0.78)	0.20 (0.56)
17	0.23 (0.09)	89 (34)	1.25 (0.48)	0.89 (0.34)	0.22 (0.14)	69 (42)	0.56 (0.34)	0.40 (0.24)
18	0.19 (0.10)	72 (37)	1.01 (0.52)	0.72 (0.37)	0.22 (0.07)	67 (22)	0.55 (0.18)	0.39 (0.13)
19	0.25 (0.35)	96 (132)	1.36 (1.86)	0.96 (1.33)	0.22 (0.06)	67 (20)	0.55 (0.16)	0.39 (0.12)
20	0.13 (0.21)	50 (82)	0.70 (1.15)	0.50 (0.82)				
21	0.14 (0.05)	52 (20)	0.73 (0.29)	0.52 (0.20)				
22	0.17 (0.07)	64 (26)	0.91 (0.37)	0.64 (0.26)	-0.29 (0.27)	-89 (84)	-0.73 (0.69)	-0.52 (0.49)
23	0.15 (0.04)	58 (17)	0.82 (0.23)	0.58 (0.17)	0.06 (0.19)	17 (58)	0.14 (0.47)	0.10 (0.34)
24	0.07 (0.04)	27 (16)	0.38 (0.23)	0.27 (0.16)	0.21 (0.06)	65 (20)	0.53 (0.16)	0.38 (0.11)
25	0.23 (0.18)	88 (71)	1.25 (1.00)	0.89 (0.71)	0.46 (0.60)	143 (186)	1.17 (1.52)	0.83 (1.08)
26	0.07 (0.04)	26 (16)	0.36 (0.22)	0.26 (0.16)	0.20 (0.06)	64 (19)	0.52 (0.16)	0.37 (0.11)
27	0.17 (0.12)	64 (44)	0.90 (0.62)	0.64 (0.44)	0.20 (0.09)	64 (27)	0.52 (0.22)	0.37 (0.16)
28	0.18 (0.07)	68 (27)	0.95 (0.38)	0.68 (0.27)				
29	0.12 (0.02)	45 (9)	0.63 (0.13)	0.45 (0.09)				
30	0.14 (0.12)	54 (46)	0.76 (0.65)	0.54 (0.46)	0.33 (0.21)	103 (64)	0.84 (0.52)	0.60 (0.37)
31	0.20 (0.11)	75 (43)	1.06 (0.61)	0.76 (0.43)	0.27 (0.16)	84 (50)	0.68 (0.41)	0.49 (0.29)
Avg	0.17	65	0.89	0.64	0.19	61	0.50	0.36
n	31	31	31	31	24	24	24	24
SD	0.05	21	0.28	0.20	0.13	39	0.32	0.23
Min	0.06	23	0.30	0.22	-0.29	-89	-0.73	-0.52
Max	0.25	98	1.36	0.96	0.46	143	1.17	0.83

Table F9. Daily means (SD) of H₂S emissions at Site WISB for September, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1	0.20 (0.07)	78 (27)	1.09 (0.38)	0.78 (0.27)	0.22 (0.08)	68 (25)	0.55 (0.20)	0.39 (0.14)
2	0.13 (0.05)	51 (19)	0.72 (0.27)	0.52 (0.19)	0.15 (0.07)	46 (21)	0.38 (0.17)	0.27 (0.12)
3	0.17 (0.07)	65 (29)	0.92 (0.41)	0.65 (0.29)	0.22 (0.14)	68 (45)	0.55 (0.36)	0.39 (0.26)
4	0.16 (0.08)	60 (31)	0.85 (0.44)	0.61 (0.32)	0.19 (0.08)	58 (25)	0.47 (0.20)	0.34 (0.15)
5	0.14 (0.08)	53 (31)	0.75 (0.43)	0.53 (0.31)	0.24 (0.09)	75 (28)	0.60 (0.22)	0.43 (0.16)
6	0.18 (0.09)	69 (36)	0.97 (0.51)	0.69 (0.36)	0.13 (0.06)	39 (20)	0.32 (0.16)	0.23 (0.12)
7	0.12 (0.04)	47 (16)	0.66 (0.23)	0.47 (0.17)	0.17 (0.06)	53 (19)	0.43 (0.16)	0.31 (0.11)
8	0.09 (0.15)	33 (58)	0.46 (0.82)	0.33 (0.58)	0.17 (0.06)	54 (19)	0.44 (0.16)	0.31 (0.11)
9	0.15 (0.09)	57 (33)	0.79 (0.46)	0.56 (0.32)	0.18 (0.07)	56 (21)	0.46 (0.18)	0.33 (0.12)
10	0.07 (0.08)	26 (30)	0.36 (0.41)	0.26 (0.29)	0.12 (0.12)	37 (36)	0.31 (0.30)	0.22 (0.21)
11	0.17 (0.09)	67 (33)	0.92 (0.46)	0.65 (0.32)	0.15 (0.13)	47 (40)	0.39 (0.33)	0.28 (0.24)
12	0.15 (0.11)	57 (41)	0.78 (0.57)	0.56 (0.40)	0.25 (0.25)	79 (77)	0.66 (0.64)	0.47 (0.46)
13	0.13 (0.20)	49 (77)	0.67 (1.05)	0.48 (0.75)	0.17 (0.18)	54 (57)	0.45 (0.47)	0.32 (0.34)
14	0.22 (0.11)	86 (41)	1.17 (0.56)	0.83 (0.40)	0.36 (0.20)	112 (62)	0.94 (0.52)	0.67 (0.37)
15	0.20 (0.14)	76 (52)	1.05 (0.72)	0.75 (0.51)	0.21 (0.12)	65 (39)	0.55 (0.33)	0.39 (0.23)
16	0.13 (0.05)	50 (19)	0.70 (0.26)	0.50 (0.19)	0.16 (0.06)	50 (20)	0.42 (0.17)	0.30 (0.12)
17	0.20 (0.16)	77 (60)	1.07 (0.84)	0.76 (0.59)	0.12 (0.16)	36 (48)	0.31 (0.41)	0.22 (0.29)
18	0.26 (0.21)	100 (79)	1.40 (1.11)	0.99 (0.79)	0.12 (0.21)	37 (66)	0.32 (0.56)	0.23 (0.40)
19	0.18 (0.12)	69 (47)	0.98 (0.66)	0.70 (0.47)	0.17 (0.07)	54 (21)	0.47 (0.18)	0.33 (0.13)
20	0.13 (0.06)	51 (24)	0.72 (0.34)	0.51 (0.25)	0.17 (0.08)	53 (24)	0.46 (0.21)	0.32 (0.15)
21	0.10 (0.06)	39 (22)	0.56 (0.31)	0.40 (0.22)	0.17 (0.04)	53 (14)	0.46 (0.12)	0.33 (0.09)
22	0.14 (0.11)	55 (40)	0.78 (0.57)	0.55 (0.40)	0.16 (0.03)	51 (11)	0.44 (0.09)	0.31 (0.06)
23	0.15 (0.06)	58 (23)	0.81 (0.32)	0.58 (0.23)	0.17 (0.07)	52 (21)	0.45 (0.18)	0.32 (0.13)
24	0.08 (0.04)	30 (15)	0.42 (0.21)	0.30 (0.15)	0.20 (0.07)	62 (22)	0.54 (0.19)	0.38 (0.14)
25	0.13 (0.06)	51 (24)	0.71 (0.33)	0.51 (0.24)	0.18 (0.05)	55 (16)	0.47 (0.14)	0.34 (0.10)
26	0.14 (0.05)	55 (20)	0.76 (0.28)	0.54 (0.20)	0.17 (0.09)	54 (27)	0.46 (0.23)	0.33 (0.16)
27	0.28 (0.22)	106 (85)	1.47 (1.17)	1.04 (0.83)				
28	0.11 (0.18)	42 (69)	0.58 (0.95)	0.41 (0.68)				
29								
30	0.07 (0.02)	26 (7)	0.36 (0.10)	0.25 (0.07)	0.10 (0.05)	32 (15)	0.28 (0.13)	0.20 (0.09)
Avg	0.15	58	0.81	0.58	0.18	56	0.47	0.33
n	29	29	29	29	27	27	27	27
SD	0.05	19	0.27	0.19	0.05	16	0.13	0.09
Min	0.07	26	0.36	0.25	0.10	32	0.28	0.20
Max	0.28	106	1.47	1.04	0.36	112	0.94	0.67

Table F9. Daily means (SD) of H₂S emissions at Site WISB for October, 2009.

Day	Barn 1				Barn 2			
	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹	kg·d ⁻¹	mg·d ⁻¹ m ⁻²	g·d ⁻¹ hd ⁻¹	g·d ⁻¹ AU ⁻¹
1					-0.17 (0.29)			
2	0.09 (0.03)	34 (11)	0.45 (0.14)	0.32 (0.10)				
3	0.09 (0.03)	34 (11)	0.46 (0.15)	0.32 (0.10)				
4	0.11 (0.04)	42 (17)	0.56 (0.22)	0.40 (0.16)				
5	0.09 (0.02)	33 (9)	0.43 (0.13)	0.31 (0.09)				
6								
7	0.08 (0.03)	30 (13)	0.40 (0.18)	0.28 (0.12)				
8	0.11 (0.05)	40 (19)	0.53 (0.25)	0.38 (0.18)				
9	0.08 (0.03)	29 (12)	0.38 (0.16)	0.27 (0.11)				
10	0.08 (0.07)	30 (27)	0.40 (0.35)	0.28 (0.25)	0.09 (0.02)	29 (6)	0.25 (0.05)	0.18 (0.04)
11	0.04 (0.02)	14 (9)	0.18 (0.11)	0.13 (0.08)	0.09 (0.04)	27 (12)	0.23 (0.10)	0.16 (0.07)
12	0.05 (0.02)	19 (6)	0.24 (0.08)	0.17 (0.05)	0.08 (0.03)	24 (10)	0.21 (0.08)	0.15 (0.06)
13	0.04 (0.01)	17 (4)	0.21 (0.06)	0.15 (0.04)	0.08 (0.03)	24 (9)	0.20 (0.08)	0.14 (0.06)
14	0.06 (0.06)	21 (22)	0.27 (0.28)	0.19 (0.20)	0.08 (0.04)	24 (13)	0.21 (0.11)	0.15 (0.08)
15	0.04 (0.02)	17 (7)	0.22 (0.09)	0.15 (0.06)	0.07 (0.02)	22 (6)	0.19 (0.05)	0.14 (0.04)
16	0.05 (0.01)	18 (4)	0.23 (0.06)	0.16 (0.04)	0.08 (0.03)	26 (9)	0.22 (0.07)	0.16 (0.05)
17	0.05 (0.01)	18 (5)	0.23 (0.07)	0.16 (0.05)	0.08 (0.03)	24 (9)	0.21 (0.07)	0.15 (0.05)
18	0.05 (0.02)	20 (6)	0.25 (0.07)	0.18 (0.05)	0.10 (0.04)	32 (12)	0.28 (0.10)	0.20 (0.07)
19	0.07 (0.04)	26 (14)	0.32 (0.18)	0.23 (0.13)	0.11 (0.04)	35 (11)	0.30 (0.10)	0.21 (0.07)
20	0.06 (0.02)	23 (8)	0.30 (0.10)	0.21 (0.07)	0.12 (0.06)	37 (19)	0.32 (0.16)	0.23 (0.12)
21								
22	0.06 (0.02)	23 (8)	0.30 (0.11)	0.22 (0.08)				
23	0.05 (0.01)	19 (3)	0.26 (0.05)	0.18 (0.03)				
24	0.06 (0.06)	24 (23)	0.32 (0.31)	0.23 (0.22)	0.08 (0.03)	26 (11)	0.22 (0.09)	0.16 (0.06)
25	0.05 (0.04)	19 (16)	0.26 (0.22)	0.19 (0.15)	0.09 (0.03)	28 (11)	0.24 (0.09)	0.17 (0.06)
26	0.08 (0.04)	31 (14)	0.43 (0.19)	0.31 (0.14)	0.11 (0.05)	34 (14)	0.28 (0.12)	0.20 (0.08)
27	0.04 (0.01)	16 (5)	0.22 (0.06)	0.15 (0.04)	0.11 (0.04)	33 (11)	0.28 (0.09)	0.20 (0.07)
28	0.06 (0.02)	24 (7)	0.33 (0.09)	0.24 (0.06)	0.11 (0.05)	35 (15)	0.30 (0.12)	0.21 (0.09)
29					0.13 (0.04)	40 (13)	0.34 (0.11)	0.24 (0.08)
30	0.03 (0.12)	10 (46)	0.14 (0.62)	0.10 (0.44)	0.03 (0.06)	9 (18)	0.08 (0.16)	0.05 (0.11)
31	0.11 (0.04)	42 (16)	0.56 (0.22)	0.40 (0.15)	0.08 (0.02)	25 (6)	0.22 (0.05)	0.15 (0.04)
Avg	0.07	25	0.33	0.23	0.08	24	0.20	0.15
n	27	27	27	27	20	20	20	20
SD	0.02	8	0.11	0.08	0.06	19	0.16	0.11
Min	0.03	10	0.14	0.10	-0.17	-53	-0.45	-0.32
Max	0.11	42	0.56	0.40	0.13	40	0.34	0.24

Table F10. Ammonia concentrations.**Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for September, 2007. MDL = 0.2 ppm.**

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	0.4 (0.0)	0.3 (0.0)	1.2 (0.1)	0.8 (0.1)	0.4 (0.0)	0.3 (0.0)	1.5 (0.3)	1.1 (0.2)
13	0.5 (0.1)	0.3 (0.1)	1.3 (0.1)	0.9 (0.1)	0.4 (0.0)	0.3 (0.0)	1.7 (0.1)	1.2 (0.1)
14								
15								
16								
17								
18								
19								
20								
21	0.2 (0.0)	0.2 (0.0)			0.3 (0.1)	0.2 (0.1)		
22	0.2 (0.0)	0.1 (0.0)	1.0 (0.3)	0.7 (0.2)	0.2 (0.1)	0.1 (0.1)	1.2 (0.3)	0.8 (0.2)
23	0.2 (0.1)	0.2 (0.0)	0.9 (0.2)	0.6 (0.2)	0.3 (0.1)	0.2 (0.0)	1.0 (0.2)	0.7 (0.1)
24	0.3 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)			0.9 (0.2)	0.7 (0.2)
25	0.2 (0.0)	0.2 (0.0)	1.1 (0.3)	0.8 (0.2)			1.4 (0.2)	1.0 (0.1)
26	0.2 (0.0)	0.2 (0.0)	1.2 (0.2)	0.8 (0.2)			1.4 (0.1)	1.0 (0.1)
27	0.3 (0.1)	0.2 (0.1)	1.1 (0.2)	0.8 (0.1)			1.2 (0.3)	0.8 (0.2)
28	0.2 (0.1)	0.2 (0.0)	1.1 (0.2)	0.8 (0.2)			1.2 (0.2)	0.9 (0.2)
29	0.2 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)	0.2 (0.0)	0.2 (0.0)	1.2 (0.3)	0.9 (0.2)
30	0.2 (0.1)	0.2 (0.0)	1.0 (0.3)	0.7 (0.2)	0.2 (0.0)	0.2 (0.0)	1.1 (0.3)	0.7 (0.2)
Avg	0.3	0.2	1	0.7	0.3	0.2	1.3	0.9
n	12	12	11	11	7	7	11	11
SD	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2
Min	0.2	0.1	0.7	0.5	0.2	0.1	0.9	0.7
Max	0.5	0.3	1.3	0.9	0.4	0.3	1.7	1.2

Table F10. Daily means (SD) of NH₃ concentrations at Site WI5B for October, 2007. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.0)	0.2 (0.0)	1.4 (0.1)	1.0 (0.1)	0.2 (0.0)	0.2 (0.0)	1.3 (0.2)	0.9 (0.1)
2	0.3 (0.0)	0.2 (0.0)	1.1 (0.2)	0.8 (0.1)	0.3 (0.0)	0.2 (0.0)	1.3 (0.3)	0.9 (0.2)
3	0.1 (0.0)	0.1 (0.0)	1.0 (0.3)	0.7 (0.2)	0.2 (0.0)	0.2 (0.0)	1.1 (0.3)	0.8 (0.2)
4	0.2 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)	0.3 (0.1)	0.2 (0.1)	1.1 (0.2)	0.8 (0.2)
5	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)		0.4 (0.1)	0.3 (0.1)	0.8 (0.1)	
6	0.3 (0.0)	0.2 (0.0)	0.7 (0.0)	0.5 (0.0)	0.4 (0.0)	0.3 (0.0)	0.8 (0.1)	0.6 (0.1)
7	0.3 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.5 (0.1)	0.3 (0.0)	0.8 (0.1)	0.6 (0.1)
8	0.3 (0.0)	0.2 (0.0)			0.3 (0.1)	0.2 (0.1)		
9	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)
10	0.1 (0.0)	0.1 (0.0)			0.1 (0.0)	0.1 (0.0)		
11	0.1 (0.0)	0.1 (0.0)			0.1 (0.0)	0.1 (0.0)		
12	0.1 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)
13	0.2 (0.1)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
14	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.7 (0.0)	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
15	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)	0.2 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
16	0.2 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)	0.2 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.1)
17	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.2 (0.0)	0.2 (0.0)	1.4 (0.2)	1.0 (0.1)
18	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.2 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.2)
19	0.2 (0.1)	0.1 (0.0)	1.2 (0.1)	0.8 (0.1)	0.1 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.2)
20	0.2 (0.1)	0.1 (0.1)	0.9 (0.1)	0.6 (0.1)	0.2 (0.1)	0.2 (0.0)	1.2 (0.2)	0.8 (0.2)
21	0.2 (0.0)	0.2 (0.0)			0.4 (0.0)	0.3 (0.0)		
22	0.2 (0.0)	0.2 (0.0)			0.3 (0.2)	0.2 (0.1)		
23	0.2 (0.0)	0.2 (0.0)	1.1 (0.2)	0.8 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
24	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.7 (0.1)
25	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)
26	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)
27	0.1 (0.0)	0.1 (0.0)	1.1 (0.1)	0.7 (0.1)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)
28	0.2 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)	0.2 (0.0)	0.1 (0.0)	1.2 (0.3)	0.8 (0.2)
29	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.2 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)
30	0.3 (0.1)	0.2 (0.1)	1.4 (0.3)	1.0 (0.2)	0.3 (0.0)	0.2 (0.0)	1.5 (0.2)	1.1 (0.1)
31	0.2 (0.0)	0.2 (0.0)	1.4 (0.2)	1.0 (0.2)	0.1 (0.1)	0.1 (0.0)	1.5 (0.3)	1.0 (0.2)
Avg	0.2	0.1	1	0.7	0.2	0.1	1.1	0.8
n	31	31	26	25	31	31	26	25
SD	0.1	0	0.2	0.1	0.1	0.1	0.2	0.1
Min	0.1	0.1	0.7	0.5	0.1	0.1	0.8	0.6
Max	0.3	0.2	1.4	1.0	0.5	0.3	1.5	1.1

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for November, 2007. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·ds m ⁻³	ppm	mg·ds m ⁻³	ppm	mg·ds m ⁻³	ppm	mg·ds m ⁻³
1	0.2 (0.0)	0.1 (0.0)	1.2 (0.1)	0.9 (0.0)	0.2 (0.0)	0.1 (0.0)	1.5 (0.1)	1.1 (0.1)
2	0.2 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.6 (0.2)	1.2 (0.2)
3	0.2 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)	0.2 (0.0)	0.2 (0.0)	1.5 (0.1)	1.1 (0.1)
4	0.2 (0.0)	0.1 (0.0)	1.5 (0.2)	1.0 (0.1)	0.2 (0.1)	0.2 (0.0)	1.6 (0.2)	1.1 (0.2)
5	0.2 (0.0)	0.1 (0.0)	1.3 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)
6	0.1 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
7	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.2 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
8	0.2 (0.1)	0.2 (0.1)	1.3 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.0)
9	0.3 (0.1)	0.2 (0.1)	1.3 (0.1)	0.9 (0.1)	0.2 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
10	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.2 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)
11	0.2 (0.0)	0.2 (0.0)	1.5 (0.2)	1.1 (0.2)	0.2 (0.1)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)
12	0.2 (0.0)	0.1 (0.0)	1.6 (0.1)	1.1 (0.1)	0.2 (0.0)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)
13								
14								
15								
16	0.2 (0.0)	0.2 (0.0)	2.5 (0.5)	1.8 (0.3)	0.3 (0.1)	0.2 (0.1)	3.1 (0.3)	2.2 (0.2)
17	0.2 (0.0)	0.2 (0.0)	2.8 (0.2)	2.0 (0.1)	0.2 (0.0)	0.1 (0.0)	2.2 (0.3)	1.5 (0.2)
18	0.2 (0.0)	0.1 (0.0)	2.0 (0.3)	1.4 (0.2)	0.2 (0.0)	0.2 (0.0)	3.0 (0.4)	2.1 (0.3)
19	0.3 (0.0)	0.2 (0.0)	3.0 (0.6)	2.2 (0.5)	0.3 (0.0)	0.2 (0.0)	3.8 (0.3)	2.7 (0.2)
20	0.3 (0.0)	0.2 (0.0)	3.2 (0.4)	2.3 (0.3)	0.2 (0.0)	0.2 (0.0)	3.8 (0.8)	2.7 (0.6)
21	0.3 (0.0)	0.2 (0.0)	3.4 (0.8)	2.4 (0.6)	0.2 (0.0)	0.1 (0.0)		
22	0.3 (0.0)	0.2 (0.0)	3.3 (0.7)	2.4 (0.5)	0.2 (0.0)	0.1 (0.0)		
23	0.3 (0.0)	0.2 (0.0)	3.2 (0.5)	2.2 (0.4)	0.2 (0.0)	0.1 (0.0)	2.7 (0.3)	1.9 (0.2)
24	0.3 (0.0)	0.2 (0.0)	3.7 (0.2)	2.6 (0.1)	0.2 (0.0)	0.2 (0.0)	3.0 (0.2)	2.2 (0.2)
25	0.3 (0.0)	0.2 (0.0)	3.9 (0.2)	2.8 (0.2)	0.2 (0.0)	0.2 (0.0)	3.1 (0.6)	2.2 (0.4)
26	0.3 (0.0)	0.2 (0.0)	3.7 (0.5)	2.7 (0.3)	0.2 (0.0)	0.1 (0.0)	3.7 (0.5)	2.6 (0.3)
27	0.2 (0.0)	0.1 (0.0)	2.5 (0.3)	1.8 (0.2)	0.1 (0.0)	0.1 (0.0)	3.2 (0.4)	2.2 (0.3)
28	0.1 (0.0)	0.1 (0.0)	2.6 (0.4)	1.8 (0.2)	0.1 (0.1)	0.1 (0.0)	3.8 (0.4)	2.7 (0.3)
29	0.1 (0.0)	0.1 (0.0)			0.1 (0.0)	0.1 (0.0)		
30	0.1 (0.0)	0.1 (0.0)			0.1 (0.0)	0.1 (0.0)		
Avg	0.2	0.2	2.2	1.6	0.2	0.1	2.2	1.6
n	27	27	25	25	27	27	23	23
SD	0.1	0	0.9	0.7	0.1	0	1.1	0.7
Min	0.1	0.1	1.1	0.8	0.1	0.1	1.0	0.7
Max	0.3	0.2	3.9	2.8	0.3	0.2	3.8	2.7

Table F10. Daily means (SD) of NH₃ concentrations at Site WI5B for December, 2007. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.0)	0.1 (0.0)	2.1 (0.2)	1.5 (0.2)	0.2 (0.0)	0.1 (0.0)	3.3 (0.4)	2.3 (0.3)
2	0.2 (0.0)	0.1 (0.0)	2.3 (0.2)	1.7 (0.1)	0.1 (0.0)	0.1 (0.0)	3.9 (0.3)	2.8 (0.2)
3	0.1 (0.0)	0.1 (0.0)	2.1 (0.1)	1.5 (0.1)	0.1 (0.0)	0.1 (0.0)	3.2 (0.2)	2.3 (0.1)
4	0.2 (0.0)	0.1 (0.0)	2.3 (0.2)	1.7 (0.2)	0.1 (0.0)	0.1 (0.0)	3.3 (0.3)	2.3 (0.2)
5	0.1 (0.0)	0.1 (0.0)	2.4 (0.3)	1.7 (0.2)	0.1 (0.0)	0.1 (0.0)	3.2 (0.3)	2.3 (0.2)
6	0.2 (0.1)	0.2 (0.0)	2.9 (0.3)	2.1 (0.2)	0.1 (0.0)	0.1 (0.0)	4.0 (0.4)	2.8 (0.3)
7	0.2 (0.0)	0.1 (0.0)	2.7 (0.3)	1.9 (0.2)	0.1 (0.0)	0.1 (0.0)	3.6 (0.4)	2.6 (0.3)
8	0.1 (0.0)	0.1 (0.0)	2.6 (0.3)	1.9 (0.2)	0.1 (0.0)	0.0 (0.0)	3.2 (0.2)	2.3 (0.1)
9	0.1 (0.0)	0.1 (0.0)	2.6 (0.3)	1.9 (0.2)	0.1 (0.0)	0.1 (0.0)	3.1 (0.2)	2.2 (0.2)
10	0.2 (0.1)	0.2 (0.0)	2.9 (0.4)	2.1 (0.3)	0.1 (0.1)	0.1 (0.0)	3.4 (0.6)	2.4 (0.4)
11	0.2 (0.0)	0.2 (0.0)	2.9 (0.3)	2.1 (0.2)	0.1 (0.0)	0.1 (0.0)	3.5 (0.5)	2.5 (0.3)
12	0.1 (0.0)	0.1 (0.0)	2.6 (0.2)	1.8 (0.2)	0.1 (0.0)	0.1 (0.0)	3.2 (0.4)	2.3 (0.3)
13	0.2 (0.0)	0.1 (0.0)	2.6 (0.2)	1.9 (0.2)	0.1 (0.0)	0.1 (0.0)	3.7 (0.3)	2.7 (0.2)
14	0.1 (0.0)	0.1 (0.0)	2.3 (0.4)	1.6 (0.3)	0.1 (0.0)	0.1 (0.0)	3.3 (0.5)	2.4 (0.3)
15	0.1 (0.0)	0.1 (0.0)	2.3 (0.3)	1.6 (0.2)	0.1 (0.0)	0.1 (0.0)	3.5 (0.4)	2.5 (0.3)
16	0.2 (0.0)	0.1 (0.0)	2.4 (0.2)	1.7 (0.1)	0.1 (0.0)	0.1 (0.0)	4.1 (0.4)	2.9 (0.3)
17	0.2 (0.0)	0.2 (0.0)	2.9 (0.4)	2.1 (0.3)	0.2 (0.1)	0.2 (0.0)	4.6 (0.4)	3.3 (0.3)
18	0.2 (0.0)	0.2 (0.0)	3.5 (0.3)	2.5 (0.2)	0.2 (0.0)	0.1 (0.0)	4.9 (0.3)	3.5 (0.2)
19	0.4 (0.1)	0.2 (0.1)			0.2 (0.0)	0.2 (0.0)		
20	0.3 (0.0)	0.2 (0.0)	3.1 (0.3)	2.2 (0.2)	0.2 (0.0)	0.2 (0.0)	4.6 (0.3)	3.3 (0.2)
21	0.3 (0.0)	0.2 (0.0)	2.8 (0.5)	2.0 (0.4)	0.3 (0.0)	0.2 (0.0)	3.9 (0.3)	2.8 (0.2)
22	0.2 (0.1)	0.2 (0.0)	3.1 (0.3)	2.2 (0.2)	0.2 (0.1)	0.1 (0.0)	3.6 (0.3)	2.6 (0.2)
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26	0.3 (0.0)	0.2 (0.0)	4.1 (0.3)	2.9 (0.2)	0.3 (0.0)	0.2 (0.0)	4.3 (0.4)	3.1 (0.3)
27	0.3 (0.0)	0.2 (0.0)	4.4 (0.6)	3.1 (0.4)	0.3 (0.0)	0.2 (0.0)	5.0 (0.9)	3.5 (0.7)
28	0.3 (0.0)	0.2 (0.0)	4.6 (1.0)	3.3 (0.7)	0.3 (0.0)	0.2 (0.0)	5.1 (0.7)	3.6 (0.5)
29	0.3 (0.0)	0.2 (0.0)	5.6 (0.8)	4.0 (0.6)	0.3 (0.0)	0.2 (0.0)	5.8 (0.9)	4.1 (0.6)
30	0.4 (0.1)	0.3 (0.0)	6.3 (0.9)	4.5 (0.6)	0.4 (0.0)	0.3 (0.0)	6.4 (0.8)	4.6 (0.6)
31	0.4 (0.0)	0.3 (0.0)	7.4 (1.5)	5.3 (1.1)	0.4 (0.0)	0.2 (0.0)	7.3 (1.4)	5.2 (1.0)
Avg	0.2	0.2	3.3	2.3	0.2	0.1	4.1	2.9
n	28	28	27	27	28	28	27	27
SD	0.1	0.1	1.3	0.9	0.1	0.1	1	0.7
Min	0.1	0.1	2.1	1.5	0.1	0.0	3.1	2.2
Max	0.4	0.3	7.4	5.3	0.4	0.3	7.3	5.2

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for January, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.0)	0.1 (0.0)	4.9 (0.8)	3.5 (0.6)	0.2 (0.0)	0.1 (0.0)	5.0 (0.7)	3.6 (0.5)
2	0.3 (0.1)	0.2 (0.0)	5.3 (0.6)	3.8 (0.4)	0.2 (0.0)	0.1 (0.0)	5.1 (0.7)	3.6 (0.5)
3	0.3 (0.0)	0.2 (0.0)	4.8 (0.4)	3.4 (0.3)	0.3 (0.0)	0.2 (0.0)	5.1 (0.5)	3.6 (0.4)
4	0.3 (0.0)	0.2 (0.0)	4.4 (0.4)	3.1 (0.3)	0.4 (0.1)	0.3 (0.0)	6.0 (1.6)	4.3 (1.1)
5	0.4 (0.0)	0.3 (0.0)	3.5 (0.7)	2.5 (0.5)	0.5 (0.0)	0.3 (0.0)	5.7 (0.5)	4.1 (0.4)
6	0.5 (0.0)	0.3 (0.0)	3.7 (0.6)	2.6 (0.5)	0.5 (0.0)	0.3 (0.0)	4.4 (0.7)	3.1 (0.5)
7	0.4 (0.0)	0.3 (0.0)	3.4 (0.3)	2.4 (0.2)	0.4 (0.1)	0.3 (0.1)	4.2 (0.3)	3.0 (0.2)
8	0.5 (0.0)	0.3 (0.0)	4.9 (1.0)	3.5 (0.7)	0.4 (0.0)	0.3 (0.0)	5.4 (1.5)	3.8 (1.0)
9	0.3 (0.0)	0.2 (0.0)	4.8 (0.3)	3.4 (0.2)	0.3 (0.0)	0.2 (0.0)	5.4 (0.6)	3.9 (0.4)
10	0.4 (0.0)	0.3 (0.0)	4.4 (0.2)	3.2 (0.2)	0.4 (0.0)	0.3 (0.0)	4.8 (0.3)	3.4 (0.2)
11	0.3 (0.0)	0.2 (0.0)	3.9 (0.3)	2.8 (0.2)	0.3 (0.0)	0.2 (0.0)	4.1 (0.3)	2.9 (0.2)
12	0.3 (0.0)	0.2 (0.0)	3.9 (0.4)	2.8 (0.3)	0.3 (0.0)	0.2 (0.0)	3.7 (0.2)	2.6 (0.2)
13	0.3 (0.0)	0.2 (0.0)	3.9 (0.5)	2.8 (0.4)	0.2 (0.0)	0.2 (0.0)	4.0 (0.6)	2.9 (0.5)
14	0.2 (0.0)	0.2 (0.0)	5.0 (1.0)	3.5 (0.7)	0.2 (0.0)	0.2 (0.0)	4.9 (0.7)	3.5 (0.5)
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25	0.2 (0.0)	0.1 (0.0)	4.4 (0.8)	3.1 (0.6)	0.2 (0.0)	0.1 (0.0)	5.6 (0.7)	4.0 (0.5)
26	0.2 (0.0)	0.1 (0.0)	3.6 (0.6)	2.6 (0.4)	0.2 (0.0)	0.1 (0.0)		
27	0.2 (0.0)	0.1 (0.0)	2.9 (0.6)	2.1 (0.4)	0.2 (0.0)	0.1 (0.0)		
28	0.2 (0.0)	0.1 (0.0)	1.6 (0.4)		0.2 (0.0)	0.1 (0.0)		
29	0.1 (0.0)	0.1 (0.0)	3.1 (1.5)	2.2 (1.1)	0.1 (0.0)	0.1 (0.0)	3.0 (1.3)	2.1 (0.9)
30	0.2 (0.0)	0.1 (0.0)	5.0 (0.6)	3.6 (0.4)	0.2 (0.0)	0.1 (0.0)	5.2 (0.7)	3.7 (0.5)
31	0.2 (0.1)	0.1 (0.0)	5.0 (0.9)	3.6 (0.6)	0.1 (0.0)	0.1 (0.0)	4.9 (0.5)	3.5 (0.4)
Avg	0.3	0.2	4.1	3.0	0.3	0.2	4.8	3.4
n	21	21	21	20	21	21	18	18
SD	0.1	0.1	0.9	0.5	0.1	0.1	0.7	0.5
Min	0.1	0.1	1.6	2.1	0.1	0.1	3.0	2.1
Max	0.5	0.3	5.3	3.8	0.5	0.3	6.0	4.3

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for February, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.0)	0.1 (0.0)	3.7 (0.4)	2.7 (0.3)	0.2 (0.0)	0.1 (0.0)	4.6 (0.5)	3.2 (0.3)
2	0.0 (0.1)	0.0 (0.1)	2.3 (0.4)	1.6 (0.3)	0.0 (0.1)	0.0 (0.0)	3.6 (0.3)	2.6 (0.2)
3	-0.1 (0.0)	-0.1 (0.0)	1.8 (0.2)	1.3 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.9 (0.3)	2.1 (0.2)
4	-0.1 (0.0)	0.0 (0.0)	2.1 (0.3)	1.5 (0.2)	-0.1 (0.0)	-0.1 (0.0)	3.2 (0.4)	2.3 (0.3)
5	0.0 (0.0)	0.0 (0.0)	2.1 (0.2)	1.5 (0.1)	-0.1 (0.0)	0.0 (0.0)	3.6 (0.8)	2.6 (0.6)
6	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.4)	1.9 (0.3)	-0.1 (0.0)	-0.1 (0.0)	3.7 (0.8)	2.6 (0.6)
7	-0.1 (0.0)	-0.1 (0.0)	3.3 (0.5)	2.3 (0.4)	-0.1 (0.0)	-0.1 (0.0)	3.8 (0.6)	2.7 (0.4)
8	-0.1 (0.0)	-0.1 (0.0)	2.3 (0.4)	1.6 (0.3)	-0.1 (0.0)	-0.1 (0.0)	3.0 (0.4)	2.1 (0.3)
9	-0.1 (0.0)	-0.1 (0.0)	2.6 (0.4)	1.8 (0.3)	-0.1 (0.0)	-0.1 (0.0)	3.2 (0.6)	2.3 (0.5)
10	-0.2 (0.0)	-0.1 (0.0)	3.9 (0.3)	2.8 (0.2)	-0.2 (0.0)	-0.1 (0.0)	3.7 (0.3)	2.6 (0.2)
11	-0.1 (0.0)	-0.1 (0.0)	4.2 (0.8)	3.0 (0.5)	-0.1 (0.0)	-0.1 (0.0)	3.8 (0.8)	2.7 (0.6)
12	-0.1 (0.0)	-0.1 (0.0)	3.3 (0.6)	2.4 (0.4)	-0.1 (0.0)	-0.1 (0.0)	3.5 (1.0)	2.5 (0.7)
13	0.0 (0.1)	0.0 (0.1)	4.3 (1.1)	2.8 (0.7)	-0.1 (0.0)	-0.1 (0.0)	5.3 (0.6)	
14	-0.1 (0.0)	-0.1 (0.0)	2.8 (0.4)	2.0 (0.3)	-0.1 (0.0)	-0.1 (0.0)	3.4 (0.5)	2.4 (0.4)
15	-0.2 (0.0)	-0.1 (0.0)	2.7 (0.2)	1.9 (0.2)	-0.2 (0.0)	-0.1 (0.0)	2.8 (0.2)	2.0 (0.2)
16	-0.1 (0.0)	-0.1 (0.0)	2.6 (0.1)	1.8 (0.1)	-0.1 (0.0)	-0.1 (0.0)	3.3 (0.6)	2.4 (0.4)
17	-0.1 (0.0)	-0.1 (0.0)	2.0 (0.5)	1.4 (0.4)	-0.1 (0.0)	-0.1 (0.0)	3.2 (0.3)	2.3 (0.2)
18	-0.1 (0.0)	-0.1 (0.0)	2.1 (0.5)	1.5 (0.4)	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.3)	1.9 (0.2)
19	-0.2 (0.0)	-0.1 (0.0)	2.4 (0.4)	1.7 (0.3)	-0.2 (0.0)	-0.1 (0.0)	2.6 (0.4)	1.9 (0.3)
20	-0.1 (0.0)	-0.1 (0.0)	3.6 (0.7)	2.6 (0.5)	-0.2 (0.0)	-0.1 (0.0)	4.1 (1.2)	2.9 (0.9)
21	-0.1 (0.0)	-0.1 (0.0)	3.9 (0.4)	2.7 (0.3)	-0.1 (0.0)	-0.1 (0.0)	5.1 (0.7)	3.6 (0.5)
22	-0.1 (0.0)	-0.1 (0.0)	3.2 (0.6)	2.3 (0.4)	-0.1 (0.0)	-0.1 (0.0)	3.7 (0.3)	2.6 (0.2)
23	-0.1 (0.0)	0.0 (0.0)	3.0 (1.0)	2.1 (0.7)	-0.1 (0.0)	0.0 (0.0)	3.8 (0.5)	2.7 (0.3)
24	-0.1 (0.0)	-0.1 (0.0)	2.0 (0.6)	1.4 (0.5)	-0.1 (0.0)	-0.1 (0.0)	3.2 (0.7)	2.3 (0.5)
25	-0.1 (0.0)	-0.1 (0.0)	1.2 (0.3)	0.8 (0.2)	-0.1 (0.0)	-0.1 (0.0)	1.5 (0.4)	1.1 (0.3)
26	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.5)	1.9 (0.3)	-0.2 (0.0)	-0.1 (0.0)	3.3 (0.8)	2.3 (0.6)
27	-0.1 (0.0)	-0.1 (0.0)	3.0 (0.5)	2.1 (0.4)	-0.2 (0.0)	-0.1 (0.0)	2.8 (0.4)	2.0 (0.3)
28	-0.1 (0.0)	-0.1 (0.0)	2.1 (0.5)	1.5 (0.3)	-0.2 (0.0)	-0.1 (0.0)	2.1 (0.3)	1.5 (0.2)
29	-0.1 (0.0)	-0.1 (0.0)	2.6 (0.7)	1.9 (0.5)	-0.2 (0.0)	-0.1 (0.0)	2.9 (0.8)	2.0 (0.6)
Avg	-0.1	-0.1	2.8	2	-0.1	-0.1	3.4	2.4
n	29	29	29	29	29	29	29	28
SD	0.1	0	0.8	0.5	0.1	0	0.8	0.5
Min	-0.2	-0.1	1.2	0.8	-0.2	-0.1	1.5	1.1
Max	0.2	0.1	4.3	3.0	0.2	0.1	5.3	3.6

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for March, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	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)	2.7 (0.6)	1.9 (0.4)	-0.2 (0.0)	-0.1 (0.0)	2.7 (0.4)	1.9 (0.3)
2	-0.1 (0.0)	-0.1 (0.0)	1.4 (0.6)	1.0 (0.4)	-0.2 (0.0)	-0.1 (0.0)	1.6 (0.6)	1.2 (0.4)
3	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	-0.2 (0.0)	-0.1 (0.0)	1.8 (0.2)	1.3 (0.1)
4	-0.1 (0.0)	0.0 (0.0)	2.7 (0.8)	1.9 (0.6)	-0.1 (0.0)	-0.1 (0.0)	3.1 (1.1)	2.2 (0.8)
5	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.6)	1.9 (0.4)	-0.2 (0.0)	-0.1 (0.0)	3.2 (0.3)	2.3 (0.2)
6	-0.1 (0.0)	-0.1 (0.0)	3.5 (0.7)	2.5 (0.5)	-0.2 (0.0)	-0.1 (0.0)	4.2 (0.9)	3.0 (0.7)
7	-0.1 (0.0)	-0.1 (0.0)	3.2 (0.2)	2.3 (0.2)	-0.1 (0.0)	-0.1 (0.0)	5.1 (0.7)	3.6 (0.5)
8	0.0 (0.0)	0.0 (0.0)	4.6 (0.9)	3.3 (0.6)	-0.1 (0.0)	0.0 (0.0)	5.6 (1.1)	4.0 (0.8)
9	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.6)	1.9 (0.4)	-0.1 (0.0)	-0.1 (0.0)	3.0 (0.6)	2.2 (0.4)
10	-0.1 (0.0)	0.0 (0.0)	1.8 (0.5)	1.3 (0.4)	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.4)	1.9 (0.3)
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26	-0.1 (0.0)	0.0 (0.0)	1.3 (0.2)	0.9 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.6 (0.3)	1.1 (0.2)
27	-0.1 (0.0)	0.0 (0.0)	1.8 (0.4)	1.3 (0.3)	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.4)	1.2 (0.3)
28	-0.1 (0.0)	-0.1 (0.0)	1.9 (0.5)	1.4 (0.4)	-0.1 (0.0)	-0.1 (0.0)	2.3 (0.6)	1.6 (0.4)
29	-0.1 (0.0)	0.0 (0.0)	1.5 (0.3)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	2.3 (0.4)	1.6 (0.3)
30	-0.1 (0.0)	-0.1 (0.0)	1.3 (0.3)	0.9 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.0 (0.5)	1.4 (0.4)
31	-0.1 (0.0)	-0.1 (0.0)	1.1 (0.4)	0.8 (0.3)	-0.1 (0.1)	-0.1 (0.0)	0.9 (0.3)	0.6 (0.2)
Avg	-0.1	-0.1	2.3	1.6	-0.1	-0.1	2.7	1.9
n	16	16	16	16	16	16	16	16
SD	0	0	0.9	0.7	0	0	1.3	0.9
Min	-0.1	-0.1	1.1	0.8	-0.2	-0.1	0.9	0.6
Max	0.0	0.0	4.6	3.3	0.0	0.0	5.6	4.0

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for April, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	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)	1.4 (0.6)	1.0 (0.4)	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.9)	1.2 (0.6)
2	0.0 (0.0)	0.0 (0.0)	2.2 (1.0)	1.5 (0.7)	-0.1 (0.0)	0.0 (0.0)	2.7 (0.7)	1.9 (0.5)
3	0.0 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	2.1 (0.6)	1.5 (0.4)
4	0.0 (0.0)	0.0 (0.0)	1.4 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.7 (0.4)	1.2 (0.3)
5	0.0 (0.0)	0.0 (0.0)	1.0 (0.2)	0.7 (0.1)	0.0 (0.0)	0.0 (0.0)	1.3 (0.2)	0.9 (0.1)
6	0.0 (0.0)	0.0 (0.0)	0.8 (0.1)	0.5 (0.1)	0.0 (0.0)	0.0 (0.0)	0.9 (0.2)	0.6 (0.2)
7	0.0 (0.0)	0.0 (0.0)	1.6 (0.6)	1.1 (0.5)	-0.1 (0.0)	0.0 (0.0)	1.7 (0.7)	1.2 (0.5)
8	0.0 (0.0)	0.0 (0.0)	1.6 (0.3)	1.2 (0.2)	-0.1 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.3)
9	-0.1 (0.0)	-0.1 (0.0)	1.9 (0.7)	1.3 (0.5)	-0.1 (0.0)	-0.1 (0.0)	1.6 (0.9)	1.2 (0.6)
10	-0.1 (0.0)	0.0 (0.0)	1.5 (0.4)	1.1 (0.3)	-0.1 (0.0)	0.0 (0.0)	1.4 (0.6)	1.0 (0.4)
11	-0.1 (0.0)	-0.1 (0.0)	1.6 (0.5)	1.1 (0.3)	-0.1 (0.0)	-0.1 (0.0)	1.1 (0.2)	0.8 (0.1)
12	-0.1 (0.0)	-0.1 (0.0)	1.2 (0.2)	0.9 (0.2)	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.3)	1.2 (0.2)
13	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.4)	1.2 (0.3)	-0.1 (0.0)	-0.1 (0.0)	1.4 (0.4)	1.0 (0.3)
14	0.0 (0.0)	0.0 (0.0)	1.5 (0.5)	1.0 (0.3)	0.0 (0.1)	0.0 (0.1)	1.6 (0.6)	1.1 (0.4)
15	0.0 (0.0)	0.0 (0.0)	1.3 (0.4)	0.9 (0.3)	0.0 (0.0)	0.0 (0.0)	1.9 (0.4)	1.4 (0.3)
16	0.0 (0.0)	0.0 (0.0)	0.8 (0.1)	0.6 (0.1)	0.0 (0.0)	0.0 (0.0)	1.0 (0.1)	0.7 (0.1)
17	0.1 (0.1)	0.1 (0.1)	1.9 (0.5)	1.4 (0.4)	0.1 (0.1)	0.1 (0.1)	2.0 (0.5)	1.4 (0.4)
18	0.2 (0.0)	0.1 (0.0)	2.0 (0.2)	1.4 (0.1)	0.1 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.1)
19	0.2 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.2)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)
20	0.2 (0.0)	0.1 (0.0)	1.5 (0.4)	1.0 (0.3)	0.2 (0.0)	0.1 (0.0)	1.8 (0.5)	1.3 (0.4)
21	0.2 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.2)	0.2 (0.1)	0.2 (0.0)	1.2 (0.2)	0.9 (0.2)
22								
23								
24								
25	0.2 (0.0)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)				
26	0.1 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.7 (0.2)	1.2 (0.2)
27	0.2 (0.0)	0.1 (0.0)	1.5 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.8 (0.4)	1.3 (0.3)
28	0.2 (0.0)	0.1 (0.0)	1.5 (0.4)	1.1 (0.3)	0.1 (0.0)	0.1 (0.0)	1.5 (0.7)	1.1 (0.5)
29	0.2 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	0.2 (0.0)	0.2 (0.0)	2.7 (0.5)	1.9 (0.4)
30	0.2 (0.0)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)	0.2 (0.0)	0.1 (0.0)	1.6 (0.3)	1.2 (0.2)
Avg	0	0	1.4	1	0	0	1.6	1.2
n	27	27	27	27	26	26	26	26
SD	0.1	0.1	0.3	0.2	0.1	0.1	0.4	0.3
Min	-0.1	-0.1	0.8	0.5	-0.1	-0.1	0.9	0.6
Max	0.2	0.1	2.2	1.5	0.2	0.2	2.7	1.9

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for May, 2008. MDL = 0.2 ppm.

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

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for June, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.1)	0.2 (0.1)	1.0 (0.2)	0.7 (0.2)	0.1 (0.1)	0.1 (0.1)	0.8 (0.2)	0.6 (0.2)
2	0.2 (0.1)	0.1 (0.1)			0.1 (0.0)	0.0 (0.0)		
3	0.1 (0.0)	0.0 (0.0)	1.1 (0.1)	0.8 (0.1)	0.1 (0.0)	0.0 (0.0)	0.9 (0.1)	0.7 (0.1)
4	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.7 (0.1)
5	0.1 (0.0)	0.1 (0.0)	1.0 (0.4)	0.7 (0.3)	0.1 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)
6	0.1 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)	0.2 (0.0)	0.1 (0.0)	0.9 (0.1)	0.6 (0.1)
7	0.1 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.2)	0.2 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)
8	0.1 (0.1)				0.1 (0.0)			
9	0.1 (0.1)				0.1 (0.1)			
10	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.2)
11	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.7 (0.2)	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.7 (0.1)
12	0.2 (0.1)	0.1 (0.0)	0.6 (0.1)	0.5 (0.1)	0.1 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)
13	0.2 (0.0)	0.1 (0.0)	0.9 (0.1)	0.7 (0.1)	0.1 (0.1)	0.1 (0.0)	1.2 (0.3)	0.9 (0.2)
14	0.2 (0.0)				0.1 (0.1)			
15	0.2 (0.0)				0.1 (0.0)			
16	0.1 (0.0)				0.0 (0.0)			
17	0.2 (0.2)				0.1 (0.1)			
18	0.4 (0.3)	0.3 (0.2)	1.1 (0.4)	0.7 (0.3)	0.1 (0.1)	0.1 (0.1)	1.0 (0.3)	0.7 (0.2)
19	0.4 (0.3)	0.3 (0.2)	0.9 (0.3)	0.6 (0.2)	0.2 (0.1)	0.1 (0.1)	0.9 (0.2)	0.7 (0.2)
20	0.2 (0.1)	0.1 (0.1)	0.8 (0.2)	0.6 (0.1)	0.1 (0.1)	0.1 (0.0)	0.8 (0.2)	0.6 (0.2)
21	0.1 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)	0.0 (0.0)	0.0 (0.0)	0.8 (0.3)	0.6 (0.2)
22	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)
23	0.1 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)	0.1 (0.1)	0.0 (0.0)	0.8 (0.2)	0.6 (0.1)
24	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.0)	0.2 (0.0)	0.9 (0.2)	0.7 (0.1)
25	0.2 (0.0)	0.1 (0.0)	0.6 (0.1)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)
26	0.2 (0.0)	0.1 (0.0)	0.7 (0.2)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	0.8 (0.2)	0.6 (0.1)
27	0.1 (0.0)	0.1 (0.0)	0.7 (0.2)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.5 (0.1)
28	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)
29	0.1 (0.1)	0.1 (0.0)	1.0 (0.3)	0.7 (0.2)	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)
30								
Avg	0.2	0.1	0.9	0.6	0.1	0.1	0.9	0.6
n	29	23	22	22	29	23	22	22
SD	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1
Min	0.1	0.0	0.6	0.5	0.0	0.0	0.8	0.5
Max	0.4	0.3	1.1	0.8	0.2	0.2	1.2	0.9

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for July, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1								
2								
3								
4	0.1 (0.1)	0.1 (0.0)	0.9 (0.3)	0.6 (0.2)	0.2 (0.1)	0.1 (0.0)	0.9 (0.2)	0.7 (0.2)
5	0.1 (0.0)	0.1 (0.0)	0.6 (0.1)	0.4 (0.1)	0.1 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)
6	0.1 (0.0)	0.1 (0.0)	0.5 (0.1)	0.4 (0.1)	0.2 (0.0)	0.1 (0.0)	0.6 (0.1)	0.4 (0.0)
7	0.2 (0.0)	0.1 (0.0)	0.6 (0.1)	0.4 (0.1)	0.2 (0.0)	0.1 (0.0)	0.6 (0.1)	0.5 (0.1)
8	0.2 (0.0)				0.1 (0.0)			
9	0.2 (0.0)				0.1 (0.1)			
10	0.2 (0.0)		0.8 (0.2)		0.2 (0.0)		0.9 (0.2)	
11	0.2 (0.0)	0.1 (0.0)	0.6 (0.1)	0.4 (0.1)	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)
12	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)
13	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.2)	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.7 (0.2)
14	0.2 (0.0)	0.1 (0.0)	0.8 (0.3)	0.6 (0.2)	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)
15	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.5 (0.1)
16	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.1)	0.1 (0.1)	0.8 (0.1)	0.6 (0.1)
17	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.3 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.0)
18	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.1)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)
19	0.2 (0.0)	0.1 (0.0)	0.7 (0.2)	0.5 (0.1)	0.2 (0.1)	0.2 (0.1)	0.8 (0.2)	0.6 (0.1)
20	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)
21	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.1 (0.1)	0.1 (0.0)	0.8 (0.1)	0.5 (0.1)
22	0.2 (0.0)	0.1 (0.0)	0.7 (0.2)	0.5 (0.1)	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)
23	0.3 (0.0)	0.2 (0.0)	0.8 (0.2)	0.6 (0.2)	0.2 (0.1)	0.2 (0.1)	1.0 (0.2)	0.7 (0.2)
24	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.3 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)
25	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)	0.2 (0.1)	0.2 (0.0)	0.9 (0.2)	0.6 (0.1)
26	0.2 (0.0)	0.1 (0.0)	0.9 (0.3)	0.6 (0.2)	0.2 (0.1)	0.1 (0.0)	1.0 (0.4)	0.7 (0.3)
27	0.3 (0.1)	0.2 (0.0)	1.0 (0.5)	0.7 (0.4)	0.2 (0.0)	0.1 (0.0)	1.0 (0.4)	0.7 (0.3)
28	0.2 (0.0)	0.2 (0.0)	0.9 (0.2)	0.6 (0.1)	0.3 (0.1)	0.2 (0.0)	1.1 (0.2)	0.8 (0.2)
29	0.3 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)	0.3 (0.1)	0.2 (0.1)	0.9 (0.2)	0.6 (0.1)
30	0.3 (0.1)	0.2 (0.0)	0.9 (0.3)	0.6 (0.2)	0.2 (0.1)	0.2 (0.1)	0.9 (0.2)	0.6 (0.2)
31	0.4 (0.0)	0.3 (0.0)	1.0 (0.3)	0.7 (0.2)	0.2 (0.0)	0.2 (0.0)	1.0 (0.3)	0.7 (0.2)
Avg	0.2	0.1	0.8	0.5	0.2	0.1	0.9	0.6
n	28	25	26	25	28	25	26	25
SD	0.1	0	0.1	0.1	0.1	0	0.1	0.1
Min	0.1	0.1	0.5	0.4	0.1	0.1	0.6	0.4
Max	0.4	0.3	1.0	0.7	0.3	0.2	1.1	0.8

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for August, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.3 (0.1)	0.2 (0.1)	0.9 (0.3)	0.7 (0.2)	0.2 (0.1)	0.1 (0.1)	0.9 (0.3)	0.7 (0.2)
2	0.3 (0.1)	0.2 (0.1)	0.9 (0.4)	0.7 (0.3)	0.3 (0.1)	0.2 (0.0)	1.0 (0.2)	0.7 (0.2)
3	0.2 (0.0)	0.1 (0.0)	0.8 (0.0)	0.5 (0.0)	0.2 (0.0)	0.2 (0.0)	0.9 (0.1)	0.7 (0.1)
4	0.3 (0.1)	0.2 (0.1)	0.7 (0.1)	0.5 (0.1)	0.2 (0.1)	0.1 (0.1)	0.8 (0.1)	0.5 (0.1)
5	0.3 (0.1)	0.2 (0.1)	0.8 (0.2)	0.6 (0.2)	0.3 (0.1)	0.2 (0.1)	0.9 (0.2)	0.7 (0.2)
6	0.2 (0.1)	0.2 (0.1)	0.7 (0.2)	0.5 (0.1)	0.2 (0.1)	0.2 (0.1)	0.8 (0.2)	0.6 (0.1)
7	0.2 (0.0)	0.2 (0.0)	1.0 (0.2)	0.7 (0.2)	0.2 (0.1)	0.1 (0.0)	1.0 (0.3)	0.7 (0.2)
8	0.2 (0.1)	0.2 (0.1)	1.0 (0.3)	0.7 (0.2)	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	0.7 (0.1)
9	0.2 (0.0)	0.1 (0.0)	0.7 (0.2)	0.5 (0.1)	0.1 (0.1)	0.1 (0.0)	0.7 (0.2)	0.5 (0.1)
10	0.1 (0.1)	0.1 (0.1)	0.9 (0.2)	0.6 (0.1)	0.2 (0.1)	0.1 (0.1)	0.9 (0.2)	0.6 (0.1)
11	0.3 (0.1)	0.2 (0.1)	0.9 (0.2)	0.6 (0.2)	0.2 (0.1)	0.2 (0.0)	1.0 (0.1)	0.7 (0.1)
12	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.3 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)
13	0.2 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)	0.2 (0.0)	0.2 (0.0)	0.9 (0.1)	0.6 (0.1)
14	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	0.7 (0.2)	0.2 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)
15	0.2 (0.0)	0.1 (0.0)	1.1 (0.3)	0.7 (0.2)	0.2 (0.0)	0.2 (0.0)	1.0 (0.3)	0.7 (0.2)
16	0.2 (0.0)	0.2 (0.0)	1.0 (0.4)	0.7 (0.3)	0.2 (0.0)	0.2 (0.0)	1.0 (0.3)	0.7 (0.2)
17	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)	0.2 (0.1)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)
18	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.2)	0.3 (0.1)	0.2 (0.1)	0.9 (0.1)	0.6 (0.1)
19	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.1)	0.2 (0.1)	0.9 (0.1)	0.6 (0.1)
20	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.3 (0.0)	0.2 (0.0)	1.0 (0.1)	0.7 (0.1)
21	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.3 (0.1)	0.2 (0.0)	0.9 (0.1)	0.7 (0.1)
22	0.2 (0.0)	0.2 (0.0)	0.7 (0.1)	0.5 (0.1)	0.3 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)
23	0.2 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)	0.1 (0.0)	0.1 (0.0)	1.0 (0.3)	0.7 (0.2)
24	0.3 (0.1)	0.2 (0.0)	1.1 (0.2)	0.8 (0.1)	0.1 (0.0)	0.1 (0.0)	1.2 (0.3)	0.8 (0.2)
25	0.4 (0.2)	0.3 (0.1)	1.1 (0.3)	0.8 (0.2)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)
26	0.2 (0.1)	0.2 (0.1)	0.8 (0.2)	0.6 (0.2)	0.3 (0.1)	0.2 (0.1)	1.0 (0.2)	0.7 (0.1)
27	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)	0.3 (0.0)	0.2 (0.0)	1.1 (0.2)	0.8 (0.1)
28	0.2 (0.0)	0.1 (0.0)	0.7 (0.2)	0.5 (0.2)	0.2 (0.0)	0.1 (0.0)	0.8 (0.1)	0.6 (0.1)
29	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.2)	0.3 (0.1)	0.2 (0.0)	1.0 (0.2)	0.7 (0.2)
30	0.2 (0.0)	0.2 (0.0)	0.9 (0.3)	0.6 (0.2)	0.3 (0.0)	0.2 (0.0)	1.0 (0.2)	0.7 (0.1)
31	0.2 (0.0)	0.1 (0.0)	0.6 (0.1)	0.4 (0.1)	0.3 (0.1)	0.2 (0.0)	0.9 (0.2)	0.6 (0.1)
Avg	0.2	0.2	0.8	0.6	0.2	0.2	0.9	0.7
n	31	31	31	31	31	31	31	31
SD	0.1	0	0.1	0.1	0.1	0	0.1	0.1
Min	0.1	0.1	0.6	0.4	0.1	0.1	0.7	0.5
Max	0.4	0.3	1.1	0.8	0.3	0.2	1.2	0.8

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for September, 2008. MDL = 0.2 ppm.

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

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for October, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.0)	0.1 (0.0)	1.9 (0.4)	1.3 (0.3)	0.1 (0.1)	0.1 (0.0)	1.7 (0.4)	1.2 (0.3)
2	0.3 (0.1)	0.2 (0.1)	1.9 (0.3)	1.4 (0.2)	0.2 (0.1)	0.1 (0.1)	1.8 (0.4)	1.3 (0.3)
3	0.2 (0.1)	0.2 (0.1)	1.9 (0.4)	1.3 (0.3)	0.1 (0.1)	0.1 (0.0)	1.8 (0.3)	1.3 (0.2)
4	0.3 (0.2)	0.2 (0.1)	1.5 (0.5)	1.1 (0.3)	0.2 (0.0)	0.1 (0.0)	1.6 (0.1)	1.1 (0.1)
5	0.1 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)	0.2 (0.0)	0.1 (0.0)	1.5 (0.4)	1.1 (0.3)
6	0.1 (0.0)	0.1 (0.0)	1.0 (0.1)	0.7 (0.1)	0.2 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)
7	0.1 (0.0)	0.0 (0.0)			0.1 (0.0)	0.1 (0.0)		
8	0.3 (0.1)	0.2 (0.1)			0.2 (0.1)	0.1 (0.0)		
9	0.2 (0.0)	0.2 (0.0)			0.2 (0.1)	0.1 (0.0)		
10	0.1 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.1 (0.1)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)
11	0.1 (0.0)	0.1 (0.0)	0.9 (0.1)	0.7 (0.1)	0.2 (0.1)	0.2 (0.1)	1.4 (0.1)	1.0 (0.1)
12	0.2 (0.0)	0.1 (0.0)	0.9 (0.2)	0.7 (0.1)	0.3 (0.0)	0.2 (0.0)	1.5 (0.2)	1.1 (0.1)
13	0.2 (0.0)	0.1 (0.0)	1.1 (0.4)	0.8 (0.3)	0.2 (0.1)	0.2 (0.1)	1.5 (0.4)	1.1 (0.3)
14	0.2 (0.1)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)	0.1 (0.0)	0.1 (0.0)	1.9 (0.4)	1.3 (0.3)
15	0.2 (0.0)	0.1 (0.0)	1.6 (0.3)	1.2 (0.2)	0.2 (0.0)	0.1 (0.0)	2.0 (0.4)	1.4 (0.3)
16								
17								
18								
19								
20								
21								
22	0.1 (0.0)	0.1 (0.0)	1.5 (0.2)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	2.1 (0.2)	1.5 (0.1)
23	0.1 (0.0)	0.1 (0.0)	1.3 (0.3)	1.0 (0.2)	0.1 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)
24	0.2 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	0.2 (0.0)	0.1 (0.0)	2.2 (0.5)	1.6 (0.3)
25	0.2 (0.0)	0.1 (0.0)	1.6 (0.2)	1.2 (0.1)	0.2 (0.0)	0.1 (0.0)	2.4 (0.5)	1.7 (0.4)
26	0.2 (0.0)	0.1 (0.0)	1.8 (0.2)	1.3 (0.1)	0.1 (0.0)	0.1 (0.0)	2.2 (0.2)	1.5 (0.1)
27	0.1 (0.0)	0.1 (0.0)	2.0 (0.2)	1.4 (0.1)	0.1 (0.0)	0.1 (0.0)	2.0 (0.3)	1.4 (0.2)
28	0.2 (0.0)	0.1 (0.0)	2.2 (0.4)	1.5 (0.3)	0.1 (0.0)	0.1 (0.0)	3.1 (0.8)	2.2 (0.5)
29	0.2 (0.1)	0.2 (0.0)	1.8 (0.3)	1.3 (0.2)	0.2 (0.1)	0.1 (0.0)	2.4 (0.4)	1.7 (0.3)
30	0.3 (0.0)	0.2 (0.0)			0.2 (0.0)	0.2 (0.0)		
31	0.2 (0.1)	0.2 (0.1)			0.1 (0.0)	0.1 (0.0)		
Avg	0.2	0.1	1.5	1.1	0.2	0.1	1.9	1.3
n	25	25	20	20	25	25	20	20
SD	0.1	0	0.4	0.3	0	0	0.4	0.3
Min	0.1	0.0	0.9	0.7	0.1	0.1	1.4	1.0
Max	0.3	0.2	2.2	1.5	0.3	0.2	3.1	2.2

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for November, 2008. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	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)	1.7 (0.4)	1.2 (0.3)	0.1 (0.0)	0.1 (0.0)	1.9 (0.3)	1.3 (0.2)
2	0.2 (0.1)	0.2 (0.0)	1.5 (0.2)	1.1 (0.1)	0.2 (0.0)	0.2 (0.0)	2.2 (0.2)	1.5 (0.2)
3	0.3 (0.1)	0.2 (0.0)	1.2 (0.3)	0.8 (0.2)	0.2 (0.0)	0.2 (0.0)	1.5 (0.4)	1.1 (0.3)
4	0.2 (0.1)	0.2 (0.0)			0.2 (0.0)	0.1 (0.0)		
5	0.2 (0.1)	0.1 (0.0)			0.2 (0.0)	0.2 (0.0)		
6	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)	0.2 (0.0)	0.2 (0.0)	1.4 (0.3)	1.0 (0.2)
7	0.1 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.1)	0.1 (0.0)	0.1 (0.0)	1.7 (0.2)	1.2 (0.1)
8	0.1 (0.0)	0.1 (0.0)	1.7 (0.2)	1.2 (0.1)	0.1 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)
9	0.1 (0.0)	0.1 (0.0)	1.6 (0.3)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	2.2 (0.3)	1.6 (0.2)
10	0.1 (0.0)	0.1 (0.0)	1.9 (0.3)	1.3 (0.2)	0.1 (0.0)	0.1 (0.0)	2.3 (0.4)	1.6 (0.3)
11	0.0 (0.0)	0.0 (0.0)	1.6 (0.5)	1.2 (0.4)	0.1 (0.1)	0.0 (0.0)	2.2 (0.6)	1.5 (0.4)
12	0.0 (0.0)	0.0 (0.0)	1.3 (0.1)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.1)
13	0.1 (0.0)	0.0 (0.0)	1.6 (0.3)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	2.5 (0.2)	1.8 (0.2)
14	0.1 (0.0)	0.0 (0.0)	1.9 (0.2)	1.4 (0.1)	0.0 (0.0)	0.0 (0.0)	2.2 (0.3)	1.6 (0.2)
15	0.0 (0.0)	0.0 (0.0)	1.7 (0.1)	1.2 (0.1)	0.0 (0.0)	0.0 (0.0)	2.1 (0.5)	1.5 (0.4)
16	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.1)	-0.1 (0.0)	0.0 (0.0)	2.6 (0.7)	1.8 (0.5)
17	0.0 (0.0)	0.0 (0.0)	1.9 (0.3)	1.3 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.8 (0.3)	2.0 (0.2)
18	0.0 (0.0)	0.0 (0.0)	1.9 (0.6)	1.4 (0.4)	0.0 (0.0)	0.0 (0.0)	2.7 (0.6)	1.9 (0.4)
19	0.0 (0.0)	0.0 (0.0)			0.0 (0.0)	0.0 (0.0)		
20	0.0 (0.0)	0.0 (0.0)			-0.1 (0.0)	0.0 (0.0)		
21	0.0 (0.0)	0.0 (0.0)	2.4 (0.3)	1.7 (0.2)	-0.1 (0.0)	0.0 (0.0)	3.2 (0.2)	2.3 (0.2)
22	0.0 (0.0)	0.0 (0.0)	1.8 (0.6)	1.3 (0.4)	0.0 (0.0)	0.0 (0.0)	2.6 (0.6)	1.8 (0.4)
23	0.0 (0.0)	0.0 (0.0)			0.0 (0.0)	0.0 (0.0)		
24	0.0 (0.0)	0.0 (0.0)	1.9 (0.4)	1.3 (0.3)	0.0 (0.0)	0.0 (0.0)	2.6 (0.6)	1.9 (0.4)
25	0.0 (0.0)	0.0 (0.0)	2.5 (0.6)	1.8 (0.4)	0.0 (0.0)	0.0 (0.0)	3.2 (0.3)	2.2 (0.2)
26	0.1 (0.1)	0.1 (0.0)	2.3 (0.6)	1.6 (0.4)	0.0 (0.0)	0.0 (0.0)	2.8 (0.6)	2.0 (0.4)
27	0.1 (0.1)	0.1 (0.0)	2.0 (0.5)	1.5 (0.3)	0.0 (0.0)	0.0 (0.0)	2.7 (0.8)	1.9 (0.5)
28	0.1 (0.0)	0.0 (0.0)	2.1 (0.3)	1.5 (0.2)	0.0 (0.0)	0.0 (0.0)	2.7 (0.5)	2.0 (0.3)
29	0.1 (0.0)	0.0 (0.0)			0.0 (0.0)	0.0 (0.0)		
30	0.0 (0.0)	0.0 (0.0)			0.0 (0.0)	0.0 (0.0)		
Avg	0.1	0.1	1.8	1.3	0	0	2.3	1.6
n	30	30	23	23	30	30	23	23
SD	0.1	0.1	0.3	0.2	0.1	0.1	0.5	0.4
Min	0.0	0.0	1.1	0.8	-0.1	-0.1	1.4	1.0
Max	0.3	0.2	2.5	1.8	0.2	0.2	3.2	2.3

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for December, 2008. MDL = 0.2 ppm.

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

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for January, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.1 (0.2)	1.5 (0.2)
2	0.0 (0.0)	0.0 (0.0)	1.9 (0.2)	1.3 (0.2)	-0.1 (0.0)	-0.1 (0.0)	1.8 (0.2)	1.3 (0.1)
3	0.0 (0.0)	0.0 (0.0)	1.5 (0.3)	1.1 (0.2)	0.0 (0.1)	0.0 (0.1)	1.7 (0.2)	1.2 (0.1)
4	0.0 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.2)	-0.1 (0.0)	-0.1 (0.0)	1.6 (0.3)	1.1 (0.2)
5	0.0 (0.0)	0.0 (0.0)	2.2 (0.4)	1.5 (0.3)	-0.1 (0.0)	0.0 (0.0)	2.0 (0.2)	1.4 (0.1)
6	0.0 (0.0)	0.0 (0.0)	1.9 (0.2)	1.4 (0.1)	-0.1 (0.0)	0.0 (0.0)	2.0 (0.2)	1.4 (0.2)
7	0.0 (0.0)	0.0 (0.0)	1.9 (0.1)	1.3 (0.1)	-0.1 (0.0)	0.0 (0.0)	1.6 (0.1)	1.1 (0.1)
8	0.0 (0.0)	0.0 (0.0)	1.9 (0.2)	1.3 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.6 (0.2)	1.1 (0.2)
9	0.0 (0.0)	0.0 (0.0)	1.9 (0.3)	1.4 (0.2)	-0.1 (0.0)	-0.1 (0.0)	1.5 (0.1)	1.1 (0.1)
10	0.0 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.5 (0.1)	1.1 (0.1)
11	0.0 (0.0)	0.0 (0.0)	1.7 (0.1)	1.2 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.1)	1.2 (0.1)
12	0.0 (0.0)	0.0 (0.0)	2.0 (0.3)	1.4 (0.2)	-0.1 (0.0)	-0.1 (0.0)	1.8 (0.3)	1.3 (0.2)
13	-0.1 (0.0)	0.0 (0.0)	2.1 (0.3)	1.5 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.1 (0.4)	1.5 (0.3)
14	0.0 (0.0)	0.0 (0.0)	2.5 (0.2)	1.8 (0.1)	-0.1 (0.0)	-0.1 (0.0)	2.4 (0.2)	1.7 (0.1)
15	0.0 (0.0)	0.0 (0.0)	2.7 (0.2)	1.9 (0.1)	-0.1 (0.0)	-0.1 (0.0)	3.0 (0.2)	2.1 (0.2)
16	0.0 (0.0)	0.0 (0.0)	3.0 (0.3)	2.1 (0.2)	-0.1 (0.0)	-0.1 (0.0)	3.0 (0.4)	2.2 (0.3)
17	0.0 (0.0)	0.0 (0.0)	2.7 (0.2)	1.9 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.5 (0.2)	1.8 (0.2)
18	0.0 (0.0)	0.0 (0.0)	2.7 (0.1)	1.9 (0.1)	-0.1 (0.0)	-0.1 (0.0)	2.4 (0.2)	1.7 (0.1)
19	0.0 (0.0)	0.0 (0.0)	2.7 (0.3)	1.9 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.4 (0.1)	1.7 (0.1)
20	0.0 (0.0)	0.0 (0.0)	2.3 (0.4)	1.6 (0.3)	-0.1 (0.0)	-0.1 (0.0)	2.2 (0.2)	1.6 (0.1)
21	0.0 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.0 (0.1)	1.4 (0.1)
22	0.0 (0.0)	0.0 (0.0)	1.9 (0.2)	1.3 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.9 (0.1)	1.3 (0.1)
23	-0.1 (0.0)	0.0 (0.0)	2.0 (0.2)	1.4 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.2)	1.2 (0.1)
24	0.0 (0.0)	0.0 (0.0)	2.4 (0.4)	1.7 (0.3)	-0.1 (0.0)	-0.1 (0.0)	2.5 (0.4)	1.8 (0.3)
25	0.0 (0.0)	0.0 (0.0)	2.6 (0.4)	1.8 (0.3)	-0.1 (0.0)	-0.1 (0.0)	2.7 (0.5)	1.9 (0.3)
26	0.0 (0.0)	0.0 (0.0)	2.6 (0.5)	1.8 (0.3)	-0.1 (0.0)	-0.1 (0.0)	2.6 (0.4)	1.8 (0.3)
27	0.0 (0.0)	0.0 (0.0)	2.2 (0.4)	1.6 (0.3)	-0.1 (0.0)	-0.1 (0.0)	2.4 (0.5)	1.7 (0.4)
28	0.0 (0.0)	0.0 (0.0)	2.2 (0.3)	1.6 (0.2)	-0.1 (0.0)	-0.1 (0.0)	2.1 (0.3)	1.5 (0.2)
29	0.0 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.1)	-0.1 (0.0)	-0.1 (0.0)	1.7 (0.2)	1.2 (0.1)
30	0.0 (0.0)	0.0 (0.0)	2.0 (0.4)	1.4 (0.3)	-0.1 (0.0)	-0.1 (0.0)	1.8 (0.2)	1.3 (0.2)
31	0.0 (0.0)	0.0 (0.0)	1.3 (0.3)	0.9 (0.2)	-0.1 (0.0)	0.0 (0.0)	1.9 (0.4)	1.3 (0.3)
Avg	0	0	2.1	1.5	-0.1	-0.1	2.1	1.5
n	31	31	31	31	31	31	31	31
SD	0	0	0.4	0.3	0	0	0.4	0.3
Min	-0.1	0.0	1.3	0.9	-0.1	-0.1	1.5	1.1
Max	0.0	0.0	3.0	2.1	0.0	0.0	3.0	2.2

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for February, 2009. MDL = 0.2 ppm.

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

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for March, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.0 (0.0)	0.0 (0.0)	2.1 (0.2)	1.5 (0.1)	0.0 (0.0)	0.0 (0.0)	1.8 (0.1)	1.3 (0.1)
2	0.0 (0.0)				0.0 (0.0)			
3	0.0 (0.0)				0.0 (0.0)			
4	0.0 (0.0)	0.0 (0.0)	1.1 (0.3)	0.8 (0.2)	0.0 (0.0)	0.0 (0.0)	1.7 (0.4)	1.2 (0.3)
5	0.0 (0.0)	0.0 (0.0)	1.0 (0.1)	0.7 (0.1)	0.0 (0.0)	0.0 (0.0)	1.3 (0.0)	0.9 (0.0)
6	0.0 (0.0)	0.0 (0.0)	1.3 (0.2)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	1.5 (0.1)	1.1 (0.1)
7	0.0 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.3)	1.2 (0.2)
8	0.0 (0.0)	0.0 (0.0)	1.3 (0.2)	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	1.9 (0.5)	1.3 (0.3)
9	0.1 (0.0)	0.1 (0.0)	1.4 (0.4)	1.0 (0.3)	0.0 (0.0)	0.0 (0.0)	2.2 (0.7)	1.6 (0.5)
10	0.0 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.4 (0.3)	1.0 (0.2)
11	0.0 (0.0)	0.0 (0.0)	2.1 (0.2)	1.5 (0.1)	-0.1 (0.0)	0.0 (0.0)	1.8 (0.1)	1.3 (0.1)
12	0.0 (0.0)	0.0 (0.0)	2.1 (0.3)	1.5 (0.2)	-0.1 (0.0)	0.0 (0.0)	2.0 (0.2)	1.4 (0.1)
13	0.0 (0.0)	0.0 (0.0)	1.3 (0.4)	0.9 (0.3)	0.0 (0.0)	0.0 (0.0)	1.6 (0.3)	1.1 (0.2)
14	0.0 (0.0)	0.0 (0.0)	1.1 (0.2)	0.8 (0.1)	0.0 (0.0)	0.0 (0.0)	1.5 (0.2)	1.1 (0.1)
15	0.0 (0.0)	0.0 (0.0)	1.0 (0.1)	0.7 (0.1)	0.0 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.1)
16	0.1 (0.0)	0.1 (0.0)	1.2 (0.1)	0.8 (0.1)	0.1 (0.0)	0.0 (0.0)	1.8 (0.1)	1.3 (0.1)
17	0.2 (0.1)	0.2 (0.1)	1.5 (0.2)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.9 (0.3)	1.4 (0.2)
18	0.1 (0.1)	0.1 (0.1)	1.6 (0.3)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	2.0 (0.3)	1.4 (0.2)
19			2.1 (0.3)	1.5 (0.2)			2.4 (0.6)	1.7 (0.4)
20								
21								
22								
23								
24								
25	0.0 (0.0)	0.0 (0.0)	1.2 (0.2)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	2.2 (0.2)	1.5 (0.1)
26	0.1 (0.0)	0.0 (0.0)			0.0 (0.0)	0.0 (0.0)		
27	0.1 (0.0)	0.0 (0.0)			0.0 (0.0)	0.0 (0.0)		
28	0.1 (0.0)	0.0 (0.0)	2.2 (0.3)	1.5 (0.2)	0.0 (0.0)	0.0 (0.0)	2.4 (0.6)	1.7 (0.5)
29	0.0 (0.0)	0.0 (0.0)	2.0 (0.3)	1.4 (0.2)	0.0 (0.0)	0.0 (0.0)	2.2 (0.5)	1.6 (0.3)
30	0.0 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.9 (0.3)	1.3 (0.2)
31	0.1 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.1)	0.0 (0.0)	0.0 (0.0)	1.9 (0.4)	1.4 (0.3)
Avg	0	0	1.5	1.1	0	0	1.8	1.3
n	25	23	22	22	25	23	22	22
SD	0	0	0.4	0.3	0	0	0.3	0.2
Min	0.0	0.0	1.0	0.7	-0.1	0.0	1.3	0.9
Max	0.2	0.2	2.2	1.5	0.1	0.0	2.4	1.7

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for April, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.1 (0.0)	0.0 (0.0)	1.4 (0.1)	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	2.0 (0.1)	1.4 (0.1)
2	0.1 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	2.1 (0.2)	1.5 (0.1)
3	0.1 (0.0)	0.0 (0.0)	1.9 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.9 (0.1)	1.3 (0.1)
4	0.1 (0.0)	0.0 (0.0)	1.9 (0.2)	1.4 (0.1)	0.0 (0.0)	0.0 (0.0)	2.1 (0.6)	1.5 (0.4)
5	0.0 (0.0)	0.0 (0.0)	1.7 (0.1)	1.2 (0.1)	0.0 (0.0)	0.0 (0.0)	1.2 (0.2)	0.9 (0.1)
6	0.0 (0.0)	0.0 (0.0)	1.6 (0.2)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.3)
7	0.1 (0.1)	0.1 (0.1)	1.8 (0.1)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	2.1 (0.3)	1.5 (0.2)
8	0.1 (0.0)	0.1 (0.0)	1.8 (0.2)	1.3 (0.2)	0.0 (0.0)	0.0 (0.0)	2.0 (0.4)	1.4 (0.3)
9	0.1 (0.0)	0.1 (0.0)	1.9 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	2.0 (0.3)	1.4 (0.2)
10	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	1.6 (0.3)	1.1 (0.2)
11	0.1 (0.0)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.7 (0.4)	1.2 (0.3)
12	0.1 (0.0)	0.0 (0.0)	1.3 (0.1)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	1.6 (0.3)	1.1 (0.2)
13	0.0 (0.0)	0.0 (0.0)	1.5 (0.2)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.6 (0.4)	1.2 (0.3)
14	0.1 (0.0)	0.1 (0.0)	2.1 (0.3)	1.5 (0.2)	0.0 (0.0)	0.0 (0.0)	2.0 (0.3)	1.4 (0.2)
15	0.5 (0.6)	0.4 (0.4)	1.7 (0.4)	1.2 (0.3)	0.0 (0.0)	0.0 (0.0)	1.9 (0.4)	1.3 (0.3)
16	0.4 (0.3)	0.3 (0.2)	1.4 (0.4)	1.0 (0.3)	0.1 (0.0)	0.1 (0.0)	1.9 (0.4)	1.3 (0.3)
17	0.5 (0.3)	0.4 (0.2)	1.3 (0.3)	0.9 (0.2)	0.2 (0.1)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)
18	0.3 (0.3)	0.2 (0.2)	1.6 (0.3)	1.1 (0.2)	0.1 (0.1)	0.0 (0.1)	1.4 (0.3)	1.0 (0.2)
19	0.1 (0.0)	0.1 (0.0)	2.1 (0.3)	1.5 (0.2)	0.0 (0.0)	0.0 (0.0)	1.7 (0.3)	1.2 (0.2)
20	0.1 (0.0)	0.1 (0.0)	1.9 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.8 (0.3)	1.3 (0.2)
21	0.1 (0.0)	0.0 (0.0)	1.8 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.5 (0.4)	1.0 (0.3)
22	0.1 (0.0)	0.0 (0.0)	1.9 (0.5)	1.3 (0.3)	0.0 (0.1)	0.0 (0.0)	1.7 (0.3)	1.2 (0.2)
23	0.1 (0.0)	0.1 (0.0)	1.1 (0.3)	0.8 (0.2)	0.1 (0.0)	0.1 (0.0)	1.8 (0.4)	1.3 (0.3)
24	0.1 (0.0)	0.1 (0.0)	1.1 (0.3)	0.8 (0.2)	0.1 (0.1)	0.1 (0.0)	1.4 (0.4)	1.0 (0.3)
25	0.1 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.3)	0.0 (0.0)	0.0 (0.0)	1.6 (0.2)	1.1 (0.1)
26	0.1 (0.0)	0.0 (0.0)	1.3 (0.2)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	1.9 (0.2)	1.4 (0.2)
27	0.1 (0.0)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	2.2 (0.4)	1.6 (0.3)
28	0.1 (0.0)	0.0 (0.0)	1.5 (0.2)	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	1.9 (0.4)	1.4 (0.3)
29	0.1 (0.0)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)	0.1 (0.0)	0.1 (0.0)	1.8 (0.2)	1.3 (0.2)
30	0.1 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.1)	0.1 (0.1)	0.0 (0.0)	1.8 (0.1)	1.3 (0.1)
Avg	0.1	0.1	1.6	1.1	0	0	1.8	1.3
n	30	30	30	30	30	30	30	30
SD	0.1	0.1	0.3	0.2	0.1	0	0.2	0.2
Min	0.0	0.0	1.1	0.8	0.0	0.0	1.2	0.9
Max	0.5	0.4	2.1	1.5	0.2	0.1	2.2	1.6

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for May, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	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)	1.6 (0.3)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.9 (0.5)	1.4 (0.3)
2	0.1 (0.0)	0.1 (0.0)	1.6 (0.3)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.9 (0.5)	1.4 (0.3)
3	0.2 (0.1)	0.1 (0.1)	1.4 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.9 (0.3)	1.4 (0.2)
4	0.4 (0.3)	0.3 (0.2)	1.4 (0.5)	1.0 (0.3)	0.1 (0.1)	0.1 (0.0)	1.7 (0.4)	1.2 (0.3)
5	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)	0.1 (0.0)	0.1 (0.0)	1.6 (0.2)	1.2 (0.2)
6	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.2)	0.2 (0.1)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)
7	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.7 (0.1)	0.0 (0.1)	0.0 (0.1)	1.4 (0.3)	1.0 (0.2)
8	0.1 (0.0)	0.1 (0.0)	1.6 (0.2)	1.1 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.1)
9	0.1 (0.0)	0.1 (0.0)	1.6 (0.3)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.5 (0.4)	1.1 (0.3)
10	0.1 (0.0)	0.1 (0.0)	1.7 (0.4)	1.2 (0.3)	0.0 (0.0)	0.0 (0.0)	1.7 (0.4)	1.2 (0.3)
11	0.2 (0.0)	0.1 (0.0)	1.5 (0.5)	1.1 (0.3)	0.2 (0.1)	0.1 (0.1)	1.7 (0.2)	1.2 (0.2)
12	0.1 (0.0)	0.0 (0.0)	1.1 (0.1)	0.8 (0.1)	0.1 (0.1)	0.1 (0.0)	1.5 (0.2)	1.1 (0.2)
13	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)	0.0 (0.0)	0.0 (0.0)	1.5 (0.2)	1.1 (0.1)
14	0.1 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.0 (0.1)	0.0 (0.1)	1.5 (0.1)	1.1 (0.1)
15	0.1 (0.0)	0.0 (0.0)	1.2 (0.2)	0.8 (0.1)	0.1 (0.1)	0.0 (0.0)	1.5 (0.2)	1.1 (0.1)
16	0.1 (0.0)	0.1 (0.0)	1.5 (0.3)	1.1 (0.2)	0.0 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.3)
17	0.1 (0.0)	0.1 (0.0)	1.4 (0.4)	1.0 (0.3)	0.0 (0.1)	0.0 (0.0)	2.0 (0.4)	1.4 (0.3)
18	0.1 (0.0)	0.0 (0.0)	1.0 (0.2)	0.7 (0.1)	0.1 (0.0)	0.1 (0.0)	1.6 (0.3)	1.1 (0.2)
19	0.1 (0.0)	0.1 (0.0)	0.9 (0.3)	0.6 (0.2)	0.1 (0.0)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)
20	0.1 (0.0)	0.1 (0.0)	0.5 (0.3)	0.4 (0.2)	0.1 (0.0)	0.1 (0.0)	0.9 (0.3)	0.7 (0.2)
21	0.0 (0.0)	0.0 (0.0)	0.5 (0.3)	0.3 (0.2)	-0.1 (0.0)	0.0 (0.0)	0.5 (0.4)	0.4 (0.3)
22	0.1 (0.0)	0.1 (0.0)	0.9 (0.3)	0.7 (0.2)	0.1 (0.1)	0.1 (0.1)	1.2 (0.2)	0.9 (0.1)
23	0.2 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)	0.0 (0.1)	0.0 (0.1)	1.3 (0.3)	0.9 (0.2)
24	0.2 (0.0)	0.1 (0.0)	1.3 (0.4)	0.9 (0.3)	0.0 (0.0)	0.0 (0.0)	1.6 (0.2)	1.2 (0.1)
25	0.2 (0.0)	0.2 (0.0)	0.9 (0.3)	0.7 (0.2)	0.0 (0.1)	0.0 (0.1)	1.4 (0.3)	1.0 (0.2)
26	0.1 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)	0.1 (0.1)	0.1 (0.0)	1.7 (0.2)	1.2 (0.1)
27	0.1 (0.0)	0.1 (0.0)	1.7 (0.2)	1.2 (0.1)	0.0 (0.0)	0.0 (0.0)	1.2 (0.2)	0.8 (0.1)
28	0.2 (0.0)	0.1 (0.0)	1.3 (0.2)	1.0 (0.2)	0.0 (0.1)	0.0 (0.1)	1.3 (0.2)	0.9 (0.1)
29	0.1 (0.0)	0.1 (0.0)	1.3 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.2 (0.2)	0.9 (0.1)
30	0.1 (0.1)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.3 (0.3)	0.9 (0.2)
31	0.2 (0.1)	0.1 (0.0)	1.3 (0.6)	0.9 (0.4)	0.1 (0.0)	0.1 (0.0)	1.9 (0.5)	1.4 (0.4)
Avg	0.1	0.1	1.2	0.9	0	0	1.5	1.1
n	31	31	31	31	31	31	31	31
SD	0.1	0.1	0.3	0.2	0.1	0	0.3	0.2
Min	0.0	0.0	0.5	0.3	-0.1	0.0	0.5	0.4
Max	0.4	0.3	1.7	1.2	0.2	0.1	2.0	1.4

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for June, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	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)	1.3 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.2)
2	0.1 (0.0)	0.1 (0.0)	1.2 (0.1)	0.8 (0.1)	0.0 (0.1)	0.0 (0.0)	1.3 (0.3)	0.9 (0.2)
3	0.1 (0.1)	0.1 (0.1)	1.4 (0.3)	1.0 (0.2)	0.0 (0.1)	0.0 (0.0)	1.7 (0.4)	1.2 (0.3)
4	0.2 (0.1)	0.1 (0.1)	1.5 (0.5)	1.1 (0.4)	0.1 (0.1)	0.0 (0.0)	1.8 (0.5)	1.3 (0.4)
5	0.2 (0.1)	0.1 (0.0)	1.5 (0.2)	1.1 (0.1)	0.0 (0.1)	0.0 (0.1)	1.5 (0.3)	1.1 (0.2)
6	0.1 (0.0)	0.0 (0.0)	1.4 (0.3)	1.0 (0.2)	0.0 (0.0)	0.0 (0.0)	1.6 (0.5)	1.1 (0.4)
7	0.1 (0.0)	0.0 (0.0)	1.3 (0.1)	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.2)
8	0.1 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.0 (0.0)	0.0 (0.0)	1.3 (0.1)	1.0 (0.1)
9	0.1 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.1 (0.1)	0.0 (0.1)	1.6 (0.2)	1.1 (0.1)
10	0.1 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.1)	0.1 (0.1)	0.1 (0.0)	1.7 (0.2)	1.2 (0.1)
11	0.2 (0.0)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)	0.0 (0.0)	0.0 (0.0)	1.4 (0.4)	1.0 (0.3)
12	0.1 (0.0)	0.1 (0.0)	1.2 (0.3)	0.9 (0.2)	0.1 (0.0)	0.1 (0.0)	1.5 (0.3)	1.1 (0.2)
13	0.1 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)	0.1 (0.1)	0.1 (0.0)	1.6 (0.3)	1.2 (0.2)
14	0.2 (0.0)	0.2 (0.0)	1.1 (0.4)	0.8 (0.3)	0.3 (0.2)	0.2 (0.1)	1.3 (0.4)	0.9 (0.3)
15	0.2 (0.0)	0.1 (0.0)	1.0 (0.3)	0.7 (0.2)	0.2 (0.1)	0.2 (0.1)	1.3 (0.2)	0.9 (0.2)
16	0.1 (0.0)	0.1 (0.0)	0.9 (0.2)	0.6 (0.1)	0.0 (0.0)	0.0 (0.0)	1.1 (0.1)	0.8 (0.1)
17	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.2)	0.1 (0.0)	0.0 (0.0)	1.3 (0.1)	0.9 (0.1)
18	0.2 (0.0)	0.1 (0.0)	0.7 (0.1)	0.5 (0.1)	0.2 (0.0)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)
19	0.2 (0.0)	0.2 (0.0)	0.8 (0.1)	0.6 (0.1)	0.2 (0.1)	0.1 (0.1)	1.0 (0.1)	0.7 (0.1)
20	0.2 (0.0)	0.2 (0.0)	0.9 (0.1)	0.6 (0.1)	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)
21	0.3 (0.1)	0.2 (0.0)	1.0 (0.2)	0.7 (0.1)	0.2 (0.1)	0.1 (0.0)	1.1 (0.1)	0.8 (0.1)
22	0.3 (0.0)	0.2 (0.0)	1.0 (0.2)	0.7 (0.1)	0.4 (0.1)	0.3 (0.1)	1.3 (0.2)	0.9 (0.1)
23								
24								
25								
26								
27								
28								
29								
30								
Avg	0.2	0.1	1.2	0.8	0.1	0.1	1.4	1
n	22	22	22	22	22	22	22	22
SD	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2
Min	0.1	0.0	0.7	0.5	0.0	0.0	1.0	0.7
Max	0.3	0.2	1.5	1.1	0.4	0.3	1.8	1.3

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for July, 2009. MDL = 0.2 ppm.

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

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for August, 2009. MDL = 0.2 ppm.

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

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for September, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³	ppm	mg·dsm ⁻³
1	0.2 (0.0)	0.2 (0.0)	1.3 (0.2)	0.9 (0.2)	0.1 (0.0)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)
2	0.3 (0.1)	0.2 (0.0)	1.3 (0.3)	0.9 (0.2)	0.2 (0.1)	0.1 (0.1)	1.3 (0.2)	0.9 (0.1)
3	0.3 (0.1)	0.2 (0.1)	1.3 (0.3)	1.0 (0.2)	0.2 (0.1)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)
4	0.3 (0.1)	0.2 (0.1)	1.4 (0.3)	1.0 (0.2)	0.2 (0.1)	0.1 (0.1)	1.2 (0.2)	0.9 (0.1)
5	0.3 (0.1)	0.2 (0.1)	1.3 (0.3)	0.9 (0.2)	0.2 (0.1)	0.1 (0.1)	1.2 (0.1)	0.9 (0.1)
6	0.2 (0.1)	0.2 (0.0)	1.5 (0.4)	1.1 (0.3)	0.2 (0.1)	0.1 (0.0)	1.3 (0.2)	0.9 (0.1)
7	0.4 (0.2)	0.3 (0.2)	1.3 (0.4)	0.9 (0.3)	0.1 (0.0)	0.1 (0.0)	1.2 (0.2)	0.9 (0.2)
8	0.2 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)	0.2 (0.0)	0.2 (0.0)	1.4 (0.2)	1.0 (0.2)
9	0.2 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)	0.2 (0.0)	0.2 (0.0)	1.4 (0.2)	1.0 (0.2)
10	0.4 (0.1)	0.3 (0.1)	1.2 (0.4)	0.9 (0.3)	0.3 (0.1)	0.2 (0.1)	1.2 (0.3)	0.9 (0.2)
11	0.2 (0.1)	0.2 (0.0)	1.0 (0.2)	0.7 (0.2)	0.3 (0.1)	0.2 (0.1)	1.0 (0.2)	0.8 (0.1)
12	0.3 (0.1)	0.2 (0.1)	1.2 (0.4)	0.8 (0.3)	0.3 (0.0)	0.2 (0.0)	1.1 (0.2)	0.8 (0.2)
13	0.5 (0.2)	0.4 (0.1)	1.6 (0.6)	1.1 (0.4)	0.2 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)
14	0.4 (0.2)	0.3 (0.1)	1.5 (0.5)	1.1 (0.4)	0.2 (0.1)	0.1 (0.0)	1.4 (0.3)	1.0 (0.2)
15	0.4 (0.1)	0.3 (0.1)	1.4 (0.4)	1.0 (0.3)	0.1 (0.1)	0.1 (0.1)	1.1 (0.3)	0.8 (0.2)
16	0.2 (0.1)	0.2 (0.1)	1.3 (0.3)	1.0 (0.2)	0.1 (0.1)	0.0 (0.1)	1.2 (0.2)	0.8 (0.1)
17	0.3 (0.1)	0.2 (0.1)	1.4 (0.4)	1.0 (0.3)	0.3 (0.0)	0.2 (0.0)	1.3 (0.3)	0.9 (0.2)
18	0.3 (0.1)	0.2 (0.1)	1.5 (0.6)	1.1 (0.5)	0.3 (0.1)	0.2 (0.1)	1.2 (0.3)	0.8 (0.2)
19	0.2 (0.0)	0.2 (0.0)	1.0 (0.2)	0.7 (0.1)	0.3 (0.1)	0.2 (0.0)	1.1 (0.2)	0.8 (0.1)
20	0.2 (0.1)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)	0.2 (0.1)	0.2 (0.0)	1.3 (0.2)	0.9 (0.1)
21	0.2 (0.0)	0.1 (0.0)	1.2 (0.2)	0.9 (0.1)	0.2 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.2)
22	0.2 (0.0)	0.2 (0.0)	1.2 (0.2)	0.9 (0.2)	0.1 (0.0)	0.1 (0.0)	1.0 (0.2)	0.7 (0.1)
23	0.3 (0.0)	0.2 (0.0)	1.2 (0.2)	0.9 (0.1)	0.1 (0.0)	0.1 (0.0)	1.1 (0.2)	0.8 (0.1)
24	0.3 (0.1)	0.2 (0.1)	1.3 (0.3)	1.0 (0.2)	0.1 (0.0)	0.0 (0.0)	1.3 (0.2)	0.9 (0.2)
25	0.2 (0.0)	0.1 (0.0)	1.3 (0.2)	0.9 (0.1)	0.1 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)
26	0.2 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.3 (0.2)	1.0 (0.1)
27	0.2 (0.0)	0.1 (0.0)	1.5 (0.3)	1.0 (0.2)	0.1 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.2)
28	0.2 (0.0)	0.1 (0.0)	1.7 (0.1)	1.2 (0.1)	0.0 (0.0)	0.0 (0.0)	1.2 (0.1)	0.9 (0.1)
29	0.2 (0.0)	0.1 (0.0)			0.0 (0.0)	0.0 (0.0)		
30	0.1 (0.0)	0.1 (0.0)	1.6 (0.4)	1.1 (0.3)	0.0 (0.0)	0.0 (0.0)	1.5 (0.3)	1.1 (0.2)
Avg	0.3	0.2	1.3	1	0.2	0.1	1.2	0.9
n	30	30	29	29	30	30	29	29
SD	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Min	0.1	0.1	1.0	0.7	0.0	0.0	1.0	0.7
Max	0.5	0.4	1.7	1.2	0.3	0.2	1.5	1.1

Table F10. Daily means (SD) of NH₃ concentrations at Site W15B for October, 2009. MDL = 0.2 ppm.

Day	South inlet		Barn 1		North inlet		Barn 2	
	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)	1.3 (0.2)	1.0 (0.2)	0.1 (0.0)	0.1 (0.0)	1.2 (0.3)	0.9 (0.2)
2	0.1 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	1.0 (0.1)	0.7 (0.1)
3	0.1 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	1.3 (0.2)	0.9 (0.2)
4	0.2 (0.0)	0.1 (0.0)	1.6 (0.3)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	1.4 (0.3)	1.0 (0.2)
5	0.2 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	1.5 (0.4)	1.1 (0.3)
6	0.1 (0.0)	0.1 (0.0)	1.6 (0.2)	1.2 (0.2)	0.0 (0.0)	0.0 (0.0)	1.3 (0.2)	1.0 (0.1)
7	0.2 (0.0)	0.1 (0.0)	1.6 (0.3)	1.2 (0.2)	0.1 (0.0)	0.1 (0.0)	1.8 (0.2)	1.3 (0.1)
8	0.2 (0.0)	0.1 (0.0)	2.1 (0.3)	1.5 (0.2)	0.0 (0.0)	0.0 (0.0)	2.1 (0.4)	1.5 (0.3)
9	0.2 (0.0)	0.1 (0.0)	1.9 (0.2)	1.4 (0.1)	0.1 (0.1)	0.0 (0.1)	1.8 (0.3)	1.2 (0.2)
10	0.5 (0.2)	0.3 (0.1)	1.8 (0.2)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.2)
11	0.3 (0.1)	0.2 (0.1)	1.8 (0.1)	1.3 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.1)	1.2 (0.1)
12	0.3 (0.2)	0.2 (0.1)	1.7 (0.2)	1.2 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.1)
13	0.2 (0.1)	0.1 (0.0)	2.0 (0.2)	1.4 (0.1)	0.0 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.1)
14	0.2 (0.0)	0.1 (0.0)	1.9 (0.2)	1.3 (0.1)	0.1 (0.0)	0.0 (0.0)	1.9 (0.1)	1.3 (0.1)
15	0.2 (0.0)	0.1 (0.0)	1.8 (0.1)	1.3 (0.1)	0.1 (0.0)	0.0 (0.0)	1.7 (0.2)	1.2 (0.1)
16	0.2 (0.0)	0.1 (0.0)	1.9 (0.2)	1.4 (0.1)	0.1 (0.0)	0.0 (0.0)	1.9 (0.2)	1.4 (0.1)
17	0.2 (0.0)	0.1 (0.0)	1.8 (0.2)	1.3 (0.2)	0.1 (0.1)	0.1 (0.0)	2.0 (0.3)	1.4 (0.2)
18	0.2 (0.0)	0.1 (0.0)	1.5 (0.2)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	2.0 (0.2)	1.4 (0.1)
19	0.2 (0.0)	0.1 (0.0)	1.4 (0.1)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	1.6 (0.2)	1.1 (0.1)
20	0.2 (0.0)	0.1 (0.0)	1.3 (0.1)	0.9 (0.1)	0.1 (0.0)	0.0 (0.0)	1.3 (0.1)	0.9 (0.1)
21	0.2 (0.0)	0.1 (0.0)			0.1 (0.1)	0.1 (0.0)		
22	0.2 (0.0)	0.1 (0.0)	2.5 (0.2)	1.8 (0.2)	0.1 (0.0)	0.0 (0.0)	1.6 (0.1)	1.2 (0.1)
23	0.2 (0.0)	0.1 (0.0)	2.3 (0.3)	1.6 (0.2)	0.1 (0.0)	0.0 (0.0)	1.4 (0.2)	1.0 (0.1)
24	0.2 (0.0)	0.1 (0.0)	1.6 (0.4)	1.2 (0.3)	0.1 (0.0)	0.1 (0.0)	1.7 (0.1)	1.2 (0.1)
25	0.2 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.2)	0.1 (0.0)	0.1 (0.0)	1.9 (0.3)	1.4 (0.2)
26	0.2 (0.0)	0.2 (0.0)	2.0 (0.2)	1.4 (0.2)	0.1 (0.0)	0.0 (0.0)	2.2 (0.3)	1.6 (0.2)
27	0.2 (0.0)	0.2 (0.0)	1.6 (0.2)	1.1 (0.1)	0.2 (0.0)	0.1 (0.0)	2.2 (0.3)	1.6 (0.2)
28	0.2 (0.0)	0.1 (0.0)	1.7 (0.3)	1.2 (0.2)	0.1 (0.0)	0.0 (0.0)	1.9 (0.3)	1.4 (0.2)
29	0.2 (0.0)	0.1 (0.0)	1.2 (0.2)	0.8 (0.1)	0.1 (0.0)	0.1 (0.0)	1.6 (0.1)	1.1 (0.1)
30			1.4 (0.2)	1.0 (0.1)	0.1 (0.0)	0.1 (0.0)	2.0 (0.2)	1.4 (0.2)
31			1.7 (0.1)	1.2 (0.1)	0.1 (0.0)	0.1 (0.0)	2.0 (0.2)	1.5 (0.1)
Avg	0.2	0.1	1.7	1.2	0.1	0	1.7	1.2
n	29	29	30	30	31	31	30	30
SD	0.1	0	0.3	0.2	0	0	0.3	0.2
Min	0.1	0.1	1.2	0.8	0.0	0.0	1.0	0.7
Max	0.5	0.3	2.5	1.8	0.2	0.1	2.2	1.6

Table F11. Ammonia emissions.**Table F11. Daily means (SD) of NH₃ emissions at Site WISB for September, 2007.**

Day	Barn 1				Barn 2			
	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
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	6.11 (0.97)	2.35 (0.37)	28.90 (4.59)	20.60 (3.26)	11.20 (2.14)	3.48 (0.67)	31.50 (6.02)	22.40 (4.28)
13	6.52 (1.28)	2.50 (0.49)	30.90 (6.07)	22.00 (4.31)	12.10 (1.76)	3.78 (0.55)	34.20 (4.94)	24.30 (3.52)
14								
15								
16								
17								
18								
19								
20								
21								
22	8.96 (2.06)	3.44 (0.79)	42.50 (9.78)	30.20 (6.96)	12.20 (2.96)	3.80 (0.92)	34.40 (8.33)	24.40 (5.92)
23	8.75 (2.11)	3.36 (0.81)	41.40 (10.00)	29.50 (7.11)	10.80 (1.53)	3.35 (0.48)	30.30 (4.30)	21.60 (3.06)
24	8.05 (1.95)	3.09 (0.75)	38.10 (9.25)	27.10 (6.58)	12.80 (3.52)	4.00 (1.10)	36.20 (9.93)	25.70 (7.06)
25	7.09 (1.30)	2.72 (0.50)	33.60 (6.18)	23.90 (4.39)	12.20 (1.23)	3.81 (0.38)	34.50 (3.46)	24.50 (2.46)
26					12.30 (2.82)	3.82 (0.88)	34.60 (7.95)	24.60 (5.65)
27	8.03 (2.77)	3.08 (1.06)	38.00 (13.10)	27.10 (9.33)	9.89 (1.60)	3.08 (0.50)	27.90 (4.50)	19.80 (3.20)
28								
29	6.79 (1.15)	2.61 (0.44)	32.20 (5.45)	22.90 (3.88)	10.30 (1.67)	3.22 (0.52)	29.10 (4.70)	20.70 (3.34)
30	7.33 (1.54)	2.81 (0.59)	34.70 (7.28)	24.70 (5.18)	9.40 (1.27)	2.93 (0.40)	26.50 (3.58)	18.80 (2.55)
Avg	7.5	2.9	35.6	25.3	11.3	3.5	31.9	22.7
n	9	9	9	9	10	10	10	10
SD	0.9	0.4	4.4	3.2	1.1	0.4	3.2	2.2
Min	6.1	2.4	28.9	20.6	9.4	2.9	26.5	18.8
Max	9.0	3.4	42.5	30.2	12.8	4.0	36.2	25.7

Table F11. Daily means (SD) of NH3 emissions at Site WISB for October, 2007.

Day	Barn 1				Barn 2			
	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
1	8.93 (1.30)	3.43 (0.50)	42.30 (6.14)	30.10 (4.37)				
2	7.61 (1.49)	2.92 (0.57)	36.10 (7.05)	25.70 (5.01)	10.60 (1.78)	3.30 (0.55)	29.80 (5.01)	21.20 (3.56)
3	7.78 (1.26)	2.99 (0.49)	36.90 (5.98)	26.20 (4.25)	10.50 (1.66)	3.28 (0.52)	29.70 (4.67)	21.10 (3.32)
4	8.65 (1.70)	3.32 (0.65)	41.00 (8.07)	29.20 (5.74)	11.00 (1.42)	3.42 (0.44)	31.00 (3.99)	22.00 (2.83)
5	8.18 (1.56)	3.14 (0.60)	38.80 (7.41)	27.60 (5.27)	9.19 (1.65)	2.86 (0.52)	25.90 (4.66)	18.40 (3.31)
6	7.76 (0.84)	2.98 (0.32)	36.80 (3.98)	26.20 (2.83)	11.20 (2.22)	3.50 (0.69)	31.70 (6.25)	22.50 (4.45)
7	7.79 (1.53)	2.99 (0.59)	36.90 (7.27)	26.30 (5.17)	9.69 (1.41)	3.02 (0.44)	27.30 (3.98)	19.40 (2.83)
8								
9	6.90 (0.86)	2.65 (0.33)	32.70 (4.09)	23.30 (2.91)	9.44 (1.66)	2.94 (0.52)	26.60 (4.68)	18.90 (3.33)
10								
11								
12	5.51 (1.00)	2.12 (0.38)	26.10 (4.71)	18.60 (3.35)	8.72 (1.42)	2.72 (0.44)	24.60 (4.01)	17.50 (2.85)
13	5.91 (1.13)	2.27 (0.44)	28.00 (5.37)	19.90 (3.82)	8.91 (1.23)	2.78 (0.39)	25.10 (3.48)	17.90 (2.47)
14	6.16 (0.53)	2.37 (0.20)	29.20 (2.49)	20.80 (1.77)	8.29 (1.12)	2.58 (0.35)	23.30 (3.14)	16.60 (2.23)
15	6.04 (0.71)	2.32 (0.27)	28.60 (3.38)	20.40 (2.40)	7.92 (1.10)	2.47 (0.34)	22.30 (3.09)	15.90 (2.20)
16	6.92 (1.18)	2.66 (0.45)	32.80 (5.58)	23.30 (3.97)	10.70 (1.41)	3.32 (0.44)	30.00 (3.98)	21.30 (2.83)
17	7.05 (1.00)	2.71 (0.38)	33.40 (4.72)	23.80 (3.36)	11.60 (2.03)	3.63 (0.63)	32.80 (5.73)	23.30 (4.08)
18	6.65 (1.18)	2.55 (0.45)	31.50 (5.58)	22.40 (3.97)	12.40 (2.08)	3.86 (0.65)	34.90 (5.87)	24.80 (4.17)
19	6.77 (0.86)	2.60 (0.33)	32.10 (4.07)	22.80 (2.90)	10.50 (2.36)	3.26 (0.73)	29.50 (6.64)	21.00 (4.72)
20	6.55 (1.33)	2.51 (0.51)	31.00 (6.28)	22.10 (4.47)	10.80 (2.86)	3.37 (0.89)	30.50 (8.04)	21.70 (5.72)
21								
22								
23	6.15 (1.44)	2.36 (0.55)	29.10 (6.84)	20.70 (4.87)	8.61 (1.58)	2.68 (0.49)	24.20 (4.46)	17.20 (3.17)
24	6.24 (0.75)	2.40 (0.29)	29.60 (3.53)	21.00 (2.51)	8.52 (1.32)	2.66 (0.41)	24.00 (3.73)	17.10 (2.65)
25	5.31 (0.65)	2.04 (0.25)	25.20 (3.07)	17.90 (2.18)	8.53 (1.79)	2.66 (0.56)	24.00 (5.05)	17.10 (3.59)
26	5.33 (1.16)	2.05 (0.44)	25.30 (5.48)	18.00 (3.90)	8.27 (1.63)	2.58 (0.51)	23.30 (4.60)	16.60 (3.27)
27	6.43 (0.76)	2.47 (0.29)	30.50 (3.60)	21.70 (2.56)	9.44 (1.22)	2.94 (0.38)	26.60 (3.43)	18.90 (2.44)
28	5.41 (0.72)	2.08 (0.28)	25.60 (3.40)	18.20 (2.42)	9.95 (2.60)	3.10 (0.81)	28.00 (7.33)	19.90 (5.21)
29								
30								
31								
Avg	6.8	2.6	32.2	22.9	9.8	3.0	27.5	19.6
n	23	23	23	23	22	22	22	22
SD	1.0	0.4	4.9	3.5	1.2	0.4	3.4	2.4
Min	5.3	2.0	25.2	17.9	7.9	2.5	22.3	15.9
Max	8.9	3.4	42.3	30.1	12.4	3.9	34.9	24.8

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for November, 2007.

Day	Barn 1				Barn 2			
	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
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16	4.87 (0.97)	1.87 (0.37)	23.10 (4.57)	16.40 (3.25)	5.86 (0.66)	1.82 (0.21)	16.50 (1.87)	11.70 (1.33)
17	5.53 (0.40)	2.12 (0.15)	26.20 (1.89)	18.60 (1.35)	4.25 (0.60)	1.32 (0.19)	12.00 (1.68)	8.51 (1.20)
18	3.89 (0.57)	1.49 (0.22)	18.40 (2.71)	13.10 (1.93)	5.80 (0.83)	1.81 (0.26)	16.30 (2.34)	11.60 (1.66)
19	5.75 (1.28)	2.21 (0.49)	27.30 (6.09)	19.40 (4.33)	7.43 (0.53)	2.31 (0.16)	20.90 (1.48)	14.90 (1.05)
20	5.94 (0.92)	2.28 (0.35)	28.20 (4.37)	20.00 (3.11)	7.56 (1.83)	2.36 (0.57)	21.30 (5.15)	15.20 (3.66)
21	6.68 (1.74)	2.57 (0.67)	31.70 (8.25)	22.50 (5.87)				
22	6.53 (1.51)	2.51 (0.58)	31.00 (7.15)	22.00 (5.08)				
23	5.89 (0.97)	2.26 (0.37)	27.90 (4.62)	19.90 (3.28)	6.55 (0.64)	2.04 (0.20)	18.40 (1.81)	13.10 (1.29)
24	6.93 (0.29)	2.66 (0.11)	32.80 (1.39)	23.30 (0.99)	6.85 (0.61)	2.14 (0.19)	19.30 (1.70)	13.70 (1.21)
25	7.22 (0.47)	2.77 (0.18)	34.20 (2.25)	24.30 (1.60)	7.03 (1.44)	2.19 (0.45)	19.80 (4.04)	14.10 (2.88)
26	6.96 (0.97)	2.67 (0.37)	33.00 (4.61)	23.50 (3.28)	8.34 (0.90)	2.60 (0.28)	23.50 (2.54)	16.70 (1.80)
27	4.88 (0.40)	1.87 (0.15)	23.10 (1.90)	16.40 (1.35)	6.32 (0.66)	1.97 (0.20)	17.80 (1.84)	12.70 (1.31)
28	4.89 (0.73)	1.88 (0.28)	23.20 (3.45)	16.50 (2.45)	7.52 (0.98)	2.34 (0.30)	21.20 (2.75)	15.10 (1.96)
29								
30								
Avg	5.8	2.2	27.7	19.7	6.7	2.1	18.8	13.4
n	13	13	13	13	11	11	11	11
SD	1.0	0.4	4.6	3.3	1.1	0.3	3.0	2.1
Min	3.9	1.5	18.4	13.1	4.3	1.3	12.0	8.5
Max	7.2	2.8	34.2	24.3	8.3	2.6	23.5	16.7

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for December, 2007.

Day	Barn 1				Barn 2			
	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
1	3.98 (0.37)	1.53 (0.14)	18.90 (1.76)	13.40 (1.25)	6.24 (0.69)	1.94 (0.22)	17.60 (1.95)	12.50 (1.38)
2	4.32 (0.30)	1.66 (0.11)	20.50 (1.41)	14.60 (1.00)	7.40 (0.50)	2.31 (0.15)	20.90 (1.39)	14.80 (0.99)
3	4.02 (0.28)	1.54 (0.11)	19.00 (1.31)	13.50 (0.93)	6.27 (0.33)	1.95 (0.10)	17.70 (0.93)	12.60 (0.66)
4	4.49 (0.45)	1.72 (0.17)	21.30 (2.11)	15.10 (1.50)	6.26 (0.48)	1.95 (0.15)	17.60 (1.35)	12.50 (0.96)
5	4.60 (0.59)	1.77 (0.23)	21.80 (2.81)	15.50 (2.00)	6.22 (0.52)	1.94 (0.16)	17.50 (1.47)	12.50 (1.05)
6	5.32 (0.67)	2.04 (0.26)	25.20 (3.15)	17.90 (2.24)	7.41 (0.57)	2.31 (0.18)	20.90 (1.62)	14.80 (1.15)
7	4.90 (0.47)	1.88 (0.18)	23.20 (2.22)	16.50 (1.58)	6.73 (0.62)	2.10 (0.19)	19.00 (1.75)	13.50 (1.24)
8	5.11 (0.68)	1.96 (0.26)	24.20 (3.23)	17.20 (2.30)	6.31 (0.46)	1.97 (0.14)	17.80 (1.28)	12.60 (0.91)
9	5.08 (0.70)	1.95 (0.27)	24.10 (3.31)	17.10 (2.36)	6.00 (0.43)	1.87 (0.13)	16.90 (1.21)	12.00 (0.86)
10	5.34 (0.82)	2.05 (0.31)	25.30 (3.88)	18.00 (2.76)	6.49 (0.98)	2.02 (0.31)	18.30 (2.76)	13.00 (1.96)
11								
12	5.10 (0.42)	1.96 (0.16)	24.20 (2.00)	17.20 (1.43)	6.46 (0.73)	2.01 (0.23)	18.20 (2.05)	12.90 (1.46)
13	4.92 (0.42)	1.89 (0.16)	23.30 (1.98)	16.60 (1.41)	7.20 (0.41)	2.24 (0.13)	20.30 (1.15)	14.40 (0.82)
14	3.60 (0.78)	1.38 (0.30)	17.10 (3.68)	12.10 (2.62)	6.76 (1.05)	2.11 (0.33)	19.10 (2.95)	13.60 (2.09)
15	2.81 (0.21)	1.08 (0.08)	13.30 (0.97)	9.47 (0.69)	7.27 (0.66)	2.26 (0.21)	20.50 (1.86)	14.60 (1.32)
16	2.92 (0.24)	1.12 (0.09)	13.80 (1.12)	9.85 (0.80)	8.12 (0.73)	2.53 (0.23)	22.90 (2.05)	16.30 (1.46)
17	3.06 (0.23)	1.18 (0.09)	14.50 (1.09)	10.30 (0.78)	9.02 (0.61)	2.81 (0.19)	25.40 (1.71)	18.10 (1.22)
18	3.39 (0.29)	1.30 (0.11)	16.10 (1.36)	11.40 (0.97)	9.77 (1.55)	3.04 (0.48)	27.50 (4.36)	19.60 (3.10)
19								
20	5.03 (1.13)	1.93 (0.44)	23.90 (5.37)	17.00 (3.82)				
21	5.26 (1.04)	2.02 (0.40)	24.90 (4.93)	17.70 (3.51)	12.10 (4.89)	3.76 (1.52)	34.00 (13.80)	24.20 (9.80)
22	6.00 (0.70)	2.31 (0.27)	28.50 (3.31)	20.20 (2.35)	8.98 (3.69)	2.80 (1.15)	25.30 (10.40)	18.00 (7.40)
23								
24								
25								
26	7.83 (0.70)	3.01 (0.27)	37.10 (3.33)	26.40 (2.37)	8.35 (0.69)	2.60 (0.22)	23.50 (1.95)	16.70 (1.39)
27	8.50 (1.19)	3.26 (0.46)	40.30 (5.62)	28.70 (4.00)	9.84 (2.07)	3.07 (0.64)	27.70 (5.82)	19.70 (4.14)
28	8.99 (1.92)	3.45 (0.74)	42.60 (9.08)	30.30 (6.46)	10.10 (1.40)	3.14 (0.44)	28.40 (3.94)	20.20 (2.80)
29	11.00 (1.60)	4.24 (0.62)	52.30 (7.60)	37.20 (5.41)	11.30 (1.76)	3.52 (0.55)	31.80 (4.95)	22.60 (3.52)
30	12.40 (1.83)	4.77 (0.70)	58.80 (8.67)	41.90 (6.16)	12.40 (1.55)	3.87 (0.48)	35.00 (4.37)	24.90 (3.11)
31	14.60 (3.06)	5.61 (1.17)	69.20 (14.50)	49.20 (10.30)	14.40 (2.94)	4.48 (0.92)	40.50 (8.28)	28.80 (5.89)
Avg	5.9	2.3	27.8	19.8	8.3	2.6	23.4	16.6
n	26	26	26	26	25	25	25	25
SD	2.9	1.1	13.8	9.9	2.3	0.7	6.4	4.5
Min	2.8	1.1	13.3	9.5	6.0	1.9	16.9	12.0
Max	14.6	5.6	69.2	49.2	14.4	4.5	40.5	28.8

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for January, 2008.

Day	Barn 1				Barn 2			
	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
1	10.00 (1.55)	3.86 (0.60)	47.60 (7.35)	33.90 (5.23)	10.40 (1.43)	3.25 (0.45)	29.40 (4.04)	20.90 (2.87)
2	11.00 (1.28)	4.23 (0.49)	52.20 (6.08)	37.10 (4.32)	10.70 (1.60)	3.35 (0.50)	30.30 (4.51)	21.50 (3.21)
3	9.53 (0.87)	3.66 (0.33)	45.20 (4.12)	32.10 (2.93)	9.83 (0.97)	3.06 (0.30)	27.70 (2.73)	19.70 (1.94)
4	8.51 (0.86)	3.27 (0.33)	40.30 (4.08)	28.70 (2.90)	11.40 (3.19)	3.56 (0.99)	32.20 (8.98)	22.90 (6.39)
5	6.86 (1.32)	2.63 (0.51)	32.50 (6.24)	23.10 (4.44)	10.90 (1.58)	3.39 (0.49)	30.70 (4.46)	21.80 (3.17)
6	6.76 (1.26)	2.60 (0.49)	32.10 (5.98)	22.80 (4.25)	13.10 (5.10)	4.08 (1.59)	36.90 (14.40)	26.20 (10.20)
7								
8	9.57 (2.57)	3.68 (0.99)	45.40 (12.20)	32.30 (8.65)				
9	9.10 (0.58)	3.50 (0.22)	43.10 (2.77)	30.70 (1.97)	10.20 (0.80)	3.17 (0.25)	28.70 (2.24)	20.40 (1.59)
10	10.20 (3.71)	3.91 (1.43)	48.20 (17.60)	34.30 (12.50)	8.81 (0.75)	2.75 (0.23)	24.80 (2.11)	17.70 (1.50)
11	7.57 (1.24)	2.91 (0.48)	35.90 (5.86)	25.50 (4.17)	7.69 (0.55)	2.40 (0.17)	21.70 (1.54)	15.40 (1.09)
12	7.47 (0.81)	2.87 (0.31)	35.40 (3.84)	25.20 (2.73)	7.13 (0.39)	2.22 (0.12)	20.10 (1.09)	14.30 (0.78)
13	7.44 (1.08)	2.86 (0.41)	35.30 (5.10)	25.10 (3.63)	7.84 (1.32)	2.44 (0.41)	22.10 (3.72)	15.70 (2.64)
14	9.95 (1.94)	3.82 (0.75)	47.20 (9.21)	33.50 (6.55)	10.00 (1.63)	3.12 (0.51)	28.20 (4.60)	20.10 (3.27)
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25	9.02 (1.78)	3.47 (0.68)	42.80 (8.43)	30.40 (5.99)	11.30 (1.38)	3.50 (0.43)	31.70 (3.87)	22.50 (2.76)
26	7.41 (1.33)	2.85 (0.51)	35.10 (6.28)	25.00 (4.47)				
27	5.86 (1.32)	2.25 (0.51)	27.80 (6.23)	19.80 (4.43)				
28	4.60 (1.08)	1.76 (0.41)	21.80 (5.10)	15.50 (3.63)				
29	6.79 (2.84)	2.61 (1.09)	32.20 (13.50)	22.90 (9.57)	5.28 (2.16)	1.65 (0.67)	14.90 (6.08)	10.60 (4.32)
30	10.60 (1.48)	4.07 (0.57)	50.30 (7.03)	35.70 (5.00)	8.58 (1.16)	2.67 (0.36)	24.20 (3.26)	17.20 (2.32)
31					8.71 (1.58)	2.71 (0.49)	24.50 (4.46)	17.40 (3.17)
Avg	8.3	3.2	39.5	28.1	9.5	3.0	26.8	19.0
n	19	19	19	19	16	16	16	16
SD	1.7	0.7	8.1	5.7	1.9	0.6	5.3	3.7
Min	4.6	1.8	21.8	15.5	5.3	1.7	14.9	10.6
Max	11.0	4.2	52.2	37.1	13.1	4.1	36.9	26.2

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for February, 2008.

Day	Barn 1				Barn 2			
	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
1	9.94 (3.25)	3.82 (1.25)	47.10 (15.40)	33.50 (10.90)	9.15 (2.16)	2.85 (0.67)	25.80 (6.07)	18.30 (4.32)
2	9.09 (2.06)	3.49 (0.79)	43.10 (9.79)	30.60 (6.96)	7.80 (2.55)	2.43 (0.80)	22.00 (7.19)	15.60 (5.12)
3	5.55 (1.81)	2.13 (0.69)	26.30 (8.56)	18.70 (6.09)	6.49 (2.48)	2.02 (0.77)	18.30 (6.98)	13.00 (4.97)
4	8.11 (2.42)	3.11 (0.93)	38.40 (11.50)	27.30 (8.16)	10.30 (3.94)	3.21 (1.23)	29.00 (11.10)	20.60 (7.89)
5	8.73 (0.87)	3.35 (0.34)	41.40 (4.13)	29.40 (2.94)	12.50 (5.27)	3.89 (1.64)	35.20 (14.80)	25.00 (10.60)
6	8.65 (2.98)	3.32 (1.15)	41.00 (14.10)	29.20 (10.10)	7.45 (1.68)	2.32 (0.52)	21.00 (4.73)	14.90 (3.36)
7	7.27 (1.87)	2.79 (0.72)	34.50 (8.88)	24.50 (6.31)	7.97 (1.09)	2.48 (0.34)	22.40 (3.08)	16.00 (2.19)
8	7.37 (1.87)	2.83 (0.72)	34.90 (8.86)	24.80 (6.30)	6.08 (0.87)	1.90 (0.27)	17.10 (2.45)	12.20 (1.74)
9	7.69 (2.86)	2.95 (1.10)	36.40 (13.60)	25.90 (9.65)	6.61 (1.18)	2.06 (0.37)	18.60 (3.32)	13.20 (2.36)
10	8.84 (0.59)	3.39 (0.23)	41.90 (2.81)	29.80 (2.00)	8.65 (0.61)	2.70 (0.19)	24.40 (1.73)	17.30 (1.23)
11	9.61 (1.69)	3.69 (0.65)	45.60 (8.02)	32.40 (5.70)	8.73 (1.87)	2.72 (0.58)	24.60 (5.27)	17.50 (3.75)
12	7.74 (1.66)	2.97 (0.64)	36.70 (7.86)	26.10 (5.59)	7.78 (2.13)	2.42 (0.66)	21.90 (5.99)	15.60 (4.26)
13	8.85 (2.18)	3.40 (0.84)	41.90 (10.30)	29.80 (7.35)	12.10 (3.99)	3.77 (1.24)	34.10 (11.20)	24.20 (7.99)
14	5.94 (0.72)	2.28 (0.28)	28.20 (3.41)	20.00 (2.43)	7.42 (1.00)	2.31 (0.31)	20.90 (2.82)	14.90 (2.00)
15	5.99 (0.57)	2.30 (0.22)	28.40 (2.68)	20.20 (1.90)	6.33 (0.55)	1.97 (0.17)	17.80 (1.54)	12.70 (1.10)
16	7.48 (2.86)	2.87 (1.10)	35.40 (13.60)	25.20 (9.65)	9.30 (4.49)	2.90 (1.40)	26.20 (12.70)	18.60 (9.00)
17	6.59 (2.00)	2.53 (0.77)	31.20 (9.46)	22.20 (6.73)	10.70 (3.80)	3.32 (1.18)	30.00 (10.70)	21.40 (7.62)
18	4.40 (0.86)	1.69 (0.33)	20.80 (4.06)	14.80 (2.89)	5.97 (0.61)	1.86 (0.19)	16.80 (1.73)	12.00 (1.23)
19	5.43 (0.76)	2.08 (0.29)	25.70 (3.61)	18.30 (2.57)	5.88 (0.95)	1.83 (0.30)	16.60 (2.67)	11.80 (1.90)
20	8.24 (1.55)	3.17 (0.59)	39.10 (7.34)	27.80 (5.22)	9.28 (2.59)	2.89 (0.81)	26.10 (7.31)	18.60 (5.20)
21	8.67 (0.91)	3.33 (0.35)	41.10 (4.33)	29.20 (3.08)	11.00 (1.68)	3.43 (0.52)	31.10 (4.73)	22.10 (3.36)
22	8.17 (2.40)	3.14 (0.92)	38.70 (11.40)	27.50 (8.10)	8.52 (2.30)	2.65 (0.72)	24.00 (6.47)	17.10 (4.60)
23	8.21 (2.60)	3.15 (1.00)	38.90 (12.30)	27.70 (8.77)	9.55 (3.14)	2.98 (0.98)	26.90 (8.84)	19.10 (6.29)
24	6.78 (2.20)	2.60 (0.84)	32.10 (10.40)	22.80 (7.41)	10.50 (4.44)	3.26 (1.38)	29.50 (12.50)	21.00 (8.89)
25	5.52 (0.91)	2.12 (0.35)	26.20 (4.31)	18.60 (3.07)				
26	5.89 (2.06)	2.26 (0.79)	27.90 (9.75)	19.90 (6.93)	8.63 (5.37)	2.69 (1.67)	24.30 (15.10)	17.30 (10.80)
27	7.43 (2.57)	2.85 (0.99)	35.20 (12.20)	25.00 (8.66)	5.94 (0.91)	1.85 (0.28)	16.70 (2.55)	11.90 (1.82)
28	6.28 (1.57)	2.41 (0.60)	29.80 (7.46)	21.20 (5.30)	5.67 (2.22)	1.77 (0.69)	16.00 (6.27)	11.40 (4.46)
29	9.80 (2.69)	3.76 (1.03)	46.40 (12.70)	33.00 (9.05)	8.83 (5.37)	2.75 (1.67)	24.90 (15.10)	17.70 (10.80)
Avg	7.5	2.9	35.7	25.4	8.4	2.6	23.6	16.8
n	29	29	29	29	28	28	28	28
SD	1.4	0.6	6.8	4.8	1.9	0.6	5.3	3.8
Min	4.4	1.7	20.8	14.8	5.7	1.8	16.0	11.4
Max	9.9	3.8	47.1	33.5	12.5	3.9	35.2	25.0

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for March, 2008.

Day	Barn 1				Barn 2			
	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
1	7.82 (2.24)	3.00 (0.86)	37.10 (10.60)	26.40 (7.57)	6.85 (2.99)	2.14 (0.93)	19.30 (8.43)	13.70 (6.00)
2	5.17 (1.06)	1.98 (0.41)	24.50 (5.01)	17.40 (3.56)				
3	3.93 (1.40)	1.51 (0.54)	18.60 (6.62)	13.30 (4.71)	4.21 (1.38)	1.31 (0.43)	11.90 (3.88)	8.43 (2.76)
4	6.79 (3.65)	2.61 (1.40)	32.20 (17.30)	22.90 (12.30)	8.80 (6.24)	2.74 (1.94)	24.80 (17.60)	17.60 (12.50)
5	7.32 (2.87)	2.81 (1.10)	34.70 (13.60)	24.70 (9.67)	8.29 (3.09)	2.58 (0.96)	23.40 (8.71)	16.60 (6.19)
6	6.92 (1.51)	2.66 (0.58)	32.80 (7.14)	23.30 (5.08)	9.51 (4.39)	2.96 (1.37)	26.80 (12.40)	19.10 (8.80)
7	6.92 (0.60)	2.66 (0.23)	32.80 (2.85)	23.30 (2.03)	10.70 (1.38)	3.35 (0.43)	30.30 (3.89)	21.50 (2.77)
8	9.98 (2.14)	3.83 (0.82)	47.30 (10.10)	33.60 (7.21)	11.90 (3.01)	3.71 (0.94)	33.60 (8.47)	23.90 (6.02)
9	7.41 (1.89)	2.85 (0.73)	35.10 (8.97)	25.00 (6.38)	7.44 (2.43)	2.32 (0.76)	20.90 (6.84)	14.90 (4.86)
10	4.85 (1.64)	1.86 (0.63)	23.00 (7.77)	16.40 (5.53)				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26	5.64 (1.29)	2.17 (0.50)	26.70 (6.10)	19.00 (4.34)	7.61 (1.77)	2.37 (0.55)	21.40 (4.97)	15.20 (3.54)
27	7.65 (2.16)	2.94 (0.83)	36.30 (10.20)	25.80 (7.29)	7.38 (3.37)	2.30 (1.05)	20.80 (9.50)	14.80 (6.75)
28	7.58 (2.51)	2.91 (0.96)	35.90 (11.90)	25.50 (8.46)	9.52 (3.54)	2.97 (1.10)	26.80 (9.97)	19.10 (7.09)
29	6.77 (1.89)	2.60 (0.73)	32.10 (8.98)	22.80 (6.39)	11.00 (3.11)	3.43 (0.97)	31.00 (8.75)	22.10 (6.23)
30	7.70 (1.46)	2.96 (0.56)	36.50 (6.92)	25.90 (4.92)	13.30 (3.96)	4.14 (1.24)	37.50 (11.20)	26.60 (7.94)
31								
Avg	6.8	2.6	32.4	23.0	9.0	2.8	25.3	18.0
n	15	15	15	15	13	13	13	13
SD	1.4	0.5	6.7	4.8	2.3	0.7	6.5	4.6
Min	3.9	1.5	18.6	13.3	4.2	1.3	11.9	8.4
Max	10.0	3.8	47.3	33.6	13.3	4.1	37.5	26.6

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for April, 2008.

Day	Barn 1				Barn 2			
	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
1	6.68 (2.67)	2.57 (1.03)	31.70 (12.70)	22.50 (9.00)				
2	7.61 (2.80)	2.92 (1.07)	36.00 (13.20)	25.60 (9.42)	11.10 (2.78)	3.45 (0.87)	31.20 (7.82)	22.20 (5.56)
3	8.36 (2.41)	3.21 (0.93)	39.60 (11.40)	28.20 (8.13)	13.50 (5.15)	4.20 (1.60)	38.00 (14.50)	27.00 (10.30)
4	9.14 (2.90)	3.51 (1.11)	43.30 (13.70)	30.80 (9.77)	12.60 (5.09)	3.93 (1.59)	35.60 (14.40)	25.30 (10.20)
5	6.89 (1.27)	2.65 (0.49)	32.70 (6.00)	23.20 (4.27)	9.88 (2.41)	3.08 (0.75)	27.80 (6.79)	19.80 (4.83)
6	5.75 (0.93)	2.21 (0.36)	27.30 (4.40)	19.40 (3.13)	7.11 (1.48)	2.22 (0.46)	20.00 (4.16)	14.20 (2.96)
7	7.44 (2.93)	2.86 (1.13)	35.30 (13.90)	25.10 (9.87)	9.31 (3.76)	2.90 (1.17)	26.20 (10.60)	18.70 (7.53)
8	7.80 (0.95)	3.00 (0.36)	37.00 (4.49)	26.30 (3.19)				
9	9.56 (2.81)	3.67 (1.08)	45.30 (13.30)	32.20 (9.46)				
10	6.73 (1.99)	2.58 (0.77)	31.90 (9.44)	22.70 (6.71)	7.57 (2.83)	2.36 (0.88)	21.30 (7.98)	15.20 (5.68)
11	7.20 (1.95)	2.76 (0.75)	34.10 (9.27)	24.30 (6.59)				
12	5.19 (1.08)	1.99 (0.41)	24.60 (5.11)	17.50 (3.64)				
13	7.14 (2.07)	2.74 (0.79)	33.80 (9.79)	24.10 (6.97)				
14	6.81 (2.08)	2.61 (0.80)	32.30 (9.87)	22.90 (7.02)	9.91 (5.13)	3.09 (1.60)	27.90 (14.50)	19.80 (10.30)
15	8.34 (1.37)	3.20 (0.52)	39.50 (6.47)	28.10 (4.60)	14.90 (4.00)	4.63 (1.25)	41.90 (11.30)	29.80 (8.01)
16	7.39 (1.16)	2.84 (0.45)	35.00 (5.49)	24.90 (3.91)	10.80 (2.45)	3.38 (0.76)	30.50 (6.89)	21.70 (4.90)
17	9.80 (4.60)	3.76 (1.77)	46.50 (21.80)	33.00 (15.50)	10.60 (3.76)	3.29 (1.17)	29.70 (10.60)	21.10 (7.53)
18	7.84 (1.18)	3.01 (0.45)	37.20 (5.58)	26.40 (3.96)				
19	6.59 (1.00)	2.53 (0.39)	31.20 (4.75)	22.20 (3.38)				
20	9.87 (3.62)	3.79 (1.39)	46.80 (17.10)	33.30 (12.20)	15.30 (7.25)	4.77 (2.26)	43.10 (20.40)	30.70 (14.50)
21	8.73 (1.77)	3.35 (0.68)	41.40 (8.41)	29.40 (5.98)	12.60 (3.89)	3.93 (1.21)	35.60 (10.90)	25.30 (7.79)
22								
23								
24								
25								
26	5.63 (0.59)	2.16 (0.23)	26.70 (2.81)	19.00 (2.00)	7.70 (1.14)	2.40 (0.35)	21.70 (3.20)	15.40 (2.28)
27	6.73 (1.46)	2.59 (0.56)	31.90 (6.93)	22.70 (4.93)	9.82 (3.19)	3.06 (1.00)	27.70 (9.00)	19.70 (6.40)
28	6.39 (1.71)	2.45 (0.66)	30.30 (8.10)	21.50 (5.76)				
29	7.51 (2.43)	2.88 (0.93)	35.60 (11.50)	25.30 (8.20)				
30	7.24 (2.22)	2.78 (0.85)	34.30 (10.50)	24.40 (7.47)	11.30 (2.57)	3.51 (0.80)	31.70 (7.23)	22.50 (5.14)
Avg	7.5	2.9	35.4	25.2	10.9	3.4	30.6	21.8
n	26	26	26	26	16	16	16	16
SD	1.2	0.5	5.7	4.1	2.4	0.7	6.7	4.7
Min	5.2	2.0	24.6	17.5	7.1	2.2	20.0	14.2
Max	9.9	3.8	46.8	33.3	15.3	4.8	43.1	30.7

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for May, 2008.

Day	Barn 1				Barn 2			
	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
1	8.46 (2.51)	3.25 (0.97)	40.10 (11.90)	28.50 (8.48)	13.10 (5.20)	4.07 (1.62)	36.80 (14.60)	26.20 (10.40)
2	7.19 (1.61)	2.76 (0.62)	34.10 (7.62)	24.20 (5.42)				
3	8.94 (2.58)	3.43 (0.99)	42.40 (12.20)	30.10 (8.71)				
4	7.92 (2.55)	3.04 (0.98)	37.50 (12.10)	26.70 (8.58)	11.70 (2.67)	3.65 (0.83)	33.00 (7.53)	23.50 (5.36)
5								
6	11.20 (3.16)	4.31 (1.21)	53.20 (15.00)	37.80 (10.70)	15.20 (7.10)	4.73 (2.21)	42.70 (20.00)	30.40 (14.20)
7	8.13 (0.98)	3.12 (0.38)	38.60 (4.66)	27.40 (3.31)				
8	6.65 (1.32)	2.56 (0.51)	31.50 (6.24)	22.40 (4.44)	7.58 (1.17)	2.36 (0.37)	21.40 (3.30)	15.20 (2.34)
9	6.78 (1.25)	2.60 (0.48)	32.10 (5.91)	22.90 (4.20)	6.99 (1.22)	2.18 (0.38)	19.70 (3.42)	14.00 (2.43)
10	5.24 (0.60)	2.01 (0.23)	24.80 (2.84)	17.70 (2.02)	7.57 (1.89)	2.36 (0.59)	21.30 (5.31)	15.20 (3.78)
11	6.75 (1.85)	2.59 (0.71)	32.00 (8.78)	22.80 (6.25)				
12	8.08 (2.01)	3.10 (0.77)	38.30 (9.50)	27.20 (6.76)	12.30 (3.75)	3.83 (1.17)	34.60 (10.60)	24.60 (7.52)
13	9.86 (1.98)	3.79 (0.76)	46.70 (9.36)	33.20 (6.66)	13.50 (3.65)	4.21 (1.14)	38.10 (10.30)	27.10 (7.32)
14	9.22 (4.36)	3.54 (1.67)	43.70 (20.70)	31.10 (14.70)				
15	7.74 (2.29)	2.97 (0.88)	36.70 (10.80)	26.10 (7.71)	10.50 (2.38)	3.28 (0.74)	29.70 (6.70)	21.10 (4.76)
16	8.66 (2.21)	3.33 (0.85)	41.00 (10.50)	29.20 (7.44)	10.90 (2.35)	3.38 (0.73)	30.60 (6.62)	21.80 (4.71)
17	8.90 (1.50)	3.42 (0.58)	42.20 (7.11)	30.00 (5.06)				
18	7.07 (1.95)	2.72 (0.75)	33.50 (9.25)	23.80 (6.58)				
19	5.35 (1.65)	2.06 (0.63)	25.40 (7.82)	18.00 (5.56)	6.58 (1.53)	2.05 (0.48)	18.50 (4.31)	13.20 (3.07)
20	7.40 (1.59)	2.84 (0.61)	35.10 (7.51)	24.90 (5.34)				
21	7.14 (1.59)	2.74 (0.61)	33.80 (7.55)	24.10 (5.37)	8.10 (2.50)	2.52 (0.78)	22.80 (7.04)	16.20 (5.01)
22	8.51 (1.62)	3.27 (0.62)	40.30 (7.69)	28.70 (5.47)	8.66 (2.11)	2.70 (0.66)	24.40 (5.94)	17.40 (4.23)
23	8.43 (1.72)	3.24 (0.66)	40.00 (8.17)	28.40 (5.81)	8.33 (1.92)	2.59 (0.60)	23.50 (5.40)	16.70 (3.84)
24	7.50 (1.46)	2.88 (0.56)	35.60 (6.90)	25.30 (4.91)	8.89 (2.12)	2.77 (0.66)	25.00 (5.98)	17.80 (4.25)
25	7.37 (1.06)	2.83 (0.41)	34.90 (5.02)	24.80 (3.57)				
26								
27								
28	5.76 (1.99)	2.21 (0.77)	27.30 (9.45)	19.40 (6.72)	8.84 (1.91)	2.75 (0.60)	24.90 (5.39)	17.70 (3.83)
29	6.22 (0.65)	2.39 (0.25)	29.50 (3.08)	21.00 (2.19)	7.36 (1.10)	2.29 (0.34)	20.70 (3.11)	14.80 (2.21)
30	7.95 (1.71)	3.05 (0.66)	37.70 (8.11)	26.80 (5.77)	9.29 (1.91)	2.89 (0.59)	26.20 (5.37)	18.60 (3.82)
31	9.06 (2.29)	3.48 (0.88)	42.90 (10.90)	30.50 (7.72)	10.20 (1.51)	3.19 (0.47)	28.80 (4.27)	20.50 (3.03)
Avg	7.8	3.0	36.8	26.2	9.8	3.0	27.5	19.6
n	28	28	28	28	19	19	19	19
SD	1.3	0.5	6.3	4.5	2.4	0.7	6.7	4.8
Min	5.2	2.0	24.8	17.7	6.6	2.1	18.5	13.2
Max	11.2	4.3	53.2	37.8	15.2	4.7	42.7	30.4

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for June, 2008.

Day	Barn 1				Barn 2			
	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
1	9.59 (1.94)	3.68 (0.75)	45.50 (9.21)	32.30 (6.55)	11.70 (3.80)	3.65 (1.18)	33.00 (10.70)	23.50 (7.62)
2								
3	8.54 (1.13)	3.28 (0.43)	40.50 (5.33)	28.80 (3.79)				
4	9.15 (1.58)	3.51 (0.61)	43.40 (7.49)	30.80 (5.33)				
5								
6								
7	9.88 (2.01)	3.79 (0.77)	46.80 (9.52)	33.30 (6.77)	11.20 (3.04)	3.49 (0.95)	31.50 (8.56)	22.40 (6.09)
8								
9								
10	9.04 (2.08)	3.47 (0.80)	42.80 (9.85)	30.50 (7.00)				
11	8.32 (1.49)	3.19 (0.57)	39.40 (7.05)	28.00 (5.01)				
12	6.54 (1.74)	2.51 (0.67)	31.00 (8.24)	22.10 (5.86)				
13	9.08 (2.24)	3.49 (0.86)	43.00 (10.60)	30.60 (7.56)	13.60 (2.07)	4.23 (0.65)	38.30 (5.84)	27.20 (4.15)
14								
15								
16								
17								
18	8.14 (1.87)	3.13 (0.72)	38.60 (8.87)	27.50 (6.31)				
19	8.64 (3.85)	3.32 (1.48)	40.90 (18.20)	29.10 (13.00)	12.70 (3.92)	3.96 (1.22)	35.80 (11.00)	25.50 (7.85)
20	9.89 (2.86)	3.80 (1.10)	46.90 (13.60)	33.30 (9.65)	12.30 (3.01)	3.84 (0.94)	34.70 (8.47)	24.70 (6.02)
21	8.67 (1.51)	3.33 (0.58)	41.10 (7.15)	29.20 (5.08)	11.80 (2.95)	3.68 (0.92)	33.30 (8.32)	23.70 (5.92)
22	9.07 (1.47)	3.48 (0.57)	43.00 (6.97)	30.60 (4.95)	10.10 (1.56)	3.16 (0.49)	28.60 (4.39)	20.30 (3.12)
23	9.23 (1.79)	3.55 (0.69)	43.80 (8.48)	31.10 (6.03)	13.20 (3.18)	4.10 (0.99)	37.10 (8.96)	26.40 (6.37)
24	9.44 (2.34)	3.62 (0.90)	44.70 (11.10)	31.80 (7.89)	14.10 (3.41)	4.39 (1.06)	39.70 (9.60)	28.20 (6.83)
25	9.29 (1.68)	3.57 (0.65)	44.00 (7.98)	31.30 (5.67)	14.60 (3.60)	4.54 (1.12)	41.10 (10.10)	29.20 (7.21)
26	8.95 (1.32)	3.44 (0.51)	42.40 (6.25)	30.20 (4.44)	12.40 (3.23)	3.85 (1.01)	34.80 (9.09)	24.80 (6.47)
27	8.90 (2.36)	3.42 (0.91)	42.20 (11.20)	30.00 (7.96)	9.72 (2.33)	3.03 (0.73)	27.40 (6.55)	19.50 (4.66)
28	9.08 (1.91)	3.49 (0.73)	43.00 (9.06)	30.60 (6.44)	12.50 (2.73)	3.90 (0.85)	35.30 (7.68)	25.10 (5.46)
29	10.70 (1.57)	4.12 (0.61)	50.80 (7.46)	36.20 (5.31)				
30								
Avg	9.0	3.5	42.7	30.4	12.3	3.8	34.7	24.6
n	20	20	20	20	13	13	13	13
SD	0.8	0.3	3.8	2.7	1.4	0.4	3.8	2.7
Min	6.5	2.5	31.0	22.1	9.7	3.0	27.4	19.5
Max	10.7	4.1	50.8	36.2	14.6	4.5	41.1	29.2

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for July, 2008.

Day	Barn 1				Barn 2			
	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
1								
2								
3								
4	10.00 (1.48)	3.85 (0.57)	47.50 (6.99)	33.80 (4.97)	12.00 (3.35)	3.73 (1.04)	33.70 (9.43)	24.00 (6.70)
5	9.74 (1.62)	3.74 (0.62)	46.20 (7.70)	32.80 (5.47)	11.20 (2.52)	3.48 (0.79)	31.50 (7.11)	22.40 (5.06)
6	7.78 (1.91)	2.99 (0.74)	36.90 (9.07)	26.20 (6.45)	8.82 (1.26)	2.75 (0.39)	24.90 (3.56)	17.70 (2.53)
7	8.18 (1.71)	3.14 (0.66)	38.80 (8.10)	27.60 (5.76)	9.28 (2.18)	2.89 (0.68)	26.10 (6.15)	18.60 (4.38)
8								
9								
10					11.10 (3.38)	3.47 (1.05)	31.40 (9.52)	22.30 (6.77)
11					11.00 (2.56)	3.44 (0.80)	31.10 (7.22)	22.10 (5.13)
12					14.00 (2.35)	4.35 (0.73)	39.30 (6.61)	28.00 (4.70)
13					12.30 (2.16)	3.82 (0.67)	34.50 (6.09)	24.60 (4.33)
14					13.30 (4.05)	4.14 (1.26)	37.40 (11.40)	26.60 (8.11)
15					13.60 (4.32)	4.24 (1.35)	38.40 (12.20)	27.30 (8.65)
16	8.79 (1.79)	3.38 (0.69)	41.70 (8.50)	29.60 (6.05)	12.10 (2.51)	3.77 (0.78)	34.10 (7.07)	24.20 (5.02)
17	7.82 (1.46)	3.00 (0.56)	37.10 (6.93)	26.40 (4.93)	9.09 (1.70)	2.83 (0.53)	25.60 (4.79)	18.20 (3.41)
18	9.41 (2.13)	3.61 (0.82)	44.60 (10.10)	31.70 (7.19)	13.90 (5.74)	4.34 (1.79)	39.20 (16.20)	27.90 (11.50)
19	8.03 (2.12)	3.08 (0.82)	38.00 (10.10)	27.10 (7.15)	10.20 (3.80)	3.16 (1.18)	28.60 (10.70)	20.30 (7.61)
20	8.48 (2.10)	3.25 (0.81)	40.20 (9.94)	28.60 (7.07)	10.80 (3.65)	3.37 (1.14)	30.50 (10.30)	21.70 (7.30)
21					11.80 (3.45)	3.67 (1.07)	33.20 (9.71)	23.60 (6.91)
22					12.60 (3.78)	3.91 (1.18)	35.40 (10.60)	25.10 (7.57)
23	7.51 (1.26)	2.88 (0.48)	35.60 (5.95)	25.30 (4.23)	13.20 (3.43)	4.12 (1.07)	37.20 (9.67)	26.50 (6.88)
24	7.28 (1.00)	2.80 (0.39)	34.50 (4.75)	24.50 (3.38)	12.00 (3.08)	3.73 (0.96)	33.70 (8.67)	24.00 (6.16)
25	10.60 (2.84)	4.07 (1.09)	50.20 (13.50)	35.70 (9.57)	12.50 (4.06)	3.91 (1.26)	35.30 (11.40)	25.10 (8.13)
26	8.81 (1.71)	3.38 (0.66)	41.80 (8.12)	29.70 (5.77)	12.60 (3.12)	3.91 (0.97)	35.40 (8.78)	25.20 (6.25)
27	9.81 (2.42)	3.77 (0.93)	46.50 (11.50)	33.10 (8.14)	13.90 (3.18)	4.32 (0.99)	39.10 (8.97)	27.80 (6.38)
28	10.90 (2.63)	4.18 (1.01)	51.60 (12.50)	36.70 (8.88)	15.10 (4.75)	4.69 (1.48)	42.40 (13.40)	30.20 (9.51)
29	9.78 (1.76)	3.75 (0.68)	46.30 (8.36)	32.90 (5.95)	13.90 (4.90)	4.33 (1.53)	39.10 (13.80)	27.80 (9.82)
30	9.93 (2.08)	3.81 (0.80)	47.10 (9.85)	33.50 (7.01)	12.60 (3.02)	3.92 (0.94)	35.40 (8.52)	25.20 (6.06)
31	9.11 (2.36)	3.50 (0.91)	43.20 (11.20)	30.70 (7.94)	13.80 (4.67)	4.31 (1.45)	39.00 (13.10)	27.70 (9.35)
Avg	9.0	3.5	42.6	30.3	12.2	3.8	34.3	24.4
n	18	18	18	18	26	26	26	26
SD	1.1	0.4	5.0	3.6	1.6	0.5	4.5	3.2
Min	7.3	2.8	34.5	24.5	8.8	2.8	24.9	17.7
Max	10.9	4.2	51.6	36.7	15.1	4.7	42.4	30.2

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for August, 2008.

Day	Barn 1				Barn 2			
	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
1	9.13 (2.08)	3.51 (0.80)	43.30 (9.84)	30.80 (7.00)	13.50 (3.37)	4.21 (1.05)	38.10 (9.50)	27.10 (6.76)
2	8.78 (1.40)	3.37 (0.54)	41.60 (6.64)	29.60 (4.72)	13.50 (3.77)	4.21 (1.17)	38.10 (10.60)	27.10 (7.55)
3	8.34 (0.79)	3.20 (0.31)	39.50 (3.76)	28.10 (2.67)	11.70 (1.54)	3.66 (0.48)	33.10 (4.34)	23.50 (3.08)
4								
5	8.84 (1.87)	3.39 (0.72)	41.90 (8.87)	29.80 (6.30)	12.80 (4.61)	3.97 (1.44)	35.90 (13.00)	25.60 (9.23)
6	7.63 (1.64)	2.93 (0.63)	36.20 (7.78)	25.70 (5.53)	9.74 (3.08)	3.03 (0.96)	27.40 (8.67)	19.50 (6.17)
7	8.80 (1.41)	3.38 (0.54)	41.70 (6.67)	29.70 (4.75)	11.60 (2.72)	3.62 (0.85)	32.80 (7.66)	23.30 (5.45)
8	8.61 (1.16)	3.31 (0.44)	40.80 (5.48)	29.00 (3.89)	10.20 (2.07)	3.18 (0.65)	28.80 (5.84)	20.50 (4.15)
9	8.41 (1.48)	3.23 (0.57)	39.80 (7.03)	28.30 (5.00)	9.03 (2.52)	2.81 (0.78)	25.40 (7.09)	18.10 (5.04)
10	7.97 (1.27)	3.06 (0.49)	37.80 (6.01)	26.90 (4.28)	9.37 (1.94)	2.92 (0.60)	26.40 (5.46)	18.80 (3.88)
11	7.71 (1.09)	2.96 (0.42)	36.50 (5.15)	26.00 (3.66)	10.50 (2.58)	3.26 (0.80)	29.50 (7.26)	21.00 (5.16)
12	7.50 (0.97)	2.88 (0.37)	35.50 (4.58)	25.30 (3.26)	9.25 (1.90)	2.88 (0.59)	26.00 (5.35)	18.50 (3.81)
13	8.64 (1.56)	3.32 (0.60)	40.90 (7.42)	29.10 (5.27)	10.30 (3.08)	3.21 (0.96)	29.00 (8.66)	20.60 (6.16)
14	8.83 (1.58)	3.39 (0.61)	41.80 (7.48)	29.70 (5.32)	10.70 (2.42)	3.32 (0.76)	30.00 (6.82)	21.30 (4.85)
15	11.00 (2.64)	4.24 (1.01)	52.30 (12.50)	37.20 (8.88)	11.80 (2.71)	3.69 (0.85)	33.30 (7.65)	23.70 (5.44)
16	10.30 (1.62)	3.96 (0.62)	48.80 (7.68)	34.70 (5.46)	13.00 (3.48)	4.05 (1.08)	36.60 (9.80)	26.00 (6.97)
17	10.60 (1.53)	4.07 (0.59)	50.20 (7.25)	35.70 (5.15)	12.40 (3.19)	3.86 (1.00)	34.90 (9.00)	24.80 (6.40)
18								
19	9.51 (1.87)	3.65 (0.72)	45.10 (8.86)	32.10 (6.30)	13.10 (3.39)	4.09 (1.06)	36.90 (9.56)	26.30 (6.80)
20	8.96 (1.10)	3.44 (0.42)	42.50 (5.23)	30.20 (3.72)	13.10 (2.31)	4.09 (0.72)	36.90 (6.52)	26.30 (4.64)
21	8.19 (1.43)	3.15 (0.55)	38.80 (6.76)	27.60 (4.81)	12.30 (1.99)	3.83 (0.62)	34.60 (5.60)	24.60 (3.98)
22	8.19 (1.62)	3.15 (0.62)	38.80 (7.65)	27.60 (5.44)	11.80 (2.73)	3.68 (0.85)	33.20 (7.68)	23.60 (5.46)
23	9.83 (1.53)	3.77 (0.59)	46.60 (7.26)	33.10 (5.16)	10.60 (1.61)	3.30 (0.50)	29.80 (4.55)	21.20 (3.23)
24	8.84 (1.64)	3.40 (0.63)	41.90 (7.77)	29.80 (5.53)	12.20 (1.65)	3.81 (0.51)	34.50 (4.65)	24.50 (3.31)
25	7.39 (1.93)	2.84 (0.74)	35.00 (9.14)	24.90 (6.50)				
26	7.73 (1.47)	2.97 (0.56)	36.60 (6.95)	26.10 (4.94)	10.70 (2.55)	3.32 (0.79)	30.00 (7.18)	21.30 (5.11)
27	6.99 (1.27)	2.68 (0.49)	33.10 (6.01)	23.60 (4.27)	10.60 (2.15)	3.30 (0.67)	29.80 (6.06)	21.20 (4.31)
28	8.18 (2.90)	3.14 (1.12)	38.70 (13.80)	27.60 (9.79)	10.10 (3.05)	3.14 (0.95)	28.40 (8.60)	20.20 (6.11)
29	8.96 (1.81)	3.44 (0.70)	42.50 (8.59)	30.20 (6.11)	10.30 (2.38)	3.22 (0.74)	29.10 (6.69)	20.70 (4.76)
30	8.48 (1.00)	3.26 (0.39)	40.20 (4.75)	28.60 (3.38)	11.30 (2.61)	3.53 (0.81)	32.00 (7.35)	22.70 (5.23)
31	7.82 (1.29)	3.00 (0.49)	37.00 (6.09)	26.30 (4.33)	11.10 (1.34)	3.46 (0.42)	31.30 (3.78)	22.20 (2.69)
Avg	8.6	3.3	40.9	29.1	11.3	3.5	31.9	22.7
n	29	29	29	29	28	28	28	28
SD	0.9	0.4	4.4	3.2	1.3	0.4	3.7	2.6
Min	7.0	2.7	33.1	23.6	9.0	2.8	25.4	18.1
Max	11.0	4.2	52.3	37.2	13.5	4.2	38.1	27.1

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for September, 2008.

Day	Barn 1				Barn 2			
	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
1	9.36 (1.76)	3.59 (0.68)	44.40 (8.34)	31.50 (5.93)	11.90 (1.80)	3.70 (0.56)	33.50 (5.06)	23.80 (3.60)
2	9.49 (2.40)	3.65 (0.92)	45.00 (11.40)	32.00 (8.09)	10.90 (1.92)	3.40 (0.60)	30.70 (5.41)	21.90 (3.84)
3	11.00 (1.56)	4.23 (0.60)	52.20 (7.38)	37.10 (5.25)				
4	8.22 (1.27)	3.16 (0.49)	39.00 (6.02)	27.70 (4.28)	9.09 (1.17)	2.83 (0.37)	25.60 (3.30)	18.20 (2.35)
5	8.31 (1.54)	3.19 (0.59)	39.40 (7.28)	28.00 (5.18)	10.50 (2.73)	3.28 (0.85)	29.60 (7.69)	21.10 (5.47)
6	6.83 (1.36)	2.62 (0.52)	32.40 (6.44)	23.00 (4.58)	10.70 (1.59)	3.34 (0.50)	30.20 (4.49)	21.40 (3.19)
7	7.77 (1.97)	2.99 (0.76)	36.80 (9.32)	26.20 (6.63)	11.50 (1.98)	3.58 (0.62)	32.30 (5.58)	23.00 (3.97)
8	8.61 (1.36)	3.31 (0.52)	40.80 (6.47)	29.00 (4.60)	9.19 (2.00)	2.86 (0.62)	25.90 (5.64)	18.40 (4.01)
9	7.90 (1.49)	3.03 (0.57)	37.40 (7.08)	26.60 (5.04)	10.00 (2.02)	3.12 (0.63)	28.20 (5.68)	20.00 (4.04)
10	7.22 (1.21)	2.77 (0.47)	34.20 (5.75)	24.30 (4.09)	11.80 (2.36)	3.67 (0.74)	33.20 (6.64)	23.60 (4.72)
11	6.23 (0.84)	2.39 (0.32)	29.50 (3.99)	21.00 (2.84)	11.60 (1.84)	3.63 (0.58)	32.80 (5.20)	23.30 (3.70)
12	8.18 (2.00)	3.14 (0.77)	38.80 (9.50)	27.60 (6.76)	12.50 (1.83)	3.89 (0.57)	35.20 (5.15)	25.00 (3.66)
13	9.32 (1.89)	3.58 (0.73)	44.20 (8.96)	31.40 (6.37)	10.50 (1.63)	3.28 (0.51)	29.70 (4.59)	21.10 (3.26)
14	10.60 (1.49)	4.07 (0.57)	50.30 (7.08)	35.70 (5.03)				
15	9.57 (2.05)	3.67 (0.79)	45.30 (9.72)	32.20 (6.91)	11.10 (0.90)	3.44 (0.28)	31.10 (2.53)	22.10 (1.80)
16	9.69 (2.24)	3.72 (0.86)	45.90 (10.60)	32.60 (7.55)	12.30 (3.03)	3.82 (0.94)	34.50 (8.52)	24.60 (6.06)
17								
18								
19								
20	10.60 (2.09)	4.08 (0.80)	50.40 (9.90)	35.80 (7.04)	15.90 (3.63)	4.96 (1.13)	44.90 (10.20)	31.90 (7.27)
21	10.60 (2.09)	4.06 (0.80)	50.10 (9.92)	35.60 (7.06)	17.30 (3.58)	5.40 (1.11)	48.90 (10.10)	34.80 (7.17)
22	10.80 (1.79)	4.15 (0.69)	51.20 (8.50)	36.40 (6.04)	16.90 (2.32)	5.27 (0.72)	47.60 (6.53)	33.90 (4.65)
23	9.37 (0.99)	3.60 (0.38)	44.40 (4.71)	31.60 (3.35)	16.90 (2.99)	5.26 (0.93)	47.60 (8.41)	33.80 (5.98)
24	10.70 (2.77)	4.10 (1.06)	50.60 (13.10)	36.00 (9.32)	14.90 (3.63)	4.63 (1.13)	41.90 (10.20)	29.80 (7.27)
25	8.37 (0.93)	3.21 (0.36)	39.70 (4.40)	28.20 (3.13)	15.60 (2.92)	4.85 (0.91)	43.80 (8.23)	31.20 (5.85)
26	10.80 (2.72)	4.14 (1.04)	51.10 (12.90)	36.30 (9.17)	14.30 (1.95)	4.44 (0.61)	40.20 (5.49)	28.60 (3.91)
27	12.80 (2.32)	4.93 (0.89)	60.80 (11.00)	43.20 (7.81)				
28	9.79 (1.52)	3.76 (0.58)	46.40 (7.20)	33.00 (5.12)	13.50 (1.15)	4.20 (0.36)	38.00 (3.24)	27.00 (2.30)
29	14.00 (2.80)	5.39 (1.07)	66.60 (13.30)	47.30 (9.43)				
30	12.00 (2.22)	4.61 (0.85)	56.90 (10.50)	40.50 (7.50)	11.80 (2.09)	3.66 (0.65)	33.10 (5.90)	23.50 (4.19)
Avg	9.6	3.7	45.3	32.2	12.6	3.9	35.6	25.3
n	27	27	27	27	23	23	23	23
SD	1.8	0.7	8.4	6.0	2.5	0.8	7.0	5.0
Min	6.2	2.4	29.5	21.0	9.1	2.8	25.6	18.2
Max	14.0	5.4	66.6	47.3	17.3	5.4	48.9	34.8

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for October, 2008.

Day	Barn 1				Barn 2			
	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
1	10.40 (1.92)	4.01 (0.74)	49.50 (9.12)	35.20 (6.48)				
2	11.50 (2.88)	4.43 (1.11)	54.60 (13.60)	38.80 (9.70)	11.90 (2.21)	3.70 (0.69)	33.50 (6.23)	23.80 (4.43)
3	9.82 (1.58)	3.77 (0.61)	46.50 (7.47)	33.10 (5.31)	11.10 (2.28)	3.46 (0.71)	31.30 (6.43)	22.30 (4.57)
4	7.97 (0.90)	3.06 (0.34)	37.70 (4.24)	26.80 (3.02)	11.50 (3.07)	3.58 (0.96)	32.40 (8.65)	23.00 (6.16)
5	6.74 (1.07)	2.59 (0.41)	32.00 (5.09)	22.70 (3.62)	10.10 (1.35)	3.16 (0.42)	28.50 (3.80)	20.30 (2.70)
6	8.60 (1.99)	3.30 (0.77)	40.80 (9.45)	29.00 (6.72)	14.00 (1.92)	4.35 (0.60)	39.40 (5.40)	28.00 (3.84)
7								
8								
9								
10	8.52 (1.57)	3.27 (0.60)	40.40 (7.43)	28.70 (5.28)	12.50 (3.06)	3.89 (0.95)	35.10 (8.61)	25.00 (6.12)
11	9.33 (1.78)	3.58 (0.68)	44.20 (8.44)	31.50 (6.00)	13.80 (1.64)	4.29 (0.51)	38.80 (4.62)	27.60 (3.29)
12	10.40 (1.44)	4.00 (0.55)	49.40 (6.84)	35.10 (4.86)	15.50 (2.50)	4.84 (0.78)	43.70 (7.03)	31.10 (5.00)
13	8.94 (1.01)	3.43 (0.39)	42.40 (4.78)	30.10 (3.40)	13.70 (3.23)	4.26 (1.00)	38.50 (9.09)	27.40 (6.46)
14	8.08 (1.05)	3.10 (0.40)	38.30 (4.96)	27.20 (3.53)				
15	10.20 (2.07)	3.91 (0.80)	48.20 (9.81)	34.30 (6.97)	11.70 (2.19)	3.65 (0.68)	33.00 (6.18)	23.50 (4.39)
16								
17								
18								
19								
20								
21								
22	5.89 (0.74)	2.26 (0.29)	27.10 (3.42)	19.30 (2.43)	10.50 (1.25)	3.28 (0.39)	29.70 (3.52)	21.10 (2.50)
23	7.98 (1.83)	3.06 (0.70)	37.10 (8.59)	26.40 (6.11)	12.40 (2.22)	3.86 (0.69)	34.90 (6.26)	24.90 (4.45)
24	9.15 (1.74)	3.51 (0.67)	43.00 (8.21)	30.60 (5.84)	12.40 (2.55)	3.85 (0.79)	34.80 (7.18)	24.80 (5.11)
25	9.35 (1.91)	3.59 (0.73)	44.40 (9.14)	31.60 (6.50)	16.20 (2.97)	5.04 (0.93)	45.60 (8.38)	32.40 (5.96)
26	7.07 (1.43)	2.71 (0.55)	33.90 (6.83)	24.10 (4.85)				
27	8.21 (1.10)	3.15 (0.42)	39.80 (5.31)	28.30 (3.77)				
28								
29	8.41 (1.92)	3.23 (0.74)	40.70 (9.27)	28.90 (6.59)	13.50 (3.14)	4.19 (0.98)	39.00 (9.14)	27.70 (6.50)
30								
31								
Avg	8.8	3.4	41.6	29.6	12.7	4.0	35.9	25.5
n	19	19	19	19	15	15	15	15
SD	1.4	0.5	6.5	4.6	1.7	0.5	4.7	3.4
Min	5.9	2.3	27.1	19.3	10.1	3.2	28.5	20.3
Max	11.5	4.4	54.6	38.8	16.2	5.0	45.6	32.4

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for November, 2008.

Day	Barn 1				Barn 2			
	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
1	9.14 (1.64)	3.51 (0.63)	43.50 (7.83)	30.90 (5.57)	12.10 (2.22)	3.77 (0.69)	36.30 (6.69)	25.80 (4.76)
2	10.10 (3.20)	3.88 (1.23)	47.80 (15.10)	34.00 (10.80)	15.50 (3.94)	4.83 (1.23)	47.00 (12.00)	33.40 (8.52)
3	10.80 (1.44)	4.14 (0.56)	50.90 (6.81)	36.20 (4.84)	15.70 (3.02)	4.91 (0.94)	47.90 (9.19)	34.10 (6.54)
4								
5								
6	7.49 (1.54)	2.88 (0.59)	35.10 (7.21)	25.00 (5.13)	10.80 (1.78)	3.37 (0.55)	32.60 (5.38)	23.20 (3.83)
7	6.37 (0.81)	2.45 (0.31)	29.80 (3.77)	21.20 (2.68)	8.19 (1.11)	2.55 (0.35)	24.60 (3.35)	17.50 (2.38)
8	7.28 (0.78)	2.80 (0.30)	34.00 (3.67)	24.20 (2.61)				
9	5.18 (1.77)	1.99 (0.68)	24.10 (8.24)	17.20 (5.86)	6.61 (2.53)	2.06 (0.79)	19.80 (7.58)	14.00 (5.39)
10	6.85 (1.91)	2.63 (0.73)	31.80 (8.86)	22.60 (6.30)	6.63 (2.41)	2.07 (0.75)	19.80 (7.18)	14.10 (5.11)
11	5.85 (1.76)	2.24 (0.68)	27.10 (8.15)	19.30 (5.80)	7.53 (2.20)	2.34 (0.69)	22.40 (6.53)	15.90 (4.64)
12	6.22 (0.65)	2.39 (0.25)	28.80 (2.98)	20.50 (2.12)	8.96 (0.83)	2.79 (0.26)	26.50 (2.43)	18.90 (1.73)
13	7.26 (1.18)	2.79 (0.45)	33.50 (5.44)	23.80 (3.87)	12.90 (1.48)	4.03 (0.46)	38.20 (4.36)	27.20 (3.10)
14	8.62 (0.71)	3.31 (0.27)	39.70 (3.27)	28.20 (2.32)				
15	7.64 (1.16)	2.93 (0.45)	35.20 (5.35)	25.00 (3.80)				
16	6.74 (1.64)	2.59 (0.63)	30.90 (7.52)	22.00 (5.35)	9.96 (3.61)	3.10 (1.13)	29.20 (10.60)	20.70 (7.53)
17	6.49 (1.86)	2.49 (0.71)	29.70 (8.51)	21.10 (6.05)	8.93 (3.65)	2.78 (1.14)	26.10 (10.70)	18.60 (7.60)
18	5.45 (1.89)	2.09 (0.73)	24.90 (8.66)	17.70 (6.16)	8.41 (2.70)	2.62 (0.84)	24.70 (7.94)	17.60 (5.65)
19								
20								
21	5.94 (2.12)	2.28 (0.82)	27.00 (9.64)	19.20 (6.86)	6.95 (0.94)	2.17 (0.29)	20.50 (2.77)	14.60 (1.97)
22	6.48 (1.92)	2.49 (0.74)	29.40 (8.72)	20.90 (6.20)	8.50 (2.88)	2.65 (0.90)	25.20 (8.54)	17.90 (6.07)
23								
24	6.74 (1.77)	2.59 (0.68)	30.40 (7.97)	21.60 (5.67)	9.41 (3.32)	2.93 (1.03)	28.00 (9.87)	19.90 (7.02)
25					8.13 (2.97)	2.53 (0.93)	24.30 (8.87)	17.30 (6.31)
26	7.36 (2.08)	2.83 (0.80)	33.00 (9.34)	23.40 (6.64)	8.45 (2.72)	2.63 (0.85)	25.40 (8.18)	18.00 (5.82)
27	7.24 (1.67)	2.78 (0.64)	32.30 (7.45)	23.00 (5.30)	9.07 (2.14)	2.83 (0.67)	27.40 (6.47)	19.50 (4.60)
28	7.94 (2.19)	3.05 (0.84)	35.30 (9.74)	25.10 (6.93)	9.64 (3.09)	3.00 (0.96)	29.20 (9.39)	20.80 (6.68)
29								
30								
Avg	7.2	2.8	33.4	23.7	9.6	3.0	28.8	20.4
n	22	22	22	22	20	20	20	20
SD	1.4	0.5	6.7	4.8	2.6	0.8	7.8	5.6
Min	5.2	2.0	24.1	17.2	6.6	2.1	19.8	14.0
Max	10.8	4.1	50.9	36.2	15.7	4.9	47.9	34.1

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for December, 2008.

Day	Barn 1				Barn 2			
	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
1								
2	6.32 (1.63)	2.43 (0.63)	27.70 (7.15)	19.70 (5.08)	8.29 (2.15)	2.58 (0.67)	25.60 (6.61)	18.20 (4.70)
3	7.02 (2.36)	2.70 (0.91)	30.50 (10.30)	21.70 (7.30)	6.10 (1.77)	1.90 (0.55)	18.70 (5.44)	13.30 (3.87)
4	5.96 (1.18)	2.29 (0.45)	25.80 (5.11)	18.30 (3.63)	5.67 (0.71)	1.77 (0.22)	17.30 (2.17)	12.30 (1.54)
5	5.68 (1.71)	2.18 (0.66)	24.40 (7.34)	17.40 (5.22)	5.24 (1.06)	1.63 (0.33)	15.90 (3.23)	11.30 (2.29)
6	5.18 (1.05)	1.99 (0.40)	22.10 (4.49)	15.70 (3.19)	4.81 (1.06)	1.50 (0.33)	14.50 (3.21)	10.30 (2.28)
7	6.12 (0.93)	2.35 (0.36)	26.00 (3.96)	18.50 (2.81)	4.91 (0.80)	1.53 (0.25)	14.80 (2.40)	10.50 (1.71)
8								
9								
10								
11	5.30 (0.97)	2.03 (0.37)	22.90 (4.17)	16.30 (2.97)	5.31 (2.25)	1.65 (0.70)	15.90 (6.73)	11.30 (4.79)
12	5.60 (0.95)	2.15 (0.37)	24.40 (4.13)	17.30 (2.94)	4.56 (0.49)	1.42 (0.15)	13.70 (1.47)	9.73 (1.05)
13	4.82 (1.38)	1.85 (0.53)	21.20 (6.04)	15.10 (4.30)	8.11 (1.99)	2.53 (0.62)	24.30 (5.99)	17.30 (4.26)
14								
15								
16	7.02 (0.33)	2.70 (0.13)	31.60 (1.49)	22.40 (1.06)	6.76 (0.70)	2.11 (0.22)	20.30 (2.12)	14.50 (1.51)
17	7.39 (0.75)	2.84 (0.29)	33.00 (3.39)	23.50 (2.41)	6.27 (0.82)	1.95 (0.26)	18.80 (2.48)	13.40 (1.76)
18	6.56 (1.37)	2.52 (0.53)	29.20 (6.14)	20.70 (4.37)	5.82 (1.20)	1.81 (0.37)	17.40 (3.59)	12.40 (2.56)
19	5.20 (1.50)	2.00 (0.58)	23.00 (6.64)	16.40 (4.72)	4.12 (0.29)	1.28 (0.09)	12.30 (0.87)	8.73 (0.62)
20					3.80 (0.29)	1.18 (0.09)	11.30 (0.85)	8.04 (0.61)
21								
22								
23								
24	3.74 (0.16)	1.44 (0.06)	16.90 (0.75)	12.00 (0.53)	4.87 (0.16)	1.52 (0.05)	14.10 (0.47)	10.10 (0.33)
25					5.58 (1.18)	1.74 (0.37)	16.10 (3.40)	11.40 (2.42)
26	4.32 (1.58)	1.66 (0.61)	20.10 (7.30)	14.30 (5.19)	8.32 (1.99)	2.59 (0.62)	23.80 (5.71)	17.00 (4.06)
27	3.46 (1.37)	1.33 (0.53)	16.40 (6.48)	11.70 (4.61)	5.66 (1.93)	1.76 (0.60)	16.10 (5.51)	11.50 (3.92)
28	3.79 (1.56)	1.45 (0.60)	18.20 (7.50)	12.90 (5.34)	4.47 (1.08)	1.39 (0.34)	12.60 (3.05)	8.97 (2.17)
29	3.67 (1.11)	1.41 (0.43)	17.90 (5.39)	12.70 (3.83)	6.44 (2.54)	2.01 (0.79)	18.10 (7.16)	12.90 (5.09)
30	4.09 (0.82)	1.57 (0.31)	20.30 (4.07)	14.40 (2.89)	4.52 (0.29)	1.41 (0.09)	12.60 (0.82)	8.96 (0.58)
31	5.51 (0.97)	2.11 (0.37)	27.40 (4.86)	19.50 (3.46)	5.40 (1.11)	1.68 (0.35)	15.10 (3.09)	10.70 (2.19)
Avg	5.3	2.1	24.0	17.0	5.7	1.8	16.8	11.9
n	20	20	20	20	22	22	22	22
SD	1.2	0.5	4.8	3.4	1.3	0.4	3.8	2.7
Min	3.5	1.3	16.4	11.7	3.8	1.2	11.3	8.0
Max	7.4	2.8	33.0	23.5	8.3	2.6	25.6	18.2

Table F11. Daily means (SD) of NH₃ emissions at Site WI5B for January, 2009.

Day	Barn 1				Barn 2			
	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
1	4.21 (1.07)	1.62 (0.41)	20.80 (5.27)	14.80 (3.75)	4.55 (0.53)	1.42 (0.17)	12.90 (1.50)	9.14 (1.07)
2	4.10 (0.50)	1.58 (0.19)	20.20 (2.46)	14.40 (1.75)	3.92 (0.39)	1.22 (0.12)	11.20 (1.13)	7.97 (0.80)
3	3.99 (0.96)	1.53 (0.37)	19.50 (4.70)	13.90 (3.34)	3.81 (1.34)	1.19 (0.42)	11.00 (3.90)	7.83 (2.78)
4	4.09 (0.71)	1.57 (0.27)	19.90 (3.48)	14.20 (2.47)	3.66 (1.06)	1.14 (0.33)	10.70 (3.08)	7.60 (2.19)
5	5.44 (1.46)	2.09 (0.56)	26.30 (7.06)	18.70 (5.02)	4.38 (0.59)	1.36 (0.19)	12.90 (1.74)	9.16 (1.24)
6	4.48 (1.15)	1.72 (0.44)	21.50 (5.54)	15.30 (3.94)	4.31 (0.69)	1.34 (0.22)	12.70 (2.03)	9.02 (1.45)
7	4.02 (0.25)	1.54 (0.10)	19.20 (1.19)	13.70 (0.85)	3.38 (0.21)	1.05 (0.06)	9.98 (0.61)	7.10 (0.43)
8	4.13 (0.49)	1.59 (0.19)	19.70 (2.36)	14.00 (1.68)	3.53 (0.47)	1.10 (0.15)	10.40 (1.38)	7.42 (0.98)
9	4.17 (0.52)	1.60 (0.20)	19.70 (2.47)	14.00 (1.76)	3.41 (0.23)	1.06 (0.07)	10.10 (0.66)	7.18 (0.47)
10	3.96 (0.50)	1.52 (0.19)	18.60 (2.34)	13.20 (1.66)	3.39 (0.22)	1.06 (0.07)	10.00 (0.66)	7.14 (0.47)
11	3.82 (0.25)	1.47 (0.09)	17.80 (1.14)	12.70 (0.81)	3.69 (0.22)	1.15 (0.07)	10.90 (0.64)	7.78 (0.45)
12								
13								
14	5.67 (0.45)	2.18 (0.17)	26.20 (2.07)	18.60 (1.47)	5.42 (0.47)	1.69 (0.15)	16.10 (1.39)	11.40 (0.99)
15	6.42 (0.46)	2.47 (0.18)	29.60 (2.13)	21.00 (1.52)	6.77 (0.52)	2.11 (0.16)	20.10 (1.53)	14.30 (1.09)
16	6.89 (0.79)	2.65 (0.30)	31.70 (3.65)	22.50 (2.59)	6.78 (0.93)	2.11 (0.29)	20.10 (2.75)	14.30 (1.95)
17	5.92 (1.02)	2.27 (0.39)	27.10 (4.68)	19.30 (3.33)	5.46 (0.45)	1.70 (0.14)	16.20 (1.33)	11.50 (0.95)
18	6.18 (1.41)	2.37 (0.54)	28.20 (6.46)	20.10 (4.59)	5.05 (0.39)	1.57 (0.12)	14.90 (1.17)	10.60 (0.83)
19	6.13 (1.38)	2.36 (0.53)	28.00 (6.31)	19.90 (4.49)	5.05 (0.29)	1.57 (0.09)	14.90 (0.85)	10.60 (0.60)
20	5.08 (1.38)	1.95 (0.53)	23.10 (6.27)	16.40 (4.46)	4.82 (0.45)	1.50 (0.14)	14.20 (1.33)	10.10 (0.94)
21	4.08 (1.50)	1.57 (0.58)	18.50 (6.82)	13.20 (4.85)	4.32 (0.39)	1.35 (0.12)	12.80 (1.15)	9.08 (0.82)
22	3.76 (1.64)	1.45 (0.63)	17.00 (7.43)	12.10 (5.29)	4.10 (0.34)	1.28 (0.11)	12.10 (1.01)	8.60 (0.72)
23	4.23 (1.46)	1.62 (0.56)	19.10 (6.62)	13.60 (4.70)	3.80 (0.30)	1.18 (0.09)	11.20 (0.90)	7.96 (0.64)
24	5.48 (0.92)	2.11 (0.36)	24.70 (4.17)	17.60 (2.97)	5.57 (0.93)	1.74 (0.29)	16.40 (2.75)	11.70 (1.96)
25	5.73 (0.91)	2.20 (0.35)	25.80 (4.11)	18.30 (2.92)	6.00 (1.01)	1.87 (0.31)	17.70 (2.96)	12.60 (2.11)
26	5.76 (1.11)	2.21 (0.43)	25.90 (5.00)	18.40 (3.55)	5.80 (0.82)	1.81 (0.26)	17.10 (2.42)	12.10 (1.72)
27	4.59 (0.84)	1.76 (0.32)	20.60 (3.74)	14.70 (2.66)				
28	4.81 (0.79)	1.85 (0.30)	21.80 (3.53)	15.50 (2.51)	4.66 (0.64)	1.45 (0.20)	13.80 (1.88)	9.79 (1.34)
29	3.98 (0.60)	1.53 (0.23)	18.10 (2.71)	12.90 (1.93)	3.80 (0.33)	1.18 (0.10)	11.30 (0.96)	8.01 (0.68)
30	4.28 (0.83)	1.64 (0.32)	19.60 (3.77)	13.90 (2.68)	4.03 (0.53)	1.25 (0.16)	12.00 (1.56)	8.51 (1.11)
31	5.29 (1.29)	2.03 (0.49)	24.40 (5.91)	17.30 (4.21)	7.55 (3.95)	2.35 (1.23)	22.50 (11.80)	16.00 (8.39)
Avg	4.9	1.9	22.5	16.0	4.7	1.5	13.8	9.8
n	29	29	29	29	28	28	28	28
SD	0.9	0.4	4.0	2.8	1.1	0.4	3.3	2.4
Min	3.8	1.5	17.0	12.1	3.4	1.1	10.0	7.1
Max	6.9	2.7	31.7	22.5	7.6	2.4	22.5	16.0

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for February, 2009.

Day	Barn 1				Barn 2			
	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
1	4.78 (1.57)	1.84 (0.60)	22.20 (7.29)	15.80 (5.18)	5.12 (2.27)	1.59 (0.71)	15.30 (6.78)	10.90 (4.82)
2	4.57 (0.73)	1.75 (0.28)	21.30 (3.38)	15.10 (2.41)	3.90 (0.28)	1.22 (0.09)	11.70 (0.84)	8.29 (0.59)
3	4.44 (0.50)	1.70 (0.19)	20.70 (2.31)	14.70 (1.64)	3.91 (0.64)	1.22 (0.20)	11.60 (1.90)	8.27 (1.35)
4	4.57 (1.00)	1.76 (0.39)	21.40 (4.69)	15.20 (3.34)	4.46 (1.00)	1.39 (0.31)	13.20 (2.98)	9.39 (2.12)
5	3.79 (1.18)	1.46 (0.45)	17.80 (5.55)	12.70 (3.95)	4.25 (1.62)	1.32 (0.50)	12.50 (4.76)	8.92 (3.39)
6	4.16 (0.83)	1.60 (0.32)	19.60 (3.93)	13.90 (2.80)	5.48 (2.19)	1.71 (0.68)	16.10 (6.42)	11.50 (4.56)
7	4.59 (0.73)	1.76 (0.28)	21.70 (3.44)	15.50 (2.45)	4.86 (1.48)	1.51 (0.46)	14.20 (4.33)	10.10 (3.08)
8	4.71 (1.11)	1.81 (0.43)	22.40 (5.27)	15.90 (3.75)	5.03 (1.93)	1.57 (0.60)	14.60 (5.62)	10.40 (4.00)
9								
10					7.37 (1.27)	2.30 (0.40)	21.30 (3.70)	15.10 (2.63)
11	6.25 (0.90)	2.40 (0.34)	29.80 (4.25)	21.20 (3.03)	6.17 (1.61)	1.92 (0.50)	17.80 (4.64)	12.70 (3.30)
12	5.40 (1.90)	2.07 (0.73)	25.40 (8.95)	18.10 (6.36)	7.87 (3.60)	2.45 (1.12)	23.00 (10.50)	16.30 (7.47)
13	6.99 (2.84)	2.69 (1.09)	32.60 (13.20)	23.20 (9.41)	5.95 (2.87)	1.85 (0.89)	17.50 (8.45)	12.50 (6.01)
14	7.42 (2.45)	2.85 (0.94)	34.20 (11.30)	24.30 (8.03)	5.24 (0.37)	1.63 (0.12)	15.50 (1.11)	11.10 (0.79)
15	7.66 (2.02)	2.94 (0.78)	35.00 (9.23)	24.90 (6.56)	6.10 (1.64)	1.90 (0.51)	18.20 (4.91)	13.00 (3.50)
16	8.05 (2.26)	3.09 (0.87)	36.50 (10.30)	26.00 (7.30)	8.82 (2.86)	2.75 (0.89)	26.40 (8.53)	18.80 (6.06)
17								
18	5.60 (1.85)	2.15 (0.71)	25.30 (8.36)	18.00 (5.94)				
19					4.47 (0.30)	1.39 (0.09)	13.20 (0.88)	9.36 (0.62)
20					5.26 (0.86)	1.64 (0.27)	15.40 (2.52)	10.90 (1.80)
21					4.37 (0.39)	1.36 (0.12)	12.70 (1.15)	9.06 (0.82)
22					4.49 (0.42)	1.40 (0.13)	13.00 (1.22)	9.26 (0.87)
23					5.36 (0.98)	1.67 (0.31)	15.50 (2.84)	11.00 (2.02)
24					6.76 (1.79)	2.11 (0.56)	19.60 (5.21)	14.00 (3.71)
25	5.51 (1.17)	2.11 (0.45)	24.60 (5.21)	17.50 (3.71)	7.09 (1.64)	2.21 (0.51)	20.70 (4.76)	14.70 (3.39)
26	4.86 (1.97)	1.87 (0.76)	21.80 (8.82)	15.50 (6.27)	4.61 (1.69)	1.44 (0.53)	13.50 (4.93)	9.59 (3.50)
27	4.78 (0.48)	1.84 (0.19)	21.50 (2.16)	15.30 (1.54)	3.38 (0.25)	1.05 (0.08)	9.92 (0.75)	7.05 (0.54)
28	5.59 (1.54)	2.15 (0.59)	25.10 (6.92)	17.90 (4.92)	4.32 (0.78)	1.35 (0.24)	12.70 (2.29)	9.05 (1.63)
Avg	5.5	2.1	25.2	17.9	5.4	1.7	15.8	11.2
n	19	19	19	19	25	25	25	25
SD	1.2	0.5	5.5	3.9	1.3	0.4	3.9	2.8
Min	3.8	1.5	17.8	12.7	3.4	1.1	9.9	7.1
Max	8.1	3.1	36.5	26.0	8.8	2.8	26.4	18.8

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for March, 2009.

Day	Barn 1				Barn 2			
	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
1	4.62 (0.68)	1.77 (0.26)	20.80 (3.05)	14.80 (2.17)	3.92 (0.27)	1.22 (0.08)	11.60 (0.81)	8.23 (0.58)
2								
3								
4	4.14 (1.21)	1.59 (0.47)	18.60 (5.45)	13.20 (3.88)	6.59 (1.87)	2.05 (0.58)	19.70 (5.61)	14.00 (3.99)
5	4.67 (0.35)	1.79 (0.13)	20.90 (1.54)	14.90 (1.10)	6.83 (0.25)	2.13 (0.08)	20.50 (0.74)	14.60 (0.52)
6	6.56 (1.80)	2.52 (0.69)	29.20 (8.02)	20.80 (5.70)	7.85 (0.52)	2.44 (0.16)	23.70 (1.57)	16.80 (1.12)
7	6.39 (1.21)	2.45 (0.47)	28.30 (5.37)	20.20 (3.82)	7.10 (2.43)	2.21 (0.76)	21.60 (7.36)	15.30 (5.23)
8	5.34 (1.30)	2.05 (0.50)	23.60 (5.71)	16.80 (4.06)	7.30 (2.38)	2.27 (0.74)	22.30 (7.26)	15.80 (5.16)
9	4.86 (1.14)	1.87 (0.44)	21.50 (5.04)	15.30 (3.58)	7.88 (1.68)	2.46 (0.53)	24.00 (5.11)	17.10 (3.64)
10	5.49 (0.89)	2.11 (0.34)	24.50 (3.95)	17.40 (2.81)	5.97 (1.18)	1.86 (0.37)	18.00 (3.61)	12.80 (2.57)
11	4.65 (0.37)	1.78 (0.14)	20.90 (1.63)	14.90 (1.16)	3.97 (0.28)	1.24 (0.09)	11.90 (0.83)	8.45 (0.59)
12	4.83 (0.84)	1.85 (0.32)	21.90 (3.80)	15.60 (2.70)	4.52 (0.46)	1.41 (0.14)	13.40 (1.37)	9.53 (0.97)
13	4.44 (1.01)	1.71 (0.39)	20.40 (4.65)	14.50 (3.31)	5.73 (1.60)	1.79 (0.50)	16.90 (4.70)	12.00 (3.34)
14	5.62 (1.66)	2.16 (0.64)	26.00 (7.72)	18.50 (5.49)	7.29 (2.17)	2.27 (0.68)	21.30 (6.33)	15.10 (4.50)
15	6.30 (1.06)	2.42 (0.41)	29.50 (4.99)	20.90 (3.55)	9.46 (2.25)	2.95 (0.70)	27.40 (6.48)	19.50 (4.61)
16	8.34 (2.07)	3.20 (0.80)	39.00 (9.65)	27.80 (6.87)	13.80 (2.87)	4.31 (0.89)	40.00 (8.34)	28.50 (5.93)
17								
18	8.33 (1.56)	3.20 (0.60)	38.60 (7.21)	27.40 (5.12)	12.10 (1.90)	3.77 (0.59)	35.50 (5.55)	25.20 (3.95)
19								
20								
21								
22								
23								
24								
25					10.30 (1.96)	3.21 (0.61)	30.80 (5.89)	21.90 (4.19)
26								
27								
28								
29								
30					8.81 (1.91)	2.74 (0.60)	25.70 (5.58)	18.30 (3.97)
31					9.38 (2.06)	2.92 (0.64)	27.40 (6.03)	19.50 (4.29)
Avg	5.6	2.2	25.6	18.2	7.7	2.4	22.9	16.3
n	15	15	15	15	18	18	18	18
SD	1.3	0.5	6.1	4.4	2.6	0.8	7.4	5.3
Min	4.1	1.6	18.6	13.2	3.9	1.2	11.6	8.2
Max	8.3	3.2	39.0	27.8	13.8	4.3	40.0	28.5

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for April, 2009.

Day	Barn 1				Barn 2			
	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
1	5.91 (0.66)	2.27 (0.25)	27.20 (3.06)	19.40 (2.17)	9.57 (1.02)	2.98 (0.32)	27.90 (2.99)	19.90 (2.12)
2	8.77 (2.41)	3.37 (0.93)	40.10 (11.00)	28.50 (7.82)	10.70 (1.70)	3.32 (0.53)	31.20 (4.97)	22.20 (3.53)
3	9.95 (1.81)	3.82 (0.69)	45.30 (8.20)	32.20 (5.83)				
4	8.79 (2.46)	3.38 (0.94)	39.80 (11.10)	28.30 (7.89)	9.66 (2.60)	3.01 (0.81)	28.30 (7.63)	20.10 (5.42)
5	8.16 (0.62)	3.13 (0.24)	36.70 (2.77)	26.10 (1.97)				
6	7.61 (1.20)	2.92 (0.46)	34.10 (5.38)	24.30 (3.83)				
7	9.06 (2.52)	3.48 (0.97)	40.60 (11.30)	28.90 (8.03)	9.88 (2.72)	3.08 (0.85)	29.00 (7.99)	20.60 (5.68)
8	9.93 (2.43)	3.81 (0.93)	44.50 (10.90)	31.70 (7.74)	10.40 (2.76)	3.23 (0.86)	30.40 (8.11)	21.60 (5.77)
9	10.10 (2.52)	3.87 (0.97)	45.20 (11.30)	32.10 (8.02)				
10	9.77 (2.36)	3.75 (0.91)	43.80 (10.60)	31.20 (7.53)				
11	8.52 (1.64)	3.27 (0.63)	38.20 (7.35)	27.20 (5.23)	10.40 (2.52)	3.24 (0.78)	30.50 (7.38)	21.70 (5.25)
12	8.99 (1.74)	3.45 (0.67)	40.30 (7.82)	28.70 (5.56)	11.80 (2.42)	3.67 (0.75)	34.60 (7.09)	24.60 (5.05)
13	9.97 (2.19)	3.83 (0.84)	44.80 (9.91)	31.90 (7.05)	11.60 (2.47)	3.61 (0.77)	33.90 (7.24)	24.10 (5.15)
14	13.60 (2.79)	5.22 (1.07)	61.60 (12.70)	43.80 (9.01)				
15	7.79 (3.87)	2.99 (1.48)	35.50 (17.60)	25.20 (12.50)	14.20 (2.44)	4.42 (0.76)	41.40 (7.12)	29.40 (5.06)
16	9.55 (3.00)	3.67 (1.15)	43.80 (13.80)	31.20 (9.81)	17.40 (4.27)	5.42 (1.33)	50.80 (12.40)	36.10 (8.85)
17	8.72 (3.48)	3.35 (1.33)	40.20 (16.00)	28.60 (11.40)	17.60 (3.51)	5.49 (1.09)	51.30 (10.20)	36.50 (7.26)
18	12.60 (2.71)	4.84 (1.04)	58.60 (12.70)	41.70 (9.02)				
19	10.80 (2.36)	4.16 (0.91)	50.70 (11.00)	36.10 (7.82)				
20	9.05 (1.23)	3.47 (0.47)	42.40 (5.75)	30.10 (4.09)				
21	11.30 (2.72)	4.36 (1.04)	52.90 (12.60)	37.60 (8.98)				
22	12.60 (1.65)	4.83 (0.63)	58.40 (7.67)	41.50 (5.45)				
23					20.00 (5.70)	6.24 (1.78)	57.50 (16.30)	40.90 (11.60)
24	12.40 (2.25)	4.75 (0.86)	56.90 (10.30)	40.40 (7.34)				
25	9.12 (1.87)	3.50 (0.72)	41.70 (8.56)	29.70 (6.08)				
26					12.70 (3.58)	3.96 (1.11)	36.10 (10.10)	25.70 (7.22)
27	9.14 (1.56)	3.51 (0.60)	41.70 (7.10)	29.70 (5.05)	14.20 (2.81)	4.42 (0.88)	40.10 (8.00)	28.50 (5.69)
28								
29	10.10 (1.55)	3.90 (0.60)	47.00 (7.19)	33.40 (5.11)	14.40 (2.81)	4.49 (0.88)	39.60 (7.63)	28.20 (5.43)
30	10.20 (1.30)	3.93 (0.50)	47.80 (6.17)	34.00 (4.39)				
Avg	9.7	3.7	44.4	31.6	13.0	4.0	37.5	26.7
n	27	27	27	27	15	15	15	15
SD	1.7	0.6	7.9	5.6	3.2	1.0	9.0	6.4
Min	5.9	2.3	27.2	19.4	9.6	3.0	27.9	19.9
Max	13.6	5.2	61.6	43.8	20.0	6.2	57.5	40.9

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for May, 2009.

Day	Barn 1				Barn 2			
	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
1					18.30 (3.82)	5.71 (1.19)	47.90 (9.95)	34.10 (7.08)
2					17.60 (4.36)	5.48 (1.36)	45.40 (11.20)	32.30 (7.94)
3					18.70 (2.99)	5.83 (0.93)	47.80 (7.61)	34.00 (5.41)
4					16.50 (2.57)	5.15 (0.80)	42.30 (6.57)	30.10 (4.67)
5					17.30 (3.42)	5.37 (1.06)	44.70 (8.90)	31.80 (6.33)
6								
7								
8								
9								
10								
11					13.50 (2.85)	4.19 (0.89)	36.70 (7.79)	26.10 (5.54)
12					17.70 (2.49)	5.53 (0.78)	48.60 (6.87)	34.60 (4.89)
13					18.20 (3.49)	5.66 (1.09)	50.00 (9.65)	35.60 (6.86)
14								
15					16.20 (3.23)	5.04 (1.01)	45.00 (9.02)	32.00 (6.41)
16								
17								
18					18.80 (4.16)	5.85 (1.30)	53.10 (11.80)	37.80 (8.37)
19	14.20 (2.50)	5.46 (0.96)	64.60 (11.30)	45.90 (8.06)	23.90 (4.99)	7.45 (1.55)	67.60 (14.10)	48.10 (10.00)
20	9.08 (5.19)	3.49 (1.99)	41.20 (23.50)	29.30 (16.70)	17.70 (6.82)	5.52 (2.12)	50.10 (19.30)	35.60 (13.70)
21								
22					13.60 (2.93)	4.23 (0.91)	38.40 (8.32)	27.30 (5.91)
23								
24					17.40 (3.89)	5.41 (1.21)	49.30 (11.00)	35.10 (7.85)
25					15.80 (2.32)	4.93 (0.72)	44.90 (6.60)	31.90 (4.69)
26					16.10 (1.44)	5.02 (0.45)	45.80 (4.11)	32.50 (2.92)
27								
28					16.10 (3.11)	5.00 (0.97)	45.60 (8.83)	32.40 (6.28)
29								
30								
31					21.30 (5.49)	6.64 (1.71)	60.50 (15.60)	43.10 (11.10)
Avg	11.7	4.5	52.9	37.6	17.5	5.4	48.0	34.1
n	2	2	2	2	18	18	18	18
SD	2.6	1.0	11.7	8.3	2.4	0.7	7.0	5.0
Min	9.1	3.5	41.2	29.3	13.5	4.2	36.7	26.1
Max	14.2	5.5	64.6	45.9	23.9	7.5	67.6	48.1

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for June, 2009.

Day	Barn 1				Barn 2			
	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
1								
2								
3								
4	9.52 (1.22)	3.65 (0.47)	41.70 (5.37)	29.70 (3.82)	16.30 (3.92)	5.09 (1.22)	46.90 (11.30)	33.40 (8.02)
5	14.70 (4.68)	5.66 (1.80)	64.40 (20.40)	45.80 (14.50)			54.40 (12.80)	38.70 (9.13)
6					13.00 (2.46)	4.05 (0.77)	37.90 (7.13)	26.90 (5.07)
7					12.10 (2.08)	3.76 (0.65)	35.40 (6.10)	25.10 (4.34)
8	11.40 (1.12)	4.37 (0.43)	49.40 (4.94)	35.10 (3.51)	13.70 (1.50)	4.28 (0.47)	40.40 (4.44)	28.70 (3.15)
9	10.90 (1.19)	4.19 (0.46)	47.60 (5.22)	33.90 (3.71)	15.60 (1.38)	4.85 (0.43)	46.00 (4.09)	32.70 (2.91)
10	11.60 (1.17)	4.44 (0.45)	50.90 (5.17)	36.20 (3.67)	15.90 (1.73)	4.96 (0.54)	47.20 (5.14)	33.50 (3.66)
11	11.70 (2.20)	4.49 (0.85)	51.70 (9.75)	36.80 (6.93)	16.60 (2.48)	5.18 (0.77)	49.50 (7.38)	35.20 (5.25)
12	12.20 (1.90)	4.67 (0.73)	54.10 (8.40)	38.50 (5.98)	17.20 (3.42)	5.35 (1.06)	51.30 (10.20)	36.50 (7.26)
13	13.00 (2.02)	4.99 (0.78)	58.20 (9.06)	41.40 (6.44)	18.90 (3.93)	5.88 (1.23)	56.60 (11.80)	40.20 (8.41)
14	13.30 (2.85)	5.10 (1.09)	59.80 (12.90)	42.60 (9.15)	16.60 (4.87)	5.18 (1.52)	50.10 (14.70)	35.60 (10.40)
15	12.50 (2.36)	4.81 (0.91)	56.70 (10.70)	40.30 (7.60)	17.30 (4.07)	5.39 (1.27)	52.30 (12.30)	37.20 (8.76)
16	11.10 (1.58)	4.25 (0.61)	50.30 (7.19)	35.80 (5.11)	16.90 (2.61)	5.27 (0.81)	51.20 (7.92)	36.40 (5.63)
17	11.10 (1.99)	4.28 (0.76)	50.60 (9.02)	36.00 (6.41)	17.50 (3.37)	5.45 (1.05)	52.70 (10.10)	37.50 (7.21)
18	10.90 (2.12)	4.18 (0.81)	49.40 (9.62)	35.10 (6.84)	16.80 (1.86)	5.22 (0.58)	50.40 (5.59)	35.80 (3.98)
19	12.20 (3.29)	4.69 (1.26)	55.40 (14.90)	39.40 (10.60)	15.30 (1.95)	4.77 (0.61)	45.80 (5.82)	32.60 (4.14)
20	12.80 (4.68)	4.92 (1.80)	58.00 (21.20)	41.30 (15.10)	17.20 (2.57)	5.35 (0.80)	51.20 (7.65)	36.40 (5.44)
21	11.40 (2.02)	4.37 (0.77)	51.50 (9.13)	36.60 (6.49)	15.20 (2.09)	4.74 (0.65)	45.20 (6.23)	32.10 (4.43)
22	14.20 (5.44)	5.46 (2.09)	64.20 (24.50)	45.60 (17.50)	17.30 (2.77)	5.40 (0.86)	51.40 (8.21)	36.50 (5.84)
23								
24								
25								
26								
27								
28								
29								
30								
Avg	12.0	4.6	53.8	38.2	16.2	5.1	48.2	34.3
n	17	17	17	17	19	19	19	19
SD	1.3	0.5	5.8	4.1	1.7	0.5	5.4	3.8
Min	9.5	3.7	41.7	29.7	12.1	3.8	35.4	25.1
Max	14.7	5.7	64.4	45.8	18.9	5.9	56.6	40.2

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for July, 2009.

Day	Barn 1				Barn 2			
	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
1								
2								
3								
4								
5								
6								
7	15.20 (2.73)	5.84 (1.05)	67.90 (12.20)	48.30 (8.66)	21.80 (6.01)	6.80 (1.87)	64.90 (17.80)	46.10 (12.70)
8	11.90 (2.35)	4.57 (0.90)	53.20 (10.50)	37.80 (7.48)	15.90 (3.02)	4.94 (0.94)	46.70 (8.91)	33.20 (6.34)
9	10.80 (2.11)	4.14 (0.81)	48.30 (9.44)	34.40 (6.71)	17.70 (3.96)	5.50 (1.23)	51.60 (11.60)	36.70 (8.22)
10	15.00 (4.49)	5.78 (1.72)	67.70 (20.20)	48.10 (14.40)	19.80 (6.02)	6.18 (1.87)	57.40 (17.40)	40.80 (12.40)
11	15.80 (3.06)	6.06 (1.18)	71.10 (13.80)	50.50 (9.81)	17.00 (3.09)	5.29 (0.96)	48.70 (8.90)	34.70 (6.33)
12	13.70 (1.65)	5.25 (0.63)	61.80 (7.48)	44.00 (5.32)	18.90 (2.58)	5.88 (0.80)	53.70 (7.31)	38.20 (5.20)
13	13.80 (2.50)	5.28 (0.96)	62.90 (11.50)	44.70 (8.18)	19.00 (6.63)	5.93 (2.07)	53.60 (18.70)	38.10 (13.30)
14	13.50 (2.13)	5.20 (0.82)	63.20 (9.79)	44.90 (6.96)	20.10 (4.47)	6.25 (1.39)	55.90 (12.40)	39.80 (8.84)
15	16.20 (3.23)	6.21 (1.24)	77.00 (15.40)	54.80 (10.90)	19.40 (2.84)	6.03 (0.89)	53.40 (7.87)	38.00 (5.60)
16	14.60 (5.13)	5.62 (1.97)	71.20 (25.00)	50.60 (17.80)				
17	14.40 (2.46)	5.52 (0.95)	71.50 (12.30)	50.80 (8.73)				
18	14.40 (3.14)	5.53 (1.21)	73.30 (16.00)	52.10 (11.40)				
19	12.10 (1.58)	4.63 (0.61)	62.70 (8.13)	44.60 (5.78)	19.20 (2.37)	5.98 (0.74)	50.70 (6.22)	36.10 (4.42)
20	11.30 (1.92)	4.34 (0.74)	59.60 (10.10)	42.40 (7.18)	22.30 (5.14)	6.94 (1.60)	58.60 (13.50)	41.70 (9.61)
21	10.40 (1.64)	3.99 (0.63)	54.80 (8.67)	39.00 (6.17)	18.40 (2.83)	5.73 (0.88)	48.40 (7.44)	34.40 (5.29)
22	10.10 (1.54)	3.89 (0.59)	53.50 (8.11)	38.10 (5.77)	17.90 (4.32)	5.59 (1.35)	47.10 (11.40)	33.50 (8.07)
23	11.20 (2.78)	4.29 (1.07)	59.10 (14.70)	42.10 (10.40)	19.80 (4.67)	6.16 (1.45)	51.90 (12.20)	36.90 (8.71)
24	11.50 (3.45)	4.41 (1.32)	60.80 (18.30)	43.20 (13.00)	17.80 (4.69)	5.53 (1.46)	46.60 (12.30)	33.10 (8.74)
25	12.00 (2.81)	4.60 (1.08)	63.60 (14.90)	45.20 (10.60)	16.10 (1.65)	5.03 (0.52)	42.30 (4.34)	30.10 (3.08)
26	10.40 (2.69)	4.00 (1.03)	55.30 (14.30)	39.30 (10.20)	17.80 (3.75)	5.53 (1.17)	46.50 (9.82)	33.10 (6.99)
27	10.90 (2.48)	4.19 (0.95)	57.70 (13.10)	41.00 (9.33)	18.10 (4.12)	5.65 (1.28)	47.60 (10.80)	33.80 (7.69)
28	12.70 (3.69)	4.86 (1.42)	66.20 (19.30)	47.10 (13.70)	19.10 (2.74)	5.96 (0.85)	50.30 (7.22)	35.80 (5.13)
29	14.00 (3.87)	5.39 (1.49)	72.60 (20.00)	51.60 (14.20)	19.30 (4.41)	6.00 (1.37)	50.80 (11.60)	36.10 (8.28)
30	13.30 (3.40)	5.09 (1.31)	67.80 (17.40)	48.20 (12.40)	16.30 (1.92)	5.07 (0.60)	43.10 (5.06)	30.70 (3.60)
31	12.70 (2.02)	4.86 (0.78)	64.10 (10.20)	45.60 (7.26)	18.20 (3.62)	5.66 (1.13)	48.30 (9.63)	34.40 (6.85)
Avg	12.9	4.9	63.5	45.1	18.6	5.8	50.8	36.2
n	25	25	25	25	22	22	22	22
SD	1.8	0.7	7.1	5.1	1.6	0.5	5.1	3.7
Min	10.1	3.9	48.3	34.4	15.9	4.9	42.3	30.1
Max	16.2	6.2	77.0	54.8	22.3	6.9	64.9	46.1

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for August, 2009.

Day	Barn 1				Barn 2			
	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
1	14.90 (3.83)	5.71 (1.47)	74.40 (19.20)	52.90 (13.60)				
2	13.30 (2.20)	5.11 (0.85)	65.90 (10.80)	46.90 (7.67)				
3	14.60 (3.26)	5.62 (1.25)	72.50 (16.20)	51.60 (11.50)	19.10 (3.91)	5.95 (1.22)	51.10 (10.50)	36.30 (7.44)
4	17.20 (3.51)	6.61 (1.35)	86.40 (17.50)	61.40 (12.50)	18.50 (3.12)	5.76 (0.97)	49.20 (8.30)	35.00 (5.90)
5	16.40 (3.16)	6.30 (1.21)	83.30 (16.00)	59.20 (11.40)	18.80 (2.95)	5.86 (0.92)	49.90 (7.80)	35.50 (5.55)
6	16.30 (2.96)	6.26 (1.14)	83.80 (15.40)	59.60 (10.90)	19.40 (3.34)	6.04 (1.04)	51.30 (8.80)	36.50 (6.26)
7	14.30 (2.66)	5.49 (1.02)	74.40 (13.70)	52.90 (9.74)	19.50 (2.90)	6.08 (0.90)	51.40 (7.63)	36.60 (5.43)
8	13.10 (2.33)	5.05 (0.90)	69.30 (12.30)	49.30 (8.78)	17.60 (2.68)	5.49 (0.84)	46.30 (7.02)	32.90 (4.99)
9	13.20 (3.42)	5.07 (1.31)	70.50 (18.20)	50.10 (12.90)				
10	16.20 (3.30)	6.20 (1.27)	86.90 (17.80)	61.80 (12.60)	22.60 (5.93)	7.03 (1.85)	58.80 (15.50)	41.80 (11.00)
11	15.60 (5.22)	5.98 (2.00)	83.90 (28.10)	59.60 (20.00)	26.10 (7.33)	8.13 (2.28)	67.80 (19.00)	48.20 (13.50)
12	14.10 (3.74)	5.42 (1.44)	76.10 (20.10)	54.10 (14.30)	24.60 (6.42)	7.65 (2.00)	63.60 (16.60)	45.20 (11.80)
13	10.30 (1.84)	3.97 (0.71)	55.80 (9.90)	39.60 (7.04)	18.30 (2.52)	5.71 (0.79)	47.30 (6.53)	33.60 (4.65)
14	12.40 (2.77)	4.76 (1.06)	66.90 (15.00)	47.60 (10.60)	20.00 (4.16)	6.24 (1.30)	51.50 (10.70)	36.60 (7.61)
15	11.50 (1.49)	4.40 (0.57)	61.90 (8.03)	44.00 (5.71)	18.80 (2.04)	5.85 (0.64)	48.20 (5.22)	34.30 (3.71)
16	12.40 (2.46)	4.77 (0.94)	67.10 (13.30)	47.70 (9.45)	19.80 (3.74)	6.18 (1.16)	50.70 (9.54)	36.00 (6.78)
17	14.90 (3.09)	5.71 (1.19)	80.40 (16.70)	57.20 (11.90)	20.60 (5.97)	6.41 (1.86)	52.50 (15.20)	37.30 (10.80)
18	16.40 (2.94)	6.31 (1.13)	88.80 (15.90)	63.20 (11.30)	21.00 (4.10)	6.55 (1.28)	53.60 (10.50)	38.10 (7.44)
19	12.00 (2.72)	4.59 (1.05)	64.70 (14.70)	46.00 (10.50)	18.50 (2.92)	5.76 (0.91)	47.10 (7.45)	33.50 (5.30)
20	12.20 (3.28)	4.69 (1.26)	66.10 (17.70)	47.00 (12.60)				
21	14.90 (3.05)	5.72 (1.17)	80.60 (16.50)	57.30 (11.70)				
22	12.20 (2.57)	4.69 (0.99)	66.10 (13.90)	47.00 (9.90)	16.00 (2.87)	4.99 (0.90)	40.70 (7.31)	28.90 (5.20)
23	11.40 (1.52)	4.36 (0.59)	61.50 (8.24)	43.70 (5.86)	17.50 (3.54)	5.45 (1.10)	44.40 (8.98)	31.60 (6.39)
24	10.00 (1.68)	3.84 (0.65)	54.10 (9.10)	38.50 (6.47)	19.10 (4.35)	5.94 (1.36)	48.40 (11.00)	34.40 (7.85)
25	10.60 (2.08)	4.06 (0.80)	57.20 (11.20)	40.70 (8.00)	15.10 (2.28)	4.71 (0.71)	38.30 (5.78)	27.30 (4.11)
26	10.60 (1.46)	4.07 (0.56)	57.50 (7.93)	40.90 (5.64)	16.50 (3.41)	5.15 (1.06)	41.90 (8.64)	29.80 (6.15)
27	10.80 (1.76)	4.14 (0.68)	58.40 (9.54)	41.50 (6.79)	17.90 (3.85)	5.59 (1.20)	45.40 (9.75)	32.30 (6.94)
28	12.40 (2.83)	4.75 (1.09)	67.00 (15.30)	47.70 (10.90)				
29	12.70 (1.62)	4.88 (0.62)	68.90 (8.81)	49.00 (6.27)				
30	11.20 (2.25)	4.29 (0.87)	60.60 (12.20)	43.10 (8.69)	15.10 (2.64)	4.69 (0.82)	38.00 (6.66)	27.10 (4.73)
31	11.10 (1.87)	4.25 (0.72)	60.00 (10.10)	42.70 (7.21)	15.70 (3.31)	4.89 (1.03)	39.60 (8.34)	28.20 (5.93)
Avg	13.2	5.1	70.0	49.8	19.0	5.9	49.0	34.9
n	31	31	31	31	24	24	24	24
SD	2.1	0.8	10.0	7.1	2.6	0.8	7.1	5.1
Min	10.0	3.8	54.1	38.5	15.1	4.7	38.0	27.1
Max	17.2	6.6	88.8	63.2	26.1	8.1	67.8	48.2

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for September, 2009.

Day	Barn 1				Barn 2			
	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
1	11.40 (1.44)	4.37 (0.55)	61.80 (7.81)	44.00 (5.55)	14.70 (3.66)	4.57 (1.14)	37.00 (9.24)	26.30 (6.57)
2	11.40 (1.66)	4.37 (0.64)	61.70 (8.99)	43.90 (6.39)	14.60 (2.59)	4.54 (0.81)	36.70 (6.54)	26.10 (4.65)
3	11.40 (1.65)	4.38 (0.63)	61.90 (8.96)	44.00 (6.37)	13.50 (2.93)	4.21 (0.91)	34.00 (7.39)	24.20 (5.26)
4	11.90 (2.17)	4.56 (0.83)	64.50 (11.80)	45.90 (8.36)	13.90 (2.97)	4.34 (0.92)	35.10 (7.47)	25.00 (5.31)
5	11.60 (1.72)	4.47 (0.66)	63.20 (9.37)	44.90 (6.66)	14.50 (2.72)	4.52 (0.85)	36.50 (6.84)	25.90 (4.86)
6	14.30 (2.36)	5.48 (0.91)	77.60 (12.80)	55.20 (9.11)	15.80 (3.87)	4.92 (1.21)	39.70 (9.74)	28.20 (6.92)
7	11.90 (2.24)	4.56 (0.86)	64.40 (12.20)	45.80 (8.65)	17.00 (3.98)	5.30 (1.24)	42.90 (10.00)	30.50 (7.15)
8	13.70 (2.68)	5.26 (1.03)	73.80 (14.50)	52.50 (10.30)	17.10 (4.17)	5.33 (1.30)	43.30 (10.60)	30.80 (7.52)
9	14.10 (2.11)	5.41 (0.81)	75.60 (11.30)	53.70 (8.02)	18.00 (4.69)	5.60 (1.46)	45.80 (11.90)	32.60 (8.50)
10	12.60 (2.37)	4.85 (0.91)	67.30 (12.70)	47.90 (9.02)	16.50 (5.53)	5.13 (1.72)	42.20 (14.10)	30.00 (10.10)
11	13.10 (2.22)	5.04 (0.85)	69.70 (11.80)	49.60 (8.42)	15.00 (2.66)	4.68 (0.83)	38.70 (6.88)	27.50 (4.89)
12	13.60 (2.39)	5.22 (0.92)	71.70 (12.60)	51.00 (8.95)	14.80 (3.60)	4.61 (1.12)	38.40 (9.34)	27.30 (6.65)
13	13.90 (2.73)	5.35 (1.05)	73.20 (14.40)	52.10 (10.20)	17.20 (4.09)	5.35 (1.27)	44.70 (10.70)	31.80 (7.60)
14	14.40 (2.63)	5.53 (1.01)	75.60 (13.70)	53.80 (9.78)	18.40 (5.19)	5.73 (1.62)	48.10 (13.60)	34.20 (9.66)
15	15.40 (3.91)	5.90 (1.50)	81.20 (20.70)	57.70 (14.70)	17.30 (4.94)	5.40 (1.54)	45.60 (13.00)	32.40 (9.25)
16	13.20 (2.72)	5.07 (1.04)	70.20 (14.40)	49.90 (10.20)	15.50 (4.45)	4.82 (1.39)	41.00 (11.80)	29.10 (8.41)
17	13.40 (2.62)	5.16 (1.01)	71.90 (14.10)	51.10 (10.00)	14.70 (2.99)	4.59 (0.93)	39.20 (7.98)	27.80 (5.67)
18	15.70 (2.93)	6.02 (1.13)	84.40 (15.70)	60.00 (11.20)	14.10 (3.30)	4.40 (1.03)	37.70 (8.83)	26.80 (6.28)
19	11.60 (2.20)	4.45 (0.84)	62.70 (11.90)	44.60 (8.44)	14.10 (3.64)	4.40 (1.13)	38.00 (9.79)	27.00 (6.96)
20	11.20 (2.58)	4.31 (0.99)	61.20 (14.10)	43.50 (10.00)	14.90 (2.62)	4.64 (0.82)	40.30 (7.12)	28.60 (5.06)
21	11.90 (1.78)	4.59 (0.68)	65.10 (9.68)	46.30 (6.89)	16.10 (2.20)	5.03 (0.69)	43.70 (5.96)	31.10 (4.24)
22	12.90 (2.59)	4.97 (0.99)	70.30 (14.10)	50.00 (10.00)	13.70 (1.67)	4.28 (0.52)	37.20 (4.50)	26.40 (3.20)
23	13.10 (1.95)	5.05 (0.75)	71.10 (10.60)	50.60 (7.52)	15.30 (3.06)	4.78 (0.96)	41.40 (8.26)	29.50 (5.88)
24	13.60 (2.55)	5.22 (0.98)	73.20 (13.70)	52.10 (9.73)	17.00 (3.08)	5.30 (0.96)	45.90 (8.31)	32.60 (5.91)
25	12.80 (2.70)	4.90 (1.04)	68.50 (14.60)	48.70 (10.40)	14.10 (2.40)	4.41 (0.75)	38.10 (6.46)	27.10 (4.59)
26	12.40 (2.40)	4.77 (0.92)	66.50 (12.80)	47.30 (9.13)	15.10 (3.39)	4.71 (1.06)	40.60 (9.11)	28.90 (6.48)
27	12.10 (2.06)	4.65 (0.79)	64.60 (10.90)	45.90 (7.77)				
28	11.50 (1.76)	4.43 (0.68)	61.20 (9.27)	43.50 (6.59)				
29								
30	9.76 (1.12)	3.75 (0.43)	51.10 (5.88)	36.30 (4.19)	10.60 (1.91)	3.30 (0.60)	28.20 (5.10)	20.10 (3.63)
Avg	12.8	4.9	68.5	48.7	15.3	4.8	40.0	28.4
n	29	29	29	29	27	27	27	27
SD	1.3	0.5	6.9	4.9	1.6	0.5	4.2	3.0
Min	9.8	3.8	51.1	36.3	10.6	3.3	28.2	20.1
Max	15.7	6.0	84.4	60.0	18.4	5.7	48.1	34.2

Table F11. Daily means (SD) of NH₃ emissions at Site W15B for October, 2009.

Day	Barn 1				Barn 2			
	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
1					8.35 (1.35)			
2	11.60 (2.12)	4.45 (0.81)	59.80 (10.90)	42.50 (7.72)				
3	12.40 (2.03)	4.76 (0.78)	63.60 (10.50)	45.20 (7.47)				
4	11.30 (0.95)	4.32 (0.37)	57.30 (4.89)	40.80 (3.48)				
5	10.40 (1.46)	4.01 (0.56)	52.90 (7.39)	37.60 (5.26)				
6								
7	9.80 (2.10)	3.76 (0.81)	49.40 (10.50)	35.10 (7.49)				
8	12.40 (2.84)	4.75 (1.09)	62.10 (14.20)	44.20 (10.10)				
9	9.28 (1.42)	3.56 (0.55)	46.50 (7.13)	33.10 (5.07)				
10	5.90 (1.39)	2.26 (0.54)	29.50 (6.98)	21.00 (4.96)	8.92 (1.51)	2.78 (0.47)	23.50 (3.98)	16.70 (2.83)
11	6.82 (0.83)	2.62 (0.32)	34.00 (4.11)	24.20 (2.93)	9.32 (0.54)	2.90 (0.17)	24.50 (1.43)	17.40 (1.02)
12	7.16 (1.09)	2.75 (0.42)	35.50 (5.44)	25.20 (3.87)	9.06 (0.78)	2.82 (0.24)	23.80 (2.05)	16.90 (1.46)
13	8.56 (0.85)	3.29 (0.33)	42.20 (4.14)	30.00 (2.94)	8.93 (1.00)	2.78 (0.31)	23.50 (2.65)	16.70 (1.88)
14	8.02 (0.95)	3.08 (0.37)	39.30 (4.68)	27.90 (3.33)	9.61 (0.41)	2.99 (0.13)	25.40 (1.08)	18.10 (0.77)
15	7.72 (0.69)	2.96 (0.27)	37.60 (3.35)	26.70 (2.38)	8.66 (0.83)	2.70 (0.26)	23.00 (2.19)	16.30 (1.55)
16	8.83 (1.27)	3.39 (0.49)	42.70 (6.12)	30.40 (4.35)	10.20 (1.45)	3.17 (0.45)	27.10 (3.87)	19.20 (2.75)
17	8.73 (1.04)	3.35 (0.40)	42.00 (5.00)	29.80 (3.56)	11.10 (1.74)	3.46 (0.54)	29.60 (4.65)	21.10 (3.31)
18	8.27 (1.88)	3.18 (0.72)	39.50 (8.92)	28.10 (6.34)	14.60 (2.93)	4.56 (0.91)	39.10 (7.86)	27.80 (5.59)
19	9.52 (1.02)	3.65 (0.39)	45.70 (4.82)	32.50 (3.43)	13.80 (2.22)	4.31 (0.69)	36.90 (5.94)	26.20 (4.23)
20	9.23 (0.98)	3.54 (0.38)	45.00 (4.92)	32.00 (3.50)	11.30 (2.07)	3.53 (0.65)	30.10 (5.51)	21.40 (3.92)
21								
22	10.70 (1.09)	4.09 (0.42)	53.50 (5.54)	38.10 (3.94)				
23	10.10 (1.02)	3.89 (0.39)	51.70 (5.04)	36.70 (3.58)				
24	8.76 (1.00)	3.37 (0.38)	45.50 (5.20)	32.30 (3.70)	11.90 (3.04)	3.71 (0.95)	31.00 (7.89)	22.10 (5.61)
25	9.16 (2.10)	3.52 (0.81)	48.30 (11.20)	34.40 (7.96)	12.50 (2.71)	3.90 (0.85)	32.50 (7.03)	23.10 (5.00)
26	9.52 (2.22)	3.66 (0.85)	50.50 (11.80)	35.90 (8.42)	11.40 (1.50)	3.56 (0.47)	29.70 (3.92)	21.10 (2.79)
27	8.09 (1.84)	3.11 (0.71)	42.50 (9.61)	30.20 (6.83)	13.30 (2.28)	4.13 (0.71)	34.60 (5.97)	24.60 (4.24)
28	9.47 (0.82)	3.64 (0.32)	49.40 (4.24)	35.10 (3.02)	14.40 (2.64)	4.48 (0.82)	37.70 (6.97)	26.80 (4.96)
29					14.30 (1.54)	4.46 (0.48)	37.70 (4.09)	26.80 (2.91)
30	7.94 (1.31)	3.05 (0.50)	40.70 (6.75)	28.90 (4.80)	14.10 (2.44)	4.38 (0.76)	37.30 (6.43)	26.50 (4.57)
31	6.66 (0.61)	2.56 (0.23)	33.90 (3.08)	24.10 (2.19)	9.96 (0.92)	3.10 (0.29)	26.60 (2.46)	18.90 (1.75)
Avg	9.1	3.5	45.9	32.7	11.3	3.5	29.8	21.2
n	27	27	27	27	20	20	20	20
SD	1.6	0.6	8.6	6.1	2.1	0.7	5.6	4.0
Min	5.9	2.3	29.5	21.0	8.4	2.6	22.2	15.8
Max	12.4	4.8	63.6	45.2	14.6	4.6	39.1	27.8

Table F12. Completeness of airflow and emission data.**Table F12. Completeness of airflow and emission data at Site WISB for September, 2007.**

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	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
7	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
9	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
11	0	0	0	0	0	0	0	0	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	100	100	100	100	100	100	100	100	0	0	0	0
14	89	75	14	14	89	75	89	75	0	0	0	0
15	100	100	0	2	100	100	100	100	0	0	0	0
16	75	75	0	0	71	70	75	75	0	0	0	0
17	67	67	0	0	65	63	67	67	0	0	0	0
18	100	99	0	0	100	99	100	99	0	0	0	0
19	100	97	0	0	100	97	97	94	0	0	0	0
20	75	75	25	25	72	71	75	75	0	0	0	0
21	53	50	51	46	51	46	53	50	0	0	0	0
22	100	93	100	93	100	93	100	93	0	0	0	0
23	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	100	100	100	97	97	0	0	0	0
25	98	98	98	98	98	98	98	98	0	0	0	0
26	95	92	69	92	95	92	95	92	0	0	0	0
27	100	98	100	98	100	98	100	98	0	0	0	0
28	88	88	70	70	88	88	88	88	0	0	0	0
29	100	100	100	100	100	100	100	100	0	0	0	0
30	100	99	100	99	89	90	100	99	0	0	0	0
Avg	58	57	38	38	57	56	58	57	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	45	45	45	45	45	44	45	45	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for October, 2007.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	64	100	64	0	0	100	64	0	0	0	0
2	98	97	98	97	37	35	98	97	0	0	0	0
3	100	100	100	100	100	100	100	100	0	0	0	0
4	100	100	100	100	100	100	100	100	0	0	0	0
5	96	94	96	94	96	94	45	46	0	0	0	0
6	100	100	100	100	100	100	85	95	0	0	0	0
7	84	84	82	79	82	79	84	84	0	0	0	0
8	38	37	28	28	28	28	38	37	0	0	0	0
9	100	93	100	93	100	93	100	93	0	0	0	0
10	98	59	51	25	98	59	98	59	0	0	0	0
11	77	76	61	59	71	68	68	54	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	100	100	100	100	100	100	100	100	0	0	0	0
14	100	100	100	100	100	100	100	100	0	0	0	0
15	100	100	100	100	100	100	100	100	0	0	0	0
16	100	100	100	100	100	100	100	100	0	0	0	0
17	100	100	100	100	100	100	100	100	0	0	0	0
18	100	100	100	100	100	100	100	100	0	0	0	0
19	99	99	99	99	99	99	98	95	0	0	0	0
20	92	92	89	86	89	86	92	92	0	0	0	0
21	58	33	0	0	56	28	58	33	0	0	0	0
22	100	100	54	52	100	100	96	96	0	0	0	0
23	100	87	100	87	100	87	100	87	0	0	0	0
24	100	98	100	98	100	98	100	98	0	0	0	0
25	100	100	100	100	100	100	100	100	0	0	0	0
26	100	100	100	100	100	100	100	100	0	0	0	0
27	100	99	100	99	100	99	100	99	0	0	0	0
28	100	100	100	100	100	100	100	95	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0
Avg	85	81	79	76	79	76	83	78	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	31	32	35	36	36	36	32	32	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for November, 2007.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	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
7	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
9	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
11	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
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	58	44	42	38	43	38	58	44	0	0	0	0
16	93	100	93	100	93	100	93	100	0	0	0	0
17	100	94	100	94	100	94	100	94	0	0	0	0
18	99	100	99	100	99	100	99	100	0	0	0	0
19	100	93	100	93	100	93	100	93	0	0	0	0
20	100	96	100	79	100	80	94	92	0	0	0	0
21	96	43	96	42	96	42	95	43	0	0	0	0
22	100	66	100	64	100	65	100	66	0	0	0	0
23	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	100	100	100	100	100	0	0	0	0
25	100	100	100	100	100	100	100	100	0	0	0	0
26	100	89	100	89	100	89	100	89	0	0	0	0
27	100	100	100	100	100	100	88	76	0	0	0	0
28	99	100	99	100	99	100	85	85	0	0	0	0
29	78	78	37	36	72	69	78	76	0	0	0	0
30	100	100	55	53	100	100	61	74	0	0	0	0
Avg	51	47	47	43	50	46	48	44	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	48	46	47	44	48	45	46	44	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for December, 2007.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	99	100	99	100	99	100	97	89	0	0	0	0
2	100	100	100	100	100	100	100	100	0	0	0	0
3	100	100	100	100	100	100	69	67	0	0	0	0
4	100	100	100	100	100	100	100	100	0	0	0	0
5	100	100	100	100	100	100	73	74	0	0	0	0
6	100	100	100	100	100	100	88	95	0	0	0	0
7	100	100	100	100	100	100	94	96	0	0	0	0
8	100	100	100	100	100	100	10	7	0	0	0	0
9	100	100	100	100	100	100	73	39	0	0	0	0
10	98	98	98	98	98	98	74	65	0	0	0	0
11	100	100	74	74	74	74	43	45	0	0	53	48
12	100	100	100	100	100	100	0	0	0	0	71	54
13	100	100	100	100	100	100	0	0	0	0	100	100
14	100	100	100	100	100	100	0	0	0	0	43	41
15	100	100	100	100	100	100	0	0	0	0	65	56
16	100	100	100	100	100	100	0	0	0	0	100	100
17	90	90	76	77	76	80	39	39	0	0	47	47
18	100	100	100	100	100	100	82	100	0	0	0	0
19	92	92	66	68	92	92	82	92	0	0	0	0
20	81	81	75	73	76	73	54	81	0	0	0	0
21	100	100	100	100	100	100	86	100	0	0	0	0
22	100	95	100	95	100	95	94	95	0	0	0	0
23	43	41	38	36	38	36	34	41	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	51	51	47	47	47	47	51	0	0	0	0	0
26	100	100	100	100	100	100	78	54	0	0	0	0
27	100	100	100	100	100	100	73	100	0	0	0	0
28	100	100	100	100	100	100	89	100	0	0	0	0
29	100	100	100	100	100	100	97	100	0	0	0	0
30	100	100	100	100	100	100	100	100	0	0	0	0
31	100	100	100	100	100	100	98	100	0	0	0	0
Avg	92	92	89	89	90	90	61	61	0	0	16	14
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	21	22	23	23	23	23	36	40	0	0	30	29
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for January, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	96	23	0	0	0	0
2	100	100	100	100	100	100	21	0	0	0	0	0
3	100	100	100	100	100	100	44	77	0	0	0	0
4	95	100	95	100	95	100	91	100	0	0	0	0
5	82	100	82	100	82	100	82	100	0	0	0	0
6	92	100	92	100	92	100	92	100	0	0	0	0
7	93	100	68	65	70	65	91	98	0	0	0	0
8	94	62	94	62	94	62	94	62	0	0	0	0
9	100	100	100	100	100	100	100	100	0	0	0	0
10	100	100	100	100	100	100	100	100	0	0	0	0
11	100	100	100	100	100	100	100	100	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	100	100	100	100	100	100	100	100	0	0	0	0
14	100	98	95	93	100	98	100	48	0	0	0	0
15	95	95	0	0	95	95	33	2	51	52	0	0
16	99	99	0	0	99	99	0	0	99	99	0	0
17	100	100	0	0	100	100	0	0	100	100	0	0
18	100	100	0	0	100	100	0	0	70	52	0	0
19	100	100	0	0	100	100	0	0	0	11	0	0
20	100	100	0	0	100	100	0	0	0	15	0	0
21	100	100	0	0	79	79	0	0	48	25	0	0
22	100	100	0	0	100	100	0	0	85	73	0	0
23	89	89	0	0	84	86	0	0	73	25	0	0
24	57	57	0	0	54	52	0	0	4	0	0	0
25	100	100	0	0	100	100	0	0	63	0	0	0
26	99	57	0	0	99	53	0	0	95	0	0	0
27	100	0	0	0	100	0	0	0	89	0	0	0
28	98	55	0	0	98	33	0	0	98	53	0	0
29	100	94	0	0	100	94	0	0	22	87	0	0
30	100	100	0	0	100	100	0	0	0	46	0	0
31	93	93	40	40	74	93	0	0	13	45	0	0
Avg	96	90	44	44	94	87	40	36	29	22	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	8	22	47	47	11	24	45	45	39	32	0	0
Min	57	0	0	0	54	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	0	0

Table F12. Completeness of airflow and emission data at Site W15B for February, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	0	0	85	89	0	0
2	100	100	100	100	100	100	0	0	100	6	0	0
3	100	100	100	100	100	100	0	0	100	100	0	0
4	100	100	100	100	100	100	0	0	100	51	0	0
5	100	100	100	100	100	100	56	43	43	34	0	0
6	100	100	100	100	100	100	98	55	0	0	0	0
7	100	100	100	100	100	100	81	68	0	0	0	0
8	100	100	100	100	100	100	100	75	0	0	0	0
9	100	100	100	100	100	100	73	4	0	0	0	0
10	100	96	100	96	100	96	0	0	0	0	0	0
11	100	100	100	100	100	100	9	0	0	0	0	0
12	100	100	100	100	100	100	82	0	0	0	0	0
13	84	85	69	69	84	85	84	0	0	0	0	0
14	100	98	100	98	100	98	81	66	0	0	0	0
15	100	100	100	100	100	100	2	0	0	0	0	0
16	100	100	100	100	100	100	100	0	0	0	0	0
17	100	100	100	100	100	100	100	0	0	0	0	0
18	100	100	100	100	100	100	82	59	0	0	0	0
19	100	100	100	100	100	100	1	27	0	0	47	42
20	100	100	100	100	100	100	0	0	0	0	90	100
21	100	100	100	100	100	100	0	0	0	0	100	96
22	100	100	100	100	100	100	0	0	0	0	100	100
23	100	100	100	100	100	100	0	0	0	0	100	52
24	100	100	100	100	100	100	0	0	0	0	100	0
25	92	59	92	59	92	59	0	0	0	0	92	0
26	100	86	100	86	100	86	54	43	0	0	40	0
27	100	100	100	100	100	100	100	100	0	0	0	0
28	100	100	100	100	100	100	100	100	0	0	0	0
29	100	100	100	100	100	100	100	100	0	0	0	0
Avg	99	97	99	97	99	97	45	26	15	10	23	14
n	29	29	29	29	29	29	29	29	29	29	29	29
SD	3	8	6	10	3	8	44	36	34	26	39	31
Min	84	59	69	59	84	59	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100

Table F12. Completeness of airflow and emission data at Site W15B for March, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	0	0	0	0
2	100	73	100	73	100	73	99	72	0	0	0	0
3	100	91	100	91	100	91	100	91	0	0	0	0
4	100	100	100	100	100	100	98	98	0	0	0	0
5	100	99	100	99	100	99	100	99	0	0	0	0
6	98	98	98	98	98	98	98	98	0	0	0	0
7	100	100	100	100	100	100	100	100	0	0	0	0
8	100	100	100	100	100	100	100	100	0	0	0	0
9	100	100	100	100	100	100	100	100	0	0	0	0
10	76	76	76	69	76	69	76	76	0	0	0	0
11	74	68	63	59	63	59	74	68	0	0	0	0
12	77	77	74	72	74	72	77	77	0	0	0	0
13	100	100	100	100	100	100	100	100	0	0	0	0
14	81	64	76	63	76	63	81	64	0	0	0	0
15	100	62	100	62	100	62	100	62	0	0	0	0
16	100	100	100	100	100	100	100	100	0	0	0	0
17	100	100	78	76	78	77	45	45	0	0	50	50
18	100	94	100	94	100	94	0	0	0	0	100	94
19	100	82	100	82	100	82	0	0	0	0	78	82
20	100	100	100	100	100	100	0	0	0	0	100	100
21	98	99	98	99	98	99	0	0	0	0	89	89
22	100	87	100	87	100	87	0	0	0	0	100	87
23	100	56	100	56	100	56	0	0	0	0	100	56
24	100	100	100	100	100	100	0	0	0	0	100	100
25	100	97	100	97	100	97	48	46	0	0	40	40
26	100	99	100	99	100	99	100	99	0	0	0	0
27	100	87	100	87	100	87	100	87	0	0	0	0
28	100	100	100	100	100	100	100	100	0	0	0	0
29	100	100	100	100	100	100	100	100	0	0	0	0
30	100	87	100	87	100	87	100	87	0	0	0	0
31	93	71	73	56	74	56	93	71	0	0	0	0
Avg	97	89	95	87	95	87	71	66	0	0	24	23
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	8	14	11	15	11	15	41	39	0	0	40	37
Min	74	56	63	56	63	56	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for April, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	85	67	85	67	85	67	85	67	0	0	0	0
2	100	100	100	100	100	100	100	100	0	0	0	0
3	100	100	100	100	100	100	100	100	0	0	0	0
4	100	100	100	100	100	100	100	100	0	0	0	0
5	100	100	100	100	100	100	100	100	0	0	0	0
6	100	100	100	100	100	100	100	100	0	0	0	0
7	100	98	100	98	100	98	100	98	0	0	0	0
8	100	65	100	65	100	65	100	65	0	0	0	0
9	100	59	100	59	100	59	100	59	0	0	0	0
10	95	100	95	100	95	100	95	100	0	0	0	0
11	100	68	100	68	100	68	100	68	0	0	0	0
12	96	43	96	43	96	43	96	43	0	0	0	0
13	100	71	100	71	100	71	100	71	0	0	0	0
14	100	99	76	77	76	77	100	99	0	0	0	0
15	96	100	96	100	96	100	96	100	0	0	0	0
16	99	87	99	87	99	87	99	87	0	0	0	0
17	100	87	100	87	100	87	100	87	0	0	0	0
18	100	73	100	73	100	73	100	73	0	0	0	0
19	100	73	100	73	100	73	100	73	0	0	0	0
20	100	99	100	99	100	99	100	99	0	0	0	0
21	97	100	97	100	97	100	97	100	0	0	0	0
22	100	73	46	19	46	19	100	73	0	0	0	0
23	100	100	0	0	0	0	100	100	0	0	0	0
24	100	100	0	0	0	0	100	100	0	0	0	0
25	100	88	74	67	74	67	100	88	0	0	0	0
26	100	100	100	100	100	100	100	100	0	0	0	0
27	100	79	100	79	100	79	100	79	0	0	0	0
28	98	28	98	28	98	28	98	28	0	0	0	0
29	100	97	100	72	100	72	39	39	0	0	56	53
30	100	100	100	100	100	100	0	0	0	0	100	100
Avg	99	85	89	74	89	74	93	80	0	0	5	5
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	3	19	26	29	26	29	21	25	0	0	20	20
Min	85	28	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for May, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	0	0	0	0	100	100
2	97	68	97	68	97	68	0	0	0	0	97	68
3	92	36	92	36	92	36	0	0	0	0	92	36
4	100	100	100	100	100	100	0	0	0	0	100	100
5	100	90	74	68	74	68	56	55	0	0	43	34
6	100	100	100	100	100	100	100	100	0	0	0	0
7	91	45	91	45	91	45	91	45	0	0	0	0
8	100	94	100	94	100	94	100	94	0	0	0	0
9	100	89	100	89	100	89	100	89	0	0	0	0
10	100	100	100	100	100	100	100	100	0	0	0	0
11	91	29	91	29	91	29	91	29	0	0	0	0
12	100	100	31	30	100	100	100	100	0	0	0	0
13	100	90	0	0	100	90	100	90	0	0	0	0
14	100	60	0	0	100	60	100	60	0	0	0	0
15	100	100	0	0	100	100	100	100	0	0	0	0
16	100	98	0	0	100	98	100	98	0	0	0	0
17	98	70	0	0	98	70	98	70	0	0	0	0
18	100	44	0	0	100	44	100	44	0	0	0	0
19	100	99	0	0	100	99	100	99	0	0	0	0
20	100	62	0	0	100	62	100	62	0	0	0	0
21	100	79	0	0	100	79	100	79	0	0	0	0
22	100	100	0	0	100	100	100	100	0	0	0	0
23	100	100	0	0	100	100	100	100	0	0	0	0
24	100	97	0	0	100	97	100	97	0	0	0	0
25	100	0	0	0	100	0	100	0	0	0	0	0
26	61	0	0	0	59	0	61	0	0	0	0	0
27	77	66	0	0	75	63	77	66	0	0	0	0
28	100	99	0	0	100	99	100	99	0	0	0	0
29	99	99	0	0	99	99	99	99	0	0	0	0
30	100	97	0	0	100	97	99	97	0	0	0	0
31	100	94	0	0	100	94	0	94	0	0	0	0
Avg	97	78	35	28	96	77	80	67	0	0	14	11
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	8	29	45	39	10	29	37	38	0	0	33	28
Min	61	0	0	0	59	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for June, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	0	0	98	100	0	100	0	0	0	0
2	65	1	0	0	62	0	0	1	0	0	0	0
3	100	0	0	0	100	0	0	0	0	0	0	0
4	98	0	0	0	98	0	53	0	0	0	0	0
5	72	29	0	0	72	29	72	29	0	0	0	0
6	39	39	0	0	39	39	39	39	0	0	0	0
7	100	100	0	0	100	100	100	100	0	0	0	0
8	41	41	0	0	38	37	41	41	0	0	0	0
9	70	0	0	0	67	0	70	0	0	0	0	0
10	99	0	0	0	99	0	99	0	0	0	0	0
11	97	0	0	0	97	0	97	0	0	0	0	0
12	99	58	0	0	99	58	99	58	0	0	0	0
13	100	100	0	0	100	100	100	100	0	0	0	0
14	65	64	0	0	60	61	65	64	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	62	39	0	0	54	32	62	39	0	0	0	0
17	73	68	0	0	70	64	73	68	0	0	0	0
18	96	75	0	0	96	75	96	75	0	0	0	0
19	100	100	42	42	100	100	48	48	0	0	49	49
20	100	99	100	99	100	99	0	0	0	0	100	99
21	100	97	100	97	100	97	0	0	0	0	100	97
22	100	80	100	80	100	80	0	0	0	0	100	80
23	100	100	100	100	100	100	0	0	0	0	100	100
24	100	100	100	100	100	100	0	0	0	0	100	100
25	100	100	100	100	100	100	0	0	0	0	100	100
26	100	100	100	100	100	100	50	50	0	0	47	47
27	100	99	100	99	100	99	100	99	0	0	0	0
28	100	97	100	97	100	97	100	97	0	0	0	0
29	100	38	100	38	100	38	100	38	0	0	0	0
30	74	73	70	68	70	68	74	73	0	0	0	0
Avg	85	60	37	34	84	59	51	37	0	0	23	22
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	24	40	47	44	25	40	40	38	0	0	40	39
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for July, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	49	49	46	44	47	44	49	49	0	0	0	0
4	100	99	100	99	100	99	100	99	0	0	0	0
5	100	100	100	100	100	100	100	100	0	0	0	0
6	100	100	100	100	100	100	100	100	0	0	0	0
7	100	100	100	100	100	100	96	100	0	0	0	0
8	50	48	45	42	45	42	48	48	0	0	0	0
9	0	54	0	49	0	50	0	54	0	0	0	0
10	0	97	0	97	0	97	0	97	0	0	0	0
11	0	99	0	99	0	99	0	97	0	0	0	0
12	0	99	0	99	0	99	0	99	0	0	0	0
13	0	89	0	89	0	89	0	89	0	0	0	0
14	0	99	0	99	0	99	0	99	0	0	0	0
15	46	100	46	100	46	100	43	97	0	0	0	0
16	100	99	100	99	100	99	100	99	0	0	0	0
17	100	100	100	100	100	100	100	100	0	0	0	0
18	100	100	100	100	100	100	100	100	0	0	0	0
19	100	99	100	99	100	99	100	99	0	0	0	0
20	100	100	100	100	100	100	100	100	0	0	0	0
21	52	100	36	79	36	79	52	100	0	0	0	0
22	47	100	47	100	47	100	47	100	0	0	0	0
23	100	100	100	100	100	100	100	100	0	0	0	0
24	100	100	100	100	100	100	100	100	0	0	0	0
25	100	100	100	100	100	100	100	100	0	0	0	0
26	100	100	100	100	100	100	100	100	0	0	0	0
27	100	100	100	100	100	100	100	100	0	0	0	0
28	100	100	100	100	100	100	100	100	0	0	0	0
29	100	100	100	100	100	100	96	96	0	0	0	0
30	100	100	100	100	100	100	100	100	0	0	0	0
31	100	100	100	100	100	100	100	100	0	0	0	0
Avg	66	88	65	87	65	87	66	88	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	43	27	43	28	43	28	43	27	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for August, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	36	36	59	58	0	0
2	100	100	100	100	100	100	0	0	100	100	0	0
3	100	100	100	100	100	100	0	0	100	100	0	0
4	97	100	73	66	73	71	0	0	97	100	0	0
5	100	100	100	100	100	100	0	0	100	100	0	0
6	100	99	100	99	100	99	0	0	100	99	0	0
7	100	96	100	96	100	96	0	0	100	96	0	0
8	100	100	100	100	100	100	0	0	100	100	0	0
9	100	99	100	99	100	99	0	0	100	99	0	0
10	100	100	100	100	100	100	0	0	100	100	0	0
11	100	99	100	99	100	99	0	0	100	99	0	0
12	100	97	100	97	100	97	0	0	100	97	0	0
13	100	100	100	100	100	100	0	0	100	100	0	0
14	100	100	100	100	100	100	0	0	100	100	0	0
15	100	100	100	100	100	100	0	0	100	100	0	0
16	100	100	100	100	100	100	0	0	100	100	0	0
17	100	100	100	100	100	100	0	0	100	100	0	0
18	99	99	74	74	74	74	0	0	35	35	62	62
19	100	100	100	100	100	100	0	0	0	0	100	100
20	100	100	100	100	100	100	0	0	0	0	100	100
21	100	100	100	100	100	100	0	0	0	0	100	100
22	100	100	100	100	100	100	0	0	0	0	99	99
23	100	97	100	97	100	97	0	0	0	0	100	97
24	100	89	100	89	100	89	0	0	0	0	100	89
25	100	99	78	73	78	73	20	20	0	0	48	48
26	100	100	100	100	100	100	0	0	0	0	0	0
27	100	98	100	98	100	98	0	0	0	0	0	0
28	100	100	100	100	100	100	0	0	0	0	0	0
29	100	100	100	100	100	100	0	0	0	0	0	0
30	100	100	100	100	100	100	0	0	0	0	0	0
31	100	100	100	100	100	100	0	0	0	0	0	0
Avg	100	99	98	96	98	97	2	2	55	54	23	22
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	1	2	7	9	7	8	7	7	48	48	40	39
Min	97	89	73	66	73	71	0	0	0	0	0	0
Max	100	100	100	100	100	100	36	36	100	100	100	100

Table F12. Completeness of airflow and emission data at Site W15B for September, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	0	0	0	0	0	0
2	99	99	80	77	80	77	28	28	0	0	0	0
3	100	64	100	64	100	64	100	64	0	0	0	0
4	100	100	100	100	100	100	100	100	0	0	0	0
5	100	96	100	96	100	96	100	96	0	0	0	0
6	100	94	100	94	100	94	100	94	0	0	0	0
7	100	87	100	87	100	87	100	87	0	0	0	0
8	100	94	100	94	100	94	97	92	0	0	0	0
9	100	97	100	97	100	97	100	97	0	0	0	0
10	100	99	100	99	100	99	100	99	0	0	0	0
11	100	100	100	100	100	100	100	100	0	0	0	0
12	100	99	100	99	100	99	100	99	0	0	0	0
13	100	89	100	89	100	89	100	89	0	0	0	0
14	100	61	100	61	100	61	100	61	0	0	0	0
15	100	89	100	89	100	89	100	89	0	0	0	0
16	100	94	100	94	100	94	100	94	0	0	0	0
17	100	100	36	35	36	35	39	39	0	0	0	0
18	100	100	0	0	0	0	0	0	0	0	0	0
19	100	96	67	69	67	69	71	70	0	0	0	0
20	100	95	100	95	100	95	100	95	0	0	0	0
21	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	100	100	0	0	0	0
23	97	97	97	97	97	97	97	97	0	0	0	0
24	100	91	100	91	100	91	100	91	0	0	0	0
25	97	97	97	97	97	97	97	97	0	0	0	0
26	100	99	100	99	100	99	100	99	0	0	0	0
27	100	40	100	40	100	40	100	40	0	0	0	0
28	100	99	100	99	100	99	100	99	0	0	0	0
29	100	56	100	56	100	56	100	56	0	0	0	0
30	100	76	100	76	100	76	100	76	0	0	0	0
Avg	100	90	93	83	93	83	88	78	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	1	15	22	24	22	24	29	29	0	0	0	0
Min	97	40	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for October, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	69	100	69	100	69	53	68	0	0	0	0
2	100	86	100	86	100	86	0	86	0	0	0	0
3	100	98	100	98	100	98	0	98	0	0	0	0
4	100	98	100	98	100	98	0	98	0	0	0	0
5	100	99	100	99	100	99	0	99	0	0	0	0
6	81	81	77	76	77	76	0	81	0	0	0	0
7	22	20	19	17	20	17	0	20	0	0	0	0
8	73	67	72	64	72	64	13	67	0	0	0	0
9	70	51	68	47	68	47	70	51	0	0	0	0
10	100	100	100	100	100	100	100	100	0	0	0	0
11	100	100	100	100	100	100	100	100	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	100	85	100	85	100	85	100	85	0	0	0	0
14	97	92	77	70	77	70	48	46	0	0	30	44
15	100	84	100	84	100	84	0	0	0	0	100	84
16	61	58	57	54	57	54	0	0	0	0	61	58
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	65	65	62	60	62	61	0	0	0	0	65	65
22	93	100	93	100	93	100	0	0	0	0	93	100
23	100	100	100	100	100	100	0	0	0	0	100	100
24	100	100	100	100	100	100	0	0	0	0	100	100
25	100	100	100	100	100	100	0	0	0	0	100	100
26	100	60	100	60	100	60	0	0	0	0	100	60
27	100	43	100	43	100	43	0	0	0	0	100	43
28	100	100	69	66	69	67	30	30	0	0	65	65
29	100	100	100	100	100	100	100	100	0	0	0	0
30	49	49	44	46	44	46	49	49	0	0	0	0
31	71	45	68	41	68	41	71	45	0	0	0	0
Avg	77	69	74	67	74	67	27	43	0	0	30	26
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	35	34	35	34	35	34	39	41	0	0	42	38
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for November, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	0	0	0	0
2	100	100	100	100	100	100	100	100	0	0	0	0
3	99	99	99	99	99	99	99	99	0	0	0	0
4	74	73	71	46	71	46	74	73	0	0	0	0
5	55	56	53	51	53	51	55	56	0	0	0	0
6	99	99	99	99	99	99	99	94	0	0	0	0
7	100	100	100	100	100	100	100	0	0	0	0	0
8	99	12	99	12	99	12	99	0	0	0	0	0
9	100	88	100	88	100	88	100	0	0	0	0	0
10	100	99	100	99	100	99	100	0	0	0	0	0
11	100	100	80	79	80	80	86	54	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	97	97	97	97	79	97	97	97	0	0	0	0
14	100	72	100	72	100	72	100	72	0	0	0	0
15	100	54	100	54	100	54	100	54	0	0	0	0
16	100	76	100	76	100	76	100	76	0	0	0	0
17	100	90	100	90	100	90	100	90	0	0	0	0
18	100	100	100	100	100	100	100	100	0	0	0	0
19	63	45	60	45	60	45	63	45	0	0	0	0
20	48	46	46	42	46	42	48	46	0	0	0	0
21	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	100	100	0	0	0	0
23	47	47	35	40	35	40	47	47	0	0	0	0
24	100	89	100	89	100	89	100	89	0	0	0	0
25	100	100	69	100	69	100	100	100	0	0	0	0
26	100	100	100	100	100	100	100	100	0	0	0	0
27	100	99	100	99	100	99	100	99	0	0	0	0
28	85	85	82	81	82	81	85	85	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0
30	22	8	17	6	17	6	22	0	0	0	0	0
Avg	86	78	84	75	83	76	86	66	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	26	30	27	31	27	31	26	38	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for December, 2008.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	39	39	38	36	38	36	0	0	0	0	0	0
2	100	99	100	99	100	99	53	53	0	0	0	0
3	100	98	100	98	100	98	100	98	0	0	0	0
4	100	100	100	100	100	100	95	95	0	0	0	0
5	100	100	100	100	100	100	99	99	0	0	0	0
6	100	90	100	90	100	90	98	88	0	0	0	0
7	99	100	99	100	99	100	99	100	0	0	0	0
8	46	46	28	28	28	28	45	45	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	57	57	34	34	34	35	52	54	0	0	0	0
11	100	100	100	100	100	100	100	100	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	99	100	99	100	99	100	99	100	0	0	0	0
14	33	34	29	31	31	31	33	34	0	0	0	0
15	59	59	57	55	57	55	59	59	0	0	0	0
16	99	100	99	100	99	100	44	44	0	0	40	40
17	100	100	100	100	100	100	0	0	0	0	100	100
18	100	100	100	100	100	100	0	0	0	0	100	100
19	100	100	100	100	100	100	0	0	0	0	100	100
20	100	100	61	100	61	100	0	0	0	0	63	100
21	16	16	0	4	0	4	0	0	0	0	0	15
22	15	15	0	0	0	0	0	0	0	0	0	11
23	57	57	44	44	44	44	0	0	0	0	0	57
24	87	87	78	79	78	80	0	0	0	0	0	87
25	83	84	75	76	75	77	0	0	0	0	0	83
26	97	100	97	100	97	100	0	0	0	0	0	100
27	100	100	100	100	100	100	0	0	0	0	0	100
28	100	100	100	100	100	100	0	0	0	0	0	100
29	100	90	100	90	100	90	0	0	0	0	0	90
30	100	97	100	97	100	97	41	39	0	0	0	53
31	100	100	100	100	100	100	99	99	0	0	0	0
Avg	80	80	75	76	75	76	39	39	0	0	13	37
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	31	30	35	34	35	34	43	42	0	0	31	44
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for January, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	0	0	0	0
2	100	100	100	100	100	100	100	100	0	0	0	0
3	87	100	87	100	87	100	87	99	0	0	0	0
4	100	100	100	100	100	100	100	100	0	0	0	0
5	100	100	100	100	100	100	99	99	0	0	0	0
6	99	99	99	99	99	99	95	96	0	0	0	0
7	92	92	92	92	92	92	92	92	0	0	0	0
8	99	99	99	99	99	99	99	99	0	0	0	0
9	100	100	100	100	100	100	100	100	0	0	0	0
10	100	100	100	100	100	100	100	100	0	0	0	0
11	100	100	100	100	100	100	100	100	0	0	0	0
12	39	39	39	39	39	39	39	39	0	0	0	0
13	59	59	36	36	36	36	7	7	43	29	0	0
14	100	90	100	90	100	90	0	0	100	90	0	0
15	96	100	96	100	96	100	0	0	96	100	0	0
16	100	100	100	100	100	100	0	0	82	82	0	0
17	100	99	100	99	100	99	0	0	100	99	0	0
18	91	100	91	100	91	100	0	0	91	100	0	0
19	96	100	96	100	96	100	0	0	96	100	0	0
20	100	100	100	100	100	100	0	0	96	100	0	0
21	100	100	100	100	100	100	0	0	100	100	0	0
22	100	100	100	89	100	89	0	0	100	100	0	0
23	100	99	100	99	100	99	0	0	100	99	0	0
24	100	100	100	100	100	100	0	0	100	100	0	0
25	100	100	100	100	100	100	0	0	100	100	0	0
26	100	100	100	100	100	100	0	0	100	100	0	0
27	100	100	79	74	79	74	43	43	51	51	0	0
28	99	99	99	99	99	99	99	99	0	0	0	0
29	100	100	100	100	100	100	100	100	0	0	0	0
30	100	100	100	100	100	100	100	100	0	0	0	0
31	99	99	99	99	99	99	99	99	0	0	0	0
Avg	95	96	94	94	94	94	50	51	44	44	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	13	13	16	16	16	16	47	48	47	47	0	0
Min	39	39	36	36	36	36	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	0	0

Table F12. Completeness of airflow and emission data at Site W15B for February, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	95	99	95	99	95	99	85	89	0	0	0	0
2	100	100	100	100	100	100	95	95	0	0	0	0
3	100	98	100	98	100	98	99	97	0	0	0	0
4	99	99	85	80	86	80	96	96	0	0	0	0
5	100	100	100	100	100	100	100	100	0	0	0	0
6	100	100	100	100	100	100	100	100	0	0	0	0
7	99	95	99	95	99	95	99	95	0	0	0	0
8	90	90	86	88	86	88	90	90	0	0	0	0
9	67	69	65	65	65	65	67	69	0	0	0	0
10	49	100	49	100	49	100	49	100	0	0	0	0
11	99	97	99	97	99	97	98	97	0	0	0	0
12	100	94	100	94	100	94	95	41	0	0	0	0
13	100	100	100	100	100	100	100	0	0	0	0	0
14	100	100	100	100	100	100	100	0	0	0	0	0
15	100	100	100	100	100	100	98	0	0	0	0	0
16	94	100	94	100	94	100	94	0	0	0	0	0
17	95	95	58	61	58	61	50	3	0	0	41	41
18	95	68	95	68	95	68	0	0	0	0	95	68
19	67	90	67	90	67	90	0	0	0	0	67	89
20	0	100	0	100	0	100	0	0	0	0	0	100
21	0	97	0	97	0	97	0	0	0	0	0	97
22	0	99	0	99	0	99	0	0	0	0	0	99
23	0	100	0	100	0	100	0	0	0	0	0	100
24	44	100	42	79	42	79	44	55	0	0	0	41
25	100	93	100	93	100	93	100	93	0	0	0	0
26	100	95	100	95	100	95	100	95	0	0	0	0
27	100	97	100	97	100	97	100	97	0	0	0	0
28	100	100	100	100	100	100	100	100	0	0	0	0
Avg	78	96	76	93	76	93	70	54	0	0	7	23
n	28	28	28	28	28	28	28	28	28	28	28	28
SD	35	8	35	11	35	11	40	45	0	0	22	38
Min	0	68	0	61	0	61	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	95	100

Table F12. Completeness of airflow and emission data at Site W15B for March, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	100	100	100	100	100	100	100	0	0	0	0
2	73	73	48	48	68	70	73	73	0	0	0	0
3	49	55	0	0	38	39	49	52	0	0	0	0
4	96	100	0	0	96	100	96	99	0	0	0	0
5	98	100	0	0	98	100	97	99	0	0	0	0
6	93	100	0	0	93	100	93	100	0	0	0	0
7	100	84	0	0	100	84	100	84	0	0	0	0
8	99	88	0	0	99	88	99	88	0	0	0	0
9	100	100	0	0	76	77	100	100	0	0	0	0
10	100	98	0	0	100	98	100	98	0	0	0	0
11	100	100	0	0	100	100	100	100	0	0	0	0
12	100	100	0	0	100	100	100	100	0	0	0	0
13	86	100	0	0	86	100	86	100	0	0	0	0
14	96	100	0	0	96	100	96	100	0	0	0	0
15	100	100	0	0	100	100	100	100	0	0	0	0
16	99	100	0	0	99	100	99	100	0	0	0	0
17	99	98	0	0	72	70	96	94	0	0	0	0
18	100	93	0	0	100	93	100	93	0	0	0	0
19	100	88	0	0	100	88	100	88	0	0	0	0
20	93	100	0	0	93	100	93	100	0	0	0	0
21	100	100	0	0	100	100	100	100	0	0	0	0
22	40	100	0	0	40	100	40	100	0	0	0	0
23	2	100	0	0	2	100	2	100	0	0	0	0
24	39	98	0	0	39	98	39	98	0	0	0	0
25	27	100	0	0	27	100	27	100	0	0	0	0
26	40	34	0	0	39	32	40	34	0	0	0	0
27	0	67	0	0	0	64	0	67	0	0	0	0
28	0	71	0	0	0	71	0	71	0	0	0	0
29	0	55	0	0	0	55	0	55	0	0	0	0
30	0	100	0	0	0	100	0	100	0	0	0	0
31	56	100	0	0	42	79	56	100	0	0	0	0
Avg	71	90	5	5	68	87	70	90	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	38	17	19	19	38	19	38	17	0	0	0	0
Min	0	34	0	0	0	32	0	34	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for April, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	79	100	0	0	79	100	79	100	0	0	0	0
2	100	95	0	0	100	95	100	95	0	0	0	0
3	99	70	0	0	99	70	99	70	0	0	0	0
4	99	85	0	0	99	85	99	85	0	0	0	0
5	90	48	0	0	90	48	90	48	0	0	0	0
6	93	30	0	0	93	30	51	18	0	0	39	11
7	100	76	0	0	100	76	0	0	0	0	100	76
8	100	80	0	0	100	80	0	0	0	0	100	80
9	99	73	0	0	99	73	0	0	0	0	99	73
10	99	66	0	0	99	66	0	0	0	0	99	66
11	98	99	0	0	98	99	0	0	0	0	98	99
12	82	99	0	0	82	99	0	0	0	0	82	99
13	99	100	0	0	99	100	0	0	0	0	99	100
14	100	89	0	0	100	76	57	50	0	0	41	37
15	99	100	0	0	99	100	99	100	0	0	0	0
16	97	99	0	0	97	99	97	99	0	0	0	0
17	94	94	0	0	94	94	94	94	0	0	0	0
18	99	58	0	0	99	58	99	58	0	0	0	0
19	87	23	0	0	87	23	87	23	0	0	0	0
20	99	28	0	0	99	28	99	28	0	0	0	0
21	96	11	0	0	96	11	96	11	0	0	0	0
22	92	47	0	0	92	47	92	47	0	0	0	0
23	62	99	0	0	62	99	62	99	0	0	0	0
24	80	59	0	0	80	59	80	59	0	0	0	0
25	76	60	0	0	76	60	76	60	0	0	0	0
26	65	100	0	0	65	100	65	100	0	0	0	0
27	87	84	0	0	87	84	87	84	0	0	0	0
28	95	100	0	0	70	74	95	100	0	0	0	0
29	83	99	0	0	83	99	83	99	0	0	0	0
30	79	41	0	0	79	41	79	41	0	0	0	0
Avg	91	74	0	0	90	72	66	52	0	0	25	21
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	10	27	0	0	11	26	38	39	0	0	41	36
Min	62	11	0	0	62	11	0	0	0	0	0	0
Max	100	100	0	0	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for May, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	50	27	0	0	50	27	50	27	0	0	0	0
2	57	49	0	0	57	49	57	49	0	0	0	0
3	61	79	0	0	61	79	61	79	0	0	0	0
4	57	97	0	0	57	97	57	97	0	0	0	0
5	35	90	0	0	35	90	35	90	0	0	0	0
6	53	87	0	0	53	87	53	87	0	0	0	0
7	56	97	0	0	56	97	56	97	0	0	0	0
8	43	65	0	0	43	65	43	65	0	0	0	0
9	67	30	0	0	67	30	67	30	0	0	0	0
10	41	43	0	0	41	43	41	43	0	0	0	0
11	33	77	0	0	33	77	33	77	0	0	0	0
12	30	93	0	0	30	93	28	89	0	0	0	0
13	49	76	0	0	49	75	49	76	0	0	0	0
14	65	42	0	0	65	42	65	42	0	0	0	0
15	48	81	0	0	48	81	48	81	0	0	0	0
16	67	19	0	0	67	19	67	19	0	0	0	0
17	28	74	0	0	28	74	28	74	0	0	0	0
18	56	99	0	0	56	99	56	99	0	0	0	0
19	88	91	0	0	88	91	88	91	0	0	0	0
20	95	100	0	0	95	100	95	100	0	0	0	0
21	75	57	0	0	75	57	75	57	0	0	0	0
22	68	98	0	0	68	98	68	98	0	0	0	0
23	45	69	0	0	45	69	45	69	0	0	0	0
24	48	100	0	0	48	100	48	100	0	0	0	0
25	52	100	0	0	52	100	52	100	0	0	0	0
26	26	100	0	0	26	100	26	100	0	0	0	0
27	52	32	0	0	52	32	52	32	0	0	0	0
28	49	85	0	0	49	85	49	85	0	0	0	0
29	69	52	0	0	69	52	69	52	0	0	0	0
30	50	60	0	0	50	60	50	60	0	0	0	0
31	53	98	0	0	53	98	53	98	0	0	0	0
Avg	54	73	0	0	54	73	54	73	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	16	25	0	0	16	25	16	25	0	0	0	0
Min	26	19	0	0	26	19	26	19	0	0	0	0
Max	95	100	0	0	95	100	95	100	0	0	0	0

Table F12. Completeness of airflow and emission data at Site W15B for June, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	58	62	0	0	58	62	58	62	0	0	0	0
2	45	63	0	0	45	63	45	63	0	0	0	0
3	63	93	0	0	63	93	3	38	0	0	57	52
4	99	88	0	0	99	88	0	0	0	0	99	88
5	97	64	0	0	97	64	0	0	0	0	97	64
6	71	97	0	0	71	97	0	0	0	0	71	97
7	70	94	0	0	70	94	0	0	0	0	70	94
8	87	84	0	0	87	84	28	24	0	0	53	56
9	100	87	0	0	100	87	100	87	0	0	0	0
10	100	90	0	0	100	90	100	90	0	0	0	0
11	100	98	0	0	100	98	100	98	0	0	0	0
12	100	92	0	0	100	92	100	92	0	0	0	0
13	98	93	0	0	98	93	98	93	0	0	0	0
14	100	98	0	0	100	98	100	98	0	0	0	0
15	100	98	0	0	100	98	100	98	0	0	0	0
16	97	100	0	0	97	100	97	100	0	0	0	0
17	99	100	0	0	99	100	99	100	0	0	0	0
18	99	100	0	0	99	100	99	100	0	0	0	0
19	100	100	0	0	100	100	100	100	0	0	0	0
20	100	100	0	0	100	100	100	100	0	0	0	0
21	100	100	0	0	100	100	100	100	0	0	0	0
22	100	100	0	0	94	100	100	100	0	0	0	0
23	100	100	0	0	14	37	100	100	0	0	0	0
24	100	100	0	0	0	0	100	100	0	0	0	0
25	100	100	0	0	0	0	100	100	0	0	0	0
26	100	100	0	0	0	0	100	100	0	0	0	0
27	100	97	0	0	0	0	100	97	0	0	0	0
28	100	73	0	0	0	0	100	73	0	0	0	0
29	99	47	0	0	0	0	99	47	0	0	0	0
30	97	9	0	0	42	2	84	8	0	0	0	0
Avg	93	88	0	0	68	68	77	72	0	0	15	15
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	15	20	0	0	40	40	38	37	0	0	31	31
Min	45	9	0	0	0	0	0	0	0	0	0	0
Max	100	100	0	0	100	100	100	100	0	0	99	97

Table F12. Completeness of airflow and emission data at Site W15B for July, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	98	29	0	0	98	29	98	29	0	0	0	0
2	95	92	0	0	25	24	88	83	0	0	0	0
3	100	100	0	0	0	0	100	100	0	0	0	0
4	100	99	0	0	0	0	100	99	0	0	0	0
5	100	100	0	0	0	0	100	100	0	0	0	0
6	100	100	0	0	25	25	62	62	32	32	0	0
7	100	100	0	0	100	100	0	0	100	100	0	0
8	97	100	0	0	97	100	0	0	97	100	0	0
9	95	98	0	0	95	98	0	0	95	98	0	0
10	100	100	0	0	100	100	0	0	100	100	0	0
11	100	92	0	0	100	92	0	0	100	92	0	0
12	100	100	0	0	100	100	0	0	100	100	0	0
13	100	98	0	0	100	98	0	0	100	98	0	0
14	97	100	0	0	97	100	0	0	97	100	0	0
15	100	98	0	0	100	98	0	0	100	98	0	0
16	100	71	0	0	79	52	0	0	100	71	0	0
17	97	36	0	0	97	36	0	0	97	36	0	0
18	99	59	0	0	99	59	0	0	99	59	0	0
19	100	100	0	0	100	100	0	0	100	100	0	0
20	97	99	0	0	97	99	0	0	97	99	0	0
21	100	94	0	0	100	94	61	60	34	29	0	0
22	100	97	0	0	100	97	100	97	0	0	0	0
23	100	99	0	0	100	99	100	99	0	0	0	0
24	100	100	0	0	100	100	100	100	0	0	0	0
25	100	91	0	0	100	91	100	91	0	0	0	0
26	100	100	0	0	100	100	100	100	0	0	0	0
27	100	100	0	0	100	100	100	100	0	0	0	0
28	100	94	0	0	100	94	100	94	0	0	0	0
29	100	98	0	0	100	98	100	98	0	0	0	0
30	100	84	47	44	100	84	100	84	0	0	0	0
31	99	91	99	91	99	91	99	91	0	0	0	0
Avg	99	91	5	4	84	76	52	48	47	42	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	1	18	19	18	33	35	48	46	48	45	0	0
Min	95	29	0	0	0	0	0	0	0	0	0	0
Max	100	100	99	91	100	100	100	100	100	100	0	0

Table F12. Completeness of airflow and emission data at Site W15B for August, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	60	100	60	100	60	100	60	0	0	0	0
2	100	69	100	69	100	69	100	69	0	0	0	0
3	100	98	100	98	100	98	100	98	0	0	0	0
4	99	88	99	88	99	88	35	26	0	0	61	59
5	100	98	100	98	100	98	0	0	0	0	100	98
6	100	100	100	100	100	100	0	0	0	0	100	100
7	100	100	100	100	100	100	0	0	0	0	100	100
8	100	100	95	100	95	100	0	0	0	0	100	100
9	100	100	100	66	100	66	0	0	0	0	100	100
10	100	100	100	100	100	100	0	0	0	0	100	100
11	98	99	98	99	98	99	51	52	0	0	41	41
12	98	98	98	98	98	98	98	98	0	0	0	0
13	100	100	100	100	100	100	100	100	0	0	0	0
14	100	100	100	100	100	100	100	100	0	0	0	0
15	100	100	100	100	100	100	100	100	0	0	0	0
16	100	100	100	100	100	100	100	100	0	0	0	0
17	100	94	100	94	100	94	100	94	0	0	0	0
18	100	76	100	76	100	76	100	76	0	0	0	0
19	96	87	96	87	96	87	96	87	0	0	0	0
20	100	35	100	35	100	35	100	35	0	0	0	0
21	99	45	99	45	99	45	99	45	0	0	0	0
22	100	99	100	99	100	99	100	99	0	0	0	0
23	100	97	100	97	100	97	100	97	0	0	0	0
24	100	91	100	91	100	91	100	91	0	0	0	0
25	100	100	100	100	100	100	100	100	0	0	0	0
26	100	100	100	100	100	100	100	100	0	0	0	0
27	100	100	100	100	100	100	100	100	0	0	0	0
28	99	57	99	57	99	57	99	57	0	0	0	0
29	81	23	81	23	81	23	81	23	0	0	0	0
30	99	82	99	82	99	82	99	82	0	0	0	0
31	100	89	100	89	100	89	100	89	0	0	0	0
Avg	99	87	99	85	99	86	76	64	0	0	23	23
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	3	21	4	21	4	21	40	39	0	0	40	40
Min	81	23	81	23	81	23	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for September, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	100	93	100	93	100	93	100	93	0	0	0	0
2	100	87	100	87	100	87	100	87	0	0	0	0
3	100	94	100	94	100	94	100	94	0	0	0	0
4	100	96	100	96	100	96	100	96	0	0	0	0
5	100	99	100	99	100	99	100	99	0	0	0	0
6	100	98	100	98	100	98	100	88	0	0	0	0
7	100	99	100	99	100	99	66	64	0	0	0	0
8	100	99	100	99	100	99	100	99	0	0	0	0
9	100	93	100	93	100	93	100	93	0	0	0	0
10	100	97	100	97	100	97	100	97	0	0	0	0
11	100	99	100	99	100	99	100	99	0	0	0	0
12	100	100	100	100	100	100	100	100	0	0	0	0
13	100	99	100	99	100	99	100	99	0	0	0	0
14	100	99	100	99	100	99	100	99	0	0	0	0
15	100	100	100	100	100	100	36	36	0	0	59	59
16	97	100	97	100	97	100	0	0	0	0	97	100
17	100	87	100	87	100	87	0	0	0	0	100	87
18	100	98	100	98	100	98	0	0	0	0	100	98
19	100	99	100	99	100	99	0	0	0	0	100	99
20	100	100	100	100	100	100	0	0	0	0	100	100
21	100	99	100	99	100	99	0	0	0	0	100	99
22	100	96	100	76	100	76	0	0	0	0	97	92
23	100	100	100	100	100	100	0	0	0	0	100	100
24	100	100	100	100	100	100	0	0	0	0	100	100
25	97	81	97	81	97	81	0	0	0	0	97	81
26	100	79	100	79	100	79	0	0	0	0	100	79
27	96	64	96	64	96	64	0	0	0	0	96	64
28	89	20	89	20	89	20	0	0	0	0	88	20
29	74	32	40	19	40	19	0	0	0	0	74	32
30	85	93	85	93	85	93	0	0	0	0	85	93
Avg	98	90	97	89	97	89	47	45	0	0	50	43
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	6	19	11	20	11	20	48	46	0	0	47	44
Min	74	20	40	19	40	19	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table F12. Completeness of airflow and emission data at Site W15B for October, 2009.

Day	Airflow		Ammonia		Hydrogen Sulfide		PM ₁₀		PM _{2.5}		TSP	
	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2	B1	B2
1	27	99	27	99	27	99	0	0	0	0	27	99
2	95	56	95	56	95	56	0	0	0	0	94	55
3	85	20	85	20	85	20	0	0	0	0	84	20
4	100	54	100	54	100	54	0	0	0	0	99	54
5	100	71	100	71	100	71	0	0	0	0	99	71
6	73	44	73	44	73	44	0	0	0	0	71	42
7	95	50	95	50	95	50	0	0	0	0	94	50
8	100	45	100	45	100	45	0	0	0	0	100	45
9	96	53	96	53	96	53	0	0	0	0	96	53
10	99	84	99	84	99	84	0	0	0	0	99	84
11	100	99	100	99	100	99	0	0	0	0	100	99
12	100	100	100	100	100	100	0	0	0	0	100	100
13	97	90	97	90	97	90	0	0	0	0	34	28
14	98	100	98	100	98	100	0	0	0	0	0	0
15	98	100	98	100	98	100	0	0	0	0	0	0
16	100	100	100	100	100	100	0	0	0	0	0	0
17	98	91	98	91	98	91	0	0	0	0	0	0
18	99	100	99	100	99	100	0	0	0	0	0	0
19	100	100	100	100	100	100	0	0	0	0	0	0
20	100	100	100	100	100	100	0	0	0	0	0	0
21	99	61	70	49	71	49	0	0	0	0	0	0
22	100	72	100	72	100	72	0	0	0	0	0	0
23	93	25	93	25	93	25	0	0	0	0	0	0
24	100	98	100	98	100	98	0	0	0	0	0	0
25	100	100	100	100	100	100	0	0	0	0	0	0
26	100	98	100	98	100	98	0	0	0	0	0	0
27	99	100	99	100	99	100	0	0	0	0	0	0
28	99	100	99	100	99	100	0	0	0	0	0	0
29	70	100	70	100	70	100	0	0	0	0	0	0
30	85	100	85	100	85	100	0	0	0	0	0	0
31	100	97	100	97	100	97	0	0	0	0	0	0
Avg	94	81	93	80	93	80	0	0	0	0	35	26
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	14	25	15	25	15	25	0	0	0	0	45	35
Min	27	20	27	20	27	20	0	0	0	0	0	0
Max	100	100	100	100	100	100	0	0	0	0	100	100