EMISSIONS DATA FROM DAIRY FREESTALL BARN AND MILKING CENTER IN NEW YORK

Final Report for Site NY5B

of the

National Air Emissions Monitoring Study

submitted to

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1. INTRODUCTION AND OBJECTIVES

1.1. Overview of NAEMS

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

The NAEMS was managed by Purdue University (Purdue), in its role as Independent Research Contractor (IRC) to the Agricultural Air Research Council. Purdue selected equipment and methodology in consultation with US EPA and subcontracted with other universities to operate the monitoring sites. Cornell University (Cornell) installed, maintained and calibrated equipment, collected samples, and conducted all other on-site activities. Purdue provided rapid feedback (generally within 2-4 business days) designed to catch aberrations in the data, and later conducted final data processing of the data. Both Cornell 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's) from a freestall barn and a milking center at the New York 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 1,000-cow Holstein dairy farm was located in the state of New York. The farmstead (Figure 1) was constructed in phases between 1990 and 1998, and was located in gently-rolling topography, most of which was farmland, with some grassy and wooded patches. There were no other livestock operations or significant pollution sources within 1.6 km of the site, except for fields on which manure was applied for fertilizer. The farm's long-term storage unit for post-digested separated liquids was about 2 km to the northeast.

Lactating cows were housed year-round in mechanically- and naturally-ventilated free stall barns (one each), and were milked three times per day in a double-20 mechanically-ventilated milking center. The farm also had housing facilities for dry cows, steers, and calves (steers were present or absent from the site depending on the profitability of beef). Additionally, the farm had an anaerobic digester that processed all manure produced on-site, with the exception of the manure from the pre- and post-weaned calf-rearing facilities.

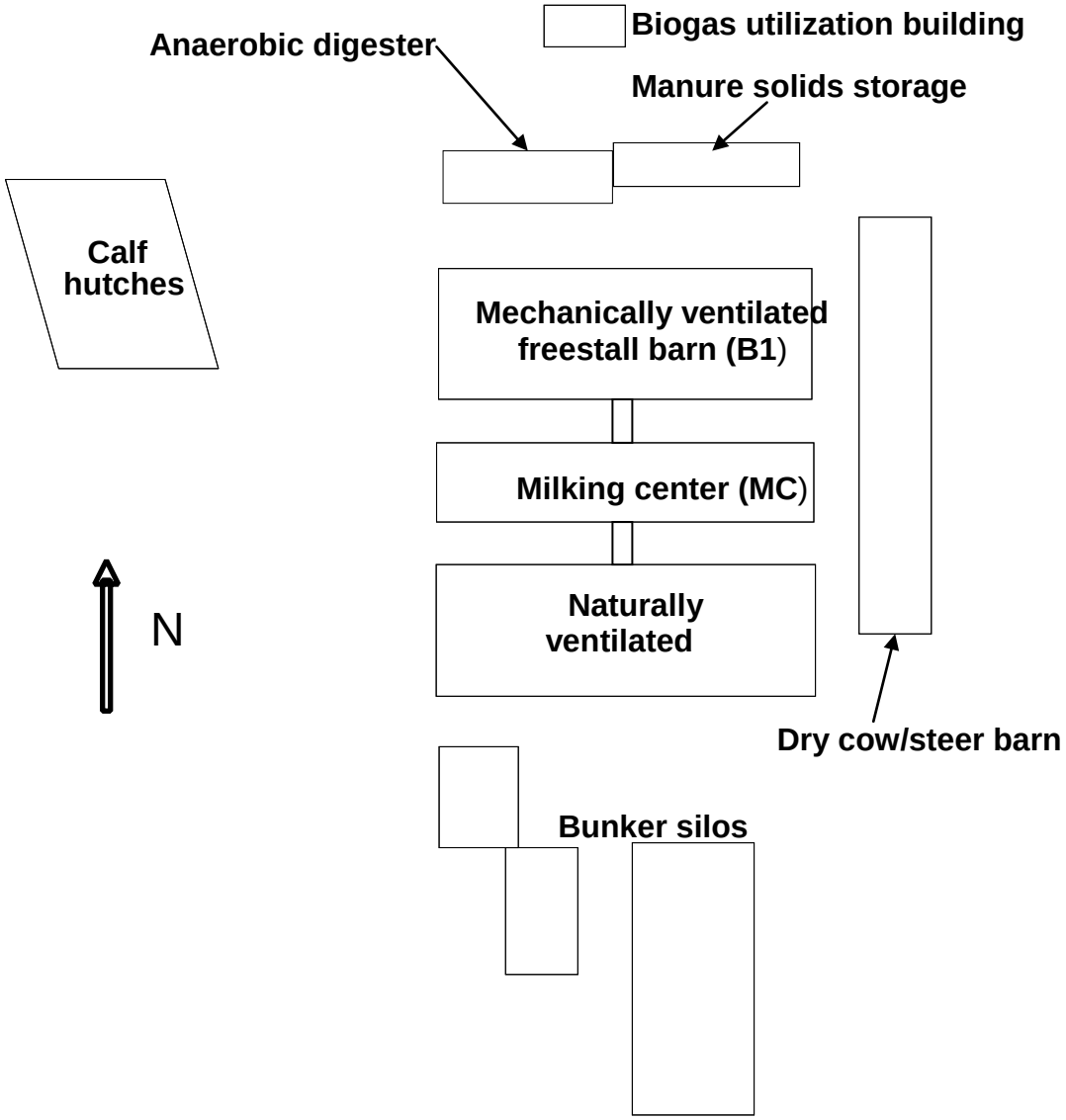

Figure 1. Layout of NY5B dairy farm, with locations of monitored buildings (B1 and MC).

2.2. Monitored Buildings

Aerial pollutant emissions were measured from the mechanically-ventilated, 6-row free stall dairy housing barn (barn 1 or B1) and the milking center (MC). B1 had 442 stalls and a bedded-pack area at the beginning of the study, which was converted to additional stalls approximately six months after the study began. The MC included a double-20 milking parlor, 31 free stalls and four bedded-pack box stalls for special-needs cows.

The free stall barns and the milking center were all oriented E-W, and were spaced 15.2 m apart. The barn roofs had a 3:12 slope, with rigid insulation board installed continuously following the bottom side of the lower truss chords to act as a ceiling in each structure. Barn 1 was 33.5 m wide, with 4.3-m high sidewalls and the MC was 15.2 m wide, with 3.7-m sidewalls. Both structures were 97.5 m long.

Lactating cows were housed year-round in B1, and individual cows left the barn only when they were brought into the MC for milking (three times per day) or when they were dried off. The roughly estimated average weight of the cows was 590 kg. The feed, consisting of 54% forage, was delivered to the barns by a mixer truck.

Pre-weaned and transition heifer management groups were housed on-site while adolescent management groups were housed off site, about 1,200 m away on the leeward side of the monitored facilities.

Ventilation air entered both B1 and MC through manually-adjusted inlets. In B1, the inlets were located in the west endwall opposite the fans, while air entered the MC through sidewall curtains on the north and south sidewalls adjacent to the milking stalls. There were emergency sidewall curtains in B1, the MC, and the connecting alleys between the MC and B1. Each structure had its own mechanical ventilation system, consisting of tunnel ventilation fans located at the east end of the building. The belt-driven, 137-cm diameter fans (Model DC-54, ACME, Muskogee, OK) were driven by a 1.1-kW electrical motors. Slippage was minimized by using spring belt tighteners.

For B1, two variable-frequency drives (VFD) were used to adjust fan speeds from 30 to 100% full speed fans 1, 11, 15, 19, 24, and 29 were controlled by VFD 1 and the other 24 fans were controlled by VFD 2. The 11 fans located on the lowest elevation level were numbered 1-11, the intermediate-level fans were numbered 12-22, and the upper-level fans 23-30. The six VFD-1 fans were kept operational year-round for the duration of this study and other fans were operated in stages (Table 1). The MC had four fans located on each sidewall near the east end of the MC. There were three ventilation stages in the MC (Table 1), with fans 3 and 5 operated as the minimum winter ventilation fans.

Table 1. Fan numbers and ventilation stages for B1 and the MC.

Building	Stage	Quantity	ID of added fans
B1	1	6	1, 11, 15, 19, 24, 29
	2	6 + 6 = 12	23, 25, 26, 27, 28, 30
	3	12 + 6 = 18	5, 9, 10, 13, 14, 21
	4	18 + 6 = 24	2, 6, 8, 12, 17, 20
	5	24 + 6 = 30	3, 4, 7, 16, 18, 22
MC	1	2	3, 5
	2	2 + 2 = 4	4, 6
	3	4 + 4 = 8	1, 2, 7, 8

The manure, in this case defined as urine + feces + bedding material + unconsumed feed, was gathered in the B1 alleys with four cable-drawn alley scrapers and deposited in a below-grade gravity flow channel. Manure flowed by gravity to a 6 m x 6 m x 4.3 m centralized agitation/pumping station, located in the covered connecting alley between B1 and the MC. A positive-displacement pump transferred the manure to a mesophilic anaerobic digester. The digester effluent was processed with a screw-press solid-liquid separator. Separated solids were stockpiled as bedding, land-applied to far-off fields, or sold. The freestalls were bedded with a

deep bed (≈ 20 cm) of post-digested separated manure solids. The liquid was pumped to long-term storage that was about 2.3 km away to the northeast.

2.3. Significant Events and Modifications

The only events at the site that constituted a departure from "normal operations" were two periods of construction and remodeling in the barns (Table 2) that resulted in considerable increases in PM concentration, which were invalidated. The primary representative exhaust fan (PREF) in B1 failed from Nov. 2-23, 2008, causing an invalidation of B1's gas concentrations.

Table 2. List of major site events and modifications.

Date	Event	Impact on Data and/or Response
3/17-19, '08	Construction on pens in freestall barn (eliminating bedded pack area, adding stalls).	Freestall barn PM data invalidated. No emissions data for 3 d.
4/14-16, '08	Construction in hospital barn (added rubber mats for cows to rest on).	Elevated concentrations invalidated. No emissions data for 3 d.
11/2-23, '08	B1 PREF (F15) down (electrical problems).	Gas concentrations at F15 invalidated (F19 was substituted).

3. MONITORING AND SAMPLING METHODS

3.1. General Approach

Equipment installation and preliminary testing began on 5/31/07 and concluded on 10/23/07. 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 10/23/07, and concluded on 10/23/09. Target pollutants were NH_3, H_2S, PM (PM_{10}, TSP, and $PM_{2.5}$), and VOC. Appendix A lists the target pollutants, and all measured supporting variables and monitored. The monitoring schemes for the two structures are shown in Figure 2 and Figure 3. Table 3 lists the major equipment.

Table 3. Major instrumentation.

Analyzer/Instrument	Serial number
INNOVA 1412 Multi-gas analyzer	710-198
TEI 450i H_2S analyzer	0709220675
Environics 4040 dilutor	3918 (≤10/8/09), 3911 (>10/8/09)
TEOM 1 (Freestall barn)	263490608
TEOM 2 (Milking center)	264790612
TEI FH 62C14 (Beta Gauge)	E-1282

Table 4 summarizes the sampling locations for the various analytes. There were two gas sampling locations (GSLs) each for B1 and the MC (Figure 2 and Figure 3). Gas-sampling probes were placed at minimum ventilation fans 3 and 5 in the MC, and at east endwall fans 15 and 19 in B1. The MC fan 3 and B1 fan 15 were the primary representative exhaust fans (PREFs)

for their respective buildings. The outdoor ventilation inlet location was located at the southwest corner of B1, approximately 1 m away from the west endwall.

Table 4. Analyte sampling locations for the NY5B site.

Analyte(s)	Stream ID	Stream Fans	Sampling Location	Sampling Period, min
Gas (NH_3, H_2S, CO_2)	GSL A	B1 fans 1-5, 12-16, 23-26	B1 fan 15	10
	GSL B	B1 fans 6-11, 17-22, 27-30	B1 fan 19	10
	GSL C		N end of MC-B1 alley (center)	10
	GSL D	MC fans 1-4	MC fan 3	10
	GSL E	MC fans 5-8	MC fan 5	10
	GSL F		N end of MC-NV barn alley (center)	10
	GSL G		Inlet: SW corner of B1 (1 m from W wall)	30*
$PM_{2.5}$, PM_{10}, TSP	B1	All B1 fans	B1 fan 15	Continuous
	MC	All MC fans	MC fan 3	Continuous
	Inlet		Inlet: OFIS rooftop	Continuous
VOC**	B1	All B1 fans	B1 fan 15	1440
	MC	All MC fans	MC fan 3	1440

*20 min prior to 11/13/07
** VOC samples were collected at fan hub height, within a 2-m radius of the fan.
GSL: Gas sampling location
OFIS: On farm instrument shelter

Equipment installation and preliminary testing began in June of 2007 and was completed on 10/23/07. The site setup and equipment installation followed the approved Site Monitoring Plan for the NY5B site. The NAEMS Quality Assurance Project Plan and instrument or method-specific Standard Operating Procedures also provided guidance.

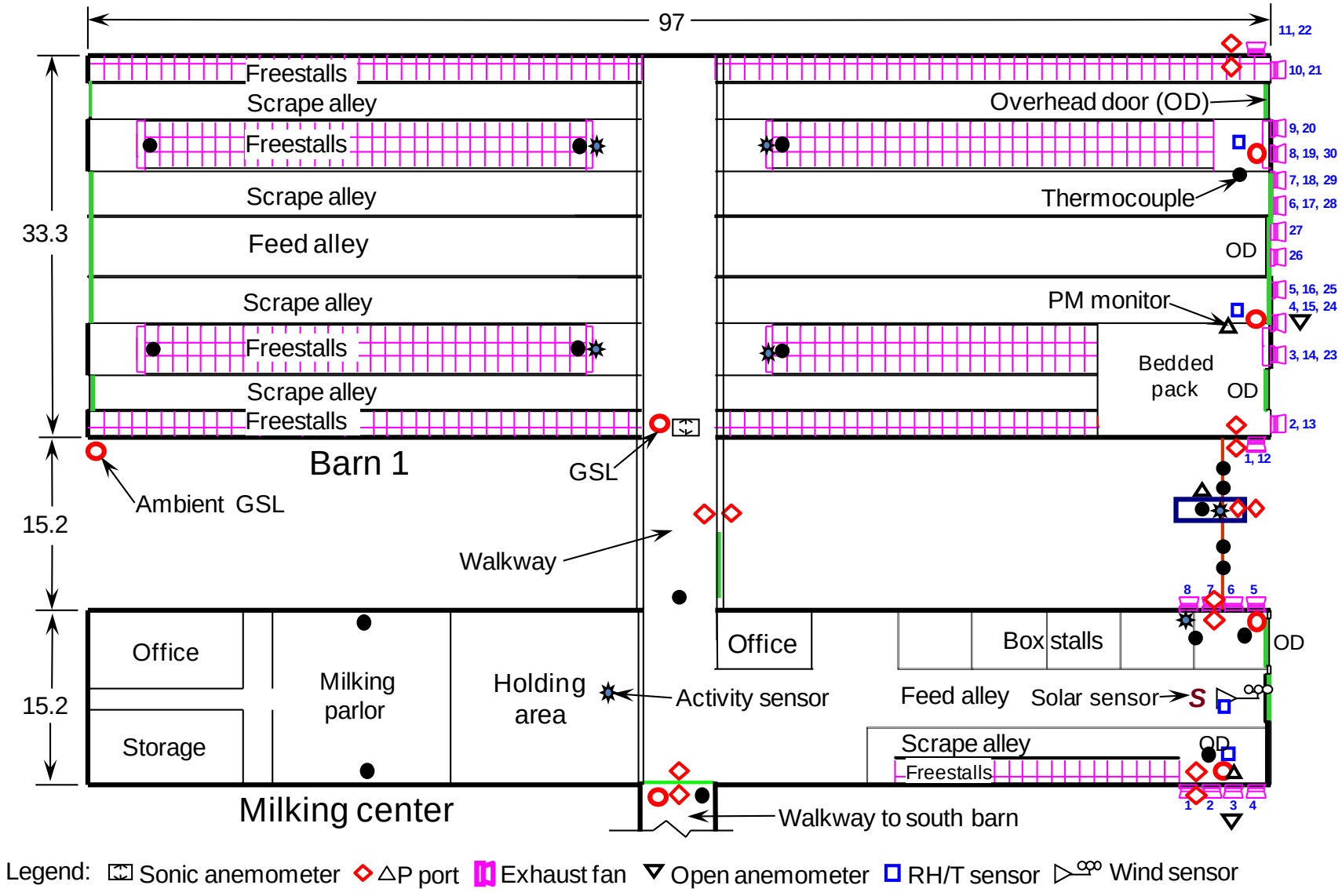

Figure 2. Overhead view of sensor and air sampling locations at the building monitoring site.

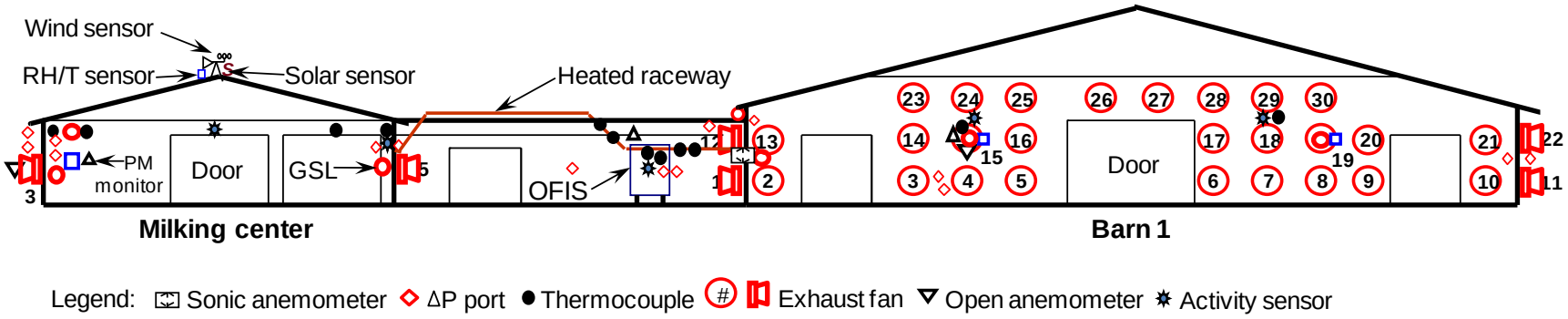

Figure 3. East end view of sensor and air sampling locations at the barn monitoring site.

3.2. Instrument Shelter

The on-farm instrument shelter (OFIS) was located adjacent to the southeast corner of B1 (Figure 2). The OFIS was supplied with 120-VAC (100-A) electric power by the farm. A copper ground rod was installed at the location of the OFIS, and connected to the OFIS ground. The HVAC system of the OFIS maintained inside temperatures within the operating range of the analyzers, and created a positive pressure with a filtered outside air intake to minimize entry of unfiltered outside air. 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). Vacuum pumps and controllers for the PM monitors (Table 3) were located in the OFIS. A microcomputer collected all site monitoring data using a data acquisition and control program AirDAC.

3.3. Data Acquisition and Control System

The data acquisition and control system consisted of a microcomputer, 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 Instruments (NI) and Measurement Computing (MC, Norton, MA). The NI FieldPoint (FP) modules and MC USB devices (Table 5) 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) the GSS 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 diluter. Voltage or current analog signals from various analyzers and sensors were connected to FP-AI-112 modules. Type T thermocouples were connected to FP-TC-120 modules. Voltage pulses from proximity sensors used to measure fan rotational speed were detected by the MC USB 4303 Counter.

Table 5. Data acquisition hardware configuration for NY5B.

Manufacturer and model	I/O type	# units	# channels	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	Digital input	4	10	

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 Operation

3.4.1. Animal Husbandry and Building Systems

Infrared motion detectors (activity sensors) were installed to monitor movement of cows and workers in the barn, with one sensor placed in each of the four main pens in B1, one in the MC holding area, and one near the MC calving pens (Figure 2). An activity sensor monitored researcher activity in the OFIS. The farm computer was accessed regularly to obtain milk production, feed consumption, and B1 pen inventories.

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-WMV, Novus Automation, Porto Alegre, Brazil), a pyranometer (Model LI-200SL, LI-COR, Lincoln, NE) and a cup anemometer (RM Young, Traverse City, MI), which were mounted on a 1-m aluminum tower located near the OFIS on the ridge near the east end of the MC's roof (Figure 2).

For the building environmental conditions, the RH/T sensors were located close to the PREF sampling location, and at fan 19 in B1 (GSL 3). Type T thermocouples (TCs) were used to measure temperatures at MC fan 5 (GSL 6), at the primary MC air inlets (one on each sidewall of the milking area), at the west end of the freestall rows in B1 (near the endwall air inlets), and adjacent to the intersections of the four freestall pens and the central alley in B1 (Figure 3).

Thermocouples were also located in the heated raceways between the barns and the OFIS. Two TCs were located in the OFIS to measure the temperatures of the OFIS and the air-conditioning system. One TC monitored the temperature conditions in the ambient PM monitor enclosure.

3.4.3. Building Airflow

Fan rotational speed and operational status was monitored using a magnetic Hall-effect sensor (speed sensor) installed on each of the 38 fans. The speed sensors were mounted to detect the rotational speed in revolutions per minute (rpm) of the fan pulley that directly drives the hub of the fan blades. The digital signal from the speed sensor was converted into a frequency measurement with a counter module in the data acquisition system.

Data from the fan speed sensors were compared with a NIST-traceable handheld stroboscope (Nova Strobe DBX, SN 2563153, Monarch Instrument, Amherst, NH) that was used to measure the speeds of 22 fans in B1 at electrical power frequencies of 33, 45 and 58 Hz. The data from the fan speed sensors were compared with the stroboscope readings, and the differences ranged from 0 to 3 rpm.

Static pressure was measured across both sidewalls of B1 and the MC, and on the east endwall of B1 (Figure 2) with differential static pressure sensors (Model 260, Setra Systems, Boxborough, MA). The outside ports were located against the outside wall near the ventilation fans.

Impeller anemometers (Model 27106RS, RM Young, Traverse City, MI) were installed on the discharge sides of MC fan 3 and B1 fan 15 (building PREFs).

In-situ airflow measurements were conducted with a 137-cm field-portable fan tester (Fan Assessment Numeration System or FANS, University of Kentucky, Lexington, KY), which was described by Gates et al. (2004). A construction-lift allowed most of the upper-tier fans in B1 to be accessible for testing with the FANS. 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.

The airflow performance of most of the fans (20/30 in B1 and 8/8 in the MC) were measured in-situ with a portable fan tester (FANS) at least once during the monitoring period. A total of 217 test runs were conducted, at fan rotational speeds ranging from 180 to 380 rpm, during testing in December 2007, April 2009, and June-July 2009. Ten B1 fans that could not easily be accessed with the portable tester were not tested. The field data was used to develop equations for calculating airflow as a function of differential pressure and fan rotational speed, and to assess the uncertainty in airflow predictions.

The airflow curves of the three-phase fans (Model DC54K-C, ACME, Muskogee, OK) were obtained from the Bioenvironmental and Structural Systems (BESS) Lab at the University of Illinois at Urbana-Champaign. The BESS test (#00310) consisted of airflow (Q1) measured at several static pressures (P1), and at a relatively constant speed (N1 = 380 rpm). A third-order polynomial function was fit to the fan data (Table 6). The in-situ fan test data was grouped into three fan speed regimes: 1) greater than 320 rpm, 2) 240-320 rpm, and 3) less than 240 rpm. Sequential fan tests that were within ±5 rpm and ±3 Pa were treated as replications of the same test, and were averaged together to produce a single test result. A total of 27, 23 and 92 tests in the high-, medium- and low-speed regimes, respectively, were used for model development.

For each fan speed regime, the BESS fan curve was adjusted to the mean speed (N2) of the fan tests. The mean speeds were 358, 279 and 190 rpm for high, medium and low speed regimes, respectively. The new, speed-indexed baseline curves were derived using the first ($Q_2 = Q_1(N_2/N_1)$) and second ($\Delta P_2 = \Delta P_1(N_2/N_1)^{0.5}$) fan laws, where Q_2 is the speed-adjusted BESS fan curve at speed N_2. The speed-corrected airflow prediction model is $Q_4 = (a \cdot \Delta P_4 + b) \cdot (N_4/N_2) \cdot Q_2$, where ΔP_4 and N_4 are measured fan static pressure and speed. 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. The measured speed of each fan was then used by CAPECAB to select which model to apply to calculate airflow. Speeds >320 rpm were assigned to the high-speed regime, while those <240 rpm were placed in the low regime. The medium-speed regime was used with fan speeds from 240-320 rpm.

The B1 fans were assigned to gas emission streams based on a line that divided the fan banks into two equal halves. Fan 27 and all fans south of it, were represented by gas concentrations measured at fan 15 in B1 (GSL2), while fan 26 and all fans to the north were represented by fan 19 (GSL3). In the MC, all fans in the north wall were assigned to one stream, while all fans in the south wall were assigned to another stream. Table 6 includes a list of all fans included in

each stream. The airflow for each stream was calculated by summing the individual airflows for all fans in the stream.

Table 6. Fan airflow models.

Speed regime	Reference speed (N_2)	Polynomial coefficients of $Q_2=f(dP_2)$ at speed N_2				Coefficients of k	
		a3	a2	a1	a0	b1	b0
High	358	1.235E-05	-1.327E-04	5.985E-02	1.338E+01	0.0247	0.8123
Med	278	4.836E-05	-2.802E-04	7.678E-02	1.338E+01	0.0105	0.6642
Low	190	3.013E-04	-2.163E-03	1.014E-01	7.037E+00	-0.0027	0.8247

3.4.4. Biomaterials Sampling Methods and Schedule

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

Water was evaluated based on analyses of several samples of the water provided to the cows.

Daily records of feed consumption were regularly obtained from the producer by Cornell using the farm's feed management system. Daily records of diet constituents were provided by the farm's nutritionist.

The daily volume of milk shipped (total milk less non-saleable milk) from the farm was copied manually from the yearly calendar where milk production was recorded daily by farm staff. Milk production data from B1 included the cows housed in the MC. Additionally, the farm reported milk urea nitrogen (MUN) and protein content nearly every day.

One sample of fresh bedding (post-digested separated manure solids) was sampled from each pen. The frequency and amounts of bedding additions were obtained from the producer.

Representative manure samples were collected in B1 from each the four pens, and the two manure alleys between the outside row of freestalls and the adjacent row of the head-to-head freestalls. Sampling was conducted approximately monthly during the second year. During each sampling event, each pen's alley scraper was shut off when the blade had traveled about two-thirds the length of the pen. The wedge of scraped manure in front of the scraper blade was thoroughly mixed with a plastic grain shovel. Approximately 100 L of the manure was then shoveled into a 113-L plastic drum, where it was further homogenized using a paint stirrer powered by an 18-V cordless drill. While mixing, a representative sample (approx. 110 mL) was collected in a 950-mL plastic sample container by dipping the open container in the churning manure stream. Each sample container was immediately tightly capped, washed off with clean water, dried, labeled, and placed on ice. Samples were sent overnight on ice in an insulated cooler to Midwest Labs for analysis. The samples were analyzed for pH, solids content, total N, and ammoniacal N to provide data for the nitrogen balance of the barns.

3.5. Particulate Matter Monitoring

Real-time PM monitors (TEOM Model 1400a, Thermo Fisher Scientific, Waltham, MA) continuously sampled exhaust PM. The TEOMs were located immediately upstream of MC fan 3 and B1 fan 15 (Figure 2 and Figure 3).

A beta attenuation PM monitor (Beta Gauge Model FH62C-14, Thermo Fisher Scientific, Franklin, MA) continuously measured ambient air above the OFIS and was assumed to represent the barn inlet PM concentration (Figure 2 and Figure 3).

At any one time, the sampled PM size class was either PM_{10}, $PM_{2.5}$ or TSP at both TEOMs and the Beta Gauge. The PM_{10} inlet heads on the TEOMs and Beta Gauge were replaced with $PM_{2.5}$ heads in January, July, and November, 2008, for 14, 34 and 20 d, respectively (Table 7). The TSP inlet heads were placed on the TEOMs for eight, 7-16 d periods. The PM_{10} concentration was measured at all other times.

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

Time and day, m/d/y		Test duration, d		
Start	**Stop**	**PM_{10}**	**TSP**	**$PM_{2.5}$**
10/24/07	12/14/07	51.6		
12/14/07	12/21/07		7.0	
12/21/07	1/11/08	20.8		
1/11/08	1/25/08			14.0
1/25/08	2/13/08	19.1		
2/13/08	2/21/08		7.7	
2/21/08	4/4/08	43.1		
4/4/08	4/11/08		7.0	
4/11/08	6/24/08	73.9		
6/24/08	7/10/08		15.9	
7/10/08	7/24/08	13.8		
7/24/08	8/27/08			34.2
8/27/08	11/4/08	68.6		
11/4/08	11/24/08			19.9
11/24/08	1/13/09	49.9		
1/13/09	1/20/09		6.9	
1/20/09	3/13/09	52.0		
3/13/09	3/19/09		5.9	
3/19/09	5/11/09	52.9		
5/11/09	5/18/09		7.0	
5/18/09	9/8/09	113.0		
9/8/09	10/24/09	45.6†		
9/8/09	9/21/09		13.0‡	
9/21/09	10/24/09	32.6‡		
Totals		636.9	70.5	68.1

† Only B1F15
‡All except B1F15

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 barns 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 (inside the MC and along the east endwall of B1) to prevent condensation inside the tubes.

Two gas sampling probes were placed in the east end of each barn, 0.5 m from the selected exhaust fans at an elevation equal to the fan hubs (Table 4, Figure 2 and Figure 3). Gas sampling probes A and B were located at B1 fans 15 and 19, respectively. Sampling probes D and E were located at the milking center's fans 3 and 5, respectively. The probe for sampling inlet air was near the SW corner of B1, approximately 1 m from the west endwall. The walkways between B1 and the MC and adjacent buildings were sampled with probes for GSL-C and GSL-F, respectively (Figure 2).

Each exhaust location was sampled individually for 10 min. The ventilation inlet location was monitored at least twice daily, originally with a 20-min sampling period. After approximately one month of data collection, gas concentration data at each sampling location was studied to determine whether equilibrium occurred within the sampling periods. A statistical analysis confirmed that 10 min was sufficient for the exhaust GSLs, but that 30 min was required for the barn inlet. The inlet sampling period was therefore increased from 20 min to 30 min.

One set of gas analyzers in the OFIS was used to sequence through all the GSLs. Hydrogen sulfide was measured with a fluorescence H_2S analyzer (Model 450i, Thermo Fisher Scientific, Waltham, MA). Concentrations of NH_3 and CO_2 were measured with a photoacoustic infrared multi-gas monitor (INNOVA Model 1412, LumaSense Technologies, Ballerup, Denmark).

3.7. VOC Sampling

Grab samples of VOC were collected at the PREFs (B1 fan 15, MC fan 3) (Table 4), using methodology based on methods TO-15 and TO-16. Sampling was conducted with 6-L stainless-steel canisters (TO-Can, Restek Corp, Bellefonte, PA), equipped with ¼″ bellows valves (Swagelok SS4H) and 207-kPa vacuum gauges. Sampling trains contained flow controllers (Veriflo Model 423XL, Parker-Hannifin Corp., Richmond, CA) with 2- to 4-sccm critical orifices and 7-µm in-line stainless steel filters. Flow controllers were pre-set to a constant flow rate of 3.4 mL min^{-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 collected. Sampling was conducted seven times between 4/24/09 and 12/7/09, 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 N_2, and transferred to TDS tubes (Carbotrap 300, Supelco, Bellefonte, PA). The pressurized canisters initially yielded sample flows of 50 mL min^{-1} during sample transfer to tubes. Canister heating was introduced when a canister pressure decreased to 13.8 kPa to ensure maximal transfer of nonvolatile components.

Samples were analyzed on a thermodesorption-gas chromatograph-mass spectrometer (TDS-GC-MS), consisting of a gas chromatograph (Model 6890, Agilent Technologies, Palo Alto, CA) coupled with a Model 5795 mass spectrometer detector (Agilent Model 5795) and equipped with a thermal desorption system (Model TDS-G, Gerstel, Baltimore, MD) and a cooled injection

system (Gerstel CIS). The GC-MS passed a leak check prior to analyzing each set of samples. Compounds were separated on a 60 m x 0.25 mm x 1µm column. The detector utilized the full scan mode covering masses from 27-270 Daltons in 8 scans s^{-1}. The MS quad hold temperature was 150ºC, and the MS source hold temperature was 230ºC. The analytical results were analyzed by ChemStation, and all integrations were manually checked. This method used an external standard compound for instrument monitoring and QA to avoid losses of low-molecular-weight analytes that would occur when purging solvent used with internal standard(s). All TDS tubes were cleaned with a tube conditioning system (Gerstel TC-2 TDS) for 3.5 h at 350ºC prior to each use.

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

3.8. Documentation of Quality Assurance

3.8.1. Oversight, Maintenance, and Calibration

Cornell personnel visited the site almost daily during the first few months of the study; that frequency declined as the site operation became more routine, and then increased again as more troubleshooting was required on various equipment in the second year. A total of 130 and 233 visits were made during years 1 and 2 of the monitoring period. Remote checking via the internet was conducted by Cornell and/or Purdue on a near-daily basis.

The NAEMS Science Advisor audited the site on 11/13/07. The Environmental Protection Agency (EPA) conducted site audits on 6/25/08 and 6/8/09.

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

3.8.2. Gas Sampling System

Two types of GSS leak tests were conducted. The first test examined GSS integrity, by briefly creating a "dead head" against the pump by closing all solenoid valves, while measuring exhaust airflow with a portable rotameter, and recording the leakage flow with the GSS mass flow meter. The second test consisted of monitoring GSS flow and pressure after manually setting AirDAC to sample from a particular GSL and plugging the GSL's gas sampling probe, which created a GSS manifold vacuum of about -70,000 Pa or 0.31 atm. Preliminary tests indicated that GSS flows under dead-head conditions that were 10% or less (<0.45 L min^{-1}) of the normal GSS flow rate of 4.5 L min^{-1} were indicative of leak-free operation under normal GSS manifold vacuums of -5,000 to -8,000 Pa (0.93-0.96 atm). Leak tests of the GSS were conducted on 11/12/07, 12/5/08, 2/3/09, 3/19/09, and 9/1/09. The dead-head leakage flows were always significantly less than the 0.45 L min^{-1} threshold. Systematic checking of individual sampling lines was conducted on 12/21/07, 3/19/08, 6/6/08, 5/28/09, and 11/3/09, while checks of some lines were conducted more frequently. Data was only invalidated when leaks occurred away from the sampling

location. If gas sampling probe filter maintenance eliminated a leak, no data was invalidated since leakage air would be the same as sampled air.

3.8.3. Gas Analyzers

Gas measurements were evaluated using multipoint calibrations and zero and span checks (Table 8 and Appendix B). The gas concentration data output by the analyzers was adjusted to correct for bias introduced by the gas sampling and measurement system.

3.8.3.1. Correction of Ammonia Concentrations

A multipoint calibration (MPC) was conducted through the challenge line seven times using purified air (Cat. # AI0.0CE-T, CEM zero-grade, Praxair, Indianapolis, IN) and four span concentrations of NH_3 (Cat. # NI-AM5MP-AS, Praxair Primary Standard). Each MPC was conducted with replication (Table 8). The NH_3 was delivered using a 6-port gas dilutor (Model 4040, Environics, Tolland, CT). The minimum and average R^2 values of the MPCs were 0.987 and 0.993, respectively, indicating linearity of the instrument response to standard gas between 0 and 16 ppm.

Table 8. Multipoint calibration record and results for the NH_3 measurements.

Date	# of points	Concentration, ppm		R^2
		Minimum	Maximum	
3/7/08	4	4	16	0.998
6/10/08	4	4	16	0.994
8/13/08	4	4	16	0.993
11/11/08	4	4	16	0.993
12/9/08	4	4	16	0.993
1/22/09	4	4	16	0.987
3/11/09	4	4	16	0.995

Precision checks were conducted periodically using zero and span gases (Z/S checks), delivered via the dilutor through the challenge line, and responses were recorded to monitor changes in system performance over time. Span checks were conducted with 15.9 ppm of NH_3, except that 5-6 ppm was used in October, 2009.

The average response of the analyzer to the zero and span gas applications was assessed (Appendix C), and the results were combined based on changes to the instrument or GSS to create linear correction models (Table 9). For the purpose of constructing gas correction models, the analyzer responses at the 5 and 6 ppm concentrations were ratiometrically adjusted to the expected response at 15.9 ppm. The models were used to correct instrument readout data. The measurement accuracy was assessed based on model-corrected zero and span checks (Table 9).

3.8.3.2. Correction of Hydrogen Sulfide Concentrations

An MPC was conducted through the challenge line eight times (Appendix B and Table 10) using purified air (Cat. # AIO.OCE-T, Praxair CEM zero air) and three span concentrations (Cat. # NI-HSR1E-AS, Praxair EPA Protocol Standard). Each MPC was conducted with replication (Table 10). The H_2S was delivered using a 6-port dilutor (Model 040, Environics, Tolland, CT). The R^2

values of each MPC were 0.997 or above, indicating excellent linearity of instrument response to standard gas between 0 and 1000 ppb.

Precision checks were conducted periodically using zero and span gases (Z/S checks), delivered via the dilutor through the challenge line, and responses were recorded to monitor changes in system performance over time. Span checks were typically conducted with 895 ppb (Appendix C).

Table 9. Concentration correction and measurement accuracy for ammonia.

Start/end dates	# of checks		Linear model	Accuracy, % of span			
				Bias		Precision	
	Zero	Span		z	s	z	s
10/24/07-5/7/08	12	10	y = 1.1271x – 0.10	0.4	-4.4	1.3	3.8
5/7/08-10/2/08	12	10	y = 1.1535x – 0.20	-0.2	0.5	1.0	3.1
10/2/08-5/26/09	17	12	y = 1.1269x – 0.23	0.3	-0.1	1.7	4.3
5/26/09-8/25/09	6	0	y = 0.9857x + 0.23	0.6	NA	2.1	NA
8/25/09-10/9/09	13	0	y = 1.0097x – 0.15	0.1	NA	0.5	NA
10/9/09-10/23/09	14	2	y = 1.0043x – 0.57	0.1	3.7	1.4	5.9

Table 10. Multipoint calibration record and results for the H_2S measurements.

Date	# points	Span concentration, ppm		R^2
		Minimum	Maximum	
3/13/08	3	450	895	1.000
4/4/08	3	433	895	0.998
6/14/08	3	433	895	1.000
2/16/09	3	434	895	0.997
2/19/09	3	432	895	0.999
3/10/09	3	433	894	0.999
5/15/09	3	433	896	0.999
5/19/09	3	500	995	1.000

The average response of the analyzer to the zero and span gas applications was assessed and the results were combined based on changes to the instrument or GSS to create linear gas correction models (Table 11). For the purpose of constructing the gas correction models, the analyzer responses at span gas concentrations different than 895 ppb were adjusted ratiometrically to the expected response at 895 ppb. The H_2S/air blend used from the beginning of April through mid-December of 2008 degraded significantly prior to the expiration date and was replaced with H_2S/nitrogen blends by Praxair. Therefore only span check data obtained from stable H_2S/nitrogen blends were included in the development of the gas correction models. The models were used to correct instrument readout data. The measurement accuracy was assessed based on model-corrected zero and span checks (Table 11).

Table 11. Concentration correction and measurement accuracy for hydrogen sulfide.

Start/end dates	# of checks		Linear model	Accuracy, % of span			
				Bias		Precision	
	Zero	Span		z	s	z	s
10/24/07-12/17/08	36	5	y = 0.7249x – 0.93	0.0	-0.4	0.1	0.7
12/17/08-1/12/09	4	2	y = 0.488x – 1.50	0.0	-0.2	0.1	2.9
1/12/09-10/23/09	45	19	y = 0.9253x – 0.72	0.0	3.1	0.1	2.7

3.8.4. Particulate Matter Analyzers

The quality of the exhaust PM data collected by the TEOMs was assessed through mass verifications and flow and leak checks (Table 12 and Table 13). The B1 and MC TEOMs met or exceeded the mass verification criteria (Ko actual within ±2.5% of Ko audit) on all occasions.

Table 12. Quality assurance tests of Barn 1 TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, L·min^{-1}		Leak test flows, L·min^{-1}	
			Main	Total	Main	Auxiliary
10/23/07	0	1.06	3.15	17.31	0.01	0.02
12/28/07	66	0.74	3.07	16.81	0.01	0.02
2/1/08	35	0.44	ND	ND	ND	ND
3/11/08	39	1.13	3.08	17.12	0.01	0.02
4/25/08	45	0.46	ND	ND	ND	ND
5/28/08	33	0.30	3.09	16.78	0.01	0.02
7/18/08	51	0.07	3.06	16.58	0.01	0.04
9/3/08	47	0.57	ND	ND	ND	ND
9/11/08	8	ND	3.09	16.90	0.02	0.05
10/1/08	20	0.97	ND	ND	ND	ND
10/29/08	28	0.72	3.14	17.36	0.02	0.07
12/5/08	37	0.81	ND	ND	ND	ND
12/22/08	17	0.24	3.17	17.28	0.02	0.07
1/15/09	24	2.48	3.13	17.34	0.02	0.08
3/13/09	57	0.97	3.14	16.99	0.02	0.05
5/11/09	59	0.49	ND	ND	ND	ND
6/22/09	42	0.97	0.97	4.91	0.03	0.17
9/14/09	84	0.86	2.92	16.13	0.01	0.05

The criteria for total and main flows were 16.67±1.0 and 3.0±0.2 L min^{-1}, respectively, and were met on all dates (Table 12 and Table 13).

The leakage criteria were ≤0.62 and ≤0.15 L min^{-1} for total and main flows, respectively. All leak and flow tests for the B1 TEOM were acceptable on all dates except 6/22/09 when the TEOM failed due a malfunctioning ambient temperature probe (Appendix D). The MC PM data were invalidated due to out-of-tolerance flows or leaks from 7/18/08 to 9/11/08 and from 11/24/08 to 3/13/09.

A mass verification and flow calibration of the ambient PM monitor was conducted periodically (Table 14). The mass verification criteria of <5% was met on all dates and the total flow check criteria of <4% were met on all dates except 12/10/08 and 12/18/08.

Table 13. Quality assurance tests of the MC TEOM.

Date	Time since last test, d	Mass error, %	TEOM flows, L min^{-1}		Leak test flows, L min^{-1}	
			Main	Total	Main	Auxiliary
10/23/07	0	0.21	3.12	17.23	0.02	0.09
12/28/07	66	0.80	3.06	16.44	0.02	0.03
2/1/08	35	0.65	ND	ND	ND	ND
3/11/08	39	1.51	3.07	17.03	0.06	0.28
4/25/08	45	1.20	ND	ND	ND	ND
5/28/08	33	1.20	3.07	16.84	0.03	0.13
6/21/08	24	1.12	2.83	15.81	0.05	0.36
7/18/08	27	0.84	3.07	16.66	0.01	0.05
9/5/08	49	0.62	2.03	12.68	0.16	0.84
9/11/08	6	ND	3.03	16.00	0.05	0.19
10/1/08	20	0.99	ND	ND	ND	ND
10/29/08	28	0.68	3.16	17.08	0.17	0.89
12/5/08	37	1.01	ND	ND	ND	ND
1/15/09	41	1.70	3.42	17.74	0.13	0.79
3/13/09	57	1.87	3.20	17.45	0.38	2.23
5/11/09	59	1.83	ND	ND	ND	ND

Table 14. Ambient PM monitoring quality assurance parameters.

Date	Time since last test, d	Mass verification, %	Total flow check, %
11/5/07		0.45	1.31
3/11/08	127		1.96
4/3/08	23	0.56	
4/25/08	22		0.46
5/13/08	18		2.67
6/21/08	39	0.14	2.90
7/18/08	27		2.92
7/24/08	6		
12/10/08	139		7.13
12/18/08	8		4.13
3/3/09	75	1.24	

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 of relevant variables 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

All static pressures were corrected based on the zero-pressure check results. The average static pressures for each barn were determined using data from all properly-operating sensors. Intervals during which an average static pressure was based on fewer sensors are given in Appendix D. For calculating airflow, the average of the functioning sensors in the barn was used whenever the sensor on the fan's actual wall failed.

Except for one -2.4 Pa reading on the MC N wall, all zero checks of the five static pressure sensors were within ±0.5 Pa. Based on the time-weighted averages of the zero checks, calibration offsets of 0.39 Pa (B1 N wall), 0.34 Pa (B1 E wall), -0.04 Pa (B1 S wall), 0.57 Pa (MC N wall), and -0.52 Pa (MC S wall) were assigned to the different sensors.

Atmospheric pressure readings were obtained from the B1 TEOM, and were compared with barometric pressure data collected by the National Climatic Data Center (NCDC) (http://www1.ncdc.noaa.gov/) at the Syracuse International Airport. The two datasets were nearly identical. The NCDC data was used to substitute for missing onsite barometric pressure during the first half of July, 2009.

3.9.2.2. Environmental Sensors

Exhaust air temperatures for each barns were defined as the average of the two temperatures measured at fans F15 and F19 in B1 and F3 and F5 in the MC. Average B1 indoor temperature was the average of the F15 and F19 OMNI/NOVUS sensor readings, and the six TC distributed throughout the barn (Figure 2). Milking center inlet temperature was the average of the N inlet and S inlet TCs. Based on checks against a NIST-traceable psychrometer, ambient temperature readings taken after 1/1/08 were corrected by adding a 2°C offset.

Barn relative humidity (RH) was the average of the RH readings from the OMNI/NOVUS sensors at fans 15 and 19. The INNOVA T_{dew} readings for the ambient location were converted to RH, and RH was converted to humidity ratio using the standard conversion equations. Intervals of invalid data due to sensor failures or noise occurred with all three of the RH/T sensors at the exhaust locations (B1 fans 15 and 19, and MC fan 3), and with the roof-top ambient sensor.

Solar radiation data was corrected to account for a -16 w m^{-2} zero offset of the pyranometer based on nighttime readings.

3.9.2.3. Fan Operation

The most commonly observed problem was noise on or failure of many of the fan speed sensors. However, there were always at least two functional sensors per fan stage in B1, and one per stage in the MC. Since all fans on a stage were driven by the same speed controller, airflow calculations were facilitated by substitutions of operation data from other fans of the same stage.

Low-level noise was filtered out by setting operational status to "off" (0%) if the average speed was less than 168 rpm.

3.9.2.4. Gas Concentrations

Times were specified in the data processing software for gas concentration measurements to stabilize based on gas and sampling location (Table 15).

Linear interpolation of corrected gas concentrations was used to fill in concentrations for each minute between two valid concentration measurements at a sampling location, up to a specified maximum interpolation interval (Table 15).

Table 15. Gas concentration data validation and interpolation requirements.

Gas	Exhaust sampling locations		Ambient sampling location	
	Equilibration period, min	Maximum interpolation interval, min	Equilibration period, min	Maximum interpolation interval, min
NH_3	7	300	20	3000
H_2S	5	300	5	3000

Gas and water vapor concentrations, and sample relative humidity, temperature, pressure, flow rate, and flow direction were automatically invalidated during all gas analyzer MPCs and Z/S checks, and when sample Q < 3.8 L min^{-1}. Gas and PM data were invalidated under conditions of positive barn static pressure, because barn airflow measurements require a negative or underpressure in the barn.

Gas concentration data were invalidated due to problems with the INNOVA 1412. The analyzer was brought on-line on 11/19/07, and sustained chopper motor errors in May 2008, October 2008, and May 2009. After the second chopper motor failure, the analyzer was returned from the manufacturer with incorrect calibration settings until a full reset of the analyzer was performed. The analyzer was also returned to the manufacturer for installation of additional optical filters, and for recalibration. Approximately 201 d of NH_3, CO_2 and water-vapor concentration data were lost or invalidated due to INNOVA-related issues.

Gas concentration data was invalidated whenever the GSS failed leak tests. Gas concentrations were invalidated for a total of 67 d during four intervals in late 2008 and early 2009, because of high analyte concentrations detected during zero gas checks (Appendix D).

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

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

and

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

Where:

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

3.9.2.5. PM concentrations

Prior to 2/21/08, the TEOM flow rates were erroneously internally adjusted to 16.7 L min^{-1} based on standard conditions (20ºC and 1 atm). The majority of the PM data was acceptable, however, because the TEOM flow rates corrected for actual air density were generally still within the required 15.7 to 17.7 L min^{-1} range. Periods when the corrected flow was outside this range were invalidated. The TEOM settings were changed on 2/21/08 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 the surrounding temperature and atmospheric pressure until 2/18/08, at which time they were reconfigured to output the PM data at standard conditions (20ºC, 1 atm). All PM concentration data prior to 2/18/08 was corrected to standard conditions.

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

Failed TEOM flow checks and flow errors due to a faulty ambient temperature sensor resulted in the invalidation of 94 d of B1 PM data. Confirmed leaks and/or behavior symptomatic of leaks also caused invalidation of 17-, 26- and 67-d periods of MC PM data.

3.9.3. Emission calculations

3.9.3.1. Particulate matter

PM emissions were calculated with Eqn. 3-3.

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

Where:

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

3.9.3.2. Gases

Stream-specific gas emissions were determined as follows:

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

Where:

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

Barn emissions were the summation of the stream emissions. If the interpolated stream concentration was invalid for one stream in a building, the other stream's concentration was substituted in the emission calculation. Barn emission was divided by variables (barn inventory, milk production, feed consumption) or constants (floor area, parlor capacity) to normalize emissions to site-specific characteristics.

3.9.3.3. Volatile organic compounds

The total VOC concentration was multiplied by average 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 animal inventory and milk production are presented in Table E2. Occupancy in the 493-hd capacity Barn 1 averaged 467 hd (Table E2). Milk yield averaged 35.4 kg $d^{-1}cow^{-1}$ and milk urea nitrogen (MUN) and milk protein ranged from 6.5-12.9 mg d^{-1} L^{-1} and 2.49-3.25%, respectively.

4.2. Characteristics of Biomaterials

The pH, solids and ash content, and Total N and NH_3-N concentrations of the manure, and the solids, ash and total N contents of the feed and incoming bedding are presented in Appendix F. The manure data, averaged across four pens and N, NH_3 and ash contents converted to dry-weight basis, are also presented in Appendix F. The nitrogen content of the bedding ranged from 0.44 to 0.60% nitrogen (wet-basis). The nitrogen content of the manure ranged from 0.65 to 1.17% nitrogen (wet-basis).

4.3. Environmental Conditions

4.3.1. Ambient Conditions

Average monthly climatic data for the weather station nearest the site (Syracuse) is presented in Table 16. Historical average high temperatures ranged from 0°C in the winter to 27°C in the

Table 16. Monthly climate description (Syracuse, NY).

Month	Temperature*, °C			Wind speed**, km h^{-1}	Wind direction**
	High	Low	Mean		
January	-1	-11	-5	18	WSW
February	0	-11	-4	18	WSW
March	6	-6	1	18	WSW
April	12	1	7	18	WSW
May	19	7	14	14	W
June	24	13	19	13	W
July	27	16	22	13	WNW
August	26	15	21	13	WNW
September	22	10	16	13	WNW
October	15	4	10	14	WNW
November	8	-1	4	16	WNW
December	2	-7	-2	16	WNW
Annual Average	13	3	9		

* http://www.weather.com/weather/wxclimatology/monthly/USNY1434
** Data collected at Syracuse, NY, taken from NOAA National Climate Data Center.

summer. Average overnight lows ranged from -11°C in winter to 16°C in summer. Prevailing winds were from the west-southwest from January through April, and from west to west-northwest during the rest of the year.

Figure 4 shows the daily average outdoor temperature, relative humidity, wind speed, wind direction, solar radiation, and barometric pressure. Site temperature data agreed reasonably well with the historical data. The main exception was that monthly highs were often 2 to 10ºC higher than historical averages. This was particularly true during winter and spring. Measured monthly lows generally agreed with historical averages.

4.3.2. Barn Conditions

The daily average B1 and MC inside temperatures and RH are presented in Table E3, and the temperature and barn airflow rate data are plotted in Figure 4.

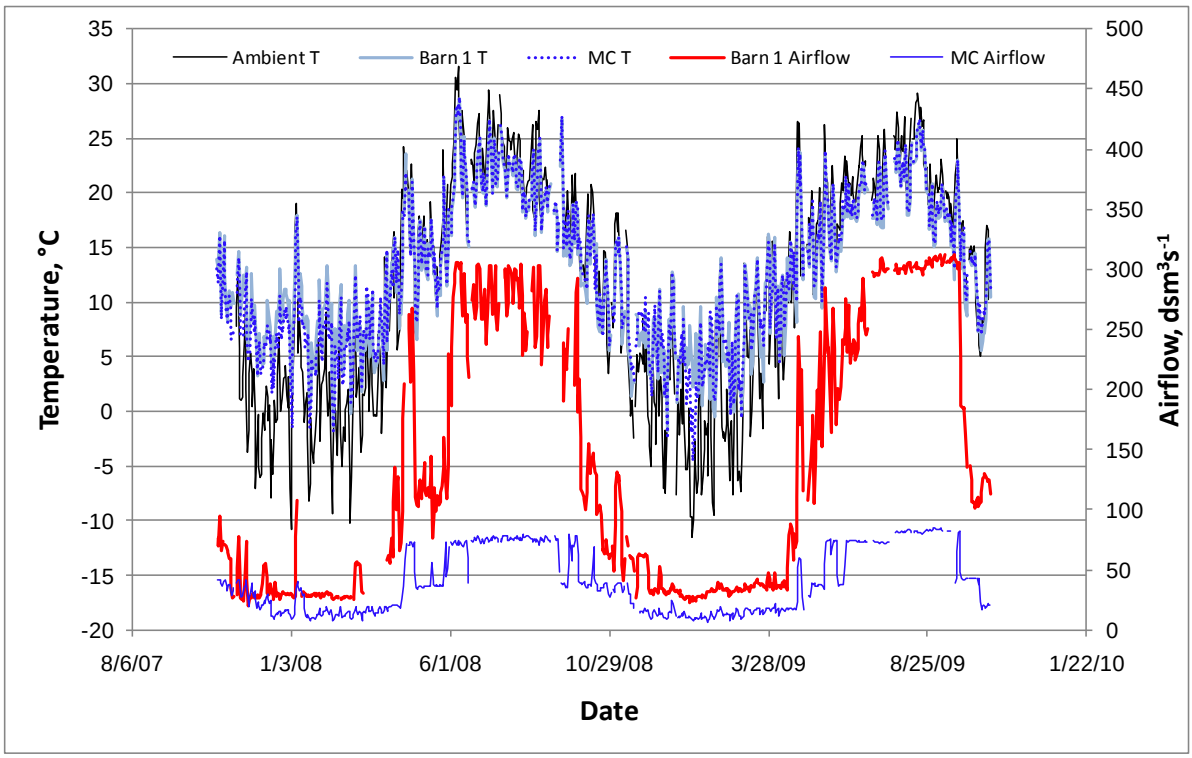

Figure 4. Ambient and inside temperatures (T) and dry standard airflow rates of B1 and the MC.

4.3.3. Ventilation Rates

The median static pressure differential was -5±5 Pa for B1 and -10±5 Pa for the MC (Table E3). The fraction of time that the static pressure was positive was 2.5% in B1 and 3.2% in the MC. Static pressure was greater than -30 Pa over 99% of the time for B1 and greater than -25 Pa over 99% of the time for the MC.

The ventilation rate of B1 ranged from approximately 20 m^3s^{-1} in winter to 310 $m^3 s^{-1}$ during the summer. The ventilation rate of the MC ranged from approximately 7 $m^3 s^{-1}$ in winter to 80 m^3s^{-1} during the summer.

4.4. Particulate Matter Concentration and Emission

4.4.1. PM_{10}

The DM inlet PM_{10} concentration ranged from 1.5 to 93 µg dsm^{-3}, whereas the DM B1 and MC PM_{10} exhaust concentrations ranged from 8 to 203 and 8 to 160 µg dsm^{-3}, respectively (Table E4).

The ADM (±SD) inlet, B1, and MC PM_{10} concentrations were 13±12 µg dsm^{-3}, 33±26 µg dsm^{-3} and 44±25 µg dsm^{-3}, respectively (Table E4), based on 519, 452 and 467 valid days of data, respectively.

The overall mean PM_{10} emission rates were 218±322 g d^{-1} (473±726 mg $d^{-1}cow^{-1}$) from B1 (N=320), and 91±74 g d^{-1} from the MC (n=405) (Figure 5).

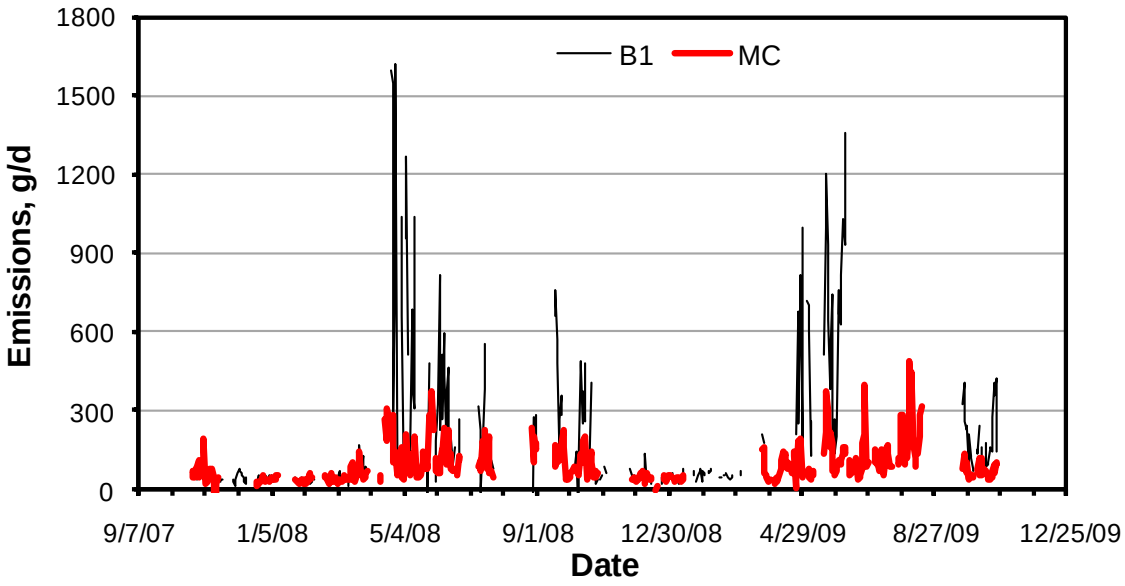

Figure 5. PM_{10} emissions.

4.4.2. $PM_{2.5}$

Daily mean concentrations of $PM_{2.5}$ ranged from 1.0 to 27.8 µg dsm^{-3} in the inlet air (n=63 d), 5 to 32 µ2 dsm^{-3} in B1 exhaust air (n=53 d) and from 6 to 36 µg dsm^{-3} in the MC exhaust air (n=41 d) (Table E5).

The ADM inlet, and B1 and MC $PM_{2.5}$ exhaust concentrations were 9.3±5.9, 12.8±6.2 and 16.7±7.5 µg dsm^{-3}, respectively (Table E5).

The mean $PM_{2.5}$ emission rates during cold weather sampling (November and January) was 19 and 11 g d^{-1} from B1 (n=24 d) and the MC (n=9 d), respectively (Table E5 and Figure 6). The mean $PM_{2.5}$ emission rates from B1 and the MC between 7/25/08 and 8/26/08 were 54 and 32 g d^{-1}, respectively.

The overall mean $PM_{2.5}$ emission rates were 35±29 g d^{-1} (23±19 mg $d^{-1}cow^{-1}$) for B1 (n=53 d), and 25±28 g d^{-1} for the MC (n=41 d) (Figure 6).

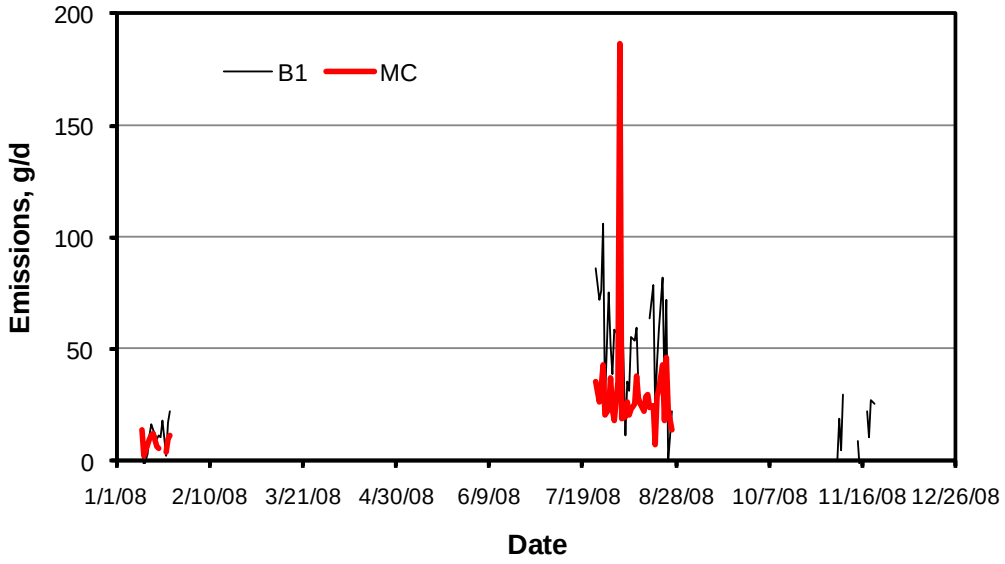

Figure 6. $PM_{2.5}$ emissions.

4.4.3. TSP

Data from the seven TSP measurement periods are shown in Table E6. Daily mean TSP concentrations ranged from 3 to 72 µg dsm^{-3} in the inlet air (n=62 d), 6 to 231 µg dsm^{-3} in B1 exhaust air (n=42 d) and from 7 to 280 µg dsm^{-3} in the MC exhaust air (n=43 d) (Table E6).

The ADM inlet, and B1 and MC TSP exhaust concentrations were 19±14, 65±46 and 65±50 µg dsm^{-3}, respectively (Table E6).

TSP emission rates are shown in Figure 7. The overall mean TSP emission rates were 194±304 g d^{-1} (412±646 mg $d^{-1}cow^{-1}$) for B1 (n=41 d), and 125±101 g d^{-1} for the MC (n=39 d).

4.5. VOC Concentration and Emission

The 20 most prevalent VOCs detected in the canister samples accounted for 96.4% of the total quantified mass. The most prevalent compound was n-propanol, which was 52.6% of the total mass of measured VOC (Table 17).

Concentrations of total VOC in exhaust air ranged from 1.87 to 16.8 mg m^{-3} in B1, and from 0.13 to 5.89 mg m^{-3} in the MC (Table 18). The mean total VOC concentrations were 6.60±4.51 and 2.03±1.76 mg m^{-3} in B1 and the MC, respectively. The highest concentrations were observed in early December during cold weather and low ventilation rates.

Total VOC emissions (ng s^{-1}) during each sampling period were determined by multiplying the mean building airflow rate (m^3 s^{-1}) by the total mass (ng m^{-3}) and converting to kg d^{-1}. The VOC emission rate from B1 and the MC ranged from 35.5 to 203 kg d^{-1}, and from 0.81 to 18.5 kg d^{-1},

respectively. The overall mean VOC emission rate from B1 was 92.4±58.7 kg d^{-1}, or 197±125 g cow^{-1} d^{-1}. The overall mean VOC emission rate from the MC was 8.79±5.67 kg d^{-1} (Table 18).

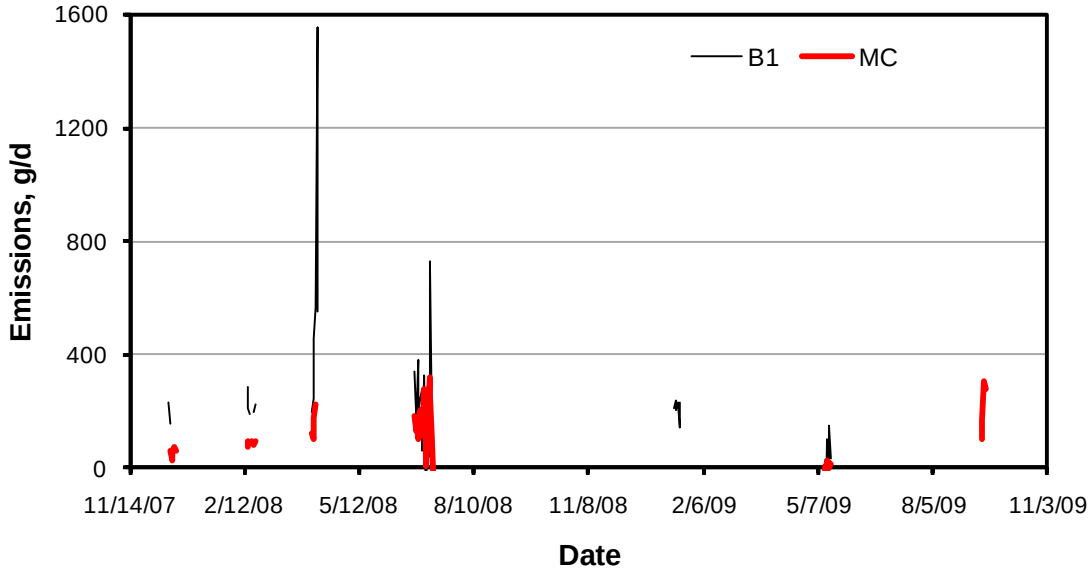

Figure 7. TSP Emissions.

Table 17. Average concentration of 20 most prevalent VOCs.

Compound	Concentration, ng·m^{-3}	% of total	Cumulative %
n-Propanol	2.27E+06	52.59%	52.6
Ethyl acetate	6.51E+05	15.08%	67.7
n-Propyl acetate	3.20E+05	7.43%	75.1
iso-Propanol	3.20E+05	7.42%	82.5
Acetaldehyde	9.62E+04	2.23%	84.7
Toluene	9.48E+04	2.20%	86.9
2-Butanol	8.66E+04	2.01%	88.9
2-Butanone	7.47E+04	1.73%	90.7
Dimethyl sulfide	5.20E+04	1.20%	91.9
2-Methyl-propanoic acid	4.44E+04	1.03%	92.9
1-Butanol	2.57E+04	0.60%	93.5
Propyl propanoic ester	2.24E+04	0.52%	94.0
Acetic acid	1.74E+04	0.40%	94.4
Pentane	1.50E+04	0.35%	94.8
4-Methyl-phenol	1.38E+04	0.32%	95.1
2,3-Butanedione	1.31E+04	0.30%	95.4
Phenol	1.26E+04	0.29%	95.7
D-limonene	1.17E+04	0.27%	96.0
2-Methyl-hexanoic acid	1.02E+04	0.24%	96.2
Pentanal	9.89E+03	0.23%	96.4

Table 18. Emission of total VOC.

Day	# canisters		Concentration, $mg \cdot m^{-3}$		Airflow, $m^3 s^{-1}$		Emission, $kg \cdot d^{-1}$	
	B1	MC	B1	MC	B1	MC	B1	MC
04/24/09	1	1	1.87	1.69	240	43.5	38.7	6.37
04/27/09	1	1	4.44	0.13	207	63.2	79.5	0.74
05/27/09	1	2	6.24	2.70	288	72.2	155	16.8
07/15/09	2	2	6.99	2.43	305	75.1	184	15.8
09/14/09	2	2	5.07	1.30	307	82.7	134	9.26
10/26/09	2	2	7.68	1.19	118	68.3	78.0	7.04
11/10/09	2	1	3.77	0.90	113	40.8	36.7	3.17
12/02/09	1	2	16.8	5.89	22.3	21.8	32.2	11.1
Mean	1.50	1.63	6.60	2.03	200	58.5	92.4	8.79

4.6. Hydrogen Sulfide Concentrations and Emissions

Daily mean inlet and exhaust H_2S concentrations for the entire test are provided inTable E9.

The average daily mean H_2S concentrations were approximately 3±4 (n=628) ppb in the inlet air, and 29±16 (n=599) and 28±21 ppb (n=594) in the exhaust air from B1 and the MC, respectively.

Daily mean H_2S emissions from B1 and the MC are tabulated in Table E10 and plotted in Figure 8.

The ADM H_2S emission rates from B1 and the MC were 454±415 g d^{-1} (n=552) and 128±110 g d^{-1} (n=594), respectively.

The ADM cow-specific H_2S emission rates from B1 and the MC were 969±885 (n=550) mg d^{-1} cow^{-1}, and 671±579 mg d^{-1}cow-$place^{-1}$ (n=594), respectively.

4.7. Ammonia Concentration and Emission

Daily mean inlet and exhaust NH_3 concentrations for the entire test are provided in Table E7.

The average daily mean NH_3 concentrations were approximately 0.4 ±0.3 (n=393) ppm in the inlet air, and 4.6±3.0 (n=407) and 3.9±2.3 (n=414) ppm in the exhaust air from B1 and the MC, respectively.

Daily mean NH_3 emissions from B1 and the MC are tabulated in Table E8 and plotted in Figure 9 for the entire test period. Daily mean emissions from B1 ranged from approximately 7-9 kg d^{-1} in the winter to 40-43 kg d^{-1} in the summer.

The ADM NH_3 emission rates from B1 and the MC were 20.3±7.7 kg d^{-1} (n=393) (43.2±16.5 g $d^{-1}cow^{-1}$) and 5.7±2.1 kg d^{-1} (n=413), respectively.

The ADM cow-specific NH_3 emission rates from B1 and the MC were 43.2 ±16.5 (n=391) g d^{-1} cow^{-1}, and 30.3±10.9 g d^{-1}cow-$place^{-1}$ (n=413).

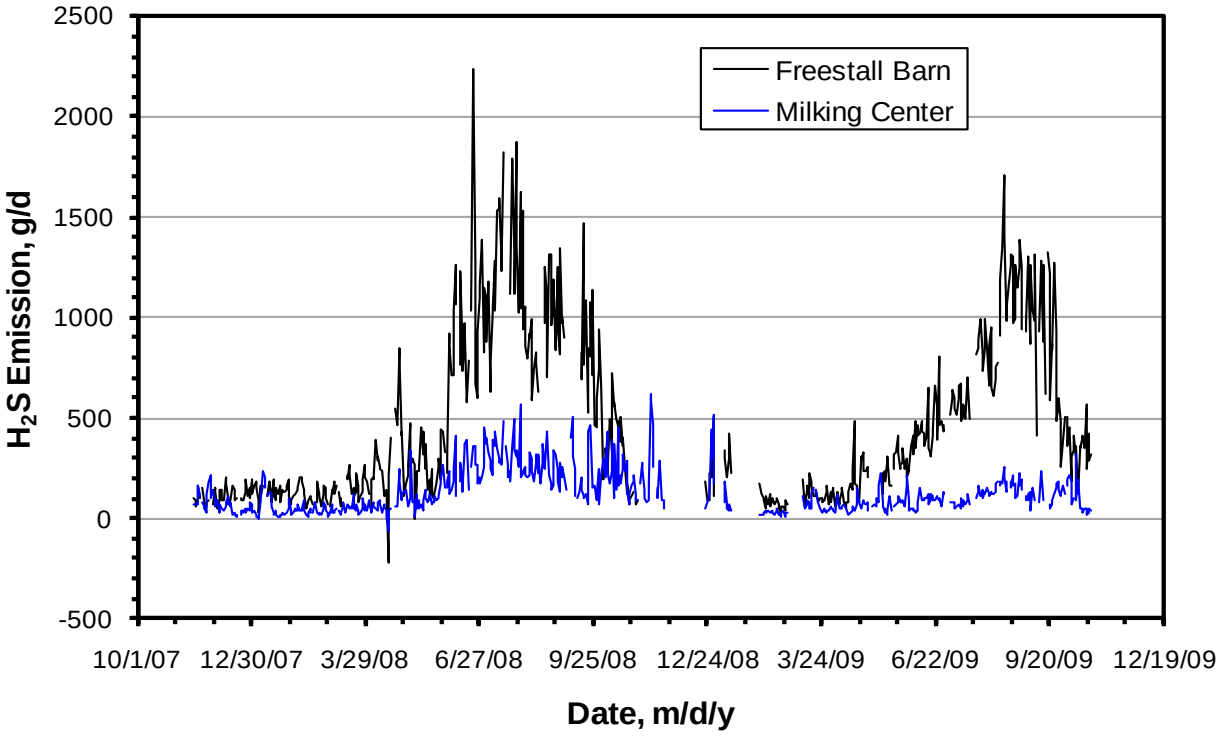

Figure 8. Daily mean H_2S emissions from the freestall barn and milking center.

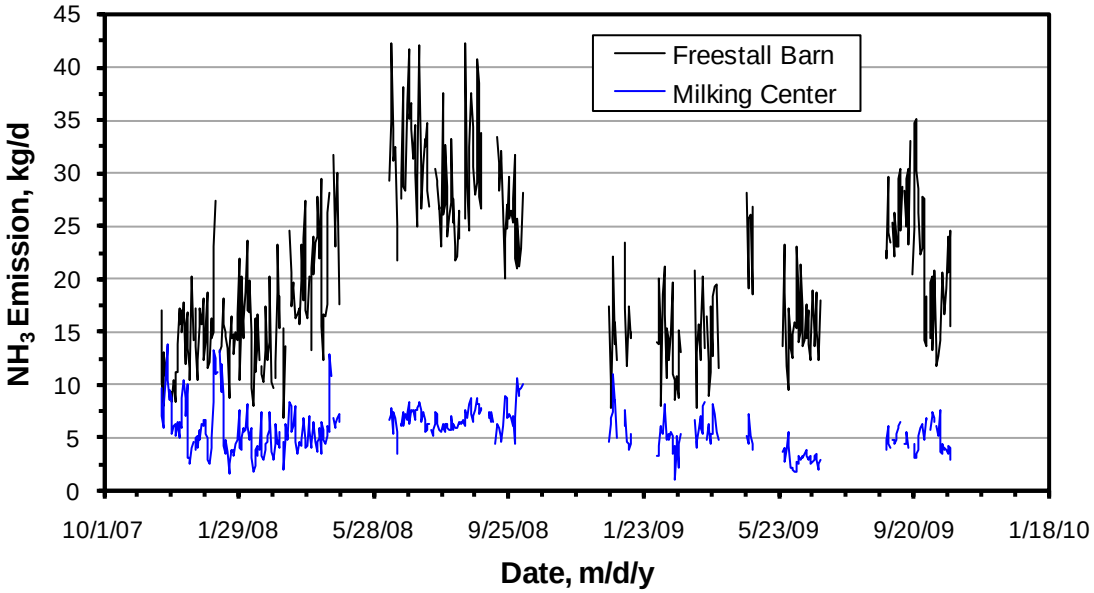

Figure 9. Average daily NH_3 emissions from the freestall barn and the milking center.

4.8. Emission Data Completeness

Daily completeness data is given in Table E11. The number of complete data (>75% valid required for reporting a daily mean) were calculated for emission measurements conducted from 10/24/2007 through 10/23/2009 (Table 19). The number of daily means of NH_3 emissions was reduced by calibration and maintenance issues with the INNOVA 1412.

Table 19. Emissions data completeness (days with >75% valid emission data collection).

Location	NH_3	H_2S	PM_{10}	$PM_{2.5}$	TSP
B1	393	552	443	63	59
MC	413	594	457	47	56

4.9. Reconciliation with Data Quality Objectives

The data quality objectives prior to executing 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

An average of 16.8 and 4.4 fans operated in B1 and the MC with average speeds of 253 and 299 rpm, respectively. The airflow uncertainties in B1 and the MC at these conditions were 6.4% and 12.6%, respectively, based on the fan models.

4.9.2. Gas Emissions

The bias and precision of NH_3 concentration measurements were derived from the NH_3 zero/span checks as compared with the NH_3 correction models (Table 9). The time weighted average bias and precision of NH_3 measurements were, respectively, 0.25% and 1.4% (zero) and -1.0% and 3.2% (span).

The bias and precision of H_2S concentration measurements were derived from the H_2S zero and span checks as compared with the H_2S correction models (Table 11). The bias and precision of H_2S measurements were, respectively, 0.0% and 0.1% (zero) and 1.0% and 1.6% (span).

Based on these measurement errors calculated for concentrations and airflows, the uncertainties of NH_3 and H_2S emissions from B1 were 11.6 and 7.9%, respectively. The uncertainties of NH_3 and H_2S emissions from the MC were 15.9% and 13.4%, respectively.

4.9.3. PM Emissions

The precision in PM_{10}, TSP and $PM_{2.5}$ exhaust concentrations were 3.0, 5.3 and 9.4%, respectively, based on collocation tests of identical TEOMs at Site CA1B. The time-weighted relative biases of the TEOMs were 3.1 and 4.3% for B1 and the MC based on the main flow checks (Table 12 and Table 13). The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from B1 were 9.8%, 13.1 and 20.4%, respectively. The uncertainties of PM_{10}, TSP and $PM_{2.5}$ emissions from the MC were 14.9, 17.3 and 23.3%, respectively.

5. SUMMARY

The emissions of NH_3, H_2S, PM_{10}, TSP, $PM_{2.5}$ and VOCs from a 493-stall freestall barn and a milking center at a 1,000-cow dairy farm in New York were measured during a two-year monitoring study. Manure was gathered (mechanically) and conveyed (by gravity) to a to a central pit in the barn and pumped to an anaerobic digester. The buildings were mechanically-ventilated with variable-speed fans.

The overall average emission rates from the freestall barn were 20.3±7.7 kg d^{-1} (n=393 d) of NH_3, 454±415 g d^{-1} of H_2S (n=552), 225±440 g d^{-1} of PM_{10} (n=310), 35±29 g d^{-1} of $PM_{2.5}$ (n=53), 194±304 g d^{-1} of TSP (n=41), and 92.4 kg d^{-1} of total VOC (n=8). The overall average emission rates from the milking center were 5.7±2.1 kg d^{-1} of NH_3 (n=413), 128±110 g d^{-1} of H_2S (n=594), 92±75 g d^{-1} of PM_{10} (n=387), 25±28 g d^{-1} of $PM_{2.5}$ (n=41), 125±101 g d^{-1} of TSP (n=39), and 8.79 kg d^{-1} of total VOC (n=8).

6. REFERENCES

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7. DEFINITIONS AND ACRONYMS

AirDAC	Air Data Acquisition and Control – computer program
ADM	Average daily mean
B1	Barn 1 (Freestall barn)
MC	Milking center
BESS	Bioenvironmental and Structural Systems lab at University of Illinois
CAPECAB	Calculations of Air Pollutant Emissions from Confined Animal Buildings
CO_2	Carbon dioxide
CH_4	Methane
DM	Daily mean
ΔP	Differential pressure
FANS	Fan Airflow Numeration System
GC-MS	Gas chromatograph mass spectrometer

GSL	Gas sampling location(s)
GSS	Gas sampling system
H_2S	Hydrogen sulfide
MC	Milking center
MDL	Minimum detection limit
MPC	Multipoint calibration
MS	Mass spectrometer
MUN	Milk urea nitrogen
n	Number or count
NAEMS	National Air Emissions Monitoring Study
NCDC	National Climatic Data Center
NH_3	Ammonia
Q	Airflow
QA	Quality assurance
QC	Quality control
OFIS	On farm instrument shelter
PM	Particulate matter
PREF	Primary representative exhaust fan
RH/T	Relative humidity/temperature
RH	Relative humidity
SD	Standard deviation
TC	Thermocouple
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
VFD	Variable frequency drive
VOC	Volatile organic compounds
Z/S	Zero/span

8. APPENDIX A. MEASUREMENT VARIABLES.

Table A1. Site measurement variables, instruments and sensors and digital controls.

Data Col#	Data file heading	Instrument, sensor, controller	Sensor location	Monitoring/control location	Range / target	DAC hardware
1	Date and time	---				---
2	Smpl loc#	---				---
3	Cal gas #	Environics	Rack			---
4	Cal gas, ppm	Environics	Rack			---
5	NH3, ppm	INNOVA 1412	Rack	7 GSLs		---
6	CO2, ppm	INNOVA 1412	Rack	7 GSLs		---
10	WV, Tdew	INNOVA 1412	Rack	7 GSLs		---
11	H2S, ppb	H_2S analyzer	Rack	7 GSLs	1-800 ppb	FP-AI-112-1
12	SO2, ppb	H_2S analyzer	Rack	7 GSLs	1-800 ppb	FP-AI-112-1
13	Smpl P, Pa	Setra 209 P sensor	GSS	7 GSLs	0-14.7 psiv	FP-AI-112-1
14	Smpl Q, L/m	Mass flow	GSS	7 GSLs	0-10 L min^{-1}	FP-AI-112-1
15	Smpl RH, %	Humitter 50Y	GSS	7 GSLs	0-100 %	FP-AI-112-1
16	Smpl T, C	Humitter 50Y	GSS	7 GSLs	-40 to 60ºC	FP-AI-112-1
17	Flow dir, uV	Flow direction sensor	GSS	7 GSLs		FP-AI-112-1
18	GSS T, C	AD 592D T sensor	GSS	GSS	0-70ºC	FP-AI-112-1
19	B1F4 PM, ug/m^3	TEOM #1	B1F4	B1 fan 4	-100 to 2500 ug m^{-3}	FP-AI-112-1
20	B1F4 Filter, %	TEOM #1	B1F4	B1 fan 4	0-140%	FP-AI-112-1
21	B1F4 Atm P, Pa	TEOM #1	B1F4	B1 fan 4	0.8-1.3 atm	FP-AI-112-1
22	MCF5 PM, ug/m^3	TEOM #2	MCF5	MC fan 5	-100 to 2500 ug m^{-3}	FP-AI-112-1
23	MCF5 Filter, %	TEOM #2	MCF5	MC fan 5	0-140%	FP-AI-112-1
24	Amb PM, ug/m^3	Beta Gauge	Amb	1.8 m above the OFIS	0-5000 ug m^{-3}	FP-AI-112-1
26	B1N dP, Pa	Setra 260 P sensor #1	OFIS	B1 N side	-100 to 100 Pa	FP-AI-112-1
27	B1E ΔP, Pa	Setra 260 P sensor #2	OFIS	B1 E side	-100 to 100 Pa	FP-AI-112-2
28	B1S ΔP, Pa	Setra 260 P sensor #3	OFIS	B1 S side	-100 to 100 Pa	FP-AI-112-2
29	CBwy ΔP, Pa	Setra 260 P sensor #4	OFIS	Center breezeway (B1-MC)	-100 to 100 Pa	FP-AI-112-2
30	MCN ΔP, Pa	Setra 260 P sensor #5	OFIS	MC N side	-100 to 100 Pa	FP-AI-112-2
31	MCS ΔP, Pa	Setra 260 P sensor #6	OFIS	MC S side	-100 to 100 Pa	FP-AI-112-2
32	OFIS ΔP, Pa	Setra 260 P sensor #7	OFIS	Inside and outside of OFIS	-100 to 100 Pa	FP-AI-112-2
33	Bwy ΔP, Pa	Setra 260 P sensor #8	MC	MC/B2 breezeway entrance	-100 to 100 Pa	FP-AI-112-2

Data Col#	Data file heading	Instrument, sensor, controller	Sensor location	Monitoring/control location	Range / target	DAC hardware
34	Wind D, deg	03002-VM Wind Sentry	Roof	Roof top tower	0-360 degree	FP-AI-112-2
35	Wind V, m/s	03002-VM Wind Sentry	Roof	Roof top tower	0-50 m s^{-1}	FP-AI-112-2
36	Solar, W/m^2	Solar sensor	Roof	Roof top tower	0-1000 W m^{-2}	FP-AI-112-2
37	Amb RH, %	NOVUS RHT-WM #1	Roof	Roof top tower	0-100 %	FP-AI-112-2
38	Amb T, C	NOVUS RHT-WM #1	Roof	Roof top tower	-40 to 120ºC	FP-AI-112-2
39	B1F7 RH, %	NOVUS RHT-WM #2	B1F7	B1 fan 7	0-100 %	FP-AI-112-2
40	B1F7 T, C	NOVUS RHT-WM #2	B1F7	B1 fan 7	-40 to 120ºC	FP-AI-112-2
41	B1F4 RH, %	NOVUS RHT-WM #3	B1F4	B1 fan 4	0-100 %	FP-AI-112-2
42	B1F4 T, C	NOVUS RHT-WM #3	B1F4	B1 fan 4	-40 to 120ºC	FP-AI-112-2
43	MCF5 RH, %	NOVUS RHT-WM #4	MCF5	MC fan 5	0-100 %	FP-AI-112-3
44	MCF5 T, C	NOVUS RHT-WM #4	MCF5	MC fan 5	-40 to 120ºC	FP-AI-112-3
45	B1NE Act , V	Activity sensor #1	B1NE	B1 NE center of barn		FP-AI-112-3
46	B1NW Act , V	Activity sensor #2	B1NW	B1 NW center of barn		FP-AI-112-3
47	B1SE Act , V	Activity sensor #3	B1SE	B1 SE center of barn		FP-AI-112-3
48	B1SW Act , V	Activity sensor #4	B1SW	B1 SW center of barn		FP-AI-112-3
49	MC Act , V	Activity sensor #5	MC	MC center of barn		FP-AI-112-3
50	MCNE Act , V	Activity sensor #6	MCNE	MC near NE corner		FP-AI-112-3
51	OFIS Act , V	Activity sensor #7	OFIS	OFIS		FP-AI-112-3
52	B1S WV, m/s	81000 Ultra. Sonic	B1S	S entrance to B1-MC alley	0-50 m s^{-1}	FP-AI-112-3
53	B1S WD, d	81000 Ultra. Sonic	B1S	S entrance to B1-MC alley	0-540 degree	FP-AI-112-3
54	B1S Elv, d	81000 Ultra. Sonic	B1S	S entrance to B1-MC alley	-60 - 60 degree	FP-AI-112-3
55	B1S T, K	81000 Ultra. Sonic	B1S	S entrance to B1-MC alley	220 to 320ºK	FP-AI-112-3
56	Ane B1, V	Anemometer 1	B1	B1 fan 4		FP-AI-112-3
57	Ane MC, V	Anemometer 2	MC	MC fan 4		FP-AI-112-3
59	B1N In T, C	TC T type	B1NInlet	B1 N air inlet		FP-TC-120-1
60	B1S In T, C	TC T type	B1SInlet	B1 S air inlet		FP-TC-120-1
61	B1NE T, C	TC T type	B1NE	B1 NE center of barn		FP-TC-120-1
62	B1NW T, C	TC T type	B1NW	B1 NW center of barn		FP-TC-120-1
63	B1SE T, C	TC T type	B1SE	B1 SE center of barn		FP-TC-120-1
64	B1SW T, C	TC T type	B1SW	B1 SW center of barn		FP-TC-120-1
65	MC hwy T, C	TC T type	MCHallway	Hallway entrance to MC		FP-TC-120-1
66	MCN In T, C	TC T type	MCNInlet	MC N air inlet		FP-TC-120-1
67	MCS In T, C	TC T type	MCSInlet	MC S air inlet		FP-TC-120-2

Data Col#	Data file heading	Instrument, sensor, controller	Sensor location	Monitoring/control location	Range / target	DAC hardware
68	MCF5 T, C	TC T type	MCF5	MC fan 5		FP-TC-120-2
69	RwyB1 T, C	TC T type	RwyB1	OFIS-B1 Raceway		FP-TC-120-2
70	RwyB1 HT, C	TC T type	RwyB1 HT	OFIS-B1 Raceway		FP-TC-120-2
71	RwyMC T, C	TC T type	RwyMC	OFIS-MC Raceway		FP-TC-120-2
72	RwyMC HT, C	TC T type	RwyMC HT	OFIS-MC Raceway		FP-TC-120-2
73	OFIS T, C	TC T type	OFIS	DAC Panel		FP-TC-120-2
74	OFIS AC T, C	TC T type	OFIS AC	Wall A/C Exhaust		FP-TC-120-2
75	Bwy T, C	TC T type	MC	MC Breezeway S entrance		FP-TC-120-3
76	RwyMC2 T, C	TC T type	RwyMC2	Raceway inside the MC		FP-TC-120-3
77	RwyMC2 HT, C	TC T type	RwyMC2	Center of MC Raceway		FP-TC-120-3
83	B1F1, rpm	Fan speed sensor	B1F1	On fan shaft or fan support	0-10kHz	USB-4303-1
84	B1F2, rpm	Fan speed sensor	B1F2	On fan shaft or fan support	0-10kHz	USB-4303-1
85	B1F3, rpm	Fan speed sensor	B1F3	On fan shaft or fan support	0-10kHz	USB-4303-1
86	B1F4, rpm	Fan speed sensor	B1F4	On fan shaft or fan support	0-10kHz	USB-4303-1
87	B1F5, rpm	Fan speed sensor	B1F5	On fan shaft or fan support	0-10kHz	USB-4303-1
88	B1F6, rpm	Fan speed sensor	B1F6	On fan shaft or fan support	0-10kHz	USB-4303-1
89	B1F7, rpm	Fan speed sensor	B1F7	On fan shaft or fan support	0-10kHz	USB-4303-1
90	B1F8, rpm	Fan speed sensor	B1F8	On fan shaft or fan support	0-10kHz	USB-4303-1
91	B1F9, rpm	Fan speed sensor	B1F9	On fan shaft or fan support	0-10kHz	USB-4303-1
92	B1F10, rpm	Fan speed sensor	B1F10	On fan shaft or fan support	0-10kHz	USB-4303-1
93	B1F11, rpm	Fan speed sensor	B1F11	On fan shaft or fan support	0-10kHz	USB-4303-2
94	B1F12, rpm	Fan speed sensor	B1F12	On fan shaft or fan support	0-10kHz	USB-4303-2
95	B1F13, rpm	Fan speed sensor	B1F13	On fan shaft or fan support	0-10kHz	USB-4303-2
96	B1F14, rpm	Fan speed sensor	B1F14	On fan shaft or fan support	0-10kHz	USB-4303-2
97	B1F15, rpm	Fan speed sensor	B1F15	On fan shaft or fan support	0-10kHz	USB-4303-2
98	B1F16, rpm	Fan speed sensor	B1F16	On fan shaft or fan support	0-10kHz	USB-4303-2
99	B1F17, rpm	Fan speed sensor	B1F17	On fan shaft or fan support	0-10kHz	USB-4303-2
100	B1F18, rpm	Fan speed sensor	B1F18	On fan shaft or fan support	0-10kHz	USB-4303-2
101	B1F19, rpm	Fan speed sensor	B1F19	On fan shaft or fan support	0-10kHz	USB-4303-2
102	B1F20, rpm	Fan speed sensor	B1F20	On fan shaft or fan support	0-10kHz	USB-4303-2
103	B1F21, rpm	Fan speed sensor	B1F21	On fan shaft or fan support	0-10kHz	USB-4303-3
104	B1F22, rpm	Fan speed sensor	B1F22	On fan shaft or fan support	0-10kHz	USB-4303-3
105	B1F23, rpm	Fan speed sensor	B1F23	On fan shaft or fan support	0-10kHz	USB-4303-3

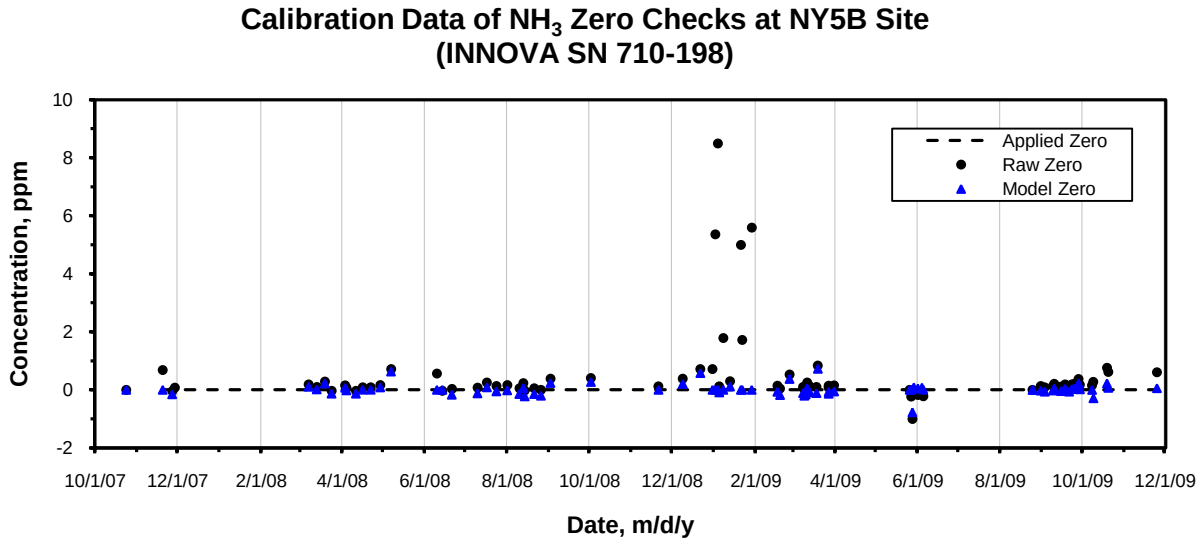
Data Col#	Data file heading	Instrument, sensor, controller	Sensor location	Monitoring/control location	Range / target	DAC hardware
106	B1F24, rpm	Fan speed sensor	B1F24	On fan shaft or fan support	0-10kHz	USB-4303-3
107	B1F25, rpm	Fan speed sensor	B1F25	On fan shaft or fan support	0-10kHz	USB-4303-3
108	B1F26, rpm	Fan speed sensor	B1F26	On fan shaft or fan support	0-10kHz	USB-4303-3
109	B1F27, rpm	Fan speed sensor	B1F27	On fan shaft or fan support	0-10kHz	USB-4303-3
110	B1F28, rpm	Fan speed sensor	B1F28	On fan shaft or fan support	0-10kHz	USB-4303-3
111	B1F29, rpm	Fan speed sensor	B1F29	On fan shaft or fan support	0-10kHz	USB-4303-3
112	B1F30, rpm	Fan speed sensor	B1F30	On fan shaft or fan support	0-10kHz	USB-4303-3
113	MCF1, rpm	Fan speed sensor	MCF1	On fan shaft or fan support	0-10kHz	USB-4303-4
114	MCF2, rpm	Fan speed sensor	MCF2	On fan shaft or fan support	0-10kHz	USB-4303-4
115	MCF3, rpm	Fan speed sensor	MCF3	On fan shaft or fan support	0-10kHz	USB-4303-4
116	MCF4, rpm	Fan speed sensor	MCF4	On fan shaft or fan support	0-10kHz	USB-4303-4
117	MCF5, rpm	Fan speed sensor	MCF5	On fan shaft or fan support	0-10kHz	USB-4303-4
118	MCF6, rpm	Fan speed sensor	MCF6	On fan shaft or fan support	0-10kHz	USB-4303-4
119	MCF7, rpm	Fan speed sensor	MCF7	On fan shaft or fan support	0-10kHz	USB-4303-4
120	MCF8, rpm	Fan speed sensor	MCF8	On fan shaft or fan support	0-10kHz	USB-4303-4
		Solenoid #1	B1S	S entrance to B1-MC alley		FP-DO-401-1
		Solenoid #2	B1F4	B1 fan 4		FP-DO-401-1
		Solenoid #3	B1F7	B1 fan 7		FP-DO-401-1
		Solenoid #4	MCS	MC S entrance to NV barn		FP-DO-401-1
		Solenoid #5	MCF4	MC fan 4		FP-DO-401-1
		Solenoid #6	MCF5	MC fan 5		FP-DO-401-1
		Solenoid #7	Amb	SW corner of B1, 2 m from W sidewall		FP-DO-401-1
			GSS fan	Cooling fan		FP-DO-401-1
			RwyB1	Raceway B1 heating		FP-DO-401-1
			RwyMC	Raceway MC heating		FP-DO-401-1
			RwyMC2	Raceway in MC heating		FP-DO-401-1

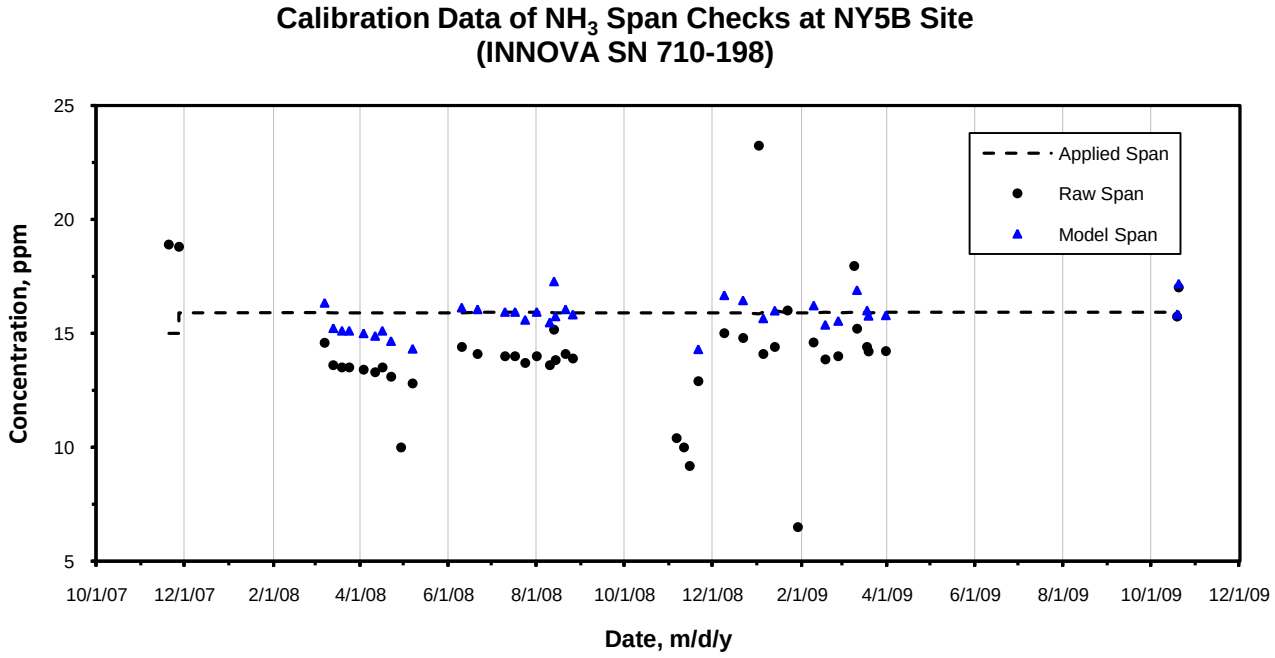
9. APPENDIX B. RECORD OF MAINTENANCE AND CALIBRATION .

Maintenance and Calibration Tasks	
Category	**Times Completed**
Environment Sensing and Other	
Clean RH/T probe	61
Calibration check of RH/T probe	15
Calibration check of thermocouples	7
Performance check of weather station	5
Direction verification of wind indicator	2
Clean solar sensor	10
Check solar sensor with collocated sensor	1
Clean motion sensors	12
Air Flow Measurement System	
Fan test events	3
Zero check of pressure sensors	7
Multipoint calibration of pressure sensors	1
Drift and accuracy check of anemometer(s)	3
Particulate Matter Measurement System	
Clean TOEM screens	86
Check/clean TEOM inlet head(s)	83
Replace TEOM filters	30
Verify TEOM mass transducer calibration	16
Leak test of TEOM	11
Verify TEOM flow rate and MFC accuracy	3
Change TEOM in-line filters	1
Check/clean Beta Gauge inlet head	38
Check Beta Gauge airflow	9
Validate Beta Gauge mass w/foil set	4
Calibrate Beta Gauge mass and airflow	3
Gas Measurement System	
Clean/replace GSS membrane filters	22
Leak check of GSS	8
Leak check (all lines)	5
Leak check (selected lines)	10
Replace GSS filters	1
Calibrate GSS pressure and flow sensors	0
Flow calibration/check MFC flow of Environics Dilutor	2
Precision check of Multigas Analyzer (NH_3)	34
Multipoint calibration of Multigas Analyzer (NH_3)	7
Precision check of Multigas Analyzer (CO_2)	30
Multipoint calibration of Multigas Analyzer (CO_2)	8
Precision check of TEC 450i	43
Multipoint calibration of TEC 450i	8

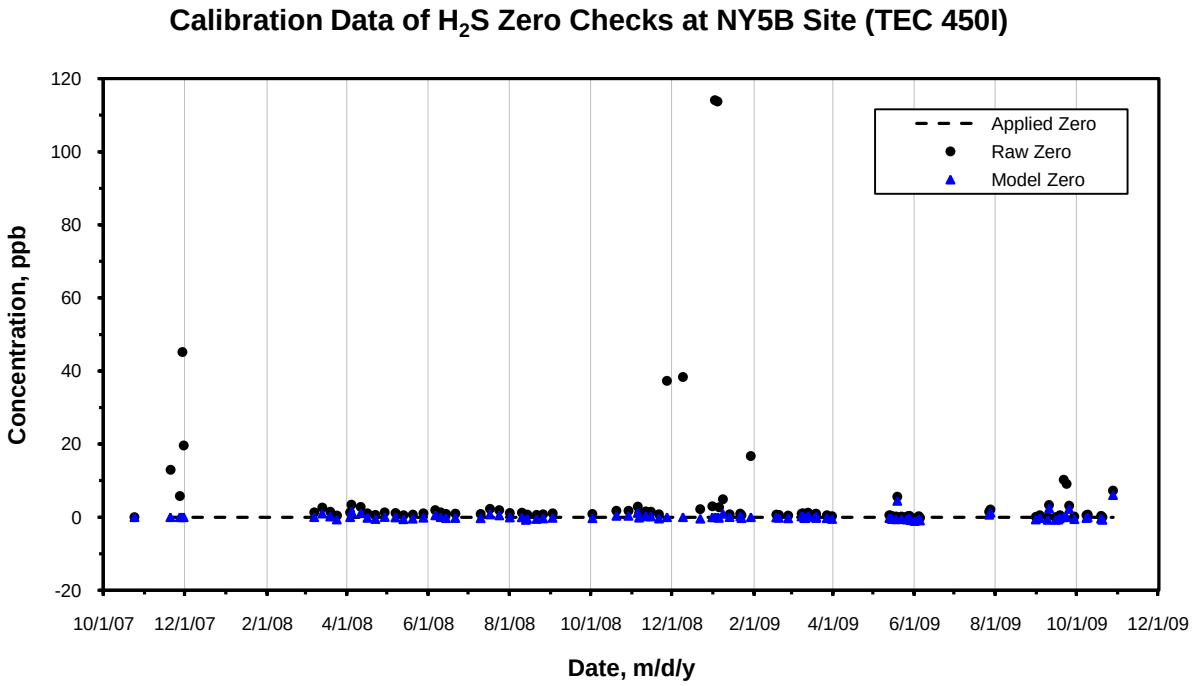
10. APPENDIX C. GAS ANALYZER CALIBRATIONS.

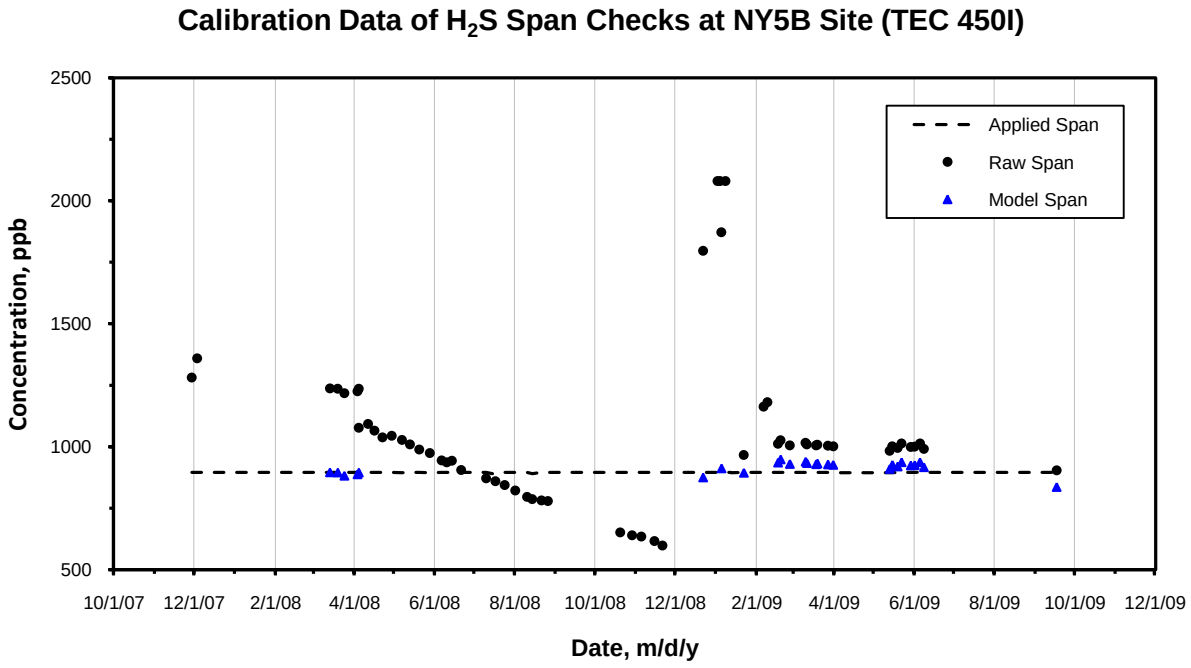
Ammonia





Hydrogen Sulfide





11. APPENDIX D. MAJOR DATA INVALIDATIONS

Variable(s)	Start date/time	End Date/Time	Minutes	Comment
Wind D and V, Solar	10/24/07 0:00	11/2/07 14:52	13,852	Wind and solar sensors not online yet
B1F11	10/24/07 0:00	11/7/07 11:45	20,865	Chronically malfunctioning/noisy sensor
Amb RH and T	10/24/07 0:00	11/9/07 17:07	24,067	Sensor not online yet
Raw H_2S, Raw SO_2, Smpl Q, Smpl RH, Smpl T, Smpl Dir	10/24/07 0:00	11/12/07 19:48	28,548	Low Flow (based on sample Q data)
MCS ΔP	10/24/07 0:00	11/13/07 9:59	29,399	Sensor pegged and/or out of calibration
Raw NH_3, Raw CO_2, WV	10/24/07 0:00	11/19/07 14:25	38,305	The INNOVA was not brought online until 11/19
B1F15 Atm P	10/24/07 0:00	1/16/08 11:44	121,664	
B1F23	10/24/07 0:00	10/23/09 23:59	1,052,639	Sensor failed/never worked properly
MCF1	10/24/07 0:00	10/23/09 23:59	1,052,639	Sensor failed/never worked properly
Solar	11/2/07 14:52	11/14/07 13:23	17,191	Fieldnotes indicate sensor settings were incorrect
Raw H_2S, Raw SO_2, Smpl Q, Smpl RH, Smpl T, Smpl Dir	11/12/07 19:48	11/13/07 13:01	1033	Fieldnotes indicate GSS Leak tests
B1F11	11/13/07 9:57	11/15/07 6:40	2683	Chronically malfunctioning/noisy sensor
MCS ΔP	11/19/07 14:54	12/12/07 16:47	33,233	Blockage in the ΔP tubing caused faulty readings; tubing disconnected for troubleshooting
B1F11	11/20/07 9:44	11/22/07 11:20	2976	Chronically malfunctioning/noisy sensor
B1F11	12/6/07 16:59	12/10/07 14:15	5596	Chronically malfunctioning/noisy sensor
B1E ΔP	12/16/07 20:03	12/20/07 5:49	4906	Sensor pegged and/or noisy. Exact cause unknown
B1F21	12/27/07 9:20	12/28/07 9:29	1449	Chronically malfunctioning/noisy sensor
B1F21	12/31/07 17:45	1/4/08 8:28	5203	Chronically malfunctioning/noisy sensor
MCF3 RH	1/19/08 4:18	3/12/08 17:50	77,132	Sensor failed numerous RH cal checks in this period
B1F21	1/5/08 20:53	1/10/08 8:49	6476	Chronically malfunctioning/noisy sensor
B1F11	1/7/08 6:27	1/10/08 8:04	4417	Chronically malfunctioning/noisy sensor
B1F21	1/13/08 23:12	10/23/09 23:59	934,607	Chronically malfunctioning/noisy sensor judged failed
B1F11	1/16/08 8:48	10/23/09 23:59	931,151	Chronically malfunctioning/noisy sensor judged failed
B1F22	1/16/08 14:09	10/23/09 23:59	930,830	Chronically malfunctioning/noisy sensor judged failed
B1N In T	1/17/08 12:59	1/18/08 15:58	1619	Sensor noise
Wind V	2/7/08 6:46	2/8/08 11:10	1704	Sensor was flat-lined, while online weather data indicates it should have been windy
MCN In T	2/10/08 15:38	2/12/08 8:25	2447	Sensor noise
MCN In T	2/20/08 3:37	2/21/08 13:08	2011	Sensor noise
Wind V	3/5/08 7:01	3/6/08 8:19	1518	Sensor was flat-lined, while online weather data indicates it should have been windy
B1F19 RH and T	3/12/08 12:38	9/16/08 15:51	270,913	Sensor failed, taken off-line; first replacement did not work properly either
MCN In T	3/16/08 15:30	5/29/08 17:56	106,706	Sensor noise

Variable(s)	Start date/time	End Date/Time	Minutes	Comment
B1F15 PM	3/17/08 6:12	3/19/08 15:09	3417	Construction and maintenance work in barn: Elevated readings
B1S In T	3/31/08 20:15	4/16/08 17:40	22,885	Sensor noise
MCF3 PM	4/14/08 5:51	4/16/08 12:34	3283	Output pegged/filters plugged due to construction and maintenance work in barn
B1N ΔP	4/17/08 15:08	6/24/08 14:30	97,882	Failure - tube/snubber bottle came loose and was pulled into the fan stream
MCF4	4/19/08 10:57	4/28/08 8:53	12,836	Sensor noise
B1F10	4/28/08 1:35	11/15/09 11:08	815,613	Chronically malfunctioning/noisy sensor
Raw NH_3, Raw CO_2	4/29/08 13:06	5/9/08 0:36	13,650	Failed zero checks indicate possible leak specific to INNOVA
Raw NH_3, Raw CO_2, WV	5/9/08 0:36	6/10/08 11:21	46,725	INNOVA sustained chopper error, sent in for repair
MCF4	6/8/08 13:33	9/25/09 6:59	682,166	Sensor noise
MCF2	6/11/08 10:55	6/17/08 14:08	8833	Sensor noise
MCF3	6/11/08 11:02	6/17/08 14:12	8830	Sensor noise
MCF2	6/20/08 13:33	6/23/08 18:16	4603	Sensor noise
MCF3	6/20/08 13:33	6/23/08 18:17	4604	Sensor noise
B1F13	7/10/08 15:19	10/23/09 23:59	677,320	Failed fan speed sensor
B1NW T	7/14/08 18:45	7/24/08 8:49	13,804	Sensor noise
MCF3	7/17/08 7:24	8/8/08 15:57	32,193	Sensor noise
MCF4	7/17/08 7:24	8/8/08 15:57	32,193	Sensor noise
MCF2	7/17/08 7:24	9/11/08 5:57	80,553	Sensor noise
B1F15 RH and T	7/19/08 13:52	7/21/08 22:37	3405	Sensor noise
MCF4	8/11/08 7:01	10/2/08 12:55	75,234	Sensor noise
MCF3	8/11/08 7:07	8/21/08 9:04	14,517	Sensor noise
MCF3	8/23/08 19:54	9/11/08 5:59	26,525	Sensor noise
Amb RH and T	9/2/08 20:46	9/4/08 15:56	2590	Replacement ambient sensor failed T cal check. Switching and troubleshooting of sensors
Amb RH and T	9/6/08 11:56	9/16/08 9:37	14,261	Sensor taken down for testing and repair
B1N ΔP	9/6/08 11:56	9/18/08 11:21	17,245	Loose connection caused loss of power to sensor
B1F15 RH and T	9/11/08 13:26	9/16/08 13:06	7180	Sensor noise
MCF2	9/20/08 8:59	9/29/08 13:48	13,249	Sensor noise
MCF3	9/20/08 15:13	9/29/08 13:48	12,875	Sensor noise
B1F15 RH and T	9/20/08 22:45	9/23/08 15:32	3887	Sensor noise
B1F15 PM	9/25/08 8:24	10/2/08 6:43	9979	Negative values: Appears to have been a leak (started right @ maintenance; solved by leak test)
B1F19 RH and T	10/1/08 15:18	1/8/09 14:05	142,487	Noisy sensor/failed calibration checks
Raw NH_3, Raw CO_2, WV	10/8/08 17:41	11/5/08 9:35	39,834	INNOVA sustained a chopper error, then was sent in for repair
B1SW T	10/17/08 9:01	11/7/08 9:42	30,281	Sensor noise
MCF3 RH and T	10/18/08 7:47	11/3/08 8:07	23,060	Sensor failed, was fixed by replacing tip
Solar	10/28/08 1:41	10/29/08 16:56	2355	Sensor noise, including odd baseline shifts
MCF3 PM	10/29/08 7:51	11/24/08 15:33	37,902	Fieldnotes indicate TEOM Failed leak test
B1F1	10/29/08 18:28	3/18/09 9:25	201,057	Malfunctioning fan speed sensor eventually began working again
Raw NH_3, Raw CO_2, WV	11/5/08 9:35	11/18/08 15:12	19,057	Incorrect WV units setting during factory re-calibration led to improper cross-

Variable(s)	Start date/time	End Date/Time	Minutes	Comment
				compensation calculations
B1F25	11/21/08 13:40	5/14/09 2:20	249,880	Malfunctioning fan speed sensor eventually began working again
Raw NH_3, Raw CO_2, WV, Raw H_2S, Raw SO_2, Smpl Q, Smpl RH, Smpl T, Smpl Dir	11/21/08 15:38	12/22/08 13:41	44,523	Zero air results (CO_2, H_2S) indicate significant leak in the system
MCF3 RH and T	11/27/08 5:48	1/20/09 14:35	78,287	Failure - replaced 1/2/09 (fieldnotes)
Raw H_2S, Raw SO_2	12/3/08 10:32	12/17/08 6:24	19,912	450i returned to Thermo for service
B1SW T	12/13/08 22:03	12/23/08 13:21	13,878	Sensor noise
MCN In T	12/14/08 7:25	12/16/08 7:28	2883	Sensor noise
MCF3 PM	12/15/08 23:08	12/17/08 12:28	2240	Sensor pegged
MCN In T	12/21/08 3:35	12/22/08 20:45	2470	Sensor noise
MCN In T	12/27/08 4:36	12/28/08 20:15	2379	Sensor noise
Raw NH_3, Raw CO_2, WV, Raw H_2S, Raw SO_2, Smpl Q, Smpl RH, Smpl T, Smpl Dir	12/31/08 16:27	1/5/09 11:35	6908	Zero air results (CO_2, NH_3, H_2S) indicate major leak in the system
MCN In T	1/1/09 22:03	1/13/09 9:01	16,498	Sensor noise, then maintenance on the TC
Raw NH_3, Raw CO_2, WV, Raw H_2S, Raw SO_2, Smpl Q, Smpl RH, Smpl T, Smpl Dir	1/13/09 14:59	2/3/09 16:51	30,352	Zero air results (CO_2, NH_3) indicate major leak in the system
MCF3 PM	1/15/09 9:34	3/23/09 15:44	96,850	Repeated failures of leak tests. Eventually localized leak to an adapter in the line.
B1F19 RH and T	1/20/09 14:02	3/2/09 9:29	58,767	Sensor failed, needed replacement
Raw NH_3, Raw CO_2, WV, Raw H_2S, Raw SO_2, Smpl Q, Smpl RH, Smpl T, Smpl Dir	2/26/09 14:17	3/9/09 8:28	15,491	Zero air results (CO_2) indicate major leak in the system
Raw NH_3, Raw CO_2, WV	3/31/09 8:40	4/24/09 11:16	34,716	INNOVA sent to vendor for reconfiguration with GHG filters
MCF3 RH and T	4/4/09 16:50	4/6/09 2:27	2017	Sensor noise
MCF3 RH and T	4/7/09 13:37	4/9/09 10:39	2702	Sensor noise
MCF4	4/25/09 5:41	4/29/09 5:56	5775	Sensor noise
Raw NH_3, Raw CO_2, WV	5/4/09 11:42	5/26/09 13:53	31,811	INNOVA sustained a chopper error, then was sent in for repair
MCF4	5/20/09 12:08	6/1/09 5:49	16,901	Sensor noise
MCN In T	6/11/09 21:11	6/14/09 1:36	3145	Sensor noise
B1F15 PM	6/12/09 1:45	7/3/09 5:54	30,489	Filter loading data indicates major leak. Flow checks confirm (see fieldnotes and DA notes)
MCN In T	6/23/09 0:12	6/29/09 6:54	9042	Sensor noise
Raw NH_3, Raw CO_2, WV	7/1/09 11:36	8/25/09 11:16	79,180	INNOVA sent to manufacturer (Denmark) for re-calibration
B1F15 PM, B1F15 Atm P	7/3/09 5:54	7/20/09 11:09	24,795	TEOM was sent to Purdue for troubleshooting
B1F15 PM	7/20/09 11:09	9/14/09 7:37	80,428	Systematic Error - major flow error due to faulty temperature sensor (see fieldnotes)
MCN In T	7/24/09 13:47	7/26/09 18:27	3160	Sensor noise
MCN In T	8/4/09 2:30	8/5/09 9:50	1880	Sensor noise
MCN In T	8/6/09 7:53	8/7/09 9:05	1512	Sensor noise

Variable(s)	Start date/time	End Date/Time	Minutes	Comment
MCS ΔP	8/16/09 6:02	8/26/09 7:58	14,516	Sensor noise
Smpl RH, Smpl dir	8/19/09 11:44	8/26/09 9:23	9939	Internal GSS sensor malfunction. Reset 8/26 (fieldnotes)
MCF3 PM	8/25/09 8:34	9/11/09 9:27	24,533	Aberrant behavior related to/started by filter change on 8/25 (see data notes). May have been a leaky filter
MCS In T	8/30/09 10:26	9/2/09 10:31	4325	Sensor noise
MCF8	9/15/09 20:42	9/19/09 5:46	4864	Sensor noise
MCF5	9/15/09 20:43	9/19/09 5:59	4876	Sensor noise
MCS In T	9/16/09 18:57	9/18/09 12:46	2509	Sensor noise
MCS In T	9/20/09 23:31	9/23/09 9:42	3491	Sensor noise
MCN In T	9/23/09 0:02	10/23/09 23:59	44,637	Sensor noise
MCF3 RH and T	10/6/09 11:06	10/8/09 2:29	2363	Sensor noise
Smpl dir	10/8/09 8:04	10/23/09 23:59	22,555	Faulty sensor
MCF3 RH and T	10/10/09 21:12	10/13/09 9:36	3624	Sensor noise
MCF3 RH and T	10/14/09 13:01	10/23/09 23:59	13,618	Sensor noise

12. APPENDIX E. DAILY MEANS

Table E1. Daily means (SD) of weather parameters

Table E1. Daily means (SD) of weather parameters at Site NY5B for November, 2007.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	8.9 (1.6)					98.3 (0.4)
2	5.3 (0.5)					99.2 (0.2)
3	5.3 (0.5)		0.10 (0.08)	330 (104)		98.1 (0.5)
4	6.1 (0.0)		0.15 (0.12)	281 (70)		97.6 (0.1)
5	6.4 (0.2)		0.27 (0.24)	167 (80)		97.5 (0.4)
6	4.7 (1.1)		0.44 (0.16)	239 (26)		97.0 (0.1)
7	2.5 (0.2)		0.34 (0.12)	277 (15)		97.0 (0.0)
8	2.2 (0.0)		0.08 (0.07)	169 (89)		97.0 (0.0)
9	2.3 (0.5)		0.19 (0.10)	107 (38)		97.0 (0.0)
10	2.6 (1.5)					97.0 (0.0)
11	3.9 (2.4)					97.0 (0.0)
12	7.8 (2.5)	70.2 (8.9)	0.21 (0.09)	176 (59)		97.0 (0.0)
13	9.5 (1.8)	70.3 (12.2)	0.19 (0.10)	287 (94)		97.4 (0.4)
14	12.7 (2.0)	67.7 (9.6)	0.97 (1.08)	209 (63)		97.3 (0.5)
15	5.7 (2.1)	84.7 (2.8)	1.34 (0.96)	273 (67)	18 (30)	96.8 (0.1)
16	1.1 (1.2)	78.2 (6.5)	3.52 (1.51)	287 (12)	42 (71)	97.2 (0.2)
17	1.0 (1.2)	73.5 (8.0)	1.90 (1.11)	296 (101)	55 (85)	98.1 (0.3)
18	1.3 (2.3)	71.2 (9.8)	1.08 (0.80)	75 (53)	80 (131)	99.2 (0.2)
19	3.2 (1.6)	74.2 (3.6)	3.03 (1.76)	143 (32)	81 (148)	99.2 (0.3)
20	6.1 (1.7)	85.6 (2.8)	2.77 (2.56)	221 (86)	10 (17)	98.1 (0.2)
21	10.0 (4.2)	83.2 (6.2)	1.59 (0.79)	266 (90)	39 (76)	97.7 (0.2)
22	2.0 (2.6)	87.4 (2.5)	2.56 (1.75)	287 (52)	12 (19)	97.3 (0.5)
23	-3.7 (0.8)	74.7 (9.5)	3.22 (1.21)	284 (10)	60 (102)	98.8 (0.3)
24	-1.8 (3.4)	65.8 (11.6)	1.27 (0.96)	194 (79)	65 (105)	99.2 (0.2)
25	3.4 (2.7)	52.6 (10.3)	2.42 (1.25)	232 (48)	99 (156)	98.7 (0.1)
26	5.4 (0.8)	84.7 (3.9)	1.30 (0.81)	107 (81)		97.8 (0.5)
27	3.5 (2.1)	75.2 (12.9)	4.13 (1.41)	266 (14)		97.8 (0.5)
28	0.5 (1.7)	63.3 (9.4)	3.23 (2.07)	243 (64)	67 (127)	99.1 (0.4)
29	3.9 (2.7)	55.0 (4.7)	5.05 (1.72)	241 (55)	56 (118)	97.8 (0.3)
30	-0.1 (2.8)	57.3 (10.0)	3.98 (1.37)	259 (36)	78 (129)	98.5 (0.3)
Mean	4.1	72.4	1.74	242	54	97.8
n	30	19	26	26	14	30
SD	3.5	10.1	1.46	66	27	0.8
Min	-3.7	52.6	0.08	75	10	96.8
Max	12.7	87.4	5.05	330	99	99.2

Table E1. Daily means (SD) of weather parameters at Site NY5B for December, 2007.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	-7.1 (2.2)	67.8 (9.2)	2.79 (1.72)	300 (85)	67 (121)	99.6 (0.4)
2	-3.5 (3.7)	74.9 (5.6)	2.61 (1.32)	130 (54)	13 (19)	98.5 (0.9)
3	-0.3 (3.7)	84.3 (4.8)	5.32 (1.50)	265 (40)	16 (26)	96.4 (0.3)
4	-5.0 (0.7)	89.3 (0.5)	3.66 (0.88)	279 (9)	33 (51)	96.8 (0.2)
5	-6.0 (1.3)	85.6 (1.5)	1.75 (0.69)	277 (17)	42 (66)	97.3 (0.3)
6	-5.7 (2.2)	76.4 (7.0)	1.41 (1.11)	274 (89)	82 (144)	98.6 (0.3)
7	-2.4 (2.2)	70.7 (4.1)	2.08 (1.04)	193 (73)	25 (43)	98.6 (0.2)
8	-0.1 (2.0)	70.4 (6.1)	2.28 (1.48)	258 (49)	51 (97)	98.8 (0.3)
9	-1.7 (1.0)	76.4 (6.5)	1.20 (0.94)	48 (104)	25 (41)	99.2 (0.2)
10	-0.6 (1.2)	83.7 (4.3)	0.74 (0.52)	313 (103)	35 (69)	98.9 (0.2)
11	2.3 (2.2)	82.5 (3.8)	1.25 (0.90)	204 (71)	25 (45)	98.6 (0.6)
12	1.3 (1.2)	75.5 (12.8)	2.92 (1.11)	282 (29)	48 (92)	98.3 (0.5)
13	-0.9 (1.4)	77.4 (8.7)	1.45 (0.89)	116 (75)	7 (14)	98.2 (0.5)
14	0.6 (2.2)	73.0 (7.6)	3.55 (1.51)	274 (21)	28 (49)	98.4 (0.5)
15	-8.0 (2.4)	66.3 (8.3)	2.10 (1.40)	57 (86)	38 (67)	99.3 (0.4)
16	-2.6 (2.9)	84.2 (4.1)	2.88 (1.81)	231 (89)	13 (23)	96.2 (1.0)
17	-5.8 (1.7)	83.3 (6.8)	3.80 (1.18)	278 (11)	55 (104)	97.6 (0.7)
18	-1.6 (1.8)	63.2 (8.5)	1.52 (0.81)	241 (90)	72 (131)	98.7 (0.1)
19	1.0 (0.9)	65.1 (7.4)	2.45 (1.11)	169 (63)	17 (29)	98.1 (0.2)
20	-1.0 (1.7)	81.6 (2.2)	1.40 (0.82)	292 (91)		98.2 (0.4)
21	-0.7 (3.3)	76.0 (5.4)	2.21 (1.69)	127 (49)	64 (107)	99.1 (0.1)
22	3.3 (0.9)	72.3 (2.6)	2.77 (1.19)	141 (44)	34 (58)	99.2 (0.2)
23	6.8 (3.3)	80.0 (8.0)	6.64 (2.66)	183 (56)	31 (44)	97.6 (0.8)
24	0.0 (0.4)	63.4 (7.3)	4.48 (1.33)	247 (10)	10 (16)	97.6 (0.4)
25	0.0 (0.6)	81.7 (3.6)	1.78 (1.20)	252 (63)	13 (23)	98.7 (0.2)
26	1.1 (2.1)	76.9 (5.5)	1.04 (0.69)	62 (91)	58 (108)	98.5 (0.2)
27	3.0 (1.2)	79.1 (4.2)	2.04 (1.32)	214 (74)	9 (20)	97.9 (0.2)
28	3.1 (1.2)	73.3 (6.2)	2.97 (2.71)	215 (68)	30 (52)	98.6 (0.4)
29	4.2 (1.6)	70.6 (7.8)	3.48 (1.78)	255 (39)	34 (87)	97.8 (0.3)
30	1.5 (0.7)	68.8 (8.2)	1.27 (0.95)	169 (82)	25 (45)	98.2 (0.3)
31	0.3 (0.7)	79.9 (6.3)	1.95 (1.40)	267 (93)	9 (21)	97.7 (0.4)
Mean	-0.8	75.9	2.51	238	34	98.2
n	31	31	31	31	30	31
SD	3.4	6.8	1.29	74	20	0.8
Min	-8.0	63.2	0.74	48	7	96.2
Max	6.8	89.3	6.64	313	82	99.6

Table E1. Daily means (SD) of weather parameters at Site NY5B for January, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	3.2 (1.8)	78.2 (6.6)	3.97 (2.26)	206 (68)	25 (47)	97.1 (0.4)
2	-7.0 (2.3)	79.5 (4.4)	2.49 (1.16)	305 (26)	43 (74)	98.3 (0.7)
3	-10.8 (2.7)	76.0 (6.7)	1.33 (0.81)	4 (109)	71 (115)	99.9 (0.2)
4	-1.8 (2.4)	53.7 (6.3)	1.58 (0.94)	218 (57)	70 (130)	99.3 (0.2)
5	3.8 (2.3)	55.0 (12.5)	1.67 (0.85)	190 (74)	40 (73)	98.7 (0.2)
6	9.3 (2.0)	78.3 (2.5)	1.07 (0.85)	160 (72)	25 (45)	98.3 (0.1)
7	16.1 (2.1)	75.5 (4.0)	2.34 (0.93)	230 (49)	40 (82)	98.3 (0.1)
8	19.0 (1.5)	62.9 (7.0)	3.00 (1.63)	204 (54)	68 (116)	97.8 (0.4)
9	11.0 (4.6)	61.1 (8.8)	5.86 (1.99)	238 (41)	64 (116)	97.3 (0.7)
10	5.4 (1.5)	67.3 (9.1)	1.59 (0.72)	263 (90)	58 (94)	98.3 (0.3)
11	8.3 (1.6)	78.7 (5.6)	4.63 (2.83)			96.7 (0.4)
12	5.6 (1.2)	69.2 (7.5)	1.92 (1.20)	268 (72)	55 (117)	98.1 (0.3)
13	4.1 (2.3)	75.0 (10.2)	1.67 (1.29)	101 (47)	55 (99)	98.3 (0.3)
14	3.6 (0.7)	84.6 (3.2)	1.60 (1.00)	256 (87)	20 (36)	97.4 (0.1)
15	0.2 (1.1)	83.8 (3.1)	2.11 (0.96)	274 (27)	29 (48)	97.5 (0.3)
16	-1.0 (1.3)	82.5 (3.6)	0.81 (0.63)	296 (97)	43 (72)	98.8 (0.3)
17	0.8 (1.8)	73.4 (6.3)	3.16 (2.00)	142 (51)	37 (60)	98.4 (0.5)
18	1.8 (2.5)	63.7 (11.4)	4.11 (1.43)	248 (42)	86 (146)	97.6 (0.3)
19	-2.3 (1.8)	56.5 (5.7)	2.88 (1.22)	252 (41)	41 (68)	97.9 (0.1)
20	-8.2 (0.7)	56.0 (6.2)	4.89 (1.39)	260 (9)	91 (150)	98.4 (0.4)
21	-6.6 (2.0)	52.4 (2.9)	3.39 (1.47)	243 (31)	100 (164)	99.7 (0.2)
22	-0.6 (2.5)	57.0 (13.6)	3.15 (1.53)	210 (63)	20 (31)	98.0 (0.7)
23	-3.6 (0.8)	69.4 (7.6)	2.43 (1.27)	263 (19)	57 (100)	97.8 (0.2)
24	-4.7 (1.2)	74.9 (6.7)	1.84 (1.13)	270 (40)	69 (131)	98.1 (0.3)
25	-4.0 (1.9)	63.1 (7.3)	4.04 (1.39)	270 (9)	115 (175)	98.8 (0.1)
26	-2.2 (1.6)	65.3 (7.2)	1.47 (0.78)	198 (63)	66 (105)	98.5 (0.2)
27	0.1 (1.4)	69.6 (6.5)	0.97 (0.68)	224 (78)	81 (155)	98.3 (0.1)
28	0.5 (1.4)	72.6 (4.4)	0.72 (0.46)	276 (94)	41 (63)	98.3 (0.2)
29	6.6 (2.4)	73.5 (8.0)	2.21 (1.03)	144 (65)	17 (28)	96.8 (0.5)
30	1.3 (5.3)	64.7 (14.1)	5.64 (1.92)	249 (50)	94 (167)	96.6 (1.1)
31	-2.7 (2.3)	58.9 (6.5)	1.81 (1.14)	264 (85)	100 (159)	99.5 (0.4)
Mean	1.5	68.8	2.59	240	57	98.1
n	31	31	31	30	30	31
SD	6.6	9.3	1.37	62	26	0.8
Min	-10.8	52.4	0.72	4	17	96.6
Max	19.0	84.6	5.86	305	115	99.9

Table E1. Daily means (SD) of weather parameters at Site NY5B for February, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	2.4 (1.8)	74.3 (14.7)	2.65 (1.60)	145 (72)	11 (18)	98.1 (0.9)
2	2.9 (0.3)	83.8 (3.7)	2.77 (2.00)	264 (54)	17 (30)	98.1 (0.4)
3	3.0 (0.7)	78.1 (3.2)	0.96 (0.73)	272 (82)	38 (64)	98.6 (0.2)
4	3.9 (1.1)	79.3 (2.2)	1.93 (1.57)	111 (51)	14 (24)	98.6 (0.3)
5	9.1 (2.5)	84.9 (4.2)	2.62 (2.11)	245 (57)	22 (38)	97.4 (0.2)
6	3.4 (1.3)	89.4 (1.1)	1.18 (1.14)	18 (122)		96.7 (0.3)
7	-0.4 (2.5)	85.2 (3.3)		270 (32)	25 (39)	97.1 (0.6)
8	1.2 (1.7)	80.2 (4.6)		203 (87)	55 (93)	97.8 (0.1)
9	3.6 (1.1)	79.4 (2.7)		168 (67)	58 (100)	97.4 (0.4)
10	-3.5 (6.4)	67.0 (13.6)	4.99 (2.40)	262 (43)	92 (154)	97.0 (0.6)
11	-9.3 (2.3)	62.5 (4.5)	4.79 (1.34)	264 (10)	117 (190)	98.7 (0.3)
12	-6.0 (2.7)	75.0 (6.5)	2.05 (1.46)	155 (73)	52 (84)	98.7 (0.6)
13	0.7 (2.9)	82.3 (3.6)	2.86 (1.62)	261 (62)	24 (33)	97.0 (0.2)
14	-0.2 (2.8)	70.6 (9.1)	2.00 (0.93)	241 (51)	115 (167)	98.0 (0.2)
15	-0.7 (3.2)	72.9 (7.9)	2.57 (1.17)	269 (44)	33 (58)	98.1 (0.4)
16	-4.1 (2.3)	62.2 (10.3)	1.53 (0.79)	265 (91)		98.8 (0.1)
17	3.9 (3.4)	69.3 (7.9)	6.50 (2.65)	169 (35)	44 (71)	97.5 (0.7)
18	7.9 (4.0)	73.2 (7.0)	3.54 (1.77)	253 (48)	39 (87)	96.3 (0.3)
19	-1.9 (2.2)	61.1 (9.5)	4.64 (1.46)	260 (16)	98 (162)	97.2 (0.3)
20	-5.1 (1.1)	58.0 (7.6)	3.90 (0.93)	258 (18)	120 (189)	98.1 (0.3)
21	-4.9 (2.1)	69.2 (13.0)	1.54 (0.97)	279 (86)	115 (185)	99.0 (0.2)
22	-1.4 (1.5)	74.1 (7.2)	1.71 (1.05)	156 (84)	50 (73)	97.9 (0.3)
23	-2.8 (1.5)	75.3 (9.6)	1.48 (0.92)	316 (101)	96 (144)	97.9 (0.2)
24	0.1 (3.1)	65.4 (11.4)	1.23 (0.79)	266 (89)	164 (236)	98.2 (0.2)
25	0.7 (4.2)	70.5 (10.0)	1.27 (1.17)	237 (92)	140 (205)	97.6 (0.1)
26	2.0 (1.0)	85.6 (3.4)	1.12 (0.69)	64 (105)	26 (39)	96.5 (0.6)
27	-5.9 (2.6)	82.3 (6.3)	2.93 (0.96)	291 (21)	87 (128)	96.7 (0.5)
28	-10.3 (1.5)	72.7 (5.3)	2.65 (1.44)	282 (56)	134 (203)	98.3 (0.5)
29	-6.1 (5.7)	70.7 (11.0)	3.30 (2.45)	126 (56)	134 (214)	98.7 (0.6)
Mean	-0.6	74.3	2.64	245	71	97.8
n	29	29	26	29	27	29
SD	4.6	8.0	1.37	72	46	0.7
Min	-10.3	58.0	0.96	18	11	96.3
Max	9.1	89.4	6.50	316	164	99.0

Table E1. Daily means (SD) of weather parameters at Site NY5B for March, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	0.8 (1.8)	76.7 (7.8)	3.99 (1.41)	260 (40)	102 (171)	97.7 (0.3)
2	0.4 (2.7)	63.4 (10.5)	1.71 (0.95)	279 (90)	180 (259)	98.7 (0.2)
3	11.3 (4.6)	48.8 (7.4)	3.61 (1.34)	175 (63)	164 (242)	97.7 (0.4)
4	3.4 (3.2)	78.6 (9.7)	2.13 (0.92)	334 (129)	34 (51)	97.7 (0.4)
5	1.3 (1.4)	84.6 (4.3)			30 (56)	96.8 (0.8)
6	2.6 (3.1)	74.1 (8.6)			174 (245)	98.4 (0.2)
7	4.0 (2.8)	79.3 (9.3)	1.06 (0.90)	37 (110)	95 (163)	98.2 (0.5)
8	1.7 (1.9)	89.9 (1.1)	2.63 (2.06)	326 (125)	12 (19)	96.4 (0.8)
9	-3.7 (1.4)	69.9 (10.9)	5.51 (1.80)	267 (8)	138 (184)	98.2 (0.7)
10	-2.1 (2.6)	67.7 (11.3)	1.63 (0.99)	272 (84)	177 (238)	98.9 (0.2)
11	1.6 (3.7)	65.9 (12.4)	1.32 (1.12)	246 (77)	189 (261)	98.0 (0.6)
12	1.5 (2.1)	77.3 (8.0)	2.55 (1.64)	274 (23)	52 (80)	97.2 (0.5)
13	2.2 (5.7)	66.9 (12.8)	1.88 (1.68)	141 (87)	103 (145)	97.4 (0.4)
14	7.7 (2.5)	75.3 (9.9)	1.16 (0.72)	108 (81)	99 (146)	97.1 (0.2)
15	5.7 (1.5)	84.4 (4.2)	0.91 (0.77)	276 (77)	46 (68)	97.1 (0.2)
16	2.0 (1.3)	77.8 (8.1)	1.90 (1.26)	299 (38)	70 (146)	98.3 (0.6)
17	0.0 (2.8)	61.7 (8.9)	1.32 (0.75)	334 (117)	220 (288)	99.7 (0.2)
18	4.8 (2.3)	61.3 (13.0)	3.24 (1.89)	138 (46)	58 (97)	98.6 (0.6)
19	7.5 (2.1)	84.5 (4.1)	3.18 (1.85)	195 (73)		96.6 (0.5)
20	2.5 (1.5)	81.2 (7.8)	4.55 (1.44)	288 (9)	60 (117)	97.1 (0.5)
21	-0.4 (2.0)	59.3 (17.5)	4.43 (1.45)	287 (10)	204 (293)	98.3 (0.2)
22	-0.3 (2.1)	53.2 (9.7)	1.91 (1.21)	290 (39)	231 (294)	98.4 (0.0)
23	-0.5 (2.2)	57.9 (14.1)	1.67 (1.18)	301 (80)	225 (288)	98.4 (0.0)
24	-0.4 (2.6)	64.8 (9.1)	1.65 (1.20)	323 (111)	165 (233)	98.5 (0.0)
25	3.5 (5.3)	56.8 (19.6)	2.60 (1.81)	136 (78)	183 (272)	98.6 (0.0)
26	7.1 (2.1)	63.9 (15.1)	3.02 (1.69)	262 (74)	160 (264)	98.7 (0.0)
27	5.5 (2.5)	68.2 (13.8)	1.26 (1.04)	227 (90)	81 (129)	98.8 (0.0)
28	2.2 (1.3)	84.4 (5.5)	1.89 (1.06)		81 (105)	98.8 (0.0)
29	-2.0 (2.0)	62.8 (11.7)	1.61 (1.07)		256 (317)	98.9 (0.0)
30	2.8 (6.8)	47.5 (16.6)	2.21 (1.95)	113 (54)	247 (314)	99.0 (0.0)
31	8.6 (2.5)	73.5 (13.3)	3.56 (1.59)	169 (55)	42 (56)	99.1 (0.0)
Mean	2.6	69.7	2.42	266	129	98.1
n	31	31	29	27	30	31
SD	3.4	11	1.15	79	72	0.8
Min	-3.7	47.5	0.91	37	12	96.4
Max	11.3	89.9	5.51	334	256	99.7

Table E1. Daily means (SD) of weather parameters at Site NY5B for April, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	14.1 (5.0)	72.1 (7.9)	5.79 (1.82)	234 (54)	96 (165)	99.2 (0.0)
2	2.1 (1.8)	49.8 (15.5)	3.67 (1.90)	301 (87)	237 (314)	99.2 (0.0)
3	7.3 (5.9)	40.6 (15.6)	2.14 (1.37)	146 (71)	259 (320)	98.9 (0.4)
4	8.1 (1.9)	82.8 (8.4)	1.59 (1.01)	146 (84)	24 (35)	97.3 (0.5)
5	7.4 (3.4)	73.5 (17.5)	1.83 (0.87)	306 (100)	145 (241)	98.0 (0.4)
6	11.7 (5.6)	57.4 (17.7)	1.92 (1.19)	105 (44)	263 (325)	98.5 (0.1)
7	10.5 (3.5)	65.3 (7.1)	4.74 (1.48)	142 (18)	172 (257)	98.6 (0.1)
8	14.7 (4.6)	61.9 (10.4)	2.75 (1.41)	150 (59)	225 (284)	98.6 (0.1)
9	16.4 (3.1)	57.7 (8.5)	3.66 (1.66)	194 (68)	183 (267)	98.2 (0.2)
10	10.4 (2.6)	62.0 (11.4)	1.81 (0.88)	292 (89)	203 (292)	98.6 (0.1)
11	13.5 (4.3)	74.8 (6.3)	2.74 (1.68)	124 (62)	46 (69)	97.3 (0.7)
12	13.6 (3.5)	69.6 (11.8)	3.42 (1.42)	264 (36)		96.5 (0.2)
13	5.6 (1.2)	68.8 (15.0)	2.36 (0.99)	308 (50)	180 (269)	97.3 (0.3)
14	6.9 (2.5)	56.3 (13.2)	1.81 (1.29)	319 (100)	236 (312)	98.1 (0.2)
15	7.8 (5.2)	55.6 (19.4)	1.26 (1.04)	302 (102)	292 (340)	98.6 (0.1)
16	14.1 (7.1)	38.6 (20.9)	1.29 (0.88)	205 (94)	296 (336)	98.6 (0.2)
17	20.3 (5.3)	29.4 (10.9)	1.25 (0.86)	266 (95)	303 (340)	98.2 (0.2)
18	19.5 (6.7)	49.1 (15.8)	1.18 (0.80)	140 (96)	284 (320)	98.0 (0.1)
19	24.2 (7.3)	39.2 (19.8)	2.31 (1.74)	137 (62)	286 (328)	97.6 (0.2)
20	21.4 (3.2)	49.0 (8.2)	4.30 (1.85)	128 (30)		98.1 (0.3)
21						98.7 (0.1)
22	22.1 (4.6)	40.0 (10.8)	1.62 (0.98)	134 (70)	292 (332)	98.6 (0.2)
23	20.4 (3.5)	57.4 (11.6)	1.47 (0.99)	254 (52)	211 (286)	98.4 (0.1)
24	15.4 (4.5)	46.9 (16.4)	1.40 (1.06)	344 (122)	301 (345)	98.8 (0.1)
25	18.8 (6.9)	46.5 (17.3)	1.38 (0.90)	111 (77)	225 (310)	98.1 (0.3)
26	22.6 (4.6)	60.5 (18.0)	2.55 (2.04)	143 (76)	201 (283)	97.8 (0.3)
27	17.7 (4.3)	59.9 (17.5)	1.29 (1.03)	88 (98)	270 (319)	98.3 (0.2)
28	11.9 (2.6)	81.9 (5.7)	3.18 (1.41)	218 (70)	44 (55)	97.3 (0.2)
29	7.6 (1.9)	63.9 (14.1)	3.16 (0.99)	297 (14)	213 (305)	97.5 (0.2)
30	6.9 (3.2)	53.7 (15.9)	1.95 (1.04)	276 (76)	246 (312)	98.1 (0.1)
Mean	13.5	57.4	2.41	201	212	98.2
n	29	29	29	29	27	30
SD	5.9	13.1	1.15	79	79	0.6
Min	2.1	29.4	1.18	88	24	96.5
Max	24.2	82.8	5.79	344	303	99.2

Table E1. Daily means (SD) of weather parameters at Site NY5B for May, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	12.0 (4.7)	54.0 (18.8)	1.92 (0.81)	104.0 (77.0)	232.0 (301.0)	98.2 (0.2)
2	15.9 (2.6)	76.6 (7.4)	2.51 (0.91)	101 (42)	105 (160)	97.7 (0.1)
3	17.9 (2.4)	74.7 (7.5)	3.49 (1.53)	122 (43)	151 (209)	97.4 (0.2)
4	13.5 (2.6)	70.6 (12.5)	2.61 (1.66)	284 (93)	199 (271)	97.9 (0.4)
5	14.2 (6.2)	57.4 (21.2)	1.19 (0.76)	85 (95)	298 (335)	98.2 (0.2)
6	15.9 (3.9)	52.7 (17.2)	1.55 (1.10)	307 (103)	298 (351)	98.0 (0.1)
7	17.9 (6.6)	62.8 (17.7)	1.77 (1.21)	117 (70)	209 (289)	97.3 (0.5)
8	14.5 (2.6)	75.6 (10.6)	2.35 (1.31)	279 (72)	157 (212)	97.1 (0.3)
9	13.2 (4.0)	66.3 (14.5)	1.86 (1.17)	45 (114)	245 (264)	97.1 (0.2)
10	12.8 (4.6)	62.0 (18.9)	1.43 (1.20)	299 (92)	234 (268)	97.3 (0.2)
11	15.7 (5.3)	51.7 (19.0)	3.94 (2.67)	125 (38)	217 (267)	97.0 (0.4)
12	14.4 (2.9)	54.0 (10.5)	2.06 (1.46)	38 (116)	241 (297)	97.2 (0.3)
13	15.5 (6.2)	55.9 (20.4)	1.31 (0.85)	336 (110)	327 (358)	98.2 (0.1)
14	19.2 (6.6)	53.4 (19.6)	1.81 (1.16)	151 (71)	235 (297)	97.8 (0.2)
15	15.4 (2.6)	76.8 (12.6)	1.83 (1.00)	284 (80)	158 (244)	97.8 (0.2)
16	12.6 (1.9)	80.7 (10.0)	1.02 (0.60)	193 (93)	68 (79)	97.2 (0.3)
17	15.2 (4.7)	69.8 (14.5)	1.95 (1.54)	242 (73)	185 (258)	96.2 (0.3)
18	11.4 (2.3)	76.8 (6.4)	1.64 (1.28)	252 (77)	98 (116)	95.9 (0.2)
19	9.3 (1.3)	66.4 (4.1)	3.98 (1.58)	261 (12)	125 (185)	96.3 (0.3)
20	13.2 (4.6)	57.5 (14.6)	1.49 (1.06)	320 (106)	244 (304)	96.2 (0.2)
21	11.1 (1.2)	66.1 (8.3)	2.07 (1.23)	268 (32)	116 (145)	96.2 (0.1)
22	10.9 (2.3)	76.5 (10.0)	2.62 (1.18)	277 (23)	113 (167)	96.7 (0.4)
23	14.2 (2.9)	67.2 (11.5)	2.42 (1.39)	286 (16)	245 (309)	97.7 (0.2)
24	15.5 (3.7)	61.3 (17.2)	1.63 (1.41)	299 (80)	312 (351)	98.0 (0.1)
25	17.4 (6.5)	56.8 (22.5)	1.27 (0.94)	245 (89)	343 (371)	98.1 (0.2)
26	24.0 (5.5)	52.2 (12.0)	1.78 (0.99)	237 (57)	215 (295)	97.3 (0.3)
27	16.4 (4.3)	72.0 (6.6)	2.02 (1.34)	296 (70)	125 (132)	97.8 (0.4)
28	12.0 (3.8)	54.6 (16.6)	1.80 (1.20)	333 (119)	348 (371)	98.8 (0.1)
29	16.8 (6.7)	48.0 (20.3)	1.95 (1.80)	266 (84)	348 (367)	98.4 (0.2)
30	20.7 (6.3)	43.9 (18.2)	1.40 (0.99)	168 (72)	240 (293)	98.0 (0.3)
31						96.8 (0.2)
Mean	14.9	63.1	2.02	272	214	97.4
n	30	30	30	30	30	31
SD	3	10	0.72	89	79	0.7
Min	9.3	43.9	1.02	38	68	95.9
Max	24.0	80.7	3.98	336	348	98.8

Table E1. Daily means (SD) of weather parameters at Site NY5B for June, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	17.4 (1.8)	77.7 (11.8)	2.17 (1.60)	272 (19)	168 (240)	97.2 (0.2)
2	20.7 (5.0)	58.6 (17.6)	2.02 (1.49)	281 (47)	318 (352)	97.6 (0.1)
3	21.5 (2.6)	63.7 (9.6)	1.33 (0.85)	82 (91)	126 (205)	97.5 (0.2)
4	22.6 (2.6)	72.6 (8.0)	1.55 (0.76)	105 (46)	152 (182)	97.2 (0.1)
5	24.7 (3.5)	72.8 (7.5)	2.43 (1.14)	122 (50)	193 (244)	97.7 (0.1)
6	30.6 (4.2)	65.1 (14.7)	2.03 (0.96)	249 (65)	270 (335)	97.9 (0.1)
7	30.5 (2.9)	60.9 (10.0)	2.19 (1.42)	259 (47)	274 (317)	97.9 (0.1)
8	29.4 (2.5)	68.1 (7.0)	1.97 (1.51)	263 (68)	214 (262)	97.5 (0.2)
9	31.6 (3.8)	58.4 (13.1)	2.14 (1.42)	255 (69)	307 (349)	97.4 (0.1)
10	27.1 (4.7)	70.5 (14.2)	1.94 (1.28)	245 (80)	227 (293)	97.5 (0.2)
11	24.1 (3.8)	62.4 (15.6)	1.86 (1.24)	284 (46)	310 (344)	98.2 (0.2)
12	21.6 (4.4)	60.6 (17.9)	1.00 (0.75)	32 (110)	315 (353)	98.8 (0.1)
13	27.6 (6.1)	56.1 (11.3)	1.88 (1.03)	144 (67)	299 (335)	98.3 (0.3)
14	26.0 (1.3)	74.7 (5.5)	1.38 (0.86)	252 (47)	101 (120)	97.8 (0.1)
15	24.5 (4.2)	67.1 (21.4)	1.43 (0.99)	264 (80)	313 (360)	97.4 (0.2)
16	21.6 (3.7)	74.9 (12.0)	1.87 (1.24)	232 (83)	249 (318)	97.0 (0.1)
17	17.1 (1.6)	71.7 (12.3)	2.38 (1.16)	265 (32)	177 (238)	97.2 (0.1)
18	16.4 (2.3)	75.6 (12.0)	1.54 (0.80)	274 (41)	191 (255)	97.1 (0.1)
19						
20						
21	22.6 (4.4)	67.4 (17.7)	1.55 (0.98)	151 (79)	285 (352)	97.9 (0.1)
22	23.1 (3.2)	69.4 (13.4)	1.53 (0.97)	219 (82)	266 (342)	97.6 (0.1)
23	22.5 (3.5)	72.4 (16.8)	1.23 (0.93)	246 (86)	275 (349)	97.7 (0.1)
24	20.5 (2.7)	74.7 (11.9)	1.78 (1.47)	286 (60)	224 (293)	98.2 (0.2)
25	23.6 (5.0)	61.4 (19.4)	1.27 (1.05)	258 (90)	334 (362)	98.3 (0.3)
26	24.3 (2.5)	77.0 (8.2)	1.39 (0.99)	258 (76)	123 (182)	97.4 (0.2)
27	26.4 (2.6)	71.4 (10.1)	0.98 (0.78)	259 (79)	204 (232)	97.4 (0.1)
28	27.3 (2.9)	73.2 (8.9)	1.94 (1.15)	184 (75)	209 (261)	97.1 (0.1)
29	25.5 (3.3)	71.3 (11.8)	1.89 (1.16)	223 (66)	195 (246)	97.0 (0.1)
30	22.6 (3.4)	73.3 (16.8)	1.26 (0.90)	253 (64)	259 (346)	97.1 (0.1)
Mean	24.0	68.7	1.71	246	235	97.6
n	28	28	28	28	28	28
SD	3.9	6.1	0.39	67	65	0.4
Min	16.4	56.1	0.98	32	101	97.0
Max	31.6	77.7	2.43	286	334	98.8

Table E1. Daily means (SD) of weather parameters at Site NY5B for July, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	21.8 (3.3)	70.3 (18.1)	1.54 (0.79)	294 (85)	231 (285)	97.7 (0.2)
2	24.1 (5.3)	54.7 (15.6)	1.67 (1.12)	217 (75)	324 (348)	97.7 (0.1)
3	22.3 (2.6)	74.1 (14.3)	1.94 (1.07)	261 (63)	90 (124)	97.6 (0.2)
4	20.6 (4.4)	71.7 (18.9)	1.08 (0.72)	77 (101)	329 (378)	98.1 (0.1)
5	21.0 (4.6)	70.8 (18.5)	1.00 (0.62)	95 (96)	224 (286)	98.1 (0.0)
6	25.6 (6.1)	63.0 (17.3)	1.19 (0.63)	118 (74)	318 (345)	98.0 (0.1)
7	28.5 (3.6)	68.2 (12.6)	1.33 (0.75)	226 (74)	291 (338)	97.9 (0.1)
8	29.4 (3.9)	65.4 (13.6)	1.52 (0.96)	192 (73)	284 (327)	97.5 (0.2)
9	26.0 (2.0)	75.4 (4.7)	2.10 (1.18)	257 (31)	128 (173)	97.2 (0.1)
10	22.0 (3.2)	67.0 (13.7)	2.20 (1.58)	293 (86)	336 (363)	97.9 (0.2)
11	21.7 (2.3)	77.8 (7.7)	1.13 (0.61)	103 (78)	78 (87)	98.1 (0.1)
12	27.6 (5.9)	67.1 (16.6)	1.62 (1.02)	162 (61)	309 (343)	97.9 (0.3)
13	25.2 (1.5)	82.6 (6.2)	1.90 (1.09)	222 (57)	95 (121)	97.1 (0.1)
14	23.0 (3.4)	68.2 (15.1)	1.53 (1.45)	268 (85)	273 (336)	97.4 (0.2)
15	22.9 (4.4)	67.2 (17.4)	1.33 (0.92)	267 (93)	329 (362)	98.2 (0.2)
16	26.2 (4.2)	64.9 (12.8)	1.41 (1.10)	229 (90)		98.4 (0.1)
17						
18	29.0 (3.6)	67.4 (11.7)	1.37 (1.28)	271 (86)	255 (300)	97.9 (0.1)
19	27.3 (2.9)	71.9 (12.0)	1.57 (1.06)	254 (81)	206 (266)	97.8 (0.0)
20	25.7 (2.6)	82.3 (9.2)	1.47 (1.43)	270 (82)	157 (255)	97.5 (0.2)
21	24.7 (2.0)	82.4 (8.6)	1.12 (0.75)	277 (70)	185 (240)	97.4 (0.1)
22	24.2 (2.9)	81.7 (10.2)	0.92 (0.68)	240 (88)	178 (219)	97.6 (0.1)
23	23.5 (1.7)	83.0 (6.8)	1.25 (0.79)	144 (76)	101 (138)	97.6 (0.0)
24	21.1 (1.9)	84.4 (6.8)	1.53 (1.15)	255 (37)	139 (235)	97.6 (0.2)
25	24.8 (4.3)	61.5 (15.1)	1.43 (1.19)	259 (86)	305 (342)	98.1 (0.1)
26	25.9 (2.8)	68.5 (10.1)	1.41 (0.93)	232 (73)	197 (240)	97.5 (0.3)
27	24.8 (2.8)	67.8 (16.4)	1.37 (1.07)	275 (67)	287 (334)	97.3 (0.1)
28	24.6 (2.4)	72.7 (10.6)	1.07 (0.76)	256 (65)	187 (260)	97.4 (0.1)
29	23.9 (3.3)	74.1 (13.6)	1.49 (1.11)	289 (90)	304 (358)	97.6 (0.1)
30	25.0 (4.5)	73.4 (11.0)	1.20 (0.72)	151 (70)	162 (174)	97.2 (0.3)
31	25.5 (2.3)	75.6 (9.9)	1.68 (1.18)	268 (61)	199 (272)	96.7 (0.1)
Mean	24.6	71.8	1.45	241	224	97.7
n	30	30	30	30	29	30
SD	2.3	7.1	0.31	62	81	0.4
Min	20.6	54.7	0.92	77	78	96.7
Max	29.4	84.4	2.20	294	336	98.4

Table E1. Daily means (SD) of weather parameters at Site NY5B for August, 2008.

Day	Temp, °C	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	24.7 (3.0)	75.0 (13.0)	1.37 (1.07)	271 (68)	240 (309)	97.0 (0.1)
2	22.3 (1.6)	82.6 (6.9)	1.19 (0.81)	263 (80)	157 (230)	97.1 (0.1)
3	21.9 (1.3)	83.1 (6.8)	1.75 (0.99)	289 (17)	119 (142)	97.5 (0.1)
4	23.3 (2.8)	75.3 (10.7)	1.40 (0.98)	290 (79)	172 (216)	97.8 (0.1)
5	25.4 (5.3)	70.1 (15.5)	1.30 (0.68)	135 (62)	285 (334)	97.6 (0.2)
6	24.8 (2.4)	76.3 (14.0)	2.11 (1.42)	276 (53)	227 (312)	97.3 (0.1)
7	22.0 (2.3)	78.0 (10.8)	1.46 (1.03)	282 (80)	188 (276)	97.1 (0.1)
8	19.7 (1.3)	84.8 (5.3)	1.83 (1.07)	280 (26)	140 (197)	97.0 (0.1)
9	22.0 (3.4)	70.5 (17.3)	1.55 (0.76)	269 (81)	282 (342)	97.4 (0.1)
10	21.1 (3.1)	72.9 (13.2)	1.53 (0.97)	205 (84)	217 (311)	97.3 (0.1)
11	19.0 (2.0)	82.6 (7.8)	1.39 (1.02)	306 (94)	186 (247)	97.4 (0.1)
12	20.2 (2.5)	82.3 (10.6)	1.53 (1.27)	281 (72)	172 (263)	97.3 (0.0)
13	20.4 (3.7)	81.2 (10.7)	1.20 (0.93)	164 (89)	202 (274)	97.3 (0.1)
14	21.0 (4.1)	73.4 (18.2)	0.98 (0.66)	70 (107)	279 (331)	97.4 (0.1)
15	21.2 (3.6)	74.8 (14.8)	1.17 (0.84)	297 (94)	235 (316)	97.9 (0.1)
16	21.4 (4.2)	72.0 (14.0)	1.59 (1.24)	275 (75)	252 (326)	97.9 (0.1)
17	23.8 (3.3)	70.9 (10.5)	1.48 (1.24)	274 (54)	220 (281)	97.7 (0.1)
18	26.3 (3.3)	66.1 (8.2)	1.98 (1.40)	247 (65)	261 (306)	97.6 (0.1)
19	18.5 (2.4)	75.6 (12.0)	1.93 (1.18)	318 (95)	225 (307)	98.1 (0.4)
20	17.7 (4.2)	72.4 (15.7)	1.15 (0.79)	36 (109)	246 (315)	98.7 (0.1)
21	21.6 (6.3)	68.3 (19.3)	1.03 (0.58)	105 (67)	278 (321)	98.8 (0.1)
22	26.5 (4.6)	61.3 (12.6)	1.29 (0.74)	117 (71)	268 (310)	98.8 (0.1)
23	25.8 (2.9)	63.6 (8.0)	1.81 (0.97)	139 (61)	249 (294)	98.6 (0.2)
24	27.5 (4.2)	64.0 (14.4)	1.17 (0.70)	220 (67)	248 (301)	97.8 (0.3)
25	19.8 (2.4)	77.8 (10.2)	1.81 (1.11)	299 (76)	177 (261)	97.9 (0.2)
26	17.9 (4.3)	66.6 (21.2)	1.29 (0.92)	39 (113)	280 (326)	98.3 (0.1)
27	20.6 (5.7)	67.2 (18.3)	1.30 (0.72)	93 (55)	239 (299)	98.2 (0.1)
28	21.3 (2.0)	67.8 (11.8)	1.36 (0.94)	118 (74)	138 (193)	98.0 (0.1)
29	21.2 (1.7)	82.1 (2.9)	1.44 (0.78)	137 (71)	71 (86)	97.8 (0.1)
30	22.3 (3.6)	74.8 (17.1)	1.43 (1.09)	297 (97)	191 (289)	98.0 (0.2)
31	20.3 (5.2)	71.7 (17.5)	1.23 (0.94)	2 (105)	260 (315)	98.6 (0.1)
Mean	22.0	73.7	1.45	273	216	97.8
n	31	31	31	31	31	31
SD	2.5	6.3	0.28	95	53	0.5
Min	17.7	61.3	0.98	2	71	97.0
Max	27.5	84.8	2.11	318	285	98.8

Table E1. Daily means (SD) of weather parameters at Site NY5B for September, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	21.2 (5.3)	70.1 (16.6)	1.22 (0.63)	49 (108)	259 (306)	98.7 (0.1)
2		68.4 (17.3)	1.05 (0.65)	64 (102)	253 (302)	98.3 (0.2)
3			1.21 (0.68)	92 (94)	248 (300)	97.8 (0.1)
4						
5						
6						
7			1.38 (0.83)	284 (44)	158 (253)	97.9 (0.2)
8			1.43 (1.18)	255 (96)	227 (294)	98.2 (0.1)
9			2.01 (1.30)	268 (70)	105 (159)	97.8 (0.3)
10			1.17 (0.71)	11 (118)	226 (303)	98.8 (0.2)
11			1.52 (0.90)	131 (52)	211 (276)	98.8 (0.2)
12						
13			0.84 (0.57)	248 (44)	107 (143)	97.5 (0.1)
14			3.23 (1.69)	211 (48)	199 (257)	96.6 (0.5)
15			3.32 (2.00)	281 (28)	70 (102)	97.4 (0.7)
16			1.07 (0.77)	292 (97)		98.4 (0.1)
17	18.8 (5.4)	63.8 (16.6)	0.90 (0.78)	244 (91)	231 (283)	98.4 (0.1)
18	16.5 (3.0)	61.9 (15.5)	1.70 (1.07)	355 (128)	229 (287)	98.9 (0.3)
19	16.0 (5.9)	57.6 (16.7)	1.58 (1.02)	132 (60)	233 (285)	99.1 (0.2)
20	20.2 (4.4)	57.6 (8.9)	1.45 (0.96)	171 (74)	210 (259)	98.6 (0.2)
21	16.8 (1.9)	79.6 (2.9)	0.73 (0.62)	295 (95)	41 (46)	98.8 (0.2)
22	15.7 (4.5)	68.8 (17.0)	0.79 (0.70)	350 (110)	210 (274)	99.3 (0.1)
23	16.5 (5.9)	61.9 (19.3)	0.80 (0.60)	64 (99)	211 (265)	99.5 (0.1)
24	20.4 (6.8)	60.4 (17.8)	0.72 (0.46)	90 (84)	208 (262)	99.3 (0.1)
25	21.6 (4.2)	56.4 (13.5)	1.23 (0.77)	92 (46)	166 (213)	99.2 (0.1)
26	17.4 (2.6)	73.0 (8.8)	1.61 (1.10)	75 (54)	71 (90)	98.7 (0.3)
27	21.7 (2.3)	80.7 (5.8)	0.97 (0.71)	114 (81)		98.0 (0.2)
28	20.8 (1.1)	83.6 (0.8)	1.17 (0.81)	315 (90)	42 (42)	97.8 (0.1)
29	16.4 (1.2)	78.2 (3.7)	1.02 (0.69)	315 (98)	53 (60)	98.0 (0.1)
30	17.6 (2.2)	76.1 (5.2)	1.44 (1.04)	108 (79)	54 (64)	97.2 (0.3)
Mean	18.5	68.6	1.37	12	167	98.3
n	15	16	26	26	24	26
SD	2.2	8.8	0.64	105	75	0.7
Min	15.7	56.4	0.72	11	41	96.6
Max	21.7	83.6	3.32	355	259	99.5

Table E1. Daily means (SD) of weather parameters at Site NY5B for October, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	16.4 (1.5)	75.9 (5.6)	0.87 (0.85)	265 (66)	91 (134)	96.7 (0.1)
2	12.8 (1.4)	72.2 (11.8)	2.71 (1.14)	265 (24)		96.7 (0.2)
3	13.0 (1.4)	62.2 (14.1)	2.18 (1.43)	259 (22)		97.5 (0.5)
4	13.3 (2.9)	63.0 (11.9)	1.11 (0.84)	284 (87)	135 (188)	98.5 (0.1)
5	13.4 (2.7)	66.9 (12.2)	0.85 (0.73)	4 (108)	134 (200)	98.8 (0.1)
6	12.1 (2.8)	64.2 (15.3)	1.01 (0.97)	344 (112)	165 (251)	99.1 (0.2)
7	11.7 (5.5)	64.1 (17.7)	0.48 (0.46)	92 (90)	187 (252)	99.0 (0.3)
8	16.1 (4.4)	63.0 (11.4)	2.18 (1.32)	134 (60)	124 (182)	97.8 (0.4)
9	19.9 (3.1)	59.9 (14.7)	1.95 (1.28)	259 (36)	182 (239)	97.6 (0.2)
10	15.9 (4.8)	60.4 (18.2)	0.82 (0.81)	294 (96)	185 (243)	98.6 (0.3)
11	16.4 (5.7)	61.2 (16.6)	0.61 (0.46)	86 (91)	178 (237)	99.3 (0.1)
12	19.1 (6.8)	57.7 (19.2)	0.56 (0.59)	118 (79)	179 (236)	99.4 (0.2)
13	20.7 (4.2)	60.6 (12.2)	0.47 (0.49)	101 (90)	107 (155)	98.9 (0.2)
14	20.0 (4.7)	62.5 (12.7)	1.10 (1.17)	265 (94)	81 (135)	98.3 (0.2)
15	17.4 (5.1)	60.3 (16.3)	0.65 (0.62)	257 (93)	164 (228)	98.1 (0.3)
16	17.3 (2.9)	69.7 (11.1)	2.18 (1.13)	287 (78)		97.8 (0.3)
17	10.8 (2.4)	61.9 (8.5)	1.81 (1.21)	7 (128)	119 (173)	98.5 (0.1)
18	8.9 (4.0)	59.6 (15.4)	1.12 (1.04)	48 (115)	165 (225)	98.8 (0.2)
19	8.9 (5.0)	56.0 (17.7)	0.86 (0.63)	86 (79)	172 (231)	99.1 (0.1)
20	12.8 (5.0)	48.1 (14.0)	0.70 (0.57)	57 (102)	112 (167)	98.4 (0.4)
21	9.8 (3.1)	71.9 (11.1)	3.55 (1.85)	263 (38)		97.7 (0.3)
22	7.2 (0.7)	71.9 (6.4)	2.07 (0.77)	343 (140)	80 (127)	99.1 (0.5)
23	8.4 (4.0)	64.1 (11.6)	0.92 (0.62)	82 (79)	158 (219)	99.8 (0.2)
24	12.3 (2.6)	51.4 (9.9)	2.63 (1.52)	153 (47)	107 (157)	98.9 (0.3)
25	14.7 (1.9)	75.4 (5.4)	4.21 (2.47)	194 (59)	42 (57)	97.5 (0.4)
26	14.6 (2.7)	56.4 (7.3)	2.09 (1.56)	200 (68)	142 (200)	97.1 (0.2)
27	12.0 (1.4)	56.5 (12.3)	1.42 (1.26)	281 (75)	108 (178)	97.5 (0.2)
28	6.2 (2.0)	80.0 (4.6)	4.25 (1.97)	304 (78)		96.7 (0.3)
29	3.4 (0.5)	75.8 (7.5)	3.97 (1.14)	278 (11)		97.0 (0.5)
30	6.2 (2.4)	60.2 (9.8)	2.11 (1.19)	286 (85)	117 (192)	98.9 (0.4)
31						
Mean	13.1	63.8	1.71	291	135	98.2
n	30	30	30	30	24	30
SD	4.4	7.4	1.11	103	39	0.9
Min	3.4	48.1	0.47	4	42	96.7
Max	20.7	80.0	4.25	344	187	99.8

Table E1. Daily means (SD) of weather parameters at Site NY5B for November, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	9.9 (3.6)	58.6 (10.0)	1.31 (0.90)	327 (107)		98.8 (0.2)
2	7.6 (3.8)	52.3 (16.8)	1.56 (1.29)	107 (43)	140 (195)	99.3 (0.2)
3	14.6 (3.2)	55.4 (6.4)	2.17 (1.24)	124 (56)	69 (106)	98.9 (0.1)
4	17.1 (2.8)	62.2 (7.0)	1.47 (0.71)	104 (59)	92 (146)	98.7 (0.1)
5	18.2 (3.0)	65.3 (8.5)	0.88 (0.59)	83 (80)	83 (119)	98.4 (0.1)
6	16.4 (4.3)	69.7 (11.1)	0.83 (0.86)	84 (99)	89 (146)	98.0 (0.1)
7	18.2 (2.2)	71.9 (5.6)	0.97 (0.98)	118 (75)	48 (66)	97.3 (0.3)
8	14.9 (2.6)	69.7 (7.4)	1.69 (1.22)	250 (62)	42 (79)	96.6 (0.1)
9	9.9 (1.0)	60.4 (4.5)	2.65 (1.50)	246 (23)	45 (94)	96.9 (0.2)
10	5.4 (0.9)	63.4 (7.5)	3.54 (1.28)	251 (13)	49 (63)	97.7 (0.3)
11	7.0 (1.1)	62.8 (6.6)	2.88 (1.43)	271 (41)	41 (70)	98.6 (0.2)
12	9.0 (2.6)	59.3 (10.8)	0.97 (0.70)	96 (86)	102 (159)	98.8 (0.1)
13						
14	16.6 (2.4)	67.1 (8.1)	1.91 (1.08)	162 (72)	79 (118)	97.2 (0.2)
15	15.2 (0.5)	77.7 (5.6)	1.84 (1.16)	118 (90)	30 (30)	96.1 (0.6)
16	5.9 (1.7)	67.1 (7.7)	5.31 (1.55)	259 (13)	49 (96)	96.4 (0.5)
17	3.4 (1.0)	72.0 (5.4)	2.28 (1.30)	268 (46)	48 (85)	97.6 (0.2)
18	0.4 (0.7)	71.6 (9.5)	1.86 (1.13)	323 (122)	70 (121)	98.3 (0.2)
19	-0.4 (1.0)	71.6 (4.8)	0.94 (0.62)	330 (114)	48 (93)	98.1 (0.4)
20	1.0 (1.4)	71.0 (4.9)	0.83 (0.67)	6 (113)	43 (77)	97.3 (0.1)
21	-2.5 (1.8)	72.0 (6.9)	1.87 (1.43)	285 (64)	77 (148)	98.1 (0.4)
22						
23	0.5 (2.5)	60.4 (6.8)	1.48 (1.02)			98.8 (0.1)
24	4.5 (1.6)	57.1 (19.7)	3.97 (2.32)	146 (42)		97.8 (0.6)
25	5.2 (0.7)	83.3 (3.9)	1.58 (1.48)	241 (59)		96.7 (0.1)
26	3.6 (0.5)	82.8 (6.3)	3.39 (1.15)	240 (15)	27 (36)	97.0 (0.2)
27	5.0 (0.7)	67.2 (3.3)	2.63 (0.99)	228 (33)	39 (71)	97.4 (0.1)
28	5.4 (0.9)	67.7 (7.4)	3.12 (0.98)	240 (33)	29 (44)	96.8 (0.2)
29	5.0 (0.8)	62.9 (6.1)	1.97 (1.02)	266 (85)	48 (73)	97.4 (0.1)
30	4.3 (1.6)	69.4 (7.7)	2.26 (1.27)	100 (59)	21 (18)	96.6 (0.6)
Mean	7.9	66.9	2.08	222	59	97.7
n	28	28	28	27	24	28
SD	6.1	7.4	1.05	89	28	0.9
Min	-2.5	52.3	0.83	6	21	96.1
Max	18.2	83.3	5.31	330	140	99.3

Table E1. Daily means (SD) of weather parameters at Site NY5B for December, 2008.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	8.5 (1.4)	61.6 (11.3)	3.09 (1.40)	221 (59)		95.7 (0.4)
2	3.6 (1.0)	67.7 (7.1)	2.90 (1.85)	241 (56)	26 (38)	97.6 (0.5)
3	4.5 (3.1)	54.0 (7.4)	2.57 (1.56)	194 (50)	61 (96)	98.0 (0.3)
4	5.9 (3.2)	61.2 (8.2)	3.28 (1.12)	252 (50)	23 (29)	97.8 (0.4)
5	-0.5 (1.1)	57.8 (9.5)	2.41 (1.45)	255 (49)	92 (148)	98.3 (0.1)
6	-1.3 (1.3)	60.0 (8.2)	2.73 (1.53)	181 (47)	68 (106)	97.5 (0.5)
7	-3.2 (3.2)	68.8 (8.0)	4.71 (1.94)	268 (41)	28 (38)	97.2 (0.7)
8	-5.0 (2.8)	61.1 (9.3)	1.70 (1.11)	238 (83)	63 (100)	98.7 (0.1)
9	5.3 (4.7)	62.3 (9.3)	4.60 (1.90)	168 (46)	43 (74)	97.9 (0.4)
10	5.8 (5.6)	78.6 (3.8)	2.61 (1.38)	297 (77)	19 (25)	97.7 (0.5)
11	0.9 (1.6)	77.1 (2.2)	0.74 (0.49)	279 (87)	30 (45)	97.7 (0.4)
12	0.3 (1.3)	81.0 (2.7)	2.36 (0.99)	289 (49)	10 (13)	97.0 (0.5)
13	-3.1 (2.3)	69.6 (7.1)	1.73 (0.93)	224 (76)	25 (38)	98.6 (0.3)
14	4.5 (2.5)	59.3 (3.1)	4.16 (1.68)	183 (53)	47 (65)	98.5 (0.2)
15	10.4 (3.6)	67.0 (7.1)	4.64 (1.71)	229 (63)	25 (34)	98.1 (0.4)
16	-0.5 (1.0)	58.8 (5.9)	2.36 (1.28)	268 (85)	50 (82)	99.3 (0.3)
17	3.1 (1.6)	77.5 (3.8)	2.70 (0.98)	252 (65)	16 (24)	98.0 (0.4)
18	1.5 (1.3)	69.9 (3.6)	1.31 (0.90)	278 (74)	40 (60)	98.7 (0.1)
19	-1.5 (2.0)	75.8 (6.6)	2.82 (2.01)	27 (117)	13 (16)	97.8 (0.7)
20	-7.0 (1.6)	74.9 (1.7)	0.94 (0.61)	322 (111)	52 (85)	98.1 (0.2)
21	-1.8 (3.6)	69.9 (12.4)	4.35 (1.79)	213 (66)	46 (87)	96.5 (0.4)
22	-7.5 (2.1)	68.4 (7.8)	5.40 (1.22)	262 (15)	59 (97)	97.7 (0.8)
23	-2.8 (1.8)	58.5 (8.3)	2.89 (1.23)	206 (50)	68 (109)	99.2 (0.3)
24	6.3 (3.7)	70.2 (8.0)	4.93 (1.64)	199 (60)		97.4 (0.7)
25	3.4 (1.3)	59.6 (3.4)	4.11 (2.03)	269 (11)	72 (126)	98.6 (0.7)
26	2.9 (1.7)	62.5 (5.6)	2.04 (1.38)	141 (63)	29 (40)	99.1 (0.3)
27	12.5 (3.7)	75.0 (5.3)	2.68 (1.22)	195 (68)	42 (70)	98.0 (0.3)
28	11.0 (4.7)	65.6 (5.7)	4.76 (1.55)	243 (59)	50 (81)	97.2 (0.5)
29	5.5 (1.7)	55.4 (8.0)	3.07 (1.43)	256 (47)	65 (110)	97.4 (0.6)
30	1.6 (0.9)	59.0 (5.6)	4.29 (2.71)	274 (67)	54 (85)	97.2 (0.3)
31						
Mean	2.1	66.3	3.09	241	44	97.9
n	30	30	30	30	28	30
SD	5.0	7.5	1.22	56	20	0.8
Min	-7.5	54.0	0.74	27	10	95.7
Max	12.5	81.0	5.40	322	92	99.3

Table E1. Daily means (SD) of weather parameters at Site NY5B for January, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	-7.7 (1.8)	69.8 (6.5)	1.78 (0.90)	283 (95)	86 (145)	98.5 (0.3)
2	0.8 (2.1)	58.5 (9.8)	3.49 (1.80)	225 (73)	48 (73)	96.9 (0.3)
3	-1.6 (1.6)	71.7 (7.8)	3.55 (1.45)	284 (20)	45 (72)	97.8 (0.4)
4	-2.1 (6.8)	60.7 (9.7)	0.79 (0.83)	95 (100)	80 (130)	97.9 (0.4)
5	2.0 (2.6)	63.1 (13.2)	3.03 (1.38)	275 (11)	75 (127)	97.7 (0.1)
6	-1.2 (4.2)	58.3 (10.0)	1.29 (1.20)	96 (88)	70 (119)	97.5 (0.4)
7	4.8 (1.7)	77.1 (3.3)	2.69 (1.34)	192 (86)	23 (26)	95.1 (0.6)
8	-1.1 (1.7)	80.0 (6.2)	4.64 (0.99)	266 (12)	42 (71)	95.7 (0.7)
9	-4.5 (2.2)	70.7 (8.3)	2.14 (1.35)	284 (84)	88 (150)	97.8 (0.5)
10	-5.4 (3.9)	72.2 (5.7)	1.28 (1.26)	84 (84)	37 (54)	98.1 (0.5)
11	-5.3 (1.6)	74.0 (3.9)	1.64 (1.09)	310 (107)	29 (44)	97.6 (0.3)
12	-3.1 (2.1)	67.2 (5.7)	1.18 (0.99)	268 (94)	89 (149)	98.1 (0.2)
13	0.3 (2.8)	68.3 (6.9)	4.82 (1.85)	195 (71)	37 (51)	97.3 (0.5)
14	-9.6 (0.9)	67.6 (9.2)	1.98 (1.30)	278 (85)	67 (109)	97.9 (0.2)
15	-9.6 (1.9)	67.2 (5.4)	1.32 (0.74)	329 (114)	56 (90)	98.4 (0.3)
16	-11.5 (1.0)	58.6 (5.3)	4.09 (1.19)	251 (15)	106 (163)	99.0 (0.2)
17	-10.0 (2.9)	54.7 (11.4)	2.76 (1.31)	184 (60)	85 (130)	98.7 (0.5)
18	-2.7 (3.1)	69.3 (5.5)	3.68 (2.54)	155 (56)	45 (76)	97.0 (0.3)
19	-4.5 (3.6)	69.0 (6.8)	0.75 (0.67)	275 (89)	48 (71)	96.5 (0.1)
20	-7.5 (3.6)	70.0 (4.4)	1.35 (1.15)	281 (91)	63 (100)	96.9 (0.2)
21	-6.2 (1.9)	64.6 (6.9)	2.86 (1.12)	255 (17)	79 (117)	97.3 (0.1)
22	-1.1 (1.9)	68.5 (4.3)	2.82 (1.35)	250 (73)	48 (70)	97.4 (0.2)
23	5.6 (3.2)	60.8 (7.3)	2.54 (1.45)	205 (95)	79 (113)	97.0 (0.4)
24	-6.8 (4.2)	63.5 (8.0)	3.93 (1.79)	281 (15)	102 (163)	98.1 (0.5)
25	-7.6 (2.1)	55.9 (7.0)	2.33 (1.18)	251 (36)	109 (175)	98.5 (0.1)
26	-6.0 (1.8)	55.1 (6.5)	1.38 (1.12)	245 (56)	125 (191)	98.9 (0.1)
27	-3.4 (1.8)	58.0 (5.5)	1.34 (0.88)	244 (85)	107 (166)	99.0 (0.2)
28	-0.8 (2.4)	78.6 (4.2)	3.58 (1.90)	180 (87)	23 (32)	97.0 (0.8)
29	-2.2 (1.8)	63.0 (8.4)	3.41 (1.21)	247 (17)	109 (171)	97.3 (0.1)
30	-1.1 (2.0)	64.8 (7.2)	3.22 (1.05)	252 (39)	83 (137)	97.1 (0.1)
31	-5.9 (1.7)	63.6 (7.1)	2.82 (1.31)	248 (47)	112 (181)	97.4 (0.2)
Mean	-3.7	66.0	2.53	249	71	97.6
n	31	31	31	31	31	31
SD	4.1	6.7	1.12	60	29	0.9
Min	-11.5	54.7	0.75	84	23	95.1
Max	5.6	80.0	4.82	329	125	99.0

Table E1. Daily means (SD) of weather parameters at Site NY5B for February, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	5.3 (3.8)	55.3 (4.5)	2.82 (1.10)	232 (68)	(81) (125)	96.9 (0.2)
2	4.4 (1.8)	54.5 (5.3)	1.38 (1.14)	273 (86)	55 (86)	97.6 (0.1)
3	-2.2 (3.4)	62.2 (8.4)	1.14 (0.92)	14 (128)	107 (160)	97.3 (0.2)
4	-8.4 (1.6)	60.8 (5.8)	1.36 (1.00)	297 (82)	112 (166)	98.1 (0.3)
5	-9.5 (1.3)	64.4 (5.9)	1.41 (1.52)	295 (99)	94 (154)	98.8 (0.1)
6	-3.3 (3.2)	49.6 (6.4)	1.14 (0.71)	193 (83)	89 (142)	98.6 (0.1)
7	8.4 (4.5)	54.6 (6.5)	2.80 (1.50)	215 (99)	62 (116)	97.8 (0.5)
8	6.0 (2.8)	64.1 (10.6)	3.53 (1.51)	278 (16)	78 (138)	97.9 (0.5)
9	3.7 (2.6)	63.6 (8.5)	1.08 (0.74)	283 (99)	113 (174)	98.8 (0.1)
10	10.4 (2.7)	58.9 (8.7)	2.12 (0.94)	193 (97)	29 (43)	97.9 (0.3)
11	13.8 (1.9)	72.5 (3.6)	1.59 (1.15)	132 (89)	45 (82)	96.8 (0.7)
12	6.3 (4.2)	79.1 (6.6)	5.42 (2.06)	260 (43)		95.7 (0.6)
13	-1.5 (1.4)	62.6 (9.7)	2.50 (1.52)	299 (62)	133 (208)	97.6 (0.3)
14	-2.4 (1.8)	59.6 (6.0)	1.70 (0.67)	274 (28)	120 (178)	97.7 (0.1)
15	-1.9 (2.1)	56.2 (10.4)	1.92 (1.30)	288 (67)	154 (225)	98.1 (0.1)
16	-2.7 (1.5)	55.2 (8.4)	1.66 (1.18)	294 (76)	134 (208)	98.4 (0.1)
17	-1.2 (3.9)	54.1 (8.3)	1.00 (0.78)	166 (82)	130 (196)	98.4 (0.3)
18	2.0 (0.8)	57.1 (13.1)	4.96 (1.63)	158 (40)	39 (77)	96.4 (0.8)
19	-1.6 (4.0)	62.0 (8.8)	4.47 (1.70)	266 (34)	56 (98)	95.8 (0.4)
20	-6.3 (1.4)	61.8 (6.1)	6.20 (1.23)	266 (11)	57 (86)	96.7 (0.4)
21	-2.3 (3.2)	50.9 (13.4)	3.38 (1.36)	232 (68)	144 (222)	98.0 (0.3)
22	-0.8 (2.6)	50.4 (9.6)	3.52 (1.66)	259 (59)	62 (111)	97.5 (0.1)
23	-7.7 (1.0)	66.6 (4.7)	4.72 (1.04)	281 (11)	81 (122)	98.2 (0.3)
24	-7.5 (2.0)	58.0 (9.5)	2.03 (1.03)	297 (92)	146 (221)	99.0 (0.1)
25	1.1 (6.0)	39.3 (11.5)	1.98 (1.39)	127 (77)	169 (242)	98.7 (0.3)
26	7.3 (4.4)	53.5 (9.7)	2.19 (1.21)	199 (95)	113 (194)	98.2 (0.1)
27	7.2 (5.1)	66.8 (8.1)	5.80 (2.00)	207 (75)	23 (32)	97.1 (0.5)
28	-6.4 (2.0)	61.9 (7.9)	2.03 (0.81)	341 (137)	151 (225)	98.7 (0.2)
Mean	0.4	59.1	2.71	254	95	97.7
n	28	28	28	28	27	28
SD	6.0	7.5	1.52	69	41	0.9
Min	-9.5	39.3	1.00	14	23	95.7
Max	13.8	79.1	6.20	341	169	99.0

Table E1. Daily means (SD) of weather parameters at Site NY5B for March, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	-5.5 (2.2)	60.2 (8.4)	1.47 (1.16)	289 (74)	111 (177)	98.3 (0.1)
2	-7.2 (0.9)	56.6 (5.7)	3.35 (1.01)	343 (153)	88 (127)	98.3 (0.1)
3	-7.4 (2.3)	60.0 (12.2)	2.98 (1.00)	297 (48)	167 (246)	98.7 (0.2)
4	-2.7 (3.3)	60.0 (13.6)	1.96 (1.15)	282 (61)	140 (210)	98.9 (0.1)
5	4.9 (6.0)	40.3 (13.1)	2.51 (1.99)	136 (78)	177 (239)	98.6 (0.4)
6	13.6 (3.8)	50.8 (8.1)	2.92 (1.20)	262 (100)	45 (96)	97.4 (0.2)
7	10.0 (3.3)	68.4 (9.7)	1.27 (1.04)	346 (110)	96 (149)	97.6 (0.5)
8	6.1 (1.2)	76.3 (4.7)	1.32 (0.75)	280 (97)	42 (45)	97.5 (0.3)
9	5.0 (3.2)	77.8 (4.2)	2.48 (1.68)	291 (94)	25 (31)	97.6 (0.8)
10	4.9 (1.8)	80.5 (2.5)	2.72 (1.86)	142 (57)		98.3 (0.4)
11	7.5 (4.0)	67.9 (14.0)	5.82 (1.75)	250 (68)		97.5 (0.6)
12	-2.3 (0.8)	66.6 (9.6)	2.55 (1.35)	298 (58)	131 (188)	99.3 (0.2)
13	0.1 (3.3)	60.8 (12.3)	1.15 (0.69)	11 (121)	168 (227)	99.1 (0.3)
14	4.6 (5.1)	56.1 (21.1)	1.12 (0.87)	235 (96)	208 (279)	98.5 (0.1)
15	7.6 (6.0)	51.5 (22.6)	1.05 (0.72)	84 (94)	220 (284)	98.3 (0.1)
16	9.8 (6.7)	52.2 (20.3)	1.08 (0.85)	89 (80)	178 (226)	98.5 (0.1)
17	13.4 (4.1)	47.8 (8.3)	1.76 (0.84)	185 (86)	210 (272)	98.3 (0.2)
18	12.7 (2.3)	71.4 (13.5)	2.10 (1.24)	260 (85)	47 (91)	97.8 (0.1)
19	7.3 (2.8)	57.6 (16.4)	2.38 (1.06)	299 (85)		98.1 (0.2)
20	1.2 (2.0)	49.7 (10.6)	2.06 (1.05)	342 (146)	232 (295)	99.0 (0.3)
21	3.4 (5.5)	49.4 (22.3)	1.14 (0.79)	99 (97)	218 (282)	99.2 (0.2)
22	3.5 (1.8)	58.0 (15.7)	1.90 (1.15)	307 (91)	82 (149)	98.9 (0.1)
23	-1.6 (1.5)	44.3 (10.1)	2.10 (1.47)	327 (122)	241 (302)	99.2 (0.1)
24	1.8 (5.4)	50.3 (20.2)	1.30 (0.93)	82 (80)	241 (302)	99.3 (0.2)
25	9.1 (4.4)	32.1 (10.1)	3.41 (1.73)	135 (55)	198 (264)	98.3 (0.4)
26	9.2 (0.7)	67.8 (19.9)	1.94 (0.98)	156 (67)	36 (58)	97.4 (0.2)
27	11.6 (3.5)	65.7 (21.0)	1.32 (0.70)	328 (112)	182 (268)	97.7 (0.1)
28	16.0 (4.7)	52.0 (9.7)	1.77 (1.44)	91 (91)	213 (283)	97.3 (0.2)
29	12.9 (3.6)	80.2 (8.0)	3.21 (1.91)	124 (79)	110 (215)	95.8 (0.3)
30	4.3 (1.2)	82.6 (4.6)	4.19 (1.58)	275 (42)	31 (41)	96.9 (0.7)
31	8.1 (4.4)	66.5 (12.0)	1.87 (1.00)	29 (105)	165 (240)	98.2 (0.3)
Mean	5.2	60.0	2.20	306	143	98.2
n	31	31	31	31	28	31
SD	6.1	12.1	1.03	102	71	0.8
Min	-7.4	32.1	1.05	11	25	95.8
Max	16.0	82.6	5.82	346	241	99.3

Table E1. Daily means (SD) of weather parameters at Site NY5B for April, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	11.1 (0.7)	69.1 (10.4)	4.99 (2.18)	167 (74)	52 (80)	97.5 (0.1)
2	15.5 (4.1)	53.0 (22.0)	1.66 (1.04)	148 (79)	224 (297)	97.5 (0.3)
3	14.8 (3.3)	79.0 (7.6)	5.14 (2.47)	152 (57)	74 (146)	95.4 (0.7)
4	4.0 (0.7)	91.8 (2.6)	5.77 (1.68)	266 (16)	46 (55)	96.1 (0.6)
5	8.6 (3.9)	70.8 (11.9)	2.72 (1.37)	286 (93)	185 (262)	97.1 (0.1)
6	9.1 (2.5)	78.8 (6.1)	3.85 (1.77)	155 (92)	74 (149)	95.5 (0.5)
7	1.2 (0.9)	79.3 (6.1)	4.68 (1.12)	264 (9)	74 (105)	95.7 (0.3)
8	4.1 (2.5)	62.6 (16.4)	3.27 (1.06)	247 (19)	92 (130)	96.3 (0.2)
9	9.0 (3.5)	44.9 (10.9)	2.46 (1.49)	284 (96)	252 (317)	97.1 (0.3)
10	10.7 (5.2)	51.0 (18.2)	1.42 (1.08)	34 (115)	233 (310)	97.6 (0.1)
11	6.0 (2.2)	56.9 (12.4)	2.34 (1.50)	316 (111)	260 (314)	97.9 (0.2)
12	2.9 (1.9)	50.5 (8.4)	2.77 (1.56)	306 (67)	258 (336)	98.5 (0.1)
13	5.6 (4.3)	49.3 (21.5)	1.31 (0.99)	315 (115)	256 (317)	98.3 (0.3)
14	11.8 (5.4)	43.6 (13.7)	2.26 (1.35)	64 (76)	234 (304)	97.6 (0.2)
15	12.1 (4.2)	38.5 (12.1)	2.18 (1.40)	47 (115)	266 (333)	97.9 (0.2)
16	9.9 (5.4)	47.2 (19.8)	1.48 (1.09)	346 (120)	287 (340)	98.8 (0.1)
17	12.8 (6.3)	42.4 (17.8)	1.83 (1.65)	294 (90)	280 (337)	98.5 (0.3)
18	16.4 (3.4)	42.7 (15.1)	2.04 (1.19)	301 (105)	196 (264)	97.7 (0.1)
19	13.4 (3.2)	55.6 (20.0)	2.34 (0.94)	39 (113)	261 (334)	97.9 (0.1)
20	10.0 (1.7)	60.2 (18.0)	5.37 (3.06)	126 (53)	29 (35)	97.4 (0.3)
21	14.2 (3.9)	67.7 (19.4)	1.84 (1.38)	214 (86)	254 (339)	96.6 (0.2)
22	9.9 (2.0)	69.5 (13.0)	2.44 (0.98)	258 (52)	114 (183)	96.6 (0.1)
23	7.7 (2.4)	75.6 (12.8)	3.14 (1.36)	281 (19)	62 (92)	97.5 (0.5)
24	17.8 (8.2)	43.7 (17.8)	2.84 (1.68)	144 (84)	250 (312)	98.1 (0.2)
25	26.5 (4.6)	41.2 (13.8)	2.54 (1.33)	251 (71)	273 (322)	98.0 (0.2)
26	22.4 (4.5)	67.5 (15.1)	1.36 (1.07)	284 (91)	271 (327)	98.5 (0.1)
27	26.4 (7.2)	50.8 (21.4)	1.63 (1.23)	343 (114)	280 (329)	98.4 (0.1)
28	19.1 (6.9)	63.1 (21.9)	2.31 (1.82)	295 (85)	187 (286)	98.5 (0.4)
29	12.4 (5.0)	56.1 (23.8)	1.61 (1.06)	55 (115)	293 (341)	99.3 (0.2)
30	15.6 (3.3)	57.9 (17.1)	4.01 (2.32)	144 (78)	146 (198)	98.3 (0.5)
Mean	12.0	58.7	2.79	284	192	97.5
n	30	30	30	30	30	30
SD	6.2	13.6	1.27	97	88	1.0
Min	1.2	38.5	1.31	34	29	95.4
Max	26.5	91.8	5.77	346	293	99.3

Table E1. Daily means (SD) of weather parameters at Site NY5B for May, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1						
2						
3						
4	15.3 (3.6)	53.2 (18.3)	1.14 (0.74)	15 (137)	173 (199)	97.9 (0.2)
5	13.6 (4.1)	68.6 (9.2)	1.55 (1.01)	103 (73)	87 (128)	98.0 (0.1)
6	17.7 (3.0)	70.4 (11.9)	1.57 (0.87)	119 (68)	165 (240)	97.6 (0.2)
7	16.6 (1.3)	85.1 (6.0)	2.10 (1.21)	274 (95)	93 (132)	96.9 (0.2)
8	20.1 (3.5)	70.7 (13.7)	1.50 (0.90)	232 (84)	219 (317)	96.9 (0.1)
9	20.2 (4.2)	67.2 (11.1)	3.74 (2.63)	247 (79)	233 (294)	96.4 (0.3)
10	10.6 (0.6)	73.3 (4.1)	3.98 (1.14)	274 (11)	71 (103)	97.5 (0.3)
11	11.3 (4.3)	55.9 (21.8)	1.41 (0.97)	302 (95)	318 (358)	98.0 (0.1)
12	12.3 (5.7)	50.6 (21.5)	1.67 (1.07)	354 (113)	320 (360)	98.4 (0.2)
13	17.2 (6.9)	42.7 (20.8)	2.68 (1.66)	133 (72)	316 (361)	98.6 (0.3)
14	17.5 (2.9)	72.9 (10.0)	4.25 (2.98)	199 (86)	117 (170)	97.8 (0.2)
15	17.1 (4.9)	60.3 (16.4)	1.28 (0.80)	67 (112)	299 (358)	98.5 (0.2)
16	20.4 (4.0)	76.5 (10.9)	3.34 (1.60)	206 (88)	146 (266)	97.4 (0.3)
17	10.3 (2.5)	54.2 (14.7)	2.90 (1.57)	295 (60)	300 (346)	98.2 (0.2)
18	10.0 (3.5)	53.9 (20.1)	1.88 (1.26)	319 (113)	313 (372)	98.8 (0.1)
19	16.2 (7.6)	41.8 (23.1)	1.52 (0.97)	181 (93)	335 (365)	98.9 (0.1)
20	23.3 (7.4)	37.9 (18.9)	1.56 (0.85)	212 (89)	311 (336)	98.7 (0.2)
21	26.2 (5.3)	33.2 (14.2)	1.98 (1.44)	248 (86)	338 (366)	98.3 (0.2)
22	21.6 (3.3)	59.5 (9.7)	1.42 (1.09)	317 (119)	282 (311)	98.2 (0.1)
23	20.9 (5.8)	64.4 (15.2)	1.18 (0.77)	40 (115)	262 (321)	98.1 (0.2)
24	20.2 (4.3)	61.0 (16.8)	1.38 (1.04)	311 (109)	260 (337)	97.8 (0.1)
25	16.1 (4.8)	55.1 (18.0)	1.56 (1.08)	341 (123)	339 (365)	98.1 (0.2)
26	14.5 (4.3)	62.5 (18.2)	2.00 (1.08)	122 (55)	185 (228)	98.2 (0.2)
27	18.7 (3.7)	79.3 (6.2)	1.79 (0.86)	139 (68)	148 (190)	97.3 (0.2)
28	22.5 (2.4)	80.9 (4.6)	2.10 (1.11)	145 (69)	130 (167)	96.9 (0.2)
29	19.5 (1.9)	81.6 (7.9)	1.93 (1.21)	266 (76)	112 (147)	96.7 (0.1)
30	18.0 (2.5)	61.9 (19.7)	2.29 (1.56)	274 (87)	314 (370)	96.9 (0.1)
31	13.7 (2.9)	58.8 (17.9)	2.90 (1.98)	280 (61)	300 (371)	97.2 (0.4)
Mean	17.2	61.9	2.09	261	232	97.8
n	28	28	28	28	28	28
SD	4.1	13.2	0.85	93	89	0.7
Min	10.0	33.2	1.14	15	71	96.4
Max	26.2	85.1	4.25	354	339	98.9

Table E1. Daily means (SD) of weather parameters at Site NY5B for June, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	15.8 (5.8)	55.4 (15.3)	1.47 (0.81)	181 (76)	152 (185)	97.7 (0.3)
2	17.1 (2.5)	68.6 (11.8)	1.51 (0.80)	313 (105)	220 (307)	97.8 (0.1)
3	16.8 (3.5)	66.3 (15.5)	1.05 (0.74)	276 (95)	195 (250)	97.9 (0.1)
4	16.6 (5.0)	60.9 (19.2)	1.18 (0.86)	355 (117)	333 (361)	97.8 (0.1)
5	19.0 (5.8)	62.4 (17.3)	1.02 (0.76)	160 (69)	234 (293)	97.5 (0.2)
6	20.9 (4.3)	56.7 (19.3)	1.53 (1.20)	296 (102)	301 (334)	97.5 (0.1)
7	20.2 (3.9)	58.0 (14.2)	0.99 (0.78)	294 (105)	173 (214)	97.8 (0.1)
8	21.0 (4.1)	68.5 (17.3)	0.95 (0.65)	107 (93)	238 (296)	97.7 (0.2)
9	23.3 (4.2)	71.9 (11.7)	2.10 (1.34)	282 (101)	274 (333)	97.2 (0.2)
10	20.1 (3.8)	70.5 (11.3)	0.95 (0.58)	254 (98)	215 (278)	97.5 (0.1)
11	22.9 (3.0)	79.2 (9.6)	1.35 (0.83)	125 (84)	124 (180)	97.1 (0.2)
12	21.3 (2.8)	80.1 (13.8)	1.36 (0.83)	307 (103)	141 (196)	97.1 (0.2)
13	19.9 (3.8)	74.6 (12.8)	1.06 (0.72)	61 (101)	185 (263)	97.6 (0.1)
14	20.9 (4.6)	64.4 (16.5)	1.23 (0.76)	310 (104)	341 (369)	97.7 (0.1)
15	19.7 (4.6)	66.2 (16.5)	1.51 (0.90)	41 (113)	295 (368)	97.9 (0.1)
16	21.5 (5.3)	62.7 (16.8)	1.35 (0.65)	105 (65)	301 (354)	98.2 (0.1)
17	20.0 (2.5)	72.3 (10.2)	3.33 (1.69)	112 (48)	127 (162)	98.0 (0.2)
18	19.0 (1.8)	86.1 (3.9)	2.29 (1.08)	185 (82)	63 (75)	97.2 (0.1)
19	19.2 (2.4)	84.1 (9.8)	1.43 (0.74)	294 (93)	123 (163)	97.2 (0.1)
20	19.7 (1.6)	88.3 (2.5)	1.82 (0.95)	64 (97)	55 (63)	96.5 (0.2)
21	21.0 (2.8)	85.8 (8.0)	1.96 (0.85)	298 (61)	161 (216)	96.8 (0.1)
22	22.5 (2.7)	74.7 (13.1)	2.14 (1.34)	337 (136)	301 (355)	97.0 (0.1)
23	22.3 (4.2)	70.1 (14.0)	1.70 (1.29)	334 (127)	329 (356)	97.3 (0.1)
24	24.2 (5.7)	64.0 (19.2)	1.44 (1.04)	325 (118)	334 (355)	97.3 (0.1)
25	25.2 (4.8)	69.8 (11.2)	1.54 (1.24)	301 (98)	231 (314)	97.0 (0.1)
26	23.5 (2.7)	78.2 (10.6)	1.08 (0.74)	280 (93)	167 (239)	96.8 (0.0)
27	21.9 (2.5)	77.1 (10.7)	1.87 (1.16)	302 (85)	179 (241)	97.1 (0.1)
28	22.9 (4.5)	71.1 (19.5)	1.14 (0.90)	255 (70)	268 (355)	96.7 (0.3)
29	22.5 (2.7)	75.2 (11.7)	1.49 (1.01)	277 (94)	241 (339)	96.1 (0.1)
30						97.3 (0.0)
Mean	20.7	71.1	1.51	303	217	97.3
n	29	29	29	29	29	30
SD	2.3	8.8	0.50	95	80	0.5
Min	15.8	55.4	0.95	41	55	96.1
Max	25.2	88.3	3.33	355	341	98.2

Table E1. Daily means (SD) of weather parameters at Site NY5B for July, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1						97.3 (0.0)
2						97.3 (0.0)
3						97.3 (0.0)
4	19.3 (2.2)	71.6 (11.3)	3.18 (1.56)	284 (61)	205 (294)	97.3 (0.0)
5	20.2 (5.1)	62.8 (18.8)	1.33 (0.90)	285 (101)	341 (365)	97.3 (0.0)
6	21.4 (3.8)	68.9 (16.0)	1.40 (0.96)	325 (108)	297 (363)	97.3 (0.0)
7	20.4 (2.4)	74.5 (10.0)	1.75 (1.03)	296 (103)	215 (304)	97.3 (0.0)
8	19.0 (2.7)	77.5 (11.0)	1.41 (1.02)	288 (85)	186 (249)	97.3 (0.0)
9	21.2 (4.9)	70.2 (16.8)	1.14 (0.67)	59 (114)	273 (321)	97.3 (0.0)
10	25.2 (4.4)	60.7 (16.2)	1.47 (0.73)	160 (74)	316 (356)	97.3 (0.0)
11	23.9 (2.0)	75.2 (7.0)	2.28 (0.96)	232 (81)	130 (184)	97.3 (0.0)
12	19.2 (3.1)	62.0 (15.4)	2.02 (1.30)	286 (85)	313 (362)	97.3 (0.0)
13	19.0 (3.8)	61.8 (17.5)	1.87 (1.64)	270 (77)	255 (342)	97.3 (0.0)
14	19.1 (3.7)	64.0 (14.3)	2.02 (1.65)	296 (101)	303 (341)	97.3 (0.0)
15	22.5 (5.3)	61.2 (17.2)	1.14 (0.78)	201 (88)	293 (341)	97.3 (0.0)
16	25.8 (3.1)	65.1 (10.4)	2.04 (1.36)	265 (97)	264 (322)	97.3 (0.0)
17	22.7 (1.4)	71.5 (8.5)	1.23 (0.71)	181 (85)	105 (131)	97.3 (0.0)
18	21.3 (2.1)	72.7 (11.7)	1.94 (1.13)	269 (76)	180 (263)	97.3 (0.0)
19	20.5 (2.9)	72.8 (10.1)	1.61 (1.09)	281 (96)	194 (264)	97.3 (0.0)
20						97.3 (0.0)
21						97.3 (0.0)
22						97.3 (0.0)
23						97.3 (0.0)
24						97.3 (0.0)
25	25.2 (4.0)	67.8 (15.0)	1.81 (1.29)	148 (86)	235 (294)	98.1 (0.2)
26	24.9 (2.7)	74.4 (11.5)	1.79 (0.91)	205 (79)	190 (258)	98.0 (0.1)
27	24.0 (2.7)	71.5 (10.5)	1.71 (1.11)	250 (80)	197 (262)	98.3 (0.1)
28	27.4 (4.2)	62.3 (11.9)	1.02 (0.79)	224 (87)	262 (314)	98.3 (0.1)
29	25.9 (1.9)	75.4 (10.6)	0.83 (0.57)	192 (83)	111 (150)	97.9 (0.1)
30	24.9 (3.3)	69.1 (18.2)	1.40 (0.75)	268 (86)	301 (343)	98.2 (0.1)
31	22.6 (1.7)	81.0 (8.8)	0.71 (0.66)	253 (87)	110 (164)	98.3 (0.2)
Mean	22.4	69.3	1.61	253	229	97.5
n	23	23	23	23	23	31
SD	2.6	5.7	0.52	60	70	0.3
Min	19.0	60.7	0.71	59	105	97.3
Max	27.4	81.0	3.18	325	341	98.3

Table E1. Daily means (SD) of weather parameters at Site NY5B for August, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	25.3 (4.3)	65.3 (15.3)	1.07 (0.80)	214 (84)	286 (341)	98.7 (0.1)
2	24.1 (1.8)	79.7 (7.5)	1.48 (0.96)	246 (70)	107 (176)	98.2 (0.1)
3	23.8 (4.2)	64.4 (16.3)	1.03 (0.76)	195 (88)	286 (331)	98.6 (0.1)
4	26.9 (3.6)	61.6 (9.8)	1.40 (0.91)	200 (88)	274 (330)	98.3 (0.2)
5	22.1 (2.7)	67.6 (12.1)	2.10 (0.97)	283 (75)	236 (280)	98.5 (0.2)
6	20.2 (4.1)	70.0 (14.8)	1.46 (1.26)	266 (89)	243 (299)	98.6 (0.1)
7	20.1 (3.4)	69.2 (15.7)	1.60 (1.29)	299 (94)	270 (329)	99.0 (0.2)
8	21.7 (4.7)	65.5 (13.7)	1.19 (0.59)	134 (79)	213 (266)	99.2 (0.2)
9	24.0 (1.8)	83.8 (3.9)	1.71 (1.06)	212 (78)	57 (91)	98.6 (0.2)
10	26.8 (3.3)	80.5 (9.5)	1.94 (1.16)	257 (71)		98.3 (0.1)
11						
12	25.0 (3.6)	76.2 (12.4)	0.92 (0.65)	355 (116)	217 (272)	98.6 (0.1)
13	25.0 (3.8)	77.7 (14.0)	1.09 (0.84)	319 (112)	240 (319)	99.0 (0.1)
14	26.0 (5.6)	69.1 (20.0)	0.99 (0.53)	102 (93)	286 (329)	99.2 (0.1)
15	28.2 (4.6)	69.3 (15.9)	0.93 (0.59)	154 (94)	241 (291)	99.1 (0.1)
16	28.5 (4.2)	71.7 (15.3)	1.14 (0.81)	136 (92)	246 (298)	99.1 (0.1)
17	29.1 (4.9)	69.2 (15.0)	1.08 (1.07)	202 (95)	253 (300)	99.0 (0.1)
18	27.8 (2.5)	70.2 (7.5)	1.84 (1.07)	236 (56)	198 (269)	98.6 (0.2)
19	26.0 (2.8)	73.4 (13.1)	1.24 (0.94)	281 (93)	223 (285)	98.5 (0.1)
20	27.8 (3.8)	73.9 (9.8)	1.90 (1.05)	142 (77)	218 (280)	98.2 (0.2)
21	26.1 (1.4)	81.2 (5.8)	1.36 (0.91)	203 (72)	94 (143)	98.0 (0.1)
22	26.6 (3.6)	74.3 (14.3)	0.84 (0.68)	57 (100)	190 (275)	98.1 (0.1)
23	22.7 (1.4)	88.0 (4.9)	1.13 (0.85)	287 (69)	78 (107)	98.3 (0.2)
24	22.1 (2.2)	83.7 (9.3)	1.20 (0.81)	289 (90)	121 (182)	98.9 (0.1)
25	22.3 (4.1)	78.0 (13.2)	0.59 (0.59)	212 (92)		99.0 (0.2)
26	21.7 (2.0)	82.4 (5.4)	1.16 (0.87)	277 (72)	65 (90)	98.7 (0.1)
27	18.9 (3.2)	68.8 (17.5)		29 (116)	223 (286)	99.1 (0.1)
28	20.2 (3.4)	75.9 (14.5)	1.24 (0.76)	91 (70)	143 (231)	98.8 (0.3)
29	22.7 (2.6)	82.8 (5.7)	1.38 (0.99)	204 (86)	124 (213)	97.7 (0.2)
30	19.0 (1.6)	79.8 (5.5)	1.71 (1.05)	256 (30)	110 (178)	98.3 (0.3)
31	17.0 (3.0)	73.4 (17.1)	0.99 (0.76)	314 (108)	180 (256)	99.2 (0.2)
Mean	23.9	74.2	1.30	235	194	98.6
n	30	30	29	30	28	30
SD	3.2	6.6	0.36	79	71	0.4
Min	17.0	61.6	0.59	29	57	97.7
Max	29.1	88.0	2.10	355	286	99.2

Table E1. Daily means (SD) of weather parameters at Site NY5B for September, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	17.6 (4.9)	71.1 (16.6)	0.89 (0.57)	71 (103.0)	215 (284)	99.6 (0.1)
2	20.0 (5.6)	70.5 (17.7)	0.78 (0.43)	81 (96)	246 (298)	99.5 (0.2)
3	21.6 (5.5)	69.5 (19.8)	0.78 (0.50)	78 (98)	247 (298)	99.1 (0.2)
4	20.0 (4.8)	73.9 (16.0)	1.03 (0.81)	22 (102)	233 (289)	99.0 (0.1)
5	20.4 (4.9)	75.1 (12.0)	0.92 (0.72)	28 (110)	210 (277)	99.3 (0.1)
6	20.3 (4.8)	69.2 (18.7)	0.81 (0.53)	85 (95)	235 (288)	99.6 (0.1)
7	22.4 (3.1)	74.5 (9.4)	1.10 (0.75)	127 (90)	209 (273)	99.3 (0.1)
8	23.1 (3.7)	74.2 (14.8)	0.61 (0.50)	74 (107)	169 (235)	99.0 (0.1)
9	21.6 (4.0)	77.0 (12.4)	0.52 (0.54)	65 (112)	152 (212)	99.3 (0.2)
10	19.0 (2.6)	66.6 (13.7)	1.41 (0.91)	102 (54)	161 (209)	99.8 (0.1)
11						
12	20.2 (1.8)	82.2 (3.6)	1.18 (0.67)	357 (127)	82 (114)	98.7 (0.1)
13	19.4 (2.6)	82.6 (6.0)	0.98 (0.93)	279 (54)	87 (124)	98.5 (0.1)
14	20.0 (3.1)	79.5 (11.8)	1.18 (1.20)	264 (74)	155 (232)	98.4 (0.1)
15	19.6 (3.3)	76.7 (12.5)	1.26 (0.82)	306 (92)	162 (256)	98.6 (0.3)
16	17.1 (4.2)	74.6 (12.8)	1.13 (0.84)	42 (122)	180 (254)	99.3 (0.1)
17	19.1 (2.5)	75.9 (10.7)	1.25 (0.70)	156 (70)	132 (202)	99.2 (0.2)
18	17.7 (2.5)	75.2 (8.4)	1.72 (1.29)	287 (77)	87 (149)	98.8 (0.2)
19	14.0 (3.9)	69.0 (14.2)	0.97 (0.68)	355 (121)	217 (274)	99.6 (0.1)
20	17.5 (7.1)	64.1 (21.5)	0.99 (0.56)	104 (74)	214 (273)	99.5 (0.1)
21	21.6 (3.9)	68.8 (7.6)	2.03 (0.83)	126 (78)	175 (243)	99.3 (0.1)
22	22.9 (1.5)	79.0 (3.6)	1.22 (0.59)	156 (86)	67 (109)	99.2 (0.1)
23	25.0 (2.5)	80.0 (8.1)	1.40 (0.85)	252 (66)	109 (169)	98.8 (0.2)
24	20.3 (3.0)	71.0 (17.0)	1.02 (0.82)	316 (114)	157 (211)	98.9 (0.1)
25	14.5 (3.2)	73.1 (16.4)	1.28 (1.00)	54 (111)	168 (248)	99.5 (0.2)
26	15.2 (2.8)	71.8 (9.2)	2.85 (1.46)	144 (64)	131 (201)	99.0 (0.5)
27	17.2 (1.2)	88.4 (2.2)	1.05 (0.97)	228 (78)	35 (47)	97.4 (0.3)
28	17.4 (1.6)	75.3 (11.5)	2.41 (1.46)	220 (71)	82 (150)	96.7 (0.2)
29	14.5 (1.3)	81.1 (8.6)	2.76 (1.19)	258 (72)	33 (55)	96.9 (0.4)
30	9.8 (0.6)	84.6 (5.5)	2.37 (0.88)	288 (21)	44 (77)	98.2 (0.2)
Mean	18.9	75.0	1.31	61	152	98.9
n	29	29	29	29	29	29
SD	3.2	5.5	0.60	105	64	0.8
Min	9.8	64.1	0.52	22	33	96.7
Max	25.0	88.4	2.85	357	247	99.8

Table E1. Daily means (SD) of weather parameters at Site NY5B for October, 2009.

Day	Temp, ºC	RH, %	Wind Spd, m/s	Wind Dir, °	Solar, W/m^2	Atm P, kPa
1	9.3 (1.1)	85.6 (4.5)	1.63 (1.03)	294 (88)	37 (57)	98.5 (0.1)
2	12.2 (1.8)	82.0 (4.1)	2.55 (1.69)	113 (50)		98.2 (0.3)
3						
4	14.9 (2.9)	75.6 (9.8)	1.30 (0.87)	251 (84)	99 (169)	98.2 (0.1)
5	13.9 (1.6)	75.8 (7.9)	2.24 (1.23)	259 (16)	79 (137)	98.3 (0.1)
6	15.2 (3.5)	71.4 (14.6)	1.56 (1.34)	231 (77)	145 (213)	98.1 (0.5)
7	14.0 (1.8)	79.6 (5.2)	4.43 (1.69)	260 (43)	21 (31)	97.2 (0.6)
8	14.5 (3.0)	70.2 (11.7)	1.32 (1.13)	267 (88)	135 (198)	98.7 (0.1)
9	15.1 (0.8)	83.7 (7.4)	1.05 (0.63)	278 (102)	22 (32)	97.9 (0.3)
10	11.6 (2.9)	76.0 (17.9)	1.68 (1.02)	312 (97)	105 (187)	98.4 (0.5)
11	10.0 (1.8)	60.9 (14.6)	2.29 (1.33)	277 (40)	152 (219)	99.3 (0.3)
12	7.8 (2.9)	72.5 (10.7)	1.14 (0.95)	108 (82)	63 (107)	99.5 (0.3)
13	9.0 (1.2)	83.3 (5.7)	1.96 (1.33)	280 (59)	46 (95)	98.9 (0.3)
14	6.1 (1.7)	78.7 (8.1)	1.05 (0.62)	345 (133)	66 (100)	99.3 (0.1)
15	5.1 (1.6)	71.3 (6.7)	2.02 (1.06)	66 (50)	50 (71)	98.7 (0.2)
16	6.5 (2.1)	73.8 (10.6)	1.31 (0.86)	50 (115)	83 (146)	98.6 (0.1)
17	8.5 (2.4)	68.7 (13.5)	0.99 (0.76)	327 (124)	85 (136)	98.9 (0.1)
18	7.4 (3.4)	71.6 (13.6)	1.10 (1.10)	289 (95)	118 (186)	99.1 (0.1)
19	9.6 (5.2)	62.5 (16.4)	0.94 (0.87)	228 (88)	142 (198)	99.0 (0.2)
20	14.8 (1.6)	61.3 (9.8)	1.09 (0.77)	243 (82)	52 (77)	98.9 (0.1)
21	17.0 (2.7)	70.0 (11.6)	0.55 (0.53)	327 (101)	53 (93)	99.0 (0.2)
22	16.6 (4.0)	60.3 (18.2)	1.99 (1.12)	264 (82)	56 (87)	98.4 (0.2)
23	10.2 (3.3)	83.4 (6.8)	3.00 (2.07)	98 (91)	56 (108)	98.5 (0.5)
24						
25						
26						
27						
28						
29						
30						
31						
Mean	11.3	73.6	1.69	235	79	98.6
n	22	22	22	22	21	22
SD	3.6	7.7	0.86	88	40	0.5
Min	5.1	60.3	0.55	50	21	97.2
Max	17.0	85.6	4.43	345	152	99.5

Table E2. Animal and milk characteristics

Table E2. Daily means of animal and milk characteristics at Site NY5B for October, 2007.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24	460	266,000	82.3	190	33,000	33.9	11.5	3.07
25	460	266,000	82.3	190	32,600	33.6	11.0	3.09
26	460	266,000	82.3	190	32,800	33.9	10.9	3.09
27	460	266,000	82.3	190	33,400	34.6	11.2	3.10
28	462	267,000	82.6	190	33,800	35.0	10.5	3.13
29	464	268,000	83.0	190	34,100	35.3	9.49	3.15
30	464	268,000	83.0	190	34,700	35.7	9.02	3.13
31	464	268,000	83.0	190	34,300	35.3	8.7	3.12
Mean	462	267,000	82.6	190	33,600	34.7	10.3	3.11
n	8	8	8	8	8	8	8	8
SD	2	1,070	0.3	0	714	0.7	1.0	0.02
Min	460	266,000	82.3	190	32,600	33.6	8.7	3.07
Max	464	268,000	83	190	34,700	35.7	11.5	3.15

Table E2. Daily means of animal and milk characteristics at Site NY5B for November, 2007.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	464	268000	83.0	190	33500	34.8	8.95	3.14
2	464	268000	83.0	190	33300	34.7	9.20	3.15
3	464	268000	83.0	190	33300	34.8	9.39	3.16
4	460	266000	82.3	190	34100	35.6	9.61	3.16
5	456	263000	81.6	190	34300	35.7	9.57	3.14
6	456	263000	81.6	190	33600	34.9	10.4	3.13
7	456	263000	81.6	190	33800	35.1	11.2	3.12
8	456	263000	81.6	190	33600	35.1	9.79	3.12
9	456	263000	81.6	190	33400	35.0	8.95	3.12
10	456	263000	81.6	190	33800	35.3	9.30	3.13
11	458	265000	81.9	190	34500	35.8	9.35	3.13
12	460	266000	82.3	190	34500	35.7	9.27	3.14
13	460	266000	82.3	190	34400	35.5	9.32	3.13
14	460	266000	82.3	190	34300	35.5	9.47	3.12
15	464	268000	83.0	190	34000	35.3	9.04	3.14
16	468	270000	83.7	190	33800	35.4	8.99	3.15
17	468	270000	83.7	190	33900	35.3	9.27	3.16
18	468	270000	83.6	190	34000	35.3	9.50	3.17
19	467	270000	83.4	190	33900	35.0	9.77	3.17
20	466	269000	83.4	190	34000	35.0	9.59	3.15
21	466	269000	83.4	190	34200	35.1	9.56	3.13
22	466	269000	83.4	190	34300	35.4	9.43	3.14
23	466	269000	83.4	190	34100	35.6	9.50	3.16
24	466	269000	83.4	190	34000	35.4	9.51	3.16
25	464	268000	83.0	190	34000	35.4	9.27	3.14
26	462	267000	82.6	190	34400	35.5	9.02	3.13
27	462	267000	82.6	190	34700	35.7	9.09	3.12
28	462	267000	82.6	190	34600	35.5	9.29	3.14
29	462	267000	82.6	190	34400	35.6	9.48	3.15
30	472	273000	84.4	190	34100	35.5	9.88	3.16
Mean	462	267000	82.7	190	34000	35.3	9.46	3.14
n	30	30	30	30	30	30	30	30
SD	4	2500	0.8	0	369	0.3	0.44	0.02
Min	456	263000	81.6	190	33300	34.7	8.95	3.12
Max	472	273000	84.4	190	34700	35.8	11.2	3.17

Table E2. Daily means of animal and milk characteristics at Site NY5B for December, 2007.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	479	276000	85.6	190	34000	35.2	9.92	3.17
2	473	273000	84.6	190	33800	35.0	9.61	3.16
3	469	271000	83.9	190	33400	34.5	9.27	3.15
4	467	270000	83.5	190	33200	34.3	10.1	3.12
5	473	274000	84.7	190	33200	34.2	11.8	3.10
6				190	33200	34.3	11.4	3.11
7	474	274000	84.8	190	33000	34.3	10.8	3.10
8	469	271000	83.9	190	33200	34.4	11.1	3.09
9	464	268000	82.9	190	33400	34.5	11.7	3.10
10	466	269000	83.4	190	33700	34.9	12.1	3.09
11	471	272000	84.2	190	34000	35.1	11.9	3.08
12	470	272000	84.2	190	33900	34.8	11.5	3.09
13	472	273000	84.4	190	33700	34.8	10.6	3.10
14	474	274000	84.8	190	33800	35.1	11.4	3.11
15	476	275000	85.2	190	33900	35.3	11.7	3.11
16	473	273000	84.6	190	34000	35.2	10.8	3.11
17	469	271000	84.0	190	34100	35.2	11.0	3.10
18	471	272000	84.2	190	34100	35.1	11.4	3.10
19	471	272000	84.3	190	33800	34.8	11.4	3.08
20	472	273000	84.4	190	33600	34.8	11.2	3.07
21	475	275000	85.1	190	33800	35.3	10.8	3.07
22	479	277000	85.8	190	34000	35.4	10.3	3.07
23	475	274000	84.9	190	34300	35.6	10.3	3.07
24	468	270000	83.7	190	34300	35.7	10.9	3.08
25	467	270000	83.5	190	34300	35.7	11.5	3.09
26	471	272000	84.3	190	34000	35.2	11.4	3.09
27	478	276000	85.5	190	33700	35.2	10.3	3.08
28	481	278000	86.1	190	34000	35.8	9.10	3.09
29	484	280000	86.7	190	34100	35.9	8.44	3.09
30	477	276000	85.3	190	33700	35.5	8.45	3.09
31	466	269000	83.4	190	33400	35.1	8.55	3.08
Mean	473	273000	84.5	190	33800	35.0	10.7	3.10
n	30	30	30	31	31	31	31	31
SD	5	2760	0.9	0	351	0.5	1.04	0.02
Min	464	268000	82.9	190	33000	34.2	8.44	3.07
Max	484	280000	86.7	190	34300	35.9	12.1	3.17

Table E2. Daily means of animal and milk characteristics at Site NY5B for January, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	464	268,000	82.9	190	33,500	35.3	8.65	3.08
2	465	269,000	83.2	190	33,300	35.3	8.75	3.07
3	468	270,000	83.7	190	33,200	35.3	8.85	3.06
4	471	272,000	84.3	190	33,300	35.6	9.40	3.06
5	474	274,000	84.8	190	33,400	35.5	9.60	3.04
6	469	271,000	83.8	190	33,800	35.8	9.49	3.03
7	461	266,000	82.4	190	34,000	36.0	10.5	3.01
8	460	266,000	82.3	190	34,100	36.1	11.0	3.00
9	465	269,000	83.2	190	34,000	36.1	10.4	3.01
10	469	271,000	84.0	190	33,700	35.8	10.2	3.03
11	475	274,000	85.0	190	33,700	36.0	10.2	3.04
12	480	277,000	85.9	190	34,000	36.1	9.89	3.06
13	474	274,000	84.7	190	34,600	36.6	10.2	3.08
14	468	270,000	83.7	190	34,700	36.6	10.6	3.09
15	471	272,000	84.3	190	35,000	36.8	10.4	3.09
16	474	274,000	84.7	190	35,500	37.3	9.86	3.08
17	481	278,000	86.1	190	35,100	37.0	9.63	3.09
18	484	279,000	86.5	190	35,100	37.1	9.78	3.10
19	479	277,000	85.8	190	35,500	37.5	10.1	3.10
20	477	276,000	85.3	190	35,400	37.4	10.4	3.13
21	472	272,000	84.3	190	35,400	37.3	10.2	3.15
22	471	272,000	84.2	190	35,400	37.3	11.0	3.13
23	473	273,000	84.6	190	35,100	37.0	10.9	3.12
24	474	274,000	84.9	190	34,900	37.0	9.98	3.11
25	480	278,000	85.9	190	34,900	37.3	10.4	3.12
26	481	278,000	85.9	190	34,800	37.0	10.8	3.12
27	478	276,000	85.6	190	34,800	36.7	10.9	3.11
28	480	277,000	85.9	190	34,800	36.6	10.6	3.09
29	479	277,000	85.7	190	35,100	36.7	10.3	3.07
30	482	279,000	86.3	190	34,900	36.6	10.6	3.08
31	489	282,000	87.4	190	34,300	35.9	10.5	3.10
Mean	474	274,000	84.8	190	34,500	36.5	10.1	3.08
n	31	31	31	31	31	31	31	31
SD	7.0	3990	1.2	0	724	0.7	0.62	0.04
Min	460	266,000	82.3	190	33,200	35.3	8.65	3.00
Max	489	282,000	87.4	190	35,500	37.5	11.0	3.15

Table E2. Daily means of animal and milk characteristics at Site NY5B for February, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	494	286000	88.5	190	34500	35.9	10.2	3.09
2	497	287000	89.0	190	35200	36.7	10.1	3.09
3	493	285000	88.1	190	35300	36.8	10.1	3.08
4	491	284000	87.8	190	35000	36.3	9.82	3.09
5	496	287000	88.7	190	35300	36.4	10.1	3.09
6	497	287000	88.8	190	35400	36.5	10.5	3.07
7	494	285000	88.4	190	35200	36.6	10.2	3.09
8	496	287000	88.8	190	35300	37.0	9.47	3.10
9	503	291000	90.0	190	35000	36.5	9.06	3.10
10	496	286000	88.6	190	34900	36.2	9.34	3.13
11	489	283000	87.5	190	35500	36.7	9.17	3.14
12	496	287000	88.7	190	35500	36.6	9.60	3.11
13	500	289000	89.4	190	35100	36.0	8.65	2.70
14	496	286000	88.6	190	35700	36.6	7.55	2.70
15	483	279000	86.3	190	35700	36.8	8.54	3.10
16	476	275000	85.1	190	35300	36.3	8.07	3.11
17	480	277000	85.9	190	35500	36.6	7.60	3.12
18	484	280000	86.6	190	35300	36.2	7.79	3.11
19	485	280000	86.8	190	35300	36.0	7.54	3.10
20	484	280000	86.7	190	36000	36.6	7.64	3.12
21	486	281000	86.9	190	35600	36.5	7.67	3.14
22	490	283000	87.7	190	35200	36.4	7.61	3.13
23	497	287000	88.9	190	35400	36.5	8.34	3.12
24	482	278000	86.1	190	35500	36.3	9.00	3.10
25	466	270000	83.4	190	36000	36.6	9.22	3.08
26	470	271000	84.0	190	36300	36.9	8.90	3.06
27	471	272000	84.3	190	35900	36.5	8.61	3.07
28	476	275000	85.2	190	35300	35.9	8.92	3.09
29	480	277000	85.9	190	35300	36.0	9.11	3.09
Mean	488	282000	87.3	190	35400	36.4	8.91	3.07
n	29	29	29	29	29	29	29	29
SD	10	5510	1.7	0	364	0.3	0.93	0.10
Min	466	270000	83.4	190	34500	35.9	7.54	2.70
Max	503	291000	90.0	190	36300	37.0	10.5	3.14

Table E2. Daily means of animal and milk characteristics at Site NY5B for March, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	481	278000	86.1	190	35600	36.2	9.31	3.09
2	470	272000	84.1	190	35700	36.4	9.54	3.10
3	461	266000	82.5	190	36100	36.7	9.69	3.10
4	464	268000	83.1	190	36300	37.0	9.94	3.08
5	465	269000	83.2	190	35600	36.2	10.4	3.09
6	466	270000	83.4	190	34800	35.6	10.4	3.09
7	473	273000	84.6	190	34900	35.9	10.2	3.08
8	481	278000	86.0	190	35100	35.9	10.6	3.10
9	473	273000	84.6	190	34600	35.2	10.6	3.14
10	461	266000	82.5	190	35100	35.6	10.6	3.16
11	461	266000	82.5	190	35800	36.3	11.2	3.14
12	465	269000	83.2	190	35800	36.2	11.9	3.11
13	468	270000	83.6	190	35500	36.0	11.9	3.09
14	469	271000	84.0	190	35500	36.2	11.3	3.08
15	473	273000	84.6	190	35800	36.6	11.5	3.09
16	463	267000	82.7	190	35000	35.6	12.3	3.10
17	452	261000	80.9	190	34300	34.8	11.8	3.10
18	451	261000	80.7	190	34800	35.5	10.9	3.09
19	451	261000	80.7	190	34600	35.5	10.8	3.09
20	456	263000	81.6	190	34000	34.9	11.0	3.09
21	463	268000	82.9	190	34200	34.9	11.5	3.10
22	468	270000	83.7	190	34300	34.8	11.8	3.12
23	467	270000	83.5	190	34500	34.8	11.7	3.15
24	464	268000	82.9	190	34200	34.5	11.6	3.15
25	463	268000	82.8	190	34800	35.2	11.5	3.14
26	467	270000	83.5	190	35600	36.0	11.1	3.11
27	469	271000	83.9	190	35200	35.5	11.0	3.10
28	471	272000	84.3	190	35100	35.4	11.4	3.11
29	476	275000	85.2	190	35000	35.3	11.0	3.12
30	471	272000	84.3	190	34900	35.2	9.75	3.11
31	466	270000	83.4	190	34900	35.1	9.13	3.10
Mean	466	269000	83.4	190	35100	35.6	10.9	3.11
n	31	31	31	31	31	31	31	31
SD	7	4260	1.3	0	589	0.6	0.82	0.02
Min	451	261000	80.7	190	34000	34.5	9.13	3.08
Max	481	278000	86.1	190	36300	37.0	12.3	3.16

Table E2. Daily means of animal and milk characteristics at Site NY5B for April, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	471	272000	84.2	190	34700	35.0	9.10	3.09
2	471	272000	84.2	190	34400	34.8	9.01	3.08
3	470	272000	84.2	190	34700	35.2	8.87	3.09
4	474	274000	84.9	190	35200	35.7	8.95	3.09
5	480	277000	85.9	190	34800	35.3	9.08	3.07
6	473	273000	84.5	190	34100	34.5	9.05	3.04
7	466	269000	83.4	190	34000	34.3	8.83	3.03
8	470	272000	84.1	190	34600	34.8	8.44	3.03
9	471	272000	84.2	190	35100	35.3	8.04	3.02
10	470	272000	84.1	190	34500	34.9	7.65	3.02
11	471	272000	84.2	190	33800	34.4	7.61	3.02
12	475	275000	85.1	190	34100	34.7	7.94	3.03
13	466	269000	83.4	190	34700	35.3	8.27	3.04
14	456	263000	81.6	190	34500	35.0	8.36	3.04
15	461	266000	82.5	190	34700	34.9	8.22	3.03
16	463	267000	82.7	190	35100	35.3	8.27	3.03
17	466	270000	83.4	190	34900	35.3	8.51	3.04
18	475	274000	85.0	190	34600	35.2	8.42	3.05
19	479	277000	85.8	190	35000	35.3	8.01	3.05
20	479	276000	85.6	190	35000	35.3	7.97	3.05
21	477	276000	85.3	190	34900	35.0	8.31	3.04
22	476	275000	85.1	190	35400	35.4	8.37	3.04
23	475	274000	85.0	190	35100	35.1	8.53	3.03
24	476	275000	85.2	190	34500	34.7	9.10	3.04
25	480	277000	85.9	190	34400	34.7	9.26	3.05
26	484	280000	86.7	190	34400	34.6	9.02	3.04
27	476	275000	85.1	190	34400	34.5	8.66	3.03
28	467	270000	83.5	190	34700	34.8	8.17	3.02
29	470	272000	84.1	190	35300	35.4	8.09	3.02
30	468	270000	83.6	190	35700	35.6	8.10	3.04
Mean	472	273000	84.4	190	34700	35.0	8.47	3.04
n	30	30	30	30	30	30	30	30
SD	6	3550	1.1	0	417	0.4	0.45	0.02
Min	456	263000	81.6	190	33800	34.3	7.61	3.02
Max	484	280000	86.7	190	35700	35.7	9.26	3.09

Table E2. Daily means of animal and milk characteristics at Site NY5B for May, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	466	270000	83.4	190	35800	35.9	7.80	3.06
2	470	272000	84.2	190	35400	35.8	7.66	3.06
3	473	274000	84.7	190	35300	35.6	7.69	3.05
4	469	271000	83.8	190	35200	35.5	7.71	3.04
5	462	267000	82.5	190	34800	35.0	7.74	3.03
6	462	267000	82.7	190	34700	35.1	7.76	3.01
7	464	268000	83.0	190	34700	35.2	7.77	3.00
8	464	268000	83.0	190	34600	35.0	8.10	3.00
9	464	268000	83.1	190	34600	35.1	8.70	3.01
10	460	265000	82.2	190	34600	35.2	9.25	3.02
11	449	259000	80.2	190	34500	35.3	9.51	3.03
12	445	257000	79.7	190	34500	35.4	9.47	3.04
13	449	260000	80.4	190	34600	35.5	9.20	3.04
14	452	261000	80.9	190	34800	35.7	8.69	3.03
15	454	263000	81.3	190	34900	35.9	8.55	3.02
16	457	264000	81.7	190	34200	35.5	8.78	3.03
17	462	267000	82.6	190	34500	35.6	8.70	3.04
18	455	263000	81.4	190	34600	35.6	8.62	3.05
19	445	257000	79.6	190	34200	35.0	8.86	3.06
20	445	257000	79.7	190	34700	35.5	8.92	3.06
21	446	258000	79.8	190	34500	35.4	8.80	3.06
22	446	257000	79.7	190	33900	35.1	8.68	3.07
23	447	259000	80.0	190	33600	35.3	8.56	3.07
24	450	260000	80.5	190	33700	35.2	8.29	3.06
25	443	256000	79.2	190	33500	35.0	8.52	3.05
26	437	252000	78.2	190	34000	35.3	9.41	3.04
27	440	255000	78.8	190	34000	35.4	9.84	3.04
28	445	257000	79.6	190	33900	35.1	9.81	3.05
29	450	260000	80.5	190	33800	35.2	9.73	3.06
30	453	262000	81.1	190	33700	35.2	9.60	3.07
31	455	263000	81.3	190	33800	35.2	9.32	3.07
Mean	454	262000	81.3	190	34400	35.4	8.71	3.04
n	31	31	31	31	31	31	31	31
SD	9	5430	1.7	0	544	0.3	0.68	0.02
Min	437	252000	78.2	190	33500	35.0	7.66	3.00
Max	473	274000	84.7	190	35800	35.9	9.84	3.07

Table E2. Daily means of animal and milk characteristics at Site NY5B for June, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	449	259000	80.3	190	33400	34.8	8.91	3.06
2	445	257000	79.7	190	32500	33.9	8.93	3.04
3	449	259000	80.3	190	32500	33.9	9.40	3.03
4	450	260000	80.5	190	33100	34.5	9.87	3.02
5	449	260000	80.4	190	33000	34.2	10.3	3.01
6	451	261000	80.8	190	33000	34.3	10.8	2.99
7	453	261000	80.9	190	33000	34.4	11.3	2.98
8	446	258000	79.8	190	33000	34.5	11.7	2.97
9	440	254000	78.7	190	33000	34.5	12.2	2.96
10	441	255000	78.9	190	33000	34.6	12.6	2.92
11	443	256000	79.2	190	33000	34.7	12.9	2.87
12	447	258000	80.0	190	33000	34.7	12.3	2.87
13	453	262000	81.0	190	33000	34.8	10.8	2.93
14	456	263000	81.5	190	33100	34.9	9.20	2.96
15	456	263000	81.5	190	33100	35.0	8.57	2.99
16	456	263000	81.5	190	33100	35.0	8.92	3.02
17	455	263000	81.4	190	33100	35.1	9.07	3.04
18	455	263000	81.4	190	33100	35.2	9.01	3.04
19	455	263000	81.4	190	33100	35.3	8.94	3.05
20	455	263000	81.3	190	33100	35.3	8.88	3.05
21	455	263000	81.3	190	33200	35.3	7.98	3.05
22	454	262000	81.3	190	33000	35.0	7.84	3.04
23	454	262000	81.2	190	33400	35.4	9.33	3.04
24	450	260000	80.4	190	33900	35.9	9.82	3.04
25	448	259000	80.1	190	34300	36.2	9.29	3.04
26	454	262000	81.2	190	34400	36.6	9.35	3.03
27	460	266000	82.4	190	34000	36.3	9.98	3.02
28	463	267000	82.7	190	34200	36.5	10.2	3.01
29	458	265000	81.9	190	33900	36.1	10.0	3.00
30	458	265000	82.0	190	33700	35.6	9.60	3.00
Mean	452	261000	80.8	190	33300	35.1	9.93	3.00
n	30	30	30	30	30	30	30	30
SD	5	3090	1	0	476	0.7	1.32	0.05
Min	440	254000	78.7	190	32500	33.9	7.84	2.87
Max	463	267000	82.7	190	34400	36.6	12.9	3.06

Table E2. Daily means of animal and milk characteristics at Site NY5B for July, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	470	272000	84.1	190	33900	35.7	8.89	2.99
2	479	277000	85.7	190	34100	35.7	8.13	3.00
3	480	278000	85.9	190	34300	35.7	7.98	3.01
4	482	278000	86.2	190	34300	35.9	8.49	2.99
5	486	281000	86.9	190	34400	36.0	8.97	2.98
6	479	277000	85.7	190	34400	35.9	9.41	2.99
7	469	271000	83.9	190	34200	35.7	9.42	2.99
8	473	273000	84.6	190	34000	35.5	8.99	2.96
9	476	275000	85.1	190	33700	35.1	8.84	2.94
10	477	276000	85.3	190	33400	35.0	8.97	2.95
11	482	278000	86.2	190	33300	35.2	8.99	2.95
12	475	274000	85.0	190	33900	36.1	8.92	2.96
13	468	271000	83.8	190	34300	36.6	8.84	2.97
14	472	273000	84.4	190	34200	36.0	8.77	2.97
15	477	276000	85.3	190	34000	35.4	8.64	2.96
16	484	280000	86.6	190	33800	35.1	8.45	2.96
17	488	282000	87.3	190	33700	35.2	8.74	2.96
18	491	284000	87.8	190	33400	35.1	9.51	2.95
19	491	284000	87.8	190	33400	35.1	9.92	2.96
20	478	276000	85.4	190	33700	35.3	9.97	2.97
21	465	268000	83.1	190	33400	35.0		2.98
22				190	33100	34.7		2.97
23	473	273000	84.6	190	33000	34.5		
24	473	273000	84.6	190	32900	34.2		
25	473	273000	84.6	190	32900	34.3		
26	473	273000	84.6	190	33000	34.3		
27	473	273000	84.6	190	32900	34.1		
28	473	273000	84.6	190	30300	33.8		
29	473	273000	84.6	190	30500	34.0		
30	473	273000	84.6	190	33200	34.2		
31	473	273000	84.6	190	33000	34.3		
Mean	477	275000	85.3	190	33400	35.1	8.94	2.97
n	30	30	30	30	31	31	20	22
SD	6	3720	1.2	0	934	0.7	0.50	0.02
Min	465	268000	83.1	190	30300	33.8	7.98	2.94
Max	491	284000	87.8	190	34400	36.6	9.97	3.01

Table E2. Daily means of animal and milk characteristics at Site NY5B for August, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	473	273000	84.6	190	32800	34.5		
2	473	273000	84.6	190	33200	34.8		
3	473	273000	84.6	190	33600	35.1		
4	473	273000	84.6	190	33600	35.0		
5	473	273000	84.6	190	33100	34.5		
6	473	273000	84.6	190	33000	34.4		
7	473	273000	84.6	190	32700	34.5		
8	473	273000	84.6	190	32500	34.5		
9	473	273000	84.6	190	32600	34.5		
10	473	273000	84.6	190	33000	34.6		
11	473	273000	84.6	190	33000	34.6		
12	473	273000	84.6	190	33100	34.6		
13	473	273000	84.6	190	33500	35.1		
14	473	273000	84.6	190	33100	35.0		
15	473	273000	84.6	190	32800	34.9		
16	473	273000	84.6	190	32800	34.7		
17	473	273000	84.6	190	32800	34.5		
18	473	273000	84.6	190	32900	34.5		
19	473	273000	84.6	190	33000	34.6		
20	473	273000	84.6	190	33000	34.5		
21	473	273000	84.6	190	33600	35.4		
22	473	273000	84.6	190	33300	35.2		
23	473	273000	84.6	190	32900	34.7		
24	473	273000	84.6	190	32700	34.5		
25	473	273000	84.6	190	32300	33.8		
26	473	273000	84.6	190	32700	34.2		
27	473	273000	84.6	190	33000	34.6		
28	473	273000	84.6	190	33000	34.7		
29	473	273000	84.6	190	33200	35.0		
30	473	273000	84.6	190	33200	35.1		
31	460	265000	82.2	190	33200	35.0		
Mean	473	273000	84.5	190	33000	34.7		
n	31	31	31	31	31	31	0	0
SD	2	1380	0.4	0	306	0.3		
Min	460	265000	82.2	190	32300	33.8		
Max	473	273000	84.6	190	33600	35.4		

Table E2. Daily means of animal and milk characteristics at Site NY5B for September, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	461	266000	82.5	190	33200	35.0		
2	463	268000	82.8	190	33200	34.9		
3	468	270000	83.7	190	33600	35.1		
4	471	272000	84.2	190	33300	35.0		
5	470	272000	84.1	190	32700	34.6		
6	470	271000	84.0	190	32300	34.1		
7	469	271000	83.9	190	31700	33.4		
8	469	271000	83.8	190	31600	33.0		
9	468	270000	83.7	190	31800	33.1		
10	468	270000	83.6	190	32000	33.4		
11	467	270000	83.5	190	32700	34.2		
12	466	269000	83.4	190	32600	34.3		
13	466	269000	83.3	190	32300	33.8		
14	465	269000	83.2	190	32300	33.8		
15	465	269000	83.1	190	31800	33.1		
16	464	268000	83.0	190	31300	32.4		
17	462	267000	82.6	190	31600	32.7		
18	462	267000	82.7	190	31800	33.1		
19	467	270000	83.5	190	31700	33.0		
20	471	272000	84.3	190	31800	33.1		
21	475	275000	85.1	190	32000	33.1		
22	477	276000	85.3	190	32000	33.0		
23	478	276000	85.6	190	32100	32.8		
24	479	277000	85.7	190	32200	32.8		
25	478	276000	85.5	190	32000	32.7		
26	478	276000	85.5	190	32100	32.9		
27	478	276000	85.5	190	32500	33.2		
28	478	276000	85.6	190	32600	33.4		
29	478	276000	85.6	190	32800	33.4		
30	478	276000	85.6	190	33100	33.5		
Mean	470	272000	84.1	190	32300	33.5		
n	30	30	30	30	30	30	0	0
SD	6	3400	1.1	0	570	0.8		
Min	461	266000	82.5	190	31300	32.4		
Max	479	277000	85.7	190	33600	35.1		

Table E2. Daily means of animal and milk characteristics at Site NY5B for October, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	479	276000	85.6	190	33300	33.6		
2	479	277000	85.6	190	33100	33.8		
3	479	277000	85.6	190	32900	33.8		
4	479	277000	85.6	190	33300	34.1		
5	479	277000	85.7	190	33600	34.3		
6	479	277000	85.7	190	33700	34.2		
7	479	276000	85.6	190	34000	34.2		
8	477	276000	85.3	190	34600	34.7		
9	476	275000	85.2	190	34400	35.0		
10	477	275000	85.2	190	34000	34.9		
11	480	277000	85.9	190	34300	35.1		
12	469	271000	83.9	190	34000	34.8		
13	455	263000	81.4	190	33600	34.4		
14	458	265000	81.9	190	33900	34.6		
15	460	266000	82.4	190	34100	34.8		
16	460	265000	82.2	190	34000	34.8		
17	461	266000	82.5	190	33400	34.4		
18	466	270000	83.4	190	33300	34.3		
19	456	263000	81.6	190	34000	34.9		
20	446	258000	79.8	190	34100	34.9		
21	453	262000	81.0	190	34600	35.2		
22	457	264000	81.7	190	34300	34.8		
23	460	266000	82.4	190	34000	34.5		
24	467	270000	83.6	190	34300	35.0		
25	471	272000	84.2	190	34300	34.9		
26	464	268000	82.9	190	34300	35.0		
27	455	263000	81.4	190	34300	34.9		
28	452	261000	80.8	190	34700	35.3		
29	453	262000	81.1	190	35100	35.8		
30	459	265000	82.1	190	34900	35.8		
31	463	268000	82.8	190	35200	36.1		
Mean	466	269000	83.4	190	34000	34.7		
n	31	31	31	31	31	31	0	0
SD	10	5980	1.9	0	554	0.6		
Min	446	258000	79.8	190	32900	33.6		
Max	480	277000	85.9	190	35200	36.1		

Table E2. Daily means of animal and milk characteristics at Site NY5B for November, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	469	271000	84.0	190	35500	36.4		
2	469	271000	83.8	190	35900	36.6		
3	463	268000	82.8	190	36200	36.9		
4	465	269000	83.2	190	35400	36.1	9.30	2.73
5	469	271000	83.9	190	35200	35.8	10.5	3.13
6	471	272000	84.2	190	35800	36.6	9.94	3.23
7	472	273000	84.4	190	35400	36.7	10.0	3.25
8	475	274000	85.0	190	35200	36.4	10.8	3.18
9	467	270000	83.5	190	35500	36.8	10.6	3.15
10	459	265000	82.1	190	35000	36.2	9.31	3.15
11	462	267000	82.5	190	35400	36.3	8.77	3.15
12	465	269000	83.3	190	35800	36.8	8.96	3.15
13	474	274000	84.8	190	35700	36.8	8.90	3.15
14	479	277000	85.8	190	35800	37.0	9.04	3.14
15	481	278000	86.0	190	36000	36.9	9.63	3.13
16	471	272000	84.3	190	35500	36.4	9.90	3.13
17	460	266000	82.4	190	34900	35.5	9.83	3.14
18	459	265000	82.2	190	35400	36.0	9.76	3.15
19	458	265000	81.9	190	36000	36.7	9.69	3.16
20	457	264000	81.7	190	36100	37.0	9.62	3.16
21	456	263000	81.5	190	36000	37.0	9.71	3.15
22	455	263000	81.3	190	35600	36.5	9.97	3.13
23	454	262000	81.1	190	35500	36.4	9.67	3.12
24	453	261000	80.9	190	35800	36.7	8.81	3.13
25	451	260000	80.6	190	35500	36.6	8.40	3.13
26	451	261000	80.8	190	35300	36.5	8.45	3.14
27	454	263000	81.3	190	35900	37.3	8.28	3.14
28	457	264000	81.8	190	35300	37.0	8.52	3.14
29	460	265000	82.2	190	34700	36.2	9.41	3.13
30	453	261000	80.9	190	34900	36.4	9.77	3.12
Mean	463	267000	82.8	190	35500	36.6	9.47	3.13
n	30	30	30	30	30	30	27	27
SD	8	4870	1.5	0	370	0.4	0.66	0.08
Min	451	260000	80.6	190	34700	35.5	8.28	2.73
Max	481	278000	86.0	190	36200	37.3	10.8	3.25

Table E2. Daily means of animal and milk characteristics at Site NY5B for December, 2008.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	445	257000	79.6	190	35100	36.3	9.60	3.12
2	445	257000	79.6	190	35400	36.4	9.43	3.11
3	446	258000	79.9	190	35600	36.6	9.26	3.11
4	448	259000	80.1	190	35800	37.1	8.89	3.17
5	452	261000	80.9	190	35600	37.3	8.84	3.22
6	455	263000	81.5	190	35600	37.4	9.31	3.17
7	445	257000	79.6	190	35700	37.4	9.58	3.15
8	435	252000	77.9	190	35500	37.2	9.64	3.14
9	437	252000	78.1	190	35700	37.4	9.70	3.14
10	437	253000	78.3	190	35800	37.5	9.76	3.13
11	437	252000	78.1	190	35600	37.5	9.82	3.12
12	435	252000	77.9	190	35100	37.4	9.46	3.13
13	442	256000	79.2	190	35000	37.1	8.69	3.15
14	448	259000	80.2	190	35200	37.2	8.74	3.15
15	449	259000	80.3	190	35600	37.4	9.61	3.12
16	449	259000	80.3	190	35700	37.4	9.88	3.10
17	452	261000	80.9	190	35900	37.5	9.55	3.09
18	457	264000	81.8	190	35900	37.6	9.16	3.10
19	461	267000	82.5	190	35000	36.8	9.38	3.12
20	467	270000	83.5	190	35000	36.8	10.3	3.13
21	461	266000	82.4	190	34700	36.4	10.5	3.13
22	455	263000	81.4	190	34100	35.6	10.0	3.12
23	457	264000	81.7	190	34400	35.8	9.86	3.11
24	454	262000	81.1	190	34900	36.6	10.0	3.11
25	462	267000	82.6	190	34700	36.9	10.2	3.11
26	471	272000	84.2	190	34900	36.7	10.3	3.11
27	474	274000	84.8	190	35100	36.6	10.2	3.11
28	471	272000	84.2	190	34500	36.0	9.76	3.10
29	466	270000	83.4	190	34300	35.9	10.3	3.09
30	469	271000	83.9	190	34300	35.9	11.1	3.07
31	472	273000	84.5	190	34200	35.8	11.1	3.08
Mean	453	262000	81.1	190	35200	36.8	9.74	3.12
n	31	31	31	31	31	31	31	31
SD	12	6700	2.1	0	543	0.6	0.58	0.03
Min	435	252000	77.9	190	34100	35.6	8.69	3.07
Max	474	274000	84.8	190	35900	37.6	11.1	3.22

Table E2. Daily means of animal and milk characteristics at Site NY5B for January, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	478	276000	85.5	190	34400	36.0	11.1	3.09
2	479	276000	85.6	190	34700	36.2	11.0	3.10
3	481	278000	86.0	190	34900	36.2	11.0	3.11
4	478	276000	85.5	190	34800	36.1	11.0	3.12
5	470	271000	84.0	190	34300	35.4	10.7	3.12
6	466	269000	83.4	190	34500	35.5	10.2	3.11
7	466	270000	83.4	190	34800	36.1	9.07	2.70
8	469	271000	83.8	190	34100	35.6	8.54	2.49
9	469	271000	83.9	190	33900	35.5	9.13	2.88
10	473	274000	84.7	190	33800	35.3	9.60	3.08
11	464	268000	83.0	190	33600	35.0	9.93	3.09
12	451	260000	80.6	190	33800	35.3	10.1	3.09
13	454	262000	81.2	190	33700	35.1	10.2	3.08
14	459	265000	82.1	190	33700	35.0	9.04	3.07
15	459	265000	82.1	190	33500	35.0	8.09	3.08
16	461	266000	82.5	190	33300	35.1	7.75	3.09
17	467	270000	83.5	190	33400	35.0	8.84	3.10
18	471	272000	84.2	190	33400	35.0	10.5	3.10
19	462	267000	82.6	190	33600	35.0	10.6	3.07
20	454	263000	81.3	190	33900	35.2	10.5	3.06
21	461	267000	82.5	190	33500	34.9	10.7	3.07
22	465	268000	83.1	190	33200	34.6	11.4	3.07
23	466	269000	83.4	190	33400	34.9	11.4	3.07
24	470	272000	84.1	190	33600	35.1	10.6	3.07
25	465	269000	83.2	190	33800	35.1	10.4	3.07
26	459	265000	82.1	190	33800	35.2	10.9	3.08
27	461	267000	82.5	190	33800	35.2	11.0	3.07
28	467	270000	83.5	190	33800	35.2	10.9	3.04
29	469	271000	83.9	190	33800	35.3	10.7	3.05
30	472	273000	84.5	190	33800	35.3	10.4	3.08
31	477	276000	85.4	190	33900	35.4	10.3	3.10
Mean	467	270000	83.5	190	33900	35.3	10.2	3.04
n	31	31	31	31	31	31	31	31
SD	7	4310	1.3	0	460	0.4	0.95	0.13
Min	451	260000	80.6	190	33200	34.6	7.75	2.49
Max	481	278000	86.0	190	34900	36.2	11.4	3.12

Table E2. Daily means of animal and milk characteristics at Site NY5B for February, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	472	273000	84.4	190	33900	35.4	10.5	3.11
2	466	270000	83.4	190	34200	35.5	10.4	3.11
3	468	270000	83.6	190	34400	35.6	10.1	3.10
4	469	271000	84.0	190	34200	35.4	9.78	3.09
5	474	274000	84.9	190	33800	35.2	9.80	3.10
6	477	275000	85.2	190	33500	35.1	10.2	3.12
7	475	274000	85.0	190	33900	35.4	10.1	3.13
8	465	268000	83.1	190	34200	35.8	9.60	3.12
9	456	264000	81.7	190	34000	35.5	9.45	3.12
10	458	264000	81.8	190	34000	35.5	9.65	3.11
11	457	264000	81.7	190	34300	35.8	9.84	3.09
12	459	265000	82.1	190	34300	35.9	10.0	3.08
13	464	268000	83.0	190	33300	35.1	10.7	3.10
14	466	269000	83.3	190	32600	34.2	11.1	3.12
15	454	262000	81.2	190	32800	34.3	10.8	3.11
16	451	261000	80.8	190	32100	33.5	10.6	3.09
17	459	265000	82.1	190	32000	33.3	10.4	3.07
18	461	267000	82.5	190	32900	34.3	9.70	3.06
19	467	270000	83.5	190	33100	34.5	8.53	3.07
20	469	271000	83.9	190	33500	35.1	8.54	3.08
21	473	273000	84.6	190	33900	35.4	9.73	3.10
22	468	270000	83.6	190	34200	35.8	10.4	3.11
23	461	266000	82.5	190	34200	35.7	10.6	3.10
24	464	268000	82.9	190	34400	35.9	10.6	3.09
25	466	269000	83.4	190	34700	36.2	10.6	3.10
26	470	272000	84.1	190	34400	35.9	10.6	3.10
27	472	273000	84.4	190	34400	35.8	10.6	3.11
28	473	273000	84.5	190	34300	35.7	10.6	3.12
Mean	465	269000	83.3	190	33800	35.2	10.1	3.10
n	28	28	28	28	28	28	28	28
SD	7	3820	1.2	0	724	0.7	0.61	0.02
Min	451	261000	80.8	190	32000	33.3	8.53	3.06
Max	477	275000	85.2	190	34700	36.2	11.1	3.13

Table E2. Daily means of animal and milk characteristics at Site NY5B for March, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	470	272000	84.1	190	34300	35.6	10.5	3.12
2	467	270000	83.5	190	34200	35.5	10.5	3.13
3	469	271000	83.9	190	34000	35.2	10.2	3.13
4	476	275000	85.1	190	34000	35.2	9.62	3.12
5	482	279000	86.3	190	34900	36.0	9.70	3.11
6	487	281000	87.1	190	35200	36.2	10.5	3.11
7	489	283000	87.6	190	34400	35.2	10.7	3.09
8	482	278000	86.2	190	34500	35.3	10.6	3.04
9	473	273000	84.6	190	35200	36.1	10.6	3.05
10	476	275000	85.1	190	35100	35.9	10.8	3.08
11	480	277000	85.8	190	35200	36.1	10.7	3.07
12	481	278000	86.1	190	35200	36.5	10.6	3.07
13	484	280000	86.7	190	34900	36.2	10.3	3.09
14	485	280000	86.8	190	35200	36.5	10.3	3.10
15	479	277000	85.7	190	35400	36.7	10.5	3.11
16	474	274000	84.8	190	34900	36.2	9.22	2.73
17	477	276000	85.4	190	34900	35.9	8.53	2.52
18	480	277000	85.9	190	35300	36.3	9.84	2.89
19	482	279000	86.3	190	34600	35.8	10.7	3.09
20	486	281000	87.0	190	34100	35.5	11.1	3.10
21	488	282000	87.3	190	34300	35.6	11.0	3.10
22	477	276000	85.3	190	34500	35.7	10.4	3.09
23	468	270000	83.7	190	34600	35.9	10.1	3.08
24	474	274000	84.8	190	34500	35.9	10.1	3.08
25	479	277000	85.8	190	35100	36.3	10.5	3.08
26	481	278000	86.0	190	35300	36.4	10.7	3.07
27	481	278000	86.1	190	35100	36.3	10.3	3.07
28	482	278000	86.2	190	35400	36.5	10.2	3.07
29	477	275000	85.2	190	35200	36.1	10.2	3.08
30	471	272000	84.3	190	34800	35.7		3.08
31	473	274000	84.7	190	35000	35.8		3.07
Mean	479	276000	85.6	190	34800	35.9	10.3	3.05
n	31	31	31	31	31	31	29	31
SD	6	3410	1.1	0	426	0.4	0.52	0.12
Min	467	270000	83.5	190	34000	35.2	8.53	2.52
Max	489	283000	87.6	190	35400	36.7	11.1	3.13

Table E2. Daily means of animal and milk characteristics at Site NY5B for April, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	475	274000	85.0	190	34900	35.7		3.07
2	474	274000	84.8	190	34800	35.8		3.08
3	474	274000	84.8	190	35200	36.5		3.08
4	476	275000	85.2	190	34900	36.2		3.08
5	470	272000	84.1	190	34600	35.8		3.09
6	464	268000	83.1	190	34900	36.0		3.10
7	467	270000	83.5	190	34500	35.5		3.12
8	467	270000	83.4	190	34200	35.4		3.12
9	466	269000	83.4	190	34300	35.7		3.10
10	466	269000	83.4	190	34100	35.6		3.10
11	466	269000	83.4	190	34000	35.4		3.11
12	459	265000	82.1	190	34100	35.5		3.12
13	454	262000	81.2	190	34100	35.5		3.12
14	456	263000	81.6	190	34100	35.6		3.10
15	456	263000	81.5	190	34100	35.6		3.09
16	455	263000	81.4	190	34100	35.6		3.10
17	457	264000	81.7	190	34100	35.6		3.11
18	463	268000	82.8	190	34200	35.7		3.12
19	462	267000	82.6	190	34200	35.7		3.12
20	456	263000	81.5	190	34200	35.7		3.12
21	459	265000	82.1	190	34200	35.7		3.11
22	462	267000	82.6	190	34200	35.8		3.09
23	461	266000	82.5	190	34200	35.8		3.09
24	462	267000	82.7	190	34200	35.8		3.11
25	470	272000	84.1	190	34200	35.9		3.12
26	465	268000	83.1	190	34200	35.9		3.11
27	459	265000	82.1	190	34200	35.9		3.10
28	464	268000	83.0	190	34200	35.9		3.11
29	462	267000	82.6	190	34200	36.0		3.12
30	462	267000	82.6	190	34300	36.0		3.12
Mean	464	268000	82.9	190	34300	35.8		3.10
n	30	30	30	30	30	30	0	30
SD	6	3530	1.1	0	290	0.2		0.01
Min	454	262000	81.2	190	34000	35.4		3.07
Max	476	275000	85.2	190	35200	36.5		3.12

Table E2. Daily means of animal and milk characteristics at Site NY5B for May, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	464	268000	83.0	190	34000	35.8		3.11
2	468	270000	83.7	190	33500	35.3	10.7	3.11
3	464	268000	82.9	190	33700	35.3	10.4	3.11
4	455	263000	81.4	190	33400	35.0	10.3	3.11
5	458	265000	82.0	190	33400	34.8	10.3	3.10
6	463	268000	82.9	190	34100	35.5	10.2	3.10
7	467	270000	83.5	190	33900	35.5	9.91	3.12
8	471	272000	84.3	190	33600	35.3	9.69	3.14
9	474	274000	84.8	190	34000	35.5	9.58	3.15
10	467	270000	83.4	190	33900	35.4	9.46	3.16
11	459	265000	82.2	190	33500	34.9	8.51	2.96
12	463	268000	82.8	190	34100	35.3	6.74	2.54
13	464	268000	82.9	190	34200	35.4	6.47	2.53
14	462	267000	82.6	190	33500	35.0	7.72	2.94
15	463	268000	82.9	190	33500	35.4	8.36	3.15
16	465	269000	83.2	190	33600	35.6	8.39	3.15
17	456	263000	81.6	190	33300	35.2	8.16	3.15
18	447	258000	80.0	190	33200	35.0	7.69	3.15
19	450	260000	80.4	190	33800	35.6	7.52	3.14
20	451	260000	80.6	190	33900	35.7	7.67	3.13
21	450	260000	80.5	190	33600	35.3	7.81	3.12
22	456	263000	81.6	190	33600	35.2	7.92	3.12
23	450	260000	80.5	190	33600	35.2	8.28	3.13
24	443	256000	79.2	190	33600	35.1	8.49	3.14
25	452	261000	80.9	190	33600	35.0	8.32	3.11
26	457	264000	81.7	190	33200	34.5	8.16	3.10
27	459	265000	82.1	190	33200	34.3	8.01	3.10
28	461	267000	82.5	190	33300	34.7	7.95	3.10
29	467	270000	83.6	190	33200	34.8	7.99	3.11
30	471	272000	84.2	190	33500	35.0	8.04	3.12
31	469	271000	83.9	190	33700	35.0	8.08	3.13
Mean	460	266000	82.3	190	33600	35.2	8.56	3.08
n	31	31	31	31	31	31	30	31
SD	8	4430	1.4	0	285	0.3	1.09	0.15
Min	443	256000	79.2	190	33200	34.3	6.47	2.53
Max	474	274000	84.8	190	34200	35.8	10.7	3.16

Table E2. Daily means of animal and milk characteristics at Site NY5B for June, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	466	269000	83.4	190	33500	34.8	8.08	3.13
2	464	268000	83.0	190	34000	35.1	8.05	3.12
3	462	267000	82.6	190	34600	35.7	8.33	3.11
4	459	265000	82.1	190	34400	35.5	8.94	3.12
5	459	265000	82.2	190	34300	35.4	9.18	3.13
6	461	266000	82.5	190	34400	35.5	9.04	3.13
7	454	262000	81.1	190	34900	36.2	8.90	3.14
8	446	258000	79.8	190	34800	36.2	9.00	3.13
9	447	258000	80.0	190	34200	35.6	9.35	3.11
10	450	260000	80.5	190	34000	35.5	9.28	3.10
11	453	262000	81.0	190	34100	35.6	8.78	3.10
12	457	264000	81.7	190	34100	35.9	8.62	3.10
13	463	268000	82.9	190	33700	35.3	8.81	3.09
14	458	265000	81.9	190	33900	35.3	8.96	3.10
15	447	258000	80.0	190	33900	35.2	9.09	3.13
16	447	258000	80.0	190	34300	35.6	8.90	3.13
17	448	259000	80.1	190	34200	35.7	8.47	3.11
18	452	261000	80.8	190	33700	35.4	8.11	3.12
19	457	264000	81.7	190	33900	35.7	7.82	3.13
20	456	263000	81.6	190	33800	35.3	7.61	3.14
21	454	262000	81.2	190	33900	35.3	7.16	2.94
22	453	261000	80.9	190	33900	35.2	6.49	2.53
23	454	262000	81.2	190	34200	35.6	6.85	2.52
24	457	264000	81.8	190	34400	35.8	8.25	2.89
25	460	266000	82.3	190	34500	36.0	9.26	3.08
26	465	269000	83.2	190	34600	36.2	9.87	3.09
27	470	272000	84.1	190	34600	36.1	9.91	3.09
28	465	268000	83.1	190	34300	35.7	9.59	3.10
29	456	263000	81.5	190	34300	35.5	9.50	3.09
30	455	263000	81.5	190	34000	35.2	9.12	3.08
Mean	457	264000	81.7	190	34200	35.6	8.64	3.06
n	30	30	30	30	30	30	30	30
SD	6	3610	1.1	0	329	0.3	0.83	0.15
Min	446	258000	79.8	190	33500	34.8	6.49	2.52
Max	470	272000	84.1	190	34900	36.2	9.91	3.14

Table E2. Daily means of animal and milk characteristics at Site NY5B for July, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	458	265000	82.0	190	33900	35.1	8.46	3.07
2	460	266000	82.4	190	34100	35.5	8.36	3.07
3	463	268000	82.8	190	34200	35.9	8.82	3.07
4	463	268000	82.8	190	34200	35.8	9.16	3.07
5	457	264000	81.7	190	34200	35.7	9.39	3.08
6	452	261000	80.9	190	34200	35.6	9.33	3.08
7	454	262000	81.2	190	34600	35.7	9.00	3.07
8	455	263000	81.4	190	35200	36.3	8.75	3.07
9	455	263000	81.5	190	35000	36.4	8.58	3.07
10	458	265000	81.9	190	35100	36.5	8.41	3.06
11	461	266000	82.5	190	35000	36.4	8.60	3.07
12	454	262000	81.1	190	34500	35.8	9.13	3.10
13	446	258000	79.9	190	34700	35.9	9.41	3.11
14	451	261000	80.7	190	34900	36.1	9.44	3.10
15	455	263000	81.4	190	35200	36.3	9.18	3.09
16	458	264000	81.9	190	35100	36.3	8.64	3.09
17	463	268000	82.8	190	35000	36.1	8.10	3.08
18	467	270000	83.4	190	35300	36.1	7.73	3.07
19	465	269000	83.2	190	35300	35.9	7.53	3.04
20	465	269000	83.2	190	35800	36.1	7.44	3.03
21	467	270000	83.5	190	36000	36.1	7.47	3.03
22	470	272000	84.1	190	36000	36.1	7.68	3.02
23	477	276000	85.3	190	36100	36.4	8.15	3.03
24	486	281000	86.9	190	35700	36.0	8.68	3.06
25	481	278000	86.0	190	35100	35.1	8.51	3.07
26	472	273000	84.4	190	34800	34.6	7.64	3.05
27	472	273000	84.5	190	34700	34.5	6.86	2.85
28	473	273000	84.6	190	34300	34.2	6.19	2.46
29	474	274000	84.7	190	34300	34.2		
30	476	275000	85.2	190	34600	34.6		
31	480	278000	85.9	190	34500	34.5		
Mean	464	268000	83.0	190	34900	35.7	8.38	3.04
n	31	31	31	31	31	31	28	28
SD	10	5660	1.8	0	592	0.7	0.80	0.12
Min	446	258000	79.9	190	33900	34.2	6.19	2.46
Max	486	281000	86.9	190	36100	36.5	9.44	3.11

Table E2. Daily means of animal and milk characteristics at Site NY5B for August, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	482	279000	86.3	190	34700	34.8	6.23	2.57
2	475	274000	84.9	190	34800	34.9	7.30	3.07
3	467	270000	83.5	190	34500	34.5	7.87	3.25
4	468	270000	83.6	190	34900	34.7	7.96	3.10
5	467	270000	83.4	190	35000	34.8	7.63	3.03
6	470	272000	84.1	190	34600	34.8	6.88	3.02
7	476	275000	85.2	190	34900	35.2	6.35	3.03
8	480	277000	85.9	190	35400	35.5	6.05	3.06
9	472	272000	84.3	190	35400	35.6	6.22	3.07
10	463	268000	82.9	190	35400	35.5	6.86	3.05
11	465	268000	83.1	190	35200	35.2	7.49	3.04
12	465	269000	83.2	190	35300	35.2	7.96	3.04
13	467	270000	83.5	190	35600	35.6	8.29	3.04
14	469	271000	83.9	190	35500	35.5	8.62	3.04
15	471	272000	84.2	190	35500	35.4	8.95	3.04
16	464	268000	82.9	190	35400	35.5	9.28	3.04
17	454	262000	81.2	190	34200	34.3	9.81	3.03
18	459	265000	82.1	190	33100	33.1	10.5	3.00
19	466	269000	83.4	190	33000	33.0	10.6	2.99
20	469	271000	83.8	190	33000	33.2	10.0	3.00
21	470	272000	84.1	190	32800	33.2	9.88	3.00
22	472	273000	84.4	190	32700	33.0	10.1	2.97
23	469	271000	83.9	190	33000	33.2	9.91	2.97
24	464	268000	83.0	190	33600	33.7	9.17	2.98
25	465	269000	83.1	190	34600	34.6	8.69	3.01
26	466	270000	83.4	190	34400	34.6	8.46	3.05
27	468	270000	83.7	190	34600	35.0	8.24	3.08
28	471	272000	84.2	190	34800	35.2	8.01	3.12
29	473	273000	84.6	190	34600	35.0	7.57	3.12
30	466	269000	83.4	190	35000	35.3	7.32	3.09
31							7.49	3.09
Mean	468	271000	83.8	190	34500	34.6	8.25	3.03
n	30	30	30	30	30	30	31	31
SD	6	3210	1.0	0	902	0.9	1.30	0.1
Min	454	262000	81.2	190	32700	33.0	6.05	2.57
Max	482	279000	86.3	190	35600	35.6	10.6	3.25

Table E2. Daily means of animal and milk characteristics at Site NY5B for September, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	465	268000	83.1	190			7.66	3.08
2	463	268000	82.8	190			7.83	3.08
3	463	268000	82.8	190			8.00	3.08
4	465	269000	83.2	190			8.17	3.07
5	466	269000	83.3	190			8.34	3.08
6	464	268000	82.9	190			8.51	3.10
7	461	266000	82.5	190			8.68	3.10
8	459	265000	82.1	190			8.85	3.07
9	457	264000	81.7	190			9.02	3.06
10	454	262000	81.2	190			9.19	3.06
11	458	265000	81.9	190			9.36	3.09
12	465	269000	83.3	190			9.53	3.10
13	470	272000	84.1	190			9.70	3.09
14	463	267000	82.7	190			9.87	3.08
15	458	265000	81.9	190			10.0	3.09
16	463	268000	82.9	190			10.2	3.08
17	468	270000	83.7	190			10.3	3.08
18	474	274000	84.8	190			10.2	3.10
19	481	278000	86.0	190			10.2	3.11
20	481	278000	86.0	190			10.5	3.12
21	479	277000	85.7	190			10.3	3.12
22	482	278000	86.2	190			9.66	3.09
23	481	278000	86.0	190			9.36	3.08
24	480	277000	85.9	190			9.39	3.09
25	482	278000	86.2	190			9.34	3.09
26	484	280000	86.6	190			9.24	3.08
27	471	272000	84.3	190			9.17	3.09
28	462	267000	82.7	190			9.02	3.09
29	468	271000	83.8	190			8.81	3.10
30	469	271000	83.9	190			8.53	3.11
Mean	469	271000	83.8	190			9.23	3.09
n	30	30	30	30	0	0	30	30
SD	9	5060	1.6	0			0.77	0.02
Min	454	262000	81.2	190			7.66	3.06
Max	484	280000	86.6	190			10.5	3.12

Table E2. Daily means of animal and milk characteristics at Site NY5B for October, 2009.

Day	Animal characteristics				Milk production		Milk analysis	
	Barn 1			MC			Urea N	Protein
	Inv., hd	Mass, kg	kg m^{-2}	Cap., hd	kg d^{-1}	kg d^{-1} hd^{-1}	mg dL^{-1}	%
1	470	272000	84.1	190	35200	36.0	8.18	3.14
2	474	274000	84.8	190	35300	36.4	8.52	3.16
3	478	276000	85.6	190	34500	35.4	9.55	3.17
4	480	277000	85.9	190	34300	35.0	10.6	3.18
5	479	277000	85.7	190	35100	35.7	11.6	3.19
6	477	276000	85.4	190	35300	35.8	10.8	3.17
7	476	275000	85.1	190	35500	35.8	9.63	3.14
8	475	274000	84.9	190	35500	36.0	10.1	3.15
9	473	273000	84.6	190	35200	35.9	10.5	3.16
10	472	273000	84.4	190	35100	35.8	10.8	3.17
11	476	275000	85.2	190	35200	35.8	10.9	3.18
12	476	275000	85.1	190	35200	35.7	11.0	3.19
13	471	272000	84.3	190	35400	35.7	10.8	3.20
14	472	273000	84.4	190	35300	35.5	10.2	3.19
15	479	277000	85.7	190	35300	35.6	10.2	3.20
16	487	281000	87.1	190	35200	35.6	10.6	3.21
17	490	283000	87.6	190	35300	35.4	10.7	3.22
18	486	281000	86.9	190	35500	35.5	10.8	3.22
19	477	276000	85.3	190	35600	35.7	10.7	3.21
20	478	276000	85.6	190	36100	36.1	10.6	3.19
21	484	279000	86.5	190	36500	36.6	10.4	3.17
22	487	281000	87.1	190	36300	36.5	10.6	3.17
23	490	283000	87.7	190	35700	36.2	11.0	3.18
24								
25								
26								
27								
28								
29								
30								
31								
Mean	479	276478	85.6	190	35374	35.8	10.4	3.18
n	23	23	23	0	23	23	23	23
SD	6	3369	1.1	0	482	0.37	0.78	0.02
Min	470	272000	84.1	190	34300	35	8.18	3.14
Max	490	283000	87.7	190	36500	36.6	11.6	3.22

Table E3. Environmental parameters

Table E3. Daily means (SD) of environmental parameters at Site NY5B for October, 2007.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24	13.9 (1.4)	74.5 (5.7)	-2.3 (0.8)		10.9 (2.5)	13.0 (1.9)	77.2 (8.5)	-5.7 (0.9)	
25	13.1 (3.0)	70.0 (11.3)	-2.7 (1.4)	76.7 (17.9)	10.0 (4.3)	11.7 (3.3)	71.5 (15.8)	-5.5 (1.1)	41.8 (1.7)
26	13.6 (1.7)	69.3 (7.9)	-3.3 (1.2)	69.6 (8.0)	10.8 (2.5)	12.4 (2.0)	70.2 (9.6)	-6.1 (1.2)	41.8 (1.5)
27	16.4 (1.3)	75.0 (7.3)	-4.0 (1.8)	94.2 (8.9)	16.0 (1.9)	16.1 (1.4)	77.5 (7.4)	-7.8 (1.7)	41.6 (0.3)
28	8.9 (1.0)	72.3 (3.1)	-1.3 (1.3)	66.4 (6.2)	9.2 (2.1)	8.5 (1.5)	76.7 (3.5)	-6.7 (2.6)	38.9 (3.6)
29	9.4 (3.0)	69.7 (7.9)	-1.7 (0.9)	65.3 (3.9)	11.2 (4.4)	9.2 (2.9)	71.2 (9.2)	-5.7 (2.4)	36.4 (8.4)
30	12.6 (2.6)	68.4 (5.6)	-2.8 (1.2)	74.3 (17.7)	14.0 (4.3)	12.2 (3.0)	69.1 (7.9)	-7.0 (1.3)	40.5 (2.5)
31	16.1 (2.4)	52.9 (8.3)	-5.5 (2.6)		17.0 (3.1)	15.6 (2.7)	50.8 (11.0)	-8.1 (1.9)	40.0 (5.9)
Mean	13.0	69.0	-3.0	74.4	12.4	12.3	70.5	-6.6	40.1
n	8	8	8	6	8	8	8	8	7
SD	2.6	6.5	1.3	9.7	2.7	2.5	8.1	1.0	1.9
Min	8.9	52.9	-5.5	65.3	9.2	8.5	50.8	-8.1	36.4
Max	16.4	75.0	-1.3	94.2	17.0	16.1	77.5	-5.5	41.8

Table E3. Daily means (SD) of environmental parameters at Site NY5B for November, 2007.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	12.4 (1.9)	64.9 (9.6)	-2.1 (1.9)	71.7 (11.5)	14.6 (3.2)	12.0 (2.2)	66.4 (11.2)	-8.2 (1.7)	41.5 (1.2)
2	9.8 (3.1)	64.6 (9.6)	-2.3 (1.1)	69.1 (11.5)	10.1 (3.9)	9.1 (3.1)	64.0 (12.3)	-5.7 (1.5)	36.8 (5.9)
3	8.2 (3.7)	63.4 (12.0)	-2.0 (1.2)	65.8 (6.0)	10.3 (5.9)	8.2 (3.2)	63.1 (14.0)	-5.1 (3.0)	32.4 (8.7)
4	10.0 (1.7)	67.9 (8.4)	-1.6 (0.8)	64.1 (4.6)	13.0 (3.6)	9.8 (1.8)	70.8 (9.5)	-6.9 (1.5)	37.4 (4.3)
5	11.0 (2.4)	66.3 (7.7)	-3.7 (2.1)	58.9 (9.4)	12.3 (3.3)	10.6 (2.5)	67.9 (8.9)	-8.0 (3.7)	37.1 (5.0)
6	9.6 (1.0)	66.1 (6.6)	-4.4 (3.8)	59.8 (9.5)	13.3 (2.8)	9.3 (0.9)	68.9 (6.5)	-10.1 (3.0)	38.2 (4.2)
7	10.2 (1.6)	72.2 (3.6)	-6.7 (2.7)	34.3 (11.0)	10.5 (2.4)	6.5 (1.1)	73.3 (5.8)	-9.8 (2.7)	29.0 (2.7)
8	10.9 (1.4)	69.2 (4.3)	-2.4 (1.0)	26.9 (1.3)	11.6 (3.7)	6.8 (1.9)	66.7 (5.8)	-6.1 (2.3)	32.2 (8.1)
9	9.9 (1.2)	68.2 (4.3)	-1.6 (0.7)	28.0 (1.1)	12.7 (3.0)	7.5 (1.4)	69.1 (5.5)	-6.4 (1.7)	35.0 (4.9)
10									
11									
12	12.5 (1.9)	70.8 (3.8)	-1.3 (1.1)	28.5 (1.6)	15.5 (3.1)	10.9 (2.0)	73.6 (6.1)	-8.1 (1.5)	39.5 (3.2)
13	12.6 (1.5)	70.8 (5.9)	-1.2 (1.4)	51.6 (18.2)	13.4 (3.2)	11.6 (1.6)	73.6 (9.5)	-8.4 (2.0)	41.4 (1.5)
14	14.7 (1.6)	70.0 (6.3)	-4.4 (2.3)	78.0 (13.8)	14.0 (2.2)	14.1 (2.0)	69.8 (6.6)	-11.0 (1.8)	41.2 (1.1)
15	11.0 (1.3)	76.8 (2.6)	-1.6 (1.1)	38.6 (15.5)	9.4 (1.7)	9.5 (1.4)	81.5 (1.8)	-9.0 (1.7)	39.0 (3.5)
16	8.7 (1.3)	73.4 (2.8)	-3.9 (2.4)	26.7 (2.9)	9.3 (2.8)	7.0 (1.1)	77.1 (3.3)	-9.8 (1.8)	27.6 (3.8)
17	10.4 (1.1)	73.9 (2.7)	-4.3 (0.9)	25.4 (1.1)	11.3 (2.8)	7.0 (1.1)	74.8 (3.7)	-9.0 (1.4)	28.9 (5.3)
18	11.0 (1.7)	73.8 (3.8)	-3.3 (0.9)	26.4 (1.4)	11.6 (3.8)	6.9 (1.3)	71.5 (4.8)	-7.9 (2.8)	29.3 (9.0)
19	12.5 (1.3)	74.8 (2.4)	-4.7 (1.6)	24.4 (2.2)	12.4 (3.6)	7.8 (1.7)	73.6 (3.0)	-9.8 (3.0)	34.7 (6.3)
20	11.3 (1.6)	79.1 (1.5)	-4.3 (3.1)	45.0 (18.9)	12.0 (2.4)	10.6 (1.2)	81.1 (2.3)	-9.8 (4.8)	37.4 (4.9)
21	13.2 (2.7)	79.1 (1.9)	-2.5 (1.2)	74.0 (17.9)	12.7 (4.4)	12.7 (3.0)	81.2 (3.0)	-6.8 (1.9)	41.0 (1.9)
22	7.2 (2.2)	77.1 (3.3)	-0.5 (3.1)	42.2 (20.7)	6.1 (2.1)	6.9 (1.7)	81.7 (3.0)	-6.3 (1.7)	31.4 (8.1)
23	5.7 (1.3)	72.0 (4.4)	-2.5 (2.4)	20.0 (12.0)	9.7 (3.5)	4.6 (2.2)	73.2 (4.9)	-4.6 (1.8)	18.9 (1.7)
24	8.0 (1.8)	72.2 (4.6)	-3.0 (1.0)	26.6 (4.1)	9.8 (3.5)	5.3 (1.9)	69.4 (4.6)	-4.7 (2.4)	25.8 (5.6)
25	10.2 (1.6)	65.2 (5.2)	-2.7 (1.1)	28.1 (1.5)	13.3 (4.2)	9.0 (1.7)	63.6 (6.6)	-7.5 (2.8)	31.7 (8.4)
26	12.6 (0.9)	78.0 (1.4)	-2.5 (1.4)	26.9 (1.9)	12.0 (3.2)	10.3 (1.3)	79.9 (3.2)	-7.9 (1.8)	38.9 (3.8)
27	8.3 (1.4)	72.2 (5.5)	-0.9 (3.3)	31.0 (4.3)	12.5 (3.4)	8.6 (1.2)	76.5 (6.6)	-9.2 (2.8)	32.9 (7.7)
28	8.8 (1.4)	69.5 (3.4)	-4.0 (2.5)	26.2 (3.0)	10.2 (3.1)	7.1 (1.7)	69.5 (4.9)	-7.5 (4.2)	27.4 (8.2)
29	9.8 (2.7)	64.7 (2.0)	-5.9 (4.2)	28.6 (10.4)	11.3 (3.5)	8.7 (2.1)	64.9 (3.1)	-12.2 (4.2)	32.6 (6.5)
30	6.8 (1.9)	65.9 (4.6)	-3.4 (2.4)	27.1 (6.3)	9.8 (3.3)	6.3 (1.7)	65.5 (5.8)	-8.1 (3.8)	26.0 (8.4)
Mean	10.3	70.8	-3.0	41.2	11.6	8.7	71.9	-8.0	33.8
n	28	28	28	28	28	28	28	28	28
SD	2.1	4.6	1.5	18.2	1.9	2.2	5.7	1.9	5.6
Min	5.7	63.4	-6.7	20.0	6.1	4.6	63.1	-12.2	18.9
Max	14.7	79.1	-0.5	78.0	15.5	14.1	81.7	-4.6	41.5

Table E3. Daily means (SD) of environmental parameters at Site NY5B for December, 2007.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	3.3 (1.0)	71.8 (3.4)	-3.7 (1.5)	27.1 (11.1)	6.9 (4.4)	3.2 (1.9)	67.6 (4.1)	-4.5 (1.9)	17.8 (2.1)
2	6.3 (2.3)	73.7 (2.2)	-3.6 (1.7)	29.2 (2.8)	8.5 (4.3)	5.0 (2.1)	69.4 (3.1)	-3.7 (2.7)	22.7 (3.5)
3	7.1 (2.4)	75.7 (2.1)	-7.1 (2.6)	25.9 (3.8)	10.1 (4.0)	6.4 (2.5)	76.4 (2.6)	-10.5 (3.5)	20.8 (6.1)
4	4.6 (0.9)	77.0 (1.3)	-4.8 (1.1)	28.7 (1.7)	7.9 (3.7)	3.4 (2.4)	76.3 (3.1)	-5.3 (1.4)	17.2 (1.6)
5	5.3 (0.9)	76.4 (1.5)	-3.1 (0.8)	30.1 (1.3)	9.3 (3.7)	3.5 (2.5)	77.1 (2.8)	-3.3 (0.9)	19.3 (1.8)
6	4.2 (1.7)	74.2 (3.5)	-3.4 (1.0)	38.5 (13.4)	10.1 (4.5)	3.8 (2.1)	73.2 (4.6)	-3.5 (1.0)	20.1 (1.8)
7	4.4 (2.1)	71.8 (2.3)	-5.6 (1.5)	53.6 (4.7)	7.9 (3.6)	4.8 (2.2)	69.7 (3.6)	-5.5 (2.2)	20.4 (3.4)
8	6.8 (1.4)	72.0 (2.5)	-6.2 (1.4)	51.4 (3.9)	5.9 (2.5)	6.2 (1.9)	72.3 (3.9)	-7.2 (1.9)	24.6 (4.4)
9	6.3 (1.1)	73.8 (1.9)	-4.5 (1.4)	54.8 (4.5)	4.6 (1.5)	5.9 (1.8)	72.3 (3.1)	-4.7 (1.5)	21.5 (2.5)
10	7.8 (1.0)	77.0 (1.7)	-4.3 (2.0)	43.2 (10.2)	6.4 (2.0)	6.7 (1.3)	77.7 (2.8)	-5.7 (1.7)	26.9 (3.4)
11	10.2 (1.3)	77.4 (1.8)	-3.1 (1.1)	29.8 (1.7)	7.9 (2.2)	7.8 (2.4)	78.3 (2.8)	-5.7 (1.8)	29.7 (3.9)
12	8.8 (1.5)	74.3 (5.7)	-4.0 (1.6)	29.1 (2.4)	8.0 (2.4)	7.5 (1.9)	76.5 (6.4)	-7.4 (1.8)	26.0 (3.9)
13	7.7 (1.2)	75.2 (1.8)	-3.2 (1.7)	31.7 (6.6)	5.0 (1.5)	6.2 (1.6)	73.2 (4.2)	-5.6 (2.3)	22.5 (3.2)
14	7.5 (1.6)	72.8 (3.8)	-5.2 (3.6)	38.8 (23.0)	6.6 (2.5)	7.0 (1.8)	76.5 (3.4)	-9.3 (2.0)	25.1 (3.9)
15	4.1 (2.0)	74.9 (2.9)	-2.6 (1.2)	31.4 (2.2)	0.7 (2.2)	1.7 (2.8)	73.3 (5.7)	-3.1 (2.0)	11.7 (3.4)
16	6.9 (2.5)	76.7 (1.4)	-4.1 (3.2)	27.8 (4.9)	4.1 (2.8)	4.9 (3.2)	78.6 (4.7)	-3.5 (3.4)	10.9 (2.2)
17	4.1 (1.7)	75.9 (2.4)	-6.1 (2.1)	25.6 (5.6)	2.1 (2.5)	2.1 (3.1)	81.1 (4.3)	-5.1 (1.3)	8.6 (0.9)
18	6.6 (1.5)	72.8 (3.5)	-4.5 (2.9)	39.8 (27.8)	4.5 (3.1)	5.6 (2.4)	76.2 (5.9)	-4.0 (1.1)	10.6 (1.7)
19	9.2 (0.9)	72.2 (3.2)	-3.9 (1.2)	28.0 (1.9)	6.5 (1.6)	7.1 (2.1)	73.9 (4.0)	-4.7 (1.4)	13.0 (2.3)
20	8.2 (1.3)	76.9 (1.9)	-2.6 (1.2)	30.7 (2.2)	5.8 (1.9)	6.8 (2.5)	81.6 (2.4)	-3.8 (1.0)	13.6 (1.8)
21	9.0 (2.2)	76.1 (2.4)	-3.2 (1.2)	29.8 (1.9)	6.2 (3.4)	5.7 (2.8)	77.8 (4.1)	-3.7 (1.5)	12.2 (2.3)
22	11.2 (1.1)	74.5 (1.5)	-3.5 (1.8)	29.2 (2.9)	8.5 (1.7)	8.9 (1.6)	75.7 (2.7)	-4.6 (1.9)	15.2 (1.0)
23	13.1 (2.3)	76.6 (2.8)	-8.3 (4.5)	24.9 (7.4)	12.1 (2.8)	10.6 (2.1)	83.1 (3.0)	-10.1 (4.2)	15.4 (3.7)
24	8.0 (1.0)	70.4 (2.5)	-5.0 (1.8)	29.1 (2.4)	7.1 (1.7)	6.5 (1.7)	75.6 (4.2)	-6.2 (1.7)	11.4 (2.1)
25	8.2 (1.1)	75.7 (1.9)	-2.5 (1.2)	31.2 (1.7)	6.7 (1.5)	7.7 (2.2)	81.4 (2.9)	-3.9 (1.1)	13.6 (2.2)
26	10.1 (1.4)	75.0 (2.5)	-2.3 (0.7)	31.0 (1.2)	8.0 (3.0)	7.6 (2.2)	78.3 (3.2)	-3.1 (1.0)	14.3 (4.5)
27	11.1 (0.9)	75.8 (1.7)	-2.9 (1.1)	30.0 (1.8)	8.6 (1.7)	9.3 (1.6)	80.4 (3.2)	-4.3 (1.3)	16.1 (1.7)
28	11.2 (0.9)	74.3 (2.8)	-4.0 (3.3)	28.8 (4.4)	8.6 (1.8)	8.6 (1.8)	77.9 (4.6)	-5.4 (4.6)	15.7 (2.9)
29	10.7 (2.0)	72.1 (4.4)	-3.8 (2.5)	29.5 (3.9)	9.7 (2.0)	9.6 (1.8)	77.1 (4.0)	-6.5 (3.3)	17.0 (2.0)
30	10.2 (0.5)	71.7 (2.5)	-2.6 (0.8)	30.2 (1.2)	7.3 (1.4)	8.4 (1.7)	74.8 (3.3)	-4.0 (0.8)	16.2 (1.3)
31	9.0 (1.3)	75.0 (2.4)	-3.5 (1.6)	29.7 (2.1)	7.4 (2.3)	7.2 (1.9)	78.6 (3.7)	-4.8 (1.5)	14.2 (1.4)
Mean	7.8	74.5	-4.1	32.9	7.1	6.3	76.2	-5.2	17.6
n	31	31	31	31	31	31	31	31	31
SD	2.5	1.9	1.4	7.8	2.3	2.2	3.6	1.9	5.3
Min	3.3	70.4	-8.3	24.9	0.7	1.7	67.6	-10.5	8.6
Max	13.1	77.4	-2.3	54.8	12.1	10.6	83.1	-3.1	29.7

Table E3. Daily means (SD) of environmental parameters at Site NY5B for January, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	10.2 (1.2)	75.2 (1.7)	-4.8 (2.1)	28.6 (2.0)	7.7 (2.4)	7.8 (2.0)	77.4 (3.8)	-5.4 (1.8)	12.8 (2.3)
2	3.3 (1.8)	76.5 (1.2)	-3.8 (1.1)	30.5 (1.6)	0.4 (2.3)	1.7 (2.8)	80.3 (3.5)	-4.2 (1.0)	9.1 (0.6)
3	1.8 (1.3)	77.5 (2.7)	-3.0 (0.8)	29.2 (1.6)	-4.1 (3.3)	-1.5 (2.7)	82.1 (3.9)	-3.6 (0.8)	9.4 (0.4)
4	6.3 (2.1)	70.0 (2.5)	-2.9 (0.6)	28.1 (1.1)	3.0 (3.6)	5.2 (2.8)	72.6 (5.2)	-3.6 (0.7)	10.1 (1.0)
5	10.0 (1.5)	69.6 (3.6)	-3.1 (0.8)	27.1 (1.0)	6.9 (2.8)	8.1 (2.3)	70.4 (5.1)	-4.0 (1.2)	13.0 (2.8)
6	14.0 (1.4)	76.9 (1.1)	-2.4 (0.8)	27.2 (1.3)	11.4 (2.1)	11.8 (1.9)	80.8 (2.2)	-4.0 (1.0)	18.7 (2.2)
7	16.1 (1.3)	75.2 (1.5)	-3.2 (1.3)	78.1 (31.2)	15.7 (1.6)	15.9 (1.5)	79.6 (3.1)	-7.6 (2.3)	34.9 (9.0)
8	18.0 (1.0)	67.5 (5.0)	-4.9 (2.3)	108 (10)	17.5 (1.6)	17.8 (1.2)	70.7 (5.2)	-10.2 (2.5)	39.9 (0.3)
9	12.1 (3.4)	64.2 (5.9)	-5.4 (4.0)		12.1 (3.9)	11.9 (3.4)	68.7 (5.9)	-13.4 (3.1)	36.7 (4.7)
10	10.3 (1.6)	71.0 (3.2)	-4.5 (2.0)	35.9 (9.6)	9.1 (1.9)	8.2 (1.6)	73.2 (6.1)	-8.2 (2.0)	31.9 (7.2)
11	12.6 (0.9)	74.4 (1.7)	-6.8 (3.7)		10.6 (1.9)	10.4 (1.5)	79.0 (4.0)	-13.6 (5.6)	35.2 (6.8)
12	11.5 (0.9)	72.0 (2.5)	-4.7 (1.3)	27.5 (1.7)	9.9 (2.4)	9.4 (1.7)	75.2 (3.4)	-9.5 (2.1)	33.9 (5.1)
13	10.0 (1.2)	73.2 (4.4)	-2.9 (1.2)	29.9 (1.7)	8.0 (2.6)	7.8 (2.0)	75.5 (4.9)	-6.7 (2.9)	28.7 (9.1)
14	8.3 (0.9)	75.9 (1.4)	-2.1 (1.4)	31.1 (2.0)	7.6 (1.3)	8.2 (1.1)	81.6 (2.5)	-6.4 (1.4)	29.6 (2.4)
15	8.0 (0.7)	76.2 (1.3)	-3.9 (1.0)	28.8 (1.4)	5.6 (1.9)	7.0 (1.4)	79.9 (2.7)	-5.9 (1.7)	18.5 (5.9)
16	7.6 (0.8)	76.7 (1.9)	-2.9 (0.6)	30.2 (1.1)	4.8 (2.2)	5.8 (2.5)	80.8 (3.2)	-3.2 (0.9)	11.6 (2.0)
17	8.7 (1.2)	74.4 (2.2)	-4.6 (2.2)	27.7 (3.1)	5.7 (2.4)	6.2 (1.9)	76.2 (3.4)	-5.1 (3.4)	10.2 (2.3)
18	8.3 (2.0)	71.4 (4.5)	-5.3 (2.1)	27.9 (3.0)	7.0 (4.1)	7.1 (2.2)	74.2 (5.1)	-6.4 (2.4)	12.4 (3.4)
19	5.4 (1.3)	71.5 (1.8)	-4.1 (1.3)	29.6 (1.8)	2.1 (2.8)	4.9 (2.3)		-4.5 (1.3)	9.9 (2.1)
20	0.2 (1.3)	72.1 (2.7)	-6.5 (1.9)	28.0 (2.5)	-0.1 (3.5)	-1.5 (1.9)		-6.5 (1.8)	7.8 (0.9)
21	2.0 (2.1)	72.1 (2.1)	-4.9 (1.4)	29.6 (1.8)	0.3 (3.4)	1.1 (3.0)		-4.8 (1.6)	8.9 (0.8)
22	6.3 (1.7)	70.5 (3.2)	-5.6 (2.1)	27.8 (2.7)	2.1 (2.3)	4.8 (2.6)		-5.1 (2.3)	10.2 (2.5)
23	4.8 (1.2)	74.5 (2.2)	-3.8 (1.3)	29.7 (1.8)	0.2 (2.1)	3.9 (1.9)		-3.6 (1.3)	9.5 (0.6)
24	4.3 (1.0)	76.0 (3.1)	-3.4 (1.1)	30.2 (1.6)	0.5 (3.4)	3.7 (2.1)		-3.3 (1.3)	10.0 (1.4)
25	3.4 (1.5)	72.6 (3.5)	-5.5 (2.0)	28.4 (2.6)	2.3 (4.0)	3.2 (2.1)		-5.4 (2.1)	9.4 (1.9)
26	6.4 (1.4)	74.0 (2.5)	-3.3 (0.8)	29.8 (1.4)	1.9 (2.2)	4.9 (2.0)		-3.3 (1.3)	11.4 (2.7)
27	8.3 (0.9)	74.8 (2.6)	-3.3 (0.7)	29.5 (1.1)	3.9 (2.9)	6.1 (2.5)		-3.6 (1.3)	13.0 (3.9)
28	8.2 (0.9)	75.7 (2.1)	-2.7 (0.8)	30.3 (1.2)	4.2 (1.7)	6.1 (2.0)		-3.0 (0.9)	13.3 (3.3)
29	12.0 (1.5)	75.8 (2.0)	-3.6 (1.3)	28.6 (2.0)	8.8 (3.1)	10.1 (2.7)		-4.2 (1.6)	17.4 (3.6)
30	7.7 (4.2)	72.6 (4.7)	-7.2 (2.7)	25.9 (4.4)	7.7 (4.4)	5.9 (4.2)		-7.6 (3.2)	12.2 (4.9)
31	5.5 (2.1)	72.6 (2.5)	-3.3 (1.1)	30.5 (1.4)	3.2 (3.5)	4.6 (2.2)		-3.5 (1.1)	11.9 (3.3)
Mean	8.1	73.3	-4.1	33.6	5.7	6.7	76.6	-5.8	17.5
n	31	31	31	29	31	31	18	31	31
SD	4.1	3.0	1.3	16.7	4.8	4.2	4.1	2.7	10.1
Min	0.2	64.2	-7.2	25.9	-4.1	-1.5	68.7	-13.6	7.8
Max	18.0	77.5	-2.1	108.0	17.5	17.8	82.1	-3.0	39.9

Table E3. Daily means (SD) of environmental parameters at Site NY5B for February, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	9.3 (1.3)	75.7 (2.7)	-3.5 (1.3)	29.2 (1.7)	5.4 (2.2)	7.2 (2.3)		-4.6 (1.8)	12.3 (2.9)
2	9.5 (0.9)	78.2 (1.4)	-4.9 (2.1)	27.9 (2.3)	7.7 (1.5)	8.1 (1.4)		-5.5 (2.2)	14.8 (0.8)
3	9.9 (0.7)	76.9 (1.5)	-3.0 (0.7)	29.8 (1.0)	7.5 (1.6)	8.2 (2.0)		-3.5 (0.9)	14.9 (2.1)
4	10.3 (1.1)	77.2 (1.4)	-2.9 (1.7)	30.0 (2.6)	6.7 (1.3)	7.6 (1.4)		-3.6 (1.9)	16.2 (1.5)
5	13.3 (1.6)	79.7 (1.7)	-4.7 (2.5)	31.9 (5.9)	11.5 (2.2)	11.7 (2.0)		-5.2 (2.4)	19.5 (2.1)
6	10.7 (1.2)	79.7 (1.6)	-3.3 (0.9)	28.8 (1.7)	7.1 (1.5)	8.0 (1.7)		-3.9 (1.3)	16.0 (1.4)
7	7.5 (2.0)	78.3 (1.3)	-3.3 (1.2)	29.8 (1.8)	5.3 (1.9)	6.6 (2.3)		-3.7 (1.1)	12.6 (2.4)
8	8.7 (1.0)	77.1 (1.8)	-2.8 (0.9)	29.8 (1.4)	5.8 (2.3)	6.9 (2.0)		-3.2 (1.0)	14.7 (3.6)
9	9.9 (1.0)	76.1 (2.0)	-3.5 (1.5)	28.9 (2.2)	7.3 (2.0)	8.2 (1.9)		-3.8 (1.5)	16.5 (2.3)
10	3.7 (5.4)	73.4 (3.6)	-7.2 (3.8)	26.2 (4.1)	5.5 (3.3)	2.6 (5.5)		-7.1 (3.3)	10.3 (4.2)
11	-1.4 (2.0)	73.4 (3.2)	-6.2 (2.9)	25.5 (3.7)	3.3 (4.9)	-1.8 (3.1)		-6.4 (2.1)	7.9 (1.1)
12	4.5 (1.9)	76.8 (2.0)	-3.2 (1.2)	27.0 (1.9)	0.2 (2.8)	1.2 (1.7)		-3.5 (1.3)	9.2 (0.8)
13	7.6 (2.7)	76.9 (2.0)	-3.1 (2.0)	27.0 (2.9)	4.1 (3.0)	6.0 (2.3)		-3.7 (1.7)	12.3 (3.0)
14	7.3 (2.3)	73.9 (3.5)	-2.8 (1.3)	27.6 (1.7)	4.9 (4.3)	5.3 (2.5)		-3.3 (1.2)	13.3 (3.4)
15	7.6 (1.9)	75.4 (1.9)	-3.7 (1.1)	26.9 (1.3)	4.4 (3.6)	4.6 (2.8)		-3.8 (1.1)	12.2 (2.6)
16	5.7 (1.9)	74.2 (3.0)	-3.1 (0.6)	27.3 (1.0)	2.0 (4.7)	3.0 (2.2)		-3.1 (0.9)	11.4 (3.7)
17	9.9 (2.3)	72.5 (2.6)	-8.9 (3.7)		8.0 (3.6)	7.5 (2.8)		-6.3 (4.0)	13.3 (4.2)
18	11.6 (3.4)	74.1 (4.0)	-2.7 (2.4)	27.1 (3.2)	8.6 (4.4)	10.4 (3.4)		-3.3 (1.8)	19.0 (2.1)
19	5.6 (1.9)	70.8 (3.4)	-6.0 (2.2)	24.6 (2.5)	3.7 (3.9)	4.2 (2.7)		-6.3 (2.2)	10.3 (2.9)
20	3.5 (1.2)	71.5 (2.7)	-4.9 (1.1)	26.1 (1.5)	3.2 (4.8)	2.4 (1.8)		-5.0 (1.2)	9.8 (2.5)
21	4.6 (1.5)	74.1 (3.8)	-3.0 (1.0)	27.6 (1.2)	1.9 (3.6)	3.7 (2.4)		-3.5 (1.1)	10.8 (2.7)
22	7.8 (1.2)	75.7 (1.9)	-2.9 (0.8)	26.8 (1.2)	1.3 (1.2)	5.9 (2.1)		-3.3 (0.8)	12.0 (2.8)
23	6.3 (1.6)	75.0 (4.2)	-2.5 (1.2)	27.9 (1.8)	0.8 (2.1)	5.7 (1.8)		-3.1 (1.2)	12.2 (2.9)
24	8.3 (1.8)	72.5 (4.5)	-2.7 (0.9)	27.3 (1.1)	4.8 (5.1)	7.1 (2.4)		-3.5 (1.3)	14.4 (5.0)
25	8.8 (1.7)	74.1 (5.0)	-2.5 (0.8)	27.5 (1.1)	4.1 (3.3)	6.4 (2.9)		-3.0 (1.1)	15.0 (4.9)
26	10.2 (1.2)	78.7 (1.0)	-2.6 (0.9)	26.4 (1.5)	6.9 (1.6)	8.3 (1.8)		-3.5 (1.0)	15.4 (1.9)
27	3.2 (2.7)	76.1 (2.0)	-4.2 (1.2)	26.4 (1.6)	-0.1 (2.5)	3.8 (2.8)		-4.8 (0.9)	9.8 (1.4)
28	-0.2 (1.8)	76.5 (3.2)	-3.7 (1.3)	27.3 (1.9)	-2.7 (4.1)	0.8 (2.6)		-4.0 (1.0)	9.0 (0.5)
29	4.6 (3.5)	76.5 (4.5)	-4.8 (2.1)		-1.4 (6.6)	1.3 (3.5)		-3.6 (2.2)	9.7 (1.3)
Mean	7.2	75.5	-3.9	27.7	4.4	5.5		-4.2	12.9
n	29	29	29	27	29	29	0	29	29
SD	3.3	2.3	1.5	1.6	3.2	3.0		1.1	2.9
Min	-1.4	70.8	-8.9	24.6	-2.7	-1.8		-7.1	7.9
Max	13.3	79.7	-2.5	31.9	11.5	11.7		-3.0	19.5

Table E3. Daily means (SD) of environmental parameters at Site NY5B for March, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	7.4 (1.3)	73.9 (3.3)	-5.1 (1.9)	25.3 (2.5)	5.5 (4.2)	6.6 (2.2)		-5.7 (2.1)	12.6 (2.4)
2	8.2 (2.0)	72.0 (3.5)	-2.9 (0.9)	27.3 (1.2)	5.6 (6.5)	7.1 (2.2)		-3.9 (1.1)	15.2 (4.4)
3	13.3 (2.6)	61.8 (5.9)	-6.6 (3.0)	55.3 (23.1)	12.0 (4.7)	12.4 (2.9)		-2.8 (2.3)	19.1 (2.2)
4	8.1 (2.2)	75.3 (3.5)	-4.0 (1.6)	56.1 (6.3)	4.0 (2.3)	7.2 (2.5)		-4.0 (1.5)	17.0 (2.0)
5	5.6 (2.1)	77.5 (2.1)	-5.1 (2.0)	54.4 (7.0)	4.8 (2.3)	6.6 (2.4)		-5.2 (1.6)	13.2 (2.4)
6	6.2 (2.2)	74.2 (4.3)	-4.4 (1.4)	55.2 (4.5)	6.7 (6.1)	7.2 (3.1)		-3.9 (1.2)	15.5 (5.1)
7	7.8 (2.2)	76.7 (3.7)	-4.6 (1.6)	54.6 (4.4)	7.5 (4.2)	8.7 (2.2)		-4.4 (1.4)	15.8 (4.3)
8	6.0 (2.1)	79.2 (1.4)	-4.9 (2.8)	54.6 (6.8)	5.4 (1.6)	7.3 (2.4)		-5.6 (2.7)	14.0 (3.1)
9	1.8 (2.0)	72.1 (3.8)	-8.4 (3.9)	32.0 (8.8)	2.9 (3.8)	2.2 (2.8)		-8.3 (3.1)	7.3 (1.8)
10	5.5 (1.7)	73.6 (4.1)	-3.2 (1.1)	30.4 (1.4)	2.2 (5.4)	5.6 (2.3)		-3.8 (1.7)	13.4 (4.7)
11	7.3 (1.5)	72.6 (5.4)	-3.7 (1.4)		5.9 (5.1)	7.4 (2.7)		-4.0 (1.6)	15.8 (4.8)
12	5.5 (2.0)	75.9 (3.6)	-4.9 (1.6)		5.1 (3.1)	7.1 (2.4)		-5.3 (1.3)	13.9 (2.5)
13	6.3 (4.5)	72.8 (7.2)	-5.5 (1.4)		4.9 (5.0)	6.5 (4.0)	73.1 (5.9)	-4.7 (1.9)	15.1 (4.6)
14	10.6 (2.1)	75.1 (4.6)	-4.0 (1.6)		9.9 (3.8)	11.4 (1.8)	77.1 (5.2)	-4.5 (1.3)	19.5 (1.4)
15	9.8 (1.5)	78.2 (2.9)	-4.5 (1.5)		8.7 (2.0)	10.6 (2.0)	81.1 (2.8)	-5.2 (1.6)	18.9 (1.8)
16	7.0 (1.1)	76.4 (3.8)	-5.7 (1.4)		6.1 (2.7)	7.9 (2.1)	76.8 (4.5)	-5.8 (1.8)	15.4 (2.6)
17	5.0 (2.0)	70.8 (5.2)	-4.1 (1.6)		9.5 (9.5)	6.5 (2.3)	72.5 (4.7)	-4.2 (1.1)	15.1 (5.2)
18	8.8 (1.9)	67.8 (7.0)	-5.4 (2.4)		7.8 (3.8)	8.4 (2.2)	72.0 (6.1)	-4.5 (2.3)	17.1 (3.2)
19	10.7 (1.4)	79.4 (2.4)	-5.0 (2.4)		9.6 (2.2)	11.2 (2.0)	82.3 (2.6)	-4.7 (2.1)	18.7 (1.9)
20	5.8 (1.7)	77.0 (5.1)	-5.7 (3.0)		6.8 (2.4)	6.6 (1.6)	81.5 (3.9)	-6.9 (2.1)	14.0 (3.1)
21	3.6 (1.8)	69.3 (8.2)	-7.1 (2.4)		6.1 (5.2)	4.8 (1.7)	72.5 (8.8)	-7.4 (2.1)	10.9 (3.6)
22	4.3 (2.1)	68.6 (6.1)	-5.3 (1.7)		7.3 (6.6)	5.5 (2.1)	70.0 (6.5)	-5.1 (2.4)	14.0 (5.1)
23	4.1 (1.8)	68.9 (7.4)	-5.0 (1.7)		7.1 (6.8)	4.5 (2.7)	72.0 (6.8)	-4.4 (2.1)	14.2 (5.2)
24	4.6 (2.1)	72.5 (5.2)	-5.7 (1.4)		4.9 (5.2)	4.6 (2.8)	73.4 (6.2)	-4.8 (2.3)	13.8 (4.7)
25	6.9 (4.1)	68.4 (10.4)	-6.7 (2.6)		7.4 (6.3)	7.3 (3.6)	67.6 (11.6)	-4.4 (2.1)	16.5 (5.1)
26	9.4 (1.2)	69.5 (8.9)	-4.6 (2.0)		11.3 (4.6)	10.4 (1.9)	71.3 (6.8)	-5.8 (1.2)	18.7 (2.2)
27	8.3 (1.5)	72.6 (7.8)	-3.7 (1.3)		7.9 (2.7)	9.7 (2.1)	73.8 (5.7)	-3.9 (1.1)	16.7 (4.3)
28	7.3 (1.3)	79.9 (2.8)	-5.4 (1.1)		5.8 (1.8)	7.6 (1.6)	78.8 (3.0)	-5.4 (1.3)	14.1 (2.1)
29	2.8 (1.4)	72.2 (6.6)	-4.0 (1.5)		6.5 (7.0)	4.3 (2.5)	72.2 (5.1)	-3.7 (1.3)	13.4 (5.0)
30	6.5 (5.3)	64.0 (10.4)	-6.1 (2.2)		7.9 (8.5)	6.0 (4.7)	61.6 (10.5)	-4.8 (2.2)	16.8 (5.4)
31	11.1 (1.7)	74.3 (5.6)	-6.1 (2.1)		11.0 (2.2)	11.3 (2.4)	74.6 (7.5)	-4.5 (2.2)	19.6 (1.7)
Mean	7.0	73.0	-5.1	44.5	6.9	7.4	73.9	-4.9	15.3
n	31	31	31	10	31	31	19	31	31
SD	2.5	4.3	1.2	13.0	2.3	2.3	4.9	1.1	2.6
Min	1.8	61.8	-8.4	25.3	2.2	2.2	61.6	-8.3	7.3
Max	13.3	79.9	-2.9	56.1	12.0	12.4	82.3	-2.8	19.6

Table E3. Daily means (SD) of environmental parameters at Site NY5B for April, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	14.5 (3.4)	73.7 (4.8)	-6.9 (4.9)		14.1 (4.6)	14.8 (3.6)	75.4 (3.8)	-6.4 (5.9)	19.4 (2.4)
2	5.6 (2.1)	62.6 (8.6)	-5.3 (2.5)	58.0 (8.7)	2.8 (4.0)	6.3 (2.0)	63.5 (8.9)	-6.3 (2.3)	15.7 (4.5)
3	9.6 (3.9)	56.9 (11.8)	-5.1 (1.7)	61.4 (13.5)	6.4 (7.1)	9.5 (4.0)	55.9 (10.5)	-3.2 (1.2)	17.5 (5.1)
4	11.4 (1.2)	78.2 (4.1)	-3.9 (1.5)	55.1 (4.4)	6.3 (1.8)	10.8 (2.3)	78.9 (5.4)	-4.4 (1.3)	19.7 (1.2)
5	10.4 (2.3)	73.3 (8.8)	-4.4 (1.7)	60.5 (10.3)	6.3 (3.7)	10.4 (2.3)	74.7 (9.3)	-5.0 (1.5)	18.9 (2.1)
6	13.6 (4.0)	63.0 (11.0)	-5.8 (2.0)	76.9 (27.2)	11.2 (7.4)	12.9 (3.8)	62.8 (11.8)	-3.7 (1.3)	19.5 (1.9)
7	13.1 (2.3)	68.3 (4.8)	-5.6 (2.0)	60.5 (14.6)	10.3 (4.5)	11.3 (2.9)	68.3 (4.7)	-2.2 (1.7)	20.5 (0.8)
8	14.8 (3.2)	66.4 (6.5)	-5.8 (3.1)	106 (51)	14.3 (5.5)	14.4 (3.6)	67.6 (7.2)	-2.7 (1.4)	20.8 (0.3)
9	15.9 (2.3)	62.7 (5.7)	-8.4 (4.3)	135 (39)	15.2 (3.2)	16.0 (2.5)	64.8 (6.3)	-2.5 (2.1)	20.6 (0.2)
10	10.9 (1.9)	65.4 (7.0)	-3.1 (2.0)	99.8 (22.9)	10.5 (5.0)	11.8 (2.0)	67.0 (7.9)	-3.0 (0.7)	21.0 (0.3)
11	14.0 (3.3)	73.9 (3.6)	-6.4 (3.9)	115 (26)	11.5 (4.7)	13.6 (3.5)	75.6 (4.0)	-2.4 (1.4)	20.6 (0.4)
12	13.5 (2.9)	70.2 (8.0)	-3.8 (3.5)	128 (24)	13.7 (4.1)	14.8 (2.6)	73.1 (7.6)	-3.8 (1.3)	20.3 (0.4)
13	7.6 (1.0)	68.7 (8.2)	-1.7 (1.8)	75.9 (15.0)	5.7 (3.1)	8.8 (1.4)	70.8 (7.5)	-3.1 (1.1)	19.1 (1.6)
14	9.0 (2.0)	62.2 (8.6)	-1.7 (1.9)	66.4 (7.6)	6.7 (5.2)	9.4 (2.3)	63.9 (8.6)	-2.8 (1.1)	19.3 (1.9)
15	8.8 (3.8)	61.8 (12.8)	-1.3 (1.0)	72.8 (13.6)	7.7 (8.3)	10.3 (3.1)	62.6 (11.7)	-2.1 (0.8)	17.8 (4.1)
16	13.3 (5.1)	48.8 (16.3)	-4.2 (3.5)	98.1 (40.8)	13.1 (8.9)	13.8 (4.9)	50.5 (15.8)	-4.3 (3.1)	25.4 (9.0)
17	18.1 (4.1)	39.3 (8.9)	-9.5 (6.4)	176 (65)	19.1 (7.5)	18.2 (4.3)	41.8 (9.3)	-7.7 (1.4)	36.5 (1.0)
18	18.2 (5.4)	55.8 (12.5)	-12.0 (9.4)	205 (104)	18.2 (8.5)	17.8 (5.5)	56.6 (12.3)	-7.7 (1.6)	36.2 (1.3)
19	23.5 (5.2)	44.8 (19.3)	-1.3 (2.0)		23.0 (9.0)	21.8 (5.8)	48.2 (16.0)	-14.8 (6.4)	58.7 (15.9)
20	20.8 (2.7)	49.9 (7.3)	-6.3 (11.0)		20.8 (4.7)	20.1 (2.7)	55.3 (6.5)	-18.9 (3.8)	71.7 (2.6)
21									
22	20.2 (3.9)	46.5 (9.0)	-19.8 (6.6)	263 (61)	20.3 (6.1)	20.0 (3.9)	46.2 (9.6)	-20.4 (3.2)	71.0 (2.4)
23	18.7 (2.8)	63.7 (8.9)	-17.1 (5.9)	251 (57)	18.7 (4.7)	18.6 (3.2)	62.4 (9.0)	-19.4 (3.2)	71.0 (2.8)
24	14.6 (4.0)	52.1 (14.9)	-12.0 (6.8)	206 (75)	14.4 (6.7)	14.2 (4.4)	52.5 (14.8)	-19.3 (3.9)	73.3 (2.5)
25	17.2 (5.8)	51.4 (14.1)	-14.8 (6.1)	242 (75)	16.8 (7.8)	16.9 (6.0)	51.7 (14.7)	-18.7 (5.1)	73.0 (3.4)
26	21.2 (4.3)	63.0 (14.9)	-19.0 (5.5)	267 (63)	20.9 (6.3)	21.0 (4.3)	63.0 (14.5)	-21.2 (2.5)	69.0 (3.1)
27	15.8 (3.5)	63.7 (13.2)	-11.4 (5.1)	215 (70)	15.8 (5.3)	16.0 (3.7)	64.5 (13.5)	-19.5 (3.6)	72.5 (2.3)
28	11.9 (2.4)	77.9 (4.3)	-3.8 (3.8)	115 (18)	10.5 (2.3)	12.4 (2.1)	78.6 (4.3)	-14.2 (10.0)	48.3 (15.6)
29	7.6 (1.6)	66.3 (9.4)	-0.4 (2.3)	111 (13)	7.5 (2.6)	8.8 (1.8)	66.9 (8.7)	-7.6 (1.4)	35.2 (1.4)
30	6.5 (2.6)	59.8 (10.7)	-1.6 (1.6)	104 (9)	5.5 (3.9)	8.1 (2.6)	62.5 (9.8)	-7.7 (1.6)	33.7 (3.0)
Mean	13.8	61.7	-7.0	132	12.7	13.9	62.9	-8.8	36.8
n	29.0	29.0	29.0	26.0	29.0	29.0	29.0	29.0	29.0
SD	4.6	9.8	5.3	69.8	5.5	4.1	9.6	6.8	21.8
Min	5.6	39.3	-19.8	55.1	2.8	6.3	41.8	-21.2	15.7
Max	23.5	78.2	-0.4	267	23.0	21.8	78.9	-2.1	73.3

Table E3. Daily means (SD) of environmental parameters at Site NY5B for May, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	11.2 (4.0)	59.9 (12.9)	-2.9 (1.0)	103 (15)	10.3 (5.8)	11.5 (4.0)	59.5 (13.1)	-6.2 (1.5)	35.1 (3.0)
2	15.6 (2.1)	75.8 (5.0)	-4.0 (1.1)	113 (20)	14.0 (2.9)	15.4 (2.3)	75.7 (4.8)	-7.0 (1.0)	36.9 (0.9)
3	17.5 (2.1)	74.2 (5.4)	-5.7 (2.2)	125 (27)	16.2 (2.8)	17.4 (2.2)	74.3 (5.5)	-7.5 (1.6)	36.4 (0.9)
4	12.9 (2.1)	71.4 (8.3)	-0.2 (3.4)	109 (25)	12.0 (3.7)	13.6 (2.6)	73.1 (8.0)	-8.4 (1.7)	35.9 (1.4)
5	12.9 (4.8)	62.5 (14.5)	-3.1 (1.4)	120 (30)	12.2 (7.0)	13.5 (4.8)	63.0 (14.5)	-7.1 (1.2)	34.9 (1.9)
6	14.5 (2.9)	59.0 (13.1)	-3.1 (2.0)	121 (31)	14.1 (5.4)	15.1 (3.3)	59.8 (13.0)	-7.8 (1.3)	35.4 (1.3)
7	16.8 (5.6)	65.6 (13.2)	-5.0 (2.3)	139 (38)	15.9 (7.3)	16.9 (5.4)	66.1 (13.2)	-7.3 (1.4)	35.8 (1.4)
8	13.4 (2.4)	70.5 (10.7)	-1.3 (2.1)	115 (13)	13.3 (3.1)	14.5 (2.6)	76.9 (7.2)	-7.5 (1.2)	36.6 (1.0)
9	12.6 (3.6)	62.8 (8.6)	-3.4 (1.4)	112 (19)	11.5 (5.0)	12.9 (3.5)	68.1 (11.4)	-6.8 (1.2)	36.6 (1.3)
10	12.0 (3.9)	62.6 (12.4)	-2.3 (1.5)	114 (22)	11.0 (5.4)	12.5 (3.9)	65.9 (14.1)	-7.0 (1.2)	36.4 (1.4)
11	15.3 (4.7)	55.7 (14.0)	-6.4 (3.7)	118 (27)	13.6 (5.9)	14.9 (4.6)	56.4 (15.2)	-5.3 (2.3)	36.2 (1.3)
12	14.3 (2.6)	58.4 (8.7)	-3.6 (1.8)	110 (26)	12.8 (3.8)	14.0 (2.6)	57.8 (9.2)	-6.4 (1.4)	36.3 (1.0)
13	14.2 (5.2)	60.5 (15.8)	-3.5 (2.2)	131 (38)	13.3 (6.9)	14.6 (5.2)	60.6 (16.2)	-6.6 (1.4)	36.4 (1.5)
14	17.5 (5.3)	58.9 (15.3)	-5.7 (2.8)	145 (38)	16.8 (6.9)	17.7 (5.4)	58.0 (15.9)	-15.7 (7.6)	56.1 (17.2)
15	15.0 (1.8)	73.7 (7.6)	-0.9 (3.1)	76.9 (55.2)	14.1 (2.8)	15.5 (2.1)	77.1 (8.2)	-9.4 (7.9)	40.5 (21.9)
16	12.4 (1.5)	76.2 (7.4)	-2.4 (0.7)	98.1 (4.0)	10.5 (2.2)	12.7 (1.9)	79.5 (6.8)	-7.1 (1.0)	37.7 (1.1)
17	14.0 (3.9)	72.0 (8.9)	-2.8 (1.5)	118 (24)	12.9 (5.1)	14.5 (3.9)	72.7 (9.3)	-7.5 (1.5)	36.5 (1.9)
18	11.3 (1.9)	75.5 (3.7)	-2.0 (1.4)	98.7 (8.0)	9.6 (2.7)	11.5 (2.3)	77.0 (4.5)	-7.3 (1.5)	37.0 (1.4)
19	8.7 (1.3)	67.4 (3.1)	2.1 (4.2)	112 (40)	8.6 (1.9)	9.5 (1.3)	70.5 (2.9)	-9.3 (2.0)	35.8 (3.0)
20	12.2 (3.6)	63.1 (10.0)	-2.1 (1.1)	110 (18)	11.0 (5.4)	12.3 (4.0)	63.6 (10.3)	-6.7 (1.1)	35.8 (1.4)
21	10.6 (0.8)	68.1 (5.9)	-0.9 (1.7)	104 (9)	9.7 (2.0)	11.1 (1.4)	71.2 (5.6)	-7.7 (1.3)	36.6 (1.1)
22	10.6 (2.1)	74.8 (6.7)	-0.7 (1.9)	106 (11)	9.8 (2.7)	11.1 (1.8)	77.6 (6.5)	-8.3 (1.2)	37.1 (1.1)
23	13.3 (2.4)	69.6 (7.7)	-0.9 (1.9)	114 (20)	12.6 (3.4)	13.8 (2.4)	72.5 (7.8)	-8.6 (1.0)	36.8 (1.4)
24	14.4 (3.3)	65.0 (13.0)	-2.4 (2.0)	120 (27)	13.3 (4.6)	14.8 (3.4)	67.3 (13.7)	-8.6 (1.3)	37.1 (2.3)
25	15.5 (5.3)	61.2 (16.1)	-3.7 (2.0)	135 (38)	14.5 (6.5)	16.1 (5.1)	63.0 (17.1)	-8.2 (1.2)	36.7 (2.4)
26	21.4 (4.5)	59.7 (8.5)	-6.0 (2.7)	160 (36)	21.1 (5.4)	21.5 (4.6)	60.2 (9.3)	-13.8 (7.0)	51.8 (17.5)
27	15.5 (3.6)	73.2 (5.1)	-2.2 (2.6)	128 (29)	14.6 (4.1)	15.5 (3.8)	73.9 (4.9)	-20.4 (5.2)	73.2 (3.8)
28	11.5 (3.3)	59.3 (12.8)	-1.8 (2.0)	109 (18)	10.1 (4.8)	11.6 (3.7)	60.3 (13.1)	-10.7 (6.8)	44.8 (15.7)
29	14.9 (5.8)	54.4 (16.7)	-2.5 (1.9)	137 (39)	14.0 (7.3)	15.3 (5.7)	56.1 (16.4)	-13.2 (7.5)	50.5 (17.8)
30	18.3 (5.2)	50.1 (15.1)	-13.9 (9.1)	229 (100)	17.8 (6.4)	18.5 (5.3)	49.9 (15.9)	-22.3 (3.0)	69.6 (2.5)
31									
Mean	14.0	65.4	-3.1	121	13.0	14.3	66.9	-9.2	40.8
n	30	30	30	30	30	30	30	30	30
SD	2.6	7.1	2.7	25.4	2.7	2.5	7.9	4.0	9.7
Min	8.7	50.1	-13.9	76.9	8.6	9.5	49.9	-22.3	34.9
Max	21.4	76.2	2.1	229	21.1	21.5	79.5	-5.3	73.2

Table E3. Daily means (SD) of environmental parameters at Site NY5B for June, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	16.1 (1.3)	77.8 (8.3)	-7.6 (2.9)	186 (41)	15.3 (2.2)	16.4 (1.7)	78.3 (8.7)	-22.1 (3.6)	73.3 (5.4)
2	18.3 (4.2)	64.0 (13.6)	-12.2 (6.2)	235 (78)	17.8 (5.1)	18.6 (4.5)	64.2 (14.5)	-21.1 (4.9)	70.7 (12.2)
3	19.3 (2.2)	67.5 (6.6)	-17.3 (4.3)	277 (52)	18.7 (2.8)	19.5 (2.4)	67.4 (7.2)	-20.7 (5.8)	70.7 (3.5)
4	20.7 (2.3)	73.6 (6.4)	-19.2 (4.3)	289 (32)	20.1 (2.8)	21.0 (2.4)	73.9 (6.4)	-22.8 (3.8)	73.0 (5.1)
5	22.9 (3.2)	73.3 (6.1)	-19.8 (4.3)	296 (20)	22.5 (3.6)	23.0 (3.1)	74.3 (5.6)	-22.5 (3.1)	74.0 (5.3)
6	27.6 (3.3)	69.8 (11.0)	-19.5 (2.6)	306 (3)	27.7 (3.9)	27.9 (3.4)	70.0 (11.5)	-21.0 (3.1)	73.6 (4.3)
7	27.6 (2.4)	65.9 (8.1)	-18.6 (3.8)	306 (2)	27.8 (3.2)	28.0 (2.6)	66.2 (8.2)	-20.9 (2.8)	70.2 (3.8)
8	26.8 (2.2)	71.9 (5.5)	-18.8 (3.2)	306 (3)	26.8 (2.9)	27.1 (2.3)	72.7 (5.1)	-20.5 (3.6)	74.1 (4.2)
9	28.6 (3.3)	63.7 (10.8)	-20.3 (2.7)	301 (17)	28.8 (3.9)	28.8 (3.2)	64.7 (10.6)	-18.4 (5.6)	70.8 (5.0)
10	24.7 (3.7)	73.1 (10.9)	-20.3 (2.9)	306 (6)	24.3 (4.6)	25.0 (4.0)	72.8 (12.2)	-13.1 (7.3)	73.6 (5.6)
11	21.7 (3.3)	66.9 (13.1)	-16.8 (6.8)	290 (38)	21.4 (4.0)	22.1 (3.4)	67.3 (12.8)	-20.2 (4.1)	70.4 (2.5)
12	19.6 (3.8)	62.7 (15.5)	-16.1 (5.3)	261 (60)	18.7 (4.3)	19.7 (3.8)	64.2 (15.5)	-21.7 (3.1)	70.3 (2.3)
13	25.1 (5.2)	58.7 (8.0)	-18.5 (4.3)	284 (41)	24.9 (6.1)	24.9 (5.3)	61.4 (8.4)	-21.0 (3.3)	69.1 (2.6)
14	23.9 (1.1)	76.3 (5.1)	-18.4 (2.7)	297 (24)	23.4 (1.4)	23.9 (1.3)	77.9 (4.7)	-20.5 (3.5)	73.1 (4.0)
15	22.0 (3.4)	71.2 (17.0)	-13.1 (4.8)	256 (37)	21.5 (4.3)	22.3 (3.5)	71.5 (17.1)	-20.4 (2.6)	73.3 (4.9)
16	19.7 (3.0)	76.5 (8.6)	-17.1 (4.4)	262 (52)	19.0 (3.9)	19.9 (3.3)	76.9 (8.8)	-20.9 (2.7)	74.2 (4.4)
17	15.7 (1.1)	73.2 (9.1)	-9.4 (2.5)	227 (29)	15.0 (1.9)	16.1 (1.6)	73.9 (9.7)	-14.5 (7.0)	59.6 (19.5)
18	15.1 (1.7)	76.5 (8.1)	-9.6 (3.8)	210 (44)	14.2 (2.4)	15.5 (1.9)	76.9 (8.7)	-7.0 (1.3)	39.0 (1.5)
19									
20									
21	20.2 (3.4)	69.5 (13.5)	-17.2 (4.5)	274 (48)	19.6 (4.2)	20.4 (3.6)	70.8 (14.0)	-20.1 (4.3)	74.4 (5.2)
22	20.9 (2.4)	71.1 (8.9)	-19.1 (3.8)	287 (31)	20.2 (3.0)	21.0 (2.6)	73.2 (10.0)	-20.4 (4.2)	73.2 (5.3)
23	20.3 (2.7)	73.4 (12.3)	-18.2 (4.5)	270 (48)	19.5 (3.5)	20.5 (2.9)	75.8 (12.8)	-20.5 (3.1)	75.7 (5.0)
24	18.6 (2.3)	75.0 (9.1)	-14.8 (4.7)	258 (51)	17.9 (3.2)	18.8 (2.6)	77.2 (10.1)	-19.9 (4.1)	77.5 (5.9)
25	20.9 (4.3)	64.5 (14.9)	-18.6 (6.3)	269 (58)	20.5 (5.2)	21.2 (4.5)	66.6 (15.8)	-20.5 (3.5)	74.1 (5.8)
26	22.3 (2.1)	76.8 (6.1)	-22.0 (2.9)	303 (5)	21.6 (2.5)	22.3 (2.0)	79.2 (5.8)	-20.4 (3.9)	78.1 (1.1)
27	23.8 (2.0)	73.6 (6.7)	-23.0 (2.4)	305 (2)	23.4 (2.6)	23.9 (2.1)	76.0 (7.3)	-20.9 (3.4)	75.9 (3.5)
28	25.0 (2.5)	73.3 (6.5)	-24.8 (3.1)	301 (4)	24.6 (3.0)	25.0 (2.4)	76.2 (6.6)	-21.7 (3.2)	75.9 (2.7)
29	23.4 (2.6)	71.2 (8.8)	-22.0 (2.5)	299 (11)	22.8 (3.3)	23.5 (2.6)	73.7 (8.9)	-20.4 (4.0)	71.2 (4.4)
30	20.6 (2.6)	73.9 (12.2)	-19.0 (3.9)	258 (52)	19.9 (3.4)	20.9 (2.8)	75.9 (12.7)	-20.5 (3.9)	73.8 (4.4)
Mean	21.8	70.9	-17.6	276	21.3	22.0	72.1	-19.8	71.5
n	28	28	28	28	28	28	28	28	28
SD	3.5	4.8	4.0	31	3.8	3.5	4.9	3.2	7.1
Min	15.1	58.7	-24.8	186	14.2	15.5	61.4	-22.8	39.0
Max	28.6	77.8	-7.6	306	28.8	28.8	79.2	-7.0	78.1

Table E3. Daily means (SD) of environmental parameters at Site NY5B for July, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	19.9 (2.4)	70.9 (13.9)	-19.4 (5.0)	258 (46)	19.3 (3.2)	20.1 (2.7)	72.9 (14.4)	-20.5 (4.0)	76.2 (4.5)
2	21.6 (4.6)	57.6 (11.4)	-18.7 (6.6)	268 (61)	21.2 (5.5)	21.8 (4.7)	59.8 (12.7)	-20.7 (4.2)	72.3 (4.5)
3	20.7 (2.2)	72.8 (11.9)	-20.8 (3.6)	283 (45)	19.9 (2.8)	20.8 (2.5)	75.2 (12.2)	-21.6 (2.8)	75.9 (4.1)
4	18.8 (3.7)	70.6 (14.4)	-16.2 (6.1)	237 (73)	17.8 (4.3)	18.8 (3.8)	74.0 (15.4)	-21.9 (2.4)	75.8 (4.0)
5	19.1 (3.7)	69.9 (13.1)	-16.6 (6.1)	242 (66)	18.2 (4.6)	19.1 (3.9)	73.1 (14.5)	-20.9 (3.2)	76.7 (4.6)
6	23.1 (5.1)	63.6 (12.3)	-18.5 (5.5)	268 (59)	22.7 (6.0)	23.1 (5.3)	67.0 (13.7)	-18.5 (5.4)	73.9 (5.3)
7	25.7 (2.7)	70.3 (8.7)	-23.3 (3.0)	303 (21)	25.6 (3.5)	26.0 (2.8)	72.8 (8.9)	-20.4 (3.8)	73.2 (4.7)
8	26.6 (3.2)	67.7 (10.1)	-22.5 (5.3)	303 (7)	26.5 (3.8)	26.7 (3.2)	70.2 (10.5)	-20.1 (3.6)	74.0 (4.7)
9	24.1 (1.7)	74.6 (3.7)	-22.8 (2.3)	303 (9)	23.7 (2.2)	24.3 (1.9)	77.1 (3.7)	-20.8 (3.6)	77.0 (1.1)
10	20.0 (2.7)	67.2 (10.4)	-18.2 (4.4)	262 (50)	19.6 (3.5)	20.4 (2.9)	69.7 (11.3)	-21.1 (2.7)	74.0 (5.1)
11	20.0 (1.9)	75.4 (5.4)	-20.1 (4.1)	276 (46)	19.0 (2.3)	19.9 (2.0)	79.0 (5.9)	-20.8 (2.7)	77.9 (3.3)
12	25.0 (5.0)	68.3 (12.5)	-23.2 (5.5)	274 (40)	24.7 (5.8)	24.9 (5.0)	72.0 (12.6)	-21.0 (2.2)	75.7 (4.5)
13	23.4 (1.4)	80.0 (5.2)	-24.5 (2.2)	303 (3)	22.6 (1.7)	23.5 (1.5)	83.5 (5.2)	-20.6 (2.6)	77.3 (0.8)
14	20.8 (2.9)	69.6 (11.8)	-21.6 (5.7)	263 (54)	20.2 (3.9)	20.9 (3.1)	72.9 (12.2)	-20.9 (3.0)	76.8 (4.1)
15	20.6 (3.6)	68.4 (12.0)	-19.1 (6.9)	249 (61)	20.0 (4.4)	20.8 (3.8)	71.3 (13.5)	-20.6 (3.2)	75.2 (5.5)
16	23.6 (3.6)	67.2 (9.0)	-21.8 (4.4)	272 (58)	23.0 (4.5)	23.7 (3.7)	70.2 (9.2)	-20.5 (4.4)	73.0 (9.9)
17									
18	26.0 (3.2)		-23.2 (3.1)		26.0 (3.9)	26.2 (3.1)	73.3 (9.1)	-20.0 (2.8)	75.4 (3.2)
19	24.8 (2.4)		-23.9 (3.1)		24.6 (3.2)	25.1 (2.5)	75.2 (9.1)	-19.5 (4.1)	73.1 (4.3)
20	23.6 (2.3)		-23.7 (2.9)		23.1 (2.9)	23.8 (2.3)	83.4 (7.3)	-15.4 (5.9)	78.0 (1.3)
21	22.6 (1.5)		-24.2 (5.0)		22.1 (2.1)	22.9 (1.7)	83.9 (5.6)	-17.7 (3.2)	77.9 (1.1)
22	22.0 (2.4)	81.1 (7.3)	-22.9 (3.9)	292 (24)	21.3 (2.9)	22.2 (2.5)	83.1 (6.7)	-19.1 (2.9)	77.9 (1.0)
23	21.7 (1.4)	81.0 (5.1)	-23.8 (2.8)	300 (7)	20.9 (1.9)	21.8 (1.5)	83.2 (5.1)	-18.4 (2.7)	78.1 (0.7)
24	19.6 (1.4)	82.1 (4.6)	-19.4 (3.0)	261 (45)	18.8 (2.0)	19.7 (1.6)	84.9 (4.2)	-18.3 (3.0)	78.4 (1.8)
25	22.2 (3.7)	63.7 (11.3)	-21.6 (5.5)	272 (47)	21.8 (4.5)	22.3 (3.7)	67.3 (12.2)	-17.7 (2.5)	73.8 (4.7)
26	23.3 (2.3)	70.9 (7.8)	-24.0 (2.3)	303 (5)	22.9 (2.8)	23.5 (2.3)	72.6 (7.7)	-18.0 (2.0)	73.8 (3.4)
27	22.2 (2.2)	69.2 (11.9)	-22.1 (3.2)	300 (15)	21.9 (2.9)	22.5 (2.3)	71.9 (13.3)	-16.5 (4.2)	76.4 (3.4)
28	22.3 (1.9)	75.0 (7.7)	-24.2 (4.1)	296 (29)	21.8 (2.5)	22.5 (2.1)	76.2 (8.4)	-18.1 (3.6)	76.1 (3.7)
29	21.6 (2.7)	75.2 (10.1)	-20.6 (2.6)	280 (40)	21.2 (3.6)	21.9 (3.0)	77.3 (10.6)	-18.2 (2.7)	75.5 (4.4)
30	22.9 (3.8)	73.3 (7.6)	-21.9 (5.7)	272 (42)	22.3 (4.5)	22.8 (3.8)	76.0 (8.3)	-17.5 (3.4)	74.1 (5.6)
31	23.3 (1.8)	76.7 (7.4)	-23.8 (3.2)	301 (4)	23.0 (2.6)	23.6 (2.0)	78.5 (7.2)	-17.8 (3.2)	75.1 (4.1)
Mean	22.4	71.6	-21.5	279	21.9	22.5	74.9	-19.4	75.6
n	30	26	30	26	30	30	30	30	30
SD	2.0	5.7	2.3	20	2.2	2.1	5.7	1.6	1.8
Min	18.8	57.6	-24.5	237	17.8	18.8	59.8	-21.9	72.3
Max	26.6	82.1	-16.2	303	26.5	26.7	84.9	-15.4	78.4

Table E3. Daily means (SD) of environmental parameters at Site NY5B for August, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	22.3 (2.4)	77.2 (9.4)	-22.2 (3.1)	299 (6)	22.1 (3.2)	22.6 (2.5)	78.1 (9.9)	-16.9 (3.8)	76.4 (3.5)
2	20.4 (1.3)	82.1 (4.4)	-22.0 (2.4)	291 (14)	19.6 (1.9)	20.6 (1.4)	83.7 (4.9)	-17.6 (2.7)	75.7 (3.1)
3	20.3 (1.0)	81.3 (4.1)	-21.7 (3.3)	292 (19)	19.7 (1.5)	20.5 (1.2)	83.4 (4.7)	-16.9 (3.7)	78.5 (1.1)
4	21.2 (2.3)	76.5 (7.7)	-22.5 (5.4)	275 (50)	20.7 (2.9)	21.3 (2.4)	78.3 (8.3)	-18.1 (3.0)	76.1 (4.3)
5	23.1 (4.4)	70.5 (11.2)	-22.6 (5.9)	268 (48)	22.7 (5.4)	23.2 (4.5)	73.3 (12.0)	-18.2 (1.8)	74.1 (5.2)
6	22.7 (2.0)	76.5 (10.8)	-22.2 (2.8)	305 (5)	22.4 (2.8)	23.0 (2.1)	78.5 (11.2)	-17.9 (3.8)	76.6 (2.7)
7	20.1 (1.8)	77.2 (7.9)	-20.5 (2.2)	278 (40)	19.6 (2.9)	20.4 (2.2)	79.5 (8.6)	-17.1 (3.8)	74.8 (6.9)
8	18.3 (1.0)	82.8 (3.5)	-17.0 (2.9)	228 (41)	17.5 (1.5)	18.4 (1.2)	85.0 (4.0)	-16.5 (4.1)	79.3 (0.9)
9	19.9 (2.5)	72.4 (12.6)	-19.5 (4.8)	264 (49)	19.6 (3.3)	20.1 (2.6)	73.6 (13.2)	-17.7 (2.2)	76.7 (4.6)
10	19.2 (2.4)	73.2 (8.9)	-19.6 (3.9)	251 (48)	18.6 (3.2)	19.3 (2.4)	75.1 (9.7)	-17.9 (2.7)	77.1 (3.9)
11	17.7 (1.8)	80.5 (6.1)	-16.7 (4.6)	232 (52)	16.8 (2.5)	17.8 (1.8)	82.5 (6.5)	-18.6 (3.4)	78.5 (5.8)
12	18.5 (2.2)	80.6 (7.5)	-18.2 (3.3)	248 (54)	17.8 (3.1)	18.7 (2.4)	82.9 (7.6)	-17.4 (4.2)	78.8 (4.0)
13	18.4 (3.1)		-17.9 (5.6)		17.6 (4.1)	18.6 (3.3)	82.7 (7.7)	-18.0 (3.7)	77.9 (3.9)
14	19.1 (3.6)	71.0 (14.1)	-19.7 (6.2)		18.5 (4.7)	19.2 (3.7)	74.6 (14.6)	-17.9 (3.3)	76.7 (3.9)
15	19.4 (3.0)	74.2 (10.7)	-21.8 (5.2)		18.9 (4.2)	19.5 (3.3)	76.6 (12.2)	-17.5 (3.1)	76.4 (4.4)
16	19.4 (3.6)	72.0 (9.7)	-20.5 (8.0)		19.0 (4.8)	19.6 (3.8)	74.4 (11.3)	-17.3 (2.7)	75.1 (5.0)
17	21.5 (2.8)	72.0 (7.7)	-20.9 (3.3)	282 (38)	21.3 (3.8)	21.8 (3.0)	73.5 (9.0)	-15.1 (5.6)	75.6 (4.3)
18	23.8 (3.0)	68.6 (5.9)	-23.0 (2.7)	302 (5)	23.8 (4.0)	24.0 (3.1)	70.6 (6.5)	-17.5 (2.7)	72.6 (4.4)
19	17.2 (2.2)	73.2 (9.0)	-16.7 (5.3)	238 (57)	16.6 (3.0)	17.6 (2.4)	75.5 (10.3)	-18.1 (2.7)	75.6 (4.4)
20	16.1 (3.7)	68.4 (10.7)	-15.0 (8.2)	235 (69)	15.6 (4.6)	16.5 (3.7)	73.7 (12.7)	-19.0 (4.3)	72.5 (13.6)
21	19.5 (5.2)	67.5 (13.6)	-17.5 (7.5)	244 (74)	18.9 (6.4)	19.4 (5.3)	71.2 (15.2)	-18.2 (3.3)	76.0 (5.6)
22	23.8 (4.0)	62.4 (9.4)	-24.1 (3.5)	297 (20)	23.7 (4.9)	23.8 (4.0)	65.9 (10.1)	-18.6 (3.3)	74.4 (5.7)
23	23.7 (2.7)	63.6 (6.2)	-26.2 (3.1)	303 (5)	23.6 (3.6)	23.8 (2.7)	66.2 (6.9)	-19.3 (2.1)	71.8 (5.6)
24	24.8 (3.4)	65.5 (10.6)	-24.8 (3.0)	303 (6)	24.7 (4.4)	25.0 (3.5)	67.8 (11.4)	-18.6 (2.2)	70.9 (3.8)
25	18.7 (2.1)	74.0 (7.8)	-18.4 (5.7)	262 (72)	17.9 (3.1)	18.8 (2.5)	77.5 (9.1)	-17.9 (3.1)	77.1 (3.5)
26	16.4 (3.8)	64.2 (16.3)	-14.4 (7.3)	221 (73)	15.9 (5.5)	16.5 (4.1)	68.0 (18.3)	-17.6 (2.5)	74.9 (5.7)
27	18.9 (5.1)	64.8 (14.5)	-18.3 (8.7)	245 (71)	18.3 (6.3)	18.8 (5.3)	68.9 (15.5)	-18.2 (4.3)	75.0 (6.6)
28	19.5 (1.7)	66.6 (9.5)	-22.0 (4.3)	274 (38)	18.8 (2.6)	19.6 (1.9)	69.5 (10.1)	-17.8 (3.4)	73.5 (5.0)
29	19.5 (1.6)	78.8 (2.0)	-22.5 (5.1)	274 (38)	18.6 (1.8)	19.6 (1.6)	81.9 (2.6)	-17.2 (4.7)	78.7 (1.0)
30	20.3 (3.2)	74.3 (12.3)	-20.6 (3.3)	284 (45)	19.8 (4.4)	20.5 (3.4)	76.2 (13.6)	-18.9 (3.2)	76.4 (4.1)
31	18.3 (4.6)	70.9 (13.2)	-15.7 (6.6)	235 (70)	18.0 (6.2)	18.5 (4.8)	73.4 (14.5)	-18.1 (3.4)	76.8 (5.4)
Mean	20.1	72.8	-20.2	268	19.6	20.2	75.5	-17.8	75.8
n	31	30	31	27	31	31	31	31	31
SD	2.2	5.7	2.9	26	2.4	2.2	5.4	0.8	2.1
Min	16.1	62.4	-26.2	221	15.6	16.5	65.9	-19.3	70.9
Max	24.8	82.8	-14.4	305	24.7	25.0	85.0	-15.1	79.3

Table E3. Daily means (SD) of environmental parameters at Site NY5B for September, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	19.2 (4.6)	67.9 (10.9)	-17.2 (6.4)	246 (69)	19.0 (6.0)	19.4 (4.8)	71.8 (13.1)	-17.5 (4.1)	74.6 (6.8)
2	20.2 (4.8)	69.5 (8.5)	-19.5 (6.6)	261 (56)	20.1 (6.2)	20.5 (4.9)	74.7 (12.3)	-18.6 (3.6)	73.7 (6.4)
3	20.8 (4.5)		-21.3 (6.1)		20.8 (5.8)	21.1 (4.6)	76.0 (12.1)	-18.4 (3.4)	73.3 (7.1)
4									
5									
6									
7	18.1 (1.5)		-16.6 (2.5)		17.6 (2.5)	18.4 (1.9)	81.7 (8.9)	-17.7 (3.0)	78.8 (2.1)
8	18.8 (3.3)		-16.3 (5.0)		18.8 (4.5)	19.2 (3.5)	72.6 (12.7)	-17.4 (3.1)	74.6 (7.6)
9	17.8 (1.8)		-15.5 (3.6)		17.3 (2.4)	18.1 (2.1)	78.8 (6.2)	-15.7 (4.8)	75.6 (5.0)
10	14.6 (2.5)		-10.6 (5.1)		14.1 (3.8)	14.8 (2.8)	76.1 (12.0)	-16.8 (4.4)	75.7 (6.5)
11	16.9 (4.7)		-13.9 (6.7)		16.8 (5.9)	17.4 (5.0)	70.9 (11.4)	-9.8 (5.7)	48.5 (18.8)
12									
13	22.4 (1.4)		-20.2 (2.6)		21.9 (1.8)	23.0 (1.4)	84.8 (4.7)	-6.3 (1.0)	38.9 (0.2)
14	26.7 (2.5)		-20.5 (4.2)		26.8 (3.1)	27.0 (2.3)	75.3 (8.0)	-7.0 (2.0)	37.9 (0.7)
15	18.0 (3.0)	73.1 (5.9)	-10.4 (5.6)	239 (78)	17.5 (3.4)	19.0 (3.2)	74.0 (5.0)	-7.7 (2.3)	37.4 (2.1)
16	14.2 (2.0)	76.4 (6.9)	-8.8 (3.8)	190 (52)	13.1 (3.1)	14.9 (2.4)	78.0 (8.1)	-6.2 (1.2)	39.4 (2.0)
17	16.3 (4.5)	71.8 (11.9)	-12.8 (6.5)	234 (68)	16.2 (5.9)	17.5 (4.5)	70.5 (12.7)	-5.8 (1.8)	35.1 (8.7)
18	14.9 (2.5)	68.0 (13.0)	-12.8 (6.8)	217 (59)	14.5 (4.0)	15.9 (2.9)	67.4 (13.0)	-6.0 (1.6)	36.9 (5.0)
19	14.2 (5.1)	64.3 (12.7)	-14.7 (8.5)	219 (65)	13.9 (6.5)	15.1 (4.8)	64.1 (12.9)	-6.1 (1.7)	34.4 (2.5)
20	17.8 (3.6)	65.2 (5.6)	-17.9 (6.0)	251 (63)	17.5 (4.2)	18.4 (3.4)	65.3 (6.7)	-13.3 (5.6)	56.6 (14.7)
21	14.9 (1.8)		-12.1 (3.5)		14.4 (2.1)	15.2 (2.0)	84.2 (2.7)	-17.8 (3.0)	79.1 (2.8)
22	13.3 (3.9)		-11.1 (7.3)		13.6 (4.1)	13.9 (3.8)	75.6 (13.3)	-18.2 (3.1)	68.5 (6.6)
23	13.6 (4.9)		-12.1 (7.3)		15.8 (5.6)	14.5 (4.9)	71.2 (15.9)	-17.2 (6.5)	57.3 (16.7)
24	17.1 (5.5)		-15.4 (7.4)		16.7 (6.7)	17.3 (5.5)	70.4 (14.3)	-18.5 (4.1)	70.6 (7.9)
25	18.9 (3.6)		-18.0 (5.0)		18.4 (4.4)	19.0 (3.7)	66.4 (12.1)	-17.3 (4.6)	68.7 (12.2)
26	15.4 (2.3)	77.0 (6.2)	-14.3 (5.7)	204 (36)	14.2 (2.8)	15.6 (2.3)	79.9 (7.1)	-17.6 (3.7)	74.9 (4.9)
27	19.1 (1.8)	83.3 (3.8)	-21.3 (3.7)	281 (39)	18.2 (2.2)	19.3 (1.8)	86.7 (3.2)	-18.1 (3.0)	78.6 (0.8)
28	18.3 (0.9)	86.0 (2.2)	-21.8 (2.0)	292 (33)	17.1 (1.2)	18.5 (1.1)	89.1 (0.4)	-18.1 (4.0)	78.6 (1.1)
29	14.4 (1.1)	83.3 (2.9)	-9.8 (4.0)	181 (47)	12.9 (1.3)	14.8 (1.2)	84.8 (3.0)	-12.6 (6.1)	61.9 (21.8)
30	15.4 (1.9)	84.0 (5.0)	-13.8 (4.7)	209 (48)	14.3 (2.3)	16.0 (1.9)	82.5 (4.3)	-7.4 (1.2)	39.7 (0.4)
Mean	17.4	74.6	-15.3	233	17.0	17.8	75.9	-13.6	60.4
n	26	13	26	13	26	26	26	26	26
SD	3.0	7.3	3.8	32	3.1	2.9	6.7	5.1	16.9
Min	13.3	64.3	-21.8	181	12.9	13.9	64.1	-18.6	34.4
Max	26.7	86.0	-8.8	292	26.8	27.0	89.1	-5.8	79.1

Table E3. Daily means (SD) of environmental parameters at Site NY5B for October, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	14.4 (1.0)	85.2 (4.3)	-7.2 (4.6)	160 (47)	13.0 (1.8)	15.2 (1.5)	83.4 (4.1)	-6.8 (1.1)	39.4 (0.3)
2	11.5 (1.1)	77.9 (8.8)	0.0 (2.4)	117 (18)	11.0 (1.8)	12.7 (1.1)	79.6 (8.0)	-7.6 (1.3)	39.3 (1.1)
3	11.6 (0.9)	71.0 (11.0)	-0.7 (2.2)	114 (22)	10.9 (2.6)	12.6 (1.3)	73.3 (9.4)	-7.5 (1.5)	37.8 (3.3)
4	11.7 (2.1)	72.6 (8.4)	-2.3 (1.1)	111 (18)	10.3 (3.5)	12.5 (2.5)	73.6 (8.3)	-6.9 (1.2)	38.5 (3.0)
5	11.7 (2.1)	76.1 (8.5)	-2.6 (1.2)	109 (16)	11.9 (3.7)	12.4 (2.3)	76.7 (8.8)	-7.1 (1.2)	39.7 (1.5)
6	11.0 (2.5)	74.1 (11.8)	-2.9 (1.8)	100 (21)	11.9 (4.3)	11.7 (2.4)	74.6 (11.5)	-7.6 (1.4)	38.0 (3.7)
7	9.9 (4.1)	74.1 (13.3)	-3.3 (1.7)	114 (22)	12.4 (4.9)	11.1 (3.8)	74.2 (12.9)	-7.3 (1.5)	35.3 (3.8)
8	14.5 (3.7)	72.8 (8.4)	-5.9 (2.7)	126 (27)	14.9 (4.3)	14.5 (3.6)		-7.1 (1.6)	35.0 (5.0)
9	17.5 (2.6)	72.1 (11.9)	-4.8 (2.2)	155 (25)	19.0 (4.5)	18.0 (2.7)	70.4 (11.0)	-8.2 (1.5)	38.0 (2.5)
10	13.5 (3.8)	72.3 (14.4)	-3.5 (2.1)	130 (37)	13.3 (5.1)	14.0 (3.8)		-6.7 (1.0)	37.0 (3.9)
11	14.1 (4.2)	73.1 (11.6)	-4.0 (2.2)	133 (38)	13.0 (6.0)	14.4 (4.6)	73.0 (12.6)	-6.5 (1.3)	37.3 (4.1)
12	16.2 (5.3)	70.2 (15.0)	-5.1 (2.5)	141 (38)	16.5 (6.8)	16.9 (5.2)	69.4 (15.4)	-7.4 (1.1)	36.7 (4.2)
13	17.8 (3.4)	74.4 (9.2)	-5.8 (2.4)	147 (34)	17.3 (4.1)	18.1 (3.3)	73.4 (9.5)	-10.4 (4.2)	51.0 (14.5)
14	17.4 (4.1)	75.1 (10.4)	-4.9 (1.9)	142 (35)	16.1 (5.3)	17.3 (4.4)	73.5 (10.9)	-16.4 (4.0)	69.1 (10.1)
15	14.4 (4.2)	73.7 (12.4)	-4.2 (2.0)	132 (29)	13.5 (5.6)	11.2 (2.6)	71.4 (13.6)	-9.2 (6.2)	43.0 (15.1)
16	15.4 (2.4)	81.1 (9.1)	-2.7 (2.4)	129 (25)	14.0 (2.8)	14.4 (1.8)	78.5 (7.0)	-6.4 (1.0)	39.6 (1.0)
17	10.0 (2.5)	73.8 (6.6)	-2.8 (1.4)	96.5 (8.1)	7.2 (3.1)	10.0 (2.0)	72.5 (7.1)	-6.6 (1.3)	38.2 (3.9)
18	7.7 (3.9)	71.4 (12.1)	-2.7 (1.3)	99.9 (6.7)	5.0 (4.5)	8.4 (2.8)		-5.9 (2.2)	31.9 (5.6)
19	7.3 (4.1)	67.9 (13.6)	-2.6 (0.8)	101 (5)	5.4 (4.9)	7.9 (3.2)		-5.8 (1.8)	31.8 (5.2)
20	10.4 (4.4)	62.8 (11.5)	-2.4 (0.9)	104 (21)	10.7 (3.9)	10.7 (3.7)		-6.5 (1.3)	32.0 (3.3)
21	8.8 (2.5)	78.4 (7.3)	1.6 (5.1)	96.4 (21.4)	7.8 (2.9)	9.4 (2.5)		-8.5 (2.4)	35.2 (4.8)
22	7.4 (0.7)	80.0 (4.4)	-3.0 (1.3)	66.1 (3.9)	6.0 (2.5)	6.8 (0.9)		-7.6 (1.8)	34.9 (2.9)
23	7.9 (3.3)	76.5 (8.1)	-2.4 (0.8)	67.5 (4.3)	10.8 (4.8)	7.8 (2.9)		-7.1 (1.9)	35.0 (5.2)
24	11.3 (2.3)	66.2 (8.3)	-2.8 (1.3)	63.6 (6.9)	12.9 (3.3)	10.9 (2.2)		-7.2 (1.7)	37.2 (4.6)
25	13.9 (1.6)	82.9 (4.2)	-3.6 (3.7)	64.7 (17.1)	14.5 (2.5)	13.7 (1.8)		-8.5 (2.3)	39.6 (0.8)
26	13.1 (2.4)	70.5 (6.5)	-2.4 (1.7)	74.9 (11.3)	13.1 (3.1)	13.2 (2.2)		-7.5 (1.5)	39.5 (0.8)
27	11.0 (1.2)	70.7 (9.7)	-0.4 (1.8)	63.4 (19.7)	11.6 (3.6)	11.4 (1.5)		-7.9 (1.5)	37.8 (3.5)
28	7.4 (1.2)	83.6 (2.9)	-4.9 (3.7)	61.5 (9.9)	6.9 (1.2)	7.1 (1.3)		-9.6 (3.0)	30.3 (5.9)
29	5.5 (1.1)	79.8 (3.6)	-5.2 (2.4)	59.3 (8.0)	7.9 (1.6)	6.0 (0.9)		-8.8 (2.0)	26.6 (1.5)
30	7.0 (2.0)	73.5 (6.3)	-3.3 (1.3)	62.8 (4.1)	10.3 (3.9)	7.0 (1.7)		-7.9 (1.8)	30.9 (3.5)
31									
Mean	11.7	74.5	-3.2	105	11.6	11.9	74.5	-7.8	37.9
n	30	30	30	30	30	30	15	30	30
SD	3.4	5.0	1.8	30.7	3.5	3.4	3.6	1.9	7.2
Min	5.5	62.8	-7.2	59.3	5.0	6.0	69.4	-16.4	26.6
Max	17.8	85.2	1.6	160	19.0	18.1	83.4	-5.8	69.1

Table E3. Daily means (SD) of environmental parameters at Site NY5B for November, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	9.6 (2.8)	73.7 (7.8)	-1.5 (1.3)	69.1 (4.6)	8.2 (2.7)	9.4 (2.6)		-6.2 (2.0)	34.2 (6.3)
2	8.9 (3.5)	65.1 (14.8)	-1.8 (1.2)	49.4 (19.1)	9.1 (3.8)	8.0 (2.1)		-5.4 (2.8)	30.6 (7.4)
3	13.6 (2.3)	66.2 (5.4)	-4.3 (2.2)	86.2 (31.8)	13.6 (2.4)	13.2 (2.9)		-8.2 (1.9)	36.6 (2.4)
4	15.1 (2.1)	73.3 (5.3)	-5.8 (2.2)	120 (27)	15.3 (3.1)	15.3 (2.3)	74.9 (6.5)	-8.2 (1.9)	38.2 (2.2)
5	15.7 (2.1)	76.8 (6.1)	-5.5 (1.8)	131 (25)	14.1 (3.0)	15.7 (2.4)	78.5 (7.0)	-6.6 (1.2)	38.7 (1.3)
6	14.4 (3.6)	78.6 (9.1)	-5.1 (3.1)	123 (32)	12.5 (4.7)	14.3 (3.7)	82.1 (10.9)	-6.5 (1.2)	38.4 (1.6)
7	15.9 (1.9)	81.3 (4.0)	-4.6 (1.6)	129 (21)	14.2 (2.4)	16.0 (1.9)	84.8 (5.1)	-6.3 (1.2)	39.2 (0.4)
8	13.5 (2.3)	78.4 (4.7)	-3.2 (2.2)	111 (17)	11.6 (2.9)	13.7 (2.4)	81.8 (5.4)	-6.1 (1.5)	39.0 (0.5)
9	9.2 (0.7)	68.5 (4.2)	-1.3 (1.1)	98.5 (6.8)	9.2 (1.6)	10.4 (1.0)	74.3 (3.2)	-7.9 (1.6)	38.4 (1.4)
10	6.1 (1.5)	70.9 (5.2)	1.2 (2.6)	53.4 (48.1)	7.1 (1.6)	7.5 (1.1)	77.3 (4.2)	-7.7 (2.1)	31.6 (1.7)
11	7.7 (0.5)	71.6 (5.7)	0.1 (2.1)	40.6 (31.4)	8.6 (1.5)	8.3 (0.8)	78.1 (4.3)	-8.2 (1.6)	33.3 (1.8)
12	9.1 (2.2)	70.8 (8.5)	-2.3 (0.8)	58.7 (3.0)	10.6 (3.7)	9.0 (2.0)	75.7 (8.2)	-7.9 (2.1)	35.9 (2.8)
13									
14	14.9 (1.9)	77.7 (5.9)	-2.3 (1.3)	77.6 (14.3)	14.4 (1.9)	15.1 (1.8)	79.4 (7.4)	-6.2 (1.9)	39.4 (0.6)
15	14.1 (0.4)	84.9 (4.1)	-1.9 (1.1)	70.4 (3.4)	11.6 (0.6)	14.0 (0.8)	88.2 (4.6)	-6.1 (1.4)	39.0 (0.5)
16	5.6 (1.7)	71.7 (4.9)	4.0 (5.2)		7.3 (1.8)	7.5 (1.5)	79.0 (3.6)	-10.1 (2.9)	30.4 (3.4)
17	4.7 (0.7)	78.1 (5.3)	-2.3 (1.0)	61.3 (3.1)	5.5 (1.9)	5.8 (1.2)	83.0 (2.9)	-5.9 (1.3)	29.2 (3.9)
18	2.8 (1.0)	79.7 (6.4)	-3.2 (1.2)	59.5 (3.7)	3.1 (2.4)	4.2 (1.7)	80.4 (5.2)	-3.8 (1.5)	22.0 (3.0)
19	1.3 (0.6)	79.9 (3.9)	-2.7 (0.7)	60.4 (2.2)	2.7 (3.0)	3.8 (1.6)	81.0 (3.1)	-3.5 (1.0)	22.3 (3.2)
20	2.6 (1.1)	81.0 (3.3)	-3.0 (1.3)	58.7 (3.7)	2.9 (2.2)	4.2 (1.5)	82.0 (3.0)	-3.7 (1.5)	22.3 (3.0)
21	2.6 (1.6)	81.7 (5.1)	-6.0 (1.7)	48.8 (10.3)	2.3 (3.3)	2.6 (1.8)	82.5 (3.0)	-5.4 (1.6)	17.5 (1.7)
22									
23	8.9 (1.3)	81.8 (3.2)	-2.7 (0.7)	26.3 (5.2)	4.7 (4.4)	6.0 (2.7)	78.0 (4.0)	-2.9 (1.0)	12.9 (2.3)
24	8.7 (1.1)	78.0 (6.7)	-3.7 (2.4)	35.3 (11.5)	6.0 (2.7)	7.4 (2.0)	76.1 (6.7)	-2.1 (1.8)	
25	7.5 (0.6)	85.8 (2.3)	-2.8 (1.3)	60.9 (5.5)	8.5 (2.6)	8.5 (2.4)	84.9 (2.5)	-3.0 (1.0)	
26	6.0 (0.6)	84.4 (2.1)	-3.4 (1.1)	63.2 (3.8)	8.1 (2.1)	9.2 (1.8)	83.8 (2.1)	-3.9 (1.0)	14.7 (1.5)
27	7.0 (0.7)	79.5 (2.3)	-3.3 (1.3)	61.4 (4.2)	7.9 (1.9)	8.8 (2.0)		-3.6 (1.2)	15.9 (0.9)
28	7.3 (0.6)	79.2 (3.5)	-3.5 (1.5)	61.4 (5.2)	8.8 (2.4)	9.2 (1.7)		-3.9 (1.4)	16.0 (1.0)
29	6.7 (0.8)	77.8 (3.6)	-3.1 (1.2)	61.8 (3.9)	7.9 (2.2)	8.6 (1.9)		-3.8 (1.0)	15.8 (1.5)
30	6.3 (1.3)	81.1 (3.3)	-3.1 (1.1)	60.1 (3.7)	4.8 (1.5)	7.3 (1.7)		-2.9 (1.2)	14.0 (2.1)
Mean	8.8	77.1	-2.8	71.7	8.6	9.4	80.3	-5.6	28.7
n	28	28	28	27	28	28	21	28	26
SD	4.3	5.4	2.0	28.1	3.7	3.8	3.6	2.1	9.6
Min	1.3	65.1	-6.0	26.3	2.3	2.6	74.3	-10.1	12.9
Max	15.9	85.8	4.0	131	15.3	16.0	88.2	-2.1	39.4

Table E3. Daily means (SD) of environmental parameters at Site NY5B for December, 2008.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	9.1 (0.9)	75.4 (7.5)	-3.5 (1.8)	63.8 (5.6)	10.0 (3.2)	10.4 (1.9)		-3.5 (1.5)	17.8 (1.1)
2	5.8 (1.3)	79.9 (2.8)	-4.1 (2.0)	61.4 (4.3)	6.5 (1.8)	7.4 (1.8)		-4.6 (1.8)	14.9 (1.5)
3	6.2 (2.4)	72.1 (7.0)	-3.5 (2.9)	61.3 (7.4)	7.2 (2.7)	7.4 (2.3)		-3.0 (1.7)	15.2 (3.6)
4	7.4 (2.1)	74.9 (3.8)	-2.8 (2.1)	47.4 (12.8)	8.9 (2.4)	9.0 (2.2)		-3.7 (1.3)	16.3 (2.7)
5	3.4 (1.9)	74.7 (6.2)	-1.8 (1.0)	34.8 (2.4)	5.9 (3.3)	5.0 (2.3)		-3.0 (1.4)	11.9 (2.7)
6	4.6 (1.0)	77.6 (4.4)	-3.9 (1.5)	30.4 (2.5)	4.2 (2.8)	4.0 (2.3)		-2.2 (1.5)	11.4 (2.5)
7	1.9 (3.1)	79.2 (2.4)	-5.5 (2.3)	30.6 (3.0)	2.3 (2.6)	1.7 (3.9)		-5.2 (2.5)	8.9 (1.7)
8	2.3 (1.9)	81.0 (3.2)	-2.6 (0.8)	33.1 (1.6)	-0.7 (3.4)	1.4 (2.7)		-2.6 (0.8)	10.3 (1.8)
9	8.4 (3.2)	75.8 (5.9)	-5.3 (2.4)	28.8 (3.7)	7.5 (4.3)	7.3 (4.0)		-3.7 (3.0)	14.2 (3.6)
10	8.7 (3.9)	83.7 (1.6)	-2.4 (1.7)	33.8 (2.8)	8.4 (4.0)	9.8 (3.3)		-3.2 (1.8)	17.1 (5.4)
11	5.9 (1.0)	83.5 (1.9)	-1.7 (0.7)	33.6 (1.2)	5.0 (1.7)	6.4 (2.3)		-2.2 (0.6)	13.6 (2.7)
12	4.9 (1.7)	83.3 (2.0)	-2.2 (1.3)	33.5 (2.3)	4.3 (2.0)	6.3 (2.4)		-3.3 (0.8)	14.3 (1.6)
13	2.9 (2.0)	81.4 (3.3)	-2.5 (1.2)	33.0 (2.2)	2.4 (3.5)	3.6 (3.3)		-2.5 (0.9)	11.8 (1.6)
14	7.3 (1.6)	73.7 (3.3)	-5.0 (2.6)	30.5 (3.9)	6.5 (3.3)	6.9 (2.6)		-4.4 (2.7)	13.3 (3.0)
15	11.1 (2.5)	76.4 (3.8)	-4.3 (3.1)	52.1 (20.7)	12.4 (2.6)	11.0 (2.6)		-4.1 (3.1)	17.7 (1.9)
16	3.5 (1.9)	76.3 (2.7)	-2.5 (1.7)	45.0 (14.8)	3.7 (2.2)	5.8 (1.6)		-3.1 (1.4)	12.2 (2.4)
17	6.4 (0.9)	81.8 (2.0)	-2.0 (1.2)	33.9 (2.4)	6.4 (2.8)	7.2 (2.5)		-3.2 (1.3)	14.6 (2.2)
18	5.7 (1.3)	80.9 (2.1)	-1.7 (0.9)	34.1 (1.5)	5.5 (1.7)	7.0 (2.0)		-2.5 (0.9)	13.7 (2.2)
19	5.5 (1.1)	83.8 (1.4)	-3.5 (2.4)	29.9 (5.9)	3.0 (2.2)	4.2 (2.8)		-3.5 (3.1)	9.9 (1.9)
20	1.3 (1.3)	84.1 (2.1)	-2.4 (0.8)	33.1 (1.4)	1.5 (2.6)	1.4 (2.8)		-2.4 (0.6)	9.7 (0.6)
21	4.3 (2.8)	80.0 (3.7)	-5.0 (1.9)	29.7 (2.4)	6.0 (4.2)	2.6 (3.5)		-4.1 (2.0)	10.1 (2.2)
22	-1.8 (1.6)	80.8 (2.4)	-5.9 (2.1)	30.7 (3.4)	2.3 (3.0)	-2.3 (2.5)		-4.9 (1.3)	8.4 (0.6)
23	2.5 (1.9)	77.7 (3.2)	-3.4 (1.8)	32.2 (3.1)	1.3 (2.3)	2.9 (2.6)		-2.8 (1.4)	10.0 (1.4)
24	8.5 (2.9)	78.9 (2.9)	-5.1 (2.0)	30.4 (3.0)	9.4 (4.7)	7.8 (3.2)		-4.7 (3.3)	14.0 (3.1)
25	5.9 (1.5)	73.7 (3.2)	-2.9 (2.5)	34.0 (3.2)	8.7 (3.0)	6.6 (1.9)		-5.1 (2.8)	15.2 (1.5)
26	7.4 (1.1)	78.6 (3.1)	-1.8 (1.1)	33.7 (2.1)	6.6 (2.3)	7.3 (2.0)		-2.6 (1.1)	14.6 (1.9)
27	12.8 (2.7)	82.4 (2.1)	-1.9 (1.6)	38.5 (6.2)	13.4 (3.5)	12.4 (2.4)		-4.1 (1.7)	24.0 (7.3)
28	12.0 (3.4)	76.4 (4.1)	-3.1 (2.7)	36.1 (6.3)	13.0 (4.5)	11.4 (3.1)		-5.7 (2.6)	22.2 (6.5)
29	8.1 (1.7)	73.6 (4.0)	-2.8 (2.1)	32.7 (3.0)	11.1 (3.6)	8.4 (2.1)	30.7 (0.0)	-4.1 (2.1)	16.6 (1.9)
30	4.8 (1.9)	74.8 (4.0)	-4.5 (4.6)	31.4 (6.4)	9.3 (2.5)	5.2 (2.1)		-6.1 (4.1)	12.0 (3.0)
31									
Mean	5.9	78.5	-3.3	37.1	6.4	6.2		-3.7	13.9
n	30	30	30	30	30	30	1	30	30
SD	3.2	3.5	1.2	9.8	3.6	3.3		1.0	3.6
Min	-1.8	72.1	-5.9	28.8	-0.7	-2.3		-6.1	8.4
Max	12.8	84.1	-1.7	63.8	13.4	12.4		-2.2	24.0

Table E3. Daily means (SD) of environmental parameters at Site NY5B for January, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	0.8 (1.9)	84.1 (2.2)	-2.9 (1.1)	32.6 (2.7)	4.4 (5.4)	1.1 (3.2)		-3.0 (1.2)	9.6 (0.8)
2	5.0 (1.5)	76.9 (2.7)	-4.4 (2.6)	30.7 (3.7)	7.9 (2.9)	4.8 (3.3)		-4.0 (2.2)	11.6 (3.0)
3	2.6 (1.7)	80.5 (3.7)	-3.0 (2.1)	33.2 (3.7)	7.1 (2.9)	4.5 (2.2)		-3.9 (1.5)	10.7 (1.1)
4	4.8 (4.6)	82.3 (4.9)	-2.5 (0.7)	28.4 (2.2)	8.4 (6.7)	4.4 (4.3)		-2.8 (0.8)	12.0 (2.8)
5	6.1 (1.8)	77.6 (5.9)	-1.9 (1.4)	28.7 (2.2)	10.3 (3.7)	7.2 (2.3)		-3.6 (1.4)	13.7 (2.2)
6	6.5 (1.8)	81.1 (4.7)	-2.2 (0.7)	27.1 (1.3)	9.0 (5.1)	4.4 (3.7)		-2.6 (1.0)	11.5 (2.6)
7	9.6 (1.1)	83.2 (1.2)	-2.4 (1.2)	26.7 (1.5)	10.2 (2.6)	8.4 (2.2)		-3.6 (1.6)	14.8 (1.9)
8	4.8 (1.7)	82.4 (2.3)	-4.8 (1.6)	25.3 (2.1)	8.4 (2.6)	4.5 (2.4)		-5.5 (1.4)	11.0 (2.1)
9	3.9 (1.9)	82.2 (4.0)	-2.4 (1.1)	27.8 (1.8)	7.2 (4.7)	2.7 (2.8)		-3.0 (0.9)	10.4 (1.7)
10	5.8 (2.3)	85.1 (2.9)	-2.7 (0.7)	26.4 (1.5)	5.5 (3.5)	0.7 (3.9)		-2.4 (1.0)	9.8 (0.7)
11	4.3 (2.2)	83.5 (2.3)	-2.2 (0.8)	27.8 (1.5)	6.3 (3.3)	2.7 (2.3)		-2.7 (0.7)	10.2 (0.8)
12	5.1 (1.5)	81.6 (3.9)	-1.9 (0.6)	28.2 (1.3)	9.4 (6.1)	4.0 (2.9)		-2.5 (0.7)	11.3 (1.9)
13	7.8 (1.7)	82.4 (2.6)	-6.5 (2.9)	22.8 (3.3)	7.5 (2.8)	4.0 (3.2)		-5.9 (3.2)	9.9 (2.8)
14	5.2 (0.9)	86.5 (1.8)	-4.0 (1.6)	25.6 (1.9)	4.4 (3.9)	-1.9 (2.9)		-3.8 (1.4)	8.9 (0.7)
15	4.0 (1.7)	86.6 (2.5)	-2.7 (0.9)	27.4 (1.4)	5.1 (5.1)	0.4 (3.3)		-2.8 (0.8)	9.4 (0.4)
16	2.3 (1.4)	86.5 (2.3)	-6.2 (1.9)	24.2 (2.5)	3.5 (5.0)	-4.6 (2.3)		-5.6 (1.7)	8.1 (0.9)
17	2.7 (1.7)	85.2 (3.8)	-3.3 (1.2)	26.7 (1.8)	1.0 (3.1)	-2.9 (3.2)		-2.7 (1.0)	9.5 (0.5)
18	7.1 (2.8)	83.7 (1.5)	-4.4 (2.4)	24.3 (2.8)	4.1 (3.2)	0.7 (4.5)		-3.2 (2.4)	9.4 (1.4)
19	6.8 (2.5)	85.4 (3.0)	-2.3 (0.7)	27.1 (1.1)	4.8 (4.2)	2.6 (3.2)		-2.4 (0.5)	10.0 (1.1)
20	3.0 (1.1)	86.2 (3.2)	-2.5 (0.8)	27.4 (1.0)	3.0 (4.1)	1.1 (3.8)		-2.8 (0.8)	9.4 (0.5)
21	1.6 (2.4)	82.7 (2.7)	-3.0 (1.2)	27.4 (1.8)	3.9 (3.1)	2.5 (3.1)	88.6 (4.2)	-3.2 (1.1)	9.1 (0.7)
22	5.2 (1.5)	81.6 (2.4)	-2.7 (1.3)	27.6 (1.5)	4.4 (2.2)	5.2 (2.6)	88.8 (3.1)	-2.9 (1.3)	10.4 (1.7)
23	9.6 (1.5)	78.9 (5.3)	-2.4 (1.4)	27.5 (1.9)	9.5 (4.0)	8.2 (2.6)	88.2 (3.4)	-3.3 (2.0)	14.1 (2.8)
24	0.5 (2.8)	81.8 (2.6)	-4.2 (1.6)	26.3 (2.1)	6.7 (3.6)	2.6 (3.0)	88.7 (3.7)	-5.0 (1.9)	8.7 (1.0)
25	1.0 (1.6)	81.1 (4.4)	-2.5 (0.8)	28.6 (1.3)	3.4 (3.9)	2.2 (2.8)	87.5 (4.2)	-2.8 (0.7)	9.5 (0.4)
26	3.5 (1.8)	81.8 (3.8)	-2.4 (0.6)	28.1 (1.2)	2.7 (4.5)	2.9 (2.8)	87.3 (4.7)	-2.7 (0.7)	10.3 (1.7)
27	4.7 (1.9)	81.8 (3.0)	-2.1 (0.7)	28.0 (1.3)	4.1 (3.7)	4.7 (2.8)	86.4 (4.3)	-2.6 (0.8)	10.9 (2.6)
28	6.1 (2.2)	83.9 (1.5)	-3.9 (2.7)	27.1 (2.6)	4.6 (3.3)	4.6 (3.2)	89.3 (3.3)	-4.1 (3.1)	10.2 (2.3)
29	3.9 (2.2)	80.2 (3.0)	-3.5 (1.6)	32.1 (2.1)	7.0 (3.4)	4.6 (3.2)	84.2 (6.8)	-3.1 (1.8)	6.7 (5.1)
30	4.8 (1.8)	80.7 (3.3)	-3.3 (1.1)	32.4 (1.8)	6.8 (3.6)	6.3 (2.7)	83.8 (4.1)	-3.0 (1.7)	7.5 (5.8)
31	1.1 (2.3)	81.0 (2.8)	-3.6 (1.0)	31.8 (1.7)	4.9 (4.1)	3.2 (3.3)	85.4 (5.8)	-3.5 (1.1)	9.0 (0.7)
Mean	4.5	82.5	-3.2	27.9	6.0	3.1	87.1	-3.4	10.2
n	31	31	31	31	31	31	11	31	31
SD	2.3	2.4	1.1	2.5	2.4	2.9	1.8	0.9	1.7
Min	0.5	76.9	-6.5	22.8	1.0	-4.6	83.8	-5.9	6.7
Max	9.6	86.6	-1.9	33.2	10.3	8.4	89.3	-2.4	14.8

Table E3. Daily means (SD) of environmental parameters at Site NY5B for February, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	8.6 (2.7)	75.1 (2.9)	-3.4 (1.5)	31.9 (2.3)	9.2 (5.0)	9.2 (2.9)	82.2 (3.4)	-3.2 (1.2)	14.3 (3.6)
2	6.8 (0.9)	74.4 (4.3)	-0.9 (0.6)	34.8 (1.4)	10.1 (2.5)	8.4 (1.5)	82.4 (3.3)	-2.5 (0.5)	15.7 (2.0)
3	5.1 (2.0)	82.5 (4.2)	-2.7 (0.9)	31.8 (1.4)	8.2 (4.3)	4.9 (2.6)	84.1 (4.6)	-2.8 (1.2)	11.2 (2.9)
4	0.3 (0.9)	83.8 (2.6)	-2.8 (0.6)	32.6 (1.1)	6.4 (4.5)	1.6 (2.9)	84.5 (3.8)	-2.9 (0.7)	9.5 (0.6)
5	-0.5 (1.3)	85.2 (3.1)	-3.3 (1.0)	32.2 (1.2)	5.4 (4.6)	1.0 (2.8)	86.5 (3.4)	-3.3 (1.1)	9.2 (0.4)
6	3.4 (1.7)	79.8 (4.6)	-2.5 (0.7)	32.8 (1.3)	6.2 (4.4)	3.1 (3.5)	84.4 (4.6)	-2.5 (0.6)	11.1 (2.6)
7	10.4 (2.7)	76.0 (3.5)	-2.6 (2.2)	32.6 (3.7)	11.3 (4.2)	9.4 (3.8)	82.5 (4.4)	-3.0 (1.3)	15.6 (4.0)
8	6.9 (2.2)	75.3 (5.6)	0.8 (2.3)	39.3 (5.3)	8.2 (2.9)	8.2 (2.1)	83.4 (5.0)	-3.4 (1.1)	16.7 (1.6)
9	7.3 (1.6)	80.0 (3.6)	-1.5 (0.6)	34.3 (1.2)	7.5 (2.6)	7.3 (2.3)	83.5 (5.0)	-2.4 (0.7)	15.3 (3.6)
10	11.1 (1.7)	76.5 (4.2)	-1.1 (1.5)	34.8 (2.9)	11.1 (2.4)	11.2 (2.5)	80.7 (4.1)	-2.5 (1.0)	18.2 (1.6)
11	14.0 (1.2)	83.9 (2.4)	-1.3 (1.0)	37.9 (4.4)	11.7 (1.8)	13.5 (1.9)	89.4 (1.9)	-2.2 (0.9)	19.1 (0.4)
12	8.6 (3.1)	82.7 (2.7)	-3.5 (4.6)	34.0 (8.8)	11.2 (2.4)	8.9 (3.0)	89.1 (2.7)	-6.7 (3.8)	15.0 (2.6)
13	4.6 (1.6)	81.4 (5.2)	-2.5 (1.4)	33.6 (2.5)	7.0 (3.3)	6.5 (1.9)	86.3 (4.9)	-3.6 (1.6)	11.9 (2.9)
14	5.3 (1.8)	81.0 (3.2)	-2.4 (0.6)	33.0 (1.1)	5.5 (3.0)	6.2 (2.2)	85.1 (4.7)	-3.1 (1.0)	12.6 (3.9)
15	4.9 (1.1)	78.4 (6.4)	-2.4 (1.1)	33.4 (2.0)	7.9 (3.6)	6.6 (1.8)	83.2 (6.3)	-3.2 (1.5)	12.6 (3.9)
16	4.1 (1.1)	78.9 (5.4)	-1.6 (1.0)	35.0 (2.2)	7.9 (3.2)	6.4 (2.2)	83.6 (4.6)	-2.7 (1.1)	12.8 (3.6)
17	5.1 (2.2)	80.6 (4.7)	-1.8 (0.6)	33.8 (1.3)	6.8 (4.0)	4.7 (2.5)	83.3 (5.8)	-2.2 (0.7)	13.8 (4.0)
18	8.2 (1.1)	78.7 (3.9)	-5.1 (1.9)	27.6 (2.9)	10.4 (3.7)	5.5 (2.1)	80.5 (7.2)	-4.8 (3.1)	12.6 (2.2)
19	4.5 (4.2)	80.7 (4.8)	-3.7 (2.5)	32.5 (3.9)	9.8 (3.5)	5.1 (3.8)	84.3 (5.4)	-5.2 (2.1)	12.8 (3.9)
20	0.0 (1.6)	79.6 (2.4)	-6.9 (2.0)	29.4 (3.4)	6.9 (3.2)	-0.3 (1.7)	80.8 (4.4)	-7.2 (1.8)	7.4 (1.0)
21	5.1 (3.2)	77.8 (5.8)	-3.2 (1.4)	32.3 (2.5)	8.1 (3.5)	4.9 (2.9)	80.4 (6.8)	-3.8 (1.6)	13.2 (4.0)
22	5.8 (2.3)	76.1 (3.9)	-3.6 (1.8)	31.8 (2.5)	10.2 (3.1)	6.4 (2.3)	80.1 (4.2)	-4.6 (2.0)	13.7 (3.2)
23	-0.1 (1.2)	82.7 (2.3)	-5.3 (1.8)	31.4 (2.6)	5.1 (3.0)	0.7 (2.5)	84.4 (3.8)	-5.3 (1.6)	8.3 (0.7)
24	1.8 (2.2)	83.9 (3.9)	-2.8 (0.9)	33.5 (1.6)	3.2 (4.1)	3.4 (2.8)	85.7 (3.7)	-3.4 (1.2)	10.8 (2.5)
25	7.0 (3.3)	72.6 (10.2)	-2.4 (0.8)	32.8 (1.6)	8.4 (6.1)	6.3 (4.2)	76.5 (9.7)	-2.8 (1.3)	15.1 (4.3)
26	10.3 (2.5)	75.1 (6.2)	-1.5 (1.2)	35.9 (4.3)	12.1 (5.0)	10.6 (2.8)	79.9 (4.7)	-2.8 (1.1)	17.9 (1.3)
27	10.7 (3.3)	79.5 (3.9)	-3.5 (2.9)	31.9 (6.0)	10.4 (4.0)	10.5 (2.8)	84.3 (4.3)	-6.4 (4.0)	16.2 (2.7)
28	3.0 (1.5)	83.6 (2.4)	-2.7 (1.1)	34.2 (2.0)	3.5 (3.8)	1.9 (3.0)	84.4 (3.6)	-3.2 (1.2)	10.8 (3.2)
Mean	5.8	79.5	-2.7	33.3	8.2	6.1	83.4	-3.6	13.3
n	28	28	28	28	28	28	28	28	28
SD	3.6	3.3	1.5	2.2	2.4	3.4	2.7	1.4	2.9
Min	-0.5	72.6	-6.9	27.6	3.2	-0.3	76.5	-7.2	7.4
Max	14.0	85.2	0.8	39.3	12.1	13.5	89.4	-2.2	19.1

Table E3. Daily means (SD) of environmental parameters at Site NY5B for March, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	1.8 (1.9)	82.1 (4.0)	-2.3 (1.2)	34.2 (2.2)	3.6 (2.8)	2.9 (2.6)	84.2 (4.5)	-2.8 (1.0)	11.0 (2.7)
2	1.1 (1.7)	78.8 (3.3)	-4.2 (1.8)	33.3 (2.7)	0.8 (2.6)	-0.7 (3.0)	80.9 (5.7)	-4.4 (1.8)	8.5 (0.9)
3	-0.2 (2.0)	75.3 (5.2)	-3.1 (1.4)	31.9 (8.2)	1.3 (3.5)	1.6 (2.8)	83.6 (4.1)	-3.8 (1.3)	9.7 (1.6)
4	3.3 (2.0)	74.8 (6.6)	-2.5 (1.1)	33.4 (4.1)	3.4 (4.6)	5.0 (2.9)	83.2 (6.0)	-3.1 (1.4)	11.6 (4.1)
5	7.9 (4.2)	64.1 (10.5)	-2.6 (1.4)	32.5 (2.3)	9.3 (6.7)	7.7 (4.0)	73.9 (8.3)	-3.2 (2.1)	15.2 (4.1)
6	13.5 (2.8)	64.3 (5.0)	-1.2 (1.6)	38.7 (5.2)	13.3 (3.2)	13.3 (2.8)	75.8 (5.4)	-2.4 (1.7)	18.3 (0.8)
7	12.4 (2.6)	78.7 (4.5)	-1.1 (1.1)	35.0 (2.4)	8.8 (3.3)	11.3 (2.4)	87.3 (4.9)	-2.1 (0.9)	18.1 (1.8)
8	10.3 (1.6)	81.3 (1.9)	-0.8 (0.7)	34.7 (1.3)	8.5 (0.9)	10.2 (1.3)	91.0 (2.5)	-2.2 (0.5)	18.4 (0.8)
9	8.4 (3.1)	80.1 (2.2)	-0.6 (1.4)	36.3 (3.5)	8.1 (3.3)	9.1 (2.5)	90.3 (1.4)	-3.1 (1.7)	16.6 (1.9)
10	9.7 (1.2)	78.8 (1.8)	-2.4 (1.7)	32.2 (2.7)	8.9 (3.9)	8.5 (1.6)	87.7 (2.2)	-3.0 (1.9)	16.8 (1.3)
11	9.2 (2.8)	70.1 (8.3)	-1.4 (4.5)	36.9 (10.3)	11.6 (5.6)	8.8 (3.4)	81.1 (8.0)	-6.4 (3.2)	15.6 (2.7)
12	3.4 (1.0)	73.1 (3.6)	-1.8 (1.4)	35.3 (2.4)	5.3 (2.2)	5.6 (1.7)	82.5 (3.3)	-3.5 (1.6)	12.2 (3.0)
13	4.3 (2.3)	72.8 (5.0)	-0.8 (0.6)	35.8 (1.5)	7.2 (2.6)	6.4 (2.0)	80.5 (4.6)	-2.2 (0.8)	14.5 (4.2)
14	7.4 (3.2)	67.9 (11.0)	-0.6 (0.8)	35.6 (1.7)	9.5 (4.1)	9.8 (2.6)	77.1 (8.3)	-2.2 (0.9)	15.6 (4.2)
15	10.1 (3.5)	65.9 (11.8)	-0.8 (0.7)	38.2 (6.2)	8.9 (6.4)	10.4 (3.4)	72.5 (11.6)	-2.0 (0.7)	16.2 (3.3)
16	11.5 (4.0)	66.4 (10.2)	-0.9 (0.6)	39.9 (7.4)	8.7 (7.0)	11.0 (4.0)	71.9 (10.1)	-1.6 (0.6)	16.8 (3.2)
17	14.0 (2.4)	64.2 (5.8)	-0.7 (1.0)	42.0 (9.3)	13.4 (3.3)	13.7 (2.6)	72.6 (5.6)	-2.0 (0.8)	18.6 (0.4)
18	13.7 (1.3)	72.9 (7.6)	0.1 (1.1)	39.0 (7.6)	13.1 (3.1)	13.9 (1.9)	84.0 (5.7)	-1.8 (0.8)	18.4 (0.8)
19	9.2 (1.9)	65.7 (9.3)	0.3 (1.9)	37.8 (3.7)	8.5 (3.1)	9.6 (2.0)	75.8 (8.7)	-2.4 (1.0)	17.5 (1.4)
20	5.0 (1.3)	66.1 (5.8)	-0.6 (1.5)	37.8 (2.9)	7.4 (3.3)	7.5 (1.8)	73.1 (8.0)	-2.4 (1.4)	12.9 (5.2)
21	6.1 (3.4)	64.8 (12.1)	-0.3 (0.8)	36.5 (1.9)	8.5 (4.6)	8.4 (2.5)	73.0 (8.8)	-2.0 (0.8)	15.4 (4.0)
22	5.8 (1.1)	66.9 (5.7)	0.1 (1.6)	37.9 (3.5)	8.7 (2.6)	7.9 (1.6)	78.0 (5.3)	-2.4 (1.0)	16.2 (2.4)
23	2.6 (1.1)	64.0 (6.6)	-0.9 (1.9)	37.4 (3.1)	5.6 (2.4)	6.0 (2.0)	73.1 (5.4)	-2.6 (2.2)	13.1 (3.4)
24	6.5 (4.1)	68.0 (9.2)	-1.0 (0.9)	35.4 (4.4)	7.3 (3.6)	7.6 (2.5)	72.5 (10.1)	-2.3 (1.0)	14.7 (3.8)
25	11.7 (3.1)	56.4 (8.4)	-2.0 (1.6)	35.5 (5.5)	12.5 (4.1)	11.1 (2.6)	63.3 (8.4)	-2.8 (1.6)	16.5 (2.0)
26	12.1 (0.6)	72.5 (7.8)	-0.9 (0.9)	33.7 (1.8)	12.3 (2.0)	11.5 (1.2)	79.4 (9.4)	-2.3 (0.9)	18.3 (0.3)
27	12.5 (2.3)	72.5 (8.8)	-0.2 (0.8)	39.5 (6.3)	11.2 (3.3)	12.6 (2.2)	79.9 (10.4)	-1.9 (0.5)	18.4 (0.4)
28	16.2 (3.1)	65.9 (6.1)	-0.9 (1.0)	47.3 (10.4)	14.6 (5.0)	15.5 (3.6)	71.6 (5.5)	-1.8 (0.7)	18.2 (0.4)
29	15.0 (2.3)	77.5 (2.6)	-1.0 (1.6)	41.9 (6.5)	12.6 (4.0)	14.0 (2.4)	84.1 (3.6)	-1.7 (1.3)	18.0 (0.5)
30	7.2 (1.7)	75.5 (2.3)	-0.9 (3.3)	36.2 (6.0)	7.1 (1.6)	7.5 (1.6)	84.5 (1.8)	-5.1 (2.3)	15.2 (0.9)
31	10.6 (3.6)	72.2 (3.4)	-0.8 (0.8)	37.7 (5.2)	9.7 (2.5)	10.5 (2.1)	77.8 (6.8)	-2.1 (0.9)	17.8 (1.2)
Mean	8.5	71.0	-1.2	36.7	8.7	9.0	78.9	-2.7	15.6
n	31	31	31	31	31	31	31	31	31
SD	4.3	6.2	1.0	3.2	3.4	3.6	6.3	1.0	2.7
Min	-0.2	56.4	-4.2	31.9	0.8	-0.7	63.3	-6.4	8.5
Max	16.2	82.1	0.3	47.3	14.6	15.5	91.0	-1.6	18.6

Table E3. Daily means (SD) of environmental parameters at Site NY5B for April, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	13.0 (0.9)	70.7 (4.5)	-1.8 (1.9)	32.5 (3.9)	12.1 (1.8)	11.8 (1.3)	78.8 (5.1)	-3.4 (3.0)	17.5 (1.2)
2	16.0 (2.7)	64.5 (12.2)	-0.8 (0.9)	46.3 (10.0)	14.5 (4.7)	15.4 (2.9)	70.8 (12.4)	-1.6 (0.6)	18.3 (0.4)
3	15.8 (3.4)	78.1 (3.3)	-0.6 (5.1)	47.2 (9.0)	14.8 (2.8)	15.4 (2.7)	83.5 (4.0)	-4.0 (5.0)	22.2 (11.1)
4	7.0 (0.8)	78.2 (1.8)	-2.8 (3.5)	34.7 (24.1)	7.3 (1.7)	6.7 (1.1)		-7.4 (3.0)	13.5 (1.8)
5	10.4 (3.0)	71.6 (3.4)	-0.6 (0.9)	37.1 (3.5)	12.1 (3.8)	10.4 (2.6)		-3.1 (1.4)	17.3 (1.7)
6	11.5 (2.7)	75.6 (2.8)	-0.8 (2.8)	35.2 (5.8)	11.9 (2.6)	11.3 (2.1)	83.7 (2.2)	-2.7 (1.8)	17.6 (1.2)
7	4.5 (2.3)	74.5 (1.9)	-0.5 (4.7)	37.0 (9.2)	5.3 (1.7)	4.5 (1.6)		-5.1 (1.7)	11.8 (1.8)
8	8.0 (1.9)	69.6 (6.5)	-1.4 (0.9)	34.2 (2.1)	9.7 (3.6)	7.3 (1.9)		-3.1 (1.0)	15.2 (2.7)
9	11.6 (1.9)	62.7 (8.2)	-1.3 (0.9)	35.7 (4.0)	12.8 (3.9)	10.7 (2.6)		-2.9 (1.1)	17.5 (1.1)
10	12.4 (3.2)	64.2 (10.2)	-0.8 (0.9)	39.9 (8.0)	13.2 (4.0)	12.4 (3.4)	68.4 (9.9)	-2.2 (0.7)	17.9 (0.9)
11	9.0 (1.4)	65.8 (6.9)	-0.8 (1.9)	36.3 (3.2)	9.6 (3.8)	9.8 (1.9)	71.3 (6.3)	-2.9 (1.9)	17.2 (1.3)
12	5.1 (1.5)	61.6 (6.8)	1.1 (3.3)	40.8 (7.9)	8.3 (2.6)	7.6 (1.6)	70.2 (5.9)	-2.7 (1.7)	15.3 (2.8)
13	7.8 (3.3)	62.3 (11.0)	0.0 (1.4)	36.9 (2.9)	9.3 (3.5)	9.8 (2.2)	67.5 (11.2)	-2.0 (1.0)	15.9 (3.7)
14	14.0 (3.9)	61.3 (7.8)	-1.3 (1.4)	33.3 (9.5)	13.5 (4.7)	12.8 (4.1)		-2.2 (0.7)	17.5 (1.2)
15	13.9 (2.9)	57.6 (9.8)	-1.7 (1.5)	51.9 (31.1)	11.5 (4.8)	12.8 (3.4)	56.5 (9.0)	-1.9 (1.0)	18.0 (0.7)
16	10.2 (4.0)	58.2 (13.3)	-0.9 (1.3)	79.2 (16.6)	9.7 (6.4)	11.2 (4.0)	63.0 (12.6)	-1.9 (0.9)	17.2 (1.9)
17	12.3 (5.0)	54.9 (13.5)	-1.1 (1.2)	85.0 (21.3)	14.3 (5.5)	13.4 (4.1)	63.6 (12.1)	-2.5 (1.0)	17.4 (1.2)
18	15.5 (2.2)	54.2 (10.2)	-1.1 (1.2)	88.6 (19.9)	16.5 (3.9)	15.6 (2.7)	62.4 (8.3)	-2.3 (1.0)	18.1 (0.5)
19	14.1 (2.5)	62.4 (11.6)	-1.5 (1.1)	83.7 (17.6)	14.9 (2.9)	14.3 (2.5)		-2.5 (0.9)	18.1 (0.5)
20	11.9 (1.2)	65.2 (9.4)	-3.4 (2.5)	57.8 (9.7)	12.3 (2.0)	11.2 (1.9)		-2.5 (2.6)	17.1 (1.3)
21	14.1 (2.6)	69.8 (11.4)	-0.8 (1.4)	79.7 (19.5)	16.4 (3.3)	14.7 (2.9)		-2.1 (1.0)	17.8 (0.6)
22	10.6 (1.5)	69.4 (6.8)	-0.5 (0.9)	68.7 (4.4)	12.9 (2.8)	11.9 (1.5)		-2.4 (0.7)	17.8 (0.4)
23	8.2 (2.2)	72.6 (6.2)	0.5 (1.9)	74.0 (11.3)	12.0 (2.4)	10.0 (2.0)	79.8 (4.6)	-3.1 (0.7)	16.9 (0.9)
24	17.3 (6.3)	53.5 (14.6)	-5.1 (4.3)	111 (63)	18.4 (7.9)	16.7 (6.5)		-3.6 (1.9)	22.9 (5.4)
25	23.9 (3.9)	50.1 (11.2)	-14.7 (5.6)	244 (71)	26.9 (4.5)	24.2 (4.2)	50.8 (12.1)	-11.3 (4.4)	52.6 (13.8)
26	20.1 (3.8)	72.1 (11.4)	-13.4 (2.6)	213 (37)	22.9 (4.5)	20.5 (4.2)	70.4 (13.7)	-13.5 (2.6)	60.0 (3.1)
27	23.7 (6.1)	57.2 (15.9)	-10.6 (7.5)	171 (89)	26.6 (6.6)	23.5 (6.1)	56.6 (17.6)	-15.4 (2.9)	58.5 (2.8)
28	17.6 (5.6)	64.0 (15.5)	-12.1 (6.2)	216 (62)	20.9 (6.5)	17.7 (5.9)	64.4 (17.0)	-15.8 (2.9)	58.6 (3.1)
29	12.0 (4.5)	60.3 (17.0)	-4.3 (1.6)	126 (26)	14.7 (4.1)	12.4 (4.4)	61.2 (19.1)	-6.3 (4.8)	27.1 (11.2)
30	15.3 (2.6)	60.7 (11.5)	-5.9 (2.8)	115 (26)	16.9 (3.3)	15.5 (2.6)	62.3 (13.0)	-2.8 (2.3)	17.1 (1.1)
Mean	12.9	64.8	-3.0	79.7	14.1	13.1	67.6	-4.5	23.0
n	30	30	30	30	30	30	19	30	30
SD	4.6	7.3	4.1	58.5	5.0	4.4	8.9	4.0	13.8
Min	4.5	50.1	-14.7	32.5	5.3	4.5	50.8	-15.8	11.8
Max	23.9	78.2	1.1	244	26.9	24.2	83.7	-1.6	60.0

Table E3. Daily means (SD) of environmental parameters at Site NY5B for May, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1									
2									
3									
4	15.1 (2.6)	56.8 (13.2)	-3.1 (2.5)	108 (42)	15.9 (4.0)	14.7 (3.2)	58.8 (15.6)	-4.5 (0.9)	28.6 (1.4)
5	13.2 (3.5)	67.4 (5.8)	-4.9 (3.4)	126 (31)	15.4 (3.3)	13.5 (3.2)	71.1 (7.4)	-4.9 (1.2)	28.9 (1.5)
6	17.0 (1.9)	70.6 (8.6)	-7.2 (4.6)	126 (62)	19.2 (2.6)	17.2 (2.5)	73.2 (10.4)	-5.0 (1.2)	27.6 (1.5)
7	15.6 (0.9)	81.5 (3.0)	-6.7 (2.2)	142 (13)	17.2 (1.3)	16.0 (1.2)	85.5 (4.2)	-5.7 (2.3)	36.2 (4.9)
8	18.2 (2.7)	72.3 (9.3)	-10.1 (3.7)	164 (35)	20.1 (3.4)	18.8 (2.9)	74.1 (10.8)	-6.1 (1.1)	38.8 (0.6)
9	18.5 (3.3)	68.7 (7.8)	-8.5 (4.4)	179 (31)	21.0 (3.8)	19.3 (3.1)	70.8 (8.2)	-8.4 (3.2)	38.0 (0.9)
10	10.5 (0.5)	69.3 (2.9)	-0.4 (3.1)	105 (57)	12.7 (1.0)	11.5 (0.9)	73.7 (3.2)	-8.6 (1.4)	39.3 (0.5)
11	10.3 (3.3)	59.4 (14.9)	-6.1 (3.9)	143 (35)	13.8 (3.9)	11.6 (3.4)	61.6 (17.1)	-7.2 (1.5)	36.5 (3.6)
12	11.0 (4.8)	55.3 (16.1)	-8.3 (5.0)	154 (30)	14.0 (5.4)	12.2 (4.7)	56.6 (18.7)	-6.9 (1.6)	35.9 (4.3)
13	15.7 (5.9)	47.0 (16.0)	-14.7 (7.8)	200 (63)	18.3 (6.9)	16.0 (5.6)	47.2 (17.8)	-7.0 (1.8)	36.6 (2.6)
14	16.4 (2.2)	72.5 (7.2)	-14.5 (4.8)	159 (56)	18.9 (2.7)	16.3 (2.5)	74.3 (8.6)	-7.9 (2.2)	37.2 (1.9)
15	15.3 (4.2)	63.2 (12.2)	-12.9 (7.4)	203 (65)	17.6 (4.9)	15.7 (4.3)	63.9 (14.2)	-6.1 (1.0)	38.2 (1.0)
16	19.0 (3.4)	75.5 (8.5)	-18.6 (6.5)	248 (57)	21.1 (3.7)	19.2 (3.5)	76.9 (9.1)	-6.7 (1.8)	37.7 (1.2)
17	9.6 (2.1)	58.1 (10.2)	-4.1 (1.8)	165 (21)	12.1 (2.8)	10.6 (2.2)	60.0 (11.6)	-6.8 (1.7)	37.4 (1.5)
18	9.5 (2.7)	58.5 (13.8)	-5.4 (2.0)	152 (17)	12.0 (3.0)	10.0 (2.9)	58.7 (16.1)	-6.2 (1.9)	36.4 (2.7)
19	14.1 (6.2)	48.7 (17.9)	-10.6 (6.7)	197 (78)	18.8 (5.1)	14.8 (6.2)	49.8 (19.4)	-7.2 (2.7)	33.6 (8.1)
20	20.4 (6.2)	44.8 (15.2)	-15.9 (7.2)	253 (77)	24.7 (5.1)	21.0 (6.0)	44.7 (17.2)	-12.7 (4.6)	54.8 (17.9)
21	23.3 (4.7)	41.2 (12.0)	-19.5 (2.9)	285 (35)	26.6 (4.9)	23.8 (4.8)	39.1 (12.6)	-16.1 (2.7)	73.4 (1.8)
22	19.2 (3.0)	64.6 (7.6)	-17.9 (4.4)	251 (58)	22.5 (3.5)	20.0 (3.5)	62.4 (9.5)	-16.3 (3.5)	74.3 (2.0)
23	18.8 (5.0)	67.6 (11.0)	-16.6 (7.9)	230 (73)	21.4 (5.7)	19.1 (5.2)	67.2 (13.8)	-17.4 (3.7)	74.1 (2.3)
24	18.1 (3.5)	65.1 (13.4)	-14.6 (5.0)	235 (64)	20.9 (4.1)	18.4 (4.0)	64.0 (14.9)	-16.4 (3.0)	74.6 (2.0)
25	14.7 (4.1)	58.6 (14.6)	-12.2 (7.9)	199 (71)	17.4 (5.0)	14.9 (4.6)	57.4 (17.0)	-16.7 (3.0)	75.7 (1.9)
26	13.8 (3.8)	63.3 (13.9)	-10.3 (6.5)	164 (60)	16.1 (4.6)	13.7 (4.0)	63.7 (15.8)	-12.7 (5.4)	62.5 (18.5)
27	17.3 (3.2)	78.1 (4.2)	-14.5 (6.1)	217 (71)	19.0 (3.6)	17.3 (3.3)	80.0 (5.5)	-15.7 (4.3)	69.5 (13.2)
28	20.7 (2.2)	81.1 (3.3)	-20.3 (3.1)	267 (50)	22.5 (2.5)	20.8 (2.3)	81.9 (4.0)	-18.3 (2.4)	74.2 (1.5)
29	17.8 (1.8)	82.8 (5.1)	-17.1 (4.1)	233 (50)	19.7 (2.1)	17.9 (2.0)	83.3 (6.4)	-17.6 (2.2)	73.4 (1.5)
30	16.2 (1.9)	66.5 (15.4)	-11.6 (4.0)	213 (55)	19.0 (2.8)	16.6 (2.3)	66.2 (17.2)	-17.2 (1.6)	74.0 (1.2)
31	12.7 (2.6)	62.5 (13.8)	-7.2 (2.5)	171 (31)	16.3 (2.6)	13.2 (2.8)	62.7 (15.3)	-16.9 (2.4)	74.9 (1.7)
Mean	15.8	64.3	-11.2	189	18.4	16.2	65.3	-10.7	50.8
n	28	28	28	28	28	28	28	28	28
SD	3.5	10.7	5.3	48	3.6	3.4	11.5	5.0	18.4
Min	9.5	41.2	-20.3	105	12.0	10.0	39.1	-18.3	27.6
Max	23.3	82.8	-0.4	285	26.6	23.8	85.5	-4.5	75.7

Table E3. Daily means (SD) of environmental parameters at Site NY5B for June, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	14.1 (5.2)	59.8 (11.3)	-12.0 (6.6)	201 (59)	19.5 (3.2)	14.8 (4.9)	61.1 (12.9)	-10.0 (4.6)	45.1 (14.9)
2	15.5 (1.9)	71.7 (7.7)	-11.5 (4.8)	195 (42)	18.2 (2.5)	16.2 (2.2)	70.9 (9.3)	-6.5 (1.7)	35.9 (7.6)
3	14.9 (2.6)	70.3 (10.7)	-10.6 (6.7)	192 (55)	17.7 (3.5)	15.5 (2.9)	70.5 (13.1)	-6.2 (1.1)	37.8 (0.7)
4	14.7 (4.2)	64.8 (15.1)	-12.1 (8.1)	202 (68)	17.5 (4.8)	15.5 (4.3)	65.8 (16.5)	-5.9 (1.2)	37.5 (1.2)
5	16.9 (4.7)	66.0 (13.1)	-13.4 (7.8)	231 (68)	17.1 (4.5)	17.4 (4.8)	67.0 (14.7)	-5.5 (0.8)	37.5 (0.8)
6	18.5 (3.7)	62.2 (15.6)	-15.1 (6.3)	241 (60)	18.1 (4.6)	19.3 (3.9)	62.1 (17.5)	-6.1 (1.5)	37.1 (0.9)
7	17.7 (3.1)	63.5 (10.4)	-14.2 (5.9)	238 (59)	17.2 (3.8)	18.4 (3.2)	63.4 (11.6)	-5.7 (0.8)	37.3 (0.7)
8	18.5 (3.3)	72.3 (12.9)	-16.8 (6.7)	252 (57)	17.9 (3.8)	18.9 (3.2)	72.3 (14.5)	-10.5 (5.6)	52.9 (17.9)
9	21.2 (3.6)	75.0 (8.7)	-19.3 (4.2)	275 (43)	20.7 (4.3)	21.5 (3.9)	74.0 (10.5)	-15.7 (2.9)	73.3 (1.9)
10	17.8 (2.9)	74.0 (7.0)	-15.7 (7.1)	231 (64)	17.1 (3.4)	18.1 (3.0)	73.3 (8.5)	-16.9 (2.8)	74.1 (1.8)
11	20.7 (2.5)	80.3 (7.4)	-18.2 (2.6)	270 (42)	19.9 (3.1)	21.0 (2.7)	80.3 (8.4)	-16.5 (2.6)	73.0 (1.6)
12	19.4 (2.1)	82.5 (9.4)	-15.9 (3.6)	253 (42)	18.5 (2.7)	19.5 (2.3)	82.1 (11.3)	-14.8 (3.6)	74.4 (1.8)
13	17.6 (3.0)	77.7 (8.2)	-14.6 (5.8)	222 (57)	16.9 (3.8)	18.0 (3.3)	77.0 (10.4)	-15.5 (2.5)	74.7 (1.7)
14	18.4 (3.8)	69.2 (11.8)	-15.2 (7.0)	237 (64)	17.7 (4.5)	18.9 (4.1)	67.5 (14.0)	-15.6 (1.3)	74.5 (1.5)
15	17.7 (3.7)	68.9 (11.6)	-13.1 (5.9)	230 (69)	16.8 (4.6)	18.0 (4.1)	68.2 (13.6)	-16.0 (2.4)	74.8 (1.7)
16	19.3 (4.3)	65.4 (12.6)	-16.7 (7.0)	242 (76)	18.5 (5.0)	19.5 (4.6)	65.0 (14.2)	-16.5 (3.3)	74.3 (2.4)
17	18.6 (2.2)	72.0 (8.1)	-17.9 (3.7)	239 (57)	17.8 (2.8)	18.8 (2.3)	71.2 (8.8)	-17.4 (2.7)	73.7 (1.5)
18	17.6 (1.4)	84.1 (3.3)	-15.8 (3.2)	225 (46)	16.5 (1.7)	17.8 (1.5)	84.3 (3.5)	-15.4 (3.1)	74.2 (1.6)
19	17.3 (1.6)	84.7 (5.2)	-14.7 (4.1)	228 (45)	16.4 (2.0)	17.6 (1.8)	84.8 (6.7)	-15.1 (4.0)	74.7 (2.0)
20	17.9 (1.4)	86.9 (2.0)	-16.5 (3.4)	233 (44)	16.9 (1.6)	18.2 (1.4)	87.8 (2.2)	-16.0 (3.5)	73.4 (1.6)
21	19.2 (2.4)	85.6 (4.8)	-18.3 (4.7)	255 (48)	18.5 (2.8)	19.5 (2.4)	85.7 (6.1)	-14.9 (4.4)	74.1 (2.3)
22	20.6 (2.5)	76.0 (10.7)	-20.9 (3.5)	268 (46)	20.1 (3.0)	20.9 (2.7)	74.6 (12.4)	-15.9 (3.2)	73.1 (1.7)
23	20.2 (3.8)	72.3 (11.1)	-17.9 (4.8)	257 (54)	19.8 (4.7)	20.7 (4.0)	70.7 (12.3)	-15.9 (3.2)	73.3 (1.9)
24	21.7 (5.0)	68.3 (15.5)	-18.3 (5.4)	263 (55)	21.3 (6.0)	22.2 (5.1)	66.5 (16.9)	-16.2 (3.5)	72.9 (2.0)
25	22.6 (4.0)	73.7 (7.5)	-19.8 (3.8)	293 (29)	22.2 (5.0)	23.0 (4.3)	72.3 (8.4)	-15.7 (3.0)	72.5 (1.5)
26	21.1 (2.1)	81.7 (6.5)	-16.4 (6.3)	267 (61)	20.4 (2.6)	21.4 (2.2)	80.6 (7.7)	-14.4 (2.9)	73.3 (1.4)
27	19.9 (2.0)	79.0 (7.7)	-17.2 (3.9)	252 (48)	19.5 (2.6)	20.2 (2.2)	77.7 (9.1)	-14.8 (1.9)	73.8 (1.1)
28	20.5 (3.3)	74.5 (14.2)	-15.4 (3.0)	246 (48)	19.9 (4.2)	21.0 (3.7)	72.7 (15.7)	-14.5 (2.6)	73.4 (1.4)
29	20.2 (2.0)	78.3 (8.1)	-16.7 (6.5)	250 (58)	19.7 (2.5)	20.8 (2.3)	76.6 (9.4)	-14.4 (3.2)	72.9 (1.6)
30									
Mean	18.6	73.8	-15.9	241	18.6	19.1	73.3	-13.3	64.5
n	29	29	29	29	29	29	29	29	29
SD	2.1	7.3	2.5	24	1.5	2.0	7.2	4.0	15.3
Min	14.1	59.8	-20.9	192	16.4	14.8	61.1	-17.4	35.9
Max	22.6	86.9	-10.6	293	22.2	23.0	87.8	-5.5	74.8

Table E3. Daily means (SD) of environmental parameters at Site NY5B for July, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1									
2									
3									
4	17.6 (2.1)	73.3 (8.4)	-22.1 (3.7)	298 (4)	17.1 (2.6)	18.0 (2.2)	71.4 (9.7)	-15.8 (3.6)	73.9 (1.7)
5	17.6 (4.6)	67.6 (14.4)	-23.2 (2.8)	296 (4)	17.0 (5.3)	18.3 (4.8)	65.1 (15.9)	-16.1 (2.9)	74.0 (1.5)
6	19.1 (3.2)	72.1 (11.6)	-24.1 (2.1)	294 (4)	18.4 (3.8)	19.6 (3.4)	70.3 (13.0)	-17.0 (3.3)	73.1 (1.6)
7	18.4 (2.0)	76.0 (7.0)	-22.3 (2.8)	297 (5)	17.8 (2.6)	18.9 (2.3)	74.1 (8.8)	-16.0 (4.2)	72.5 (9.1)
8	17.1 (2.3)	79.1 (7.9)	-23.9 (2.4)	296 (4)	16.4 (2.9)	17.5 (2.5)	77.8 (9.2)	-18.1 (2.5)	73.1 (1.3)
9	18.7 (4.3)	73.2 (13.0)	-22.5 (2.6)	295 (3)	18.0 (4.7)	19.1 (4.3)	71.8 (14.0)	-17.7 (2.8)	72.9 (1.4)
10	22.6 (3.7)	64.7 (12.2)	-23.5 (2.0)	295 (10)	22.3 (4.2)	22.9 (3.9)	63.2 (13.6)	-17.6 (2.1)	71.8 (1.7)
11	22.0 (1.6)	75.7 (5.5)	-23.0 (2.5)	300 (4)	21.4 (2.0)	22.3 (1.8)	74.1 (6.2)	-16.3 (2.6)	72.0 (1.2)
12	16.9 (2.7)	66.7 (12.0)	-21.2 (2.0)	308 (3)	16.5 (3.2)	17.7 (2.9)	63.5 (13.2)	-17.3 (2.7)	73.3 (1.4)
13	16.8 (3.4)	65.8 (14.2)	-20.4 (2.7)	309 (3)	16.4 (4.2)	17.6 (3.6)	63.0 (15.4)	-17.0 (3.1)	73.4 (1.7)
14	16.8 (3.6)	68.0 (11.7)	-24.4 (2.8)	304 (4)	16.4 (4.3)	17.5 (3.8)	64.6 (13.0)	-17.7 (3.2)	73.1 (1.7)
15	19.8 (5.0)	65.6 (13.8)	-25.0 (2.5)	299 (5)	19.5 (5.6)	20.5 (5.0)	63.2 (14.8)	-18.0 (3.6)	71.9 (4.7)
16	23.3 (2.7)	68.9 (8.0)	-23.7 (2.8)	298 (4)	23.0 (3.4)	23.9 (3.0)	66.3 (8.9)	-17.2 (3.6)	71.5 (1.8)
17	20.5 (1.0)	73.5 (5.8)	-24.5 (2.4)	300 (3)	19.9 (1.4)	20.9 (1.2)	71.7 (6.9)	-17.3 (2.8)	72.3 (1.2)
18	19.4 (2.0)	74.2 (8.9)	-24.7 (3.0)	301 (4)	18.9 (2.5)	19.9 (2.2)	72.1 (10.2)	-16.9 (3.6)	72.6 (1.5)
19	18.5 (2.6)	74.5 (7.3)	-25.1 (2.7)	301 (4)	18.0 (3.2)	19.0 (2.8)	72.4 (8.7)	-17.6 (3.0)	72.6 (1.4)
20									
21									
22									
23									
24									
25	22.9 (3.6)	69.8 (12.0)	-23.9 (3.1)	299 (8)	22.5 (4.2)	23.2 (3.7)	68.4 (13.0)	-20.8 (2.0)	81.2 (1.3)
26	22.9 (2.3)	75.2 (8.2)	-23.0 (2.6)	301 (6)	22.3 (3.0)	23.2 (2.3)	74.2 (9.3)	-19.5 (2.5)	81.4 (0.9)
27	21.8 (2.3)	74.3 (7.0)	-21.4 (2.6)	305 (3)	21.5 (2.8)	22.2 (2.5)	72.9 (8.4)	-19.0 (3.1)	82.1 (0.9)
28	24.5 (3.6)	67.3 (8.8)	-24.9 (2.7)	297 (5)	24.4 (4.2)	24.8 (3.8)	65.6 (10.1)	-19.6 (3.5)	81.1 (1.3)
29	23.6 (1.6)	76.8 (8.4)	-24.6 (2.4)	297 (3)	23.1 (2.1)	23.9 (1.7)	76.6 (9.6)	-20.3 (3.5)	80.9 (1.1)
30	22.3 (2.4)	72.7 (12.9)	-24.4 (2.5)	300 (5)	22.0 (2.8)	22.8 (2.5)	71.7 (14.5)	-20.7 (3.4)	81.4 (1.1)
31	20.5 (1.4)	82.3 (5.1)	-25.3 (2.4)	301 (4)	19.5 (1.7)	20.6 (1.5)	82.6 (6.2)	-20.9 (4.0)	81.9 (1.1)
Mean	20.2	72.1	-23.5	300	19.7	20.6	70.3	-18.0	75.4
n	23	23	23	23	23	23	23	23	23
SD	2.4	4.5	1.3	4	2.5	2.4	5.2	1.6	4.0
Min	16.8	64.7	-25.3	294	16.4	17.5	63.0	-20.9	71.5
Max	24.5	82.3	-20.4	309	24.4	24.8	82.6	-15.8	82.1

Table E3. Daily means (SD) of environmental parameters at Site NY5B for August, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	22.5 (4.0)	69.8 (12.4)	-25.6 (2.1)	300 (5)	22.2 (4.5)	22.8 (3.9)	69.2 (13.9)	-20.6 (4.1)	81.8 (1.3)
2	22.1 (1.6)	80.6 (5.2)	-24.4 (3.2)	300 (5)	21.3 (1.9)	22.3 (1.6)	81.2 (5.9)	-20.2 (3.0)	81.5 (0.9)
3	21.1 (3.7)	68.9 (12.6)	-24.3 (2.7)	303 (6)	20.7 (4.2)	21.4 (3.6)	68.5 (13.9)	-21.2 (3.9)	82.0 (1.6)
4	24.3 (3.2)	65.6 (7.6)	-23.7 (3.4)	297 (23)	24.1 (3.7)	24.5 (3.2)	64.8 (8.7)	-19.6 (3.9)	80.9 (3.9)
5	20.1 (2.6)	70.3 (8.9)	-24.0 (3.1)	303 (4)	19.8 (2.9)	20.5 (2.7)	69.3 (10.4)	-20.3 (3.4)	82.4 (1.2)
6	18.0 (3.8)	72.6 (11.3)	-23.7 (2.9)	305 (4)	17.6 (4.6)	18.4 (4.0)	72.4 (13.1)	-21.0 (2.5)	83.1 (1.4)
7	18.0 (3.1)	71.7 (12.1)	-24.2 (3.3)	306 (4)	17.4 (3.9)	18.3 (3.4)	71.4 (14.0)	-19.5 (3.2)	83.8 (1.1)
8	19.3 (4.2)	68.2 (9.7)	-23.4 (2.9)	306 (4)	18.8 (4.8)	19.5 (4.3)	68.1 (11.2)	-20.1 (2.5)	83.5 (1.5)
9	22.3 (1.6)	82.6 (2.7)	-23.0 (2.5)	302 (5)	21.5 (1.8)	22.5 (1.6)	83.8 (3.4)	-19.9 (2.2)	81.8 (0.8)
10	24.6 (2.6)	81.6 (5.4)	-22.4 (3.3)	298 (10)	24.1 (3.4)	24.9 (2.8)	82.4 (6.8)	-19.0 (4.2)	80.7 (3.8)
11									
12	22.7 (3.1)	78.5 (9.1)	-23.4 (2.6)	302 (4)	21.9 (3.7)	22.8 (3.2)	79.7 (10.3)	-21.9 (3.0)	81.2 (1.1)
13	22.9 (3.3)	79.1 (10.2)	-23.5 (2.7)	303 (5)	22.1 (4.0)	23.1 (3.4)	80.3 (12.0)	-21.1 (3.5)	81.8 (1.4)
14	23.1 (4.3)	73.1 (14.0)	-21.0 (2.4)	306 (5)	22.5 (5.1)	23.3 (4.4)	73.8 (15.4)	-19.4 (3.0)	82.4 (1.3)
15	25.4 (3.5)	73.5 (10.4)	-22.2 (2.3)	301 (5)	24.9 (4.3)	25.5 (3.7)	73.7 (12.4)	-19.0 (3.3)	81.6 (1.3)
16	25.9 (3.5)	75.4 (10.9)	-21.2 (2.0)	302 (5)	25.5 (4.2)	26.1 (3.6)	75.5 (12.5)	-19.1 (3.1)	81.3 (1.3)
17	26.4 (4.1)	73.1 (10.7)	-22.3 (2.8)	300 (7)	26.2 (4.9)	26.7 (4.1)	72.7 (12.0)	-19.8 (3.3)	80.9 (1.6)
18	25.7 (2.1)	73.0 (5.0)	-22.4 (2.6)	300 (4)	25.4 (2.8)	26.0 (2.3)	72.0 (5.9)	-19.6 (3.1)	80.8 (1.1)
19	23.8 (2.3)	76.0 (9.5)	-22.9 (2.6)	301 (5)	23.4 (3.0)	24.2 (2.5)	75.2 (10.9)	-20.8 (3.5)	80.7 (1.9)
20	25.7 (3.3)	75.3 (7.0)	-24.3 (3.2)	295 (8)	25.4 (3.9)	25.8 (3.3)	75.3 (8.0)	-20.6 (3.9)	80.1 (1.4)
21	24.3 (1.1)	81.0 (3.8)	-21.3 (1.8)	300 (3)	23.5 (1.5)	24.5 (1.2)	81.0 (4.1)	-18.5 (2.9)	81.0 (0.7)
22	24.1 (2.8)	77.0 (10.0)	-21.4 (2.5)	300 (6)	23.5 (3.3)	24.4 (2.9)	76.7 (11.3)	-17.4 (3.0)	81.5 (1.2)
23	21.2 (1.3)	86.2 (3.0)	-21.3 (2.4)	305 (4)	20.3 (1.7)	21.3 (1.5)	87.4 (4.3)	-17.7 (2.0)	82.8 (1.2)
24	20.3 (1.8)	83.3 (5.8)	-22.2 (3.2)	307 (5)	19.5 (2.3)	20.6 (1.9)	84.0 (7.5)	-19.6 (3.3)	83.0 (1.4)
25	20.0 (3.6)	79.6 (9.0)	-23.6 (2.2)	305 (5)	19.0 (4.1)	20.1 (3.6)	80.9 (10.7)	-19.2 (3.1)	83.2 (1.4)
26	19.7 (2.1)	82.9 (3.9)	-23.8 (2.8)	305 (3)	18.8 (2.5)	19.8 (2.1)	84.2 (5.1)	-20.1 (4.7)	82.6 (1.2)
27	16.7 (2.8)	72.2 (13.6)	-22.0 (2.7)	310 (3)	16.1 (3.7)	17.0 (3.0)	72.2 (15.7)	-21.4 (2.5)	83.8 (1.0)
28	18.3 (3.0)	76.4 (11.3)	-23.0 (2.4)	307 (3)	17.3 (3.5)	18.4 (3.1)	77.7 (12.4)	-20.2 (2.8)	83.4 (1.1)
29	20.8 (2.4)	83.2 (4.1)	-22.1 (3.1)	302 (3)	20.1 (3.1)	20.9 (2.6)	84.6 (5.2)	-19.5 (3.5)	81.7 (1.2)
30	17.5 (1.4)	80.1 (4.0)	-23.1 (2.6)	307 (3)	16.7 (2.0)	17.7 (1.7)	80.8 (5.0)	-20.4 (3.4)	83.0 (1.0)
31	15.1 (2.5)	75.3 (12.5)	-23.3 (2.1)	310 (3)	13.9 (2.9)	15.4 (2.8)	75.7 (15.1)	-21.6 (3.8)	84.4 (1.2)
Mean	21.7	76.2	-23.0	303	21.1	22.0	76.5	-19.9	82.1
n	30	30	30	30	30	30	30	30	30
SD	3.0	5.1	1.1	4	3.1	3.0	5.7	1.0	1.1
Min	15.1	65.6	-25.6	295	13.9	15.4	64.8	-21.9	80.1
Max	26.4	86.2	-21.0	310	26.2	26.7	87.4	-17.4	84.4

Table E3. Daily means (SD) of environmental parameters at Site NY5B for September, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	15.3 (4.2)	74.3 (11.6)	-23.9 (2.0)	311 (4)	14.1 (4.5)	15.7 (4.4)	73.9 (13.8)	-22.0 (2.5)	84.4 (1.4)
2	17.2 (4.5)	74.8 (11.7)	-24.3 (1.6)	308 (4)	16.4 (5.3)	17.6 (4.6)	74.3 (13.8)	-21.9 (3.3)	83.7 (1.6)
3	18.9 (4.4)	73.6 (14.0)	-23.8 (2.2)	307 (5)	18.5 (5.5)	19.2 (4.7)	73.3 (16.6)	-19.8 (3.9)	83.5 (1.6)
4	17.7 (4.3)	76.3 (11.6)	-22.2 (2.4)	309 (3)	17.4 (5.5)	18.1 (4.6)	76.0 (14.1)	-20.7 (2.1)	83.6 (1.2)
5	18.1 (4.4)	77.6 (8.5)	-21.7 (2.6)	310 (6)	17.7 (5.5)	18.5 (4.6)	76.9 (10.3)	-20.7 (1.4)	83.7 (1.3)
6	17.8 (3.9)	72.2 (14.2)	-21.3 (2.1)	312 (6)	17.3 (4.8)	18.2 (4.0)	71.5 (15.8)	-20.2 (2.5)	84.3 (1.2)
7	20.1 (2.5)	76.7 (6.4)	-22.9 (2.7)	307 (5)	19.8 (3.5)	20.5 (2.8)	76.2 (8.0)	-20.1 (2.7)	83.5 (1.2)
8	20.7 (3.0)	76.6 (10.9)	-22.8 (3.2)	303 (28)	20.1 (3.8)	20.9 (3.1)	76.9 (13.0)	-20.8 (3.2)	82.0 (8.8)
9	19.3 (3.5)	78.8 (9.3)	-22.8 (2.8)	306 (24)	18.6 (4.2)	19.5 (3.6)	79.4 (10.9)	-21.2 (3.6)	
10	17.3 (2.3)	67.9 (11.6)	-23.1 (2.3)	312 (4)	16.5 (2.9)	17.5 (2.4)	68.0 (12.3)	-21.2 (2.1)	84.3 (0.9)
11									
12	18.4 (1.7)	82.2 (2.5)	-24.5 (1.9)	306 (3)	17.5 (2.0)	18.5 (1.7)	82.6 (3.1)	-21.3 (3.2)	82.8 (1.0)
13	17.4 (2.5)	83.2 (3.5)	-23.2 (2.5)	307 (3)	16.6 (3.1)	17.7 (2.6)	83.7 (5.0)	-21.6 (3.5)	82.8 (1.2)
14	17.9 (2.8)	80.4 (8.3)	-22.5 (3.0)	307 (5)	17.3 (3.8)	18.2 (3.0)	81.1 (10.7)	-21.4 (3.8)	82.7 (1.7)
15	17.7 (3.0)	77.6 (9.1)	-23.8 (2.6)	306 (4)	17.4 (4.0)	18.1 (3.2)	77.3 (11.6)	-20.9 (3.1)	82.7 (1.1)
16	15.1 (3.9)	75.3 (10.2)	-23.5 (2.3)	310 (3)	14.6 (4.7)	15.5 (4.0)	74.9 (11.7)	-21.4 (3.4)	
17	17.1 (1.9)	77.3 (6.9)	-24.9 (2.1)	307 (4)	16.3 (2.3)	17.4 (2.0)	76.4 (8.4)	-22.7 (3.6)	
18	16.0 (2.4)	76.2 (6.5)	-22.7 (3.1)	309 (4)	15.2 (2.9)	16.3 (2.5)	75.4 (7.6)	-21.7 (3.3)	
19	12.1 (3.6)	71.8 (11.0)	-24.2 (2.6)	312 (4)	11.1 (4.4)	13.0 (3.8)	69.2 (12.7)	-13.5 (5.7)	
20	15.0 (6.1)	67.3 (16.7)	-23.7 (2.3)	310 (5)	15.8 (5.7)	15.8 (6.0)	66.7 (18.1)	-12.4 (3.1)	38.6 (6.8)
21	19.6 (3.7)	70.7 (5.8)	-22.9 (2.8)	307 (6)	19.0 (4.0)	20.0 (3.6)	69.9 (6.8)	-9.8 (2.4)	42.4 (0.6)
22	21.0 (1.3)	80.1 (2.4)	-23.7 (2.7)	304 (5)	20.3 (1.5)	20.9 (1.3)	80.8 (3.1)	-9.9 (4.2)	65.7 (20.0)
23	23.0 (2.0)	81.1 (5.6)	-24.1 (2.7)	300 (5)		23.0 (2.3)	81.7 (6.8)	-18.2 (5.0)	81.2 (1.9)
24	18.3 (2.8)	73.6 (13.4)	-24.5 (2.2)	306 (4)	18.5 (4.3)	18.6 (3.0)	73.0 (15.8)	-22.0 (3.1)	82.0 (1.2)
25	13.1 (2.6)	73.7 (11.5)	-14.4 (7.6)	225 (54)	14.9 (4.7)	13.7 (2.8)	73.1 (13.6)	-16.5 (7.8)	48.4 (12.9)
26	14.4 (2.7)	70.8 (6.3)	-10.9 (1.9)	187 (2)	15.9 (3.5)	15.1 (2.7)	70.5 (7.0)	-14.1 (2.4)	42.8 (0.7)
27	16.2 (0.9)	84.5 (1.6)	-9.7 (1.5)	185 (1)	16.3 (1.2)	16.7 (1.0)	86.5 (2.8)	-12.0 (2.1)	41.9 (0.3)
28	16.3 (1.3)	75.6 (8.3)	-9.0 (2.1)	184 (2)	16.3 (2.3)	16.8 (1.4)	75.8 (9.4)	-11.5 (2.1)	41.7 (0.4)
29	13.8 (1.1)	78.3 (6.0)	-8.9 (1.4)	185 (1)	12.6 (1.1)	14.3 (1.4)	77.8 (7.3)	-11.1 (2.1)	41.8 (4.6)
30	9.4 (0.6)	81.2 (3.7)	-7.6 (1.4)	163 (26)	12.3 (1.4)	10.3 (1.0)	81.6 (4.2)	-12.1 (1.9)	43.4 (0.3)
Mean	17.0	76.2	-20.6	283	16.6	17.4	76.0	-18.0	68.9
n	29	29	29	29	28	29	29	29	24
SD	2.8	4.2	5.5	49	2.2	2.6	4.8	4.4	19.0
Min	9.4	67.3	-24.9	163	11.1	10.3	66.7	-22.7	38.6
Max	23.0	84.5	-7.6	312	20.3	23.0	86.5	-9.8	84.4

Table E3. Daily means (SD) of environmental parameters at Site NY5B for October, 2009.

Day	Barn 1				Milking center				
	T, °C	RH, %	ΔP, Pa	Airflow, dsm^3	Inlet T, °C	Exhaust T, °C	RH, %	ΔP, Pa	Airflow, dsm^3
1	8.7 (0.8)	82.5 (2.8)	-7.2 (1.6)	138 (1)	11.7 (2.5)	10.1 (0.9)	82.8 (3.4)	-11.9 (2.1)	43.0 (1.1)
2	11.4 (2.0)	79.4 (3.1)	-9.5 (2.0)	135 (2)	13.2 (2.2)	12.4 (1.6)	79.7 (3.2)	-11.6 (2.6)	43.1 (0.6)
3									
4	13.7 (2.5)	76.8 (6.2)	-6.1 (0.9)	136 (2)	14.2 (4.0)	14.6 (2.5)	74.8 (7.0)	-9.1 (1.3)	43.0 (1.4)
5	13.4 (1.3)	75.0 (5.5)	-5.4 (1.4)	125 (15)	12.4 (2.6)	13.6 (1.8)		-9.4 (1.8)	43.2 (0.4)
6	14.2 (2.8)	72.1 (8.5)	-4.6 (1.5)	106 (12)	13.9 (4.7)	14.0 (3.0)		-9.4 (1.7)	42.8 (0.8)
7	13.6 (1.7)	75.9 (3.4)	-3.9 (2.4)	107 (10)	13.0 (1.9)	13.4 (1.8)		-12.0 (2.5)	42.5 (0.6)
8	13.4 (2.6)	72.6 (7.2)	-4.0 (1.1)	104 (4)	13.4 (4.1)	13.8 (2.6)		-8.7 (1.6)	43.1 (0.7)
9	14.5 (0.8)	80.9 (4.7)	-4.4 (0.8)	101 (2)	12.7 (1.0)	14.4 (0.9)		-8.3 (1.1)	42.9 (0.2)
10	11.0 (2.4)	76.0 (10.7)	-3.3 (1.0)	108 (3)	10.5 (4.7)	11.7 (2.8)	74.6 (13.8)	-8.3 (1.4)	
11	9.4 (1.4)	64.9 (10.1)	-3.2 (1.6)	110 (6)	10.2 (4.5)	9.6 (1.9)		-9.9 (1.7)	42.7 (3.5)
12	7.3 (2.8)	72.6 (8.0)	-5.2 (1.2)	103 (5)	6.8 (4.4)	7.4 (2.4)		-8.0 (3.9)	38.1 (8.9)
13	8.8 (1.0)	79.7 (3.9)	-4.7 (1.1)	105 (3)	12.2 (2.8)	9.7 (1.3)		-11.0 (2.1)	42.7 (3.2)
14	5.8 (1.5)	77.5 (5.0)	-4.6 (1.0)	107 (3)	8.2 (3.0)	7.6 (2.0)		-4.8 (2.1)	23.3 (7.1)
15	5.5 (1.9)	71.4 (4.9)	-4.6 (1.1)	114 (19)	8.0 (2.1)	7.0 (1.6)		-3.9 (1.4)	16.7 (3.9)
16	6.4 (1.9)	73.4 (6.8)	-3.8 (0.7)	126 (4)	9.3 (4.4)	8.4 (1.9)		-4.1 (0.9)	19.3 (2.1)
17	8.0 (2.0)	70.6 (8.6)	-3.6 (0.9)	127 (4)	12.3 (3.9)	9.3 (1.9)		-3.8 (0.9)	20.2 (1.8)
18	7.1 (3.0)	72.6 (9.0)	-3.2 (1.1)	130 (5)	13.4 (6.2)	8.8 (3.0)		-3.5 (1.2)	18.9 (3.1)
19	8.5 (4.5)	67.5 (10.3)	-3.2 (0.8)	128 (5)	13.6 (7.0)	10.0 (3.4)		-3.2 (1.4)	18.3 (4.7)
20	13.8 (1.3)	66.4 (6.4)	-3.4 (0.7)	125 (3)	12.6 (2.1)	14.0 (1.7)		-2.9 (1.0)	19.3 (6.6)
21	15.7 (2.2)	73.4 (7.1)	-3.5 (0.7)	123 (3)	14.1 (3.1)	15.6 (2.1)		-2.9 (0.6)	21.4 (0.2)
22	15.8 (3.2)	64.5 (11.4)	-3.4 (1.3)	125 (6)	15.4 (3.0)	15.7 (3.2)		-3.8 (1.3)	20.8 (2.9)
23	10.4 (2.9)	80.6 (2.6)	-5.4 (2.0)	113 (16)	15.0 (3.1)	11.2 (2.6)		-5.4 (2.0)	20.4 (1.2)
24									
25									
26									
27									
28									
29									
30									
31									
Mean	10.7	73.9	-4.6	118	12.1	11.5	78.0	-7.1	31.7
n	22	22	22	22	22	22	4	22	21
SD	3.3	5.1	1.5	12	2.3	2.8	4.0	3.3	11.7
Min	5.5	64.5	-9.5	101	6.8	7.0	74.6	-12.0	16.7
Max	15.8	82.5	-3.2	138	15.4	15.7	82.8	-2.9	43.2

Table E4. PM10 concentrations and emissions

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for October, 2007.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24		19 (11)								
25		21 (26)	22 (13)	61 (154)	133 (335)	115 (290)	19 (48)	41 (46)	216 (240)	28 (31)
26		18 (26)	28 (34)	55 (147)	119 (319)	103 (276)	17 (45)	67 (120)	350 (631)	45 (81)
27		10 (6)	18 (12)	48 (50)	103 (108)	89 (93)	15 (15)	48 (41)	252 (215)	32 (28)
28		11 (6)	23 (18)					65 (57)	341 (300)	44 (39)
29		24 (30)	38 (34)	83 (163)	180 (352)	156 (305)	26 (51)	83 (98)	438 (516)	57 (67)
30		29 (13)	47 (51)	38 (83)	82 (178)	71 (154)	12 (26)	82 (171)	433 (898)	56 (116)
31		37 (20)	53 (48)					112 (166)	590 (874)	76 (113)
Mean		21	33	57	123	107	18	71	374	48
n		8	7	5	5	5	5	7	7	7
SD		8	12	15	33	28	5	22	117	15
Min		10	18	38	82	71	12	41	216	28
Max		37	53	83	180	156	26	112	590	76

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for November, 2007.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1		17 (13)	24 (21)					48 (82)	252 (432)	33 (56)
2		22 (24)	30 (68)	64 (158)	138 (341)	119 (295)	20 (49)	60 (222)	314 (1170)	41 (150)
3		29 (44)	51 (93)	66 (208)	142 (448)	123 (388)	20 (64)	97 (202)	510 (1060)	66 (137)
4		26 (24)	43 (47)	35 (121)	77 (264)	67 (228)	11 (38)	84 (156)	444 (819)	57 (106)
5		55 (67)	85 (155)	124 (251)	273 (549)	236 (476)	39 (78)	196 (522)	1030 (2750)	133 (354)
6		14 (13)	15 (17)					21 (60)	112 (318)	15 (41)
7		14 (10)	16 (17)	31 (35)	67 (77)	58 (67)	10 (11)	30 (44)	156 (229)	20 (30)
8		28 (17)	27 (25)	39 (39)	86 (85)	75 (73)	12 (12)	45 (75)	234 (395)	30 (51)
9		32 (25)	39 (42)	43 (58)	94 (126)	81 (109)	13 (18)	81 (149)	424 (783)	55 (101)
10										
11										
12	19.1 (6.5)	35 (18)	42 (34)					79 (113)	416 (595)	54 (77)
13	13.9 (8.6)	22 (14)	26 (20)					42 (75)	218 (396)	28 (51)
14	62.9 (52.8)	32 (14)	49 (78)	-277 (388)	-602 (844)	-521 (731)	-86 (120)	-51 (360)	-267 (1900)	-34 (244)
15	43.0 (37.7)	16 (12)	21 (21)					-81 (158)	-426 (831)	-55 (107)
16	9.3 (12.7)	16 (14)	20 (20)					22 (59)	118 (312)	15 (40)
17	5.1 (4.2)	21 (9)	22 (13)	35 (22)	76 (47)	66 (41)	11 (7)	44 (37)	232 (194)	30 (25)
18	7.4 (4.2)	24 (12)	26 (18)	37 (28)	80 (60)	69 (52)	12 (9)	46 (47)	241 (246)	31 (32)
19	7.0 (4.3)	22 (14)	43 (56)	32 (31)	68 (65)	59 (57)	10 (10)	109 (162)	575 (855)	74 (110)
20	9.4 (6.5)	20 (10)	28 (22)	34 (42)	73 (90)	64 (78)	11 (13)	61 (81)	323 (428)	42 (55)
21	16.7 (8.4)	22 (10)	26 (14)	38 (61)	81 (131)	70 (113)	12 (19)	33 (47)	173 (246)	22 (32)
22	3.2 (3.1)	12 (7)	15 (12)					33 (35)	173 (183)	22 (24)
23	6.1 (4.2)	20 (14)	26 (29)					32 (48)	169 (251)	22 (32)
24	16.8 (20.2)	25 (14)	41 (62)	19 (48)	41 (104)	36 (90)	6 (15)	56 (131)	296 (692)	38 (89)
25	11.4 (4.2)	30 (19)	34 (21)					58 (59)	306 (308)	40 (40)
26	11.8 (6.5)	22 (14)	21 (17)	23 (29)	49 (62)	43 (54)	7 (9)	30 (53)	159 (281)	21 (36)
27	5.8 (4.4)	16 (9)	17 (16)					28 (49)	148 (257)	19 (33)
28	5.8 (4.3)	22 (21)	27 (28)	38 (48)	81 (104)	71 (90)	12 (15)	45 (59)	235 (309)	30 (40)
29	14.8 (6.2)	29 (13)	30 (18)					43 (58)	225 (306)	29 (39)
30	17.7 (14.6)	47 (46)	52 (48)					78 (120)	413 (633)	53 (82)
Mean	15.1	25	32	24	52	45	7	49	257	33
n	19.0	28	28	16	16	16	16	28	28	28
SD	14.2	10	15	81	177	153	25	47	248	32
Min	3.2	12	15	-277	-602	-521	-86	-81	-426	-55
Max	62.9	55	85	124	273	236	39	196	1030	133

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for December, 2007.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	9.7 (10.1)	24 (13)		37 (58)	77 (121)	66 (104)	11 (18)			
2	9.3 (5.4)	21 (13)	36 (40)	31 (31)	65 (65)	56 (56)	9 (10)			
3	9.1 (9.7)	15 (14)	20 (30)	13 (35)	29 (75)	25 (65)	4 (11)			
4	3.3 (3.1)	17 (10)	21 (28)	34 (25)	72 (53)	62 (46)	10 (8)			
5	4.7 (4.0)	29 (32)	25 (31)	64 (89)	135 (188)	117 (163)	20 (28)			
6	6.2 (4.6)	27 (27)	32 (47)	78 (131)			24 (41)			
7	12.2 (4.3)	27 (12)	63 (82)	68 (47)	144 (99)	125 (86)	21 (15)			
8	15.1 (4.6)	28 (11)	39 (35)	57 (52)	122 (112)	105 (97)	18 (16)			
9	14.4 (4.5)	25 (12)	36 (42)	51 (63)	109 (137)	95 (118)	16 (20)			
10	15.8 (5.8)	27 (11)	30 (30)	41 (48)	88 (103)	76 (89)	13 (15)			
11	11.9 (7.3)	22 (15)	24 (33)	26 (31)	55 (65)	47 (57)	8 (10)			
12	4.7 (3.9)	15 (12)		23 (26)	48 (56)	42 (49)	7 (8)			
13	5.6 (4.1)	22 (14)		44 (41)	92 (88)	80 (76)	14 (13)			
14										
15										
16										
17										
18										
19										
20										
21										
22	9.6 (4.1)	19 (17)	30 (36)	22 (44)	46 (92)	40 (79)	7 (14)	28 (47)	148 (247)	19 (32)
23	5.0 (3.9)	10 (23)	16 (34)	9 (47)	20 (99)	17 (86)	3 (15)	14 (42)	74 (223)	10 (29)
24	8.0 (4.5)	27 (23)	30 (43)	49 (50)	104 (106)	90 (92)	15 (15)	22 (43)	115 (227)	15 (29)
25	11.1 (4.5)	24 (15)	36 (38)	36 (38)	76 (82)	66 (71)	11 (12)	30 (49)	157 (255)	20 (33)
26	18.7 (6.5)	34 (18)	41 (48)	41 (52)	87 (110)	75 (95)	13 (16)	25 (71)	131 (373)	17 (48)
27	14.3 (7.2)	27 (22)	37 (32)	33 (58)	70 (120)	60 (104)	10 (18)	32 (45)	167 (236)	22 (31)
28	13.6 (5.5)	25 (19)	49 (63)	28 (48)	59 (100)	51 (87)	9 (15)	51 (100)	266 (526)	34 (68)
29	8.5 (3.9)	18 (22)	37 (54)	31 (53)	63 (109)	55 (95)	10 (16)	42 (84)	221 (441)	29 (57)
30	13.6 (4.6)	28 (20)	35 (35)	37 (53)	78 (110)	67 (95)	12 (16)	29 (49)	153 (258)	20 (33)
31	12.2 (5.1)	31 (31)	39 (45)	51 (80)	109 (171)	94 (148)	16 (25)	32 (57)	166 (301)	21 (39)
Mean	10.3	24	34	39	79	69	12	30	160	21
n	23	23	20	23	22	22	23	10	10	10
SD	4.1	6	10	17	31	27	5	10	51	7
Min	3.3	10	16	9	20	17	3	14	74	10
Max	18.7	34	63	78	144	125	24	51	266	34

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for January, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	10.4 (5.3)	24 (20)	42 (42)	33 (44)	71 (94)	61 (81)	10 (14)	36 (53)	190 (279)	25 (36)
2	4.2 (3.6)	22 (19)	41 (40)	49 (51)	104 (109)	90 (95)	15 (16)	28 (32)	149 (169)	19 (22)
3	5.6 (5.2)	31 (17)								
4	11.9 (4.9)	33 (13)	53 (31)	50 (31)	106 (65)	92 (56)	16 (10)	35 (26)	185 (137)	24 (18)
5	13.0 (4.0)	30 (12)	51 (34)	40 (28)	85 (60)	73 (52)	12 (9)	42 (39)	219 (207)	28 (27)
6	14.0 (4.3)	27 (12)	34 (20)	30 (30)	65 (64)	56 (55)	9 (9)	32 (32)	167 (167)	22 (22)
7	16.8 (5.1)	23 (6)	28 (11)					33 (38)	174 (200)	22 (26)
8	13.7 (5.0)	21 (7)	25 (11)	59 (76)	128 (165)	110 (143)	18 (24)	39 (42)	205 (223)	26 (29)
9	7.1 (5.4)	19 (13)	22 (18)					49 (64)	256 (335)	33 (43)
10	12.7 (5.5)	28 (14)	31 (25)	45 (40)	97 (86)	84 (74)	14 (12)	51 (72)	269 (378)	35 (49)
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26	13.9 (3.3)	29 (11)	49 (26)	38 (28)	80 (58)	69 (50)	12 (9)	34 (26)	179 (135)	23 (17)
27	25.8 (5.6)	43 (9)	60 (25)	43 (25)	90 (52)	78 (45)	13 (8)	38 (29)	200 (153)	26 (20)
28	33.4 (4.3)	44 (14)	56 (26)	28 (37)	57 (76)	50 (66)	9 (11)	26 (32)	137 (168)	18 (22)
29	17.5 (5.4)	29 (12)	37 (23)	27 (32)	56 (68)	48 (59)	8 (10)	29 (37)	152 (194)	20 (25)
30	12.2 (3.2)	22 (11)	38 (61)	23 (23)	48 (47)	41 (41)	7 (7)	23 (54)	123 (283)	16 (37)
31	15.4 (3.5)	32 (16)	49 (36)	44 (44)	90 (90)	78 (78)	14 (14)	33 (35)	172 (185)	22 (24)
Mean	14.2	29	41	39	83	72	12	35	185	24
n	16	16	15	13	13	13	13	15	15	15
SD	7.0	7	11	10	22	19	3	7	39	5
Min	4.2	19	22	23	48	41	7	23	123	16
Max	33.4	44	60	59	128	110	18	51	269	35

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for February, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	8.8 (6.1)	17 (13)	33 (47)	22 (32)	44 (65)	38 (56)	7 (10)	24 (41)	126 (217)	16 (28)
2	11.9 (4.3)	23 (10)	30 (26)	28 (23)	56 (47)	48 (40)	9 (7)	22 (32)	118 (169)	15 (22)
3	23.6 (4.7)	39 (13)	54 (38)	39 (31)	80 (62)	69 (54)	12 (10)	37 (45)	196 (236)	25 (30)
4	26.9 (4.3)	37 (12)	51 (44)	25 (29)	51 (59)	44 (51)	8 (9)	34 (59)	180 (311)	23 (40)
5	15.3 (7.7)	24 (12)	29 (24)	26 (27)	53 (55)	46 (47)	8 (8)	23 (39)	120 (206)	16 (27)
6	8.9 (7.3)	20 (27)	31 (83)	29 (65)	57 (130)	50 (113)	9 (20)	32 (124)	167 (654)	22 (84)
7	6.2 (3.3)	21 (16)	44 (53)	43 (43)	87 (88)	75 (76)	13 (13)	37 (53)	194 (277)	25 (36)
8	11.2 (2.8)	26 (10)	60 (143)	36 (27)	73 (53)	63 (46)	11 (8)	57 (138)	297 (728)	38 (94)
9	13.9 (4.5)	23 (8)	38 (18)	23 (22)	45 (44)	39 (38)	7 (7)	36 (30)	191 (157)	25 (20)
10	9.8 (4.6)	22 (14)	78 (131)	24 (28)	48 (58)	42 (50)	7 (9)	48 (78)	251 (413)	32 (53)
11	6.5 (2.8)	27 (16)		45 (34)	93 (69)	80 (59)	14 (10)			
12	9.9 (3.7)	26 (16)	63 (63)	36 (38)	73 (77)	63 (67)	11 (12)			
13	11.1 (5.8)									
14										
15										
16										
17										
18										
19										
20										
21										
22	14.4 (5.6)	34 (19)	63 (67)	44 (43)	90 (88)	78 (76)	14 (13)	48 (66)	251 (347)	32 (45)
23	16.3 (6.7)	30 (22)	66 (62)	37 (53)	73 (107)	64 (93)	11 (17)	49 (75)	258 (392)	33 (51)
24	19.4 (5.9)	32 (21)	57 (58)	29 (46)	60 (96)	52 (83)	9 (14)	44 (81)	231 (426)	30 (55)
25	31.7 (6.3)	49 (27)	57 (54)	41 (60)	88 (128)	76 (111)	13 (19)	35 (87)	183 (460)	24 (59)
26	31.3 (11.4)	38 (20)	49 (47)	15 (43)	31 (91)	27 (78)	5 (13)	23 (62)	119 (326)	15 (42)
27	6.1 (3.8)	14 (25)	87 (125)	22 (49)	46 (103)	40 (89)	7 (15)	63 (100)	330 (526)	43 (68)
28	9.6 (8.4)	27 (29)	64 (56)	44 (65)	92 (135)	80 (117)	14 (20)	41 (44)	216 (229)	28 (30)
29	13.4 (5.4)	35 (14)	46 (28)					26 (25)	139 (132)	18 (17)
Mean	14.6	28	52	32	65	57	10	38	198	26
n	21	20	19	19	19	19	19	18	18	18
SD	7.6	8	16	9	19	16	3	12	61	8
Min	6.1	14	29	15	31	27	5	22	118	15
Max	31.7	49	87	45	93	80	14	63	330	43

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for March, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	13.7 (4.0)	27 (7)	46 (19)	29 (18)	60 (38)	52 (33)	9 (6)	36 (23)	189 (120)	24 (16)
2	10.1 (3.3)	26 (11)	47 (23)	36 (30)	78 (64)	67 (56)	11 (9)	46 (31)	242 (162)	31 (21)
3	18.2 (6.9)	27 (10)	41 (22)	45 (52)	97 (113)	84 (98)	14 (16)			
4	8.0 (5.9)	17 (9)	29 (20)	45 (50)	97 (108)	84 (94)	14 (16)	31 (30)	163 (158)	21 (20)
5	6.1 (3.4)	15 (10)	29 (68)	41 (45)	87 (98)	75 (85)	13 (14)	24 (67)	124 (353)	16 (46)
6	15.9 (8.4)	31 (12)	42 (27)	71 (64)	153 (138)	132 (119)	22 (20)	35 (34)	182 (179)	24 (23)
7	22.9 (9.8)	33 (15)	51 (30)	48 (48)	102 (102)	88 (88)	15 (15)	37 (39)	192 (207)	25 (27)
8	7.1 (4.7)	15 (9)	33 (72)	34 (40)	70 (83)	61 (72)	11 (12)	32 (89)	166 (468)	21 (60)
9	5.8 (2.9)	19 (8)	43 (41)	34 (18)	72 (39)	62 (34)	11 (6)	24 (26)	125 (137)	16 (18)
10	16.3 (3.5)	36 (18)	50 (38)	53 (48)	114 (103)	99 (89)	16 (15)	37 (45)	195 (236)	25 (30)
11	24.2 (13.6)	34 (19)	66 (56)					53 (61)	277 (322)	36 (42)
12	18.1 (9.2)	24 (12)	48 (31)	30 (50)	65 (108)	56 (93)	9 (16)	35 (38)	182 (198)	24 (26)
13	18.1 (9.1)	30 (14)	48 (32)					37 (37)	192 (194)	25 (25)
14	25.4 (12.0)	28 (15)	46 (33)	10 (39)	21 (84)	18 (72)	3 (12)	35 (52)	183 (275)	24 (35)
15	16.3 (6.0)	25 (12)	42 (27)	40 (49)	85 (103)	73 (89)	12 (15)	41 (42)	216 (220)	28 (28)
16	8.9 (5.7)	17 (8)	36 (29)	39 (41)	85 (89)	73 (77)	12 (13)	37 (41)	194 (216)	25 (28)
17	7.4 (4.7)		71 (120)					86 (201)	454 (1060)	59 (136)
18	12.1 (2.7)		80 (89)					102 (147)	536 (776)	69 (100)
19	9.9 (6.7)		38 (36)					42 (55)	223 (291)	29 (38)
20	6.5 (3.8)	16 (29)	30 (28)	46 (153)	100 (335)	86 (290)	14 (47)	28 (35)	146 (185)	19 (24)
21	5.7 (2.5)	15 (8)	33 (29)	39 (36)	84 (76)	73 (66)	12 (11)	26 (30)	135 (156)	18 (20)
22	6.9 (3.3)	24 (19)	52 (49)	85 (106)	181 (227)	157 (196)	26 (33)	51 (58)	266 (305)	34 (39)
23	6.5 (3.2)	25 (24)	58 (59)	89 (131)	191 (281)	165 (243)	28 (41)	60 (70)	315 (369)	41 (48)
24	11.5 (10.1)	39 (41)	103 (139)	131 (212)	283 (456)	245 (395)	41 (66)	96 (141)	505 (740)	65 (95)
25	23.9 (14.2)	65 (68)	140 (165)	171 (273)	370 (590)	320 (510)	53 (85)	141 (190)	744 (999)	96 (129)
26	13.8 (3.6)	24 (10)	46 (37)	52 (52)	111 (111)	96 (96)	16 (16)	52 (58)	271 (304)	35 (39)
27	12.9 (4.5)	38 (26)	57 (54)	129 (137)	274 (291)	238 (252)	40 (42)	62 (73)	325 (383)	42 (49)
28	7.4 (4.3)	19 (13)	34 (34)	53 (57)	112 (121)	97 (105)	16 (18)	32 (41)	170 (216)	22 (28)
29	6.9 (2.7)	19 (12)	44 (49)	62 (66)	129 (139)	112 (121)	19 (21)	44 (72)	233 (380)	30 (49)
30	9.9 (6.6)	29 (27)	53 (72)	84 (125)	178 (265)	154 (230)	26 (39)	60 (107)	318 (563)	41 (73)
31	9.2 (4.9)	24 (24)	49 (54)	68 (112)	146 (240)	126 (208)	21 (35)	69 (94)	361 (492)	47 (64)
Mean	12.4	26	51	60	129	111	19	50	261	34
n	31	28	31	26	26	26	26	30	30	30
SD	5.9	10	22	36	77	67	11	26	137	18
Min	5.7	15	29	10	21	18	3	24	124	16
Max	25.4	65	140	171	370	320	53	141	744	96

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for April, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	7.7 (3.9)	19 (23)	26 (27)							
2		24 (16)	46 (48)							
3		60 (51)	109 (148)							
4										
5										
6										
7										
8										
9										
10										
11										
12	9.0 (4.3)	13 (13)	25 (59)					29 (105)	152 (551)	20 (71)
13	4.3 (2.9)	12 (14)	35 (59)					52 (99)	274 (521)	35 (67)
14	21.3 (31.5)	37 (75)								
15	17.2 (10.7)	52 (62)								
16	70.8 (104.0)	203 (273)								
17	64.3 (64.6)	189 (255)	149 (186)	1890 (3030)	4050 (6500)	3500 (5630)	584 (939)	268 (619)	1410 (3260)	182 (420)
18	72.1 (53.6)	170 (185)	132 (144)	2080 (3590)	4370 (7570)	3780 (6550)	643 (1110)	186 (431)	977 (2270)	126 (292)
19	88.0 (44.1)		155 (209)					306 (829)	1610 (4360)	208 (562)
20	76.4 (47.7)		121 (128)					274 (796)	1440 (4190)	186 (540)
21										
22	93.0 (114.0)	172 (270)	141 (274)	1600 (6690)	3360 (14100)	2910 (12200)	495 (2070)	275 (1600)	1450 (8420)	187 (1090)
23	42.6 (21.9)	108 (152)	88 (93)	1550 (3250)	3270 (6830)	2830 (5910)	480 (1000)	279 (517)	1470 (2720)	189 (351)
24	21.3 (13.1)	36 (40)	38 (31)	287 (631)	602 (1320)	521 (1140)	89 (195)	103 (178)	544 (939)	70 (121)
25	41.1 (38.6)	83 (152)	62 (84)	902 (2260)	1880 (4720)	1630 (4090)	279 (701)	139 (503)	732 (2650)	94 (341)
26	43.2 (25.0)	104 (119)	66 (68)	1620 (2840)	3340 (5870)	2890 (5080)	500 (881)	138 (339)	726 (1780)	94 (230)
27	16.7 (4.2)	21 (8)	25 (18)	91 (142)	191 (299)	165 (259)	28 (44)	52 (110)	274 (581)	35 (75)
28	8.2 (8.0)	13 (9)	27 (29)					80 (117)	421 (614)	54 (79)
29	8.9 (8.9)	15 (7)	29 (26)					62 (83)	326 (438)	42 (57)
30	12.7 (5.2)	29 (23)	51 (65)					109 (185)	573 (975)	74 (126)
Mean	37.8	72	74	1250	2630	2280	387	157	825	106
n	19.0	19	18	8	8	8	8	15	15	15
SD	29.6	65	47	692	1460	1270	214	96	503	65
Min	4.3	12	25	91	191	165	28	29	152	20
Max	93.0	203	155	2080	4370	3780	643	306	1610	208

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for May, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	46.7 (33.5)	166 (202)	100 (109)	1040 (1850)	2230 (3960)	1930 (3430)	322 (572)	163 (297)	857 (1560)	110 (201)
2	35.2 (18.4)	94 (120)	49 (29)	660 (1280)	1400 (2720)	1210 (2360)	204 (397)	45 (78)	235 (411)	30 (53)
3	22.8 (5.3)	27 (10)	33 (24)	41 (102)	87 (216)	75 (187)	13 (32)	32 (69)	170 (363)	22 (47)
4	8.0 (3.9)	11 (8)	26 (20)					57 (60)	301 (317)	39 (41)
5	28.3 (19.8)	109 (131)	69 (61)	960 (1630)	2080 (3540)	1800 (3070)	297 (506)	123 (158)	649 (829)	84 (107)
6	43.8 (24.7)	166 (179)	113 (94)	1270 (2040)	2750 (4420)	2380 (3820)	394 (633)	207 (231)	1090 (1210)	140 (156)
7	33.3 (15.9)	74 (84)	65 (59)	515 (963)	1110 (2070)	960 (1800)	159 (298)	97 (162)	509 (855)	66 (110)
8	14.4 (6.9)	22 (9)	43 (28)					90 (86)	473 (451)	61 (58)
9	10.3 (3.8)	21 (17)	28 (27)	110 (191)	237 (411)	205 (356)	34 (59)	56 (87)	294 (457)	38 (59)
10	14.1 (4.7)	38 (45)	46 (41)	175 (321)	380 (697)	329 (603)	54 (99)	99 (126)	519 (665)	67 (86)
11	23.3 (15.7)	85 (114)	60 (150)	687 (1220)	1530 (2710)	1320 (2350)	213 (377)	87 (382)	460 (2010)	59 (259)
12	19.8 (10.4)	60 (84)	63 (109)	392 (823)	880 (1850)	761 (1600)	121 (255)	135 (332)	712 (1750)	92 (225)
13	20.9 (8.4)	52 (58)	61 (50)	310 (594)	689 (1320)	596 (1140)	96 (184)	123 (155)	647 (818)	83 (105)
14	34.4 (24.6)	111 (152)	79 (107)	1040 (2040)	2300 (4500)	1990 (3900)	322 (631)	202 (525)	1060 (2760)	137 (356)
15	12.1 (4.9)	20 (16)	31 (24)					64 (88)	339 (462)	44 (60)
16	11.3 (3.0)	17 (17)	24 (26)	51 (146)	112 (320)	97 (277)	16 (45)	41 (82)	217 (433)	28 (56)
17	13.9 (4.0)	21 (13)	29 (27)	72 (119)	156 (259)	135 (224)	22 (37)	47 (85)	244 (448)	32 (58)
18	7.7 (4.6)	12 (11)	21 (27)	41 (92)	91 (202)	78 (174)	13 (29)	43 (87)	228 (460)	29 (59)
19	7.3 (3.8)	16 (19)	24 (30)					53 (94)	276 (494)	36 (64)
20	15.5 (4.6)	30 (22)	49 (46)	103 (166)	231 (373)	200 (323)	32 (51)	104 (138)	546 (728)	70 (94)
21	11.7 (7.8)	22 (19)	56 (55)					139 (169)	734 (892)	95 (115)
22	6.0 (3.9)	14 (7)	32 (23)					83 (76)	435 (400)	56 (52)
23	5.8 (3.9)	13 (6)	30 (27)					75 (86)	395 (455)	51 (59)
24	10.5 (4.0)	20 (12)	39 (54)	80 (95)	177 (212)	153 (183)	25 (30)	92 (166)	483 (876)	62 (113)
25	32.6 (50.7)	36 (50)	56 (65)	-46 (1040)	-106 (2350)	-92 (2030)	-14 (322)	74 (209)	388 (1100)	50 (142)
26	30.0 (12.1)	67 (82)	98 (183)	483 (1110)	1100 (2540)	956 (2200)	149 (344)	279 (686)	1470 (3610)	189 (465)
27	19.6 (8.6)	38 (50)	62 (84)					268 (552)	1410 (2910)	182 (375)
28	19.1 (11.5)	60 (93)	104 (311)	353 (789)	793 (1780)	686 (1540)	109 (244)	293 (981)	1540 (5160)	198 (666)
29	40.4 (23.2)	100 (118)	128 (145)					371 (659)	1960 (3470)	252 (447)
30	40.0 (19.1)	106 (129)	78 (78)	1360 (2590)	3000 (5710)	2590 (4940)	421 (802)	228 (478)	1200 (2520)	155 (324)
31										
Mean	21.3	54	57	462	1010	875	143	126	661	85
n	30	30	30	21	21	21	21	30	30	30
SD	12.1	44	29	432	942	816	134	86	455	59
Min	5.8	11	21	-46	-106	-92	-14	32	170	22
Max	46.7	166	128	1360	3000	2590	421	371	1960	252

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for June, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	10.9 (4.9)	12 (5)	22 (12)	29 (104)	64 (230)	56 (199)	9 (32)	70 (79)	366 (418)	47 (54)
2	15.2 (5.0)	23 (16)	44 (114)	187 (393)	419 (882)	363 (764)	58 (122)	115 (219)	604 (1150)	78 (148)
3	29.1 (10.3)	42 (33)	45 (31)	322 (875)	718 (1950)	622 (1690)	100 (271)	96 (191)	506 (1010)	65 (130)
4	28.3 (6.3)	40 (29)	38 (25)	322 (781)	715 (1740)	619 (1500)	100 (242)	58 (153)	307 (804)	40 (104)
5	27.2 (8.9)	58 (47)	36 (20)	814 (1200)	1810 (2670)	1570 (2310)	252 (371)	57 (121)	299 (638)	39 (82)
6	33.6 (7.8)	42 (20)	50 (48)	223 (547)	493 (1210)	426 (1050)	69 (169)	104 (313)	547 (1650)	70 (213)
7	30.5 (6.8)	50 (36)	56 (29)	514 (925)	1140 (2040)	984 (1770)	159 (287)	154 (166)	810 (873)	104 (113)
8	28.4 (6.4)	39 (20)	49 (35)	270 (515)	605 (1150)	524 (999)	84 (160)	133 (224)	699 (1180)	90 (152)
9	32.4 (15.3)	55 (40)	73 (57)	593 (999)	1350 (2270)	1170 (1970)	184 (309)	237 (319)	1240 (1680)	160 (216)
10	27.5 (13.4)	44 (50)	46 (53)	434 (1130)	986 (2570)	853 (2220)	134 (350)	116 (307)	613 (1620)	79 (208)
11	16.2 (5.8)	23 (16)	37 (27)	187 (411)	422 (926)	365 (802)	58 (127)	125 (158)	660 (831)	85 (107)
12	18.5 (6.6)	33 (35)	34 (28)	356 (872)	795 (1950)	688 (1690)	110 (270)	92 (163)	483 (861)	62 (111)
13	44.6 (19.5)	61 (49)	83 (74)	466 (1110)	1030 (2450)	890 (2120)	144 (343)	227 (419)	1190 (2210)	154 (284)
14	33.4 (18.0)	41 (29)	51 (31)	167 (638)	366 (1400)	317 (1210)	52 (198)	109 (154)	575 (808)	74 (104)
15	21.4 (4.8)	28 (22)	44 (38)	146 (505)	320 (1110)	277 (960)	45 (156)	135 (223)	710 (1180)	92 (152)
16	14.2 (3.7)	22 (21)	26 (27)	201 (541)	442 (1190)	383 (1030)	62 (168)	75 (168)	394 (883)	51 (114)
17	7.9 (4.8)	12 (9)	23 (20)	93 (210)	204 (461)	177 (399)	29 (65)	71 (86)	374 (450)	48 (58)
18	5.3 (4.0)	14 (10)	28 (20)	163 (183)	358 (402)	310 (348)	51 (57)	75 (70)	396 (366)	51 (47)
19										
20										
21	21.1 (9.5)	27 (19)	41 (70)					56 (129)	294 (681)	38 (88)
22	18.2 (5.9)	23 (6)	40 (60)	123 (211)	270 (464)	234 (402)	38 (65)	127 (300)	670 (1580)	86 (204)
23	16.4 (3.6)	27 (21)	37 (83)	263 (561)	580 (1240)	502 (1070)	82 (174)	109 (168)	572 (883)	74 (114)
24										
25										
26										
27										
28										
29										
30										
Mean	22.9	34	43	294	654	566	91	111	587	76
n	21	21	21	20	20	20	20	21	21	21
SD	9.6	14	15	187	418	362	58	48	251	32
Min	5.3	12	22	29	64	56	9	56	294	38
Max	44.6	61	83	814	1810	1570	252	237	1240	160

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for July, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11	16.8 (6.0)	29 (38)	29 (22)	318 (974)	662 (2020)	573 (1750)	99 (301)	82 (133)	429 (698)	55 (90)
12	30.4 (10.9)	39 (19)	47 (20)	222 (403)	468 (848)	405 (733)	69 (125)	106 (100)	560 (529)	72 (68)
13	29.5 (20.3)	29 (23)	40 (33)	-11 (281)	-23 (600)	-20 (519)	-3 (87)	70 (145)	366 (765)	47 (99)
14	15.7 (5.6)	23 (15)	43 (40)	174 (393)	368 (833)	318 (720)	54 (122)	183 (275)	963 (1450)	124 (187)
15	15.1 (8.1)	30 (35)	35 (28)	380 (921)	796 (1920)	689 (1660)	118 (285)	125 (176)	657 (928)	85 (120)
16	24.6 (10.1)	46 (51)	61 (53)	550 (1280)	1140 (2640)	984 (2280)	170 (395)	223 (307)	1180 (1620)	152 (209)
17										
18	53.3 (26.5)		63 (29)					75 (158)	392 (831)	51 (107)
19	41.7 (13.6)		75 (62)					204 (349)	1070 (1830)	138 (236)
20	29.1 (10.4)		39 (18)					64 (96)	337 (504)	44 (65)
21	17.5 (6.1)		28 (16)					70 (105)	370 (553)	48 (71)
22	16.6 (5.7)	21 (15)	27 (15)	112 (401)			35 (124)	70 (102)	370 (539)	48 (69)
23	15.7 (7.4)	19 (10)	23 (11)	75 (296)	158 (627)	137 (542)	23 (92)	47 (75)	249 (394)	32 (51)
24										
25										
26										
27										
28										
29										
30										
31										
Mean	25.5	29	43	228	510	441	71	110	578	75
n	12	8	12	8	7	7	8	12	12	12
SD	11.6	9	16	170	364	315	53	58	304	39
Min	15.1	19	23	-11	-23	-20	-3	47	249	32
Max	53.3	46	75	550	1140	984	170	223	1180	152

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for August, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
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11										
12										
13										
14										
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17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28	28.4 (16.5)	12 (6)	65 (81)	-410 (426)	-867 (900)	-750 (779)	-127 (132)	231 (480)	1220 (2520)	157 (325)
29	15.1 (7.6)	25 (24)	31 (19)	278 (588)	588 (1240)	509 (1080)	86 (182)	99 (135)	520 (711)	67 (92)
30	17.0 (7.5)	26 (9)	48 (139)	217 (196)	458 (414)	397 (358)	67 (61)	197 (890)	1040 (4680)	134 (603)
31	17.6 (8.8)	24 (13)	41 (29)	142 (265)	310 (576)	268 (499)	44 (82)	151 (188)	797 (991)	103 (128)
Mean	19.5	22	46	57	122	106	18	170	892	115
n	4	4	4	4	4	4	4	4	4	4
SD	5.2	6	13	274	579	501	85	50	261	34
Min	15.1	12	31	-410	-867	-750	-127	99	520	67
Max	28.4	26	65	278	588	509	86	231	1220	157

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for September, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	17.7 (6.8)	29 (50)	46 (42)	283 (1310)	615 (2840)	532 (2450)	88 (405)	179 (263)	942 (1380)	121 (178)
2		49 (49)	57 (68)							
3			81 (90)							
4										
5										
6										
7			19 (13)							
8			37 (84)							
9			34 (35)							
10			21 (16)							
11			44 (42)							
12										
13			25 (16)							
14			36 (22)							
15		26 (27)	33 (39)							
16		26 (20)	37 (72)							
17	21.7 (11.9)	51 (48)	112 (266)	663 (1050)	1440 (2280)	1240 (1980)	205 (327)	169 (254)	889 (1340)	115 (172)
18	14.3 (9.6)	51 (71)	44 (94)	763 (1480)	1650 (3200)	1430 (2770)	236 (458)	85 (266)	446 (1400)	58 (181)
19	21.4 (19.1)	48 (54)	66 (138)	571 (1150)	1220 (2450)	1060 (2120)	177 (355)	131 (420)	690 (2210)	89 (285)
20	29.1 (15.7)	52 (66)	54 (59)	483 (1600)	1030 (3400)	887 (2950)	150 (496)	100 (256)	524 (1350)	68 (174)
21	23.0 (13.1)		39 (60)	135 (445)	285 (937)	246 (811)	42 (138)	107 (386)	561 (2030)	72 (262)
22	14.5 (8.2)		37 (62)	270 (1230)	566 (2570)	490 (2230)	84 (380)	138 (366)	727 (1930)	94 (248)
23	29.4 (40.1)		73 (122)	357 (862)	747 (1800)	646 (1560)	111 (267)	175 (376)	921 (1980)	119 (255)
24	31.5 (26.1)		62 (88)	279 (951)	583 (1990)	505 (1720)	87 (295)	179 (495)	942 (2600)	121 (336)
25	37.6 (25.4)		76 (87)					228 (477)	1200 (2510)	155 (324)
26	17.9 (20.5)		43 (105)					160 (641)	841 (3370)	108 (435)
27	5.6 (4.4)		12 (7)					40 (53)	211 (278)	27 (36)
28	8.4 (5.2)		13 (7)					32 (51)	168 (268)	22 (35)
29	9.3 (4.5)		36 (121)					51 (65)	268 (342)	35 (44)
30	17.1 (8.1)		28 (14)					36 (41)	189 (217)	24 (28)
Mean	19.9	41	45	423	903	782	131	121	635	82
n	15.0	8	26	9	9	9	9	15	15	15
SD	8.8	11	23	197	430	372	61	60	316	41
Min	5.6	26	12	135	285	246	42	32	168	22
Max	37.6	52	112	763	1650	1430	236	228	1200	155

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for October, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	9.2 (5.7)		22 (15)					43 (52)	225 (271)	29 (35)
2	4.5 (3.8)		23 (16)					62 (55)	324 (287)	42 (37)
3	4.2 (3.6)	11 (7)	25 (21)					67 (67)	351 (354)	45 (46)
4	6.3 (5.4)	15 (17)	28 (25)	79 (182)	164 (381)	142 (330)	24 (56)	72 (82)	377 (430)	49 (55)
5	8.4 (5.7)	17 (19)	33 (34)	65 (151)	137 (314)	118 (272)	20 (47)	83 (114)	434 (602)	56 (78)
6	7.0 (4.9)	32 (113)	30 (39)	145 (748)	303 (1560)	262 (1350)	45 (231)	74 (127)	391 (669)	50 (86)
7	12.3 (8.8)	22 (36)	35 (32)	115 (466)	240 (974)	208 (843)	36 (144)	69 (100)	364 (529)	47 (68)
8	54.4 (76.1)	47 (45)	69 (76)	-135 (702)	-282 (1470)	-244 (1270)	-42 (217)	49 (194)	260 (1020)	34 (132)
9	13.5 (5.9)	21 (10)	31 (25)	120 (163)	252 (341)	218 (295)	37 (50)	57 (84)	299 (441)	39 (57)
10	19.1 (8.2)	56 (54)	65 (56)	486 (784)	1020 (1650)	882 (1420)	150 (243)	138 (153)	726 (807)	94 (104)
11	19.8 (13.6)	61 (91)	57 (63)	475 (1000)	990 (2090)	857 (1810)	147 (309)	113 (169)	594 (892)	77 (115)
12	21.5 (16.9)	42 (46)	55 (62)	247 (557)	526 (1180)	455 (1020)	77 (172)	103 (178)	542 (937)	70 (121)
13	43.5 (23.3)	71 (61)	88 (86)	377 (700)	829 (1540)	718 (1330)	117 (217)	183 (350)	965 (1840)	124 (237)
14	31.0 (19.4)	49 (55)	64 (83)	254 (734)	555 (1600)	481 (1390)	79 (227)	199 (473)	1050 (2490)	135 (321)
15	24.1 (23.2)	59 (80)	88 (184)	482 (1030)	1050 (2250)	906 (1940)	149 (320)	196 (482)	1030 (2540)	133 (327)
16	9.3 (8.0)	14 (11)	21 (26)					39 (88)	206 (463)	27 (60)
17	5.0 (4.5)	14 (10)	25 (31)	76 (82)	164 (177)	142 (153)	23 (25)	67 (100)	354 (528)	46 (68)
18	6.7 (4.2)	16 (10)	38 (53)	79 (85)	169 (183)	146 (158)	24 (26)	85 (146)	448 (769)	58 (99)
19	9.2 (6.0)	20 (20)	40 (55)	88 (163)	192 (356)	166 (308)	27 (50)	83 (155)	436 (815)	56 (105)
20	22.7 (13.9)	81 (108)	75 (88)	408 (723)	914 (1620)	791 (1400)	126 (224)	142 (234)	750 (1230)	97 (159)
21	6.5 (6.9)	13 (10)	39 (111)					101 (349)	533 (1840)	69 (237)
22	3.8 (3.3)	13 (8)	20 (24)	55 (45)	119 (98)	103 (85)	17 (14)	48 (74)	252 (392)	33 (51)
23	8.5 (5.9)	17 (9)	24 (28)	46 (57)	100 (125)	87 (108)	14 (18)	48 (89)	250 (467)	32 (60)
24	11.5 (5.6)	20 (10)	33 (35)	43 (53)	93 (114)	80 (98)	13 (17)	68 (116)	359 (608)	46 (78)
25	6.6 (5.8)	9 (10)	20 (30)	19 (52)	40 (110)	35 (95)	6 (16)	46 (96)	240 (508)	31 (65)
26	9.2 (4.7)	16 (8)	26 (33)	37 (49)	80 (107)	69 (92)	12 (15)	57 (113)	301 (592)	39 (76)
27	9.9 (5.1)	40 (154)								
28	2.6 (3.2)	9 (9)								
29	3.2 (3.1)	10 (5)		33 (31)	73 (67)	63 (58)	10 (9)			
30	6.6 (5.4)	16 (9)		52 (48)	113 (104)	98 (90)	16 (15)			
31										
Mean	13.3	29	41	159	341	295	49	88	464	60
n	30	28	26	23	23	23	23	26	26	26
SD	11.8	21	21	169	364	315	52	46	242	31
Min	2.6	9	20	-135	-282	-244	-42	39	206	27
Max	54.4	81	88	486	1050	906	150	199	1050	135

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for November, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	11.4 (7.8)	23 (14)								
2	10.3 (10.1)	39 (61)		89 (164)	191 (351)	165 (304)	28 (51)			
3	24.6 (8.5)	35 (15)		63 (102)	137 (220)	118 (190)	20 (32)			
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
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22										
23										
24										
25	6.6 (3.5)	21 (15)	33 (20)	74 (90)	164 (199)	142 (172)	23 (28)			
26	5.6 (5.0)	16 (5)	36 (31)	54 (34)	119 (75)	103 (65)	17 (11)	39 (43)	206 (224)	27 (29)
27	8.8 (5.9)	19 (7)	34 (25)	55 (32)	121 (70)	104 (60)	17 (10)	34 (33)	179 (171)	23 (22)
28	10.6 (8.5)	20 (9)	44 (29)	47 (46)	102 (101)	89 (88)	15 (14)	46 (41)	242 (214)	31 (28)
29	5.2 (3.9)	15 (7)	29 (28)	50 (37)	110 (80)	95 (69)	16 (11)	32 (37)	168 (195)	22 (25)
30	5.9 (4.4)	12 (8)	27 (29)	34 (39)	74 (86)	64 (74)	10 (12)	25 (35)	133 (185)	17 (24)
Mean	9.9	22	34	58	127	110	18	35	186	24
n	9.0	9	6	8	8	8	8	5	5	5
SD	5.7	9	5	16	34	30	5	7	37	5
Min	5.2	12	27	34	74	64	10	25	133	17
Max	24.6	39	44	89	191	165	28	46	242	31

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for December, 2008.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	5.0 (3.5)	16 (9)	36 (49)					48 (83)	253 (435)	33 (56)
2	4.1 (3.3)	14 (6)	31 (52)	51 (37)	115 (82)	99 (71)	16 (11)	36 (74)	187 (391)	24 (50)
3	11.3 (4.6)	21 (8)	59 (71)	59 (49)	132 (110)	114 (95)	18 (15)	60 (94)	317 (493)	41 (64)
4	6.7 (5.2)	17 (9)	43 (50)					48 (61)	251 (319)	32 (41)
5	8.7 (4.8)	28 (20)	75 (148)					66 (146)	345 (767)	44 (99)
6	15.5 (7.3)	34 (19)	85 (93)	48 (45)	106 (100)	92 (86)	15 (14)			
7	14.1 (10.1)	21 (8)	39 (37)	20 (32)	46 (73)	39 (63)	6 (10)	20 (33)	105 (175)	14 (23)
8	6.2 (5.0)	53 (128)	71 (94)	134 (368)	308 (846)	267 (732)	42 (114)	60 (90)	317 (475)	41 (61)
9	11.9 (5.9)	22 (8)	45 (38)	23 (24)	53 (56)	46 (48)	7 (8)			
10	7.2 (4.7)	15 (10)	47 (74)					59 (122)	312 (640)	40 (83)
11	14.2 (9.6)	25 (14)	46 (39)	31 (44)	70 (101)	61 (87)	10 (14)	35 (49)	186 (256)	24 (33)
12	6.0 (5.2)	16 (9)	33 (38)					33 (48)	175 (252)	23 (33)
13	4.6 (3.7)	21 (22)	52 (61)	47 (65)	105 (146)	91 (127)	14 (20)	47 (61)	248 (323)	32 (42)
14	10.3 (4.3)	19 (7)	44 (38)	21 (17)	46 (38)	40 (33)	6 (5)	38 (46)	202 (243)	26 (31)
15	9.9 (5.9)	13 (10)	31 (40)							
16	10.4 (4.8)	21 (13)		38 (45)	84 (100)	72 (86)	12 (14)			
17	6.3 (5.1)	15 (10)								
18	47.8 (78.5)	30 (15)	50 (29)					-2 (112)	-10 (588)	-1 (76)
19	24.4 (11.0)	20 (14)	33 (23)	-13 (47)	-28 (102)	-25 (88)	-4 (15)	8 (25)	41 (132)	5 (17)
20		25 (14)	40 (22)							
21	18.8 (21.1)	16 (9)	28 (22)	-12 (60)	-26 (128)	-22 (111)	-4 (19)			
22		22 (37)	43 (116)							
23	4.7 (3.8)	22 (9)	60 (62)	47 (26)	102 (57)	89 (49)	15 (8)	50 (61)	262 (319)	34 (41)
24	4.0 (4.0)	13 (8)	34 (33)	20 (17)	45 (38)	39 (33)	6 (5)			
25	4.3 (3.6)	19 (7)	33 (30)					37 (38)	197 (198)	25 (26)
26	7.1 (3.9)	23 (9)	46 (36)	46 (29)	97 (61)	84 (53)	14 (9)	48 (42)	254 (222)	33 (29)
27	5.1 (3.6)	15 (7)	26 (31)					37 (53)	193 (278)	25 (36)
28	2.5 (2.6)	13 (7)	20 (23)					30 (41)	156 (216)	20 (28)
29	4.3 (4.1)	23 (9)	41 (45)					52 (65)	274 (339)	35 (44)
30	3.2 (3.2)	22 (12)	53 (56)					50 (56)	265 (294)	34 (38)
31										
Mean	10.0	21	44	37	84	72	12	41	216	28
n	28	30	28	15	15	15	15	21	21	21
SD	8.9	8	15	33	75	65	10	17	88	11
Min	2.5	13	20	-13	-28	-25	-4	-2	-10	-1
Max	47.8	53	85	134	308	267	42	66	345	44

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for January, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	2.5 (3.2)	23 (11)	58 (79)	58 (33)	122 (68)	105 (59)	18 (10)	47 (66)	245 (347)	32 (45)
2	4.3 (3.4)	21 (7)	52 (43)	43 (21)	89 (43)	77 (38)	13 (6)	46 (40)	242 (208)	31 (27)
3	2.8 (2.4)	19 (7)	38 (21)					32 (21)	170 (108)	22 (14)
4	4.7 (4.1)	22 (9)	35 (39)	43 (22)	91 (46)	79 (40)	13 (7)	31 (37)	164 (195)	21 (25)
5	4.1 (3.3)	31 (59)	42 (30)					45 (38)	235 (198)	30 (26)
6	3.5 (3.2)	23 (12)	46 (57)	46 (29)	98 (62)	85 (54)	14 (9)	43 (53)	225 (278)	29 (36)
7	1.7 (2.5)	11 (9)	32 (41)	20 (21)	43 (46)	37 (40)	6 (7)	41 (54)	215 (285)	28 (37)
8	2.3 (2.9)	19 (10)	37 (42)	35 (22)	75 (48)	65 (41)	11 (7)	33 (50)	175 (263)	23 (34)
9	2.7 (3.2)	24 (14)	40 (37)	52 (29)	110 (62)	95 (54)	16 (9)	33 (33)	174 (172)	23 (22)
10	4.9 (4.1)	24 (14)	38 (34)	44 (31)	93 (66)	81 (57)	14 (10)	27 (26)	140 (136)	18 (18)
11	3.0 (3.1)	22 (11)	46 (44)	45 (24)	97 (52)	84 (45)	14 (8)	39 (43)	207 (227)	27 (29)
12	4.4 (3.8)	38 (45)	61 (49)	74 (86)	163 (191)	141 (166)	23 (27)	54 (49)	285 (257)	37 (33)
13										
14										
15										
16										
17										
18										
19										
20										
21	4.2 (3.7)	24 (14)		49 (34)	105 (74)	91 (64)	15 (11)			
22	9.4 (4.4)	39 (16)		73 (39)	156 (83)	135 (72)	23 (12)			
23	11.8 (4.1)	34 (14)								
24	2.4 (2.8)	13 (13)		24 (30)	51 (63)	44 (55)	7 (9)			
25	3.4 (2.9)	25 (34)		56 (88)	120 (191)	104 (165)	17 (27)			
26	6.8 (3.6)	33 (13)		65 (31)	142 (68)	123 (59)	20 (10)			
27	7.1 (4.1)	39 (46)		77 (107)	167 (230)	144 (199)	24 (33)			
28	4.4 (3.7)	18 (16)		31 (36)	67 (78)	58 (67)	10 (11)			
29	5.7 (3.9)	32 (19)		68 (51)	146 (108)	126 (94)	21 (16)			
30	5.9 (3.8)	31 (11)		64 (24)	135 (51)	117 (44)	20 (7)			
31	3.0 (3.4)	22 (8)		51 (20)	108 (42)	93 (37)	16 (6)			
Mean	4.6	25	44	51	109	94	16	39	206	27
n	23	23	12	20	20	20	20	12	12	12
SD	2.4	8	9	16	35	30	5	8	41	5
Min	1.7	11	32	20	43	37	6	27	140	18
Max	11.8	39	61	77	167	144	24	54	285	37

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for February, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	4.5 (3.2)	23 (10)								
2	4.7 (3.3)	22 (9)								
3	6.2 (3.8)	32 (23)		72 (58)	153 (124)	132 (107)	22 (18)			
4	3.2 (3.5)	23 (9)		57 (28)	121 (60)	105 (52)	18 (9)			
5	2.7 (3.1)	26 (14)		65 (38)	137 (81)	118 (70)	20 (12)			
6	8.5 (6.1)	35 (13)		76 (36)	159 (75)	138 (65)	24 (11)			
7	9.9 (4.2)	27 (11)								
8	4.9 (4.7)	18 (7)								
9	4.5 (3.6)	23 (9)		56 (28)	123 (62)	106 (54)	17 (9)			
10	9.1 (4.6)	32 (16)								
11	9.8 (3.7)	26 (11)								
12	2.1 (3.2)	11 (6)								
13	2.4 (3.2)	16 (8)								
14	3.0 (3.0)	18 (7)		41 (21)	88 (44)	76 (38)	13 (6)			
15	3.2 (3.3)	18 (10)		44 (28)	97 (61)	84 (53)	14 (9)			
16	3.7 (3.2)	22 (13)								
17	6.4 (3.9)	26 (12)		55 (33)	119 (73)	103 (63)	17 (10)			
18	9.5 (9.9)	32 (28)		53 (50)	116 (109)	100 (94)	17 (16)			
19	3.8 (3.8)	19 (10)								
20	7.1 (4.5)	32 (39)		65 (106)	138 (225)	119 (195)	20 (33)			
21	3.9 (3.6)	20 (9)		44 (23)	93 (49)	80 (43)	14 (7)			
22	4.6 (3.4)	21 (10)		45 (29)	97 (61)	84 (53)	14 (9)			
23	2.2 (2.6)	16 (10)		36 (27)	79 (59)	68 (51)	11 (9)			
24	2.4 (3.0)	19 (10)		44 (24)	95 (52)	82 (45)	14 (8)			
25	5.5 (4.1)	25 (24)		55 (68)	118 (146)	102 (126)	17 (21)			
26	12.7 (6.0)	36 (10)								
27	7.9 (5.7)	23 (9)								
28	2.6 (2.8)	23 (14)								
Mean	5.4	24		54	115	100	17			
n	28	28	0	15	15	15	15	0	0	0
SD	2.8	6		11	23	20	4			
Min	2.1	11		36	79	68	11			
Max	12.7	36		76	159	138	24			

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for March, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	3.6 (3.0)	21 (16)								
2	4.0 (3.2)	39 (24)								
3		19 (8)								
4	6.2 (3.8)	24 (8)		52 (24)	109 (50)	94 (43)	16 (7)			
5	10.2 (4.9)	36 (21)		72 (61)	149 (127)	129 (110)	22 (19)			
6	13.6 (4.9)	34 (9)								
7	8.7 (5.1)	25 (12)								
8	8.0 (7.2)	12 (11)								
9	6.7 (6.7)	15 (9)								
10	9.9 (5.1)	21 (31)		30 (77)	63 (161)	55 (140)	9 (24)			
11	15.9 (6.7)	27 (55)								
12		20 (10)								
13										
14										
15										
16										
17										
18										
19										
20	3.7 (3.2)	30 (22)								
21	4.7 (3.8)	36 (53)								
22	4.1 (3.9)	18 (12)								
23	7.6 (8.5)	55 (73)								
24	11.0 (9.4)	83 (115)	132 (241)	208 (322)	438 (679)	379 (587)	64 (100)	147 (313)	773 (1650)	100 (213)
25	24.5 (28.4)	89 (91)	135 (266)	172 (200)	360 (418)	311 (361)	53 (62)	160 (390)	842 (2050)	109 (265)
26	7.9 (6.0)		45 (41)					57 (60)	302 (316)	39 (41)
27	8.3 (4.7)		42 (27)					54 (43)	282 (226)	36 (29)
28	6.7 (4.2)	29 (18)	36 (32)					47 (50)	245 (263)	32 (34)
29	2.7 (3.3)	15 (12)	18 (25)					24 (39)	125 (206)	16 (27)
30	2.4 (3.6)	16 (10)	23 (22)					27 (29)	143 (154)	18 (20)
31	4.6 (4.2)	33 (57)	27 (24)					35 (38)	184 (199)	24 (26)
Mean	7.9	32	57	107	224	194	33	69	362	47
n	22	22	8	5	5	5	5	8	8	8
SD	5.0	20	45	70	148	128	22	50	264	34
Min	2.4	12	18	30	63	55	9	24	125	16
Max	24.5	89	135	208	438	379	64	160	842	109

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for April, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	4.9 (4.3)	29 (41)	34 (39)							
2	4.1 (3.4)	24 (14)	29 (28)					39 (45)	204 (234)	26 (30)
3	3.2 (3.5)	10 (10)	16 (22)							
4	1.5 (2.6)	11 (7)	21 (39)					22 (45)	115 (236)	15 (30)
5	3.7 (3.5)	17 (9)	28 (28)					36 (41)	188 (217)	24 (28)
6	3.2 (3.6)	16 (13)	31 (54)					41 (69)	213 (363)	27 (47)
7	1.6 (2.7)	23 (54)	31 (42)					30 (43)	159 (226)	21 (29)
8	2.5 (2.8)	19 (11)	41 (45)					51 (68)	270 (358)	35 (46)
9	4.4 (3.4)	27 (15)	41 (42)					55 (63)	291 (332)	38 (43)
10	6.3 (4.3)	34 (30)	58 (78)					77 (110)	405 (580)	52 (75)
11	4.5 (4.2)	34 (41)	79 (136)					113 (206)	592 (1080)	76 (140)
12	4.6 (3.8)	33 (45)	107 (250)					140 (341)	735 (1800)	95 (231)
13	6.4 (4.9)	53 (62)	89 (159)					111 (220)	586 (1160)	76 (149)
14	14.3 (10.4)	98 (183)	103 (223)					138 (329)	724 (1730)	93 (223)
15	15.3 (11.5)	68 (72)	77 (123)					89 (177)	470 (930)	61 (120)
16	15.1 (11.3)	70 (75)	69 (85)					77 (120)	405 (630)	52 (81)
17	22.8 (17.2)	84 (113)	91 (100)					104 (148)	546 (781)	70 (101)
18	18.0 (12.0)	67 (67)	81 (113)					97 (170)	511 (896)	66 (116)
19	7.9 (6.7)	60 (97)	47 (85)					59 (129)	311 (681)	40 (88)
20	23.8 (38.0)	104 (168)	160 (370)	378 (637)	830 (1400)	718 (1210)	117 (197)			
21	3.7 (3.8)	27 (28)	102 (139)					145 (202)	765 (1060)	99 (137)
22	3.1 (3.3)	19 (9)	84 (100)					124 (151)	651 (793)	84 (102)
23	19.2 (49.6)	15 (8)	20 (34)					0 (90)	-1 (471)	0 (61)
24	6.5 (5.1)	26 (14)	30 (62)	208 (157)	449 (339)	389 (293)	64 (49)	48 (140)	251 (738)	32 (95)
25	11.5 (5.9)	41 (28)	51 (73)	680 (741)	1450 (1580)	1250 (1370)	210 (230)	184 (376)	971 (1980)	125 (255)
26	6.4 (4.2)	20 (7)	27 (45)	252 (166)	543 (359)	470 (311)	78 (52)	108 (240)	567 (1260)	73 (163)
27	17.4 (7.7)	62 (53)	50 (62)	787 (1010)	1710 (2200)	1480 (1900)	244 (314)	168 (317)	882 (1670)	114 (215)
28	11.8 (12.6)	50 (70)	50 (71)	817 (1410)	1760 (3040)	1520 (2630)	253 (437)	192 (326)	1010 (1720)	130 (221)
29	5.1 (4.3)	21 (17)	27 (47)	183 (206)	397 (447)	343 (386)	57 (64)	46 (95)	244 (502)	31 (65)
30	26.5 (27.6)	117 (156)	90 (126)	1000 (1570)	2180 (3390)	1880 (2940)	311 (485)			
Mean	9.3	43	59	539	1160	1010	167	88	464	60
n	30	30	30	8	8	8	8	26	26	26
SD	7.2	29	34	300	647	560	93	51	269	35
Min	1.5	10	16	183	397	343	57	0	-1	0
Max	26.5	117	160	1000	2180	1880	311	192	1010	130

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for May, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4	13.9 (13.1)	89 (123)	39 (53)	719 (1280)	1580 (2810)	1370 (2430)	223 (395)	63 (123)	331 (645)	43 (83)
5	16.7 (12.3)	84 (121)	46 (67)	706 (1160)	1540 (2520)	1330 (2180)	218 (358)	73 (166)	386 (876)	50 (113)
6	12.3 (10.9)	73 (136)	33 (48)	607 (1290)	1310 (2770)	1130 (2400)	188 (398)	48 (111)	252 (582)	33 (75)
7	3.2 (3.3)	13 (8)	14 (34)	123 (96)	264 (204)	229 (177)	38 (30)	39 (106)	205 (560)	26 (72)
8	7.2 (4.0)	24 (13)	24 (29)	254 (225)	538 (477)	466 (413)	79 (70)	54 (96)	286 (503)	37 (65)
9	6.8 (4.4)	19 (11)	24 (27)					56 (87)	296 (456)	38 (59)
10	3.6 (3.9)	17 (15)	24 (32)					70 (109)	367 (574)	47 (74)
11										
12										
13										
14										
15										
16										
17										
18										
19	9.4 (10.2)	39 (42)	55 (56)	512 (757)	1140 (1680)	985 (1460)	158 (234)	133 (165)	701 (868)	90 (112)
20	17.3 (13.4)	60 (51)	67 (76)	1000 (1270)	2220 (2820)	1920 (2440)	310 (393)	217 (284)	1140 (1500)	147 (193)
21	12.2 (6.3)	59 (49)	70 (84)	1200 (1260)	2680 (2800)	2320 (2420)	373 (390)	369 (526)	1940 (2770)	250 (357)
22	17.2 (12.4)	58 (56)	64 (73)	936 (1280)	2060 (2820)	1780 (2440)	290 (398)	302 (439)	1590 (2310)	205 (298)
23	12.9 (6.2)	44 (51)	52 (75)	646 (1100)	1440 (2450)	1240 (2120)	200 (342)	249 (471)	1310 (2480)	169 (319)
24	9.1 (4.7)	28 (19)	35 (36)	382 (377)	861 (851)	745 (737)	118 (117)	163 (228)	858 (1200)	111 (155)
25	8.5 (6.2)	37 (38)	41 (56)	506 (725)	1120 (1600)	969 (1390)	157 (224)	215 (369)	1130 (1940)	146 (250)
26	15.0 (12.1)	66 (83)	51 (67)	741 (1100)	1620 (2400)	1400 (2080)	229 (340)	176 (373)	925 (1970)	119 (253)
27	5.1 (4.9)	12 (10)	18 (44)	127 (183)	276 (399)	239 (345)	39 (57)	65 (142)	342 (747)	44 (96)
28	7.9 (4.5)	19 (9)	20 (10)	264 (217)	572 (468)	495 (405)	82 (67)	79 (63)	417 (332)	54 (43)
29	4.2 (3.7)	12 (9)	12 (8)	136 (171)	291 (365)	252 (316)	42 (53)	50 (53)	263 (277)	34 (36)
30	5.2 (4.2)	16 (10)	16 (11)	202 (218)	429 (464)	371 (401)	63 (68)	71 (73)	376 (386)	48 (50)
31	4.8 (4.6)	19 (19)	18 (13)	227 (293)	484 (626)	419 (541)	70 (91)	84 (90)	443 (472)	57 (61)
Mean	9.6	39	36	516	1130	981	160	129	678	87
n	20	20	20	18	18	18	18	20	20	20
SD	4.6	25	18	318	707	612	98	94	492	63
Min	3.2	12	12	123	264	229	38	39	205	26
Max	17.3	89	70	1200	2680	2320	373	369	1940	250

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for June, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	7.3 (5.1)	49 (51)	40 (38)	763 (881)	1640 (1890)	1420 (1640)	236 (273)	113 (119)	594 (624)	77 (80)
2	7.0 (5.3)	45 (47)	39 (31)	669 (910)	1440 (1960)	1250 (1700)	207 (282)	101 (101)	529 (530)	68 (68)
3	8.3 (6.7)	46 (58)	37 (36)	630 (951)	1360 (2060)	1180 (1780)	195 (294)	94 (116)	496 (610)	64 (79)
4	9.0 (7.6)	52 (65)	43 (58)	820 (1380)	1790 (3000)	1540 (2590)	254 (426)	110 (188)	582 (988)	75 (127)
5	20.5 (29.4)	72 (97)	60 (71)	1030 (2020)	2240 (4390)	1940 (3800)	318 (624)	131 (229)	687 (1200)	89 (155)
6	11.1 (7.3)	56 (75)	62 (99)	1030 (1820)	2230 (3950)	1930 (3410)	319 (563)	163 (312)	860 (1640)	111 (211)
7	11.5 (13.0)	55 (80)	52 (108)	936 (1590)	2070 (3510)	1790 (3030)	290 (493)	132 (341)	695 (1800)	90 (231)
8	14.9 (9.9)	78 (106)	54 (86)	1360 (2250)	3050 (5030)	2640 (4360)	421 (695)	160 (319)	841 (1680)	108 (216)
9		25 (12)	27 (15)							
10		130 (186)	49 (54)							
11	17.9 (14.1)	68 (97)	35 (36)	1260 (2390)	2780 (5270)	2410 (4560)	390 (739)	108 (182)	570 (959)	73 (124)
12	4.8 (5.1)		13 (9)					53 (62)	277 (324)	36 (42)
13	6.2 (4.3)		16 (12)					64 (77)	336 (407)	43 (53)
14	5.2 (4.8)		16 (11)					66 (78)	348 (410)	45 (53)
15	5.9 (4.9)		17 (15)					74 (102)	389 (538)	50 (69)
16	10.4 (5.7)		24 (20)					89 (132)	469 (697)	61 (90)
17	16.9 (13.6)		35 (44)					116 (277)	612 (1460)	79 (188)
18	3.1 (3.5)		8 (7)					34 (51)	177 (268)	23 (35)
19	3.8 (4.4)		10 (10)					39 (64)	205 (338)	26 (44)
20	5.3 (4.6)		12 (9)					42 (63)	220 (330)	28 (43)
21	4.5 (4.1)		13 (10)					53 (67)	281 (353)	36 (46)
22	7.8 (5.2)		21 (23)					80 (147)	419 (773)	54 (100)
23	8.6 (5.8)		36 (28)					175 (173)	922 (912)	119 (118)
24	13.2 (7.5)		47 (43)					210 (250)	1110 (1310)	143 (169)
25	21.9 (16.8)		86 (199)					397 (1200)	2090 (6310)	269 (813)
26	6.7 (4.8)		20 (20)					86 (129)	450 (677)	58 (87)
27	8.4 (6.4)		22 (10)					83 (66)	439 (345)	57 (44)
28	8.0 (5.1)		24 (21)					101 (133)	533 (699)	69 (90)
29	7.9 (5.2)		24 (16)					99 (101)	519 (531)	67 (68)
30										
Mean	9.5	61	33	944	2070	1790	292	110	580	75
n	27	11	29	9	9	9	9	27	27	27
SD	4.9	26	18	238	546	473	74	70	370	48
Min	3.1	25	8	630	1360	1180	195	34	177	23
Max	21.9	130	86	1360	3050	2640	421	397	2090	269

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for July, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4	4.1 (4.1)		20 (22)					103 (143)	541 (755)	70 (97)
5	6.7 (4.1)		31 (43)					153 (271)	806 (1420)	104 (184)
6	6.2 (5.1)		21 (24)					90 (149)	474 (782)	61 (101)
7	6.5 (4.8)		24 (20)					109 (123)	573 (649)	74 (84)
8	3.3 (3.6)		14 (11)					65 (72)	342 (381)	44 (49)
9	7.8 (6.3)		20 (18)					77 (110)	407 (577)	52 (74)
10	15.2 (8.8)		36 (30)					131 (170)	690 (896)	89 (115)
11	15.1 (10.2)		44 (109)					151 (280)	797 (1470)	103 (190)
12	4.5 (4.4)		13 (12)					56 (84)	292 (441)	38 (57)
13	7.5 (5.0)		26 (25)					119 (153)	624 (804)	80 (104)
14	8.3 (7.3)		32 (39)					147 (244)	772 (1290)	100 (166)
15	12.6 (9.4)		39 (39)					164 (249)	862 (1310)	111 (169)
16	12.6 (6.9)		34 (41)					133 (242)	701 (1270)	90 (164)
17	8.6 (6.7)		22 (18)					81 (112)	428 (588)	55 (76)
18	5.0 (4.7)		18 (18)					84 (119)	441 (628)	57 (81)
19	5.5 (4.5)		19 (20)					88 (125)	461 (658)	59 (85)
20										
21										
22										
23										
24										
25	44.4 (55.7)		62 (67)					122 (300)	644 (1580)	83 (204)
26	10.0 (12.9)		24 (10)					97 (110)	511 (578)	66 (74)
27	6.5 (5.5)		24 (14)					122 (91)	644 (476)	83 (61)
28	18.1 (13.7)		58 (55)					279 (331)	1470 (1740)	189 (225)
29	22.8 (18.2)		64 (66)					284 (401)	1490 (2110)	192 (272)
30	7.7 (5.5)		24 (14)					117 (104)	617 (550)	80 (71)
31	8.5 (4.6)		23 (33)					93 (64)	488 (334)	63 (43)
Mean	10.8		30					125	655	85
n	23	0	23	0	0	0	0	23	23	23
SD	8.6		14					56	295	38
Min	3.3		13					56	292	38
Max	44.4		64					284	1490	192

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for August, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	11.6 (5.3)		35 (24)					166 (169)	875 (890)	113 (115)
2	9.9 (6.7)		27 (17)					122 (110)	641 (579)	83 (75)
3	8.1 (6.1)		24 (17)					115 (120)	603 (630)	78 (81)
4	18.3 (6.8)		51 (25)					225 (172)	1180 (907)	152 (117)
5	6.0 (6.3)		74 (91)					485 (647)	2550 (3410)	329 (439)
6	17.1 (15.5)		70 (63)					376 (404)	1980 (2120)	255 (274)
7	13.1 (13.3)		75 (105)					445 (703)	2340 (3700)	302 (477)
8	15.3 (18.1)		39 (49)					169 (344)	890 (1810)	115 (233)
9	11.8 (8.0)		28 (35)					116 (229)	612 (1200)	79 (155)
10	8.2 (5.6)		23 (61)					82 (89)	429 (466)	55 (60)
11										
12	8.9 (5.6)		28 (25)					134 (167)	705 (879)	91 (113)
13	14.6 (12.5)		43 (43)					199 (264)	1050 (1390)	135 (179)
14	20.6 (29.2)		61 (67)					284 (337)	1500 (1780)	193 (229)
15	25.8 (15.3)		71 (67)					318 (485)	1670 (2550)	215 (329)
16	27.0 (13.6)		76 (64)							
17	39.1 (24.9)		114 (100)							
18	50.0 (28.1)		51 (36)							
19	10.2 (5.4)		39 (27)							
20	22.4 (12.8)		68 (52)							
21	7.3 (5.1)		22 (14)							
22	10.5 (5.7)		29 (17)							
23	8.6 (7.4)		20 (10)							
24	6.5 (5.4)		19 (11)							
25	8.7 (5.9)									
26	8.6 (6.7)									
27	5.0 (4.3)									
28	9.3 (7.8)									
29	7.0 (5.2)									
30	6.2 (5.5)									
31	6.6 (7.1)									
Mean	14.1		47					231	1220	157
n	30	0	23	0	0	0	0	14	14	14
SD	10.1		24					126	662	85
Min	5.0		19					82	429	55
Max	50.0		114					485	2550	329

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for September, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	24.2 (24.6)									
2	9.5 (8.4)									
3	12.5 (9.3)									
4	12.1 (6.9)									
5	11.7 (7.3)									
6	13.1 (10.2)									
7	15.9 (9.5)									
8										
9										
10										
11										
12										
13										
14										
15		37 (55)								
16		42 (47)								
17		16 (11)								
18		23 (19)								
19		21 (29)								
20		24 (35)								
21		54 (47)								
22	9.8 (5.6)	22 (6)	25 (14)	322 (213)	668 (443)	578 (383)	100 (66)	80 (72)	423 (378)	55 (49)
23	11.5 (7.6)	27 (15)	31 (22)	403 (305)	839 (634)	726 (548)	125 (94)	135 (118)	712 (619)	92 (80)
24	6.5 (4.6)	16 (8)	19 (16)	255 (245)	531 (510)	459 (442)	79 (76)	86 (123)	451 (649)	58 (84)
25	4.6 (4.0)	17 (15)	19 (19)	222 (258)	460 (534)	398 (462)	69 (80)	61 (76)	318 (399)	41 (51)
26	11.1 (13.5)	26 (31)	39 (45)	244 (351)	504 (726)	436 (628)	76 (109)	102 (140)	537 (736)	69 (95)
27	2.3 (3.4)	8 (5)	12 (14)	85 (84)	182 (180)	157 (155)	26 (26)	36 (51)	188 (267)	24 (34)
28	6.9 (4.8)	20 (10)	24 (16)	205 (164)	443 (356)	383 (308)	63 (51)	61 (59)	322 (308)	42 (40)
29	3.6 (4.1)	12 (9)	16 (13)	127 (133)	270 (283)	234 (245)	39 (41)	45 (44)	238 (231)	31 (30)
30	1.9 (3.1)	11 (21)	14 (15)	118 (267)	251 (569)	217 (493)	36 (83)	44 (56)	233 (296)	30 (38)
Mean	9.8	23	22	220	461	399	68	72	380	49
n	16	16	9	9	9	9	9	9	9	9
SD	5.5	12	8	96	197	171	30	30	159	21
Min	1.9	8	12	85	182	157	26	36	188	24
Max	24.2	54	39	403	839	726	125	135	712	92

Table E4. Daily means (SD) of PM_{10} concentrations and emissions at Site NY5B for October, 2009.

Day	PM concentration			PM emission rate						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	µg dsm^{-3}	µg dsm^{-3}	µg dsm^{-3}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	2.4 (4.1)	9 (8)	14 (17)	79 (96)	167 (204)	145 (176)	24 (30)	42 (65)	221 (340)	29 (44)
2	5.4 (4.4)	12 (6)	20 (21)	73 (72)	154 (151)	133 (131)	23 (22)	54 (80)	284 (422)	37 (54)
3										
4	7.3 (4.3)	20 (12)	27 (45)	150 (135)	311 (281)	269 (243)	46 (42)	70 (81)	370 (426)	48 (55)
5	5.9 (5.5)	19 (16)	26 (25)	135 (147)	282 (306)	244 (265)	42 (45)	74 (85)	390 (448)	50 (58)
6	9.4 (7.4)	36 (30)	41 (37)	240 (264)	502 (552)	434 (478)	74 (82)	117 (128)	616 (675)	79 (87)
7	3.2 (4.4)	11 (7)	17 (19)					51 (70)	270 (366)	35 (47)
8	5.3 (5.2)	24 (21)	35 (28)	163 (171)	344 (361)	298 (313)	51 (53)	115 (105)	605 (552)	78 (71)
9	5.5 (4.3)	17 (7)	21 (10)	102 (68)	216 (143)	187 (124)	32 (21)	56 (39)	295 (204)	38 (26)
10	2.6 (3.2)	12 (7)	18 (11)	87 (69)	185 (146)	160 (126)	27 (21)			
11	3.5 (4.1)	16 (10)	24 (14)					76 (57)	401 (297)	52 (38)
12	6.0 (5.2)	25 (33)	26 (19)	173 (283)	362 (595)	314 (515)	53 (88)	65 (63)	341 (332)	44 (43)
13	3.7 (4.7)	13 (7)	21 (13)	86 (75)	182 (158)	158 (137)	27 (23)	65 (50)	341 (261)	44 (34)
14	2.1 (3.0)	12 (8)	25 (24)	93 (73)	197 (154)	171 (133)	29 (23)	44 (48)	231 (251)	30 (32)
15	4.0 (3.5)	15 (14)	33 (39)	99 (121)	207 (253)	179 (219)	31 (38)	39 (47)	206 (249)	27 (32)
16	4.2 (4.9)	18 (28)	24 (21)	153 (297)	314 (611)	272 (528)	47 (92)	33 (37)	175 (192)	23 (25)
17	4.8 (4.5)	20 (12)	34 (57)	161 (138)	330 (281)	285 (243)	50 (43)	50 (90)	264 (473)	34 (61)
18	5.9 (4.2)	19 (14)	34 (44)	144 (164)	296 (335)	256 (290)	45 (51)	46 (73)	241 (386)	31 (50)
19	8.3 (6.3)	33 (28)	55 (85)	273 (293)	572 (615)	495 (532)	84 (91)	66 (106)	347 (556)	45 (72)
20	13.4 (7.0)	51 (48)	69 (95)	407 (507)	851 (1060)	737 (919)	126 (157)	96 (179)	505 (942)	65 (121)
21	17.4 (10.1)	51 (45)	48 (32)	357 (437)	738 (904)	639 (782)	111 (135)	57 (55)	299 (289)	39 (37)
22	8.9 (6.6)	50 (67)	66 (102)	420 (706)	862 (1450)	746 (1260)	130 (219)	104 (186)	549 (979)	71 (126)
23	3.3 (3.8)	17 (17)	58 (161)	139 (179)	283 (366)	245 (317)	43 (56)	92 (269)	482 (1410)	62 (182)
24										
25										
26										
27										
28										
29										
30										
31										
Mean	6.0	23	33	177	368	318	55	67	354	46
n	22	22	22	20	20	20	20	21	21	21
SD	3.6	13	16	105	216	187	32	24	127	16
Min	2.1	9	14	73	154	133	23	33	175	23
Max	17.4	51	69	420	862	746	130	117	616	79

Table E5. $PM_{2.5}$ concentrations and emissions.

Table E5. Daily means (SD) of $PM_{2.5}$ concentrations and emissions at Site NY5B for January, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	B1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12	9.9 (7.0)	14 (8)	14 (18)	9 (19)	18 (39)	16 (34)	3 (6)	14 (52)	72 (271)	9 (35)
13	16.5 (4.9)	16 (9)	18 (13)	-3 (21)	-5 (43)	-5 (37)	-1 (6)	3 (34)	13 (177)	2 (23)
14	8.1 (3.0)	9 (8)	11 (15)	3 (22)	6 (47)	5 (40)	1 (7)	7 (41)	37 (216)	5 (28)
15	6.7 (3.7)	11 (6)	14 (14)	11 (16)	24 (35)	21 (30)	4 (5)	10 (25)	52 (132)	7 (17)
16	7.3 (3.8)	14 (8)	18 (22)	16 (20)	34 (43)	30 (37)	5 (6)	11 (27)	60 (140)	8 (18)
17	8.4 (3.3)	14 (16)	22 (34)	14 (41)	28 (85)	24 (73)	4 (13)	12 (32)	65 (168)	8 (22)
18	4.4 (3.3)	8 (10)	10 (18)	10 (23)	20 (48)	17 (42)	3 (7)	6 (23)	32 (122)	4 (16)
19	7.3 (2.8)	12 (10)	15 (20)	11 (26)	24 (55)	21 (47)	4 (8)	6 (18)	31 (93)	4 (12)
20	4.2 (2.5)	9 (8)		10 (20)	22 (41)	19 (36)	3 (6)			
21	5.8 (3.1)	13 (11)		18 (29)	38 (62)	33 (54)	6 (9)			
22	12.8 (16.7)	14 (9)	20 (17)	2 (47)	4 (101)	4 (87)	1 (15)	4 (26)	19 (137)	2 (18)
23	10.6 (3.4)	17 (9)	23 (13)	17 (24)	36 (50)	31 (44)	5 (7)	10 (11)	53 (57)	7 (7)
24	10.4 (5.7)	19 (15)	24 (14)	22 (41)	47 (86)	41 (74)	7 (13)	11 (11)	57 (58)	7 (7)
25										
26										
27										
28										
29										
30										
31										
Mean	8.6	13	17	11	23	20	3	9	45	6
n	13	13	11	13	13	13	13	11	11	11
SD	3.3	3	5	7	14	12	2	4	19	2
Min	4.2	8	10	-3	-5	-5	-1	3	13	2
Max	16.5	19	24	22	47	41	7	14	72	9

Table E5. Daily means (SD) of $PM_{2.5}$ concentrations and emissions at Site NY5B for July, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	B1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25	10.0 (6.5)	14 (4)	16 (10)	86 (131)	182 (277)	158 (240)	27 (41)	35 (64)	185 (336)	24 (43)
26	24.7 (8.1)	27 (8)	29 (14)	72 (193)	153 (407)	132 (352)	22 (60)	26 (82)	137 (432)	18 (56)
27	16.3 (8.6)	19 (9)	21 (13)	76 (144)	161 (305)	139 (264)	24 (45)	33 (77)	174 (408)	22 (53)
28	28.2 (6.0)	32 (6)	35 (14)	106 (176)	225 (371)	194 (321)	33 (54)	43 (89)	226 (467)	29 (60)
29	14.1 (10.4)	15 (10)	17 (13)	26 (153)	55 (323)	48 (279)	8 (47)	21 (74)	108 (391)	14 (50)
30	22.7 (14.9)	26 (15)	27 (18)	75 (155)	159 (327)	138 (283)	23 (48)	23 (76)	122 (399)	16 (51)
31	17.0 (9.3)	19 (8)	23 (13)	52 (163)	109 (346)	95 (299)	16 (51)	37 (76)	195 (400)	25 (52)
Mean	19.0	22	24	71	149	129	22	31	164	21
n	7	7	7	7	7	7	7	7	7	7
SD	5.9	6	6	24	50	43	7	8	39	5
Min	10.0	14	16	26	55	48	8	21	108	14
Max	28.2	32	35	106	225	194	33	43	226	29

Table E5. Daily means (SD) of $PM_{2.5}$ concentrations and emissions at Site NY5B for August, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	B1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	10.7 (5.4)	12 (5)	14 (12)	38 (144)	81 (305)	70 (264)	12 (45)	23 (76)	121 (400)	16 (52)
2	7.9 (5.3)	10 (5)	11 (17)	59 (150)	124 (317)	108 (275)	18 (47)	18 (107)	94 (562)	12 (72)
3	4.7 (3.9)	7 (4)	10 (9)	56 (123)	119 (260)	103 (225)	17 (38)	36 (64)	187 (338)	24 (44)
4	7.4 (4.3)	11 (6)	35 (200)	74 (168)	157 (356)	136 (308)	23 (52)	187 (1370)	986 (7210)	127 (929)
5	17.2 (12.7)	20 (13)	20 (15)	76 (147)	160 (311)	138 (269)	23 (46)	19 (65)	100 (341)	13 (44)
6	14.0 (10.0)	14 (8)	17 (14)	11 (163)	23 (345)	20 (299)	3 (51)	20 (83)	103 (439)	13 (57)
7	7.4 (4.8)	9 (5)	12 (17)	36 (171)	75 (361)	65 (312)	11 (53)	26 (105)	138 (554)	18 (71)
8	4.5 (3.8)	6 (3)	8 (9)	31 (90)	66 (191)	57 (165)	10 (28)	20 (63)	107 (332)	14 (43)
9	4.5 (4.3)	7 (6)	8 (9)	55 (145)	117 (308)	101 (266)	17 (45)	23 (66)	120 (349)	16 (45)
10	7.2 (4.5)	10 (5)	11 (12)	54 (140)	114 (296)	99 (256)	17 (43)	25 (84)	134 (440)	17 (57)
11	7.4 (4.5)	10 (5)	13 (9)	59 (123)	125 (259)	108 (224)	18 (38)	38 (63)	201 (329)	26 (42)
12	7.1 (5.0)	9 (4)	11 (10)	32 (122)	68 (259)	59 (224)	10 (38)	28 (69)	145 (362)	19 (47)
13	7.7 (4.0)		13 (37)					26 (74)	136 (388)	18 (50)
14	6.5 (4.7)	9 (6)	10 (12)					22 (75)	118 (395)	15 (51)
15	6.3 (4.0)	8 (4)	11 (11)					29 (73)	151 (384)	19 (50)
16	5.6 (4.5)	7 (4)	10 (9)					30 (65)	157 (344)	20 (44)
17	9.2 (4.0)	12 (4)	13 (10)	63 (133)	134 (282)	116 (244)	20 (41)	24 (69)	125 (364)	16 (47)
18	14.7 (4.4)	18 (6)	19 (12)	78 (189)	166 (400)	143 (347)	24 (59)	24 (78)	127 (408)	16 (53)
19	4.3 (4.5)	6 (4)	6 (10)	23 (104)	49 (220)	42 (191)	7 (32)	7 (69)	36 (361)	5 (47)
20	4.0 (3.8)	7 (4)	9 (11)	44 (117)	92 (248)	80 (215)	14 (36)	29 (72)	150 (378)	19 (49)
21	4.9 (4.6)	8 (5)	10 (12)	58 (148)	123 (313)	107 (271)	18 (46)	32 (82)	167 (433)	22 (56)
22	18.3 (7.1)	22 (10)	25 (16)	82 (193)	174 (409)	150 (354)	25 (60)	43 (83)	225 (436)	29 (56)
23	17.3 (4.8)	19 (4)	20 (8)	33 (158)	70 (335)	60 (290)	10 (49)	18 (57)	96 (299)	12 (39)
24	20.1 (5.9)	23 (7)	28 (15)	72 (197)	152 (416)	131 (360)	22 (61)	46 (90)	241 (476)	31 (61)
25	6.0 (5.3)	6 (11)	10 (12)	0 (156)	0 (329)	0 (285)	0 (48)	23 (80)	122 (422)	16 (54)
26	4.7 (4.1)	6 (5)	7 (12)	22 (113)	47 (239)	41 (207)	7 (35)	14 (75)	74 (392)	10 (51)
27										
28										
29										
30										
31										
Mean	8.8	11	14	48	102	88	15	32	168	22
n	26	25	26	22	22	22	22	26	26	26
SD	4.8	5	7	22	47	41	7	32	169	22
Min	4.0	6	6	0	0	0	0	7	36	5
Max	20.1	23	35	82	174	150	25	187	986	127

Table E5. Daily means (SD) of $PM_{2.5}$ concentrations and emissions at Site NY5B for November, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	B1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5	23.9 (5.9)	24 (4)		0 (76)	1 (163)	1 (141)	0 (24)			
6	12.6 (5.4)	15 (7)		19 (80)	40 (170)	35 (147)	6 (25)			
7	4.5 (4.4)	5 (5)		5 (61)	11 (130)	9 (113)	2 (19)			
8	8.1 (5.9)	10 (7)		29 (58)	62 (123)	53 (106)	9 (18)			
9	4.7 (3.5)	7 (4)								
10	2.9 (3.2)	8 (10)								
11	2.9 (3.1)	7 (6)								
12	9.1 (4.6)	12 (6)		14 (35)	30 (75)	26 (65)	4 (11)			
13										
14	7.4 (3.6)	9 (4)		9 (32)	18 (67)	16 (58)	3 (10)			
15	5.6 (4.0)	5 (6)		-4 (32)	-7 (66)	-6 (57)	-1 (10)			
16	0.9 (2.5)	3 (5)								
17	2.6 (2.9)	7 (5)								
18	2.7 (2.9)	7 (7)		22 (37)	48 (81)	42 (70)	7 (12)			
19	3.4 (3.4)	6 (5)		11 (27)	24 (59)	20 (51)	3 (8)			
20	5.5 (4.1)	11 (8)		27 (43)	59 (93)	51 (81)	8 (13)			
21	3.5 (4.1)	9 (10)		25 (50)	55 (110)	48 (95)	8 (16)			
22										
23	6.4 (4.5)	14 (11)								
24										
25										
26										
27										
28										
29										
30										
Mean	6.3	9		14	31	27	4			
n	17.0	17	0	11	11	11	11	0	0	0
SD	5.2	5		11	23	20	3			
Min	0.9	3		-4	-7	-6	-1			
Max	23.9	24		29	62	53	9			

Table E6. TSP concentrations and emissions

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for December, 2007.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15	24.1 (36.2)	113 (52)		232 (196)	487 (412)	422 (357)	72 (61)			
16	28.5 (43.7)	78 (29)	87 (96)	153 (112)	323 (235)	280 (204)	47 (35)	58 (93)	308 (490)	40 (63)
17	12.8 (14.3)		44 (37)					24 (33)	127 (174)	16 (23)
18	11.6 (5.6)		74 (50)					59 (49)	313 (259)	40 (33)
19	16.8 (4.9)		81 (40)					73 (48)	383 (254)	49 (33)
20	18.1 (7.8)		71 (48)					61 (52)	321 (272)	41 (35)
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	18.7	95	72	192	405	351	60	55	290	37
n	6	2	5	2	2	2	2	5	5	5
SD	6.0	17	15	40	82	71	12	16	86	11
Min	11.6	78	44	153	323	280	47	24	127	16
Max	28.5	113	87	232	487	422	72	73	383	49

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for February, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	10.8 (4.4)	130 (209)	86 (91)	289 (516)	585 (1040)	506 (904)	90 (160)	93 (144)	491 (756)	63 (97)
15	11.5 (7.7)	102 (36)	83 (61)	208 (79)	432 (165)	374 (143)	65 (25)	73 (70)	382 (369)	49 (48)
16	8.8 (3.3)	89 (30)		188 (71)	395 (149)	342 (129)	58 (22)			
17	13.8 (5.9)	88 (32)	106 (71)							
18	10.9 (5.6)	84 (50)	68 (73)					95 (132)	502 (697)	65 (90)
19	11.0 (3.3)	108 (45)	102 (83)	198 (92)	408 (190)	353 (165)	61 (29)	82 (81)	433 (428)	56 (55)
20	16.0 (5.6)	117 (62)	131 (127)	223 (137)	460 (284)	398 (245)	69 (43)	97 (108)	509 (569)	66 (73)
21										
22										
23										
24										
25										
26										
27										
28										
29										
Mean	11.8	102	96	221	456	395	69	88	463	60
n	7	7	6	5	5	5	5	5	5	5
SD	2.2	16	20	36	68	59	11	9	49	6
Min	8.8	84	68	188	395	342	58	73	382	49
Max	16.0	130	131	289	585	506	90	97	509	66

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for April, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5	11.1 (5.5)	50 (23)	87 (64)	198 (114)	413 (237)	357 (205)	61 (35)	125 (110)	659 (581)	85 (75)
6	12.4 (3.6)	53 (28)	74 (98)	245 (166)	519 (352)	449 (305)	76 (51)	100 (149)	526 (782)	68 (101)
7	15.5 (8.9)	103 (72)	140 (244)	456 (360)	978 (771)	846 (667)	141 (111)	175 (302)	922 (1590)	119 (205)
8	32.4 (13.0)	115 (99)	161 (222)	565 (564)	1200 (1200)	1040 (1040)	175 (175)	223 (399)	1170 (2100)	151 (271)
9	71.6 (92.6)	215 (312)	266 (363)	1560 (2360)	3310 (5010)	2860 (4330)	482 (729)			
10	18.5 (8.2)	96 (113)	145 (204)	551 (911)	1170 (1940)	1010 (1680)	170 (282)	229 (369)	1210 (1940)	156 (250)
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
Mean	26.9	105	146	595	1270	1100	184	170	897	116
n	6	6	6	6	6	6	6	5	5	5
SD	21.2	55	62	452	962	832	140	51	270	35
Min	11.1	50	74	198	413	357	61	100	526	68
Max	71.6	215	266	1560	3310	2860	482	229	1210	156

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for June, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25	25.2 (10.1)	38 (18)	55 (45)	338 (538)	755 (1200)	654 (1040)	105 (167)	182 (279)	957 (1470)	123 (189)
26	28.5 (8.8)	35 (15)	48 (36)	173 (407)	382 (899)	330 (778)	54 (126)	132 (228)	694 (1200)	89 (155)
27	27.4 (7.8)	42 (28)	56 (50)	384 (726)	834 (1580)	722 (1360)	119 (225)	185 (326)	971 (1720)	125 (221)
28	36.3 (9.2)	44 (22)	51 (40)	206 (467)	446 (1010)	386 (873)	64 (145)	99 (257)	518 (1350)	67 (174)
29	28.2 (13.6)	38 (37)	61 (88)	245 (863)	535 (1880)	463 (1630)	76 (267)	203 (511)	1070 (2690)	138 (347)
30	20.5 (9.3)	32 (56)	45 (52)	279 (1470)	608 (3210)	526 (2770)	86 (455)	156 (305)	821 (1600)	106 (207)
Mean	27.7	38	53	271	593	514	84	159	838	108
n	6	6	6	6	6	6	6	6	6	6
SD	4.7	4	5	73	160	139	23	35	186	24
Min	20.5	32	45	173	382	330	54	99	518	67
Max	36.3	44	61	384	834	722	119	203	1070	138

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for July, 2008.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1	17.1 (8.6)	19 (8)	35 (29)	60 (218)	129 (461)	111 (399)	19 (67)	114 (183)	600 (963)	77 (124)
2	29.3 (11.2)	41 (25)	75 (75)	326 (697)	681 (1460)	589 (1260)	101 (216)	279 (470)	1470 (2470)	190 (319)
3	50.2 (70.5)	44 (43)	58 (85)	-178 (1980)	-370 (4120)	-320 (3570)	-55 (613)	41 (648)	218 (3410)	28 (439)
4	30.1 (33.1)	18 (9)	31 (45)	-134 (472)	-279 (981)	-241 (849)	-42 (146)	8 (367)	41 (1930)	5 (249)
5	22.6 (6.8)	38 (33)	56 (96)	318 (736)	655 (1510)	567 (1310)	99 (228)	212 (610)	1120 (3210)	144 (414)
6	38.9 (20.5)	41 (25)	89 (117)	37 (734)	75 (1540)	65 (1330)	11 (227)	317 (715)	1670 (3760)	215 (485)
7	49.1 (18.1)	78 (106)	90 (77)	731 (2770)	1560 (5910)	1350 (5120)	226 (858)	256 (453)	1350 (2380)	173 (307)
8	43.9 (10.8)	50 (19)	61 (41)	153 (381)	323 (804)	280 (696)	48 (118)	106 (237)	558 (1250)	72 (161)
9	49.8 (50.9)	30 (20)	38 (41)	-514 (1370)	-1080 (2880)	-933 (2490)	-159 (424)	-81 (401)	-429 (2110)	-55 (272)
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	36.8	40	59	89	188	163	28	139	732	94
n	9	9	9	9	9	9	9	9	9	9
SD	11.8	17	21	335	707	612	104	128	674	87
Min	17.1	18	31	-514	-1080	-933	-159	-81	-429	-55
Max	50.2	78	90	731	1560	1350	226	317	1670	215

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for January, 2009.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	7.6 (11.8)	103 (51)	69 (95)	214 (126)	466 (275)	403 (238)	66 (39)	47 (74)	248 (389)	32 (50)
15	3.6 (3.5)	104 (54)		237 (125)	515 (272)	446 (235)	73 (39)			
16	4.0 (4.1)	103 (36)		207 (78)	449 (169)	389 (146)	64 (24)			
17	5.7 (5.0)	106 (53)		230 (124)	493 (263)	426 (228)	71 (38)			
18	9.6 (8.8)	78 (25)		145 (63)	308 (133)	267 (115)	45 (19)			
19	7.6 (4.0)	106 (126)		234 (311)	507 (675)	439 (584)	72 (96)			
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	6.3	100		211	456	395	65			
n	6	6	1	6	6	6	6	1	1	1
SD	2.1	10		31	70	61	10			
Min	3.6	78		145	308	267	45			
Max	9.6	106		237	515	446	73			

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for March, 2009.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	8.3 (4.2)	14 (7)								
15	7.5 (5.2)	14 (11)								
16	12.1 (5.4)	17 (8)		13 (27)	27 (56)	23 (48)	4 (8)			
17	14.3 (7.2)	18 (10)								
18	13.4 (6.6)	22 (11)								
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	11.1	17								
n	5	5	0	1	1	1	1	0	0	0
SD	2.7	3								
Min	7.5	14								
Max	14.3	22								

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for May, 2009.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean	Mean	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12	10.2 (8.4)	12 (5)	13 (5)	24 (107)	51 (231)	44 (200)	7 (33)	7 (29)	35 (151)	5 (19)
13	29.0 (19.5)	14 (5)	16 (10)	-292 (350)	-631 (756)	-546 (654)	-91 (108)	-44 (60)	-229 (316)	-30 (41)
14	8.4 (5.5)	15 (5)	16 (6)	99 (113)	214 (245)	185 (212)	31 (35)	24 (25)	125 (133)	16 (17)
15	8.1 (6.6)	8 (3)	8 (3)	-5 (150)	-11 (323)	-10 (280)	-2 (46)	-1 (24)	-5 (125)	-1 (16)
16	8.8 (5.7)	15 (10)	16 (10)	150 (181)	322 (390)	279 (338)	46 (56)	23 (26)	118 (134)	15 (17)
17	2.9 (3.4)	6 (3)	6 (4)	33 (53)	72 (115)	62 (100)	10 (16)	11 (18)	60 (95)	8 (12)
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	11.2	12	12	1	3	2	0	3	17	2
n	6	6	6	6	6	6	6	6	6	6
SD	8.3	4	4	141	304	263	44	23	119	15
Min	2.9	6	6	-292	-631	-546	-91	-44	-229	-30
Max	29.0	15	16	150	322	279	46	24	125	16

Table E6. Daily means (SD) of TSP concentrations and emissions at Site NY5B for September, 2009.

Day	PM concentration, µg dsm^{-3}			Mean (SD) particulate matter emission						
	Inlet	Barn 1	MC	Barn 1				Milking center		
	Mean (SD)	Mean (SD)	Mean (SD)	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	mg d^{-1} m^{-2}	g d^{-1}	mg d^{-1} hd^{-1}	mg d^{-1} m^{-2}
1										
2										
3										
4										
5										
6										
7										
8										
9	21.8 (14.6)									
10	22.6 (15.3)									
11										
12	5.1 (4.1)		19 (12)					100 (93)	526 (491)	68 (63)
13	7.9 (5.2)		32 (30)					173 (216)	910 (1130)	117 (146)
14	11.2 (5.8)		54 (70)					307 (503)	1620 (2650)	208 (341)
15	8.8 (7.1)		45 (49)					276 (358)	1450 (1880)	187 (243)
16	13.5 (11.7)		46 (65)							
17	6.2 (4.7)		25 (16)							
18	7.3 (5.2)		32 (42)							
19	4.6 (4.1)		33 (38)							
20	8.5 (7.1)		44 (76)					122 (273)	640 (1440)	82 (185)
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
Mean	10.7		37					195	1030	133
n	11	0	9	0	0	0	0	5	5	5
SD	6		11					83	434	56
Min	4.6		19					100	526	68
Max	22.6		54					307	1620	208

Table E7. NH3 Concentrations

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for November, 2007.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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										
13										
14										
15										
16										
17										
18										
19										
20	0.4 (0.1)	0.3 (0.0)								
21	0.4 (0.1)	0.3 (0.1)	4.1 (0.7)	2.9 (0.5)	4.3 (0.8)	3.1 (0.6)	4.1 (1.3)	2.9 (0.9)	4.3 (1.1)	3.1 (0.8)
22	0.3 (0.1)	0.2 (0.1)	4.1 (0.6)	2.9 (0.4)	4.2 (0.7)	3.0 (0.5)	3.8 (0.7)	2.7 (0.5)	4.3 (0.7)	3.1 (0.5)
23	0.2 (0.1)	0.1 (0.0)	6.2 (1.5)	4.4 (1.1)	6.5 (1.9)	4.6 (1.4)	4.9 (1.8)	3.5 (1.3)	5.8 (1.6)	4.2 (1.1)
24	0.2 (0.1)	0.2 (0.1)	8.0 (0.8)	5.7 (0.6)	8.5 (0.7)	6.0 (0.5)	5.3 (1.0)	3.7 (0.7)	5.6 (1.3)	4.0 (1.0)
25	0.2 (0.1)	0.1 (0.1)	6.5 (0.9)	4.6 (0.7)	6.5 (1.3)	4.6 (0.9)	5.6 (1.1)	4.0 (0.8)	5.7 (0.9)	4.1 (0.6)
26	0.3 (0.1)	0.2 (0.1)	8.1 (1.7)	5.8 (1.2)	8.8 (2.2)	6.3 (1.6)	6.1 (1.9)	4.4 (1.4)	6.1 (1.6)	4.3 (1.1)
27	0.4 (0.1)	0.3 (0.0)							6.1 (0.9)	4.4 (0.7)
28	0.3 (0.2)	0.2 (0.2)	6.9 (0.7)	4.9 (0.5)	7.1 (1.0)	5.1 (0.7)	5.6 (1.1)	4.0 (0.8)	5.7 (0.9)	4.0 (0.7)
29	0.3 (0.1)	0.2 (0.1)							5.3 (0.8)	3.8 (0.6)
30	0.3 (0.1)	0.2 (0.1)	6.0 (1.2)	4.3 (0.8)	5.8 (1.0)	4.1 (0.7)	5.9 (0.8)	4.2 (0.6)	5.9 (0.7)	4.2 (0.5)
Mean	0.3	0.2	6.2	4.5	6.5	4.6	5.2	3.7	5.5	3.9
n	11	11	8	8	8	8	8	8	10	10
SD	0.1	0.0	1.4	1.0	1.6	1.1	0.8	0.6	0.6	0.4
Min	0.2	0.1	4.1	2.9	4.2	3.0	3.8	2.7	4.3	3.1
Max	0.4	0.3	8.1	5.8	8.8	6.3	6.1	4.4	6.1	4.4

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for December, 2007.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.2 (0.1)	0.1 (0.0)	5.3 (0.6)	3.7 (0.4)	5.1 (0.6)	3.7 (0.4)	5.0 (0.7)	3.5 (0.5)	5.2 (0.8)	3.7 (0.6)
2	0.2 (0.1)	0.1 (0.1)	6.0 (0.6)	4.3 (0.4)	6.1 (0.6)	4.3 (0.4)	4.6 (0.5)	3.2 (0.3)	4.5 (0.9)	3.2 (0.7)
3	0.4 (0.1)	0.3 (0.1)	5.7 (1.7)	4.1 (1.2)	5.5 (1.8)	3.9 (1.3)	5.5 (1.1)	3.9 (0.8)	5.2 (1.3)	3.7 (0.9)
4	0.4 (0.1)	0.3 (0.1)	6.6 (0.6)	4.7 (0.5)	6.9 (0.7)	4.9 (0.5)	5.2 (1.4)	3.7 (1.0)	5.5 (1.4)	3.9 (1.0)
5	0.2 (0.1)	0.1 (0.1)	6.1 (0.7)	4.4 (0.5)	6.4 (1.0)	4.5 (0.7)	5.0 (1.3)	3.5 (0.9)	6.0 (1.1)	4.3 (0.8)
6	0.2 (0.1)	0.1 (0.1)	6.2 (1.7)	4.4 (1.2)	5.5 (1.3)	3.9 (0.9)	5.1 (1.1)	3.6 (0.8)	5.9 (1.0)	4.2 (0.7)
7	0.2 (0.1)	0.1 (0.1)	5.8 (0.8)	4.1 (0.5)	5.3 (0.8)	3.7 (0.5)	4.5 (0.8)	3.2 (0.6)	3.9 (1.7)	2.8 (1.2)
8	0.2 (0.1)	0.1 (0.1)	5.5 (0.7)	3.9 (0.5)	5.1 (0.6)	3.6 (0.4)	4.4 (1.2)	3.2 (0.8)	4.7 (0.6)	3.3 (0.4)
9	0.2 (0.1)	0.1 (0.1)	5.2 (0.5)	3.7 (0.4)	5.2 (0.8)	3.7 (0.5)	4.7 (0.7)	3.3 (0.5)	4.7 (0.7)	3.3 (0.5)
10	0.2 (0.1)	0.2 (0.1)	6.4 (3.7)	4.6 (2.6)	6.2 (3.6)	4.4 (2.6)	5.6 (1.7)	4.0 (1.2)	5.6 (1.1)	4.0 (0.8)
11	0.3 (0.1)	0.2 (0.1)	10.1 (2.2)	7.2 (1.6)	10.0 (2.2)	7.1 (1.5)	6.3 (1.9)	4.5 (1.4)	5.9 (1.5)	4.2 (1.1)
12	0.3 (0.1)	0.2 (0.1)	7.1 (1.3)	5.1 (0.9)	6.9 (1.2)	4.9 (0.9)	6.2 (1.2)	4.4 (0.8)	5.4 (0.9)	3.8 (0.7)
13	0.4 (0.4)	0.3 (0.3)	8.4 (3.2)	6.0 (2.3)	8.5 (3.6)	6.1 (2.6)	5.5 (1.4)	4.0 (1.0)	5.3 (1.6)	3.7 (1.2)
14	0.4 (0.1)	0.2 (0.1)	8.2 (2.8)	5.8 (2.0)	8.0 (2.6)	5.7 (1.8)	6.9 (1.7)	4.9 (1.2)	6.7 (1.1)	4.8 (0.8)
15	0.1 (0.1)	0.1 (0.1)	7.3 (0.9)	5.2 (0.6)	6.9 (0.8)	4.9 (0.5)	3.9 (1.1)	2.8 (0.8)	4.9 (1.3)	3.5 (0.9)
16	0.3 (0.1)	0.2 (0.1)	6.9 (1.3)	4.9 (0.9)	6.8 (1.6)	4.9 (1.2)	4.5 (1.3)	3.2 (1.0)	5.0 (1.3)	3.5 (0.9)
17	0.3 (0.2)	0.2 (0.1)	6.8 (2.9)	4.8 (2.0)	6.9 (3.1)	4.9 (2.2)	4.8 (1.8)	3.4 (1.3)	5.2 (1.7)	3.7 (1.2)
18	0.3 (0.1)	0.2 (0.1)	9.4 (2.3)	6.7 (1.7)	9.4 (2.2)	6.7 (1.6)	6.3 (1.3)	4.5 (0.9)	6.8 (1.2)	4.9 (0.9)
19	0.2 (0.1)	0.1 (0.0)	8.4 (1.2)	6.0 (0.8)	8.5 (1.2)	6.1 (0.8)	5.5 (1.6)	4.0 (1.2)	6.2 (1.4)	4.4 (1.0)
20	0.2 (0.1)	0.2 (0.0)								
21	0.3 (0.1)	0.2 (0.1)	9.6 (1.1)	6.8 (0.8)	9.9 (0.8)	7.1 (0.6)	5.0 (1.5)	3.6 (1.0)	5.8 (1.0)	4.1 (0.7)
22	0.2 (0.1)	0.1 (0.1)	7.6 (1.1)	5.4 (0.8)	7.9 (1.3)	5.7 (0.9)	5.8 (0.9)	4.2 (0.7)	5.4 (1.6)	3.9 (1.1)
23	0.3 (0.1)	0.2 (0.1)	6.8 (1.3)	4.9 (0.9)	7.0 (1.5)	5.0 (1.1)	6.0 (1.6)	4.2 (1.1)	5.3 (2.2)	3.8 (1.6)
24	0.4 (0.2)	0.3 (0.1)	7.6 (1.8)	5.4 (1.3)	7.2 (2.0)	5.1 (1.4)	6.5 (1.7)	4.6 (1.2)	5.9 (1.5)	4.2 (1.0)
25	0.4 (0.1)	0.3 (0.1)	8.5 (1.7)	6.1 (1.2)	8.6 (2.0)	6.1 (1.4)	7.2 (1.6)	5.1 (1.2)	7.3 (1.5)	5.2 (1.1)
26	0.3 (0.1)	0.2 (0.1)	9.1 (0.9)	6.5 (0.7)	9.5 (1.3)	6.8 (0.9)	5.7 (1.6)	4.0 (1.1)	5.8 (1.1)	4.1 (0.8)
27	0.4 (0.3)	0.3 (0.2)	8.8 (3.3)	6.3 (2.4)	9.2 (3.4)	6.5 (2.4)	6.9 (2.0)	4.9 (1.5)	6.6 (2.1)	4.7 (1.5)
28	0.3 (0.1)	0.2 (0.1)	10.4 (1.8)	7.4 (1.3)	10.7 (1.7)	7.6 (1.2)	6.1 (1.9)	4.4 (1.3)	6.4 (1.8)	4.5 (1.3)
29	0.4 (0.1)	0.3 (0.1)	7.3 (1.2)	5.2 (0.9)	7.4 (1.4)	5.3 (1.0)	7.2 (1.0)	5.1 (0.7)	6.4 (1.4)	4.5 (1.0)
30	0.3 (0.1)	0.2 (0.1)	7.5 (0.5)	5.3 (0.3)	8.2 (0.8)	5.8 (0.6)	7.2 (0.8)	5.2 (0.6)	6.9 (1.0)	4.9 (0.7)
31	0.3 (0.1)	0.2 (0.1)	8.3 (4.1)	5.9 (3.0)	9.0 (3.9)	6.4 (2.8)	6.7 (1.9)	4.8 (1.3)	6.2 (1.7)	4.4 (1.2)
Mean	0.3	0.2	7.4	5.3	7.5	5.3	5.7	4.0	5.7	4.0
n	31	31	30	30	30	30	30	30	30	30
SD	0.1	0.1	1.4	1.0	1.6	1.1	0.9	0.7	0.8	0.5
Min	0.1	0.1	5.2	3.7	5.1	3.6	3.9	2.8	3.9	2.8
Max	0.4	0.3	10.4	7.4	10.7	7.6	7.2	5.2	7.3	5.2

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for January, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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)			11.1 (1.9)	7.9 (1.3)	7.0 (1.7)	5.0 (1.2)	6.0 (1.9)	4.3 (1.4)
2	0.3 (0.2)	0.2 (0.2)			6.5 (0.8)	4.7 (0.6)	5.1 (1.1)	3.6 (0.8)	5.6 (1.4)	4.0 (1.0)
3	0.2 (0.1)	0.1 (0.1)	7.0 (2.1)	5.0 (1.5)	7.0 (1.9)	5.0 (1.4)	4.4 (1.0)	3.1 (0.7)	4.7 (0.8)	3.3 (0.5)
4	0.2 (0.1)	0.1 (0.1)	9.5 (1.0)	6.7 (0.7)	9.7 (1.2)	6.9 (0.8)	6.4 (0.8)	4.5 (0.6)	6.7 (1.0)	4.8 (0.7)
5	0.2 (0.1)	0.2 (0.1)	8.6 (0.5)	6.1 (0.3)	9.1 (0.5)	6.5 (0.4)	7.0 (1.3)	5.0 (0.9)	6.4 (1.4)	4.6 (1.0)
6	0.3 (0.1)	0.2 (0.1)	9.0 (1.5)	6.4 (1.1)	9.5 (2.0)	6.8 (1.4)	7.7 (1.3)	5.5 (0.9)	7.6 (0.9)	5.4 (0.7)
7	0.4 (0.1)	0.3 (0.1)	4.9 (1.8)	3.5 (1.3)	5.2 (2.3)	3.7 (1.7)	6.9 (1.6)	4.9 (1.2)	6.6 (1.2)	4.7 (0.9)
8	0.5 (0.2)	0.3 (0.1)	4.4 (0.6)	3.2 (0.5)	4.8 (1.6)	3.5 (1.2)	5.5 (1.5)	3.9 (1.0)	5.6 (0.8)	4.0 (0.6)
9	0.3 (0.1)	0.2 (0.1)	3.6 (1.5)	2.5 (1.1)	4.0 (1.3)	2.9 (0.9)	5.5 (1.4)	3.9 (1.0)	5.1 (1.2)	3.6 (0.9)
10	0.2 (0.1)	0.1 (0.1)	8.2 (3.3)	5.9 (2.4)	8.4 (3.3)	6.0 (2.4)	6.4 (1.3)	4.5 (0.9)	5.6 (0.8)	4.0 (0.6)
11	0.4 (0.1)	0.2 (0.1)								
12	0.4 (0.1)	0.3 (0.1)	8.0 (0.6)	5.7 (0.4)	8.1 (0.9)	5.8 (0.7)	7.3 (0.8)	5.2 (0.6)	6.2 (0.9)	4.4 (0.6)
13	0.2 (0.1)	0.1 (0.1)	7.3 (0.9)	5.2 (0.6)	7.9 (0.9)	5.6 (0.7)	6.1 (0.8)	4.3 (0.6)	5.1 (1.0)	3.6 (0.7)
14	0.4 (0.3)	0.3 (0.2)	7.9 (4.0)	5.6 (2.9)	7.6 (3.5)	5.4 (2.5)	7.2 (2.4)	5.1 (1.7)	6.9 (1.8)	4.9 (1.3)
15	0.4 (0.2)	0.3 (0.1)	10.6 (1.8)	7.6 (1.3)	10.6 (1.6)	7.6 (1.2)	8.4 (1.6)	6.0 (1.1)	8.0 (1.0)	5.7 (0.7)
16	0.3 (0.1)	0.2 (0.1)	8.8 (0.6)	6.3 (0.4)	8.8 (0.6)	6.2 (0.4)	6.0 (1.5)	4.3 (1.1)	6.3 (1.4)	4.5 (1.0)
17	0.2 (0.1)	0.2 (0.1)	9.0 (2.3)	6.4 (1.6)	9.4 (2.6)	6.7 (1.8)	5.8 (0.7)	4.1 (0.5)	5.7 (1.0)	4.1 (0.7)
18	0.5 (0.2)	0.4 (0.2)	9.3 (1.7)	6.6 (1.2)	9.0 (1.6)	6.4 (1.2)	6.9 (0.8)	4.9 (0.6)	6.9 (0.9)	4.9 (0.6)
19	0.4 (0.1)	0.3 (0.1)	7.9 (0.6)	5.6 (0.4)	7.5 (0.7)	5.3 (0.5)	6.2 (1.6)	4.4 (1.1)	6.6 (1.2)	4.7 (0.9)
20	0.3 (0.1)	0.2 (0.1)	5.7 (0.8)	4.0 (0.6)	5.1 (0.9)	3.6 (0.6)	3.7 (1.0)	2.6 (0.7)	3.6 (0.9)	2.6 (0.6)
21	0.2 (0.1)	0.2 (0.1)	7.7 (2.4)	5.5 (1.7)	7.6 (2.9)	5.4 (2.0)	4.7 (1.3)	3.3 (0.9)	5.1 (1.3)	3.6 (0.9)
22	0.3 (0.1)	0.2 (0.1)	9.9 (1.4)	7.0 (1.0)	9.9 (1.7)	7.1 (1.2)	6.4 (1.3)	4.5 (0.9)	6.2 (1.6)	4.4 (1.1)
23	0.3 (0.1)	0.2 (0.1)	8.5 (0.9)	6.1 (0.6)	8.2 (1.1)	5.8 (0.7)	6.4 (1.0)	4.6 (0.7)	6.8 (1.0)	4.8 (0.7)
24	0.4 (0.2)	0.3 (0.2)	8.5 (2.1)	6.0 (1.5)	8.2 (2.0)	5.8 (1.4)	6.3 (0.9)	4.5 (0.6)	6.8 (0.8)	4.8 (0.6)
25	0.7 (0.1)	0.5 (0.1)	8.3 (1.2)	5.9 (0.8)	7.9 (1.2)	5.6 (0.8)	5.9 (0.9)	4.2 (0.7)	6.9 (0.6)	4.9 (0.4)
26	0.2 (0.1)	0.2 (0.1)	8.4 (0.6)	6.0 (0.4)	8.3 (1.0)	5.9 (0.7)	6.5 (0.6)	4.6 (0.4)	6.6 (0.6)	4.7 (0.4)
27	0.2 (0.1)	0.2 (0.0)	8.1 (0.6)	5.8 (0.4)	8.1 (0.8)	5.8 (0.5)	6.4 (1.3)	4.6 (0.9)	5.8 (1.4)	4.1 (1.0)
28	0.3 (0.1)	0.2 (0.1)	9.3 (3.9)	6.6 (2.8)	9.1 (3.6)	6.5 (2.6)	7.0 (1.3)	5.0 (1.0)	6.3 (1.5)	4.5 (1.1)
29	0.4 (0.1)	0.3 (0.1)	12.7 (2.4)	9.1 (1.7)	12.9 (2.3)	9.2 (1.6)	7.8 (1.2)	5.6 (0.8)	7.2 (1.4)	5.1 (1.0)
30	0.5 (0.1)	0.4 (0.1)	7.7 (1.3)	5.5 (0.9)	6.8 (1.9)	4.9 (1.3)	5.8 (1.4)	4.1 (1.0)	5.5 (1.3)	3.9 (0.9)
31	0.3 (0.1)	0.2 (0.1)	9.1 (4.0)	6.5 (2.9)	8.8 (4.8)	6.3 (3.4)	5.8 (0.8)	4.1 (0.6)	5.6 (0.8)	4.0 (0.5)
Mean	0.3	0.2	8.1	5.8	8.2	5.8	6.3	4.5	6.1	4.4
n	31	31	28	28	30	30	30	30	30	30
SD	0.1	0.1	1.8	1.3	1.9	1.3	1.0	0.7	0.9	0.6
Min	0.2	0.1	3.6	2.5	4.0	2.9	3.7	2.6	3.6	2.6
Max	0.7	0.5	12.7	9.1	12.9	9.2	8.4	6.0	8.0	5.7

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for February, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.4 (0.1)	0.3 (0.1)	11.5 (1.6)	8.2 (1.1)	12.0 (1.3)	8.5 (1.0)	6.1 (1.6)	4.4 (1.1)	6.9 (2.5)	4.9 (1.8)
2	0.5 (0.1)	0.4 (0.1)	8.8 (0.9)	6.3 (0.6)	8.9 (1.1)	6.4 (0.8)	7.0 (1.1)	5.0 (0.8)	7.0 (1.0)	5.0 (0.7)
3	0.2 (0.1)	0.2 (0.1)	8.7 (0.8)	6.2 (0.6)	9.3 (1.0)	6.7 (0.7)	6.6 (1.0)	4.7 (0.7)	6.1 (1.2)	4.3 (0.9)
4	0.3 (0.1)	0.2 (0.1)	10.3 (4.7)	7.4 (3.4)	10.9 (4.9)	7.8 (3.5)	6.3 (0.9)	4.5 (0.7)	5.7 (1.1)	4.1 (0.8)
5	0.4 (0.0)	0.3 (0.0)	12.9 (2.3)	9.2 (1.6)	12.4 (2.1)	8.8 (1.5)			7.2 (1.4)	5.1 (1.0)
6	0.3 (0.0)	0.2 (0.0)	9.7 (0.9)	6.9 (0.7)	10.1 (1.0)	7.2 (0.7)			6.4 (0.7)	4.6 (0.5)
7	0.3 (0.1)	0.2 (0.1)	9.3 (3.3)	6.7 (2.3)	9.9 (3.4)	7.0 (2.4)			6.6 (1.2)	4.7 (0.8)
8	0.3 (0.1)	0.2 (0.0)	10.9 (2.2)	7.8 (1.6)	11.4 (2.2)	8.1 (1.6)	6.2 (1.2)	4.4 (0.8)	5.9 (0.8)	4.2 (0.6)
9	0.3 (0.0)	0.2 (0.0)	8.5 (0.7)	6.0 (0.5)	9.0 (1.2)	6.5 (0.8)	6.3 (1.1)	4.5 (0.8)	6.0 (0.6)	4.3 (0.4)
10	0.4 (0.1)	0.3 (0.1)	6.4 (1.8)	4.6 (1.3)	6.0 (2.1)	4.3 (1.5)	4.5 (2.0)	3.2 (1.5)	4.6 (2.0)	3.3 (1.4)
11	0.4 (0.1)	0.3 (0.1)	5.5 (2.4)	3.9 (1.7)	5.3 (2.9)	3.8 (2.1)	4.0 (1.0)	2.8 (0.7)	3.9 (1.1)	2.8 (0.8)
12	0.2 (0.1)	0.2 (0.1)			9.9 (0.9)	7.1 (0.7)	4.3 (0.8)	3.1 (0.5)	4.6 (0.6)	3.3 (0.4)
13	0.3 (0.1)	0.2 (0.1)			7.3 (1.3)	5.2 (0.9)	5.4 (1.0)	3.8 (0.7)	5.7 (1.4)	4.1 (1.0)
14	0.3 (0.1)	0.2 (0.1)	8.5 (3.4)	6.1 (2.4)	8.6 (3.4)	6.1 (2.4)	5.8 (1.6)	4.1 (1.1)	5.2 (1.5)	3.7 (1.1)
15	0.3 (0.1)	0.2 (0.0)	10.6 (1.9)	7.5 (1.4)	10.3 (1.9)	7.4 (1.3)	5.1 (1.9)	3.6 (1.4)	4.7 (1.4)	3.3 (1.0)
16	0.2 (0.1)	0.1 (0.0)	7.4 (0.5)	5.4 (0.3)	7.5 (0.5)	5.4 (0.4)				
17	0.2 (0.1)	0.2 (0.0)	7.0 (0.8)	5.0 (0.6)	6.8 (0.8)	4.8 (0.6)	5.3 (1.2)	3.8 (0.9)	4.0 (1.4)	2.9 (1.0)
18	0.5 (0.1)	0.4 (0.1)	7.3 (2.1)	5.2 (1.5)	8.0 (2.2)	5.7 (1.6)	7.0 (1.7)	5.0 (1.2)	6.5 (1.2)	4.7 (0.8)
19	0.6 (0.1)	0.4 (0.1)	7.9 (1.4)	5.6 (1.0)	7.9 (2.1)	5.6 (1.5)	6.0 (1.2)	4.3 (0.8)	5.3 (1.6)	3.8 (1.1)
20	0.3 (0.1)	0.2 (0.0)	7.0 (0.6)	5.0 (0.4)	6.4 (0.9)	4.5 (0.6)	5.0 (0.9)	3.6 (0.6)	5.1 (0.7)	3.7 (0.5)
21	0.3 (0.1)	0.2 (0.1)	8.2 (3.2)	5.8 (2.3)	8.1 (2.7)	5.8 (1.9)	5.8 (1.0)	4.1 (0.7)	6.0 (1.4)	4.2 (1.0)
22	0.2 (0.0)	0.2 (0.0)	10.6 (2.0)	7.6 (1.4)	10.9 (1.9)	7.8 (1.3)	6.5 (0.7)	4.6 (0.5)	6.0 (1.2)	4.3 (0.8)
23	0.2 (0.1)	0.2 (0.0)	7.3 (1.4)	5.2 (1.0)	7.6 (1.5)	5.4 (1.1)	6.3 (0.9)	4.5 (0.6)	6.4 (0.9)	4.6 (0.7)
24	0.3 (0.1)	0.2 (0.0)	7.8 (0.7)	5.6 (0.5)	7.7 (0.9)	5.5 (0.6)	6.4 (1.3)	4.5 (0.9)	6.3 (0.7)	4.5 (0.5)
25	0.3 (0.1)	0.2 (0.1)	8.6 (3.8)	6.1 (2.7)	8.6 (4.1)	6.2 (2.9)	6.7 (2.4)	4.8 (1.7)	6.4 (2.1)	4.5 (1.5)
26	0.4 (0.1)	0.3 (0.0)	12.8 (2.4)	9.1 (1.7)	13.0 (1.9)	9.3 (1.4)	8.6 (1.4)	6.1 (1.0)	7.9 (1.0)	5.6 (0.7)
27	0.3 (0.1)	0.2 (0.1)	6.4 (1.4)	4.6 (1.0)	6.6 (1.3)	4.7 (0.9)	6.3 (1.1)	4.5 (0.8)	6.4 (0.9)	4.6 (0.6)
28	0.3 (0.0)	0.2 (0.0)	6.1 (2.5)	4.4 (1.8)	6.1 (2.9)	4.3 (2.0)	6.2 (1.0)	4.4 (0.7)	5.9 (0.9)	4.2 (0.6)
29	0.3 (0.0)	0.2 (0.0)	10.2 (1.1)	7.2 (0.8)	10.2 (1.4)	7.2 (1.0)	5.4 (0.7)	3.8 (0.5)	5.0 (1.2)	3.6 (0.8)
Mean	0.3	0.2	8.8	6.2	8.9	6.3	6.0	4.2	5.9	4.2
n	29	29	27	27	29	29	25	25	28	28
SD	0.1	0.1	1.9	1.4	2.0	1.4	1.0	0.7	0.9	0.7
Min	0.2	0.1	5.5	3.9	5.3	3.8	4.0	2.8	3.9	2.8
Max	0.6	0.4	12.9	9.2	13.0	9.3	8.6	6.1	7.9	5.6

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for March, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.4 (0.1)	0.3 (0.1)	7.2 (0.9)	5.1 (0.7)	7.2 (0.9)	5.2 (0.6)	6.5 (1.7)	4.6 (1.2)	5.9 (0.8)	4.2 (0.6)
2	0.3 (0.0)	0.2 (0.0)	7.6 (0.9)	5.4 (0.6)	7.5 (0.9)	5.3 (0.6)	7.1 (1.2)	5.1 (0.9)	6.7 (1.1)	4.7 (0.8)
3	0.2 (0.1)	0.2 (0.0)	6.0 (2.3)	4.3 (1.7)	6.0 (2.6)	4.2 (1.9)	4.6 (1.6)	3.3 (1.1)	3.4 (1.3)	2.4 (0.9)
4	0.2 (0.1)	0.2 (0.1)	6.9 (0.9)	4.9 (0.7)	7.2 (1.4)	5.1 (1.0)	5.1 (1.5)	3.7 (1.1)	4.5 (0.7)	3.2 (0.5)
5	0.3 (0.1)	0.2 (0.0)	5.0 (1.3)	3.6 (0.9)	4.9 (1.2)	3.5 (0.9)	5.8 (1.5)	4.1 (1.1)	5.2 (1.5)	3.7 (1.1)
6	0.3 (0.1)	0.2 (0.1)	6.0 (2.0)	4.2 (1.5)	5.6 (2.6)	4.0 (1.9)	6.2 (1.3)	4.4 (0.9)	5.8 (1.2)	4.2 (0.9)
7	0.4 (0.0)	0.3 (0.0)								
8	0.3 (0.0)	0.2 (0.0)	4.7 (1.2)	3.4 (0.8)	5.2 (1.2)	3.7 (0.8)	5.7 (1.1)	4.1 (0.8)	5.1 (0.9)	3.6 (0.6)
9	0.3 (0.1)	0.2 (0.1)	4.1 (0.9)	2.9 (0.7)	3.8 (0.9)	2.7 (0.6)	4.7 (2.1)	3.3 (1.5)	3.9 (1.9)	2.8 (1.4)
10	0.3 (0.1)	0.2 (0.1)	7.4 (3.5)	5.3 (2.5)	7.7 (3.2)	5.5 (2.3)	6.3 (1.7)	4.5 (1.2)	6.5 (1.4)	4.6 (1.0)
11	0.3 (0.1)	0.2 (0.0)	9.4 (2.3)	6.7 (1.7)	9.3 (2.3)	6.6 (1.6)	6.9 (0.9)	4.9 (0.7)	6.6 (0.5)	4.7 (0.4)
12	0.4 (0.1)	0.3 (0.1)	5.3 (1.4)	3.8 (1.0)	5.1 (1.3)	3.7 (0.9)	6.5 (1.4)	4.6 (1.0)	6.5 (1.2)	4.6 (0.8)
13	0.7 (0.6)	0.5 (0.4)	7.1 (3.1)	5.1 (2.2)	7.1 (3.3)	5.1 (2.3)	5.9 (1.6)	4.2 (1.2)	5.8 (1.3)	4.1 (0.9)
14	0.4 (0.1)	0.3 (0.0)	7.4 (1.0)	5.3 (0.7)	7.7 (1.3)	5.5 (0.9)	7.5 (1.8)	5.3 (1.3)	7.3 (1.6)	5.2 (1.1)
15	0.3 (0.0)	0.2 (0.0)	6.6 (0.8)	4.7 (0.6)	6.7 (0.7)	4.8 (0.5)	7.4 (1.8)	5.3 (1.3)	7.1 (1.4)	5.0 (1.0)
16	0.3 (0.1)	0.2 (0.1)	5.5 (0.8)	3.9 (0.6)	5.9 (0.7)	4.2 (0.5)	6.3 (1.8)	4.5 (1.3)	6.1 (1.1)	4.4 (0.8)
17	0.3 (0.1)	0.2 (0.1)	6.0 (3.2)	4.3 (2.3)	5.9 (2.4)	4.2 (1.7)	7.0 (0.8)	5.0 (0.6)	6.7 (1.0)	4.8 (0.7)
18	0.2 (0.1)	0.2 (0.1)	6.5 (2.0)	4.6 (1.4)	6.0 (1.6)	4.3 (1.2)	7.0 (1.3)	5.0 (0.9)	5.8 (1.7)	4.1 (1.2)
19	0.4 (0.1)	0.3 (0.1)	5.6 (1.7)	4.0 (1.2)	5.4 (1.2)	3.8 (0.8)	7.3 (1.3)	5.2 (0.9)	7.3 (0.7)	5.2 (0.5)
20	0.5 (0.3)	0.4 (0.2)	5.7 (2.3)	4.0 (1.6)	5.2 (2.2)	3.7 (1.6)	6.0 (1.6)	4.3 (1.2)	5.8 (1.0)	4.1 (0.7)
21	0.5 (0.1)	0.4 (0.1)	6.4 (2.0)	4.6 (1.4)	5.1 (1.3)	3.6 (0.9)	5.9 (1.5)	4.2 (1.0)	5.6 (0.6)	4.0 (0.4)
22	0.2 (0.0)	0.1 (0.0)	5.9 (1.3)	4.2 (0.9)	4.9 (0.7)	3.5 (0.5)	6.0 (0.9)	4.2 (0.7)	5.4 (1.0)	3.8 (0.7)
23	0.2 (0.0)	0.2 (0.0)	5.2 (1.0)	3.7 (0.7)	4.6 (0.6)	3.3 (0.4)	5.3 (1.3)	3.8 (0.9)	4.9 (0.9)	3.5 (0.6)
24	0.2 (0.1)	0.2 (0.0)	6.8 (2.7)	4.9 (1.9)	5.7 (2.1)	4.1 (1.5)	5.3 (1.6)	3.8 (1.1)	5.0 (0.8)	3.5 (0.6)
25	0.3 (0.0)	0.2 (0.0)	8.3 (1.0)	5.9 (0.7)	7.1 (0.7)	5.0 (0.5)	5.3 (0.9)	3.8 (0.7)	4.8 (0.6)	3.4 (0.4)
26	0.5 (0.1)	0.3 (0.1)	5.9 (1.2)	4.2 (0.8)	5.5 (0.9)	3.9 (0.6)	6.2 (1.6)	4.4 (1.1)	6.2 (1.3)	4.4 (0.9)
27	0.3 (0.1)	0.2 (0.0)	7.4 (3.7)	5.3 (2.6)	7.0 (3.3)	5.0 (2.3)	7.3 (1.4)	5.2 (1.0)	6.8 (1.1)	4.8 (0.8)
28	0.3 (0.1)	0.2 (0.1)	9.6 (2.2)	6.9 (1.6)	8.6 (1.7)	6.1 (1.2)	6.0 (0.9)	4.2 (0.6)	5.8 (0.6)	4.2 (0.4)
29	0.2 (0.1)	0.2 (0.1)	5.4 (1.3)	3.8 (0.9)	4.6 (0.9)	3.3 (0.6)	5.2 (1.5)	3.7 (1.1)	5.2 (1.3)	3.7 (0.9)
30	0.2 (0.1)	0.2 (0.0)	5.5 (0.9)	3.9 (0.7)	5.5 (1.1)	3.9 (0.8)	4.5 (1.1)	3.2 (0.8)	4.3 (1.2)	3.0 (0.9)
31	0.3 (0.1)	0.2 (0.1)	7.0 (2.4)	5.0 (1.7)	6.2 (2.3)	4.4 (1.7)	6.4 (1.4)	4.5 (1.0)	5.7 (1.3)	4.1 (0.9)
Mean	0.3	0.2	6.4	4.6	6.1	4.4	6.1	4.3	5.7	4.1
n	31	31	30	30	30	30	30	30	30	30
SD	0.1	0.1	1.3	0.9	1.3	0.9	0.8	0.6	1.0	0.7
Min	0.2	0.1	4.1	2.9	3.8	2.7	4.5	3.2	3.4	2.4
Max	0.7	0.5	9.6	6.9	9.3	6.6	7.5	5.3	7.3	5.2

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for April, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.6 (0.1)	0.4 (0.1)	5.6 (1.6)	4.0 (1.2)	4.7 (0.7)	3.3 (0.5)	5.9 (1.4)	4.2 (1.0)	5.1 (1.1)	3.7 (0.8)
2	0.3 (0.1)	0.2 (0.1)	4.2 (1.2)	3.0 (0.8)	4.1 (1.2)	2.9 (0.8)	4.2 (1.5)	3.0 (1.1)	4.9 (1.2)	3.5 (0.9)
3	0.3 (0.0)	0.2 (0.0)	6.8 (3.2)	4.8 (2.3)	5.4 (2.5)	3.8 (1.8)	4.7 (1.2)	3.3 (0.9)	4.0 (0.8)	2.8 (0.6)
4	0.3 (0.1)	0.2 (0.0)	7.5 (1.1)	5.3 (0.8)	7.5 (0.9)	5.3 (0.7)	5.6 (1.1)	4.0 (0.8)	5.3 (1.2)	3.8 (0.9)
5	0.3 (0.0)	0.2 (0.0)	5.9 (0.7)	4.2 (0.5)	5.8 (0.7)	4.1 (0.5)	6.0 (0.9)	4.3 (0.6)	5.7 (1.1)	4.1 (0.8)
6	0.3 (0.0)	0.2 (0.0)	5.2 (0.9)	3.7 (0.7)	5.6 (0.7)	4.0 (0.5)	4.7 (1.5)	3.4 (1.1)	4.0 (1.5)	2.8 (1.1)
7	0.3 (0.0)	0.2 (0.0)	7.2 (3.1)	5.1 (2.2)	6.6 (2.4)	4.7 (1.7)	3.5 (0.6)	2.5 (0.4)	2.9 (0.7)	2.1 (0.5)
8	0.4 (0.0)	0.3 (0.0)	5.8 (1.9)	4.1 (1.4)	4.9 (1.6)	3.5 (1.2)	4.4 (1.3)	3.1 (0.9)	3.6 (1.4)	2.6 (1.0)
9	0.3 (0.1)	0.2 (0.0)	3.4 (0.7)	2.4 (0.5)	2.6 (0.5)	1.8 (0.3)	4.6 (1.2)	3.3 (0.8)	3.9 (1.5)	2.8 (1.1)
10	0.3 (0.1)	0.2 (0.1)	4.0 (2.3)	2.8 (1.6)	4.0 (1.8)	2.8 (1.3)	5.0 (1.5)	3.5 (1.1)	4.8 (1.7)	3.4 (1.2)
11	0.4 (0.0)	0.3 (0.0)	5.0 (0.6)	3.6 (0.4)	4.5 (1.2)	3.2 (0.9)	3.2 (0.8)	2.3 (0.6)	3.1 (0.6)	2.2 (0.5)
12	0.4 (0.1)	0.3 (0.0)	2.4 (0.6)	1.7 (0.5)	2.3 (0.5)	1.7 (0.3)	5.2 (2.0)	3.7 (1.4)	5.8 (1.5)	4.2 (1.1)
13	0.3 (0.1)	0.2 (0.1)	2.8 (0.5)	2.0 (0.4)	3.1 (0.5)	2.2 (0.3)	5.6 (0.9)	4.0 (0.6)	4.7 (0.7)	3.4 (0.5)
14	0.3 (0.1)	0.2 (0.0)	4.4 (2.3)	3.1 (1.6)	4.5 (1.8)	3.2 (1.3)	4.2 (1.3)	3.0 (0.9)	4.7 (0.7)	3.3 (0.5)
15	0.3 (0.1)	0.2 (0.1)	4.2 (1.6)	3.0 (1.2)	4.1 (0.9)	3.0 (0.7)	4.2 (1.6)	3.0 (1.1)	4.9 (1.2)	3.5 (0.9)
16	0.3 (0.1)	0.2 (0.1)	3.4 (0.9)	2.4 (0.6)	3.1 (0.8)	2.2 (0.6)	3.7 (0.8)	2.6 (0.6)	3.9 (1.3)	2.8 (0.9)
17	0.3 (0.1)	0.2 (0.0)	2.8 (1.0)	2.0 (0.7)	2.6 (0.9)	1.9 (0.7)	3.0 (0.6)	2.2 (0.4)	2.9 (0.5)	2.1 (0.3)
18	0.3 (0.1)	0.2 (0.1)	3.3 (2.0)	2.4 (1.4)	3.4 (2.2)	2.4 (1.6)	3.0 (0.8)	2.1 (0.6)	2.6 (0.5)	1.9 (0.4)
19	0.5 (0.1)	0.4 (0.1)	4.2 (2.2)	3.0 (1.6)	4.8 (2.1)	3.4 (1.5)	4.0 (0.9)	2.9 (0.6)	4.0 (0.6)	2.8 (0.4)
20	0.5 (0.1)	0.4 (0.1)	2.4 (0.6)	1.7 (0.5)	2.7 (0.6)	1.9 (0.4)	3.2 (1.1)	2.3 (0.8)	2.8 (0.8)	2.0 (0.6)
21	0.4 (0.0)									
22	0.3 (0.1)	0.2 (0.0)	2.4 (0.3)	1.7 (0.2)	2.3 (0.5)	1.6 (0.3)	2.0 (0.5)	1.4 (0.4)	1.9 (0.5)	1.4 (0.3)
23	0.3 (0.1)	0.2 (0.1)	1.9 (0.2)	1.3 (0.1)	1.7 (0.2)	1.2 (0.2)	1.6 (0.4)	1.2 (0.3)	1.6 (0.3)	1.2 (0.2)
24	0.2 (0.1)	0.1 (0.1)	2.2 (1.4)	1.6 (1.0)	2.6 (1.6)	1.9 (1.2)	1.6 (0.5)	1.2 (0.3)	1.6 (0.3)	1.1 (0.2)
25	0.3 (0.1)	0.2 (0.1)	2.5 (0.3)	1.8 (0.2)	2.4 (0.8)	1.7 (0.6)	1.7 (0.5)	1.2 (0.3)	2.0 (0.4)	1.4 (0.3)
26	0.3 (0.1)	0.2 (0.1)	2.3 (0.4)	1.7 (0.3)	2.1 (0.4)	1.5 (0.3)	1.9 (0.4)	1.4 (0.3)	1.9 (0.3)	1.4 (0.3)
27	0.4 (0.1)	0.3 (0.1)	1.8 (0.3)	1.3 (0.2)	1.8 (0.3)	1.3 (0.2)	1.9 (0.3)	1.3 (0.2)	2.2 (0.3)	1.5 (0.2)
28	0.5 (0.2)	0.4 (0.1)	3.0 (1.0)	2.1 (0.7)	3.2 (1.0)	2.3 (0.7)	3.0 (0.9)	2.1 (0.6)	2.8 (1.2)	2.0 (0.8)
29										
30										
Mean	0.3	0.2	3.9	2.8	3.8	2.7	3.8	2.7	3.6	2.6
n	28	27	27	27	27	27	27	27	27	27
SD	0.1	0.1	1.6	1.2	1.5	1.1	1.4	1.0	1.3	0.9
Min	0.2	0.1	1.8	1.3	1.7	1.2	1.6	1.2	1.6	1.1
Max	0.6	0.4	7.5	5.3	7.5	5.3	6.0	4.3	5.8	4.2

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for June, 2006.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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	0.5 (0.1)	0.3 (0.1)	2.0 (0.2)	1.4 (0.1)	2.3 (0.3)	1.6 (0.2)	1.9 (0.5)	1.4 (0.3)	2.1 (0.6)	1.5 (0.4)
12	0.5 (0.1)	0.4 (0.1)	2.4 (0.7)	1.7 (0.5)	2.9 (1.1)	2.1 (0.8)	2.1 (0.3)	1.5 (0.2)	2.3 (0.4)	1.6 (0.3)
13	0.6 (0.1)	0.5 (0.0)	3.0 (0.4)	2.1 (0.3)	3.1 (0.5)	2.3 (0.3)	2.4 (0.4)	1.7 (0.3)	2.6 (0.4)	1.8 (0.3)
14	0.7 (0.1)	0.5 (0.0)	2.4 (0.2)	1.7 (0.1)	2.7 (0.3)	1.9 (0.2)	1.9 (0.3)	1.3 (0.2)	2.0 (0.3)	1.4 (0.2)
15	0.5 (0.1)	0.3 (0.1)			2.6 (0.3)	1.8 (0.2)	2.0 (0.4)	1.4 (0.3)	2.2 (0.4)	1.6 (0.3)
16	0.5 (0.1)	0.3 (0.0)	2.4 (0.4)	1.7 (0.3)	2.7 (0.7)	1.9 (0.5)	1.9 (0.4)	1.4 (0.3)	2.1 (0.3)	1.5 (0.2)
17	0.4 (0.1)	0.3 (0.0)	1.9 (0.2)	1.4 (0.2)	2.3 (0.4)	1.7 (0.3)	1.7 (0.4)	1.2 (0.3)	2.0 (0.4)	1.4 (0.3)
18	0.4 (0.1)	0.3 (0.0)	2.0 (0.3)	1.4 (0.2)	2.2 (0.3)	1.6 (0.2)	1.6 (0.4)	1.2 (0.3)	2.0 (0.5)	1.4 (0.3)
19	0.4 (0.0)									
20	0.5 (0.0)									
21	0.7 (0.1)	0.5 (0.0)	2.3 (0.2)	1.6 (0.2)	2.3 (0.3)	1.7 (0.2)	1.8 (0.4)	1.3 (0.3)	2.2 (0.3)	1.6 (0.2)
22	0.5 (0.1)	0.4 (0.1)	2.2 (0.3)	1.6 (0.2)	2.1 (0.3)	1.5 (0.2)	1.7 (0.4)	1.2 (0.3)	2.0 (0.4)	1.4 (0.3)
23	0.5 (0.1)	0.4 (0.0)	2.7 (1.4)	2.0 (1.0)	2.7 (1.0)	2.0 (0.7)	2.0 (0.5)	1.4 (0.3)	2.1 (0.3)	1.5 (0.2)
24	0.5 (0.1)	0.3 (0.0)	2.1 (0.3)	1.5 (0.2)	2.5 (0.4)	1.8 (0.3)	1.6 (0.4)	1.2 (0.3)	1.9 (0.4)	1.3 (0.3)
25	0.5 (0.1)	0.4 (0.0)	2.2 (0.2)	1.6 (0.1)	2.2 (0.2)	1.6 (0.1)	2.0 (0.4)	1.5 (0.3)	2.1 (0.3)	1.5 (0.2)
26	0.7 (0.1)	0.5 (0.1)	2.4 (0.3)	1.7 (0.2)	2.8 (1.0)	2.0 (0.7)	2.0 (0.3)	1.4 (0.2)	2.2 (0.3)	1.6 (0.2)
27	0.6 (0.1)	0.4 (0.0)	2.6 (0.3)	1.8 (0.2)	2.6 (0.3)	1.8 (0.2)	2.1 (0.3)	1.5 (0.2)	2.3 (0.3)	1.6 (0.2)
28	0.7 (0.0)	0.5 (0.0)	2.9 (0.4)	2.1 (0.3)	2.9 (0.6)	2.1 (0.4)	2.4 (0.4)	1.7 (0.3)	2.5 (0.4)	1.8 (0.3)
29	0.6 (0.0)	0.4 (0.0)	2.6 (0.5)	1.9 (0.3)	2.4 (0.2)	1.8 (0.2)	2.0 (0.4)	1.4 (0.3)	2.1 (0.4)	1.5 (0.3)
30	0.5 (0.1)	0.4 (0.1)	3.0 (1.5)	2.2 (1.0)	2.8 (1.5)	2.0 (1.1)	2.0 (0.4)	1.4 (0.3)	2.3 (0.3)	1.7 (0.2)
Mean	0.5	0.4	2.4	1.7	2.6	1.8	1.9	1.4	2.2	1.6
n	20	18	17	17	18	18	18	18	18	18
SD	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1
Min	0.4	0.3	1.9	1.4	2.1	1.5	1.6	1.2	1.9	1.3
Max	0.7	0.5	3.0	2.2	3.1	2.3	2.4	1.7	2.6	1.8

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for July, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.5 (0.0)	0.4 (0.0)	2.4 (0.4)	1.7 (0.3)	2.9 (0.4)	2.1 (0.3)	2.0 (0.3)	1.4 (0.2)	2.1 (0.4)	1.5 (0.3)
2	0.4 (0.1)	0.3 (0.1)	2.5 (0.3)	1.8 (0.2)	2.2 (0.4)	1.6 (0.3)	2.0 (0.5)	1.4 (0.4)	2.3 (0.4)	1.7 (0.3)
3	0.5 (0.1)	0.3 (0.1)	2.6 (0.9)	1.9 (0.7)	2.6 (1.4)	1.9 (1.0)	1.8 (0.3)	1.3 (0.2)	2.0 (0.3)	1.4 (0.2)
4	0.5 (0.0)	0.4 (0.0)	2.5 (0.6)	1.8 (0.5)	2.9 (0.7)	2.1 (0.5)	2.1 (0.4)	1.5 (0.3)	2.2 (0.3)	1.6 (0.2)
5	0.5 (0.1)	0.3 (0.1)	2.2 (0.3)	1.5 (0.2)	2.2 (0.2)	1.6 (0.2)	2.0 (0.3)	1.4 (0.2)	2.1 (0.3)	1.5 (0.2)
6	0.6 (0.2)	0.4 (0.1)	2.4 (0.2)	1.7 (0.1)	2.4 (0.3)	1.7 (0.2)	2.2 (0.5)	1.6 (0.3)	2.4 (0.4)	1.7 (0.3)
7	0.7 (0.1)	0.5 (0.1)	2.9 (0.8)	2.1 (0.6)	2.9 (1.1)	2.1 (0.8)	2.4 (0.4)	1.7 (0.3)	2.5 (0.4)	1.8 (0.3)
8	0.7 (0.1)	0.5 (0.1)	3.2 (0.3)	2.3 (0.2)	2.6 (0.5)	1.9 (0.3)	2.4 (0.4)	1.7 (0.3)	2.6 (0.4)	1.9 (0.3)
9	0.7 (0.1)	0.5 (0.1)	2.5 (0.4)	1.8 (0.3)	2.1 (0.3)	1.5 (0.2)	2.1 (0.4)	1.5 (0.3)	2.4 (0.5)	1.7 (0.4)
10	0.7 (0.2)	0.5 (0.1)	2.4 (1.2)	1.7 (0.9)	2.3 (0.9)	1.7 (0.6)	2.0 (0.4)	1.4 (0.3)	2.2 (0.4)	1.6 (0.3)
11	0.7 (0.1)	0.5 (0.1)	2.7 (0.3)	1.9 (0.2)	2.3 (0.4)	1.7 (0.3)	2.2 (0.4)	1.5 (0.3)	2.2 (0.3)	1.6 (0.3)
12	0.7 (0.0)	0.5 (0.0)	2.8 (0.5)	2.0 (0.3)	2.3 (0.3)	1.7 (0.3)	2.0 (0.2)	1.4 (0.2)	2.2 (0.3)	1.6 (0.2)
13	0.7 (0.1)	0.5 (0.1)	2.6 (0.4)	1.9 (0.3)	2.3 (0.3)	1.6 (0.2)	1.8 (0.3)	1.3 (0.2)	1.9 (0.3)	1.4 (0.2)
14	0.5 (0.1)	0.3 (0.0)	2.6 (1.1)	1.9 (0.8)	2.7 (1.6)	1.9 (1.1)	1.6 (0.3)	1.2 (0.2)	1.7 (0.3)	1.2 (0.2)
15	0.5 (0.1)	0.4 (0.0)	2.5 (0.3)	1.8 (0.2)	2.4 (0.6)	1.7 (0.4)	1.8 (0.3)	1.3 (0.2)	2.0 (0.4)	1.4 (0.3)
16	0.7 (0.1)	0.5 (0.0)	2.6 (0.3)	1.9 (0.2)	1.9 (0.2)	1.4 (0.2)	1.9 (0.2)	1.4 (0.2)	2.1 (0.3)	1.5 (0.2)
17	0.8 (0.1)									
18	0.8 (0.1)	0.6 (0.0)	2.5 (0.3)		2.1 (0.2)		1.9 (0.4)	1.4 (0.3)	2.2 (0.5)	1.6 (0.3)
19	0.7 (0.2)	0.5 (0.1)	2.4 (0.4)		2.1 (0.4)		1.8 (0.2)	1.3 (0.2)	2.0 (0.3)	1.4 (0.2)
20	0.7 (0.1)	0.5 (0.1)	2.5 (0.5)		2.2 (0.3)		1.7 (0.3)	1.2 (0.2)	2.2 (0.3)	1.5 (0.2)
21	0.8 (0.1)	0.6 (0.1)	2.8 (0.9)		3.0 (1.8)		2.0 (0.3)	1.4 (0.2)	2.2 (0.3)	1.6 (0.2)
22	0.7 (0.1)	0.5 (0.1)	2.5 (0.3)	1.8 (0.2)	2.3 (0.4)	1.7 (0.3)	2.1 (0.3)	1.5 (0.2)	2.3 (0.3)	1.6 (0.2)
23	0.7 (0.1)	0.5 (0.0)	2.5 (0.3)	1.8 (0.2)	2.1 (0.2)	1.5 (0.2)	2.1 (0.4)	1.5 (0.3)	2.3 (0.4)	1.7 (0.3)
24	0.6 (0.1)	0.4 (0.0)	2.5 (0.7)	1.8 (0.5)	2.5 (1.6)	1.8 (1.2)	1.8 (0.3)	1.3 (0.2)	2.0 (0.3)	1.5 (0.2)
25	0.6 (0.1)	0.4 (0.0)	2.3 (0.3)	1.7 (0.2)	2.1 (0.4)	1.5 (0.3)	1.7 (0.2)	1.2 (0.2)	2.0 (0.3)	1.5 (0.2)
26	0.6 (0.1)	0.4 (0.1)	2.2 (0.4)	1.6 (0.3)	1.8 (0.3)	1.3 (0.2)	1.7 (0.3)	1.2 (0.2)	1.9 (0.3)	1.4 (0.2)
27	0.5 (0.1)	0.4 (0.1)	1.9 (0.2)	1.4 (0.1)	1.7 (0.1)	1.2 (0.1)	1.6 (0.4)	1.1 (0.3)	1.8 (0.4)	1.3 (0.3)
28	0.6 (0.1)	0.4 (0.1)	2.6 (1.1)	1.9 (0.8)	2.6 (1.7)	1.9 (1.2)	1.8 (0.5)	1.3 (0.3)	2.0 (0.3)	1.4 (0.2)
29	0.6 (0.0)	0.4 (0.0)	2.1 (0.3)	1.5 (0.2)	2.1 (0.2)	1.5 (0.2)	1.8 (0.3)	1.3 (0.2)	1.9 (0.3)	1.4 (0.2)
30	0.6 (0.1)	0.4 (0.0)	2.3 (0.3)	1.7 (0.2)	2.1 (0.2)	1.5 (0.2)	1.8 (0.3)	1.3 (0.2)	1.9 (0.3)	1.3 (0.2)
31	0.6 (0.1)	0.4 (0.0)	2.3 (0.5)	1.7 (0.4)	2.4 (1.2)	1.7 (0.8)	1.8 (0.3)	1.3 (0.2)	2.0 (0.3)	1.5 (0.2)
Mean	0.6	0.4	2.5	1.8	2.3	1.7	1.9	1.4	2.1	1.5
n	31	30	30	26	30	26	30	30	30	30
SD	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.1
Min	0.4	0.3	1.9	1.4	1.7	1.2	1.6	1.1	1.7	1.2
Max	0.8	0.6	3.2	2.3	3.0	2.1	2.4	1.7	2.6	1.9

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for August, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.6 (0.0)	0.5 (0.0)	2.3 (0.2)	1.7 (0.2)	2.1 (0.4)	1.5 (0.3)	1.9 (0.3)	1.4 (0.2)	2.1 (0.3)	1.5 (0.2)
2	0.6 (0.1)	0.4 (0.1)	2.1 (0.2)	1.5 (0.1)	1.8 (0.2)	1.3 (0.2)	1.8 (0.3)	1.3 (0.2)	1.9 (0.3)	1.4 (0.2)
3	0.5 (0.0)	0.4 (0.0)	2.0 (0.2)	1.4 (0.2)	1.9 (0.2)	1.4 (0.2)	1.6 (0.4)	1.1 (0.3)	1.8 (0.4)	1.3 (0.3)
4	0.7 (0.2)	0.5 (0.2)	2.5 (1.0)	1.8 (0.7)	2.3 (0.8)	1.6 (0.6)	1.8 (0.5)	1.3 (0.3)	1.9 (0.4)	1.4 (0.3)
5	0.6 (0.1)	0.5 (0.1)	2.8 (0.3)	2.0 (0.2)	2.6 (0.3)	1.8 (0.2)	2.1 (0.3)	1.5 (0.2)	2.2 (0.3)	1.6 (0.2)
6	0.6 (0.1)	0.4 (0.1)	2.0 (0.2)	1.4 (0.1)	1.9 (0.2)	1.4 (0.1)	1.7 (0.4)	1.2 (0.3)	1.9 (0.3)	1.4 (0.2)
7	0.5 (0.1)	0.3 (0.1)	2.3 (0.9)	1.6 (0.6)	2.0 (0.6)	1.5 (0.5)	1.8 (0.5)	1.3 (0.3)	1.9 (0.4)	1.4 (0.3)
8	0.5 (0.1)	0.3 (0.1)	2.1 (0.4)	1.5 (0.3)	2.2 (0.3)	1.6 (0.2)	1.6 (0.4)	1.2 (0.3)	1.8 (0.3)	1.3 (0.2)
9	0.5 (0.1)	0.4 (0.1)	2.0 (0.2)	1.4 (0.2)	1.7 (0.2)	1.2 (0.1)	1.7 (0.2)	1.2 (0.1)	1.8 (0.2)	1.3 (0.2)
10	0.5 (0.0)	0.4 (0.0)	2.0 (0.3)	1.5 (0.2)	1.8 (0.3)	1.3 (0.2)	1.7 (0.2)	1.2 (0.2)	1.8 (0.2)	1.3 (0.2)
11	0.5 (0.0)	0.3 (0.0)	2.2 (1.1)	1.6 (0.8)	2.4 (1.0)	1.7 (0.7)	1.7 (0.3)	1.2 (0.2)	1.9 (0.3)	1.3 (0.2)
12	0.5 (0.0)	0.3 (0.0)	2.1 (0.3)	1.5 (0.2)	2.1 (0.3)	1.5 (0.2)	1.6 (0.3)	1.2 (0.2)	2.0 (0.3)	1.4 (0.2)
13	0.7 (0.2)	0.5 (0.1)	2.3 (0.4)		2.0 (0.3)		1.9 (0.3)	1.4 (0.2)	2.1 (0.3)	1.5 (0.2)
14	0.6 (0.1)	0.4 (0.1)	2.2 (1.0)	1.6 (0.7)	2.6 (1.4)	1.9 (1.0)	1.9 (0.3)	1.3 (0.2)	2.0 (0.3)	1.4 (0.2)
15	0.5 (0.1)	0.3 (0.1)	2.3 (0.4)	1.6 (0.3)	2.3 (0.4)	1.7 (0.3)	1.8 (0.2)	1.3 (0.2)	2.0 (0.2)	1.5 (0.2)
16	0.5 (0.0)	0.4 (0.0)	2.0 (0.2)	1.4 (0.1)	1.9 (0.2)	1.4 (0.2)	1.8 (0.4)	1.3 (0.3)	2.0 (0.3)	1.5 (0.2)
17	0.5 (0.1)	0.3 (0.0)	2.1 (0.3)	1.5 (0.2)	1.8 (0.2)	1.3 (0.1)	1.6 (0.5)	1.1 (0.3)	2.0 (0.3)	1.4 (0.2)
18	0.5 (0.1)	0.3 (0.0)	2.9 (1.0)	2.1 (0.7)	2.6 (1.5)	1.9 (1.1)	2.0 (0.3)	1.5 (0.2)	2.3 (0.3)	1.6 (0.2)
19	0.4 (0.1)	0.3 (0.0)	2.1 (0.4)	1.5 (0.3)	2.6 (0.4)	1.9 (0.3)	1.8 (0.2)	1.3 (0.2)	2.0 (0.2)	1.4 (0.2)
20	0.4 (0.1)	0.3 (0.0)	2.1 (0.4)	1.5 (0.3)	2.1 (0.2)	1.5 (0.1)	2.1 (0.6)	1.5 (0.4)	2.3 (0.4)	1.6 (0.3)
21	0.6 (0.2)	0.4 (0.1)	2.9 (1.1)	2.1 (0.8)	2.5 (0.9)	1.8 (0.6)	2.2 (0.4)	1.6 (0.3)	2.5 (0.3)	1.8 (0.2)
22	0.7 (0.2)	0.5 (0.1)	3.0 (0.5)	2.2 (0.3)	2.5 (0.4)	1.8 (0.3)	2.4 (0.3)	1.8 (0.2)	2.8 (0.3)	2.0 (0.2)
23	0.5 (0.1)	0.4 (0.1)	2.8 (0.4)	2.0 (0.3)	2.3 (0.4)	1.7 (0.3)	2.1 (0.2)	1.5 (0.2)	2.2 (0.3)	1.6 (0.2)
24	0.6 (0.1)	0.4 (0.1)	2.7 (0.4)	2.0 (0.3)	2.1 (0.4)	1.5 (0.3)	2.0 (0.3)	1.5 (0.2)	2.1 (0.3)	1.5 (0.2)
25	0.4 (0.1)	0.3 (0.1)	2.5 (1.5)	1.8 (1.1)	3.0 (2.5)	2.2 (1.8)	1.8 (0.4)	1.3 (0.3)	2.0 (0.4)	1.4 (0.3)
26	0.4 (0.1)	0.3 (0.1)	2.5 (0.8)	1.8 (0.6)	2.7 (0.6)	1.9 (0.4)	2.0 (0.5)	1.4 (0.4)	2.0 (0.5)	1.4 (0.3)
27	0.6 (0.1)	0.4 (0.1)	2.7 (0.2)	1.9 (0.1)	2.4 (0.3)	1.7 (0.2)	2.4 (0.5)	1.7 (0.3)	2.6 (0.3)	1.8 (0.3)
28	0.5 (0.1)	0.4 (0.1)	3.1 (1.4)	2.2 (1.0)	2.8 (1.7)	2.0 (1.2)	2.2 (0.5)	1.6 (0.3)	2.3 (0.4)	1.7 (0.3)
29	0.6 (0.1)	0.4 (0.1)	3.1 (0.4)	2.2 (0.3)	2.7 (0.4)	2.0 (0.3)	2.3 (0.3)	1.7 (0.2)	2.2 (0.4)	1.6 (0.3)
30	0.6 (0.1)	0.4 (0.1)	2.3 (0.3)	1.7 (0.2)	2.0 (0.3)	1.4 (0.2)	2.1 (0.3)	1.5 (0.2)	2.1 (0.4)	1.5 (0.3)
31	0.4 (0.1)	0.3 (0.0)	2.3 (0.4)	1.6 (0.3)	2.3 (0.2)	1.7 (0.2)	2.0 (0.4)	1.4 (0.3)	2.1 (0.4)	1.5 (0.3)
Mean	0.5	0.4	2.4	1.7	2.3	1.6	1.9	1.4	2.1	1.5
n	31	31	31	30	31	30	31	31	31	31
SD	0.1	0.1	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Min	0.4	0.3	2.0	1.4	1.7	1.2	1.6	1.1	1.8	1.3
Max	0.7	0.5	3.1	2.2	3.0	2.2	2.4	1.8	2.8	2.0

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for September, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.5 (0.1)	0.4 (0.1)	2.6 (1.0)	1.8 (0.7)	2.8 (1.4)	2.0 (1.0)	2.2 (0.5)	1.6 (0.3)	2.2 (0.4)	1.6 (0.3)
2	0.7 (0.0)									
3	0.6 (0.1)									
4										
5										
6										
7	0.5 (0.1)		2.1 (0.2)		2.1 (0.2)		1.9 (0.4)	1.4 (0.3)	1.9 (0.3)	1.3 (0.2)
8	0.6 (0.2)		2.9 (0.9)		2.5 (0.9)		2.1 (0.4)	1.5 (0.3)	2.2 (0.5)	1.6 (0.3)
9	0.5 (0.1)		2.5 (0.4)		2.5 (0.5)		1.7 (0.5)	1.2 (0.4)	2.0 (0.4)	1.5 (0.3)
10	0.3 (0.0)		2.2 (0.4)		2.5 (0.5)		1.9 (0.4)	1.3 (0.3)	2.1 (0.3)	1.5 (0.2)
11	0.5 (0.1)		3.0 (0.7)		2.7 (0.8)		2.9 (0.7)	2.1 (0.5)	2.7 (0.4)	1.9 (0.3)
12	0.6 (0.1)									
13	0.7 (0.0)		3.0 (0.4)		2.2 (0.3)		2.7 (0.3)	1.9 (0.2)	2.5 (0.2)	1.8 (0.1)
14	0.8 (0.1)		3.7 (0.5)		3.0 (0.4)		3.7 (0.5)	2.6 (0.3)	3.2 (0.5)	2.3 (0.3)
15	0.5 (0.1)		2.9 (0.7)	2.0 (0.5)	2.9 (1.1)	2.1 (0.8)	3.4 (1.0)	2.5 (0.7)	3.0 (0.8)	2.2 (0.6)
16	0.4 (0.1)		3.2 (0.5)	2.3 (0.4)	2.9 (0.6)	2.2 (0.4)	3.0 (0.7)	2.2 (0.5)	2.6 (0.4)	1.9 (0.3)
17	0.4 (0.1)	0.3 (0.0)	2.7 (0.4)	2.0 (0.3)	2.3 (0.6)	1.6 (0.4)	3.6 (1.1)	2.6 (0.8)	3.0 (0.8)	2.1 (0.6)
18	0.4 (0.1)	0.3 (0.1)	2.9 (1.9)	2.1 (1.3)	3.0 (1.8)	2.2 (1.3)	2.7 (0.5)	1.9 (0.4)	2.4 (0.4)	1.7 (0.3)
19	0.5 (0.1)	0.4 (0.1)	3.2 (0.5)	2.3 (0.3)	2.8 (0.6)	2.0 (0.4)	2.9 (0.6)	2.1 (0.4)	2.4 (0.7)	1.7 (0.5)
20	0.4 (0.0)	0.3 (0.0)	2.6 (0.3)	1.8 (0.2)	1.9 (0.3)	1.4 (0.2)	2.4 (0.6)	1.7 (0.4)	2.2 (0.3)	1.6 (0.2)
21	0.4 (0.0)	0.3 (0.0)	2.1 (0.2)		2.1 (0.1)		2.2 (0.5)	1.6 (0.3)	2.3 (0.4)	1.7 (0.3)
22	0.3 (0.0)	0.2 (0.0)	2.6 (1.4)		2.6 (1.5)		2.5 (0.7)	1.8 (0.5)	2.5 (0.5)	1.8 (0.3)
23	0.4 (0.1)	0.3 (0.1)	2.7 (0.6)		2.6 (0.6)		3.3 (1.5)	2.3 (1.1)	3.0 (1.0)	2.1 (0.7)
24	0.5 (0.1)	0.4 (0.0)	2.5 (0.3)		2.1 (0.4)		2.1 (0.3)	1.5 (0.2)	2.1 (0.2)	1.5 (0.2)
25	0.6 (0.1)	0.4 (0.1)	2.7 (0.8)		2.4 (1.1)		2.2 (0.3)	1.6 (0.2)	2.4 (0.3)	1.7 (0.2)
26	0.6 (0.1)	0.4 (0.0)	2.7 (0.3)	1.9 (0.2)	2.6 (0.3)	1.8 (0.2)	2.1 (0.3)	1.5 (0.2)	2.2 (0.2)	1.6 (0.2)
27	0.6 (0.1)	0.4 (0.1)	2.4 (0.3)	1.7 (0.2)	1.9 (0.2)	1.4 (0.1)	2.0 (0.3)	1.4 (0.2)	2.1 (0.3)	1.5 (0.2)
28	0.6 (0.1)	0.4 (0.1)	1.9 (0.3)	1.4 (0.2)	2.0 (0.2)	1.4 (0.2)	1.7 (0.4)	1.2 (0.3)	2.0 (0.3)	1.4 (0.2)
29	0.4 (0.1)	0.3 (0.0)	2.9 (1.4)	2.1 (1.0)	3.4 (1.8)	2.5 (1.3)	2.3 (0.7)	1.6 (0.5)	2.3 (0.4)	1.7 (0.3)
30	0.5 (0.1)	0.3 (0.0)	3.1 (0.5)	2.2 (0.4)	2.9 (0.7)	2.1 (0.5)	2.4 (0.6)	1.7 (0.4)	2.2 (0.4)	1.6 (0.3)
Mean	0.5	0.3	2.7	2.0	2.5	1.9	2.5	1.8	2.4	1.7
n	27	15	24	12	24	12	24	24	24	24
SD	0.1	0.1	0.4	0.3	0.4	0.3	0.6	0.4	0.3	0.2
Min	0.3	0.2	1.9	1.4	1.9	1.4	1.7	1.2	1.9	1.3
Max	0.8	0.4	3.7	2.3	3.4	2.5	3.7	2.6	3.2	2.3

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for October, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.4 (0.0)	0.3 (0.0)	3.0 (0.7)	2.1 (0.5)	2.8 (0.9)	2.0 (0.6)	3.3 (0.7)	2.3 (0.5)	3.3 (0.7)	2.3 (0.5)
2	0.4 (0.1)	0.3 (0.1)	3.6 (2.7)	2.6 (1.9)	3.5 (2.1)	2.5 (1.5)	4.5 (1.6)	3.2 (1.1)	4.9 (0.7)	3.5 (0.5)
3	0.3 (0.1)	0.2 (0.1)	4.2 (1.3)	3.0 (1.0)	4.1 (1.0)	2.9 (0.7)	5.1 (0.9)	3.6 (0.6)	4.9 (0.5)	3.5 (0.4)
4	0.4 (0.1)	0.3 (0.1)	3.8 (1.0)	2.7 (0.7)	3.9 (0.7)	2.8 (0.5)	4.2 (1.2)	3.0 (0.8)	4.3 (0.6)	3.1 (0.4)
5	0.4 (0.1)	0.3 (0.1)	3.6 (0.8)	2.6 (0.6)	3.7 (0.7)	2.7 (0.5)	4.2 (1.2)	3.0 (0.8)	4.3 (0.8)	3.1 (0.6)
6	0.4 (0.1)	0.3 (0.1)	4.0 (2.0)	2.9 (1.4)	4.3 (1.9)	3.1 (1.4)	4.8 (1.2)	3.4 (0.8)	4.3 (0.6)	3.1 (0.4)
7	0.4 (0.1)	0.3 (0.1)	4.6 (0.8)	3.3 (0.6)	4.5 (0.8)	3.2 (0.6)	5.4 (1.2)	3.8 (0.9)	4.7 (0.7)	3.3 (0.5)
8			4.5 (0.3)	3.2 (0.2)	3.8 (0.7)	2.7 (0.5)	3.9 (1.1)	2.8 (0.8)	4.2 (0.7)	3.0 (0.5)
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	0.4	0.3	3.9	2.8	3.8	2.7	4.4	3.2	4.4	3.1
n	7	7	8	8	8	8	8	8	8	8
SD	0.0	0.0	0.5	0.4	0.5	0.4	0.6	0.4	0.5	0.3
Min	0.3	0.2	3.0	2.1	2.8	2.0	3.3	2.3	3.3	2.3
Max	0.4	0.3	4.6	3.3	4.5	3.2	5.4	3.8	4.9	3.5

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for November, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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										
13										
14										
15										
16										
17										
18										
19										
20	0.5 (0.1)	0.3 (0.0)	2.2 (0.6)	1.6 (0.4)	5.7 (2.2)	4.0 (1.6)	5.7 (1.0)	4.1 (0.7)	5.4 (0.9)	3.8 (0.6)
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
Mean										
n	1	1	1	1	1	1	1	1	1	1
SD										
Min										
Max										

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for December, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	0.5 (0.2)	0.4 (0.2)	9.5 (1.5)	6.8 (1.1)	9.3 (1.2)	6.6 (0.9)	7.9 (2.1)	5.6 (1.5)	7.9 (2.6)	5.7 (1.8)
24	0.6 (0.1)	0.4 (0.1)	6.7 (0.9)	4.7 (0.6)	5.5 (1.1)	3.9 (0.7)	8.2 (1.4)	5.9 (1.0)	7.3 (1.6)	5.2 (1.2)
25	0.8 (0.1)	0.6 (0.0)	4.6 (1.2)	3.3 (0.8)	4.4 (0.9)	3.1 (0.7)	8.9 (1.4)	6.3 (1.0)	7.4 (1.6)	5.3 (1.2)
26	0.5 (0.1)	0.3 (0.1)	8.6 (3.7)	6.1 (2.6)	8.2 (3.4)	5.9 (2.4)	9.2 (1.5)	6.6 (1.1)	8.2 (1.5)	5.9 (1.1)
27	0.7 (0.1)	0.5 (0.0)	10.1 (2.7)	7.2 (1.9)	10.5 (2.3)	7.5 (1.6)	8.9 (2.0)	6.4 (1.4)	8.2 (2.0)	5.9 (1.5)
28	0.8 (0.1)	0.6 (0.1)	6.8 (1.2)	4.8 (0.9)	7.1 (0.8)	5.1 (0.6)	7.4 (1.8)	5.3 (1.3)	6.7 (1.5)	4.8 (1.0)
29	1.4 (0.5)	1.0 (0.3)	9.5 (4.6)	6.8 (3.3)	9.4 (3.5)	6.7 (2.5)	9.9 (2.1)	7.1 (1.5)	9.7 (1.7)	6.9 (1.2)
30	1.6 (0.5)	1.1 (0.4)	8.5 (2.5)	6.1 (1.8)	8.5 (2.4)	6.1 (1.7)	9.4 (2.4)	6.7 (1.7)	8.2 (1.9)	5.8 (1.3)
31										
Mean	0.9	0.6	8.0	5.7	7.9	5.6	8.7	6.2	7.9	5.7
n	8	8	8	8	8	8	8	8	8	8
SD	0.4	0.3	1.8	1.3	1.9	1.4	0.8	0.5	0.8	0.6
Min	0.5	0.3	4.6	3.3	4.4	3.1	7.4	5.3	6.7	4.8
Max	1.6	1.1	10.1	7.2	10.5	7.5	9.9	7.1	9.7	6.9

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for January, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1										
2										
3										
4										
5										
6	0.5 (0.1)	0.3 (0.0)	14.5 (1.8)	10.4 (1.3)	14.5 (1.8)	10.3 (1.2)	9.2 (1.8)	6.6 (1.3)	9.0 (1.8)	6.4 (1.3)
7	0.7 (0.2)	0.5 (0.1)	11.3 (1.6)	8.0 (1.2)	11.2 (2.3)	8.0 (1.6)	9.3 (1.5)	6.6 (1.0)	8.7 (1.5)	6.2 (1.1)
8	1.1 (0.2)	0.8 (0.1)	8.7 (2.5)	6.2 (1.8)	8.6 (3.0)	6.1 (2.2)	8.0 (2.5)	5.7 (1.8)	8.0 (1.9)	5.7 (1.4)
9	1.4 (1.1)	1.0 (0.8)	11.6 (2.8)	8.3 (2.0)	11.2 (2.4)	8.0 (1.7)	8.5 (1.6)	6.0 (1.1)	8.5 (1.7)	6.1 (1.2)
10	0.3 (0.1)	0.2 (0.0)	11.1 (1.0)	7.9 (0.7)	11.1 (1.0)	7.9 (0.7)	6.6 (1.5)	4.7 (1.1)	6.8 (1.6)	4.8 (1.2)
11	0.5 (0.1)	0.3 (0.1)	8.9 (1.7)	6.4 (1.2)	9.1 (1.8)	6.5 (1.3)	7.3 (1.5)	5.2 (1.0)	7.5 (1.7)	5.4 (1.2)
12	0.4 (0.1)	0.3 (0.1)	9.3 (3.1)	6.6 (2.2)	9.0 (3.2)	6.4 (2.3)	8.1 (2.0)	5.8 (1.4)	8.3 (1.6)	5.9 (1.2)
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	0.7	0.5	10.8	7.7	10.7	7.6	8.1	5.8	8.1	5.8
n	7	7	7	7	7	7	7	7	7	7
SD	0.4	0.3	1.9	1.4	1.9	1.4	0.9	0.6	0.7	0.5
Min	0.3	0.2	8.7	6.2	8.6	6.1	6.6	4.7	6.8	4.8
Max	1.4	1.0	14.5	10.4	14.5	10.3	9.3	6.6	9.0	6.4

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for February, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1										
2										
3										
4	0.2 (0.1)	0.2 (0.1)	7.3 (0.4)	5.2 (0.3)	7.3 (0.4)	5.2 (0.3)	5.9 (1.0)	4.2 (0.7)		
5	0.3 (0.1)	0.2 (0.1)	7.3 (2.2)	5.2 (1.6)	7.2 (2.2)	5.1 (1.5)	6.0 (1.1)	4.3 (0.8)	6.2 (1.0)	4.4 (0.7)
6	0.3 (0.0)	0.2 (0.0)	10.2 (1.4)	7.3 (1.0)	10.3 (1.6)	7.3 (1.1)	6.2 (2.1)	4.4 (1.5)	6.4 (1.7)	4.6 (1.2)
7	0.5 (0.2)	0.4 (0.1)	8.2 (1.6)	5.8 (1.2)	8.0 (1.7)	5.7 (1.2)	7.0 (1.3)	5.0 (0.9)	6.5 (1.3)	4.7 (0.9)
8	0.9 (0.2)	0.6 (0.1)	4.2 (1.3)	3.0 (0.9)	4.4 (1.2)	3.1 (0.8)	6.6 (1.0)	4.7 (0.7)	6.4 (0.9)	4.6 (0.7)
9	0.6 (0.1)	0.4 (0.1)	9.4 (4.6)	6.7 (3.2)	9.4 (4.9)	6.7 (3.5)	6.7 (1.6)	4.8 (1.1)	6.4 (1.5)	4.5 (1.0)
10	0.6 (0.1)	0.5 (0.1)	10.9 (4.1)	7.8 (2.9)	10.3 (3.4)	7.4 (2.5)	8.0 (1.2)	5.7 (0.9)	7.9 (0.8)	5.6 (0.6)
11	0.7 (0.1)	0.5 (0.0)	8.0 (1.0)	5.7 (0.7)	7.7 (1.3)	5.5 (0.9)	7.8 (1.8)	5.6 (1.3)	6.8 (1.3)	4.9 (0.9)
12	0.8 (0.2)	0.6 (0.2)			6.1 (2.1)	4.4 (1.5)	5.9 (1.6)	4.2 (1.2)	5.9 (1.3)	4.2 (0.9)
13	0.8 (0.3)	0.6 (0.2)			8.5 (2.1)	6.0 (1.5)	8.1 (1.2)	5.8 (0.9)	7.6 (1.2)	5.4 (0.9)
14	0.4 (0.1)	0.3 (0.1)			7.3 (1.1)	5.2 (0.8)	7.6 (1.8)	5.4 (1.3)	7.4 (1.2)	5.3 (0.8)
15	0.5 (0.1)	0.3 (0.1)			6.5 (1.1)	4.7 (0.8)	7.0 (1.6)	5.0 (1.2)	7.2 (1.4)	5.1 (1.0)
16	0.5 (0.1)	0.3 (0.1)			7.5 (3.2)	5.4 (2.3)	7.6 (1.7)	5.4 (1.2)	7.7 (1.3)	5.5 (0.9)
17	0.4 (0.0)	0.3 (0.0)			9.8 (1.5)	7.0 (1.1)	7.2 (1.2)	5.2 (0.8)	6.3 (1.8)	4.5 (1.3)
18	0.5 (0.2)	0.3 (0.1)	7.1 (1.2)	5.1 (0.8)	6.9 (1.5)	4.9 (1.1)	5.5 (1.3)	3.9 (0.9)	4.1 (1.5)	2.9 (1.1)
19	0.9 (0.2)	0.7 (0.1)	6.3 (2.0)	4.5 (1.4)	6.2 (2.0)	4.4 (1.4)	6.5 (1.7)	4.6 (1.2)	5.6 (1.5)	4.0 (1.1)
20	1.0 (0.1)	0.7 (0.1)	5.9 (0.8)	4.2 (0.5)	5.6 (0.5)	4.0 (0.4)	4.1 (0.9)	2.9 (0.6)	2.5 (0.6)	1.8 (0.4)
21	0.6 (0.3)	0.4 (0.2)	6.2 (1.2)	4.4 (0.9)	6.0 (1.3)	4.3 (1.0)	6.1 (1.4)	4.4 (1.0)	4.8 (1.4)	3.4 (1.0)
22	0.5 (0.1)	0.3 (0.1)	5.7 (0.9)	4.1 (0.7)	5.8 (1.2)	4.2 (0.9)	7.2 (1.2)	5.1 (0.9)	5.7 (1.5)	4.1 (1.1)
23	0.7 (0.1)	0.5 (0.0)	5.5 (2.8)	3.9 (2.0)	5.0 (2.2)	3.6 (1.6)	5.0 (1.6)	3.6 (1.1)	4.6 (1.3)	3.3 (0.9)
24	0.7 (0.2)	0.5 (0.1)	8.4 (2.1)	6.0 (1.5)	8.0 (1.8)	5.7 (1.3)	7.0 (1.5)	5.0 (1.1)	7.3 (1.4)	5.2 (1.0)
25	0.4 (0.0)	0.2 (0.0)	6.9 (1.2)	4.9 (0.8)	6.8 (1.4)	4.8 (1.0)	6.1 (1.5)	4.4 (1.1)	5.8 (1.2)	4.1 (0.9)
26										
27										
28										
Mean	0.6	0.4	7.3	5.2	7.3	5.2	6.6	4.7	6.2	4.4
n	22	22	16	16	22	22	22	22	21	21
SD	0.2	0.2	1.7	1.3	1.6	1.1	1.0	0.7	1.3	0.9
Min	0.2	0.2	4.2	3.0	4.4	3.1	4.1	2.9	2.5	1.8
Max	1.0	0.7	10.9	7.8	10.3	7.4	8.1	5.8	7.9	5.6

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for March, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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	0.6 (0.0)	0.4 (0.0)	11.5 (2.6)	8.2 (1.9)	10.7 (2.4)	7.6 (1.7)	7.5 (1.1)	5.3 (0.8)	6.5 (1.8)	4.6 (1.3)
11	0.6 (0.0)	0.4 (0.0)	4.2 (1.2)	3.0 (0.9)	4.4 (1.3)	3.2 (0.9)	5.3 (1.6)	3.8 (1.2)	4.0 (1.4)	2.9 (1.0)
12	0.5 (0.1)	0.4 (0.1)	6.4 (2.4)	4.6 (1.7)	6.6 (2.2)	4.7 (1.6)	6.7 (1.4)	4.8 (1.0)	6.6 (1.4)	4.7 (1.0)
13	0.5 (0.1)	0.3 (0.1)	8.0 (1.0)	5.7 (0.7)	7.4 (0.9)	5.2 (0.7)	7.4 (1.5)	5.3 (1.1)	6.6 (1.5)	4.7 (1.1)
14	0.5 (0.1)	0.4 (0.1)	6.2 (1.2)	4.4 (0.9)	6.2 (1.2)	4.4 (0.8)	8.5 (1.4)	6.1 (1.0)	7.8 (1.7)	5.6 (1.3)
15	0.5 (0.1)	0.3 (0.1)	6.9 (0.9)	4.9 (0.7)	7.1 (1.0)	5.1 (0.7)	6.7 (1.4)	4.8 (1.0)	6.3 (1.5)	4.5 (1.1)
16	0.5 (0.1)	0.3 (0.0)	8.9 (5.3)	6.4 (3.8)	8.8 (4.6)	6.3 (3.3)	5.8 (0.9)	4.1 (0.7)	5.7 (1.3)	4.1 (0.9)
17	0.6 (0.1)	0.5 (0.0)	8.9 (3.2)	6.4 (2.3)	8.8 (2.4)	6.3 (1.7)	7.6 (0.7)	5.4 (0.5)	7.5 (1.0)	5.3 (0.7)
18	0.7 (0.1)	0.5 (0.1)	6.1 (1.7)	4.4 (1.2)	6.4 (2.0)	4.6 (1.4)	8.1 (1.6)	5.8 (1.1)	8.0 (1.3)	5.7 (0.9)
19	0.6 (0.0)	0.4 (0.0)								
20	0.5 (0.1)	0.3 (0.1)	7.8 (1.8)	5.5 (1.3)	7.3 (1.4)	5.2 (1.0)	6.6 (0.9)	4.7 (0.6)	6.4 (0.8)	4.6 (0.6)
21	0.3 (0.0)	0.2 (0.0)	6.1 (0.9)	4.3 (0.6)	5.4 (0.8)	3.8 (0.5)	7.2 (0.9)	5.1 (0.6)	7.0 (0.9)	5.0 (0.6)
22	0.4 (0.1)	0.3 (0.1)	4.1 (0.8)	2.9 (0.6)	4.3 (0.8)	3.1 (0.6)	6.6 (1.1)	4.7 (0.8)	6.3 (0.6)	4.5 (0.4)
23	0.3 (0.1)	0.2 (0.0)	5.4 (3.3)	3.9 (2.3)	5.1 (2.6)	3.6 (1.8)	6.2 (1.3)	4.4 (0.9)	6.0 (1.1)	4.3 (0.8)
24	0.4 (0.1)	0.3 (0.0)	8.3 (0.7)	5.9 (0.5)	8.4 (1.0)	6.0 (0.7)	6.6 (1.5)	4.7 (1.1)	6.6 (1.5)	4.7 (1.1)
25	0.3 (0.1)	0.2 (0.1)	6.2 (0.9)	4.4 (0.6)	5.9 (1.2)	4.3 (0.8)	6.2 (1.1)	4.4 (0.8)	5.1 (1.3)	3.6 (0.9)
26	0.6 (0.2)	0.5 (0.2)	9.3 (4.3)	6.6 (3.1)	9.6 (4.0)	6.8 (2.8)	8.2 (1.7)	5.9 (1.2)	7.5 (1.9)	5.4 (1.4)
27	0.8 (0.1)	0.6 (0.1)	9.1 (2.1)	6.5 (1.5)	8.7 (1.7)	6.2 (1.2)	7.5 (2.2)	5.3 (1.5)	7.0 (1.9)	5.0 (1.4)
28	0.7 (0.1)	0.5 (0.0)	7.5 (1.8)	5.4 (1.3)	7.7 (1.4)	5.5 (1.0)	5.8 (1.5)	4.1 (1.1)	5.4 (1.4)	3.9 (1.0)
29	0.7 (0.1)	0.5 (0.1)	8.0 (1.4)	5.7 (1.0)	8.3 (1.6)	5.9 (1.2)	6.0 (1.6)	4.3 (1.2)	5.2 (1.5)	3.7 (1.1)
30	0.8 (0.2)	0.5 (0.1)	6.1 (1.9)	4.4 (1.4)	5.9 (1.7)	4.2 (1.2)	6.2 (1.9)	4.4 (1.4)	5.5 (1.5)	3.9 (1.0)
31										
Mean	0.5	0.4	7.3	5.2	7.1	5.1	6.8	4.9	6.4	4.5
n	21	21	20	20	20	20	20	20	20	20
SD	0.2	0.1	1.8	1.3	1.7	1.2	0.9	0.6	1.0	0.7
Min	0.3	0.2	4.1	2.9	4.3	3.1	5.3	3.8	4.0	2.9
Max	0.8	0.6	11.5	8.2	10.7	7.6	8.5	6.1	8.0	5.7

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for April, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25	-0.2 (0.1)	-0.1 (0.1)	2.1 (0.6)	1.5 (0.5)	1.6 (0.8)	1.2 (0.6)	1.5 (0.5)	1.0 (0.4)	1.4 (0.5)	1.0 (0.3)
26	-0.2 (0.1)	-0.1 (0.1)	1.6 (0.3)	1.1 (0.2)	1.1 (0.1)	0.8 (0.1)	1.0 (0.2)	0.7 (0.2)	1.1 (0.2)	0.8 (0.2)
27	0.0 (0.1)	0.0 (0.0)	2.7 (1.1)	1.9 (0.8)	2.5 (1.3)	1.8 (0.9)	2.1 (1.0)	1.5 (0.7)	1.9 (0.8)	1.4 (0.6)
28	-0.1 (0.1)	-0.1 (0.1)	1.9 (0.5)	1.4 (0.4)	1.9 (0.6)	1.3 (0.4)	1.3 (0.5)	0.9 (0.4)	1.3 (0.5)	0.9 (0.4)
29	0.1 (0.1)	0.1 (0.1)	2.6 (0.9)	1.8 (0.7)	2.7 (0.9)	1.9 (0.7)	3.0 (1.2)	2.1 (0.9)	2.6 (0.8)	1.9 (0.6)
30	0.1 (0.0)	0.1 (0.0)	4.4 (1.5)	3.2 (1.1)	3.8 (1.6)	2.7 (1.1)	4.1 (1.3)	2.9 (0.9)	3.2 (0.8)	2.3 (0.6)
Mean	0.0	0.0	2.5	1.8	2.3	1.6	2.2	1.5	1.9	1.4
n	6	6	6	6	6	6	6	6	6	6
SD	0.1	0.1	0.9	0.7	0.9	0.6	1.1	0.8	0.8	0.5
Min	-0.2	-0.1	1.6	1.1	1.1	0.8	1.0	0.7	1.1	0.8
Max	0.1	0.1	4.4	3.2	3.8	2.7	4.1	2.9	3.2	2.3

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for May, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	-0.1 (0.1)									
2	-0.1 (0.0)									
3	0.1 (0.1)									
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27	-0.2 (0.1)	-0.2 (0.1)	0.9 (0.3)	0.7 (0.2)	0.7 (0.3)	0.5 (0.2)	0.7 (0.2)	0.5 (0.2)	0.6 (0.2)	0.4 (0.2)
28	-0.4 (0.0)	-0.3 (0.0)	1.1 (0.5)	0.8 (0.4)	0.9 (1.1)	0.7 (0.8)	0.6 (0.2)	0.4 (0.2)	0.4 (0.2)	0.3 (0.1)
29	-0.3 (0.1)	-0.2 (0.0)	1.0 (0.2)	0.7 (0.1)	1.0 (0.3)	0.7 (0.2)	0.3 (0.1)	0.2 (0.1)	0.3 (0.2)	0.2 (0.1)
30	-0.2 (0.1)	-0.1 (0.0)	0.9 (0.2)	0.6 (0.2)	0.6 (0.2)	0.5 (0.1)	0.7 (0.2)	0.5 (0.1)	0.7 (0.2)	0.5 (0.1)
31	-0.1 (0.0)	-0.1 (0.0)	0.8 (0.1)	0.5 (0.1)	0.9 (0.2)	0.6 (0.1)	1.1 (0.3)	0.8 (0.2)	1.1 (0.3)	0.8 (0.2)
Mean	-0.2	-0.2	0.9	0.7	0.8	0.6	0.7	0.5	0.6	0.4
n	8	5	5	5	5	5	5	5	5	5
SD	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.2
Min	-0.4	-0.3	0.8	0.5	0.6	0.5	0.3	0.2	0.3	0.2
Max	0.1	-0.1	1.1	0.8	1.0	0.7	1.1	0.8	1.1	0.8

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for June, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.0 (0.1)	0.0 (0.0)	1.4 (0.7)	1.0 (0.5)	1.2 (0.7)	0.8 (0.5)	1.6 (0.4)	1.1 (0.3)	1.3 (0.3)	0.9 (0.2)
2	-0.1 (0.0)	-0.1 (0.0)	1.1 (0.2)	0.8 (0.2)	1.2 (0.3)	0.8 (0.2)	0.9 (0.4)	0.7 (0.3)	0.8 (0.2)	0.6 (0.2)
3	-0.1 (0.0)	-0.1 (0.0)	1.2 (0.2)	0.8 (0.2)	0.9 (0.2)	0.6 (0.1)	0.8 (0.4)	0.6 (0.3)	0.8 (0.3)	0.5 (0.2)
4	-0.1 (0.0)	-0.1 (0.0)	1.0 (0.2)	0.7 (0.1)	0.9 (0.1)	0.7 (0.1)	0.9 (0.4)	0.6 (0.3)	0.8 (0.3)	0.6 (0.2)
5	-0.1 (0.1)	-0.1 (0.1)	1.2 (0.4)	0.8 (0.3)	0.7 (0.2)	0.5 (0.2)	0.7 (0.4)	0.5 (0.3)	0.7 (0.2)	0.5 (0.2)
6	-0.3 (0.1)	-0.2 (0.0)	0.9 (0.2)	0.7 (0.1)	0.7 (0.1)	0.5 (0.1)	0.5 (0.2)	0.3 (0.2)	0.5 (0.2)	0.3 (0.1)
7	-0.2 (0.0)	-0.2 (0.0)	0.9 (0.2)	0.7 (0.2)	0.7 (0.2)	0.5 (0.1)	0.6 (0.3)	0.4 (0.2)	0.5 (0.2)	0.4 (0.1)
8	-0.2 (0.0)	-0.2 (0.0)	1.4 (1.1)	1.0 (0.8)	1.0 (0.6)	0.7 (0.5)	0.6 (0.2)	0.5 (0.2)	0.6 (0.2)	0.4 (0.1)
9	-0.4 (0.1)	-0.3 (0.0)	0.8 (0.2)	0.5 (0.2)	0.7 (0.2)	0.5 (0.2)	0.2 (0.1)	0.1 (0.1)	0.3 (0.1)	0.2 (0.1)
10	-0.3 (0.1)	-0.2 (0.0)	0.9 (0.3)	0.7 (0.2)	0.6 (0.2)	0.4 (0.1)	0.4 (0.2)	0.3 (0.2)	0.5 (0.2)	0.3 (0.2)
11	-0.3 (0.0)	-0.2 (0.0)	0.8 (0.2)	0.6 (0.2)	0.4 (0.1)	0.3 (0.1)	0.3 (0.2)	0.2 (0.1)	0.3 (0.1)	0.2 (0.1)
12	-0.4 (0.1)	-0.3 (0.1)	0.8 (0.4)	0.6 (0.3)	1.0 (1.4)	0.7 (1.0)	0.2 (0.2)	0.1 (0.1)	0.3 (0.2)	0.2 (0.1)
13	-0.3 (0.1)	-0.2 (0.1)	1.0 (0.2)	0.7 (0.2)	1.0 (0.4)	0.7 (0.3)	0.4 (0.3)	0.3 (0.2)	0.4 (0.3)	0.3 (0.2)
14	-0.3 (0.0)	-0.2 (0.0)	0.8 (0.2)	0.5 (0.2)	0.6 (0.2)	0.4 (0.1)	0.4 (0.2)	0.3 (0.2)	0.4 (0.2)	0.3 (0.1)
15	-0.2 (0.1)	-0.1 (0.1)	0.8 (0.4)	0.6 (0.3)	0.9 (0.7)	0.7 (0.5)	0.6 (0.3)	0.4 (0.2)	0.6 (0.2)	0.4 (0.2)
16	-0.2 (0.1)	-0.1 (0.0)	1.2 (0.3)	0.8 (0.2)	1.1 (0.4)	0.8 (0.3)	0.7 (0.1)	0.5 (0.1)	0.7 (0.1)	0.5 (0.1)
17	-0.2 (0.0)	-0.2 (0.0)	0.8 (0.1)	0.6 (0.1)	0.6 (0.2)	0.5 (0.1)	0.6 (0.1)	0.4 (0.1)	0.3 (0.2)	0.2 (0.2)
18	-0.3 (0.0)	-0.2 (0.0)	0.9 (0.3)	0.7 (0.2)	0.9 (0.8)	0.7 (0.6)	0.3 (0.2)	0.2 (0.1)	0.3 (0.2)	0.2 (0.1)
19	-0.3 (0.0)	-0.2 (0.0)	0.7 (0.2)	0.5 (0.1)	0.7 (0.3)	0.5 (0.2)	0.3 (0.2)	0.2 (0.1)	0.4 (0.2)	0.3 (0.1)
20	-0.3 (0.0)	-0.2 (0.0)	0.6 (0.2)	0.5 (0.1)	0.4 (0.1)	0.3 (0.1)	0.4 (0.2)	0.3 (0.2)	0.4 (0.2)	0.3 (0.1)
21	-0.5 (0.1)	-0.3 (0.0)	0.4 (0.1)	0.3 (0.1)	0.4 (0.1)	0.3 (0.1)	0.0 (0.2)	0.0 (0.1)	0.1 (0.2)	0.1 (0.1)
22	-0.4 (0.1)	-0.3 (0.0)	0.6 (0.5)	0.4 (0.4)	0.8 (0.9)	0.6 (0.6)	0.2 (0.3)	0.1 (0.2)	0.2 (0.2)	0.2 (0.2)
23	-0.4 (0.1)	-0.3 (0.0)	0.4 (0.2)	0.3 (0.1)	0.7 (0.4)	0.5 (0.3)	0.3 (0.2)	0.2 (0.1)	0.3 (0.2)	0.2 (0.1)
24	-0.4 (0.0)	-0.3 (0.0)	0.5 (0.1)	0.4 (0.1)	0.5 (0.2)	0.3 (0.1)	0.4 (0.2)	0.3 (0.1)	0.4 (0.2)	0.3 (0.1)
25	-0.3 (0.1)	-0.2 (0.1)	0.6 (0.2)	0.4 (0.2)	0.8 (0.9)	0.5 (0.7)	0.4 (0.4)	0.3 (0.3)	0.4 (0.3)	0.3 (0.2)
26	-0.5 (0.0)	-0.3 (0.0)	0.6 (0.3)	0.4 (0.2)	0.4 (0.4)	0.3 (0.3)	0.1 (0.3)	0.1 (0.2)	0.3 (0.3)	0.2 (0.2)
27	-0.4 (0.0)	-0.3 (0.0)	0.4 (0.2)	0.3 (0.1)	0.3 (0.1)	0.2 (0.1)	0.0 (0.1)	0.0 (0.1)	0.1 (0.1)	0.1 (0.1)
28	-0.4 (0.0)	-0.3 (0.0)	0.5 (0.2)	0.4 (0.2)	0.3 (0.1)	0.2 (0.1)	0.1 (0.2)	0.1 (0.1)	0.2 (0.2)	0.2 (0.1)
29	-0.4 (0.0)	-0.3 (0.0)	0.6 (0.3)	0.4 (0.2)	0.8 (0.9)	0.6 (0.7)	0.2 (0.2)	0.1 (0.2)	0.3 (0.3)	0.2 (0.2)
30										
Mean	-0.3	-0.2	0.8	0.6	0.7	0.5	0.5	0.3	0.5	0.3
n	29	29	29	29	29	29	29	29	29	29
SD	0.1	0.1	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2
Min	-0.5	-0.3	0.4	0.3	0.3	0.2	0.0	0.0	0.1	0.1
Max	0.0	0.0	1.4	1.0	1.2	0.8	1.6	1.1	1.3	0.9

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for August, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26	0.2 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.1)	1.4 (0.3)	1.0 (0.2)	0.9 (0.2)	0.6 (0.1)	1.0 (0.2)	0.7 (0.1)
27	0.2 (0.1)	0.1 (0.0)	1.2 (0.4)	0.9 (0.3)	1.4 (0.7)	1.0 (0.5)	1.1 (0.2)	0.8 (0.2)	1.1 (0.2)	0.8 (0.1)
28	0.3 (0.0)	0.2 (0.0)	1.7 (0.3)	1.2 (0.2)	1.9 (0.3)	1.4 (0.2)	1.5 (0.4)	1.1 (0.3)	1.4 (0.3)	1.0 (0.2)
29	0.2 (0.1)	0.2 (0.1)	1.7 (0.4)	1.2 (0.3)	1.4 (0.2)	1.0 (0.2)	1.1 (0.3)	0.8 (0.2)	1.1 (0.3)	0.8 (0.2)
30	0.1 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.2)	1.4 (0.3)	1.0 (0.2)	0.9 (0.2)	0.6 (0.2)	1.0 (0.2)	0.7 (0.1)
31	0.2 (0.1)	0.2 (0.0)								
Mean	0.2	0.1	1.5	1.1	1.5	1.1	1.1	0.8	1.1	0.8
n	6	6	5	5	5	5	5	5	5	5
SD	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1
Min	0.1	0.1	1.2	0.9	1.4	1.0	0.9	0.6	1.0	0.7
Max	0.3	0.2	1.7	1.2	1.9	1.4	1.5	1.1	1.4	1.0

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for September, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}	ppm	mg dsm^{-3}
1	0.2 (0.1)	0.1 (0.0)	1.6 (0.2)	1.2 (0.2)	1.4 (0.2)	1.0 (0.1)	1.1 (0.1)	0.8 (0.1)	1.2 (0.2)	0.8 (0.1)
2	0.2 (0.1)	0.1 (0.0)	1.5 (0.2)	1.1 (0.2)	1.2 (0.2)	0.9 (0.1)	1.1 (0.2)	0.8 (0.1)	1.1 (0.2)	0.8 (0.2)
3	0.2 (0.1)	0.2 (0.1)	1.8 (0.4)	1.3 (0.3)	1.5 (0.5)	1.1 (0.3)	1.1 (0.3)	0.8 (0.2)	1.1 (0.2)	0.8 (0.1)
4	0.2 (0.1)	0.2 (0.0)	1.6 (0.3)	1.1 (0.2)	1.4 (0.2)	1.0 (0.2)	1.2 (0.2)	0.8 (0.1)	1.1 (0.1)	0.8 (0.1)
5	0.2 (0.0)	0.1 (0.0)	1.4 (0.2)	1.0 (0.2)	1.3 (0.3)	1.0 (0.2)	1.2 (0.2)	0.9 (0.1)	1.2 (0.2)	0.9 (0.1)
6	0.2 (0.0)	0.1 (0.0)	1.5 (0.3)	1.1 (0.2)	1.3 (0.2)	0.9 (0.2)	1.3 (0.2)	1.0 (0.2)	1.3 (0.2)	0.9 (0.1)
7	0.2 (0.0)	0.2 (0.0)	2.0 (0.7)	1.4 (0.5)	1.6 (0.6)	1.1 (0.4)	1.4 (0.2)	1.0 (0.2)	1.5 (0.2)	1.0 (0.1)
8	0.3 (0.0)	0.2 (0.0)	1.9 (0.3)	1.3 (0.2)	1.9 (0.2)	1.4 (0.2)	1.5 (0.3)	1.1 (0.2)	1.5 (0.2)	1.1 (0.2)
9	0.2 (0.0)	0.2 (0.0)	1.6 (0.2)	1.1 (0.1)	1.5 (0.3)	1.1 (0.2)	1.3 (0.2)	0.9 (0.1)	1.4 (0.2)	1.0 (0.2)
10	0.3 (0.0)	0.2 (0.0)	1.9 (0.5)	1.3 (0.4)	1.7 (0.7)	1.2 (0.5)	1.5 (0.3)	1.1 (0.2)	1.4 (0.3)	1.0 (0.2)
11	0.3 (0.1)									
12	0.2 (0.1)	0.1 (0.0)	1.8 (0.1)	1.3 (0.1)	1.6 (0.3)	1.2 (0.2)	1.0 (0.2)	0.7 (0.1)	1.1 (0.2)	0.8 (0.1)
13	0.1 (0.0)	0.1 (0.0)	1.6 (0.2)	1.1 (0.2)	1.3 (0.2)	1.0 (0.2)	1.0 (0.2)	0.7 (0.1)	1.0 (0.1)	0.7 (0.1)
14	0.2 (0.0)	0.1 (0.0)	1.7 (0.6)	1.3 (0.4)	1.7 (0.6)	1.2 (0.4)	1.2 (0.3)	0.9 (0.2)	1.3 (0.3)	0.9 (0.2)
15	0.1 (0.0)	0.1 (0.0)	1.7 (0.4)	1.2 (0.3)	1.8 (0.4)	1.3 (0.3)	0.9 (0.2)	0.7 (0.1)		
16	0.2 (0.0)	0.1 (0.0)	1.5 (0.2)	1.1 (0.1)	1.3 (0.2)	0.9 (0.2)	1.1 (0.2)	0.8 (0.2)	1.1 (0.2)	0.8 (0.2)
17	0.2 (0.0)	0.1 (0.0)	2.1 (0.4)	1.5 (0.3)	1.8 (0.8)	1.3 (0.6)	1.4 (0.2)	1.0 (0.2)	1.4 (0.3)	1.0 (0.2)
18	0.1 (0.0)	0.1 (0.0)								
19	0.1 (0.0)	0.1 (0.0)	1.3 (0.3)	0.9 (0.2)	1.2 (0.3)	0.8 (0.2)	1.5 (0.2)	1.1 (0.2)		
20	0.2 (0.0)	0.2 (0.0)	1.8 (0.4)	1.3 (0.3)	1.2 (0.3)	0.9 (0.2)	2.0 (0.3)	1.5 (0.2)		
21	0.3 (0.0)	0.2 (0.0)	2.4 (0.8)	1.7 (0.6)	1.8 (0.9)	1.3 (0.7)	1.5 (0.3)	1.1 (0.2)		
22	0.2 (0.0)	0.1 (0.0)	2.3 (0.2)	1.7 (0.2)	1.9 (0.2)	1.3 (0.2)	0.9 (0.1)	0.6 (0.1)	1.2 (0.3)	0.8 (0.2)
23	0.2 (0.0)	0.1 (0.0)	2.1 (0.2)	1.5 (0.2)	1.5 (0.2)	1.1 (0.1)	0.8 (0.3)	0.6 (0.2)	0.9 (0.3)	0.7 (0.2)
24	0.2 (0.0)	0.1 (0.0)	1.7 (0.6)	1.3 (0.4)	1.7 (0.6)	1.2 (0.4)	1.0 (0.2)	0.7 (0.2)	1.0 (0.2)	0.7 (0.1)
25	0.2 (0.0)	0.2 (0.0)	2.2 (0.4)	1.6 (0.3)	2.2 (0.5)	1.6 (0.3)	2.2 (0.7)	1.6 (0.5)	1.7 (0.5)	1.2 (0.3)
26	0.3 (0.0)	0.2 (0.0)	2.7 (0.5)	1.9 (0.3)	1.8 (0.3)	1.3 (0.2)	2.8 (0.5)	2.0 (0.4)	2.3 (0.6)	1.6 (0.5)
27	0.2 (0.0)	0.2 (0.0)	2.4 (0.3)	1.7 (0.2)	2.0 (0.3)	1.5 (0.2)	3.0 (0.6)	2.1 (0.4)	2.4 (0.4)	1.7 (0.3)
28	0.2 (0.0)	0.2 (0.0)	2.8 (0.7)	2.0 (0.5)	2.6 (1.0)	1.9 (0.7)	3.0 (0.8)	2.1 (0.6)	2.3 (0.5)	1.7 (0.3)
29	0.2 (0.0)	0.2 (0.0)	2.6 (0.4)	1.8 (0.3)	2.7 (0.5)	1.9 (0.3)	2.3 (0.5)	1.7 (0.3)	1.9 (0.3)	1.4 (0.2)
30	0.2 (0.0)	0.1 (0.0)	1.6 (0.2)	1.1 (0.2)	1.6 (0.3)	1.2 (0.2)	2.3 (0.8)	1.6 (0.5)	1.9 (0.4)	1.3 (0.3)
Mean	0.2	0.1	1.9	1.4	1.7	1.2	1.5	1.1	1.4	1.0
n	30	29	28	28	28	28	28	28	24	24
SD	0.0	0.0	0.4	0.3	0.4	0.3	0.6	0.4	0.4	0.3
Min	0.1	0.1	1.3	0.9	1.2	0.8	0.8	0.6	0.9	0.7
Max	0.3	0.2	2.8	2.0	2.7	1.9	3.0	2.1	2.4	1.7

Table E7. Daily means (SD) of NH_3 concentrations at Site NY5B for October, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppm	mg dsm^{-3}	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)	1.8 (0.7)	1.3 (0.5)	1.9 (0.7)	1.3 (0.5)	3.2 (0.5)	2.3 (0.4)	2.5 (0.3)	1.8 (0.2)
2	0.3 (0.0)	0.2 (0.0)	2.5 (0.4)	1.8 (0.3)	2.5 (0.4)	1.8 (0.3)	3.2 (0.9)	2.3 (0.6)	2.5 (0.7)	1.8 (0.5)
3	0.2 (0.0)									
4	0.2 (0.0)	0.2 (0.0)	2.1 (0.3)	1.5 (0.2)	1.9 (0.3)	1.4 (0.2)	2.6 (0.8)	1.9 (0.6)	2.2 (0.5)	1.6 (0.4)
5	0.2 (0.0)	0.2 (0.0)	3.0 (1.4)	2.1 (1.0)	2.7 (1.3)	1.9 (0.9)	2.3 (0.8)	1.7 (0.6)	2.4 (0.6)	1.7 (0.4)
6	0.3 (0.1)	0.2 (0.0)	3.6 (0.5)	2.5 (0.3)	3.3 (0.6)	2.4 (0.4)	3.0 (0.6)	2.1 (0.4)	3.0 (0.5)	2.1 (0.4)
7	0.2 (0.0)	0.2 (0.0)	2.2 (0.5)	1.6 (0.4)	2.3 (0.4)	1.6 (0.3)	3.1 (0.8)	2.2 (0.5)	3.1 (0.7)	2.2 (0.5)
8	0.3 (0.0)	0.2 (0.0)	3.1 (1.2)	2.2 (0.8)	3.1 (1.3)	2.2 (0.9)	2.9 (0.7)	2.1 (0.5)	2.9 (0.6)	2.0 (0.5)
9	0.3 (0.0)	0.2 (0.0)	3.6 (0.7)	2.6 (0.5)	3.7 (0.6)	2.6 (0.4)	2.7 (0.7)	2.0 (0.5)	2.8 (0.5)	2.0 (0.4)
10	0.3 (0.0)	0.2 (0.0)	2.2 (0.2)	1.6 (0.1)	2.4 (0.3)	1.7 (0.2)	2.8 (0.7)	2.0 (0.5)	2.6 (0.5)	1.9 (0.4)
11	0.3 (0.0)	0.2 (0.0)	1.9 (0.3)	1.4 (0.2)	2.1 (0.5)	1.5 (0.4)	2.7 (0.7)	2.0 (0.5)	2.6 (0.6)	1.9 (0.4)
12	0.3 (0.0)	0.2 (0.0)	2.3 (0.5)	1.6 (0.4)	2.3 (0.4)	1.6 (0.3)	2.9 (0.9)	2.0 (0.7)	2.2 (0.6)	1.6 (0.4)
13	0.3 (0.0)	0.2 (0.0)	2.4 (1.2)	1.7 (0.9)	2.5 (1.0)	1.8 (0.7)	3.4 (0.9)	2.4 (0.6)	2.9 (0.3)	2.0 (0.2)
14	0.2 (0.1)	0.2 (0.0)	2.3 (0.2)	1.7 (0.1)	2.6 (0.3)	1.8 (0.2)	3.0 (0.7)	2.1 (0.5)	2.8 (0.6)	2.0 (0.4)
15	0.3 (0.0)	0.2 (0.0)	3.0 (1.2)	2.2 (0.9)	3.2 (1.4)	2.3 (1.0)	4.0 (0.5)	2.8 (0.4)	3.7 (0.4)	2.7 (0.3)
16	0.3 (0.0)	0.2 (0.0)	2.9 (0.4)	2.1 (0.3)	3.0 (0.5)	2.2 (0.3)	4.2 (0.7)	3.0 (0.5)	3.9 (0.5)	2.8 (0.4)
17	0.3 (0.0)	0.2 (0.0)	2.4 (0.4)	1.7 (0.3)	2.5 (0.5)	1.8 (0.3)	3.5 (0.5)	2.5 (0.4)	3.3 (0.6)	2.3 (0.4)
18	0.3 (0.0)	0.2 (0.0)	2.4 (0.4)	1.7 (0.3)	2.4 (0.4)	1.7 (0.3)	3.8 (0.7)	2.7 (0.5)	3.8 (0.5)	2.7 (0.3)
19	0.3 (0.0)	0.2 (0.0)	2.7 (0.8)	1.9 (0.6)	2.8 (1.1)	2.0 (0.8)	3.8 (0.8)	2.7 (0.6)	3.8 (0.9)	2.7 (0.6)
20	0.3 (0.0)	0.2 (0.0)	3.4 (0.4)	2.4 (0.3)	3.5 (0.4)	2.5 (0.3)	3.1 (0.5)	2.2 (0.3)	3.2 (0.6)	2.3 (0.4)
21	0.3 (0.0)	0.2 (0.0)	3.0 (0.4)	2.2 (0.3)	3.1 (0.4)	2.2 (0.3)	3.7 (0.6)	2.7 (0.4)	3.3 (0.5)	2.3 (0.4)
22	0.3 (0.0)	0.2 (0.0)	3.6 (0.9)	2.6 (0.6)	3.3 (1.0)	2.4 (0.7)	3.5 (0.9)	2.5 (0.6)	3.5 (0.7)	2.5 (0.5)
23	1.8 (1.4)	1.3 (1.0)	3.9 (0.7)	2.8 (0.5)	3.9 (0.8)	2.8 (0.6)	4.3 (1.3)	3.1 (0.9)	3.8 (0.8)	2.7 (0.6)
24										
25										
26										
27										
28										
29										
30										
31										
Mean	0.3	0.3	2.7	2.0	2.8	2.0	3.3	2.3	3.0	2.2
n	23	22	22	22	22	22	22	22	22	22
SD	0.3	0.2	0.6	0.4	0.6	0.4	0.5	0.4	0.5	0.4
Min	0.2	0.2	1.8	1.3	1.9	1.3	2.3	1.7	2.2	1.6
Max	1.8	1.3	3.9	2.8	3.9	2.8	4.3	3.1	3.9	2.8

Table E8. NH3 Emissions

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for November, 2007.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21	17.0 (2.9)	5.28 (0.89)	36.6 (6.1)	31.7 (5.3)	9.72 (2.80)	11.6 (1.9)	51.2 (14.7)
22	10.2 (4.8)	3.17 (1.49)	22.0 (10.4)	19.0 (9.0)	7.05 (1.58)	6.94 (3.27)	37.1 (8.3)
23	7.95 (5.57)	2.46 (1.73)	17.1 (12.0)	14.8 (10.3)	5.96 (1.92)	5.39 (3.78)	31.4 (10.1)
24	13.1 (2.2)	4.05 (0.68)	28.1 (4.7)	24.3 (4.1)	7.99 (1.47)	8.88 (1.49)	42.1 (7.8)
25	10.8 (1.7)	3.36 (0.51)	23.4 (3.6)	20.2 (3.1)	10.5 (3.0)	7.35 (1.12)	55.4 (15.9)
26	13.6 (3.7)	4.21 (1.15)	29.4 (8.0)	25.5 (7.0)	13.9 (4.4)	9.23 (2.52)	73.0 (23.3)
27					10.4 (3.1)		54.5 (16.2)
28	10.8 (1.9)	3.35 (0.58)	23.4 (4.1)	20.3 (3.5)	8.59 (2.43)	7.34 (1.28)	45.2 (12.8)
29					9.49 (2.10)		49.9 (11.0)
30	9.27 (2.37)	2.87 (0.73)	19.7 (5.1)	17.0 (4.4)	8.80 (2.56)	6.29 (1.61)	46.3 (13.5)
Mean	11.6	3.59	24.9	21.6	9.23	7.87	48.6
n	8	8	8	8	10	8	10
SD	2.69	0.83	5.80	5.02	2.06	1.82	10.8
Min	7.95	2.46	17.1	14.8	5.96	5.39	31.4
Max	17.0	5.28	36.6	31.7	13.9	11.6	73.0

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for December, 2007.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	8.47 (3.44)	2.62 (1.06)	17.7 (7.2)	15.3 (6.2)	5.34 (0.90)	5.75 (2.33)	28.1 (4.7)
2	10.4 (1.1)	3.23 (0.34)	22.1 (2.3)	19.1 (2.0)	6.08 (1.18)	7.09 (0.74)	32.0 (6.2)
3	8.43 (3.33)	2.61 (1.03)	18.0 (7.1)	15.6 (6.2)	6.39 (2.51)	5.72 (2.26)	33.6 (13.2)
4	11.3 (1.4)	3.48 (0.42)	24.1 (2.9)	20.9 (2.5)	5.22 (1.43)	7.63 (0.92)	27.5 (7.5)
5	11.2 (1.5)	3.47 (0.47)	23.7 (3.2)	20.5 (2.8)	6.24 (1.29)	7.61 (1.03)	32.8 (6.8)
6	13.9 (8.1)	4.29 (2.50)			6.52 (1.43)	9.41 (5.48)	34.3 (7.5)
7	17.3 (2.2)	5.36 (0.68)	36.5 (4.6)	31.6 (4.0)	5.07 (1.59)	11.7 (1.5)	26.7 (8.4)
8	15.8 (1.5)	4.90 (0.47)	33.8 (3.2)	29.2 (2.8)	6.57 (1.60)	10.7 (1.0)	34.6 (8.4)
9	17.0 (2.3)	5.27 (0.72)	36.7 (5.1)	31.8 (4.4)	5.96 (1.07)	11.5 (1.6)	31.3 (5.7)
10	14.9 (5.6)	4.63 (1.73)	32.0 (11.9)	27.7 (10.3)	8.78 (2.06)	10.1 (3.8)	46.2 (10.9)
11	17.8 (3.9)	5.52 (1.22)	37.9 (8.3)	32.8 (7.2)	10.5 (3.2)	12.1 (2.7)	55.4 (16.8)
12	12.0 (1.8)	3.73 (0.55)	25.6 (3.8)	22.1 (3.3)	8.71 (2.07)	8.16 (1.21)	45.8 (10.9)
13	15.3 (6.0)	4.73 (1.86)	32.4 (12.7)	28.0 (11.0)	7.02 (3.19)	10.4 (4.1)	36.9 (16.8)
14	16.9 (6.6)	5.22 (2.06)	35.6 (14.0)	30.8 (12.1)	10.0 (2.8)	11.4 (4.5)	52.6 (15.0)
15	13.4 (1.3)	4.14 (0.42)	28.1 (2.8)	24.3 (2.4)	3.18 (1.49)	9.08 (0.91)	16.7 (7.8)
16	11.5 (3.6)	3.57 (1.10)	24.4 (7.5)	21.1 (6.5)	3.06 (1.22)	7.83 (2.41)	16.1 (6.4)
17	10.4 (5.1)	3.23 (1.57)	22.2 (10.8)	19.2 (9.3)	2.53 (1.06)	7.07 (3.44)	13.3 (5.6)
18	20.2 (8.9)	6.26 (2.75)	42.9 (18.8)	37.2 (16.3)	4.09 (0.95)	13.7 (6.0)	21.5 (5.0)
19	14.3 (2.3)	4.41 (0.73)	30.2 (5.0)	26.2 (4.3)	4.59 (1.56)	9.67 (1.59)	24.1 (8.2)
20							
21	17.3 (2.0)	5.36 (0.61)	36.4 (4.3)	31.5 (3.7)	3.83 (0.93)	11.7 (1.3)	20.1 (4.9)
22	13.6 (2.1)	4.20 (0.65)	28.3 (4.4)	24.5 (3.8)	5.05 (1.14)	9.21 (1.42)	26.6 (6.0)
23	10.4 (4.4)	3.22 (1.38)	22.0 (9.4)	19.0 (8.2)	5.12 (2.36)	7.06 (3.01)	27.0 (12.4)
24	12.4 (3.1)	3.85 (0.95)	26.6 (6.5)	23.0 (5.7)	4.09 (1.31)	8.43 (2.07)	21.5 (6.9)
25	15.5 (2.8)	4.79 (0.86)	33.2 (5.9)	28.7 (5.1)	5.69 (1.51)	10.5 (1.9)	30.0 (7.9)
26	17.3 (2.0)	5.34 (0.62)	36.6 (4.2)	31.7 (3.7)	4.79 (1.72)	11.7 (1.4)	25.2 (9.1)
27	15.7 (6.1)	4.87 (1.88)	32.9 (12.6)	28.5 (10.9)	6.30 (2.11)	10.7 (4.1)	33.2 (11.1)
28	18.2 (4.1)	5.63 (1.27)	37.8 (8.6)	32.7 (7.4)	6.06 (2.27)	12.3 (2.8)	31.9 (12.0)
29	12.4 (2.0)	3.83 (0.61)	25.5 (4.1)	22.1 (3.5)	6.66 (1.43)	8.39 (1.33)	35.0 (7.5)
30	14.0 (1.0)	4.34 (0.31)	29.4 (2.2)	25.5 (1.9)	6.69 (0.73)	9.51 (0.68)	35.2 (3.8)
31	15.3 (7.9)	4.74 (2.43)	32.9 (16.9)	28.5 (14.7)	5.28 (1.32)	10.4 (5.3)	27.8 (6.9)
Mean	14.1	4.36	29.8	25.8	5.85	9.56	30.8
n	30	30	29	29	30	30	30
SD	2.97	0.92	6.41	5.6	1.84	2.01	9.7
Min	8.43	2.61	17.7	15.3	2.53	5.72	13.3
Max	20.2	6.26	42.9	37.2	10.5	13.7	55.4

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for January, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	18.8 (4.0)	5.81 (1.24)	40.5 (8.7)	35.0 (7.5)	5.02 (1.99)	12.7 (2.7)	26.4 (10.5)
2	11.6 (1.4)	3.60 (0.43)	25.0 (3.1)	21.7 (2.6)	2.85 (0.67)	7.89 (0.95)	15.0 (3.5)
3	12.2 (3.4)	3.78 (1.06)	26.1 (7.3)	22.6 (6.3)	2.53 (0.43)	8.28 (2.31)	13.3 (2.2)
4	16.2 (1.5)	5.01 (0.46)	34.3 (3.1)	29.7 (2.7)	3.98 (0.80)	11.0 (1.0)	21.0 (4.2)
5	14.4 (0.9)	4.45 (0.29)	30.3 (1.9)	26.3 (1.7)	5.07 (1.24)	9.75 (0.62)	26.7 (6.5)
6	14.9 (2.5)	4.61 (0.76)	31.7 (5.2)	27.5 (4.5)	8.47 (1.85)	10.1 (1.7)	44.6 (9.7)
7	23.1 (15.1)	7.14 (4.67)	50.2 (33.0)	43.4 (28.5)	13.2 (3.5)	15.6 (10.2)	69.6 (18.7)
8	27.4 (5.6)	8.48 (1.72)	59.5 (12.2)	51.5 (10.6)	12.5 (2.5)	18.6 (3.8)	65.9 (13.2)
9					11.1 (2.9)		58.3 (15.2)
10	17.0 (4.9)	5.26 (1.52)	36.2 (10.4)	31.3 (9.0)	11.3 (3.1)	11.5 (3.3)	59.6 (16.4)
11							
12	13.0 (1.3)	4.03 (0.41)	27.1 (2.8)	23.5 (2.4)	13.2 (2.7)	8.83 (0.90)	69.5 (14.2)
13	13.6 (1.4)	4.21 (0.43)	28.7 (2.7)	24.8 (2.4)	9.34 (3.05)	9.21 (0.93)	49.1 (16.1)
14	13.8 (5.4)	4.26 (1.68)	29.4 (11.5)	25.4 (10.0)	11.9 (3.0)	9.33 (3.69)	62.7 (15.5)
15	18.1 (2.3)	5.61 (0.72)	38.4 (5.0)	33.3 (4.3)	8.95 (3.08)	12.3 (1.6)	47.1 (16.2)
16	15.8 (0.9)	4.91 (0.27)	33.4 (1.9)	28.9 (1.6)	4.18 (1.19)	10.7 (0.6)	22.0 (6.3)
17	15.0 (3.0)	4.65 (0.94)	31.2 (6.1)	27.0 (5.3)	3.42 (0.78)	10.2 (2.1)	18.0 (4.1)
18	14.6 (2.6)	4.52 (0.80)	30.2 (5.2)	26.1 (4.5)	4.90 (1.54)	9.90 (1.74)	25.8 (8.1)
19	13.4 (1.2)	4.14 (0.37)	27.9 (2.5)	24.1 (2.1)	3.70 (1.21)	9.06 (0.80)	19.5 (6.4)
20	8.73 (1.68)	2.70 (0.52)	18.3 (3.5)	15.8 (3.0)	1.64 (0.58)	5.92 (1.14)	8.61 (3.0)
21	13.5 (5.0)	4.17 (1.54)	28.6 (10.6)	24.8 (9.2)	2.58 (0.80)	9.15 (3.37)	13.6 (4.2)
22	16.5 (3.5)	5.10 (1.08)	35.0 (7.5)	30.3 (6.5)	3.86 (1.48)	11.2 (2.4)	20.3 (7.8)
23	14.5 (1.7)	4.50 (0.52)	30.7 (3.6)	26.6 (3.1)	3.66 (0.67)	9.85 (1.14)	19.3 (3.5)
24	14.7 (3.4)	4.55 (1.05)	31.0 (7.1)	26.8 (6.2)	3.81 (0.77)	9.97 (2.31)	20.0 (4.1)
25	12.9 (2.3)	3.98 (0.70)	26.8 (4.7)	23.2 (4.1)	3.30 (0.77)	8.73 (1.53)	17.4 (4.1)
26	14.9 (1.1)	4.60 (0.33)	30.9 (2.3)	26.8 (2.0)	4.40 (1.08)	10.1 (0.7)	23.2 (5.7)
27	14.3 (1.0)	4.42 (0.29)	29.8 (2.0)	25.8 (1.7)	4.73 (1.71)	9.67 (0.64)	24.9 (9.0)
28	16.6 (6.8)	5.14 (2.12)	34.6 (14.3)	30.0 (12.4)	5.02 (0.95)	11.3 (4.6)	26.4 (5.0)
29	22.0 (4.5)	6.81 (1.40)	45.9 (9.5)	39.7 (8.2)	7.62 (2.05)	14.9 (3.1)	40.1 (10.8)
30	10.5 (2.5)	3.26 (0.77)	21.8 (5.2)	18.9 (4.5)	4.08 (2.46)	7.14 (1.69)	21.5 (13.0)
31	16.3 (8.6)	5.04 (2.65)	33.2 (17.4)	28.8 (15.0)	3.92 (1.08)	11.0 (5.8)	20.7 (5.7)
Mean	15.4	4.78	32.6	28.3	6.14	10.5	32.3
n	29	29	29	29	30	29	30
SD	3.69	1.14	8.1	7.0	3.53	2.50	18.6
Min	8.73	2.70	18.3	15.8	1.64	5.92	8.61
Max	27.4	8.48	59.5	51.5	13.2	18.6	69.6

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for February, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	20.3 (2.8)	6.30 (0.87)	41.2 (5.8)	35.6 (5.0)	4.91 (2.35)	13.8 (1.9)	25.8 (12.4)
2	14.4 (2.4)	4.47 (0.75)	29.0 (4.9)	25.1 (4.2)	5.89 (0.63)	9.79 (1.65)	31.0 (3.3)
3	16.1 (1.5)	4.98 (0.45)	32.7 (2.9)	28.3 (2.5)	5.57 (1.11)	10.9 (1.0)	29.3 (5.9)
4	18.7 (7.7)	5.78 (2.37)	38.0 (15.4)	32.9 (13.3)	5.68 (0.91)	12.7 (5.2)	29.9 (4.8)
5	23.7 (4.5)	7.34 (1.40)	47.8 (9.1)	41.4 (7.9)	8.20 (1.61)	16.1 (3.1)	43.2 (8.5)
6	17.0 (1.7)	5.27 (0.51)	34.3 (3.3)	29.6 (2.9)	6.06 (0.96)	11.5 (1.1)	31.9 (5.0)
7	16.9 (6.2)	5.23 (1.91)	34.2 (12.6)	29.6 (10.9)	4.82 (1.45)	11.5 (4.2)	25.4 (7.6)
8	19.9 (3.9)	6.15 (1.20)	40.0 (8.0)	34.6 (6.9)	5.23 (1.58)	13.5 (2.6)	27.5 (8.3)
9	15.0 (1.6)	4.65 (0.48)	29.9 (3.1)	25.8 (2.7)	5.98 (1.31)	10.2 (1.1)	31.5 (6.9)
10	9.74 (4.13)	3.02 (1.28)	19.6 (8.1)	16.9 (7.0)	3.12 (2.33)	6.61 (2.80)	16.4 (12.3)
11	7.94 (4.53)	2.46 (1.40)	16.2 (9.2)	14.0 (8.0)	1.73 (0.64)	5.39 (3.07)	9.13 (3.4)
12	16.3 (2.3)	5.05 (0.71)	32.9 (4.7)	28.5 (4.1)	2.42 (0.44)	11.1 (1.6)	12.8 (2.3)
13	11.2 (1.9)	3.45 (0.60)	22.3 (3.9)	19.3 (3.4)	3.90 (1.31)	7.57 (1.31)	20.5 (6.9)
14	13.8 (4.9)	4.27 (1.52)	27.9 (10.0)	24.1 (8.7)	4.26 (1.62)	9.35 (3.33)	22.4 (8.5)
15	16.7 (2.8)	5.18 (0.87)	34.6 (5.5)	29.9 (4.8)	3.37 (1.48)	11.3 (1.9)	17.8 (7.8)
16	12.4 (0.6)	3.84 (0.20)	26.0 (1.3)	22.5 (1.1)		8.40 (0.43)	
17					3.84 (1.88)		20.2 (9.9)
18	11.8 (3.0)	3.64 (0.93)	24.3 (6.2)	21.0 (5.3)	7.38 (1.93)	7.97 (2.04)	38.9 (10.2)
19	11.1 (3.1)	3.44 (0.95)	22.9 (6.3)	19.8 (5.5)	3.38 (1.57)	7.53 (2.08)	17.8 (8.2)
20	10.2 (1.2)	3.15 (0.37)	21.0 (2.4)	18.2 (2.1)	2.84 (0.66)	6.90 (0.80)	14.9 (3.5)
21	13.3 (5.0)	4.12 (1.56)	27.4 (10.3)	23.7 (8.9)	3.80 (1.37)	9.03 (3.41)	20.0 (7.2)
22	17.4 (3.0)	5.38 (0.94)	35.5 (6.3)	30.7 (5.5)	4.41 (1.14)	11.8 (2.1)	23.2 (6.0)
23	12.3 (2.0)	3.81 (0.62)	24.8 (4.1)	21.4 (3.5)	4.58 (1.23)	8.35 (1.37)	24.1 (6.5)
24	12.5 (0.9)	3.88 (0.29)	26.1 (2.0)	22.6 (1.8)	5.27 (1.89)	8.51 (0.63)	27.8 (9.9)
25	14.0 (6.4)	4.35 (1.97)	30.1 (13.5)	26.0 (11.7)	5.79 (2.83)	9.52 (4.32)	30.5 (14.9)
26	20.2 (3.5)	6.27 (1.08)	43.1 (7.4)	37.3 (6.4)	7.38 (1.29)	13.7 (2.4)	38.8 (6.8)
27	10.2 (2.3)	3.14 (0.71)	21.6 (4.9)	18.7 (4.3)	3.71 (0.93)	6.89 (1.56)	19.5 (4.9)
28	9.78 (4.54)	3.03 (1.41)	20.5 (9.5)	17.7 (8.2)	3.17 (0.51)	6.63 (3.08)	16.7 (2.7)
29					2.90 (0.53)		15.3 (2.8)
Mean	14.6	4.5	29.8	25.8	4.63	9.87	24.4
n	27	27	27	27	28	27	28
SD	3.85	1.19	7.78	6.73	1.55	2.61	8.17
Min	7.94	2.46	16.2	14.0	1.73	5.39	9.13
Max	23.7	7.34	47.8	41.4	8.20	16.1	43.2

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for March, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	10.6 (1.8)	3.29 (0.54)	22.1 (3.7)	19.1 (3.2)	4.50 (1.20)	7.21 (1.19)	23.7 (6.3)
2	12.1 (1.5)	3.76 (0.47)	25.9 (3.3)	22.4 (2.9)	6.22 (2.05)	8.24 (1.03)	32.7 (10.8)
3	18.7 (9.0)	5.78 (2.77)	40.5 (19.3)	35.0 (16.7)	4.34 (1.17)	12.7 (6.1)	22.8 (6.2)
4	23.3 (3.1)	7.22 (0.97)	50.2 (6.8)	43.4 (5.9)	4.79 (1.46)	15.8 (2.1)	25.2 (7.7)
5	15.3 (3.3)	4.73 (1.02)	32.9 (7.1)	28.5 (6.2)	4.12 (0.99)	10.4 (2.2)	21.7 (5.2)
6	18.4 (7.5)	5.69 (2.32)	39.4 (16.0)	34.1 (13.8)	5.52 (2.38)	12.5 (5.1)	29.1 (12.5)
7							
8	15.4 (3.8)	4.77 (1.18)	32.1 (8.0)	27.8 (6.9)	4.53 (1.37)	10.5 (2.6)	23.8 (7.2)
9	6.87 (1.62)	2.13 (0.50)	14.5 (3.4)	12.6 (3.0)	1.96 (1.22)	4.66 (1.10)	10.3 (6.5)
10	13.6 (6.4)	4.20 (1.98)	29.5 (13.9)	25.5 (12.0)	4.82 (1.43)	9.21 (4.33)	25.4 (7.5)
11					6.27 (2.01)		33.0 (10.6)
12	16.2 (3.6)	5.01 (1.12)	34.8 (7.8)	30.1 (6.8)	5.19 (1.26)	11.0 (2.5)	27.3 (6.6)
13					4.81 (2.00)		25.3 (10.5)
14	24.6 (2.9)	7.61 (0.89)	52.4 (6.2)	45.3 (5.4)	8.42 (1.82)	16.7 (2.0)	44.3 (9.6)
15	20.6 (2.0)	6.38 (0.61)	43.6 (4.1)	37.7 (3.6)	7.98 (1.80)	14.0 (1.3)	42.0 (9.5)
16	17.4 (1.9)	5.39 (0.59)	37.6 (3.8)	32.6 (3.3)	5.56 (1.31)	11.8 (1.3)	29.3 (6.9)
17	19.7 (8.5)	6.11 (2.64)	43.6 (18.8)	37.8 (16.3)	6.06 (2.30)	13.4 (5.8)	31.9 (12.1)
18	19.1 (6.0)	5.91 (1.86)	42.3 (13.2)	36.6 (11.5)	6.39 (1.74)	13.0 (4.1)	33.6 (9.2)
19	16.3 (5.5)	5.06 (1.69)	36.2 (12.1)	31.3 (10.4)	8.00 (1.59)	11.1 (3.7)	42.1 (8.4)
20	16.3 (5.6)	5.04 (1.72)	35.7 (12.1)	30.9 (10.5)	4.59 (1.56)	11.0 (3.8)	24.2 (8.2)
21	16.7 (4.2)	5.17 (1.29)	36.0 (9.0)	31.2 (7.8)	3.45 (1.08)	11.3 (2.8)	18.2 (5.7)
22	17.2 (2.6)	5.32 (0.79)	36.7 (5.5)	31.8 (4.7)	4.63 (1.73)	11.7 (1.7)	24.4 (9.1)
23	15.7 (1.7)	4.86 (0.54)	33.6 (3.7)	29.1 (3.2)	4.36 (2.00)	10.7 (1.2)	22.9 (10.5)
24	19.8 (7.9)	6.12 (2.43)	42.7 (17.1)	36.9 (14.8)	4.26 (1.79)	13.4 (5.3)	22.4 (9.4)
25	23.2 (2.9)	7.17 (0.90)	50.0 (6.4)	43.3 (5.5)	4.74 (1.38)	15.7 (2.0)	25.0 (7.3)
26	18.0 (2.5)	5.57 (0.78)	38.6 (5.4)	33.4 (4.7)	6.55 (1.80)	12.2 (1.7)	34.5 (9.5)
27	23.8 (10.6)	7.37 (3.30)	50.8 (22.7)	43.9 (19.6)	6.80 (2.02)	16.2 (7.2)	35.8 (10.6)
28	27.4 (4.7)	8.48 (1.46)	58.1 (10.2)	50.3 (8.8)	4.74 (0.78)	18.6 (3.2)	25.0 (4.1)
29	17.1 (2.6)	5.28 (0.80)	35.8 (5.5)	31.0 (4.7)	3.98 (1.58)	11.6 (1.8)	21.0 (8.3)
30	16.3 (2.6)	5.06 (0.80)	34.7 (5.6)	30.1 (4.9)	4.31 (1.99)	11.1 (1.8)	22.7 (10.5)
31	20.2 (8.5)	6.26 (2.63)	43.3 (18.0)	37.5 (15.6)	6.98 (1.75)	13.7 (5.8)	36.8 (9.2)
Mean	17.9	5.53	38.3	33.2	5.30	12.1	27.9
n	28	28	28	28	30	28	30
SD	4.25	1.32	9.2	7.9	1.41	2.88	7.4
Min	6.87	2.13	14.5	12.6	1.96	4.66	10.3
Max	27.4	8.48	58.1	50.3	8.42	18.6	44.3

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for April, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1					5.84 (1.51)		30.7 (7.9)
2	13.3 (2.7)	4.10 (0.84)	28.1 (5.8)	24.3 (5.0)	3.99 (1.38)	8.99 (1.84)	21.0 (7.3)
3	21.0 (7.5)	6.49 (2.34)	44.6 (16.0)	38.6 (13.8)	4.38 (1.76)	14.2 (5.1)	23.0 (9.3)
4	24.0 (2.3)	7.45 (0.71)	50.7 (4.9)	43.9 (4.3)	6.30 (1.64)	16.3 (1.6)	33.2 (8.6)
5	20.4 (2.5)	6.32 (0.78)	42.5 (5.2)	36.8 (4.5)	6.42 (1.31)	13.9 (1.7)	33.8 (6.9)
6	23.5 (7.0)	7.28 (2.18)	49.9 (15.1)	43.2 (13.1)	4.70 (1.43)	16.0 (4.8)	24.7 (7.5)
7	24.0 (8.6)	7.41 (2.67)	51.3 (18.3)	44.4 (15.8)	3.67 (0.77)	16.2 (5.8)	19.3 (4.1)
8	27.8 (7.3)	8.59 (2.27)	59.1 (15.5)	51.1 (13.5)	4.68 (1.69)	18.8 (5.0)	24.7 (8.9)
9	22.8 (8.6)	7.07 (2.66)	48.5 (18.3)	42.0 (15.8)	5.00 (1.57)	15.5 (5.8)	26.3 (8.3)
10	21.9 (9.7)	6.77 (3.01)	46.6 (20.7)	40.3 (17.9)	5.93 (2.07)	14.8 (6.6)	31.2 (10.9)
11	29.5 (3.1)	9.14 (0.96)	62.7 (6.6)	54.3 (5.7)	3.49 (0.86)	20.0 (2.1)	18.3 (4.6)
12	15.6 (4.6)	4.82 (1.43)	32.8 (9.8)	28.4 (8.5)	6.47 (1.97)	10.6 (3.1)	34.1 (10.4)
13	12.3 (2.4)	3.81 (0.75)	26.4 (5.0)	22.8 (4.3)	5.75 (0.86)	8.35 (1.64)	30.3 (4.5)
14	16.7 (7.1)	5.17 (2.20)	36.6 (15.4)	31.7 (13.3)	4.88 (1.10)	11.3 (4.8)	25.7 (5.8)
15	16.5 (4.0)	5.10 (1.25)	35.7 (8.8)	30.9 (7.6)	4.37 (1.21)	11.2 (2.7)	23.0 (6.4)
16	17.6 (4.7)	5.43 (1.45)	37.9 (10.2)	32.8 (8.8)	5.09 (1.26)	11.9 (3.2)	26.8 (6.7)
17	26.2 (14.9)	8.11 (4.62)	56.0 (31.7)	48.5 (27.4)	6.11 (1.09)	17.8 (10.1)	32.1 (5.8)
18	28.2 (9.3)	8.72 (2.87)	59.3 (19.5)	51.3 (16.8)	5.50 (1.35)	19.1 (6.3)	28.9 (7.1)
19					12.9 (4.55)		67.8 (23.9)
20					10.8 (3.92)		57.0 (20.6)
21							
22	31.7 (5.9)	9.81 (1.82)	66.6 (12.4)	57.6 (10.7)	6.93 (1.87)	21.5 (4.0)	36.5 (9.8)
23	23.1 (6.7)	7.17 (2.09)	48.7 (14.2)	42.2 (12.3)	5.85 (1.39)	15.7 (4.6)	30.8 (7.3)
24	25.4 (11.8)	7.87 (3.66)	53.3 (24.7)	46.2 (21.4)	6.24 (1.55)	17.3 (8.0)	32.9 (8.2)
25	30.1 (7.4)	9.30 (2.28)	62.6 (15.3)	54.2 (13.2)	6.93 (1.62)	20.4 (5.0)	36.5 (8.5)
26	29.7 (7.7)	9.20 (2.39)	61.3 (16.0)	53.1 (13.8)	6.80 (1.34)	20.2 (5.2)	35.8 (7.1)
27	17.9 (4.0)	5.53 (1.22)	37.6 (8.6)	32.5 (7.5)	7.19 (1.14)	12.1 (2.7)	37.8 (6.0)
28	17.7 (5.2)	5.49 (1.61)	38.0 (11.1)	32.9 (9.6)	6.58 (1.38)	12.0 (3.5)	34.6 (7.3)
29							
30							
Mean	22.4	6.92	47.4	41.0	6.03	15.2	31.7
n	24	24	24	24	27	24	27
SD	5.5	1.7	11.2	9.7	2.0	3.70	10.3
Min	12.3	3.81	26.4	22.8	3.49	8.35	18.3
Max	31.7	9.81	66.6	57.6	12.9	21.5	67.8

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for June, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11	29.2 (4.6)	9.05 (1.44)	66.0 (10.4)	57.1 (9.0)	6.70 (2.04)	19.8 (3.2)	35.3 (10.7)
12	34.9 (17.4)	10.8 (5.4)	78.0 (38.6)	67.5 (33.4)	7.20 (1.27)	23.7 (11.8)	37.9 (6.7)
13	42.3 (6.4)	13.1 (2.0)	93.4 (14.1)	80.9 (12.2)	7.83 (1.63)	28.7 (4.4)	41.2 (8.6)
14	34.1 (3.6)	10.5 (1.1)	74.7 (7.9)	64.6 (6.9)	5.42 (1.17)	23.1 (2.5)	28.5 (6.2)
15	31.2 (6.5)	9.65 (2.00)	68.4 (14.2)	59.2 (12.3)	7.36 (2.21)	21.1 (4.4)	38.7 (11.6)
16	32.5 (7.4)	10.1 (2.3)	71.4 (16.1)	61.8 (14.0)	6.89 (1.53)	22.1 (5.0)	36.3 (8.0)
17	25.1 (3.2)	7.78 (1.00)	55.2 (7.1)	47.7 (6.2)	5.55 (2.56)	17.0 (2.2)	29.2 (13.5)
18	21.7 (2.8)	6.71 (0.87)	47.6 (6.2)	41.2 (5.3)	3.47 (1.00)	14.7 (1.9)	18.3 (5.3)
19							
20							
21	27.5 (5.3)	8.51 (1.64)	60.5 (11.7)	52.4 (10.1)	6.27 (1.90)	18.6 (3.6)	33.0 (10.0)
22	29.4 (5.8)	9.10 (1.78)	64.7 (12.7)	56.0 (11.0)	6.07 (2.14)	19.9 (3.9)	31.9 (11.2)
23	38.2 (20.8)	11.8 (6.4)	84.0 (45.8)	72.7 (39.7)	7.37 (1.90)	25.9 (14.1)	38.8 (10.0)
24	28.7 (5.0)	8.90 (1.56)	63.9 (11.1)	55.3 (9.6)	6.11 (2.05)	19.5 (3.4)	32.1 (10.8)
25	28.4 (6.8)	8.80 (2.09)	63.4 (14.9)	54.9 (12.9)	7.22 (1.88)	19.3 (4.6)	38.0 (9.9)
26	36.3 (9.9)	11.2 (3.1)	79.9 (21.6)	69.2 (18.7)	6.73 (1.29)	24.6 (6.7)	35.4 (6.8)
27	36.5 (2.9)	11.3 (0.9)	79.3 (6.2)	68.6 (5.4)	7.34 (1.53)	24.8 (1.9)	38.6 (8.1)
28	41.8 (7.5)	12.9 (2.3)	90.3 (16.4)	78.2 (14.2)	8.43 (1.99)	28.3 (5.1)	44.4 (10.5)
29	35.2 (4.8)	10.9 (1.5)	76.9 (10.5)	66.5 (9.1)	6.33 (1.68)	23.9 (3.3)	33.3 (8.8)
30	36.6 (15.4)	11.3 (4.8)	79.7 (33.2)	68.9 (28.7)	7.54 (1.70)	24.8 (10.4)	39.7 (8.9)
Mean	32.8	10.1	72.1	62.4	6.66	22.2	35.0
n	18	18	18	18	18	18	18
SD	5.4	1.67	11.6	10.1	1.09	3.7	5.7
Min	21.7	6.71	47.6	41.2	3.47	14.7	18.3
Max	42.3	13.1	93.4	80.9	8.43	28.7	44.4

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for July, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	34.1 (6.1)	10.6 (1.9)	72.6 (13.1)	62.8 (11.4)	7.36 (1.87)	23.1 (4.1)	38.7 (9.8)
2	31.3 (6.4)	9.69 (1.99)	65.3 (13.3)	56.5 (11.5)	7.61 (1.96)	21.2 (4.4)	40.0 (10.3)
3	34.6 (11.3)	10.7 (3.5)	72.0 (23.5)	62.3 (20.4)	6.69 (1.28)	23.5 (7.7)	35.2 (6.8)
4	30.1 (5.6)	9.33 (1.74)	62.5 (11.7)	54.1 (10.1)	7.70 (1.67)	20.4 (3.8)	40.5 (8.8)
5	24.9 (5.3)	7.72 (1.63)	51.3 (10.8)	44.4 (9.3)	7.64 (1.72)	16.9 (3.6)	40.2 (9.0)
6	29.4 (7.3)	9.11 (2.27)	61.5 (15.7)	53.3 (13.6)	7.73 (2.08)	20.0 (5.0)	40.7 (10.9)
7	42.1 (15.9)	13.0 (4.9)	89.7 (33.9)	77.6 (29.3)	8.11 (1.77)	28.5 (10.8)	42.7 (9.3)
8	40.6 (4.9)	12.6 (1.5)	85.9 (10.5)	74.3 (9.1)	8.29 (2.12)	27.5 (3.3)	43.6 (11.1)
9	30.5 (4.4)	9.43 (1.36)	64.0 (9.2)	55.4 (8.0)	7.59 (1.80)	20.7 (3.0)	39.9 (9.5)
10	26.7 (16.1)	8.28 (4.97)	56.0 (33.5)	48.5 (29.0)	6.49 (2.62)	18.1 (10.9)	34.1 (13.8)
11	30.8 (4.4)	9.52 (1.36)	63.8 (9.0)	55.2 (7.8)	7.39 (1.64)	20.9 (3.0)	38.9 (8.7)
12	33.2 (9.2)	10.3 (2.9)	70.0 (20.0)	60.6 (17.3)	6.71 (1.53)	22.5 (6.2)	35.3 (8.1)
13	32.4 (4.8)	10.0 (1.5)	69.2 (10.3)	59.9 (8.9)	5.56 (1.20)	22.0 (3.3)	29.3 (6.3)
14	34.8 (20.8)	10.8 (6.4)	73.8 (44.1)	63.8 (38.1)	5.70 (1.58)	23.6 (14.1)	30.0 (8.3)
15	28.4 (5.2)	8.78 (1.60)	59.5 (10.8)	51.5 (9.4)	6.40 (1.82)	19.2 (3.5)	33.7 (9.6)
16	26.8 (8.1)	8.30 (2.51)	55.4 (16.7)	47.9 (14.4)	6.29 (1.48)	18.2 (5.5)	33.1 (7.8)
17							
18					5.82 (1.99)		30.6 (10.5)
19					5.14 (0.87)		27.1 (4.6)
20					5.77 (1.27)		30.4 (6.7)
21					6.39 (1.46)		33.7 (7.7)
22	30.5 (5.7)	9.43 (1.77)			7.35 (1.52)	20.7 (3.9)	38.7 (8.0)
23	29.3 (4.3)	9.08 (1.33)	62.0 (9.1)	53.7 (7.9)	7.17 (1.79)	19.9 (2.9)	37.7 (9.4)
24	28.9 (11.6)	8.94 (3.58)	61.0 (24.4)	52.8 (21.1)	6.40 (1.54)	19.6 (7.8)	33.7 (8.1)
25	26.7 (4.7)	8.27 (1.46)	56.5 (10.0)	48.9 (8.6)	5.84 (1.27)	18.1 (3.2)	30.7 (6.7)
26	26.9 (5.2)	8.33 (1.61)	56.9 (11.0)	49.2 (9.5)	5.73 (1.15)	18.2 (3.5)	30.2 (6.1)
27	23.1 (3.6)	7.14 (1.10)	48.7 (7.5)	42.2 (6.5)	5.55 (1.83)	15.6 (2.4)	29.2 (9.6)
28	37.6 (24.5)	11.6 (7.6)	79.5 (51.8)	68.8 (44.8)	6.33 (1.56)	25.5 (16.6)	33.3 (8.2)
29	26.1 (4.6)	8.09 (1.43)	55.2 (9.8)	47.8 (8.5)	5.96 (1.32)	17.7 (3.1)	31.3 (7.0)
30	27.1 (6.6)	8.40 (2.03)	57.4 (13.9)	49.7 (12.0)	5.57 (1.07)	18.4 (4.5)	29.3 (5.6)
31	32.7 (14.7)	10.1 (4.5)	69.1 (31.0)	59.8 (26.8)	6.23 (1.43)	22.2 (9.9)	32.8 (7.5)
Mean	30.8	9.52	64.8	56.0	6.62	20.9	34.8
n	26	26	25	25	30	26	30
SD	4.5	1.40	10.0	8.6	0.87	3.1	4.6
Min	23.1	7.14	48.7	42.2	5.14	15.6	27.1
Max	42.1	13.0	89.7	77.6	8.29	28.5	43.6

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for August, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	28.8 (5.0)	8.93 (1.55)	61.0 (10.6)	52.7 (9.2)	6.35 (1.56)	19.6 (3.4)	33.4 (8.2)
2	24.1 (4.0)	7.45 (1.22)	50.9 (8.4)	44.0 (7.2)	5.87 (1.36)	16.3 (2.7)	30.9 (7.2)
3	25.9 (4.5)	8.02 (1.39)	54.7 (9.5)	47.4 (8.2)	5.80 (1.70)	17.6 (3.1)	30.5 (8.9)
4	27.2 (10.8)	8.44 (3.35)	57.6 (22.9)	49.9 (19.8)	5.68 (1.43)	18.5 (7.3)	29.9 (7.5)
5	33.2 (6.5)	10.3 (2.0)	70.2 (13.7)	60.7 (11.8)	7.00 (1.36)	22.5 (4.4)	36.8 (7.2)
6	25.3 (2.6)	7.83 (0.79)	53.5 (5.4)	46.3 (4.7)	5.71 (1.49)	17.2 (1.7)	30.1 (7.8)
7	27.5 (9.4)	8.51 (2.92)	58.1 (19.9)	50.3 (17.2)	6.28 (2.25)	18.6 (6.4)	33.0 (11.8)
8	23.0 (3.7)	7.12 (1.13)	48.6 (7.7)	42.1 (6.7)	6.02 (1.58)	15.6 (2.5)	31.7 (8.3)
9	21.7 (5.4)	6.72 (1.66)	45.9 (11.3)	39.7 (9.8)	6.01 (0.90)	14.7 (3.6)	31.6 (4.8)
10	22.1 (5.5)	6.85 (1.69)	46.8 (11.6)	40.5 (10.0)	5.94 (1.22)	15.0 (3.7)	31.3 (6.4)
11	26.4 (13.6)	8.16 (4.20)	55.7 (28.7)	48.2 (24.8)	6.49 (1.41)	17.9 (9.2)	34.1 (7.4)
12	23.8 (4.7)	7.37 (1.45)	50.4 (9.9)	43.6 (8.6)	6.38 (1.16)	16.2 (3.2)	33.6 (6.1)
13					6.57 (1.53)		34.6 (8.1)
14					6.39 (1.41)		33.6 (7.4)
15					6.77 (1.03)		35.6 (5.4)
16					6.55 (1.83)		34.5 (9.7)
17	25.7 (6.5)	7.96 (2.03)	54.4 (13.8)	47.0 (12.0)	6.12 (1.62)	17.4 (4.4)	32.2 (8.5)
18	42.3 (21.2)	13.1 (6.6)	89.5 (44.8)	77.5 (38.8)	7.54 (1.27)	28.7 (14.4)	39.7 (6.7)
19	28.7 (6.9)	8.89 (2.14)	60.7 (14.6)	52.5 (12.6)	6.97 (1.11)	19.5 (4.7)	36.7 (5.8)
20	24.5 (5.4)	7.58 (1.67)	51.8 (11.4)	44.8 (9.9)	8.20 (3.04)	16.6 (3.7)	43.2 (16.0)
21	32.5 (17.7)	10.1 (5.5)	68.7 (37.3)	59.5 (32.3)	8.13 (1.38)	22.0 (12.0)	42.8 (7.3)
22	37.6 (8.5)	11.6 (2.6)	79.4 (17.9)	68.7 (15.5)	8.78 (1.45)	25.5 (5.8)	46.2 (7.7)
23	37.4 (8.2)	11.6 (2.5)	79.0 (17.3)	68.3 (14.9)	7.24 (1.18)	25.3 (5.5)	38.1 (6.2)
24	34.4 (5.6)	10.6 (1.7)	72.7 (11.8)	62.9 (10.2)	6.41 (1.12)	23.3 (3.8)	33.7 (5.9)
25	30.6 (16.6)	9.48 (5.14)	64.8 (35.1)	56.0 (30.3)	7.06 (1.94)	20.8 (11.2)	37.1 (10.2)
26	27.9 (3.8)	8.64 (1.18)	59.0 (8.1)	51.1 (7.0)	7.56 (2.58)	18.9 (2.6)	39.8 (13.6)
27	29.1 (7.4)	9.02 (2.28)	61.6 (15.6)	53.3 (13.5)	8.70 (1.46)	19.8 (5.0)	45.8 (7.7)
28	40.7 (22.3)	12.6 (6.9)	86.1 (47.2)	74.5 (40.8)	8.11 (2.06)	27.6 (15.1)	42.7 (10.8)
29	38.6 (7.3)	12.0 (2.3)	81.7 (15.4)	70.7 (13.3)	8.13 (1.61)	26.2 (4.9)	42.8 (8.5)
30	27.7 (5.1)	8.57 (1.58)	58.6 (10.8)	50.7 (9.3)	7.31 (1.57)	18.8 (3.5)	38.4 (8.3)
31	26.6 (7.1)	8.23 (2.19)	57.9 (15.3)	50.1 (13.3)	7.72 (2.10)	18.0 (4.8)	40.6 (11.0)
Mean	29.4	9.10	62.2	53.8	6.90	19.9	36.3
n	27	27	27	27	31	27	31
SD	5.7	1.76	12.0	10.4	0.90	3.9	4.7
Min	21.7	6.72	45.9	39.7	5.68	14.7	29.9
Max	42.3	13.1	89.5	77.5	8.78	28.7	46.2

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for September, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	33.8 (22.3)	10.5 (6.91)	73.4 (48.4)	63.5 (41.9)	7.80 (1.91)	22.9 (15.1)	41.1 (10.1)
2							
3							
4							
5							
6							
7					6.95 (1.75)		36.6 (9.2)
8					7.52 (2.00)		39.6 (10.5)
9					6.57 (1.47)		34.6 (7.7)
10					7.44 (1.48)		39.2 (7.8)
11					6.54 (1.84)		34.4 (9.7)
12							
13					4.50 (0.53)		23.7 (2.8)
14					6.12 (0.97)		32.2 (5.1)
15	33.4 (13.4)	10.3 (4.1)	71.8 (28.8)	62.1 (24.9)	6.30 (1.71)	22.6 (9.1)	33.2 (9.0)
16	30.9 (3.8)	9.56 (1.19)	66.5 (8.3)	57.5 (7.1)	6.02 (1.31)	20.9 (2.6)	31.7 (6.9)
17	28.4 (4.1)	8.78 (1.27)	61.4 (8.9)	53.1 (7.7)	5.89 (1.92)	19.2 (2.8)	31.0 (10.1)
18	31.3 (13.3)	9.70 (4.12)	67.7 (28.6)	58.6 (24.7)	5.03 (1.19)	21.3 (9.0)	26.5 (6.2)
19	32.2 (6.4)	9.98 (1.98)	69.1 (13.6)	59.8 (11.8)	4.54 (1.04)	21.9 (4.3)	23.9 (5.5)
20	26.5 (5.5)	8.20 (1.70)	56.2 (11.6)	48.6 (10.0)	6.14 (1.40)	18.0 (3.7)	32.3 (7.4)
21	20.1 (3.4)	6.22 (1.05)	42.3 (7.1)	36.6 (6.2)	8.97 (2.11)	13.6 (2.3)	47.2 (11.1)
22	23.9 (11.5)	7.41 (3.55)	50.2 (24.1)	43.4 (20.8)	9.03 (2.70)	16.2 (7.8)	47.5 (14.2)
23	27.1 (4.5)	8.38 (1.38)	56.6 (9.3)	49.0 (8.1)	8.81 (2.86)	18.4 (3.0)	46.4 (15.1)
24	24.7 (5.8)	7.64 (1.78)	51.5 (12.1)	44.6 (10.4)	6.92 (1.43)	16.7 (3.9)	36.4 (7.5)
25	29.6 (13.5)	9.16 (4.18)	61.9 (28.3)	53.6 (24.5)	7.11 (1.32)	20.1 (9.2)	37.4 (7.0)
26	25.8 (3.9)	7.99 (1.22)	53.9 (8.2)	46.7 (7.1)	7.24 (1.24)	17.5 (2.7)	38.1 (6.5)
27	26.4 (5.4)	8.16 (1.67)	55.1 (11.3)	47.7 (9.7)	6.87 (1.37)	17.9 (3.7)	36.2 (7.2)
28	25.3 (4.4)	7.82 (1.37)	52.8 (9.3)	45.7 (8.0)	6.16 (1.43)	17.1 (3.0)	32.4 (7.6)
29	27.5 (14.1)	8.53 (4.37)	57.6 (29.5)	49.8 (25.5)	7.04 (2.20)	18.7 (9.6)	37.0 (11.6)
30	31.7 (5.4)	9.81 (1.68)	66.2 (11.4)	57.3 (9.8)	4.51 (1.12)	21.5 (3.7)	23.8 (5.9)
Mean	28.1	8.71	59.7	51.6	6.67	19.1	35.1
n	17	17	17	17	24	17	24
SD	3.6	1.12	8.3	7.2	1.25	2.5	6.6
Min	20.1	6.22	42.3	36.6	4.50	13.6	23.7
Max	33.8	10.5	73.4	63.5	9.03	22.9	47.5

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for October, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	21.9 (1.9)	6.79 (0.58)	45.8 (3.9)	39.6 (3.4)	6.88 (1.64)	14.9 (1.3)	36.2 (8.6)
2	21.0 (13.6)	6.50 (4.20)	43.9 (28.4)	38.0 (24.5)	10.5 (2.6)	14.2 (9.2)	55.1 (13.5)
3	25.7 (4.9)	7.94 (1.51)	53.6 (10.2)	46.4 (8.8)	10.7 (1.7)	17.4 (3.3)	56.5 (8.9)
4	22.8 (3.2)	7.05 (0.97)	47.6 (6.6)	41.2 (5.7)	9.00 (1.96)	15.4 (2.1)	47.3 (10.3)
5	21.2 (2.3)	6.55 (0.71)	44.2 (4.8)	38.2 (4.1)	9.42 (2.41)	14.4 (1.6)	49.6 (12.7)
6	22.8 (12.4)	7.07 (3.84)	47.7 (25.9)	41.2 (22.4)	9.61 (2.41)	15.5 (8.4)	50.6 (12.7)
7	28.2 (3.0)	8.73 (0.94)	58.9 (6.3)	51.0 (5.5)	10.0 (2.3)	19.1 (2.1)	52.7 (12.3)
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Mean	23.4	7.23	48.8	42.2	9.44	15.8	49.7
n	7	7	7	7	7	7	7
SD	2.5	0.76	5.1	4.4	1.18	1.7	6.2
Min	21.0	6.50	43.9	38.0	6.88	14.2	36.2
Max	28.2	8.73	58.9	51.0	10.7	19.1	56.5

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for November, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20					6.98 (1.52)		36.7 (8.0)
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
Mean							
n	0	0	0	0	1	0	1
SD							
Min							
Max							

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for December, 2008.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23	17.5 (2.3)	5.42 (0.71)	38.3 (5.0)	33.1 (4.3)	4.62 (1.71)	11.9 (1.6)	24.3 (9.0)
24	10.2 (1.8)	3.15 (0.56)	22.4 (3.9)	19.4 (3.4)	6.38 (2.28)	6.90 (1.22)	33.6 (12.0)
25	7.81 (2.52)	2.42 (0.78)	16.9 (5.3)	14.6 (4.6)	6.88 (1.39)	5.30 (1.71)	36.2 (7.3)
26	16.3 (6.9)	5.04 (2.15)	34.6 (14.7)	29.9 (12.7)	7.35 (1.45)	11.1 (4.7)	38.7 (7.6)
27	22.2 (4.4)	6.87 (1.37)	46.8 (9.4)	40.5 (8.2)	11.0 (2.4)	15.1 (3.0)	58.0 (12.8)
28	13.8 (3.6)	4.26 (1.10)	29.2 (7.4)	25.2 (6.4)	8.38 (2.36)	9.33 (2.41)	44.1 (12.4)
29	16.0 (7.1)	4.94 (2.20)	34.2 (15.1)	29.6 (13.1)	8.58 (1.92)	10.8 (4.8)	45.2 (10.1)
30	12.4 (4.1)	3.83 (1.28)	26.4 (8.8)	22.9 (7.6)	5.05 (1.88)	8.40 (2.80)	26.6 (9.9)
31							
Mean	14.5	4.49	31.1	26.9	7.28	9.84	38.3
n	8	8	8.0	8.0	8	8	8.0
SD	4.21	1.30	8.8	7.7	1.93	2.86	10.2
Min	7.81	2.42	16.9	14.6	4.62	5.30	24.3
Max	22.2	6.87	46.8	40.5	11.0	15.1	58.0

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for January, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6	23.4 (3.0)	7.25 (0.9)	50.3 (6.3)	43.5 (5.5)	6.21 (2.07)	15.9 (2.1)	32.7 (10.9)
7	17.3 (3.1)	5.34 (1.0)	37.0 (6.7)	32.0 (5.8)	7.56 (1.73)	11.7 (2.1)	39.8 (9.1)
8	11.7 (4.2)	3.63 (1.3)	25.0 (8.9)	21.6 (7.7)	4.63 (1.78)	7.95 (2.83)	24.4 (9.4)
9	16.8 (5.3)	5.20 (1.6)	35.8 (11.3)	31.0 (9.8)	4.52 (1.09)	11.4 (3.6)	23.8 (5.7)
10	17.5 (1.6)	5.41 (0.5)	36.9 (3.3)	31.9 (2.9)	3.86 (1.06)	11.8 (1.1)	20.3 (5.6)
11	14.5 (2.4)	4.49 (0.8)	31.2 (5.2)	27.0 (4.5)	4.41 (1.13)	9.83 (1.65)	23.2 (6.0)
12	15.0 (5.0)	4.63 (1.6)	33.2 (11.2)	28.8 (9.7)	5.43 (1.58)	10.2 (3.4)	28.6 (8.3)
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Mean	16.6	5.14	35.6	30.8	5.23	11.30	27.5
n	7	7	7	7	7	7	7
SD	3.4	1.04	7.1	6.2	1.19	2.28	6.2
Min	11.7	3.63	25.0	21.6	3.86	7.95	20.3
Max	23.4	7.25	50.3	43.5	7.56	15.90	39.8

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for February, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4	14.1 (0.9)	4.37 (0.27)	30.1 (1.9)	26.0 (1.6)	3.33 (0.70)	9.57 (0.59)	17.5 (3.7)
5	13.8 (4.4)	4.26 (1.36)	29.0 (9.2)	25.1 (8.0)	3.28 (0.55)	9.34 (2.99)	17.3 (2.9)
6	20.1 (2.7)	6.21 (0.84)	42.1 (5.6)	36.4 (4.9)	4.27 (2.05)	13.6 (1.8)	22.5 (10.8)
7	14.9 (3.1)	4.63 (0.97)	31.5 (6.6)	27.2 (5.7)	6.15 (2.34)	10.1 (2.1)	32.4 (12.3)
8	8.04 (2.27)	2.49 (0.70)	17.3 (5.0)	15.0 (4.3)	5.84 (1.05)	5.45 (1.54)	30.7 (5.5)
9	18.6 (10.1)	5.75 (3.13)	40.6 (22.1)	35.2 (19.1)	5.46 (1.59)	12.6 (6.9)	28.8 (8.4)
10	21.1 (7.5)	6.55 (2.31)	46.2 (16.3)	40.0 (14.1)	8.24 (1.52)	14.3 (5.1)	43.4 (8.0)
11	16.6 (2.7)	5.15 (0.83)	36.5 (5.9)	31.6 (5.1)	7.76 (1.59)	11.3 (1.8)	40.8 (8.4)
12	10.7 (4.0)	3.30 (1.25)	23.2 (8.8)	20.1 (7.6)	4.79 (1.79)	7.23 (2.74)	25.2 (9.4)
13	15.4 (3.8)	4.78 (1.17)	33.3 (8.2)	28.8 (7.1)	5.14 (1.14)	10.5 (2.6)	27.0 (6.0)
14	14.2 (1.7)	4.39 (0.52)	30.4 (3.6)	26.3 (3.1)	5.36 (1.31)	9.61 (1.14)	28.2 (6.9)
15	12.3 (2.1)	3.82 (0.66)	27.2 (4.7)	23.5 (4.0)	4.87 (1.15)	8.36 (1.45)	25.6 (6.1)
16	14.8 (6.8)	4.58 (2.11)	32.7 (14.7)	28.3 (12.7)	5.47 (1.34)	10.0 (4.6)	28.8 (7.1)
17	19.6 (2.9)	6.07 (0.88)	42.7 (6.2)	37.0 (5.4)	5.24 (1.37)	13.3 (1.9)	27.6 (7.2)
18	11.1 (2.6)	3.43 (0.81)	24.0 (5.7)	20.8 (4.9)	3.46 (1.33)	7.52 (1.76)	18.2 (7.0)
19	10.5 (3.7)	3.24 (1.14)	22.4 (7.9)	19.4 (6.9)	4.30 (2.15)	7.11 (2.51)	22.6 (11.3)
20	8.50 (1.24)	2.63 (0.38)	18.1 (2.6)	15.7 (2.3)	1.08 (0.39)	5.76 (0.84)	5.68 (2.06)
21	10.8 (2.7)	3.35 (0.84)	22.9 (5.7)	19.8 (4.9)	4.02 (1.77)	7.34 (1.84)	21.1 (9.3)
22	10.3 (2.2)	3.20 (0.68)	22.1 (4.7)	19.1 (4.0)	5.22 (1.89)	7.01 (1.49)	27.5 (9.9)
23	8.75 (5.11)	2.71 (1.58)	19.0 (11.0)	16.4 (9.5)	2.09 (0.69)	5.94 (3.47)	11.0 (3.6)
24	15.2 (3.7)	4.71 (1.15)	32.8 (8.0)	28.4 (6.9)	4.34 (1.58)	10.3 (2.5)	22.8 (8.3)
25	13.1 (2.3)	4.05 (0.72)	28.1 (5.1)	24.3 (4.4)	5.31 (2.21)	8.87 (1.58)	28.0 (11.6)
26							
27							
28							
Mean	13.8	4.26	29.6	25.7	4.77	9.33	25.1
n	22	22	22	22	22	22	22
SD	3.71	1.15	8.1	7.0	1.57	2.52	8.26
Min	8.04	2.49	17.3	15.0	1.08	5.45	5.68
Max	21.1	6.55	46.2	40.0	8.24	14.3	43.4

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for March, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10	20.9 (5.8)	6.48 (1.78)	44.0 (12.3)	38.1 (10.7)	6.62 (1.19)	14.2 (3.9)	34.9 (6.2)
11	7.89 (1.92)	2.44 (0.59)	16.5 (4.0)	14.2 (3.5)	4.07 (1.90)	5.35 (1.30)	21.4 (10.0)
12	13.0 (5.3)	4.03 (1.65)	27.0 (11.0)	23.4 (9.5)	4.54 (1.22)	8.83 (3.61)	23.9 (6.4)
13	15.8 (2.2)	4.89 (0.67)	32.6 (4.5)	28.2 (3.9)	5.74 (1.83)	10.7 (1.5)	30.2 (9.6)
14	12.3 (2.4)	3.80 (0.74)	25.3 (4.9)	21.9 (4.3)	7.09 (1.58)	8.32 (1.62)	37.3 (8.3)
15	15.2 (2.0)	4.70 (0.63)	31.7 (4.4)	27.4 (3.8)	5.90 (1.47)	10.3 (1.4)	31.0 (7.7)
16	19.8 (9.8)	6.12 (3.03)	41.7 (20.6)	36.1 (17.8)	5.45 (1.54)	13.4 (6.6)	28.7 (8.1)
17	20.2 (4.7)	6.26 (1.47)	42.4 (10.0)	36.7 (8.6)	7.92 (0.81)	13.7 (3.2)	41.7 (4.3)
18	13.5 (4.6)	4.18 (1.43)	28.1 (9.6)	24.3 (8.4)	8.39 (1.55)	9.16 (3.14)	44.2 (8.2)
19							
20	16.5 (3.6)	5.12 (1.11)	34.0 (7.5)	29.4 (6.5)	4.87 (1.83)	11.2 (2.4)	25.6 (9.6)
21	12.1 (1.5)	3.74 (0.45)	24.7 (3.0)	21.4 (2.6)	6.33 (1.52)	8.18 (0.99)	33.3 (8.0)
22	8.87 (2.01)	2.75 (0.62)	18.6 (4.4)	16.1 (3.8)	6.02 (1.06)	6.02 (1.36)	31.7 (5.6)
23	11.3 (6.2)	3.49 (1.93)	24.1 (13.2)	20.8 (11.5)	4.47 (0.68)	7.64 (4.23)	23.5 (3.6)
24	17.4 (2.6)	5.39 (0.81)	36.7 (5.5)	31.8 (4.8)	5.42 (1.12)	11.8 (1.8)	28.5 (5.9)
25	12.7 (2.5)	3.93 (0.77)	26.5 (5.2)	22.9 (4.5)	5.45 (0.83)	8.61 (1.69)	28.7 (4.4)
26	18.4 (8.4)	5.69 (2.59)	38.2 (17.4)	33.1 (15.1)	8.24 (1.78)	12.5 (5.7)	43.4 (9.4)
27	19.3 (3.9)	5.98 (1.21)	40.1 (8.1)	34.7 (7.0)	7.28 (2.15)	13.1 (2.7)	38.3 (11.3)
28	19.5 (3.4)	6.05 (1.04)	40.6 (7.0)	35.1 (6.0)	5.54 (1.56)	13.3 (2.3)	29.2 (8.2)
29	19.0 (3.2)	5.87 (0.99)	39.8 (6.6)	34.4 (5.7)	5.53 (1.59)	12.9 (2.2)	29.1 (8.4)
30	11.5 (3.8)	3.55 (1.18)	24.3 (8.1)	21.0 (7.0)	4.80 (1.50)	7.78 (2.59)	25.2 (7.9)
31							
Mean	15.3	4.72	31.8	27.6	5.98	10.3	31.5
n	20	20	20	20	20	20	20
SD	3.88	1.20	8.1	7.0	1.23	2.63	6.5
Min	7.89	2.44	16.5	14.2	4.07	5.35	21.4
Max	20.9	6.48	44.0	38.1	8.39	14.2	44.2

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for April, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
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25	28.2 (7.3)	8.72 (2.26)	60.0 (15.6)	51.9 (13.5)	5.10 (2.19)	19.1 (5.0)	26.8 (11.5)
26	19.1 (3.7)	5.92 (1.15)	41.2 (8.2)	35.7 (7.1)	4.48 (0.87)	13.0 (2.5)	23.6 (4.6)
27	25.7 (17.4)	7.94 (5.39)	55.7 (37.5)	48.2 (32.4)	7.28 (3.24)	17.4 (11.8)	38.3 (17.0)
28	26.0 (7.5)	8.06 (2.33)	56.1 (16.1)	48.5 (14.0)	5.11 (1.59)	17.6 (5.1)	26.9 (8.4)
29	18.6 (5.6)	5.75 (1.74)	40.3 (12.3)	34.8 (10.6)	4.51 (2.24)	12.6 (3.8)	23.7 (11.8)
30	26.8 (7.3)	8.30 (2.27)	58.0 (15.8)	50.2 (13.6)	3.83 (1.00)	18.2 (5.0)	20.2 (5.3)
Mean	24.1	7.45	51.9	44.9	5.05	16.3	26.6
n	6	6	6	6	6	6	6
SD	3.8	1.17	8.0	6.9	1.08	2.6	5.7
Min	18.6	5.75	40.3	34.8	3.83	12.6	20.2
Max	28.2	8.72	60.0	51.9	7.28	19.1	38.3

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for May, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
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26							
27	13.6 (3.5)	4.21 (1.07)	29.6 (7.5)	25.6 (6.5)	3.77 (1.10)	9.22 (2.35)	19.8 (5.8)
28	23.3 (15.8)	7.20 (4.90)	50.4 (34.2)	43.6 (29.6)	4.09 (0.89)	15.8 (10.7)	21.5 (4.7)
29	18.8 (7.0)	5.82 (2.15)	40.3 (15.1)	34.8 (13.1)	2.80 (0.67)	12.7 (4.7)	14.7 (3.5)
30	11.7 (3.2)	3.62 (0.99)	24.9 (6.8)	21.5 (5.9)	3.94 (0.74)	7.94 (2.18)	20.7 (3.9)
31	9.50 (1.57)	2.94 (0.49)	20.3 (3.4)	17.5 (2.9)	5.59 (1.20)	6.44 (1.07)	29.4 (6.3)
Mean	15.4	4.76	33.1	28.6	4.04	10.4	21.2
n	5	5	5	5	5	5	5
SD	5.00	1.55	10.9	9.4	0.90	3.39	4.7
Min	9.50	2.94	20.3	17.5	2.80	6.44	14.7
Max	23.3	7.20	50.4	43.6	5.59	15.8	29.4

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for June, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	17.3 (12.4)	5.36 (3.85)	37.1 (26.7)	32.1 (23.1)	4.20 (1.80)	11.7 (8.4)	22.1 (9.5)
2	14.8 (2.7)	4.57 (0.85)	31.8 (5.9)	27.5 (5.1)	2.25 (0.79)	10.0 (1.9)	11.9 (4.1)
3	13.4 (3.0)	4.14 (0.93)	29.0 (6.5)	25.1 (5.6)	2.19 (0.78)	9.07 (2.03)	11.5 (4.1)
4	12.5 (3.7)	3.86 (1.14)	27.1 (8.0)	23.5 (7.0)	2.11 (0.66)	8.45 (2.50)	11.1 (3.5)
5	14.8 (5.0)	4.57 (1.54)	32.1 (10.8)	27.8 (9.4)	1.92 (0.54)	10.0 (3.4)	10.1 (2.8)
6	15.9 (4.6)	4.91 (1.42)	34.4 (9.9)	29.8 (8.6)	1.71 (0.51)	10.8 (3.1)	9.02 (2.66)
7	15.4 (4.8)	4.78 (1.49)	34.1 (10.7)	29.5 (9.2)	1.80 (0.51)	10.5 (3.3)	9.46 (2.70)
8	23.0 (14.4)	7.13 (4.46)	51.7 (32.3)	44.7 (27.9)	2.78 (0.98)	15.6 (9.8)	14.6 (5.2)
9	18.8 (4.6)	5.81 (1.43)	42.0 (10.4)	36.3 (9.0)	2.64 (0.51)	12.7 (3.1)	13.9 (2.7)
10	14.1 (4.1)	4.38 (1.26)	31.4 (9.0)	27.2 (7.8)	3.22 (0.95)	9.59 (2.77)	16.9 (5.0)
11	14.9 (3.8)	4.62 (1.16)	33.0 (8.3)	28.5 (7.2)	2.91 (0.49)	10.1 (2.5)	15.3 (2.6)
12	21.3 (15.7)	6.59 (4.86)	46.5 (34.1)	40.3 (29.5)	2.95 (0.73)	14.4 (10.6)	15.5 (3.8)
13	17.3 (4.3)	5.36 (1.33)	37.4 (9.3)	32.3 (8.1)	3.36 (1.16)	11.7 (2.9)	17.7 (6.1)
14	13.6 (4.4)	4.21 (1.36)	29.7 (9.7)	25.7 (8.4)	3.09 (0.97)	9.23 (2.98)	16.3 (5.1)
15	14.3 (5.5)	4.44 (1.70)	32.1 (12.3)	27.8 (10.7)	3.56 (1.24)	9.73 (3.72)	18.7 (6.6)
16	17.7 (4.0)	5.49 (1.23)	39.7 (8.9)	34.3 (7.7)	3.92 (0.58)	12.0 (2.7)	20.7 (3.0)
17	14.4 (4.7)	4.45 (1.44)	32.1 (10.4)	27.8 (9.0)	3.29 (0.67)	9.75 (3.16)	17.3 (3.5)
18	17.1 (7.3)	5.29 (2.26)	37.7 (15.9)	32.6 (13.8)	2.92 (0.80)	11.6 (5.0)	15.4 (4.2)
19	13.8 (2.8)	4.27 (0.86)	30.2 (6.1)	26.1 (5.3)	3.12 (0.75)	9.35 (1.88)	16.4 (3.9)
20	12.4 (2.9)	3.83 (0.91)	27.2 (6.4)	23.5 (5.6)	3.26 (0.78)	8.40 (1.99)	17.2 (4.1)
21	13.4 (4.1)	4.14 (1.28)	29.4 (9.1)	25.5 (7.9)	2.46 (0.70)	9.06 (2.79)	13.0 (3.7)
22	19.0 (12.7)	5.87 (3.93)	41.9 (28.1)	36.3 (24.3)	2.80 (0.90)	12.9 (8.6)	14.7 (4.8)
23	14.8 (5.2)	4.60 (1.62)	32.7 (11.5)	28.3 (10.0)	2.90 (0.65)	10.1 (3.5)	15.2 (3.4)
24	13.7 (3.4)	4.24 (1.05)	29.9 (7.4)	25.9 (6.4)	3.39 (0.71)	9.29 (2.30)	17.8 (3.7)
25	18.8 (10.4)	5.82 (3.23)	40.9 (22.6)	35.4 (19.6)	3.46 (1.42)	12.8 (7.1)	18.2 (7.5)
26	15.2 (3.7)	4.70 (1.15)	32.7 (8.1)	28.3 (7.0)	2.92 (1.25)	10.3 (2.5)	15.4 (6.6)
27	12.8 (4.4)	3.96 (1.35)	27.2 (9.3)	23.6 (8.0)	2.04 (0.46)	8.68 (2.97)	10.7 (2.4)
28	12.3 (3.9)	3.81 (1.22)	26.5 (8.5)	22.9 (7.4)	2.46 (0.71)	8.34 (2.66)	12.9 (3.7)
29	18.0 (12.3)	5.59 (3.80)	39.7 (27.1)	34.3 (23.4)	2.95 (1.05)	12.2 (8.3)	15.5 (5.5)
30							
Mean	15.7	4.86	34.4	29.8	2.85	10.6	15.0
n	29	29	29	29	29	29	29
SD	2.7	0.82	6.0	5.2	0.61	1.8	3.2
Min	12.3	3.81	26.5	22.9	1.71	8.34	9.02
Max	23.0	7.13	51.7	44.7	4.20	15.6	22.1

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for August, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
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25							
26	22.7 (3.6)	7.03 (1.13)	48.7 (7.8)	42.2 (6.8)	3.90 (0.86)	15.4 (2.5)	20.5 (4.5)
27	22.0 (9.1)	6.80 (2.81)	46.9 (19.3)	40.6 (16.7)	4.82 (0.89)	14.9 (6.2)	25.4 (4.7)
28	29.6 (5.0)	9.16 (1.56)	62.8 (10.7)	54.3 (9.3)	6.14 (1.58)	20.1 (3.4)	32.3 (8.3)
29	24.4 (4.5)	7.56 (1.38)	51.6 (9.4)	44.7 (8.2)	4.45 (1.26)	16.6 (3.0)	23.4 (6.6)
30	23.4 (4.0)	7.24 (1.24)	50.2 (8.7)	43.4 (7.6)	4.02 (1.00)	15.9 (2.7)	21.2 (5.3)
31							
Mean	24.4	7.56	52.0	45.0	4.67	16.6	24.6
n	5	5	5	5	5	5	5
SD	2.7	0.84	5.6	4.9	0.81	1.8	4.2
Min	22.0	6.80	46.9	40.6	3.90	14.9	20.5
Max	29.6	9.16	62.8	54.3	6.14	20.1	32.3

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for September, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	25.3 (3.6)	7.83 (1.11)	54.5 (7.7)	47.1 (6.7)	4.85 (0.59)	17.2 (2.4)	25.5 (3.1)
2	22.1 (4.0)	6.83 (1.23)	47.7 (8.6)	41.2 (7.4)	4.78 (1.18)	15.0 (2.7)	25.2 (6.2)
3	26.3 (8.0)	8.16 (2.48)	56.9 (17.3)	49.2 (15.0)	4.39 (1.10)	17.9 (5.4)	23.1 (5.8)
4	24.1 (4.6)	7.46 (1.43)	51.8 (10.0)	44.8 (8.6)	4.88 (0.63)	16.3 (3.1)	25.7 (3.3)
5	23.1 (4.8)	7.14 (1.48)	49.5 (10.3)	42.9 (8.9)	5.43 (0.73)	15.6 (3.2)	28.6 (3.9)
6	23.0 (3.9)	7.13 (1.20)	49.7 (8.4)	43.0 (7.3)	5.86 (0.89)	15.6 (2.6)	30.9 (4.7)
7	29.4 (10.3)	9.11 (3.18)	63.9 (22.4)	55.3 (19.4)	6.06 (0.91)	20.0 (7.0)	31.9 (4.8)
8	30.4 (4.9)	9.40 (1.52)	66.2 (10.6)	57.3 (9.2)	6.54 (1.29)	20.6 (3.3)	34.4 (6.8)
9	24.6 (4.6)	7.62 (1.43)	53.9 (10.1)	46.7 (8.7)		16.7 (3.1)	
10	28.7 (10.8)	8.88 (3.35)	63.2 (23.9)	54.7 (20.7)	6.13 (1.10)	19.4 (7.3)	32.2 (5.8)
11							
12	28.4 (4.1)	8.81 (1.25)	61.1 (8.6)	52.9 (7.4)	4.51 (0.74)	19.3 (2.8)	23.7 (3.9)
13	24.9 (3.4)	7.70 (1.05)	52.9 (7.2)	45.8 (6.3)	4.48 (0.73)	16.9 (2.3)	23.6 (3.8)
14	29.5 (10.7)	9.14 (3.31)	64.1 (23.9)	55.4 (20.7)	5.60 (1.40)	20.0 (7.3)	29.4 (7.4)
15	30.4 (5.9)	9.42 (1.83)	66.5 (13.2)	57.5 (11.5)	4.01 (0.79)	20.6 (4.0)	21.1 (4.2)
16	23.2 (3.3)	7.19 (1.01)	50.1 (7.0)	43.3 (6.1)		15.7 (2.2)	
17	33.1 (11.1)	10.3 (3.5)	70.7 (23.4)	61.2 (20.3)		22.5 (7.6)	
18							
19	20.4 (4.8)	6.31 (1.48)	42.3 (9.9)	36.6 (8.5)		13.8 (3.2)	
20	24.8 (6.1)	7.68 (1.89)	51.6 (12.9)	44.7 (11.2)	4.35 (1.25)	16.8 (4.2)	22.9 (6.6)
21	34.8 (14.7)	10.8 (4.5)	72.6 (30.3)	62.8 (26.2)	3.18 (0.77)	23.6 (10.0)	16.7 (4.1)
22	35.2 (3.2)	10.9 (1.0)	73.1 (6.6)	63.3 (5.7)	3.11 (0.55)	23.9 (2.1)	16.4 (2.9)
23	30.2 (2.3)	9.34 (0.70)	62.7 (4.7)	54.3 (4.0)	3.41 (1.21)	20.5 (1.5)	17.9 (6.4)
24	28.6 (10.1)	8.84 (3.13)	59.5 (21.0)	51.5 (18.2)	3.94 (1.07)	19.4 (6.9)	20.8 (5.7)
25	26.2 (4.4)	8.12 (1.36)	54.4 (9.2)	47.1 (7.9)	5.25 (1.23)	17.8 (3.0)	27.6 (6.5)
26	22.3 (3.3)	6.90 (1.02)	46.1 (6.8)	39.9 (5.9)	5.86 (1.45)	15.1 (2.2)	30.9 (7.6)
27	22.9 (2.7)	7.08 (0.85)	48.6 (6.3)	42.0 (5.4)	6.39 (1.23)	15.5 (1.9)	33.6 (6.5)
28	27.8 (9.1)	8.61 (2.80)	60.1 (19.3)	52.0 (16.7)	6.15 (1.56)	18.9 (6.1)	32.4 (8.2)
29	27.6 (4.0)	8.54 (1.25)	58.9 (8.7)	50.9 (7.5)	4.89 (1.07)	18.7 (2.7)	25.7 (5.6)
30	14.2 (2.2)	4.39 (0.67)	30.2 (4.6)	26.2 (4.0)	5.05 (1.43)	9.62 (1.46)	26.6 (7.6)
Mean	26.5	8.20	56.5	48.9	4.96	18.0	26.1
n	28	28	28	28	24	28	24
SD	4.5	1.38	9.5	8.2	0.98	3.02	5.2
Min	14.2	4.39	30.2	26.2	3.11	9.62	16.4
Max	35.2	10.9	73.1	63.3	6.54	23.9	34.4

Table E8. Daily means (SD) of NH_3 emissions at Site NY5B for October, 2009.

Day	Barn 1				Milking center		
	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}	g d^{-1} AU^{-1}	kg d^{-1}	g d^{-1} m^{-2}	g d^{-1} hd^{-1}
1	13.6 (5.2)	4.20 (1.60)	28.8 (10.9)	24.9 (9.4)	6.82 (0.98)	9.19 (3.50)	35.9 (5.2)
2	18.3 (2.9)	5.66 (0.89)	38.6 (6.0)	33.4 (5.2)	6.66 (2.01)	12.4 (1.9)	35.0 (10.6)
3							
4	14.4 (2.4)	4.47 (0.76)	30.1 (5.1)	26.0 (4.4)	5.72 (1.53)	9.80 (1.66)	30.1 (8.1)
5	19.6 (9.6)	6.08 (2.96)	41.0 (20.0)	35.5 (17.3)	5.76 (1.63)	13.3 (6.5)	30.3 (8.6)
6	20.3 (4.0)	6.29 (1.23)	42.5 (8.3)	36.8 (7.2)	6.98 (1.28)	13.8 (2.7)	36.7 (6.8)
7	13.2 (2.0)	4.08 (0.63)	27.7 (4.3)	24.0 (3.7)	7.46 (1.66)	8.94 (1.38)	39.3 (8.7)
8	17.9 (7.3)	5.54 (2.25)	37.7 (15.4)	32.6 (13.3)	6.93 (1.76)	12.1 (4.9)	36.5 (9.3)
9	20.9 (3.4)	6.48 (1.05)	44.2 (7.1)	38.3 (6.2)	6.58 (1.30)	14.2 (2.3)	34.6 (6.9)
10	13.5 (1.5)	4.19 (0.45)	28.7 (3.1)	24.8 (2.7)		9.18 (0.99)	
11	11.8 (2.3)	3.66 (0.70)	24.8 (4.7)	21.4 (4.0)	6.20 (1.84)	8.01 (1.54)	32.6 (9.7)
12	12.7 (2.3)	3.94 (0.72)	26.7 (4.9)	23.1 (4.3)	5.15 (2.01)	8.62 (1.57)	27.1 (10.6)
13	14.2 (7.0)	4.38 (2.18)	30.0 (14.9)	26.0 (12.9)	7.61 (1.78)	9.60 (4.78)	40.1 (9.4)
14	14.6 (1.8)	4.52 (0.54)	30.9 (3.7)	26.8 (3.2)	3.69 (1.10)	9.90 (1.19)	19.4 (5.8)
15	20.2 (10.1)	6.27 (3.12)	42.1 (20.6)	36.4 (17.9)	3.58 (0.81)	13.7 (6.8)	18.9 (4.3)
16	20.6 (2.7)	6.37 (0.83)	42.3 (5.5)	36.6 (4.7)	4.43 (0.80)	14.0 (1.8)	23.3 (4.2)
17	17.0 (2.6)	5.27 (0.81)	34.7 (5.3)	30.0 (4.6)	3.80 (0.57)	11.5 (1.8)	20.0 (3.0)
18	16.6 (2.4)	5.13 (0.74)	34.1 (5.0)	29.5 (4.4)	4.06 (0.73)	11.2 (1.6)	21.4 (3.8)
19	19.2 (6.9)	5.93 (2.14)	40.2 (14.6)	34.8 (12.6)	3.85 (1.07)	13.0 (4.7)	20.3 (5.6)
20	24.0 (2.6)	7.45 (0.82)	50.3 (5.7)	43.5 (4.9)	3.40 (1.31)	16.3 (1.8)	17.9 (6.9)
21	20.7 (2.8)	6.40 (0.86)	42.8 (5.7)	37.0 (4.9)	4.16 (0.73)	14.0 (1.9)	21.9 (3.9)
22	24.6 (6.7)	7.63 (2.08)	50.6 (13.7)	43.8 (11.9)	4.14 (1.10)	16.7 (4.6)	21.8 (5.8)
23	15.6 (6.4)	4.82 (1.96)	31.7 (13.0)	27.5 (11.2)	2.85 (1.09)	10.5 (4.3)	15.0 (5.8)
24							
25							
26							
27							
28							
29							
30							
31							
Mean	17.4	5.40	36.4	31.5	5.23	11.8	27.5
n	22	22	22	22	21	22	21
SD	3.7	1.15	7.6	6.6	1.53	2.51	8.1
Min	11.8	3.66	24.8	21.4	2.85	8.01	15.0
Max	24.6	7.63	50.6	43.8	7.61	16.7	40.1

Table E9. H2S Concentrations

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for November, 2007.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	12 (19)	122 (128)	122 (128)	122 (128)	122 (128)	122 (128)	122 (128)	122 (128)	122 (128)	122 (128)
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	4 (6)	5 (8)	13 (3)	19 (5)	14 (6)	20 (9)	16 (7)	23 (10)	20 (12)	29 (17)
15	3 (6)	5 (9)	22 (8)	31 (11)	25 (8)	35 (11)	18 (3)	26 (4)	17 (3)	24 (5)
16	1 (1)	2 (1)	21 (8)	30 (11)	20 (6)	28 (9)	23 (6)	33 (8)	23 (11)	33 (16)
17	5 (7)	6 (11)	35 (12)	50 (17)	34 (11)	48 (16)	24 (7)	34 (10)	26 (8)	37 (12)
18	7 (11)	10 (16)	57 (17)	81 (25)	57 (18)	81 (25)	50 (28)	71 (40)	49 (30)	69 (43)
19	1 (1)	2 (1)	31 (10)	44 (15)	36 (17)	51 (24)	26 (9)	38 (13)	27 (16)	39 (23)
20	1 (2)	2 (3)								
21	1 (1)	1 (1)	19 (9)	27 (13)	19 (12)	28 (17)	18 (12)	26 (17)	17 (7)	24 (9)
22	1 (1)	1 (1)	15 (4)	22 (6)	15 (3)	21 (5)	20 (11)	28 (15)	19 (9)	26 (13)
23	1 (1)	1 (1)	20 (9)	29 (13)	20 (5)	28 (7)	23 (15)	33 (22)	25 (18)	36 (26)
24	6 (11)	9 (16)	23 (4)	33 (6)	23 (5)	33 (7)	13 (3)	19 (5)	14 (4)	20 (5)
25	3 (6)	4 (9)	26 (11)	37 (16)	25 (11)	35 (16)	33 (14)	47 (20)	34 (13)	48 (19)
26	1 (1)	2 (2)	25 (5)	35 (8)	31 (9)	44 (13)	42 (31)	59 (44)	37 (23)	52 (32)
27	1 (0)	1 (1)							56 (25)	79 (35)
28	0 (1)	0 (1)	24 (10)	35 (14)	23 (9)	33 (13)	38 (27)	54 (38)	32 (20)	45 (29)
29	1 (1)	1 (1)							35 (21)	50 (30)
30	1 (1)	1 (1)	20 (9)	28 (13)	21 (21)	31 (30)	54 (43)	77 (61)	38 (20)	54 (29)
Mean	2	3	25	36	26	37	28	40	29	42
n	17	17	14	14	14	14	14	14	16	16
SD	2	3	10	15	11	15	12	18	11	16
Min	0	0	13	19	14	20	13	19	14	20
Max	7	10	57	81	57	81	54	77	56	79

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for December, 2007.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (2)	2 (2)	49 (29)	70 (41)	39 (24)	55 (34)	44 (25)	63 (36)	42 (20)	59 (29)
2	0 (1)	0 (1)	36 (11)	51 (16)	36 (13)	51 (19)	21 (10)	30 (14)	23 (12)	33 (16)
3	1 (1)	1 (1)	17 (6)	25 (8)	18 (6)	25 (9)	31 (32)	44 (46)	34 (42)	49 (60)
4	1 (0)	1 (1)	26 (13)	37 (18)	27 (15)	38 (21)	16 (6)	22 (9)	16 (7)	23 (10)
5	0 (1)	1 (1)	41 (32)	59 (46)	35 (12)	49 (17)	31 (29)	44 (41)	33 (27)	46 (39)
6	7 (14)	11 (19)	37 (22)	52 (31)	36 (25)	51 (36)	25 (17)	35 (24)	24 (13)	34 (18)
7	3 (7)	5 (10)	18 (8)	26 (12)	16 (7)	23 (10)	32 (57)	45 (81)	13 (7)	19 (10)
8	5 (10)	7 (15)	19 (12)	27 (17)	19 (10)	27 (14)	18 (15)	25 (21)	18 (11)	25 (15)
9	1 (2)	2 (3)	35 (13)	50 (19)	30 (13)	42 (18)	23 (14)	33 (19)	22 (9)	31 (12)
10	5 (10)	8 (14)	42 (15)	60 (21)	34 (14)	48 (20)	29 (16)	42 (23)	29 (16)	42 (23)
11	3 (5)	4 (7)	31 (15)	44 (22)	31 (17)	44 (24)	33 (16)	47 (22)	31 (14)	45 (20)
12	1 (1)	1 (1)	19 (6)	27 (8)	21 (8)	30 (11)	26 (20)	38 (28)	22 (14)	31 (19)
13	1 (3)	2 (4)	23 (6)	33 (8)	25 (7)	36 (10)	23 (8)	33 (12)	23 (9)	32 (13)
14	0 (1)	1 (1)	21 (11)	30 (15)	21 (9)	29 (14)	26 (10)	37 (14)	25 (7)	35 (9)
15	3 (6)	4 (8)	48 (11)	68 (16)	44 (10)	62 (14)	15 (8)	21 (11)	17 (9)	25 (13)
16	1 (1)	1 (2)	46 (23)	65 (33)	37 (14)	53 (20)	18 (13)	26 (18)	20 (12)	28 (17)
17	1 (1)	1 (1)	31 (24)	44 (35)	26 (10)	37 (14)	14 (6)	19 (8)	14 (6)	19 (8)
18	7 (14)	9 (20)	28 (14)	41 (20)	29 (13)	42 (19)	15 (5)	21 (8)	16 (5)	22 (7)
19	0 (1)	0 (1)	27 (16)	39 (23)	31 (16)	44 (22)	13 (3)	18 (5)	15 (5)	21 (7)
20	2 (4)	4 (7)								
21	0 (1)	0 (1)	26 (11)	37 (15)	28 (10)	40 (15)	11 (4)	16 (6)	14 (4)	20 (6)
22	0 (1)	0 (1)	25 (5)	35 (7)	26 (8)	37 (11)	20 (11)	29 (16)	19 (12)	27 (18)
23	1 (1)	1 (1)	27 (13)	39 (19)	27 (14)	39 (20)	19 (12)	28 (17)	19 (15)	27 (22)
24	1 (1)	1 (1)	27 (6)	38 (8)	26 (7)	37 (10)	21 (10)	29 (15)	18 (7)	26 (10)
25	10 (24)	14 (34)	48 (33)	68 (47)	40 (25)	57 (35)	36 (22)	51 (32)	43 (33)	61 (47)
26	12 (19)	17 (27)	63 (14)	89 (21)	62 (14)	88 (20)	24 (12)	34 (16)	21 (8)	29 (11)
27	1 (2)	2 (4)	32 (10)	46 (14)	31 (11)	45 (16)	26 (16)	37 (23)	22 (14)	32 (20)
28	0 (1)	1 (1)	41 (8)	58 (12)	43 (11)	62 (16)	22 (8)	31 (12)	19 (7)	26 (10)
29	1 (1)	1 (1)	30 (10)	43 (15)	29 (9)	41 (12)	40 (24)	57 (34)	39 (27)	55 (39)
30	1 (1)	1 (1)	55 (13)	78 (18)	54 (11)	77 (15)	39 (12)	55 (17)	32 (10)	45 (15)
31	5 (14)	8 (20)	36 (15)	52 (21)	39 (14)	56 (21)	22 (8)	32 (12)	19 (8)	28 (11)
Mean	2	4	33	48	32	46	24	35	23	33
n	31	31	30	30	30	30	30	30	30	30
SD	3	4	11	16	10	14	8	12	8	12
Min	0	0	17	25	16	23	11	16	13	19
Max	12	17	63	89	62	88	44	63	43	61

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for January, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (1)	1 (1)			45 (16)	65 (23)	26 (12)	38 (18)	17 (8)	25 (11)
2	1 (3)	2 (4)			52 (15)	73 (21)	17 (4)	25 (6)	18 (5)	26 (7)
3	5 (9)	7 (13)	49 (13)	69 (18)	47 (13)	67 (18)	15 (8)	22 (11)	14 (8)	20 (11)
4	7 (11)	9 (15)	32 (12)	46 (17)	34 (12)	49 (17)	14 (5)	20 (8)	14 (5)	21 (8)
5	26 (45)	37 (64)	33 (15)	47 (21)	35 (11)	50 (16)	19 (7)	27 (11)	19 (9)	27 (13)
6	1 (2)	2 (2)	48 (17)	68 (24)	52 (15)	74 (21)	39 (20)	56 (29)	43 (21)	62 (30)
7	0 (1)	1 (1)	13 (4)	18 (5)	12 (3)	17 (4)	27 (13)	39 (19)	28 (11)	40 (15)
8	0 (1)	0 (1)	12 (3)	18 (4)	12 (3)	17 (5)	47 (39)	67 (56)	51 (44)	73 (64)
9	1 (1)	1 (2)	19 (22)	28 (31)	17 (12)	24 (17)	41 (20)	59 (29)	50 (36)	71 (51)
10	1 (1)	1 (1)	37 (21)	53 (30)	34 (14)	48 (20)	35 (12)	50 (17)	43 (36)	62 (51)
11	0 (1)	0 (1)			26 (10)	37 (14)				
12	2 (4)	2 (5)	36 (15)	51 (22)	35 (18)	50 (26)	33 (14)	46 (20)	27 (13)	38 (18)
13	2 (4)	3 (6)	51 (24)	72 (34)	54 (24)	77 (34)	38 (15)	54 (21)	41 (33)	58 (47)
14	1 (1)	1 (1)	23 (6)	33 (8)	23 (5)	33 (7)	33 (18)	48 (26)	33 (17)	47 (24)
15	0 (0)	0 (1)	33 (19)	47 (27)	33 (19)	47 (27)	25 (7)	36 (10)	24 (16)	35 (23)
16	1 (2)	2 (3)	57 (33)	82 (47)	52 (20)	74 (29)	22 (10)	32 (14)	21 (8)	30 (11)
17	1 (1)	2 (2)	32 (11)	46 (15)	34 (9)	49 (12)	19 (10)	27 (14)	20 (11)	28 (16)
18	1 (1)	2 (1)	30 (13)	42 (18)	28 (7)	40 (11)	29 (15)	42 (21)	28 (7)	39 (10)
19	1 (1)	1 (1)	46 (20)	66 (29)	38 (10)	53 (15)	18 (6)	26 (8)	19 (4)	27 (6)
20	3 (2)	4 (3)	41 (15)	58 (21)	34 (11)	48 (15)	10 (3)	15 (5)	9 (4)	13 (6)
21	1 (1)	2 (1)	50 (44)	71 (62)	42 (24)	59 (35)	10 (3)	15 (5)	13 (8)	19 (12)
22	1 (1)	1 (1)	25 (9)	35 (13)	25 (11)	35 (16)	15 (5)	21 (7)	12 (4)	17 (5)
23	1 (0)	1 (1)	39 (17)	56 (25)	39 (18)	56 (26)	15 (5)	22 (7)	16 (4)	22 (6)
24	1 (1)	2 (1)	37 (18)	53 (25)	34 (18)	49 (25)	19 (12)	26 (18)	21 (11)	29 (15)
25	2 (0)	3 (1)	42 (35)	60 (51)	37 (25)	52 (36)	16 (8)	23 (12)	20 (9)	29 (13)
26	1 (1)	1 (1)	44 (14)	63 (20)	38 (15)	54 (21)	17 (6)	24 (9)	17 (5)	24 (7)
27	1 (0)	1 (1)	45 (23)	64 (33)	47 (23)	67 (32)	20 (9)	28 (13)	18 (6)	26 (9)
28	0 (0)	1 (1)	51 (18)	72 (26)	54 (19)	77 (27)	27 (16)	38 (23)	26 (17)	37 (24)
29	1 (1)	2 (2)	33 (10)	48 (15)	33 (10)	47 (14)	49 (34)	70 (48)	44 (33)	63 (47)
30	2 (1)	2 (1)	25 (10)	36 (14)	21 (8)	30 (11)	25 (15)	35 (22)	26 (18)	37 (25)
31	1 (1)	1 (1)	27 (9)	39 (14)	22 (7)	32 (10)	16 (4)	23 (6)	14 (4)	20 (6)
Mean	2	3	36	51	35	50	25	35	25	35
n	31	31	28	28	31	31	30	30	30	30
SD	5	7	12	16	12	17	10	15	12	17
Min	0	0	12	18	12	17	10	15	9	13
Max	26	37	57	82	54	77	49	70	51	73

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for February, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	0 (0)	0 (1)	28 (6)	40 (8)	31 (6)	45 (9)	15 (8)	22 (11)	16 (8)	22 (12)
2	1 (1)	2 (1)	35 (14)	50 (21)	35 (15)	50 (21)	27 (8)	39 (12)	25 (7)	36 (10)
3	0 (0)	1 (0)	32 (5)	45 (7)	35 (6)	50 (9)	21 (6)	30 (8)	20 (7)	29 (10)
4	1 (1)	1 (1)	37 (10)	53 (14)	40 (12)	58 (17)	20 (6)	28 (8)	20 (9)	28 (13)
5	1 (1)	1 (1)	38 (21)	54 (30)	38 (20)	54 (29)			31 (16)	44 (22)
6	1 (1)	2 (1)	61 (34)	87 (48)	57 (22)	81 (31)			21 (6)	30 (9)
7	1 (1)	2 (1)	47 (20)	67 (28)	69 (49)	98 (70)			25 (12)	36 (18)
8	1 (0)	1 (0)	51 (29)	73 (41)	49 (20)	69 (28)	28 (24)	40 (34)	23 (16)	32 (23)
9	1 (1)	1 (1)	39 (12)	56 (17)	43 (12)	61 (16)	47 (33)	67 (47)	41 (23)	58 (33)
10	3 (2)	5 (4)	40 (18)	57 (26)	37 (31)	53 (45)	26 (17)	38 (24)	37 (36)	53 (51)
11	2 (1)	2 (1)	18 (6)	26 (8)	18 (6)	26 (8)	22 (22)	31 (32)	22 (21)	31 (30)
12	1 (1)	1 (2)			28 (7)	41 (9)	9 (2)	13 (3)	10 (2)	14 (2)
13	0 (1)	0 (1)			30 (19)	42 (27)	17 (7)	24 (10)	16 (7)	22 (11)
14	1 (0)	2 (1)	36 (17)	51 (24)	33 (12)	47 (18)	31 (21)	44 (30)	29 (18)	41 (25)
15	1 (1)	1 (1)	33 (7)	48 (10)	30 (6)	43 (9)	21 (19)	30 (27)	18 (11)	26 (15)
16	15 (17)	23 (27)	34 (15)	52 (23)	33 (14)	51 (21)				
17	1 (2)	1 (2)	22 (9)	32 (12)	23 (9)	33 (12)	19 (10)	27 (15)	15 (8)	21 (11)
18	2 (1)	2 (1)	26 (6)	36 (9)	28 (8)	40 (11)	37 (22)	53 (32)	32 (16)	46 (23)
19	2 (1)	3 (1)	30 (13)	43 (18)	27 (11)	39 (15)	22 (7)	32 (11)	23 (14)	32 (19)
20	1 (1)	2 (1)	66 (30)	94 (42)	50 (23)	71 (32)	26 (17)	37 (24)	25 (13)	36 (18)
21	1 (1)	2 (1)	38 (16)	53 (22)	35 (13)	50 (19)	17 (5)	24 (8)	16 (5)	23 (7)
22	1 (1)	1 (1)	35 (8)	49 (12)	37 (13)	53 (18)	21 (7)	29 (10)	18 (6)	25 (9)
23	11 (19)	16 (27)	27 (11)	38 (15)	29 (10)	41 (14)	24 (7)	34 (10)	25 (8)	35 (12)
24	2 (2)	3 (3)	38 (17)	55 (24)	37 (13)	53 (19)	29 (16)	41 (23)	26 (9)	37 (13)
25	2 (1)	2 (2)	46 (20)	66 (28)	54 (30)	76 (43)	43 (39)	61 (56)	39 (32)	55 (46)
26	1 (1)	1 (1)	45 (14)	64 (19)	49 (16)	70 (23)	34 (17)	48 (25)	26 (7)	38 (11)
27	1 (1)	2 (1)	33 (14)	47 (21)	30 (11)	43 (15)	35 (17)	49 (24)	38 (18)	54 (25)
28	2 (5)	3 (7)	26 (21)	38 (30)	23 (10)	32 (15)	26 (17)	37 (24)	24 (14)	34 (19)
29	2 (3)	3 (4)	22 (6)	31 (9)	22 (5)	31 (7)	12 (4)	17 (6)	11 (4)	15 (6)
Mean	2	3	36	52	36	52	25	36	24	34
n	29	29	27	27	29	29	25	25	28	28
SD	3	5	11	16	11	16	9	13	8	12
Min	0	0	18	26	18	26	9	13	10	14
Max	15	23	66	94	69	98	47	67	41	58

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for March, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (1)	2 (1)	19 (4)	26 (5)	19 (4)	27 (5)	23 (16)	32 (22)	15 (5)	22 (6)
2	1 (1)	2 (1)	44 (29)	62 (41)	41 (26)	58 (37)	41 (20)	58 (28)	33 (18)	47 (26)
3	1 (0)	1 (0)	20 (11)	28 (16)	21 (13)	30 (18)	18 (13)	26 (19)	14 (16)	20 (23)
4	0 (1)	0 (1)	26 (13)	37 (18)	32 (24)	45 (34)	13 (4)	19 (6)	12 (3)	17 (4)
5	1 (1)	1 (1)	20 (7)	28 (11)	18 (7)	25 (9)	21 (11)	30 (16)	22 (16)	31 (22)
6	6 (6)	9 (8)	33 (15)	48 (22)	27 (14)	39 (20)	30 (15)	42 (21)	27 (17)	38 (25)
7	1 (1)	1 (1)								
8	1 (2)	1 (2)	20 (7)	29 (10)	20 (5)	29 (7)	25 (15)	36 (21)	19 (6)	27 (8)
9	1 (1)	2 (1)	16 (9)	23 (13)	16 (7)	22 (10)	16 (8)	23 (12)	12 (7)	18 (11)
10	2 (2)	2 (3)	28 (14)	39 (20)	28 (15)	40 (22)	20 (8)	28 (11)	17 (7)	24 (10)
11	1 (1)	1 (1)	52 (19)	74 (27)	46 (27)	66 (38)	33 (23)	47 (33)	29 (19)	41 (26)
12	1 (0)	2 (1)	37 (27)	52 (38)	26 (20)	37 (29)	39 (29)	56 (41)	50 (40)	71 (57)
13	0 (1)	1 (1)	37 (27)	53 (38)	31 (20)	44 (28)	15 (4)	22 (6)	14 (3)	20 (4)
14	1 (1)	1 (2)	34 (17)	49 (24)	30 (15)	42 (21)	30 (14)	42 (20)	27 (15)	39 (21)
15	1 (2)	2 (3)	35 (13)	49 (18)	29 (11)	42 (16)	36 (14)	51 (19)	30 (9)	43 (13)
16	2 (2)	3 (4)	45 (18)	65 (25)	39 (11)	56 (15)	28 (10)	39 (14)	23 (6)	33 (9)
17	-1 (2)	-1 (3)	30 (14)	42 (19)	31 (16)	44 (22)	28 (10)	40 (14)	28 (9)	39 (13)
18	1 (1)	1 (1)	21 (15)	30 (21)	19 (9)	27 (13)	26 (10)	37 (15)	23 (12)	33 (17)
19	1 (2)	2 (3)	22 (13)	32 (18)	26 (15)	37 (22)	51 (30)	73 (42)	51 (31)	72 (44)
20	1 (1)	2 (1)	20 (17)	29 (25)	16 (8)	23 (12)	28 (17)	40 (24)	27 (22)	39 (31)
21	1 (1)	1 (1)	27 (17)	38 (24)	18 (10)	25 (14)	28 (12)	40 (17)	27 (17)	39 (25)
22	1 (0)	1 (1)	41 (27)	58 (38)	27 (6)	38 (9)	43 (32)	62 (46)	40 (32)	57 (46)
23	3 (4)	5 (6)	27 (12)	39 (16)	28 (13)	39 (18)	26 (16)	38 (23)	22 (14)	32 (20)
24	8 (6)	11 (9)	19 (7)	27 (11)	22 (8)	32 (11)	18 (7)	25 (10)	17 (5)	24 (8)
25	1 (1)	2 (2)	18 (7)	25 (10)	20 (7)	28 (10)	16 (5)	23 (7)	14 (3)	19 (5)
26	2 (1)	2 (1)	20 (10)	28 (15)	23 (13)	32 (19)	23 (10)	33 (15)	25 (13)	36 (19)
27	1 (1)	1 (1)	32 (20)	45 (28)	25 (12)	35 (16)	47 (24)	67 (34)	43 (23)	61 (32)
28	1 (1)	2 (1)	41 (28)	59 (40)	47 (27)	68 (38)	27 (14)	39 (19)	22 (7)	32 (10)
29	7 (9)	10 (13)	39 (20)	55 (29)	29 (15)	41 (21)	38 (37)	54 (53)	41 (48)	58 (68)
30	1 (3)	2 (4)	33 (17)	47 (24)	27 (10)	39 (14)	19 (11)	27 (16)	19 (16)	27 (23)
31	0 (1)	0 (1)	19 (11)	27 (16)	21 (10)	29 (15)	41 (23)	59 (33)	36 (21)	52 (30)
Mean	2	2	29	41	27	38	28	40	26	37
n	31	31	30	30	30	30	30	30	30	30
SD	2	3	10	14	8	12	10	14	11	15
Min	-1	-1	16	23	16	22	13	19	12	17
Max	8	11	52	74	47	68	51	73	51	72

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for April, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (1)	1 (1)	12 (6)	17 (8)	10 (2)	14 (4)	36 (24)	52 (34)	27 (16)	38 (23)
2	9 (12)	13 (18)	17 (11)	25 (15)	16 (9)	24 (13)	31 (18)	44 (26)	37 (19)	52 (27)
3	2 (2)	2 (2)	34 (27)	49 (38)	25 (17)	36 (24)	17 (7)	25 (10)	14 (6)	19 (8)
4	1 (1)	1 (1)	32 (16)	46 (23)	28 (7)	40 (11)	35 (26)	50 (36)	28 (20)	39 (28)
5	1 (1)	1 (2)	27 (14)	39 (20)	27 (16)	39 (23)	28 (11)	39 (16)	24 (13)	35 (19)
6	1 (1)	1 (1)	40 (13)	57 (18)	46 (21)	65 (30)	23 (14)	33 (20)	17 (13)	24 (19)
7	0 (1)	0 (1)	42 (25)	60 (36)	40 (18)	56 (25)	19 (13)	27 (18)	12 (9)	18 (13)
8	1 (2)	1 (3)	25 (13)	36 (18)	20 (10)	29 (14)	35 (30)	49 (43)	26 (25)	37 (36)
9	0 (1)	0 (1)	21 (12)	30 (17)	10 (4)	14 (6)	39 (37)	55 (53)	35 (32)	51 (46)
10	0 (1)	0 (1)	22 (20)	31 (29)	19 (15)	28 (21)	29 (21)	41 (30)	25 (20)	35 (28)
11	1 (1)	2 (1)	22 (6)	31 (9)	16 (8)	23 (12)	14 (7)	20 (10)	12 (7)	16 (10)
12	1 (1)	1 (1)	8 (4)	12 (6)	8 (3)	11 (4)	27 (17)	39 (24)	28 (10)	40 (14)
13	1 (1)	1 (1)	13 (6)	18 (8)	13 (4)	19 (6)	28 (8)	39 (12)	26 (31)	37 (44)
14	3 (5)	5 (7)	20 (10)	28 (14)	21 (12)	30 (17)	18 (11)	26 (15)	20 (12)	28 (17)
15	11 (11)	15 (16)	26 (23)	37 (32)	28 (25)	41 (35)	16 (8)	23 (12)	17 (10)	25 (14)
16	32 (42)	45 (59)	19 (12)	27 (17)	15 (12)	22 (17)	27 (53)	39 (75)	15 (6)	21 (8)
17	4 (3)	5 (4)	16 (12)	22 (17)	14 (12)	20 (17)	13 (6)	19 (8)	13 (5)	18 (7)
18	5 (4)	7 (6)	28 (20)	40 (28)	26 (22)	37 (32)	17 (11)	24 (16)	13 (9)	19 (13)
19	3 (2)	4 (3)								
20	3 (0)	4 (0)								
21	0 (2)									
22	5 (4)	7 (6)	29 (16)	42 (23)	14 (13)	20 (19)	11 (8)	16 (12)	11 (8)	16 (12)
23	7 (11)	10 (16)	38 (47)	54 (67)	18 (29)	25 (42)	12 (7)	17 (9)	16 (15)	23 (21)
24	2 (5)	3 (7)	54 (57)	77 (81)	34 (33)	49 (46)	29 (32)	41 (46)	30 (31)	43 (44)
25	2 (1)	3 (2)	33 (20)	47 (28)	25 (24)	35 (34)	14 (11)	20 (15)	31 (34)	45 (48)
26	0 (1)	0 (1)	16 (11)	23 (15)	12 (9)	17 (12)	10 (4)	15 (5)	10 (5)	15 (7)
27	3 (1)	4 (2)	19 (12)	27 (17)	19 (15)	27 (21)	15 (8)	22 (12)	17 (9)	24 (13)
28	1 (1)	1 (1)	14 (4)	20 (5)	12 (3)	17 (4)	27 (11)	38 (16)	24 (14)	34 (20)
29	1 (0)	1 (0)	9 (4)	13 (6)	8 (2)	12 (3)	31 (8)	45 (12)	33 (12)	47 (17)
30	0 (1)	0 (1)	14 (17)	20 (25)	14 (15)	20 (22)	33 (14)	46 (20)	36 (30)	51 (42)
Mean	3	5	24	34	20	28	24	34	22	31
n	30	29	27	27	27	27	27	27	27	27
SD	6	8	11	16	9	13	9	12	8	12
Min	0	0	8	12	8	11	10	15	10	15
Max	32	45	54	77	46	65	39	55	37	52

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for May, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (0)	1 (1)	19 (16)	27 (23)	18 (14)	25 (20)	13 (5)	19 (7)	14 (6)	21 (9)
2	0 (1)	1 (1)	20 (3)	28 (4)	19 (6)	27 (8)	15 (4)	21 (6)	14 (3)	20 (5)
3	0 (1)	1 (1)	37 (17)	53 (25)	23 (8)	33 (11)	25 (12)	35 (17)	22 (16)	31 (23)
4	6 (5)	9 (7)	33 (38)	47 (54)	21 (19)	30 (27)	82 (65)	117 (93)	84 (58)	120 (82)
5	2 (3)	3 (4)	26 (22)	37 (31)	22 (15)	31 (22)	20 (7)	28 (11)	22 (8)	32 (11)
6	5 (11)	8 (15)	26 (18)	37 (25)	24 (17)	34 (24)	24 (12)	34 (17)	26 (11)	38 (16)
7	16 (12)	23 (17)	20 (11)	28 (16)	18 (10)	25 (14)	16 (5)	22 (7)	18 (10)	26 (15)
8	1 (1)	1 (1)	14 (9)	20 (13)	12 (5)	17 (7)	24 (8)	34 (12)	33 (18)	47 (26)
9	3 (4)	5 (6)	23 (14)	33 (20)	18 (6)	26 (8)	13 (6)	19 (9)	14 (7)	20 (10)
10	1 (2)	2 (2)	22 (25)	31 (35)	16 (10)	23 (14)	17 (8)	25 (11)	25 (14)	36 (19)
11	1 (0)	1 (0)	18 (9)	25 (13)	20 (12)	29 (18)	11 (3)	15 (4)	10 (4)	15 (6)
12	2 (5)	3 (7)	34 (31)	48 (45)	42 (46)	59 (66)	17 (13)	24 (19)	19 (15)	27 (22)
13	11 (15)	15 (21)	36 (31)	52 (44)	30 (23)	43 (33)	17 (9)	25 (13)	19 (9)	27 (13)
14	5 (8)	7 (11)	44 (45)	63 (64)	22 (13)	32 (19)	14 (9)	21 (13)	20 (15)	29 (22)
15	1 (1)	2 (1)	34 (32)	51 (49)	22 (10)	32 (15)	30 (16)	42 (23)	41 (23)	58 (33)
16	4 (9)	6 (13)	48 (68)	68 (98)	22 (9)	32 (13)	22 (8)	31 (11)	32 (20)	46 (28)
17	6 (7)	8 (10)	18 (6)	25 (9)	13 (4)	19 (6)	21 (6)	31 (8)	24 (8)	34 (12)
18	3 (4)	4 (5)	23 (11)	32 (15)	15 (6)	22 (9)	28 (18)	40 (25)	30 (11)	42 (16)
19	1 (1)	1 (2)	8 (7)	12 (10)	7 (3)	11 (4)	26 (11)	37 (15)	28 (10)	41 (14)
20	4 (5)	5 (8)	26 (20)	36 (29)	22 (15)	32 (21)	20 (10)	28 (14)	21 (13)	30 (18)
21	1 (1)	1 (2)	9 (7)	13 (10)	12 (6)	17 (8)	18 (6)	26 (9)	19 (6)	28 (8)
22	1 (0)	1 (0)	7 (3)	9 (4)	9 (5)	14 (7)	17 (4)	25 (6)	18 (5)	26 (7)
23	0 (1)	0 (1)	8 (5)	11 (7)	10 (5)	15 (7)	21 (7)	29 (9)	28 (11)	40 (16)
24	2 (2)	3 (3)	14 (8)	20 (12)	15 (8)	21 (12)	20 (6)	28 (9)	24 (6)	34 (8)
25	1 (1)	1 (2)	17 (11)	24 (15)	16 (12)	23 (17)	21 (9)	30 (13)	25 (11)	36 (16)
26	1 (2)	1 (3)	17 (10)	25 (15)	16 (11)	22 (16)	18 (9)	26 (13)	23 (11)	33 (16)
27	2 (3)	3 (4)	13 (7)	19 (11)	15 (8)	22 (12)	20 (10)	28 (15)	23 (14)	33 (20)
28	10 (15)	15 (21)	46 (46)	66 (66)	50 (46)	71 (65)	32 (24)	46 (34)	57 (26)	81 (37)
29	4 (5)	5 (7)	44 (49)	63 (70)	26 (24)	38 (35)	42 (15)	60 (21)	51 (25)	73 (36)
30	5 (7)	7 (10)	17 (8)	24 (11)	15 (15)	22 (21)	18 (16)	25 (22)	26 (29)	38 (42)
31	1 (0)									
Mean	3	5	24	34	20	28	23	32	27	39
n	31	30	30	30	30	30	30	30	30	30
SD	4	5	12	17	9	12	13	18	14	21
Min	0	0	7	9	7	11	11	15	10	15
Max	16	23	48	68	50	71	82	117	84	120

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for June, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (2)	1 (3)	13 (8)	19 (12)	9 (3)	14 (4)	16 (6)	23 (8)	21 (8)	29 (12)
2	3 (4)	4 (6)	17 (11)	24 (15)	13 (7)	18 (10)	22 (16)	32 (23)	25 (19)	36 (27)
3	6 (4)	9 (6)	43 (20)	61 (29)	26 (19)	38 (27)	29 (15)	41 (21)	37 (21)	53 (30)
4	4 (3)	5 (5)	33 (33)	47 (48)	22 (17)	31 (24)	16 (7)	24 (10)	17 (7)	24 (10)
5	2 (2)	2 (3)	28 (15)	40 (22)	15 (6)	22 (8)	15 (5)	21 (8)	19 (8)	27 (12)
6	1 (1)	1 (1)	23 (8)	34 (12)	16 (9)	23 (13)	22 (27)	31 (39)	19 (9)	28 (13)
7	3 (6)	4 (9)	43 (36)	62 (52)	19 (12)	27 (17)	28 (12)	41 (17)	35 (13)	50 (18)
8	4 (6)	6 (8)	50 (36)	72 (51)	25 (15)	36 (21)	48 (40)	70 (57)	50 (26)	73 (38)
9	11 (13)	15 (19)	46 (23)	67 (34)	32 (17)	47 (25)	21 (10)	30 (15)	25 (12)	37 (17)
10	10 (8)	14 (12)								
11	0 (1)	1 (1)	17 (8)	24 (12)	26 (24)	37 (34)	21 (8)	30 (12)	23 (9)	33 (14)
12	8 (7)	11 (10)	51 (50)	73 (72)	57 (82)	81 (118)	35 (30)	50 (44)	45 (39)	64 (55)
13	2 (1)	3 (2)	30 (11)	43 (16)	24 (9)	34 (13)	22 (7)	32 (10)	28 (11)	40 (16)
14	12 (15)	18 (22)	31 (8)	45 (11)	31 (7)	45 (10)	25 (6)	36 (9)	28 (7)	41 (9)
15	6 (15)	9 (22)			30 (6)	44 (8)	37 (11)	53 (15)	49 (17)	70 (24)
16	1 (1)	2 (1)	40 (11)	57 (16)	25 (7)	35 (9)	35 (13)	51 (19)	46 (18)	66 (25)
17	0 (1)	1 (1)	27 (17)	38 (24)	17 (4)	25 (6)	39 (18)	56 (25)	57 (29)	81 (42)
18	1 (2)	2 (3)	46 (17)	66 (24)	21 (6)	30 (9)	27 (11)	39 (16)	34 (20)	48 (29)
19	12 (5)									
20	23 (8)									
21	3 (1)	5 (2)	37 (18)	54 (26)	34 (16)	48 (23)	25 (14)	36 (20)	36 (17)	52 (24)
22	2 (3)	3 (4)	79 (54)	114 (77)	51 (63)	73 (90)	28 (17)	40 (24)	56 (71)	80 (102)
23	1 (1)	2 (2)	43 (35)	62 (49)	41 (40)	58 (57)	29 (20)	42 (28)	49 (47)	70 (68)
24	3 (5)	5 (7)	34 (30)	48 (42)	19 (7)	27 (10)	27 (26)	39 (37)	35 (23)	50 (33)
25	8 (5)	11 (8)	33 (15)	47 (22)	23 (10)	33 (14)	28 (28)	41 (40)	42 (62)	60 (89)
26	3 (2)	4 (3)	30 (10)	43 (14)	25 (8)	36 (11)	19 (7)	27 (9)	22 (9)	31 (12)
27	6 (11)	8 (16)	39 (17)	57 (25)	31 (17)	44 (24)	25 (8)	36 (12)	30 (12)	44 (17)
28	6 (9)	9 (14)	42 (10)	60 (15)	34 (12)	49 (18)	24 (9)	34 (13)	26 (11)	37 (16)
29	2 (7)	3 (9)	50 (23)	72 (33)	30 (11)	44 (16)	22 (10)	32 (14)	28 (14)	40 (20)
30	0 (3)	0 (4)	32 (17)	46 (24)	21 (7)	30 (11)	22 (10)	32 (14)	35 (18)	50 (26)
Mean	5	6	37	53	27	38	26	38	34	49
n	30	28	26	26	27	27	27	27	27	27
SD	5	5	13	19	10	15	7	11	12	16
Min	0	0	13	19	9	14	15	21	17	24
Max	23	18	79	114	57	81	48	70	57	81

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for July, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (2)	1 (3)	55 (77)	78 (110)	27 (16)	38 (22)	38 (39)	54 (56)	58 (75)	83 (107)
2	1 (1)	1 (1)	51 (34)	73 (48)	19 (12)	28 (18)	30 (20)	43 (29)	53 (47)	76 (67)
3	3 (5)	4 (7)	44 (35)	63 (51)	17 (9)	24 (13)	27 (10)	39 (14)	63 (69)	90 (99)
4	4 (4)	5 (5)	74 (62)	106 (88)	22 (11)	32 (16)	32 (13)	46 (18)	47 (19)	67 (27)
5	10 (11)	14 (16)	45 (43)	64 (61)	27 (19)	38 (27)	32 (26)	46 (37)	46 (55)	66 (78)
6	5 (5)	7 (7)	28 (15)	41 (22)	27 (14)	38 (21)	34 (45)	48 (64)	28 (15)	41 (22)
7	2 (3)	3 (4)	39 (19)	56 (27)	21 (9)	30 (13)	21 (8)	30 (11)	30 (30)	43 (43)
8	7 (10)	11 (14)	54 (33)	77 (48)	19 (10)	28 (15)	34 (30)	50 (44)	65 (66)	94 (95)
9	1 (0)	1 (0)	54 (31)	78 (45)	18 (5)	25 (7)	33 (17)	47 (24)	44 (21)	63 (30)
10	3 (5)	4 (7)	60 (64)	86 (92)	20 (10)	29 (14)	38 (27)	55 (39)	60 (63)	86 (90)
11	3 (2)	5 (3)	75 (43)	107 (62)	28 (14)	40 (20)	29 (10)	42 (14)	51 (58)	73 (83)
12	2 (2)	3 (3)	74 (57)	107 (82)	23 (10)	33 (14)	29 (18)	42 (25)	36 (26)	52 (37)
13	1 (1)	1 (1)	66 (27)	95 (39)	24 (8)	34 (11)	26 (10)	37 (15)	33 (12)	48 (18)
14	3 (6)	5 (9)	61 (50)	88 (72)	30 (13)	44 (19)	27 (17)	39 (25)	40 (41)	58 (59)
15	7 (4)	10 (6)	70 (55)	100 (79)	23 (13)	33 (19)	31 (16)	44 (23)	41 (21)	59 (30)
16	11 (8)	14 (12)	98 (49)	141 (71)	30 (16)	43 (23)	53 (26)	76 (37)	75 (54)	108 (77)
17	5 (4)									
18	11 (10)	16 (14)	63 (39)		28 (14)		41 (20)	59 (29)	57 (36)	82 (51)
19	2 (2)	2 (2)	49 (15)		31 (17)		29 (7)	41 (10)	34 (10)	48 (14)
20	3 (4)	5 (6)	47 (13)		33 (7)		22 (10)	32 (15)	27 (11)	39 (16)
21	6 (8)	9 (12)	59 (23)		30 (9)		26 (7)	37 (10)	35 (19)	51 (28)
22	11 (10)	15 (14)	53 (19)	76 (27)	32 (15)	46 (21)	29 (11)	42 (16)	31 (12)	45 (17)
23	6 (5)	8 (7)	83 (45)	119 (65)	28 (6)	41 (8)	33 (23)	48 (32)	52 (41)	75 (60)
24	1 (2)	2 (3)	71 (52)	102 (74)	21 (6)	30 (9)	40 (20)	58 (28)	63 (42)	90 (61)
25	5 (3)	8 (4)	53 (19)	76 (28)	26 (11)	37 (16)	33 (25)	47 (36)	49 (54)	71 (78)
26	1 (2)	2 (3)	88 (47)	127 (67)	20 (8)	28 (12)	29 (10)	42 (14)	43 (26)	61 (37)
27	1 (4)	2 (6)	55 (29)	81 (43)	22 (7)	31 (11)	32 (17)	45 (24)	43 (26)	62 (37)
28	1 (1)	1 (1)	35 (10)	50 (15)	23 (10)	33 (14)	28 (24)	40 (34)	29 (13)	41 (19)
29	2 (2)	3 (3)	75 (48)	108 (69)	25 (13)	36 (19)	57 (31)	82 (45)	68 (36)	98 (52)
30	4 (4)	5 (6)	46 (25)	66 (35)	22 (5)	32 (8)	26 (14)	37 (21)	26 (19)	37 (27)
31	1 (0)	1 (1)	66 (88)	96 (126)	20 (8)	28 (11)	24 (8)	35 (12)	26 (11)	37 (15)
Mean	4	6	60	87	24	34	32	46	45	65
n	31	30	30	26	30	26	30	30	30	30
SD	3	5	16	24	4	6	8	11	14	20
Min	1	1	28	41	17	24	21	30	26	37
Max	11	16	98	141	33	46	57	82	75	108

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for August, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	0 (2)	1 (3)	34 (11)	49 (16)	18 (5)	26 (8)	26 (7)	37 (9)	24 (5)	35 (8)
2	2 (2)	3 (3)	45 (17)	64 (24)	20 (12)	29 (17)	28 (12)	41 (18)	29 (11)	42 (15)
3	0 (1)	1 (1)	32 (13)	46 (18)	17 (4)	25 (6)	19 (7)	28 (10)	25 (7)	36 (10)
4	2 (1)	2 (2)	31 (11)	45 (16)	20 (6)	29 (9)	24 (12)	34 (18)	23 (8)	33 (12)
5	3 (1)	5 (2)	44 (11)	63 (16)	20 (6)	28 (9)	23 (10)	34 (14)	30 (22)	43 (31)
6	1 (1)	1 (1)	35 (19)	50 (27)	15 (3)	21 (4)	31 (18)	45 (26)	39 (15)	56 (21)
7	1 (1)	1 (2)	39 (16)	55 (24)	25 (21)	36 (30)	29 (10)	42 (15)	35 (13)	50 (19)
8	0 (0)	0 (0)	28 (12)	40 (17)	17 (8)	24 (11)	24 (8)	34 (12)	26 (9)	37 (12)
9	2 (2)	3 (3)	30 (9)	43 (13)	20 (14)	28 (20)	21 (4)	31 (6)	21 (5)	30 (7)
10	4 (2)	6 (3)	43 (18)	62 (26)	18 (5)	26 (7)	34 (37)	48 (53)	31 (14)	45 (20)
11	3 (4)	5 (5)	39 (26)	56 (37)	24 (10)	35 (14)	30 (14)	43 (20)	43 (23)	62 (33)
12	0 (1)	0 (1)	28 (16)	40 (23)	19 (12)	27 (17)	22 (12)	31 (17)	26 (15)	38 (22)
13	4 (5)	6 (7)	39 (19)		23 (13)		28 (17)	40 (24)	45 (44)	65 (63)
14	3 (1)	4 (1)	40 (22)	57 (32)	21 (7)	30 (9)	20 (6)	28 (9)	22 (10)	32 (15)
15	2 (2)	3 (3)	27 (8)	39 (12)	17 (8)	24 (11)	31 (18)	44 (26)	32 (19)	46 (28)
16	2 (4)	3 (6)	41 (22)	60 (31)	20 (14)	29 (20)	34 (15)	49 (22)	50 (36)	72 (52)
17	0 (0)	0 (1)	41 (18)	59 (26)	16 (6)	23 (9)	27 (24)	39 (34)	27 (10)	39 (14)
18	1 (1)	1 (1)	51 (17)	74 (24)	19 (5)	27 (7)	27 (10)	39 (14)	32 (12)	46 (17)
19	1 (2)	2 (3)	58 (26)	84 (38)	23 (10)	33 (14)	39 (18)	55 (25)	53 (37)	76 (54)
20	5 (2)	8 (4)	49 (55)	73 (87)	21 (14)	25 (11)	50 (39)	71 (56)	53 (41)	76 (59)
21	8 (11)	12 (15)	57 (49)	82 (71)	42 (40)	60 (58)	23 (10)	33 (15)	37 (35)	53 (51)
22	2 (3)	3 (4)	41 (17)	59 (24)	36 (33)	52 (47)	21 (8)	30 (11)	21 (8)	30 (12)
23	2 (2)	2 (2)	32 (8)	46 (12)	23 (11)	33 (16)	18 (4)	26 (6)	18 (6)	26 (9)
24	2 (6)	3 (8)	42 (17)	61 (24)	21 (6)	30 (9)	19 (4)	27 (6)	22 (10)	31 (14)
25	2 (3)	3 (5)	63 (44)	91 (64)	28 (31)	40 (45)	28 (11)	40 (16)	47 (35)	68 (50)
26	3 (1)	5 (2)	55 (44)	79 (63)	19 (7)	27 (10)	29 (26)	42 (37)	43 (48)	62 (68)
27	3 (1)	5 (2)	65 (53)	93 (76)	25 (19)	36 (27)	26 (13)	37 (19)	33 (24)	47 (35)
28	3 (4)	4 (6)	38 (18)	54 (26)	26 (24)	37 (34)	22 (13)	31 (18)	23 (15)	32 (22)
29	2 (2)	3 (2)	37 (14)	53 (19)	16 (7)	24 (9)	20 (5)	28 (8)	15 (3)	21 (5)
30	5 (7)	8 (10)	75 (78)	108 (111)	25 (19)	36 (27)	32 (10)	46 (14)	36 (12)	52 (18)
31	14 (17)	20 (24)	72 (47)	103 (67)	25 (12)	36 (18)	33 (10)	47 (14)	40 (19)	57 (27)
Mean	3	4	44	63	22	31	27	39	32	46
n	31	31	31	30	31	30	31	31	31	31
SD	3	4	13	19	6	8	7	9	10	15
Min	0	0	27	39	15	21	18	26	15	21
Max	14	20	75	108	42	60	50	71	53	76

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for September, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	6 (4)	9 (6)	49 (30)	70 (43)	33 (21)	47 (31)	31 (13)	44 (19)	36 (19)	51 (27)
2	4 (4)		39 (18)	56 (25)	28 (15)	40 (21)	24 (12)	35 (17)	27 (13)	38 (19)
3	6 (5)		36 (10)		27 (16)		20 (9)	29 (13)	24 (16)	34 (23)
4										
5										
6										
7	1 (1)		53 (38)		18 (4)		34 (15)	49 (22)	50 (31)	71 (44)
8	4 (3)		74 (34)		29 (16)		48 (31)	68 (45)	68 (49)	97 (70)
9	1 (2)		56 (40)		14 (5)		30 (29)	43 (41)	39 (38)	56 (54)
10	3 (4)		69 (70)		21 (10)		22 (9)	34 (14)	37 (28)	58 (42)
11	1 (2)		44 (31)		18 (12)		22 (10)	31 (15)	18 (9)	26 (13)
12	0 (0)									
13	0 (0)		35 (13)		15 (5)		26 (12)	37 (17)	16 (4)	24 (5)
14	1 (0)		50 (16)		25 (7)		37 (9)	53 (12)	23 (6)	33 (8)
15	1 (1)		41 (21)	58 (30)	20 (6)	28 (9)	51 (39)	72 (56)	43 (28)	61 (40)
16	3 (3)		42 (19)	62 (29)	25 (18)	38 (26)	32 (15)	49 (21)	26 (15)	40 (22)
17	6 (4)	8 (5)	89 (43)	127 (61)	27 (21)	38 (30)	42 (35)	59 (51)	26 (16)	37 (23)
18	4 (6)	6 (9)	36 (17)	51 (24)	39 (29)	55 (42)	26 (12)	37 (18)	27 (20)	38 (29)
19	5 (4)	7 (5)	77 (60)	110 (86)	28 (30)	41 (43)	24 (11)	35 (16)	42 (77)	59 (110)
20	12 (12)	18 (18)	40 (36)	54 (50)	24 (32)	27 (34)	28 (13)	40 (18)	19 (7)	27 (11)
21	8 (13)	12 (18)	47 (30)		47 (45)		48 (27)	69 (38)	58 (30)	82 (43)
22	3 (3)	4 (4)	42 (31)		40 (36)		52 (33)	74 (46)	64 (44)	91 (63)
23	1 (2)	2 (3)	53 (32)		40 (40)		66 (60)	94 (86)	85 (90)	122 (128)
24	4 (2)	5 (3)	34 (14)		27 (25)		21 (11)	30 (16)	26 (15)	37 (22)
25	4 (2)	6 (3)	44 (25)		39 (31)		21 (8)	31 (12)	23 (11)	33 (16)
26	3 (4)	4 (6)	22 (13)	31 (19)	23 (26)	33 (37)	19 (8)	28 (12)	21 (12)	30 (17)
27	4 (3)	6 (5)	19 (6)	27 (8)	16 (8)	23 (12)	14 (4)	20 (6)	14 (3)	19 (5)
28	3 (2)	5 (3)	25 (22)	36 (31)	16 (6)	24 (8)	14 (4)	21 (6)	16 (11)	23 (16)
29	1 (1)	1 (2)	47 (42)	69 (62)	28 (14)	41 (21)	25 (9)	35 (13)	38 (29)	55 (42)
30	2 (2)	3 (3)	60 (34)	86 (49)	25 (13)	35 (19)	18 (8)	26 (12)	16 (8)	23 (11)
Mean	3	6	47	64	27	36	31	44	34	49
n	27	15	26	13	26	13	26	26	26	26
SD	3	4	16	28	9	9	13	18	18	26
Min	0	1	19	27	14	23	14	20	14	19
Max	12	18	89	127	47	55	66	94	85	122

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for October, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (1)	1 (1)	50 (23)	72 (33)	23 (14)	33 (20)	36 (12)	51 (18)	55 (36)	79 (52)
2	1 (1)	1 (1)	16 (9)	23 (13)	14 (3)	19 (4)	55 (20)	78 (28)	66 (28)	94 (40)
3	1 (0)	1 (1)	18 (9)	26 (13)	14 (4)	20 (6)	63 (34)	89 (48)	66 (25)	94 (35)
4	1 (1)	1 (1)	25 (17)	36 (24)	23 (19)	33 (27)	43 (20)	62 (29)	44 (13)	63 (19)
5	2 (3)	3 (5)	31 (17)	44 (24)	27 (15)	39 (22)	49 (30)	70 (43)	65 (43)	92 (62)
6	7 (5)	10 (7)	24 (10)	35 (15)	27 (13)	38 (18)	85 (57)	121 (81)	113 (84)	162 (120)
7	7 (10)	11 (14)	25 (9)	35 (13)	23 (15)	33 (21)	56 (34)	80 (49)	63 (59)	89 (84)
8	2 (2)	3 (2)	46 (42)	66 (60)	21 (10)	30 (14)	36 (19)	52 (27)	49 (27)	70 (38)
9	1 (1)	2 (2)	23 (16)	33 (24)	19 (17)	27 (25)	42 (18)	61 (25)	63 (38)	90 (54)
10	6 (2)	8 (3)	81 (103)	116 (146)	33 (21)	47 (30)	68 (52)	97 (75)	109 (81)	156 (115)
11	4 (2)	5 (2)	53 (38)	75 (54)	33 (16)	47 (23)	22 (7)	31 (10)	30 (9)	43 (13)
12	7 (4)	11 (6)	54 (36)	77 (51)	26 (13)	37 (19)	65 (65)	92 (93)	108 (84)	154 (120)
13	13 (8)	19 (11)	49 (38)	71 (54)	36 (20)	51 (29)	40 (43)	58 (61)	41 (28)	58 (40)
14	11 (7)	16 (10)	44 (36)	63 (51)	33 (21)	47 (30)	53 (40)	76 (57)	77 (60)	110 (86)
15	5 (5)	7 (8)	41 (29)	59 (41)	28 (17)	40 (25)	29 (17)	41 (24)	41 (24)	59 (35)
16	1 (1)	2 (1)	31 (28)	45 (40)	18 (8)	26 (11)	39 (29)	56 (42)	53 (46)	76 (65)
17	1 (1)	2 (2)	53 (36)	76 (52)	36 (16)	51 (22)	32 (19)	46 (28)	46 (27)	66 (39)
18	5 (5)	7 (7)	37 (15)	53 (22)	32 (13)	46 (18)	56 (30)	80 (43)	75 (49)	106 (70)
19	5 (3)	7 (4)	52 (27)	74 (38)	23 (10)	33 (15)	66 (51)	93 (73)	107 (58)	152 (83)
20	3 (3)	4 (5)	23 (15)	33 (21)	24 (16)	34 (22)	61 (50)	87 (71)	66 (51)	94 (72)
21	1 (1)	1 (1)	12 (10)	17 (14)	11 (6)	15 (9)	61 (30)	87 (43)	74 (40)	105 (57)
22	2 (3)	3 (4)	25 (19)	35 (27)	21 (5)	30 (7)	33 (17)	46 (25)	34 (34)	48 (48)
23	6 (7)	8 (11)	13 (3)	18 (5)	16 (6)	23 (9)	24 (6)	34 (9)	18 (4)	26 (6)
24	1 (1)	1 (1)	11 (2)	16 (3)	13 (4)	19 (6)	29 (8)	42 (11)	24 (10)	34 (15)
25	1 (0)	1 (1)	13 (5)	19 (7)	15 (3)	22 (4)	35 (10)	50 (15)	32 (14)	46 (19)
26	1 (1)	2 (1)	16 (3)	23 (5)	15 (6)	22 (8)	39 (8)	56 (12)	38 (11)	54 (16)
27	0 (0)	1 (1)							44 (8)	63 (12)
28	1 (0)	2 (0)	14 (6)	20 (8)	17 (6)	25 (9)	36 (11)	51 (16)	32 (6)	46 (9)
29	1 (1)	1 (1)	11 (4)	15 (6)	12 (4)	18 (6)	31 (8)	44 (11)	29 (10)	41 (14)
30	7 (10)	10 (14)	17 (15)	24 (21)	21 (15)	29 (22)	37 (10)	53 (15)	25 (6)	36 (8)
31	5 (6)									
Mean	4	5	31	45	23	32	46	65	56	80
n	31	30	29	29	29	29	29	29	30	30
SD	3	5	18	25	7	11	15	22	26	37
Min	0	1	11	15	11	15	22	31	18	26
Max	13	19	81	116	36	51	85	121	113	162

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for November, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	2 (1)	3 (2)	22 (6)	32 (8)	21 (4)	30 (6)	38 (14)	54 (20)	50 (30)	71 (43)
2	2 (2)	3 (2)	26 (17)	38 (24)	23 (11)	33 (16)	80 (46)	113 (65)	64 (42)	91 (59)
3	1 (1)	2 (1)	14 (4)	19 (6)	17 (6)	24 (9)	52 (25)	74 (35)	59 (30)	85 (43)
4	2 (1)	4 (1)	13 (4)	18 (6)	15 (2)	21 (4)	34 (19)	50 (28)	30 (17)	43 (25)
5	2 (1)	3 (2)	20 (13)	29 (18)	27 (23)	40 (34)	23 (10)	34 (14)	22 (20)	31 (30)
6	2 (2)	3 (3)	25 (13)	36 (19)	29 (16)	41 (23)	22 (10)	32 (14)	18 (5)	26 (8)
7	1 (1)	1 (1)	22 (7)	31 (11)	21 (8)	30 (11)	16 (6)	23 (8)	21 (5)	31 (7)
8	7 (8)	9 (11)	31 (14)	45 (20)	25 (9)	36 (13)	33 (12)	47 (17)	53 (44)	76 (63)
9	3 (3)	4 (5)	18 (14)	26 (20)	13 (5)	19 (7)	107 (68)	152 (97)	163 (119)	233 (170)
10	2 (1)	3 (1)	18 (12)	26 (17)	15 (8)	22 (11)	147 (169)	209 (241)	156 (220)	222 (314)
11	2 (1)	3 (1)	15 (11)	22 (15)	14 (4)	20 (6)	121 (126)	173 (180)	112 (121)	160 (172)
12	2 (1)	3 (2)	14 (9)	21 (13)	23 (17)	33 (24)	60 (25)	86 (35)	57 (34)	82 (49)
13	17 (7)									
14	6 (11)	9 (15)	16 (7)	22 (10)	19 (5)	28 (8)	40 (33)	57 (47)	33 (21)	47 (30)
15	3 (3)	5 (4)	17 (6)	25 (8)	26 (7)	37 (10)	24 (9)	34 (13)	26 (14)	38 (19)
16	1 (1)	2 (1)	8 (3)	12 (5)	10 (3)	15 (5)	74 (59)	105 (84)	78 (71)	113 (102)
17	2 (1)	3 (1)	9 (3)	13 (4)	15 (6)	22 (8)	81 (36)	116 (51)	83 (54)	118 (76)
18	4 (2)	5 (3)	29 (16)	42 (23)	58 (38)	83 (55)	39 (19)	55 (27)	35 (25)	49 (36)
19	4 (1)	5 (2)	15 (7)	21 (11)	36 (32)	52 (46)	38 (24)	53 (34)	39 (33)	52 (44)
20	4 (3)	6 (5)	12 (6)	17 (9)	26 (15)	37 (21)	25 (20)	36 (28)	20 (14)	29 (20)
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
Mean	3	4	18	26	23	33	55	79	59	84
n	20	19	19	19	19	19	19	19	19	19
SD	3	2	6	9	10	15	36	51	42	60
Min	1	1	8	12	10	15	16	23	18	26
Max	17	9	31	45	58	83	147	209	163	233

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for December, 2008.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	0 (1)	0 (2)	49 (18)	70 (25)	44 (13)	62 (18)	42 (19)	60 (27)	38 (20)	54 (28)
24	1 (1)	1 (1)	27 (10)	39 (14)	24 (5)	34 (7)	48 (15)	68 (22)	46 (22)	66 (32)
25	4 (1)	6 (1)	26 (15)	37 (21)	25 (12)	35 (17)	71 (35)	101 (49)	70 (58)	100 (82)
26	12 (18)	17 (25)	69 (22)	99 (31)	65 (21)	92 (31)	92 (41)	131 (59)	85 (41)	122 (59)
27	1 (1)	1 (2)	38 (14)	54 (21)	47 (19)	67 (28)	150 (84)	215 (120)	135 (90)	193 (128)
28	3 (1)	4 (2)	57 (48)	81 (69)	49 (17)	70 (24)	144 (149)	206 (212)	108 (72)	154 (103)
29	4 (2)	6 (3)	143 (141)	204 (201)	121 (97)	172 (138)	269 (205)	382 (291)	251 (166)	357 (236)
30	7 (7)	10 (10)	40 (21)	57 (30)	41 (23)	58 (33)	123 (99)	175 (141)	121 (87)	173 (124)
31										
Mean	4	6	56	80	52	74	117	167	107	152
n	8	8	8	8	8	8	8	8	8	8
SD	4	5	36	51	29	41	69	98	63	90
Min	0	0	26	37	24	34	42	60	38	54
Max	12	17	143	204	121	172	269	382	251	357

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for January, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1										
2										
3										
4										
5										
6	1 (2)	2 (3)	103 (40)	146 (58)	103 (38)	146 (55)	63 (28)	90 (39)	55 (21)	78 (30)
7	5 (3)	6 (4)	97 (48)	139 (68)	96 (45)	138 (64)	104 (59)	149 (83)	94 (58)	135 (82)
8	5 (1)	7 (2)	71 (33)	101 (47)	69 (24)	99 (34)	69 (63)	99 (90)	57 (27)	81 (38)
9	6 (8)	9 (11)	65 (37)	93 (53)	68 (35)	96 (49)	51 (21)	72 (29)	42 (14)	60 (20)
10	4 (6)	5 (9)	99 (41)	141 (58)	95 (35)	135 (50)	39 (16)	56 (23)	36 (15)	51 (21)
11	2 (2)	3 (2)	132 (86)	188 (123)	125 (76)	178 (108)	61 (32)	87 (45)	60 (35)	86 (49)
12	4 (7)	6 (10)	70 (64)	99 (91)	70 (65)	100 (93)	33 (16)	47 (22)	36 (16)	52 (22)
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Mean	4	6	91	130	89	127	60	86	54	77
n	7	7	7	7	7	7	7	7	7	7
SD	2	2	22	32	20	28	22	31	19	27
Min	1	2	65	93	68	96	33	47	36	51
Max	6	9	132	188	125	178	104	149	94	135

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for February, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1										
2										
3										
4	3 (3)	4 (4)	45 (17)	65 (24)	45 (15)	65 (21)	23 (6)	32 (8)		
5	10 (11)	14 (16)	42 (18)	60 (25)	41 (14)	59 (20)	23 (9)	32 (13)	26 (14)	38 (20)
6	7 (8)	10 (11)	29 (16)	41 (22)	33 (17)	46 (25)	21 (15)	31 (21)	20 (13)	28 (18)
7	1 (1)	2 (2)	23 (12)	33 (17)	24 (11)	34 (15)	18 (7)	25 (10)	17 (5)	25 (8)
8	1 (1)	2 (1)	12 (5)	17 (7)	13 (6)	19 (8)	20 (5)	29 (8)	18 (7)	26 (9)
9	4 (4)	5 (5)	27 (9)	38 (13)	34 (18)	49 (26)	24 (15)	34 (21)	21 (12)	30 (18)
10	1 (2)	2 (3)	16 (6)	23 (9)	19 (6)	28 (9)	19 (7)	27 (9)	16 (5)	23 (7)
11	6 (10)	9 (15)	28 (11)	41 (16)	37 (22)	52 (31)	23 (7)	32 (11)	16 (6)	23 (8)
12	1 (1)	2 (1)			17 (6)	25 (8)	16 (5)	24 (7)	17 (4)	24 (6)
13	1 (1)	2 (1)			25 (11)	35 (16)	28 (21)	40 (31)	25 (14)	35 (19)
14	1 (1)	1 (1)			26 (6)	38 (9)	22 (7)	31 (10)	20 (5)	28 (7)
15	7 (9)	9 (13)			24 (9)	34 (14)	21 (8)	30 (12)	21 (8)	30 (11)
16	1 (2)	2 (3)			23 (6)	33 (8)	26 (15)	38 (22)	22 (6)	31 (8)
17	1 (0)	1 (0)			25 (5)	36 (8)	36 (39)	50 (55)	24 (19)	34 (27)
18	0 (0)	0 (0)	20 (6)	28 (8)	19 (6)	28 (9)	16 (6)	22 (8)	11 (7)	16 (10)
19	2 (1)	3 (1)	15 (5)	22 (6)	16 (5)	22 (7)	19 (6)	26 (9)	14 (5)	20 (6)
20	2 (1)	2 (1)	10 (2)	14 (3)	12 (3)	17 (5)	12 (6)	17 (9)	7 (3)	9 (4)
21	0 (1)	1 (1)	14 (4)	21 (6)	15 (5)	21 (7)	17 (6)	25 (8)	11 (4)	16 (6)
22	1 (1)	1 (1)	17 (4)	24 (6)	16 (5)	23 (6)	25 (12)	36 (17)	19 (8)	27 (12)
23	2 (1)	2 (1)	13 (3)	18 (4)	13 (2)	18 (3)	13 (5)	19 (7)	11 (5)	16 (8)
24	1 (0)	1 (1)	22 (15)	31 (22)	24 (17)	34 (24)	18 (8)	26 (12)	18 (8)	26 (12)
25	1 (0)	1 (1)	18 (5)	26 (6)	18 (5)	26 (8)	18 (8)	25 (11)	14 (5)	19 (7)
26										
27										
28										
Mean	2	4	22	31	24	34	21	30	18	25
n	22	22	16	16	22	22	22	22	21	21
SD	3	4	10	14	9	13	5	7	5	7
Min	0	0	10	14	12	17	12	17	7	9
Max	10	14	45	65	45	65	36	50	26	38

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for March, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	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	1 (1)	1 (2)	54 (25)	77 (36)	47 (19)	67 (26)	71 (49)	102 (70)	37 (20)	53 (29)
11	1 (1)	2 (1)	15 (10)	21 (14)	14 (4)	20 (6)	31 (22)	44 (31)	24 (19)	35 (26)
12	1 (0)	2 (1)	36 (20)	49 (28)	35 (17)	47 (23)	45 (17)	64 (24)	47 (22)	67 (32)
13	2 (1)	3 (1)	43 (20)	59 (26)	38 (18)	54 (27)	57 (53)	84 (77)	45 (32)	65 (46)
14	8 (8)	12 (11)	31 (18)	45 (26)	32 (19)	45 (27)	54 (24)	77 (35)	44 (20)	63 (28)
15	4 (3)	6 (5)	61 (40)	87 (56)	52 (36)	74 (52)	31 (9)	44 (13)	28 (12)	40 (17)
16	1 (1)	1 (1)	40 (18)	57 (25)	38 (14)	54 (21)	27 (18)	38 (26)	21 (11)	30 (15)
17	1 (0)	1 (1)	33 (20)	47 (29)	32 (14)	45 (19)	58 (35)	83 (50)	50 (15)	71 (21)
18	1 (1)	2 (2)	25 (17)	36 (25)	26 (17)	37 (25)	65 (29)	96 (40)	65 (31)	95 (44)
19	1 (0)	1 (0)	26 (19)	37 (27)						
20	1 (1)	2 (1)	35 (21)	50 (30)	27 (6)	38 (9)	97 (187)	138 (266)	45 (36)	64 (51)
21	3 (4)	4 (6)	24 (8)	34 (11)	22 (8)	31 (11)	44 (21)	62 (30)	44 (17)	62 (24)
22	0 (1)	0 (1)	17 (11)	24 (16)	19 (14)	27 (20)	42 (14)	60 (20)	41 (13)	59 (19)
23	4 (4)	5 (6)	26 (13)	37 (19)	27 (15)	38 (21)	42 (31)	60 (44)	39 (20)	56 (28)
24	0 (1)	1 (1)	24 (8)	34 (12)	24 (9)	34 (13)	18 (6)	26 (8)	19 (8)	27 (12)
25	0 (1)	0 (1)	18 (4)	26 (6)	18 (5)	26 (7)	17 (5)	25 (7)	13 (4)	19 (5)
26	0 (1)	0 (1)	22 (5)	31 (7)	24 (3)	35 (4)	24 (7)	35 (10)	21 (7)	30 (10)
27	0 (0)	1 (1)	20 (9)	29 (13)	20 (8)	28 (11)	20 (7)	28 (10)	19 (6)	27 (8)
28	1 (1)	1 (1)	24 (10)	35 (14)	24 (7)	34 (10)	16 (6)	23 (9)	14 (6)	20 (8)
29	0 (0)	0 (0)	32 (10)	46 (14)	34 (12)	49 (17)	20 (10)	29 (14)	16 (9)	23 (13)
30	1 (1)	2 (1)	15 (6)	22 (8)	18 (7)	25 (10)	23 (7)	33 (11)	21 (8)	30 (11)
31	1 (0)	1 (1)	27 (18)	39 (25)	32 (18)	46 (26)	30 (21)	43 (30)	26 (15)	37 (22)
Mean	2	2	29	42	29	41	40	57	32	46
n	22	22	22	22	21	21	21	21	21	21
SD	2	3	12	16	9	13	21	30	14	20
Min	0	0	15	21	14	20	16	23	13	19
Max	8	12	61	87	52	74	97	138	65	95

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for April, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (0)	1 (1)	19 (4)	27 (6)	20 (6)	28 (9)	23 (8)	33 (11)	20 (9)	29 (13)
2	0 (1)	1 (1)	27 (8)	39 (11)	28 (8)	41 (12)	25 (13)	35 (19)	18 (6)	25 (9)
3	0 (0)	0 (1)			26 (8)	38 (12)	16 (6)	23 (9)	15 (9)	21 (13)
4	2 (1)	3 (1)	16 (7)	22 (9)	17 (5)	24 (7)	20 (10)	28 (14)	17 (9)	25 (12)
5	2 (1)	3 (1)	33 (29)	47 (41)	28 (22)	40 (31)	60 (30)	85 (43)	60 (27)	86 (39)
6	1 (0)	1 (1)	31 (24)	44 (34)	25 (13)	36 (18)	55 (37)	78 (52)	43 (30)	62 (43)
7	1 (1)	2 (1)	17 (10)	24 (15)	21 (15)	30 (22)	38 (31)	54 (44)	26 (18)	37 (26)
8	1 (1)	1 (1)	22 (10)	32 (14)	23 (11)	32 (16)	25 (11)	36 (15)	22 (8)	32 (12)
9	1 (1)	2 (1)	32 (17)	46 (25)	33 (17)	48 (24)	23 (7)	33 (9)	23 (7)	32 (10)
10	0 (1)	0 (1)	32 (13)	45 (18)	32 (10)	45 (15)	26 (11)	37 (16)	26 (13)	36 (18)
11	0 (1)	1 (1)	20 (6)	28 (8)	19 (3)	27 (4)	33 (24)	47 (34)	29 (15)	42 (21)
12	2 (5)	3 (7)	14 (11)	20 (15)	13 (5)	18 (7)	30 (11)	42 (16)	29 (11)	41 (16)
13	1 (5)	2 (8)	19 (9)	26 (13)	19 (5)	28 (8)	26 (13)	37 (19)	25 (12)	35 (17)
14	2 (3)	3 (4)	22 (9)	31 (13)	24 (11)	35 (16)	13 (6)	19 (9)	11 (4)	15 (6)
15	0 (1)	0 (1)	22 (6)	31 (9)	22 (6)	32 (9)	10 (5)	14 (7)	8 (5)	12 (7)
16	-1 (2)	-1 (3)	17 (8)	24 (11)	20 (10)	28 (15)	16 (5)	22 (7)	13 (4)	19 (6)
17	0 (0)	0 (1)	16 (9)	22 (13)	15 (7)	21 (10)	20 (8)	28 (12)	17 (6)	24 (9)
18	1 (2)	2 (3)	29 (33)	42 (47)	20 (12)	29 (17)	23 (9)	33 (12)	31 (37)	44 (53)
19	1 (1)	2 (2)	53 (25)	76 (36)	47 (17)	67 (25)	24 (28)	35 (40)	16 (9)	22 (12)
20	1 (2)	1 (2)	25 (9)	36 (12)	25 (7)	35 (10)	19 (7)	27 (10)	15 (8)	21 (12)
21	4 (7)	5 (10)	22 (10)	32 (14)	18 (6)	26 (9)	35 (11)	50 (15)	33 (17)	48 (24)
22	0 (0)	0 (1)	21 (21)	30 (30)	17 (8)	24 (12)	70 (28)	100 (40)	66 (20)	95 (28)
23	0 (0)	0 (0)	9 (6)	13 (8)	10 (4)	15 (5)	45 (40)	65 (57)	36 (28)	52 (40)
24	0 (0)	-1 (1)	33 (20)	47 (29)	22 (17)	32 (24)	20 (15)	28 (22)	18 (13)	25 (19)
25	0 (1)	0 (1)	15 (10)	22 (14)	7 (5)	10 (7)	9 (4)	12 (6)	7 (3)	9 (4)
26	0 (1)	0 (1)	19 (9)	27 (13)	9 (8)	12 (11)	10 (3)	15 (4)	14 (5)	20 (7)
27	2 (3)	3 (4)	17 (5)	24 (7)	15 (8)	21 (12)	15 (6)	22 (9)	12 (5)	18 (7)
28	0 (1)	0 (1)	13 (9)	19 (12)	8 (3)	11 (5)	10 (5)	14 (7)	11 (5)	15 (8)
29	1 (1)	1 (2)	16 (7)	22 (9)	20 (17)	28 (24)	21 (14)	30 (20)	20 (15)	28 (22)
30	1 (1)	1 (1)	18 (6)	26 (8)	13 (4)	18 (6)	21 (16)	30 (24)	13 (6)	18 (8)
Mean	1	1	22	32	20	29	26	37	23	33
n	30	30	29	29	30	30	30	30	30	30
SD	1	1	9	12	8	12	15	21	14	20
Min	-1	-1	9	13	7	10	9	12	7	9
Max	4	5	53	76	47	67	70	100	66	95

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for May, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	0 (0)									
2	0 (0)									
3	0 (1)									
4	0 (2)	0 (2)	31 (28)	45 (39)	29 (20)	41 (29)	16 (9)	22 (13)	19 (10)	27 (14)
5	0 (1)	0 (1)	10 (7)	15 (11)	14 (6)	20 (9)	17 (10)	25 (15)	18 (19)	26 (27)
6	0 (1)	0 (1)	16 (7)	23 (9)	14 (8)	21 (11)	19 (10)	27 (14)	15 (11)	22 (16)
7	0 (0)	0 (1)	27 (14)	38 (19)	19 (13)	27 (19)	22 (14)	31 (19)	25 (23)	35 (33)
8	0 (1)	0 (1)	18 (7)	26 (10)	9 (5)	14 (7)	19 (9)	27 (13)	15 (9)	21 (13)
9	0 (1)	1 (1)	13 (8)	19 (11)	8 (4)	12 (5)	39 (29)	55 (42)	30 (24)	44 (34)
10	0 (0)	0 (0)	8 (5)	11 (8)	8 (3)	11 (5)	48 (14)	69 (20)	46 (14)	66 (19)
11	11 (21)	16 (30)	19 (13)	27 (19)	15 (11)	21 (15)	32 (25)	45 (35)	24 (16)	35 (23)
12	0 (1)	1 (1)	15 (10)	21 (14)	12 (9)	17 (13)	13 (6)	18 (9)	17 (15)	24 (21)
13	0 (1)	0 (1)	16 (10)	22 (14)	7 (4)	9 (5)	9 (4)	13 (6)	5 (2)	7 (3)
14	0 (0)	0 (1)	12 (4)	17 (6)	7 (4)	11 (6)	12 (6)	18 (9)	7 (5)	11 (7)
15	7 (7)	10 (11)	24 (16)	35 (23)	15 (7)	22 (10)	11 (5)	16 (8)	11 (10)	15 (14)
16	0 (0)	0 (1)	13 (3)	18 (4)	8 (2)	11 (3)	10 (4)	14 (5)	5 (2)	7 (3)
17	0 (1)	0 (1)	11 (8)	15 (12)	7 (3)	10 (4)	23 (11)	33 (15)	24 (17)	34 (24)
18	2 (2)	3 (3)	12 (4)	18 (5)	9 (4)	13 (6)			9 (4)	12 (5)
19	5 (6)	6 (9)								
20	1 (3)	1 (4)	12 (8)	18 (11)	6 (4)	9 (5)	11 (7)	15 (10)	8 (5)	12 (7)
21	0 (1)	0 (1)	11 (6)	16 (9)	7 (6)	10 (9)	7 (6)	9 (8)	6 (4)	9 (6)
22	1 (4)	2 (6)	15 (5)	21 (7)	10 (5)	14 (7)	9 (5)	13 (7)	9 (7)	13 (9)
23	1 (3)	2 (5)	21 (15)	30 (22)	14 (12)	20 (17)	11 (5)	15 (7)	10 (4)	14 (5)
24	1 (2)	1 (3)	18 (12)	25 (17)	9 (5)	13 (8)	13 (6)	19 (9)	12 (4)	17 (6)
25	2 (2)	2 (3)	16 (10)	22 (15)	10 (8)	15 (11)	12 (7)	17 (9)	11 (7)	16 (10)
26	0 (0)	0 (0)	18 (4)	26 (6)	10 (6)	15 (8)	11 (4)	16 (6)	9 (7)	13 (9)
27	0 (1)	-1 (1)	13 (3)	18 (4)	8 (3)	12 (4)	10 (4)	14 (5)	9 (4)	13 (5)
28	0 (0)	-1 (0)	13 (2)	18 (3)	8 (2)	11 (3)	11 (3)	16 (4)	8 (3)	12 (4)
29	4 (5)	5 (8)	15 (7)	22 (10)	9 (3)	13 (5)	9 (4)	14 (5)	10 (6)	15 (9)
30	0 (2)	0 (2)	17 (12)	24 (17)	9 (7)	13 (10)	17 (10)	25 (15)	19 (13)	28 (18)
31	0 (0)	0 (1)	13 (10)	18 (15)	8 (4)	11 (5)	24 (16)	34 (23)	21 (9)	30 (12)
Mean	1	2	16	23	11	15	17	24	15	21
n	31	28	27	27	27	27	26	26	27	27
SD	2	4	5	7	5	7	10	14	9	13
Min	0	-1	8	11	6	9	7	9	5	7
Max	11	16	31	45	29	41	48	69	46	66

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for June, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	0 (1)	0 (1)	11 (4)	16 (6)	7 (3)	10 (5)	17 (10)	24 (14)	13 (10)	19 (14)
2	1 (2)	2 (4)	15 (5)	21 (7)	11 (7)	15 (11)	11 (5)	15 (7)	9 (6)	13 (9)
3	0 (1)	0 (2)	19 (10)	27 (14)	15 (13)	21 (18)	10 (5)	14 (7)	11 (12)	15 (17)
4	-1 (2)	-1 (3)	21 (15)	30 (21)	14 (6)	19 (9)	10 (6)	15 (9)	11 (11)	15 (15)
5	0 (1)	0 (2)	18 (8)	25 (11)	8 (4)	12 (6)	7 (6)	11 (8)	9 (11)	13 (16)
6	-1 (1)	-1 (1)	26 (28)	38 (41)	12 (12)	17 (17)	7 (4)	11 (6)	8 (7)	12 (10)
7	0 (1)	-1 (1)	15 (4)	21 (5)	9 (4)	13 (6)	7 (3)	10 (4)	7 (3)	9 (5)
8	0 (1)	0 (1)	21 (7)	30 (11)	11 (4)	15 (6)	7 (4)	10 (6)	6 (2)	9 (3)
9	1 (2)	2 (3)	18 (11)	26 (15)	10 (5)	15 (7)	11 (5)	15 (7)	9 (5)	13 (6)
10	0 (0)	0 (1)	24 (16)	34 (23)	8 (4)	12 (5)	17 (18)	24 (26)	17 (22)	24 (31)
11	0 (1)	0 (2)	17 (5)	24 (7)	13 (8)	18 (11)	10 (3)	15 (4)	9 (3)	13 (4)
12	0 (1)	0 (2)	16 (7)	22 (10)	15 (13)	21 (19)	11 (4)	15 (6)	10 (3)	15 (4)
13	0 (1)	0 (1)	23 (27)	32 (38)	12 (8)	17 (11)	9 (5)	13 (7)	10 (6)	15 (8)
14	0 (1)	0 (1)	18 (8)	26 (11)	9 (4)	13 (6)	11 (5)	16 (7)	10 (5)	14 (7)
15	1 (1)	2 (2)	24 (16)	34 (23)	12 (6)	16 (8)	13 (6)	18 (9)	13 (7)	19 (10)
16	-1 (2)	-1 (4)	35 (25)	51 (36)	12 (9)	17 (13)	12 (8)	17 (11)	14 (14)	20 (20)
17	0 (1)	-1 (1)	14 (5)	21 (7)	9 (4)	14 (6)	8 (4)	12 (5)	5 (4)	8 (6)
18	0 (0)	0 (1)	15 (4)	21 (5)	9 (3)	13 (4)	10 (5)	14 (8)	9 (5)	12 (7)
19	1 (2)	1 (2)	14 (5)	20 (7)	10 (3)	14 (5)	13 (5)	19 (7)	13 (5)	19 (7)
20	2 (2)	3 (2)	18 (5)	26 (8)	15 (8)	21 (11)	14 (8)	20 (12)	13 (6)	19 (9)
21	0 (0)	-1 (0)	17 (7)	24 (10)	10 (2)	15 (3)	9 (7)	13 (10)	9 (3)	13 (5)
22	0 (2)	0 (3)	27 (17)	39 (25)	13 (5)	18 (7)	9 (3)	12 (4)	11 (6)	15 (9)
23	1 (2)	1 (3)	25 (11)	36 (16)	12 (4)	17 (6)	12 (5)	18 (8)	15 (14)	21 (20)
24	4 (3)	6 (4)	22 (11)	31 (16)	12 (4)	17 (6)	14 (8)	20 (11)	17 (15)	25 (22)
25	1 (1)	1 (2)	34 (40)	48 (58)	13 (6)	19 (9)	11 (5)	15 (7)	10 (5)	15 (7)
26	2 (3)	2 (4)	22 (8)	31 (12)	11 (4)	16 (6)	11 (5)	16 (7)	16 (22)	23 (31)
27	0 (1)	0 (1)	20 (5)	29 (8)	12 (2)	17 (4)	7 (2)	10 (3)	7 (3)	10 (4)
28	-1 (0)	-1 (1)	18 (6)	26 (9)	11 (4)	16 (6)	13 (5)	18 (7)	16 (7)	22 (10)
29	0 (1)	0 (2)	19 (5)	27 (7)	12 (4)	17 (6)	11 (6)	16 (9)	15 (11)	22 (16)
30										
Mean	0	1	20	29	11	16	11	15	11	16
n	29	29	29	29	29	29	29	29	29	29
SD	1	1	5	8	2	3	3	4	3	5
Min	-1	-1	11	16	7	10	7	10	5	8
Max	4	6	35	51	15	21	17	24	17	25

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for July, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1										
2										
3										
4	0 (0)	0 (1)	19 (9)	27 (13)	10 (3)	14 (4)	9 (5)	13 (7)	9 (5)	13 (8)
5	1 (2)	2 (3)	24 (12)	34 (18)	13 (12)	18 (17)	10 (4)	15 (6)	9 (4)	13 (6)
6	1 (2)	1 (2)	24 (9)	35 (13)	14 (9)	20 (13)	11 (5)	16 (7)	8 (3)	12 (4)
7	0 (1)	0 (1)	23 (8)	33 (12)	10 (4)	15 (6)	9 (5)	14 (7)	9 (5)	13 (6)
8	0 (1)	0 (1)	23 (13)	33 (19)	8 (4)	12 (6)	6 (2)	8 (3)	5 (3)	8 (4)
9	1 (2)	2 (3)	20 (5)	29 (7)	11 (6)	16 (8)	9 (5)	13 (7)	6 (2)	8 (3)
10	0 (0)	0 (1)	22 (7)	32 (10)	11 (7)	16 (10)	9 (3)	13 (4)	7 (2)	10 (3)
11	0 (0)	0 (1)	24 (13)	35 (18)	11 (5)	16 (7)	9 (3)	12 (4)	6 (2)	9 (3)
12	3 (8)	4 (11)	25 (13)	35 (18)	17 (20)	24 (28)	9 (5)	12 (6)	8 (6)	12 (9)
13	0 (0)	-1 (0)	18 (9)	26 (12)	8 (3)	11 (4)	12 (6)	17 (8)	10 (5)	14 (7)
14	1 (2)	2 (3)	22 (12)	31 (17)	9 (6)	12 (8)	8 (4)	11 (5)	7 (4)	10 (6)
15	0 (1)	0 (1)	21 (7)	30 (10)	10 (6)	14 (8)	12 (5)	17 (7)	8 (2)	11 (4)
16	3 (3)	4 (4)	22 (8)	31 (11)	11 (5)	16 (7)	11 (4)	16 (6)	10 (3)	14 (5)
17	1 (2)	1 (2)	29 (10)	41 (15)	12 (6)	17 (9)	12 (3)	17 (4)	9 (3)	13 (4)
18	0 (0)	-1 (0)	26 (8)	37 (12)	12 (3)	17 (5)	13 (11)	19 (15)	12 (14)	18 (20)
19	4 (8)	6 (11)	24 (10)	35 (14)	12 (6)	17 (8)	14 (9)	20 (13)	9 (3)	13 (5)
20	1 (1)									
21	1 (1)									
22										
23										
24										
25	1 (2)	1 (2)	30 (11)	42 (16)	18 (5)	25 (7)	12 (3)	17 (5)	11 (3)	16 (5)
26	0 (1)	0 (1)	30 (8)	44 (12)	16 (3)	24 (4)	13 (6)	19 (9)	12 (4)	18 (6)
27	0 (1)	0 (1)	28 (15)	41 (22)	20 (20)	28 (28)	16 (6)	23 (8)	17 (6)	24 (9)
28	2 (2)	3 (3)	37 (16)	53 (23)	22 (18)	32 (26)	15 (12)	22 (17)	12 (11)	17 (16)
29	0 (1)	1 (2)	30 (8)	43 (12)	16 (9)	23 (13)	14 (6)	20 (8)	14 (7)	21 (10)
30	3 (4)	4 (6)	30 (7)	43 (10)	16 (8)	23 (11)	12 (5)	18 (7)	13 (5)	19 (7)
31	-1 (1)	-1 (1)	31 (8)	45 (12)	14 (4)	20 (6)	12 (4)	18 (6)	12 (5)	17 (8)
Mean	1	1	25	36	13	19	11	16	10	14
n	25	23	23	23	23	23	23	23	23	23
SD	1	2	5	7	4	5	2	4	3	4
Min	-1	-1	18	26	8	11	6	8	5	8
Max	4	6	37	53	22	32	16	23	17	24

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for August, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	1 (1)	1 (1)	42 (22)	60 (31)	16 (5)	22 (8)	13 (5)	18 (7)	13 (4)	19 (6)
2	0 (0)	0 (0)	32 (9)	45 (13)	16 (3)	23 (5)	15 (8)	22 (11)	16 (9)	23 (13)
3	3 (3)	4 (5)	28 (8)	40 (12)	14 (6)	20 (8)	16 (6)	23 (8)	14 (5)	20 (7)
4	2 (2)	3 (4)	35 (19)	51 (27)	15 (5)	22 (7)	14 (6)	20 (8)	13 (5)	19 (8)
5	1 (2)	1 (3)	41 (21)	59 (30)	13 (9)	19 (13)	12 (5)	17 (7)	15 (13)	22 (19)
6	2 (3)	2 (5)	28 (10)	40 (15)	11 (6)	16 (8)	13 (6)	18 (9)	14 (9)	21 (13)
7	0 (1)	0 (2)	24 (10)	34 (14)	11 (4)	15 (6)	13 (6)	19 (8)	11 (6)	16 (8)
8	1 (1)	2 (2)	26 (9)	37 (12)	14 (10)	20 (14)	15 (8)	21 (12)	13 (3)	18 (5)
9	0 (1)	-1 (1)	26 (5)	37 (7)	14 (5)	20 (7)	17 (5)	24 (7)	17 (6)	25 (8)
10	1 (1)	1 (1)	26 (8)	37 (12)	18 (7)	25 (10)	17 (6)	24 (8)	20 (10)	28 (14)
11	1 (1)									
12	1 (1)	2 (2)	32 (6)	45 (9)	20 (4)	29 (6)	17 (4)	25 (6)	18 (7)	26 (10)
13	2 (2)	2 (3)	36 (11)	51 (16)	32 (17)	45 (24)	23 (19)	33 (28)	17 (6)	24 (8)
14	1 (2)	2 (3)	39 (14)	56 (20)	35 (30)	50 (44)	18 (5)	26 (7)	19 (5)	27 (8)
15	2 (3)	3 (4)	53 (34)	77 (49)	43 (42)	62 (61)	27 (24)	38 (34)	27 (17)	39 (24)
16	10 (11)	14 (16)	49 (27)	71 (38)	45 (26)	65 (37)	27 (10)	39 (14)	34 (14)	49 (20)
17	13 (17)	18 (24)	46 (19)	66 (28)	33 (12)	48 (17)	25 (9)	36 (13)	26 (12)	37 (18)
18	2 (5)	3 (7)	34 (6)	49 (9)	26 (8)	37 (12)	22 (17)	32 (25)	18 (6)	25 (8)
19	1 (1)	1 (1)	36 (10)	52 (14)	28 (5)	40 (8)				
20	2 (2)	4 (4)	47 (19)	68 (27)	28 (8)	40 (11)	19 (8)	27 (12)	23 (27)	33 (39)
21	1 (1)	1 (1)	48 (16)	69 (24)	26 (8)	37 (11)	16 (3)	24 (4)	16 (3)	23 (5)
22	2 (1)	2 (2)	45 (19)	65 (27)	29 (7)	42 (10)	21 (10)	30 (15)	24 (12)	34 (17)
23	0 (0)	0 (1)	27 (7)	38 (10)	25 (6)	35 (8)	16 (4)	23 (6)	17 (8)	25 (11)
24	0 (2)	0 (2)	30 (12)	43 (17)	23 (10)	34 (14)	15 (6)	21 (9)	21 (14)	30 (20)
25	3 (2)	5 (3)	52 (33)	77 (50)	21 (6)	30 (8)	13 (4)	19 (6)	13 (3)	18 (5)
26	6 (9)	9 (12)	49 (24)	70 (35)	26 (18)	37 (25)	16 (14)	23 (19)	19 (13)	27 (18)
27	6 (8)	8 (11)	45 (21)	64 (30)	33 (23)	47 (33)	23 (10)	32 (14)	31 (17)	45 (24)
28	1 (3)	2 (4)	55 (23)	79 (34)	23 (7)	33 (11)	16 (6)	23 (8)	18 (13)	26 (19)
29	0 (1)	0 (1)	47 (23)	67 (32)	22 (14)	32 (20)	19 (14)	27 (20)	20 (13)	29 (18)
30	0 (0)	-1 (0)	33 (11)	47 (16)	17 (4)	24 (6)	12 (4)	17 (6)	15 (11)	22 (16)
31	2 (1)	2 (2)								
Mean	2	3	38	55	23	33	17	25	19	27
n	31	30	29	29	29	29	28	28	28	28
SD	3	4	9	14	9	13	4	6	5	8
Min	0	-1	24	34	11	15	12	17	11	16
Max	13	18	55	79	45	65	27	39	34	49

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for September, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	6 (7)	9 (11)	36 (11)	51 (16)	26 (13)	38 (19)	14 (11)	20 (15)	16 (11)	22 (16)
2	1 (2)	2 (3)	30 (7)	43 (10)	24 (14)	34 (20)	12 (5)	18 (8)	11 (5)	16 (7)
3	2 (2)	2 (3)	34 (19)	49 (27)	37 (33)	53 (48)	11 (4)	16 (5)	10 (3)	15 (4)
4	1 (1)	1 (2)	34 (16)	49 (23)	33 (26)	47 (37)	13 (6)	19 (9)	13 (6)	18 (9)
5	5 (6)	8 (8)	32 (9)	46 (12)	24 (14)	35 (21)	18 (9)	25 (13)	18 (10)	26 (15)
6	13 (18)	19 (26)	47 (21)	67 (30)	45 (33)	65 (47)	19 (6)	27 (8)	15 (4)	22 (6)
7	1 (2)	2 (2)	32 (10)	46 (14)	25 (17)	36 (25)	18 (10)	25 (14)	15 (6)	22 (9)
8	8 (8)	11 (12)	37 (12)	54 (18)	31 (15)	44 (21)	16 (5)	23 (8)	17 (6)	25 (8)
9	9 (5)	13 (7)	50 (28)	72 (41)	38 (27)	55 (39)	18 (9)	25 (13)	19 (13)	28 (18)
10	31 (22)	44 (32)	50 (31)	72 (44)	34 (26)	49 (37)	15 (4)	21 (6)	15 (5)	21 (7)
11	5 (2)									
12	6 (7)	9 (10)	39 (22)	55 (31)	24 (12)	34 (17)	13 (5)	19 (7)	16 (9)	22 (13)
13	0 (0)	0 (1)	42 (33)	60 (47)	27 (21)	38 (30)	22 (19)	32 (27)	24 (21)	35 (30)
14	0 (1)	1 (2)	41 (48)	59 (70)	24 (20)	35 (29)	27 (19)	38 (27)	20 (13)	28 (18)
15	4 (8)	6 (11)	34 (18)	49 (26)	21 (19)	31 (28)	15 (13)	21 (19)		
16	15 (13)	22 (19)	52 (30)	75 (42)	45 (31)	64 (45)	16 (9)	23 (13)	17 (15)	25 (21)
17	1 (2)	1 (3)	21 (7)	30 (10)	13 (6)	19 (8)	9 (2)	13 (3)	9 (3)	13 (5)
18	19 (11)	27 (16)								
19	10 (14)	14 (19)	45 (29)	64 (42)	38 (38)	54 (54)	15 (6)	21 (8)		
20	2 (2)	3 (3)	32 (14)	46 (20)	36 (37)	51 (52)	18 (6)	26 (9)		
21	1 (1)	1 (2)	22 (7)	32 (9)	11 (7)	16 (9)	10 (5)	15 (7)		
22	0 (1)	0 (1)	29 (6)	42 (9)	18 (8)	25 (12)	10 (6)	14 (8)	11 (6)	15 (8)
23	0 (0)	0 (1)	31 (8)	44 (11)	15 (6)	22 (9)	9 (4)	13 (6)	10 (3)	14 (5)
24	2 (3)	3 (4)	39 (12)	56 (17)	34 (24)	48 (34)	14 (6)	20 (8)	15 (7)	21 (10)
25	5 (5)	7 (7)	43 (18)	62 (26)	32 (21)	45 (30)	27 (8)	38 (12)	28 (12)	40 (17)
26	1 (1)	2 (1)	32 (12)	46 (17)	13 (5)	18 (7)	35 (15)	49 (21)	35 (20)	50 (29)
27	0 (0)	0 (0)	34 (26)	48 (37)	16 (6)	22 (9)	33 (13)	48 (18)	37 (20)	53 (29)
28	0 (0)	0 (0)	27 (10)	39 (14)	25 (26)	36 (37)	30 (11)	42 (15)	24 (11)	35 (16)
29	-1 (0)	-1 (0)	26 (6)	38 (9)	16 (9)	22 (13)	23 (7)	33 (10)	18 (6)	26 (9)
30	-1 (1)	-1 (1)	14 (4)	21 (5)	10 (3)	15 (5)	22 (9)	31 (12)	24 (13)	35 (19)
Mean	5	7	35	50	26	38	18	26	18	26
n	30	29	28	28	28	28	28	28	24	24
SD	7	10	9	13	10	14	7	10	7	10
Min	-1	-1	14	21	10	15	9	13	9	13
Max	31	44	52	75	45	65	35	49	37	53

Table E9. Daily means (SD) of H_2S concentrations at Site NY5B for October, 2009.

Day	Inlet		Barn 1, F15		Barn 1, F19		Milking center, F3		Milking center, F5	
	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}	ppb	µg dsm^{-3}
1	5 (16)	8 (23)	28 (25)	40 (35)	28 (30)	39 (43)	35 (12)	49 (18)	36 (18)	51 (26)
2	6 (12)	10 (19)	50 (31)	71 (44)	27 (17)	38 (25)	32 (20)	46 (28)	28 (20)	41 (28)
3	3 (6)									
4	3 (6)	4 (8)	37 (26)	52 (37)	30 (23)	42 (32)	33 (10)	47 (14)	36 (14)	51 (20)
5	0 (0)	0 (1)	33 (18)	46 (26)	15 (5)	21 (7)	31 (14)	44 (20)	41 (21)	59 (31)
6	1 (2)	2 (3)	42 (22)	59 (31)	30 (31)	42 (44)	32 (14)	46 (20)	51 (18)	73 (26)
7	0 (0)	0 (1)			13 (4)	18 (5)	38 (17)	54 (24)	33 (14)	47 (20)
8	12 (19)	16 (27)	40 (36)	57 (51)	33 (32)	47 (46)	22 (7)	31 (9)	29 (13)	41 (19)
9	5 (8)	7 (12)	33 (18)	48 (25)	31 (24)	45 (34)	24 (7)	34 (10)	25 (5)	36 (8)
10	1 (2)	2 (3)	32 (20)	46 (29)	34 (36)	48 (52)	32 (10)	46 (14)	55 (35)	78 (50)
11	0 (1)	1 (1)	33 (32)	47 (45)	16 (12)	22 (17)	52 (35)	73 (50)	67 (64)	96 (91)
12	7 (11)	10 (16)	41 (32)	59 (46)	30 (28)	42 (39)	27 (15)	39 (22)	23 (13)	33 (19)
13	1 (3)	2 (4)	11 (5)	16 (7)	11 (6)	15 (8)	39 (27)	55 (39)	37 (47)	53 (68)
14	5 (4)	7 (6)	37 (22)	52 (31)	29 (20)	41 (28)	30 (21)	42 (30)	19 (9)	27 (13)
15	1 (1)	1 (1)	30 (19)	43 (27)	21 (8)	30 (11)	23 (9)	33 (13)	23 (9)	32 (14)
16	1 (2)	2 (3)	27 (15)	39 (21)	26 (19)	38 (28)	22 (6)	31 (8)	19 (5)	26 (7)
17	9 (7)	13 (10)	43 (20)	61 (28)	29 (16)	41 (23)	22 (5)	31 (7)	18 (5)	26 (7)
18	7 (5)	10 (7)	39 (19)	55 (27)	20 (7)	28 (11)	29 (14)	41 (20)	27 (15)	39 (21)
19	1 (3)	2 (5)	34 (24)	49 (35)	40 (33)	57 (47)	24 (13)	34 (18)	23 (13)	33 (18)
20	6 (8)	9 (12)	24 (14)	34 (20)	20 (14)	29 (20)	15 (7)	22 (9)	12 (6)	17 (8)
21	8 (14)	11 (20)	42 (30)	61 (43)	28 (13)	40 (19)	21 (5)	30 (8)	16 (6)	22 (8)
22	0 (1)	0 (2)	22 (6)	32 (8)	16 (4)	22 (6)	18 (7)	26 (9)	22 (26)	31 (37)
23	1 (1)	1 (1)	28 (15)	40 (22)	26 (16)	37 (23)	24 (11)	34 (16)	21 (14)	30 (20)
24										
25										
26										
27										
28										
29										
30										
31										
Mean	4	5	34	48	25	36	28	40	30	43
n	23	22	21	21	22	22	22	22	22	22
SD	3	5	9	12	8	11	8	11	14	19
Min	0	0	11	16	11	15	15	22	12	17
Max	12	16	50	71	40	57	52	73	67	96

Table E10. H2S Emissions

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for November, 2007.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14	97.6 (50.3)	30.2 (15.6)	212 (109)	184 (95)	74.3 (57.6)	50.4 (39.1)	391 (303)
15	86.0 (46.4)	26.6 (14.4)	185 (101)	160 (87)	67.6 (34.2)	45.8 (23.2)	356 (180)
16	62.1 (18.4)	19.2 (5.7)	133 (39)	115 (34)	74.9 (24.3)	50.8 (16.5)	394 (128)
17	92.8 (27.0)	28.7 (8.4)	198 (58)	172 (50)	71.2 (31.1)	48.3 (21.1)	375 (164)
18	161 (40)	49.8 (12.4)	344 (86)	298 (74)	159 (130.0)	108 (88.0)	835 (683)
19	97.3 (38.9)	30.1 (12.0)	209 (83)	180 (72)	107 (45.6)	72.5 (30.9)	562 (240)
20							
21	153 (60)	47.5 (18.5)	329 (128)	285 (111)	83.7 (35.7)	56.8 (24.2)	441 (188)
22	78.5 (44.9)	24.3 (13.9)	168 (96)	146 (83)	63.4 (19.7)	43.0 (13.4)	334 (104)
23	50.9 (38.1)	15.8 (11.8)	109 (82)	94.5 (70.8)	54.0 (36.1)	36.6 (24.5)	284 (190)
24	54.9 (35.5)	17.0 (11.0)	118 (76)	102 (66)	27.0 (31.9)	18.3 (21.6)	142 (168)
25	76.5 (31.3)	23.7 (9.7)	165 (68)	143 (59)	117 (62)	79.4 (42.1)	616 (327)
26	86.9 (24.2)	26.9 (7.5)	188 (52)	163 (45)	179 (102)	122 (69)	943 (535)
27					215 (115)	146 (78)	1130 (608)
28	76.7 (31.1)	23.8 (9.6)	166 (67)	144 (58)	98.5 (42.6)	66.8 (28.9)	519 (224)
29					142 (89)	96.4 (60.2)	748 (467)
30	66.3 (53.0)	20.5 (16.4)	141 (113)	122 (98)	134 (67)	90.6 (45.6)	703 (354)
Mean	88.6	27.4	190	165	104	70.6	548
n	14	14	14	14	16	16	16
SD	31.4	9.7	67	58	48.8	33.1	257
Min	50.9	15.8	109	94.5	27.0	18.3	142
Max	161	49.8	344	298	215	146	1130

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for December, 2007.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	157 (104)	48.7 (32.3)	329 (219)	285 (189)	87.0 (41.3)	59.0 (28.0)	458 (217)
2	130 (45)	40.2 (13.9)	274 (95)	237 (82)	63.1 (34.8)	42.8 (23.6)	332 (183)
3	52.8 (18.0)	16.3 (5.6)	113 (39)	97.5 (33.3)	93.1 (127.0)	63.2 (86.1)	490 (668)
4	89.6 (47.3)	27.7 (14.7)	192 (101)	166 (88)	32.2 (13.9)	21.8 (9.4)	169 (73)
5	140 (77)	43.4 (23.7)	296 (162)	256 (140)	74.9 (67.1)	50.8 (45.5)	394 (353)
6	147 (172)	45.5 (53.3)			44.3 (49.5)	30.0 (33.5)	233 (260)
7	88.1 (27.4)	27.3 (8.5)	186 (58)	161 (50)	44.4 (67.3)	30.1 (45.6)	234 (354)
8	90.3 (59.7)	27.9 (18.5)	193 (128)	167 (111)	37.7 (32.0)	25.6 (21.7)	198 (168)
9	207 (84)	64.2 (26.0)	448 (183)	387 (158)	57.2 (28.9)	38.8 (19.6)	301 (152)
10	173 (97)	53.5 (30.1)	372 (210)	322 (182)	76.3 (51.8)	51.8 (35.1)	402 (273)
11	102 (52)	31.6 (16.1)	217 (110)	188 (95)	108 (54)	73.4 (36.9)	570 (286)
12	71.2 (17.0)	22.1 (5.3)	151 (36)	131 (31)	80.5 (59.6)	54.6 (40.4)	424 (314)
13	89.0 (30.6)	27.6 (9.5)	189 (65)	163 (56)	61.3 (31.5)	41.6 (21.4)	323 (166)
14	87.7 (39.5)	27.2 (12.2)	185 (83)	160 (72)	76.0 (23.5)	51.5 (16.0)	400 (124)
15	163 (46)	50.3 (14.4)	341 (97)	295 (84)	16.8 (10.3)	11.4 (7.0)	88.2 (54.0)
16	138 (63)	42.7 (19.6)	292 (134)	252 (116)	25.6 (19.2)	17.3 (13.0)	135 (101)
17	86.1 (52.0)	26.6 (16.1)	183 (111)	159 (96)	13.7 (6.5)	9.3 (4.4)	72.2 (34.0)
18	105 (85)	32.6 (26.3)	224 (180)	193 (156)	10.7 (18.1)	7.2 (12.3)	56.1 (95.5)
19	100 (60)	31.0 (18.7)	213 (128)	184 (111)	22.1 (8.9)	15.0 (6.0)	116 (47)
20							
21	98.1 (38.2)	30.4 (11.8)	207 (81)	179 (70)	18.8 (6.9)	12.8 (4.6)	99.1 (36.0)
22	89.4 (22.0)	27.7 (6.8)	186 (46)	161 (40)	36.3 (19.7)	24.6 (13.4)	191 (104)
23	87.8 (65.6)	27.2 (20.3)	186 (139)	161 (121)	36.9 (28.7)	25.0 (19.5)	194 (151)
24	91.2 (22.8)	28.2 (7.1)	195 (49)	169 (42)	26.3 (11.6)	17.8 (7.8)	138 (61)
25	131 (120)	40.6 (37.2)	281 (257)	243 (222)	54.0 (67.4)	36.6 (45.7)	284 (355)
26	192 (66)	59.4 (20.4)	406 (139)	352 (120)	24.7 (36.0)	16.7 (24.4)	130 (190)
27	112 (34)	34.8 (10.6)	235 (72)	203 (62)	46.7 (32.2)	31.7 (21.9)	246 (170)
28	150 (38)	46.3 (11.8)	311 (80)	269 (69)	38.3 (17.5)	26.0 (11.9)	202 (92)
29	102 (34)	31.7 (10.6)	211 (71)	183 (61)	79.5 (48.6)	53.9 (33.0)	418 (256)
30	199 (39)	61.7 (12.2)	418 (83)	362 (72)	69.4 (25.9)	47.1 (17.6)	365 (137)
31	119 (53)	36.9 (16.3)	256 (113)	221 (98)	27.9 (23.2)	18.9 (15.7)	147 (122)
Mean	120	37.0	251	217	49.5	33.5	260
n	30	30	29	29	30	30	30
SD	38.8	12.0	83.1	71.9	25.9	17.6	137
Min	52.8	16.3	113	97.5	10.7	7.2	56.1
Max	207	64.2	448	387	108	73.4	570

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for January, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	165 (63)	51.0 (19.6)	356 (137)	308 (119)	34.4 (18.3)	23.3 (12.4)	181 (96)
2	188 (48)	58.3 (14.8)	405 (102)	350 (89)	18.2 (5.1)	12.3 (3.5)	95.8 (26.9)
3	154 (57)	47.5 (17.6)	328 (122)	284 (105)	10.6 (13.5)	7.2 (9.1)	55.9 (70.8)
4	92.7 (54.3)	28.7 (16.8)	197 (116)	170 (100)	9.7 (15.0)	6.6 (10.2)	51.0 (78.9)
5	24.8 (127.0)	7.7 (39.5)	52.2 (269.0)	45.2 (233)	-1.0 (59.5)	-0.7 (40.4)	-5 (313)
6	161 (47)	49.8 (14.6)	343 (100)	297 (87)	95.5 (56.2)	64.8 (38.1)	502 (296)
7	107 (40)	33.0 (12.5)	232 (88)	200 (76)	105 (24)	71.2 (16.3)	553 (126)
8	161 (33)	50.0 (10.2)	351 (72)	304 (62)	240 (201)	163 (137)	1260 (1060)
9					202 (126)	137 (85)	1070 (661)
10	163 (115)	50.4 (35.7)	347 (246)	300 (213)	153 (87)	104 (59)	807 (456)
11							
12	115 (46)	35.5 (14.2)	239 (95)	207 (82)	114 (39)	77.3 (26.3)	600 (204)
13	184 (77)	57.0 (23.8)	388 (159)	336 (137)	133 (75)	90.5 (50.5)	703 (392)
14	85.0 (17.9)	26.3 (5.5)	182 (39)	157 (33)	118 (61)	79.9 (41.2)	620 (320)
15	116 (69)	35.9 (21.4)	246 (146)	213 (127)	56.0 (29.7)	38.0 (20.1)	295 (156)
16	198 (86)	61.3 (26.6)	418 (182)	362 (157)	29.1 (11.8)	19.7 (8.0)	153 (62)
17	110 (35)	34.2 (10.9)	230 (75)	199 (65)	22.0 (11.4)	15.0 (7.8)	116 (60)
18	95.0 (35.6)	29.4 (11.0)	197 (75)	170 (65)	43.0 (24.2)	29.2 (16.4)	226 (127)
19	150 (51)	46.3 (15.7)	312 (106)	270 (92)	21.7 (8.2)	14.7 (5.6)	114 (43)
20	119 (43)	36.8 (13.2)	249 (89)	215 (77)	6.9 (4.4)	4.7 (3.0)	36.3 (23.4)
21	162 (117)	50.0 (36.2)	342 (247)	296 (214)	12.0 (5.6)	8.2 (3.8)	63.3 (29.7)
22	82.3 (34.6)	25.5 (10.7)	175 (73)	151 (63)	16.4 (7.0)	11.1 (4.8)	86.3 (36.9)
23	142 (65)	43.9 (20.2)	300 (138)	259 (120)	17.3 (5.7)	11.7 (3.9)	91.2 (29.9)
24	128 (61)	39.5 (19.0)	269 (130)	233 (112)	23.7 (18.1)	16.1 (12.3)	125 (95)
25	133 (108)	41.2 (33.4)	276 (223)	239 (193)	19.9 (14.0)	13.5 (9.5)	104 (74)
26	147 (49)	45.6 (15.1)	307 (101)	265 (87)	23.9 (13.3)	16.2 (9.0)	126 (70)
27	164 (84)	50.8 (25.9)	342 (173)	296 (150)	30.7 (15.7)	20.8 (10.7)	162 (83)
28	193 (68)	59.8 (21.2)	402 (142)	348 (123)	46.1 (35.7)	31.2 (24.2)	242 (188)
29	112 (38)	34.8 (11.7)	235 (79)	203 (69)	104 (79)	70.4 (53.4)	546 (415)
30	69.0 (32.2)	21.4 (10.0)	143 (67)	124 (58)	42.8 (42.1)	29.0 (28.5)	225 (221)
31	90.8 (28.0)	28.1 (8.7)	186 (57)	161 (49)	22.1 (10.5)	15.0 (7.1)	116 (55)
Mean	131	40.7	277	240	59.0	40.0	311
n	29	29	29	29	30	30	30
SD	40.6	12.6	86.6	74.9	60.4	41.0	318
Min	24.8	7.7	52.2	45.2	-1.0	-0.7	-5
Max	198	61.3	418	362	240	163	1260

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for February, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	107 (22)	33.0 (6.7)	216 (44)	187 (38)	25.6 (17.3)	17.3 (11.8)	135 (91)
2	118 (55)	36.4 (16.9)	236 (110)	204 (95)	45.7 (12.2)	31.0 (8.3)	241 (64)
3	120 (20)	37.2 (6.3)	244 (42)	211 (37)	37.1 (11.6)	25.2 (7.9)	195 (61)
4	140 (37)	43.2 (11.3)	284 (74)	246 (64)	38.2 (13.9)	25.9 (9.4)	201 (73)
5	148 (81)	45.9 (25.0)	299 (162)	258 (141)	74.7 (39.7)	50.6 (26.9)	393 (209)
6	204 (94)	63.1 (29.2)	411 (190)	355 (164)	40.0 (14.6)	27.1 (9.9)	210 (77)
7	204 (114)	63.0 (35.1)	412 (230)	357 (199)	37.5 (25.6)	25.4 (17.4)	197 (135)
8	180 (79)	55.6 (24.5)	362 (158)	313 (137)	47.6 (42.2)	32.3 (28.6)	251 (222)
9	145 (43)	44.8 (13.3)	288 (86)	249 (74)	91.8 (59.6)	62.3 (40.4)	483 (314)
10	118 (87)	36.5 (26.8)	237 (171)	205 (148)	41.9 (49.4)	28.4 (33.5)	221 (260)
11	50.5 (14.6)	15.6 (4.5)	103 (30)	89.3 (26.1)	18.5 (17.2)	12.5 (11.7)	97.2 (90.7)
12	92.7 (24.3)	28.7 (7.5)	187 (49)	162 (42)	9.7 (1.9)	6.6 (1.3)	51.1 (10.2)
13	90.5 (45.6)	28.0 (14.1)	181 (91)	157 (79)	23.5 (10.2)	16.0 (6.9)	124 (54)
14	111 (46)	34.5 (14.3)	225 (93)	194 (80)	48.0 (35.0)	32.5 (23.7)	252 (184)
15	103 (19)	31.8 (6.0)	213 (40)	184 (35)	29.0 (24.6)	19.6 (16.7)	152 (129)
16	66.3 (49.0)	20.5 (15.2)	139 (103)	121 (89)			
17					29.7 (24.3)	20.1 (16.5)	156 (128)
18	83.5 (22.2)	25.9 (6.9)	173 (46)	149 (40)	79.5 (49.4)	53.9 (33.5)	419 (260)
19	81.4 (37.9)	25.2 (11.7)	168 (78)	145 (68)	26.3 (13.4)	17.9 (9.1)	139 (70)
20	182 (76)	56.4 (23.5)	376 (157)	326 (135)	30.7 (21.1)	20.8 (14.3)	162 (111)
21	119 (44)	36.7 (13.6)	244 (90)	211 (78)	21.4 (10.9)	14.5 (7.4)	113 (58)
22	115 (32)	35.7 (9.8)	236 (65)	204 (56)	27.9 (12.7)	19.0 (8.6)	147 (67)
23	56.4 (45.2)	17.4 (14.0)	114 (91)	98.3 (79)	20.4 (23.8)	13.8 (16.2)	107 (125)
24	119 (50)	37.0 (15.5)	250 (110)	216 (95)	47.0 (32.4)	31.9 (22.0)	247 (171)
25	162 (74)	50.2 (22.8)	348 (158)	301 (136)	82.1 (80.4)	55.7 (54.6)	432 (423)
26	148 (41)	45.9 (12.6)	316 (87)	273 (75)	56.4 (24.3)	38.3 (16.4)	297 (128)
27	98.2 (36.6)	30.4 (11.3)	208 (78)	180 (67)	40.6 (16.0)	27.5 (10.8)	214 (84)
28	74.0 (52.2)	22.9 (16.1)	155 (110)	135 (95)	24.9 (16.4)	16.9 (11.1)	131 (86)
29					11.2 (5.0)	7.6 (3.4)	59.1 (26.2)
Mean	120	37.1	245	212	39.5	26.8	208
n	27	27	27	27	28	28	28
SD	40.9	12.7	83.2	72.0	20.7	14.0	109
Min	50.5	15.6	103	89.3	9.7	6.6	51.1
Max	204	63.1	412	357	91.8	62.3	483

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for March, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	54.6 (10.9)	16.9 (3.4)	113 (23)	98.2 (19.5)	27.6 (16.6)	18.7 (11.2)	145 (87)
2	138 (89)	42.6 (27.7)	295 (195)	255 (169)	70.8 (43.0)	48.0 (29.2)	373 (227)
3	119 (48)	36.8 (14.8)	258 (104)	223 (90)	33.0 (24.8)	22.4 (16.8)	174 (131)
4	188 (97)	58.3 (29.9)	405 (208)	351 (180)	25.5 (7.5)	17.3 (5.1)	134 (39)
5	118 (37)	36.6 (11.3)	254 (79)	220 (68)	34.0 (22.7)	23.0 (15.4)	179 (119)
6	161 (75)	49.9 (23.3)	345 (162)	299 (140)	45.6 (34.7)	30.9 (23.6)	240 (183)
7							
8	130 (44)	40.2 (13.5)	270 (91)	234 (78)	38.1 (19.0)	25.8 (12.9)	201 (100)
9	55.2 (26.1)	17.1 (8.1)	117 (56)	101 (49)	12.8 (9.0)	8.7 (6.1)	67.5 (47.2)
10	98.7 (51.5)	30.5 (16.0)	214 (112)	185 (97)	26.8 (12.3)	18.2 (8.4)	141 (65)
11					63.6 (51.5)	43.2 (34.9)	335 (271)
12	198 (147)	61.2 (45.5)	424 (315)	367 (272)	76.0 (62.9)	51.6 (42.7)	400 (331)
13					26.0 (9.6)	17.6 (6.5)	137 (50)
14	210 (92)	65.1 (28.5)	448 (195)	387 (169)	66.1 (27.0)	44.9 (18.3)	348 (142)
15	199 (67)	61.6 (20.8)	421 (142)	364 (123)	72.4 (22.7)	49.1 (15.4)	381 (119)
16	262 (93)	81.0 (28.8)	568 (210)	492 (181)	44.7 (15.1)	30.3 (10.3)	235 (80)
17	219 (101)	67.9 (31.3)	485 (224)	420 (194)	56.9 (37.5)	38.6 (25.4)	300 (197)
18	121 (76)	37.5 (23.6)	268 (168)	232 (146)	50.1 (24.1)	34.0 (16.3)	264 (127)
19	148 (95)	45.7 (29.3)	327 (209)	283 (181)	118 (65.6)	80.1 (44.5)	622 (345)
20	110 (78)	34.0 (24.1)	241 (172)	208 (148)	46.7 (35.9)	31.7 (24.3)	246 (189)
21	136 (80)	42.0 (24.6)	292 (170)	253 (147)	39.4 (30.8)	26.8 (20.9)	208 (162)
22	225 (129)	69.6 (39.9)	480 (276)	416 (238)	71.6 (64.1)	48.6 (43.5)	377 (337)
23	160 (57)	49.5 (17.6)	342 (122)	296 (106)	43.8 (45.9)	29.7 (31.1)	230 (241)
24	83.5 (40.2)	25.8 (12.4)	180 (87)	156 (75)	18.7 (16.1)	12.7 (10.9)	98.5 (84.6)
25	109 (44)	33.8 (13.5)	236 (94)	204 (82)	26.5 (9.8)	17.9 (6.6)	139 (52)
26	134 (73)	41.5 (22.6)	287 (156)	248 (135)	52.5 (26.0)	35.6 (17.7)	276 (137)
27	190 (91)	58.9 (28.2)	405 (194)	351 (168)	95.9 (59.6)	65.0 (40.4)	505 (314)
28	265 (146)	82.0 (45.1)	562 (311)	487 (269)	39.8 (18.7)	27.0 (12.7)	210 (98)
29	200 (137)	62.0 (42.3)	421 (287)	364 (249)	69.3 (94.0)	47.0 (63.8)	365 (495)
30	179 (76)	55.4 (23.6)	380 (161)	329 (139)	37.5 (29.9)	25.4 (20.3)	197 (157)
31	118 (54)	36.6 (16.8)	254 (118)	220 (102)	92.1 (48.9)	62.5 (33.2)	485 (258)
Mean	155	47.9	332	287	50.7	34.4	267
n	28	28	28	28	30	30	30
SD	54.7	16.9	117	101	24.3	16.5	128
Min	54.6	16.9	113	98.2	12.8	8.7	67.5
Max	265	82.0	568	492	118	80.1	622

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for April, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1					72.0 (41.3)	48.8 (28.0)	379 (217)
2	54.7 (79.9)	16.9 (24.7)	116 (170)	100 (147)	43.5 (48.1)	29.5 (32.6)	229 (253)
3	195 (133)	60.2 (41.3)	414 (284)	358 (246)	28.7 (14.9)	19.5 (10.1)	151 (78)
4	201 (77)	62.2 (23.9)	423 (162)	366 (140)	76.0 (55.4)	51.5 (37.6)	400 (291)
5	190 (93)	58.8 (28.7)	396 (192)	342 (166)	58.5 (28.6)	39.7 (19.4)	308 (151)
6	390 (202)	121 (63)	827 (433)	716 (375)	45.5 (30.0)	30.9 (20.3)	240 (158)
7	287 (119)	88.8 (36.7)	616 (256)	533 (222)	40.0 (24.2)	27.1 (16.4)	210 (127)
8	306 (235)	94.6 (72.7)	650 (499)	562 (432)	75.5 (63.4)	51.2 (43.0)	397 (334)
9	253 (125)	78.5 (38.8)	539 (266)	466 (230)	94.7 (75.2)	64.2 (51.0)	498 (396)
10	243 (149)	75.1 (46.1)	516 (317)	447 (274)	69.1 (51.4)	46.9 (34.9)	364 (271)
11	235 (69)	72.7 (21.3)	499 (146)	431 (126)	28.9 (14.9)	19.6 (10.1)	152 (78)
12	112 (49)	34.7 (15.1)	236 (104)	204 (90)	67.0 (28.5)	45.5 (19.3)	353 (150)
13	112 (45)	34.6 (13.9)	240 (96)	207 (83)	60.2 (37.9)	40.9 (25.7)	317 (199)
14	138 (70)	42.6 (21.8)	302 (155)	261 (134)	37.7 (22.8)	25.6 (15.5)	199 (120)
15	131 (145)	40.6 (44.9)	285 (315)	246 (272)	11.8 (24.5)	8.0 (16.6)	62 (129)
16	-217 (664)	-67 (206)	-470 (1440)	-407 (1240)	-64 (208)	-43 (141)	-334 (1090)
17	220 (203)	68.0 (62.8)	470 (434)	407 (375)	40.9 (19.8)	27.7 (13.4)	215 (104)
18	404 (449)	125 (139)	849 (941)	735 (814)	44.7 (49.4)	30.3 (33.5)	235 (260)
19							
20							
21							
22	542 (441)	168 (137)	1140 (927)	986 (803)	57.7 (71.9)	39.1 (48.7)	303 (378)
23	467 (665)	145 (206)	983 (1400)	851 (1210)	61 (113)	41.0 (76.8)	318 (596)
24	852 (619)	264 (192)	1790 (1300)	1550 (1130)	249 (269)	169 (183)	1310 (1420)
25	789 (671)	244 (208)	1640 (1390)	1420 (1210)	181 (174)	123 (118)	952 (916)
26	411 (228)	127 (71)	848 (474)	734 (410)	85.8 (36.0)	58.2 (24.4)	452 (190)
27	432 (414)	134 (128)	911 (882)	788 (764)	123 (71)	83.4 (48.3)	647 (375)
28	163 (32)	50.5 (10.0)	350 (70)	303 (60)	128 (43)	86.7 (29.0)	673 (225)
29	107 (33)	33.2 (10.2)	228 (70)	197 (61)	137 (42)	93.2 (28.4)	724 (220)
30	171 (181)	53.0 (56.1)	367 (390)	318 (337)	142 (84)	96.1 (56.8)	746 (441)
Mean	276	85.6	583	505	73.9	50.1	389
n	26	26	26	26	27	27	27
SD	218	67.6	457	396	57.9	39.3	305
Min	-217	-67.3	-470	-407	-63.5	-43.1	-334
Max	852	264	1790	1550	249	169	1310

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for May, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	219 (169)	67.8 (52.5)	471 (365)	407 (316)	56.2 (21.0)	38.1 (14.2)	296 (111)
2	262 (57)	81.2 (17.8)	557 (121)	482 (105)	63.9 (14.9)	43.3 (10.1)	336 (78)
3	471 (257)	146 (80)	996 (543)	862 (470)	101 (55)	68.7 (37.6)	533 (291)
4	254 (320)	78.5 (99.0)	544 (691)	471 (598)	340 (238)	230 (161)	1790 (1250)
5	299 (203)	92.5 (63.0)	647 (441)	560 (381)	82.0 (31.1)	55.6 (21.1)	432 (164)
6	271 (157)	83.9 (48.5)	586 (338)	507 (293)	86.7 (69.7)	58.8 (47.3)	456 (367)
7	-7 (257)	-2.1 (79.5)	-15 (554)	-13 (479)	4.6 (50.0)	3.1 (33.9)	24 (263)
8	170 (72)	52.7 (22.3)	367 (155)	318 (134)	126 (51)	85.3 (34.3)	662 (266)
9	231 (126)	71.5 (38.9)	497 (271)	430 (234)	48.4 (26.7)	32.8 (18.1)	255 (141)
10	234 (183)	72.4 (56.7)	511 (403)	442 (349)	91.5 (43.4)	62.1 (29.4)	482 (228)
11	256 (109)	79.2 (33.8)	570 (240)	493 (208)	44.7 (15.2)	30.3 (10.3)	235 (80)
12	451 (395)	140 (122)	1010 (882)	875 (763)	69.2 (44.7)	46.9 (30.3)	364 (235)
13	318 (279)	98.4 (86.5)	707 (622)	612 (538)	34.3 (70.9)	23.3 (48.1)	181 (373)
14	432 (233)	134 (72.0)	955 (516)	826 (446)	89.1 (63.1)	60.4 (42.8)	469 (332)
15	246 (287)	76.3 (88.8)	542 (630)	469 (546)	141 (70)	95.4 (47.3)	741 (367)
16	368 (464)	114 (144)	807 (1020)	698 (882)	106 (81)	72.0 (54.7)	559 (425)
17	139 (82)	43.1 (25.4)	301 (177)	260 (154)	75.2 (45.0)	51.0 (30.5)	396 (237)
18	191 (65)	59.0 (20.0)	418 (138)	362 (119)	117 (56)	79.3 (38.3)	616 (297)
19	88.5 (52.9)	27.4 (16.4)	199 (119)	172 (103)	117 (45)	79.2 (30.3)	615 (235)
20	251 (155)	77.6 (48.1)	563 (348)	487 (302)	72.7 (49.8)	49.3 (33.8)	382 (262)
21	122 (60)	37.8 (18.7)	274 (135)	237 (117)	81.5 (22.7)	55.3 (15.4)	429 (119)
22	94.4 (37.6)	29.2 (11.6)	212 (84)	183 (73)	79.1 (18.9)	53.6 (12.8)	416 (100)
23	124 (50)	38.3 (15.5)	276 (111)	239 (96)	110 (33)	74.8 (22.6)	580 (175)
24	177 (89)	54.7 (27.6)	393 (198)	340 (172)	90.9 (22.1)	61.7 (15.0)	478 (116)
25	255 (181)	78.9 (56.0)	578 (415)	501 (359)	102 (44)	69.2 (30.1)	537 (233)
26	294 (123)	91.0 (38.2)	672 (282)	582 (244)	112 (29)	75.7 (19.8)	587 (153)
27	192 (120)	59.3 (37.0)	435 (272)	377 (236)	171 (98)	116 (66)	901 (513)
28	446 (586)	138 (181)	999 (1310)	865 (1140)	194 (158)	132 (107)	1020 (829)
29	429 (405)	133 (125)	954 (903)	826 (781)	272 (175)	184 (119)	1430 (922)
30	326 (236)	101 (73)	718 (519)	621 (449)	150 (135)	101 (92)	787 (713)
31							
Mean	253	78.5	558	483	108	73.0	566
n	30	30	30	30	30	30	30
SD	116	35.9	255	221	66.1	44.8	348
Min	-7	-2.1	-15	-13	4.6	3.1	24
Max	471	146	1010	875	340	230	1790

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for June, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	228 (69)	70.7 (21.3)	509 (154)	440 (133)	157 (60)	106 (41)	824 (314)
2	318 (190)	98.5 (58.8)	713 (425)	617 (368)	187 (150)	127 (102)	985 (789)
3	916 (424)	284 (131)	2040 (944)	1770 (817)	231 (123)	157 (84)	1210 (649)
4	858 (832)	266 (258)	1910 (1850)	1650 (1600)	118 (61)	79.7 (41.6)	619 (323)
5	710 (338)	220 (105)	1580 (752)	1370 (651)	141 (66)	95.5 (44.4)	741 (345)
6	718 (297)	222 (92)	1590 (656)	1380 (568)	186 (171)	126 (116)	979 (899)
7	1030 (714)	319 (221)	2280 (1580)	1970 (1370)	249 (74)	169 (50)	1310 (391)
8	1260 (721)	389 (223)	2820 (1620)	2440 (1400)	417 (252)	283 (171)	2200 (1330)
9	1070 (552)	330 (171)	2420 (1250)	2100 (1090)	111 (159)	75 (108)	585 (835)
10							
11	765 (583)	237 (180)	1730 (1310)	1490 (1140)	189 (66)	128 (45)	995 (347)
12	1230 (1170)	381 (363)	2760 (2640)	2390 (2280)	280 (276)	190 (187)	1480 (1450)
13	882 (421)	273 (130)	1940 (921)	1680 (797)	198 (72)	134 (49)	1040 (378)
14	733 (488)	227 (151)	1610 (1070)	1390 (927)	128 (120)	86.8 (81.6)	673 (633)
15	859 (531)	266 (164)	1890 (1160)	1630 (1010)	336 (190)	228 (129)	1770 (999)
16	975 (249)	302 (77)	2140 (547)	1850 (473)	367 (146)	249 (99)	1930 (770)
17	580 (207)	179 (64)	1270 (456)	1100 (394)	391 (253)	265 (172)	2060 (1330)
18	789 (215)	244 (67)	1730 (472)	1500 (409)	142 (71)	96.6 (48.2)	749 (374)
19							
20							
21	1030 (333)	319 (103)	2270 (733)	1960 (634)	254 (140)	172 (95)	1340 (737)
22	2240 (1930)	694 (597)	4940 (4240)	4270 (3670)	364 (379)	247 (257)	1920 (2000)
23	1270 (949)	393 (294)	2790 (2090)	2420 (1810)	362 (310)	246 (210)	1910 (1630)
24	673 (330)	208 (102)	1500 (732)	1300 (634)	269 (246)	183 (167)	1420 (1300)
25	600 (298)	186 (92)	1340 (666)	1160 (577)	263 (432)	178 (293)	1380 (2270)
26	927 (204)	287 (63)	2040 (452)	1770 (391)	171 (58)	116 (39)	902 (305)
27	1100 (264)	340 (82)	2380 (569)	2060 (493)	205 (121)	139 (82)	1080 (635)
28	1160 (356)	359 (110)	2510 (772)	2170 (668)	172 (78)	117 (53)	905 (410)
29	1390 (555)	431 (172)	3040 (1220)	2630 (1060)	204 (72)	138 (49)	1070 (378)
30	823 (430)	255 (133)	1800 (947)	1550 (820)	259 (123)	176 (84)	1360 (649)
Mean	931	288	2060	1780	235	160	1240
n	27	27	27	27	27	27	27
SD	372	115	818	708	87.3	59.2	459
Min	228	70.7	509	440	111	75.3	585
Max	2240	694	4940	4270	417	283	2200

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for July, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	1150 (963)	355 (298)	2430 (2010)	2100 (1740)	451 (549)	306 (372)	2370 (2890)
2	1100 (646)	340 (200)	2290 (1350)	1980 (1170)	367 (287)	249 (194)	1930 (1510)
3	879 (388)	272 (120)	1830 (807)	1580 (698)	398 (348)	270 (236)	2090 (1830)
4	1180 (711)	365 (220)	2450 (1470)	2120 (1280)	331 (137)	224 (93)	1740 (721)
5	631 (449)	195 (139)	1300 (927)	1120 (802)	283 (418)	192 (284)	1490 (2200)
6	775 (528)	240 (163)	1630 (1130)	1410 (975)	243 (291)	165 (197)	1280 (1530)
7	1020 (410)	317 (127)	2180 (875)	1890 (757)	210 (144)	143 (97)	1110 (756)
8	1050 (467)	326 (144)	2230 (994)	1930 (860)	394 (471)	267 (319)	2070 (2480)
9	1280 (561)	396 (174)	2680 (1180)	2320 (1020)	359 (160)	243 (108)	1890 (841)
10	1030 (755)	319 (234)	2160 (1590)	1870 (1370)	434 (454)	294 (308)	2280 (2390)
11	1530 (748)	475 (232)	3180 (1550)	2750 (1340)	353 (300)	239 (204)	1860 (1580)
12	1540 (1030)	478 (320)	3260 (2210)	2830 (1910)	293 (195)	199 (133)	1540 (1030)
13	1600 (581)	494 (180)	3410 (1250)	2950 (1080)	274 (98)	186 (66)	1440 (513)
14	1300 (824)	404 (255)	2760 (1750)	2390 (1510)	293 (286)	199 (194)	1540 (1510)
15	1230 (1080)	382 (334)	2580 (2250)	2240 (1950)	270 (155)	183 (105)	1420 (818)
16	1820 (1010)	564 (314)	3760 (2090)	3260 (1810)	480 (314)	325 (213)	2520 (1650)
17							
18					361 (263)	245 (178)	1900 (1380)
19					266 (66)	180 (45)	1400 (347)
20					205 (72)	139 (49)	1080 (378)
21					233 (143)	158 (97)	1230 (754)
22	1120 (313)	346 (97)			189 (122)	128 (83)	996 (642)
23	1790 (803)	555 (249)	3790 (1700)	3280 (1470)	360 (285)	244 (193)	1890 (1500)
24	1320 (589)	408 (182)	2780 (1250)	2410 (1080)	490 (278)	332 (188)	2580 (1460)
25	1120 (516)	348 (160)	2380 (1090)	2060 (945)	336 (381)	228 (258)	1770 (2000)
26	1880 (880)	581 (272)	3970 (1860)	3430 (1610)	311 (143)	211 (97)	1640 (750)
27	1350 (583)	417 (180)	2850 (1230)	2470 (1070)	340 (188)	231 (128)	1790 (990)
28	1020 (342)	314 (106)	2150 (723)	1860 (626)	259 (144)	176 (98)	1360 (757)
29	1630 (966)	503 (299)	3440 (2040)	2980 (1770)	571 (318)	388 (216)	3010 (1670)
30	1040 (624)	321 (193)	2190 (1320)	1900 (1140)	208 (123)	141 (84)	1100 (650)
31	1530 (1560)	474 (482)	3240 (3290)	2800 (2850)	227 (86)	154 (58)	1190 (453)
Mean	1270	392	2680	2320	326	221	1720
n	26	26	25	25	30	30	30
SD	316	98	678	586	93	63	488
Min	631	195	1300	1120	189	128	996
Max	1880	581	3970	3430	571	388	3010

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for August, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	940 (244)	291 (76)	1990 (516)	1720 (447)	234 (41)	158 (28)	1230 (216)
2	1060 (389)	330 (120)	2250 (823)	1950 (712)	252 (92)	171 (63)	1330 (486)
3	862 (256)	267 (79)	1820 (541)	1580 (468)	210 (53)	142 (36)	1100 (279)
4	793 (246)	245 (76)	1680 (519)	1450 (449)	205 (68)	139 (46)	1080 (357)
5	918 (319)	284 (99)	1940 (673)	1680 (583)	220 (140)	149 (95)	1160 (737)
6	895 (374)	277 (116)	1890 (791)	1640 (684)	328 (148)	222 (101)	1730 (781)
7	994 (475)	308 (147)	2100 (1000)	1820 (869)	295 (108)	200 (73)	1560 (569)
8	587 (165)	182 (51)	1240 (349)	1070 (302)	238 (76)	162 (52)	1250 (401)
9	746 (337)	231 (104)	1580 (713)	1360 (617)	184 (61)	125 (41)	967 (319)
10	826 (405)	256 (125)	1750 (856)	1510 (741)	273 (226)	185 (153)	1440 (1190)
11	777 (321)	240 (99)	1640 (678)	1420 (586)	322 (163)	218 (110)	1690 (856)
12	634 (208)	196 (65)	1340 (440)	1160 (381)	230 (125)	156 (85)	1210 (657)
13					318 (280)	216 (190)	1670 (1480)
14					172 (62)	117 (42)	905 (326)
15					280 (182)	190 (124)	1480 (959)
16					368 (226)	249 (153)	1940 (1190)
17	972 (441)	301 (137)	2060 (933)	1780 (808)	251 (136)	171 (92)	1320 (714)
18	1250 (293)	386 (91)	2640 (619)	2280 (536)	260 (92)	176 (62)	1370 (483)
19	1110 (447)	343 (138)	2340 (945)	2030 (818)	418 (263)	284 (178)	2200 (1380)
20	707 (549)	219 (170)	1490 (1160)	1290 (1000)	430 (385)	291 (261)	2260 (2030)
21	1320 (1280)	408 (396)	2790 (2710)	2410 (2340)	210 (227)	142 (154)	1110 (1190)
22	1310 (688)	405 (213)	2770 (1450)	2390 (1260)	178 (69)	121 (47)	938 (365)
23	959 (323)	297 (100)	2030 (682)	1760 (590)	147 (49)	99.5 (33.1)	772 (257)
24	1060 (446)	330 (138)	2250 (944)	1950 (817)	159 (75)	108 (51)	838 (394)
25	1190 (772)	368 (239)	2520 (1630)	2180 (1410)	338 (195)	229 (132)	1780 (1020)
26	838 (541)	259 (167)	1770 (1140)	1530 (989)	319 (365)	216 (248)	1680 (1920)
27	1250 (1130)	387 (349)	2640 (2380)	2290 (2060)	246 (183)	167 (124)	1290 (964)
28	948 (544)	293 (168)	2000 (1150)	1730 (996)	179 (135)	121 (92)	942 (710)
29	816 (320)	253 (99)	1720 (677)	1490 (586)	135 (31)	91.6 (20.8)	710 (161)
30	1350 (788)	417 (244)	2850 (1670)	2460 (1440)	273 (93)	185 (63)	1440 (489)
31	974 (857)	302 (265)	2120 (1860)	1830 (1610)	200 (194)	136 (132)	1050 (1020)
Mean	966	299	2040	1770	254	172	1340
n	27	27	27	27	31	31	31
SD	206	64	437	378	74	50	388
Min	587	182	1240	1070	135	91.6	710
Max	1350	417	2850	2460	430	291	2260

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for September, 2008.

Day	Barn 1								Milking center							
	g d^{-1}		mg d^{-1} m^{-2}		mg d^{-1} hd^{-1}		mg d^{-1} AU^{-1}		g d^{-1}		mg d^{-1} m^{-2}		mg d^{-1} hd^{-1}	
1	1000	(700)	310	(217)	2170	(1520)	1880	(1310)	254	(114)	172	(77)	1340	(599)
2	900	(417)	279	(129)	1940	(898)	1680	(777)	200	(123)	136	(84)	1050	(650)
3									144	(90)	98.0	(61.1)	760	(474)
4														
5														
6														
7									403	(223)	273	(151)	2120	(1170)
8									507	(396)	344	(269)	2670	(2080)
9									304	(265)	206	(180)	1600	(1390)
10									251	(175)	170	(119)	1320	(920)
11									113	(65)	76.3	(43.9)	592	(341)
12														
13									100	(32)	67.9	(21.7)	527	(168)
14									137	(28)	92.9	(18.7)	721	(145)
15	828	(367)	256	(114)	1780	(790)	1540	(684)	207	(138)	140	(93)	1090	(724)
16	689	(272)	213	(84)	1480	(587)	1290	(508)	141	(73)	95.8	(49.3)	743	(383)
17	1470	(728)	455	(225)	3180	(1580)	2750	(1370)	108	(81)	73.4	(55.1)	570	(428)
18	768	(490)	238	(152)	1660	(1060)	1440	(917)	102	(70)	69.5	(47.1)	539	(366)
19	1090	(688)	338	(213)	2340	(1470)	2020	(1280)	121	(177)	82.1	(120.0)	637	(934)
20	523	(723)	162	(224)	1110	(1530)	959	(1320)	69.2	(85.3)	47.0	(57.9)	364	(449)
21	843	(716)	261	(222)	1770	(1510)	1530	(1300)	433	(286)	294	(194)	2280	(1510)
22	802	(488)	248	(151)	1680	(1020)	1450	(886)	469	(310)	318	(210)	2470	(1630)
23	1080	(605)	334	(187)	2250	(1260)	1950	(1090)	463	(399)	314	(270)	2440	(2100)
24	718	(424)	222	(131)	1500	(885)	1300	(766)	171	(102)	116	(69)	900	(538)
25	1140	(924)	352	(286)	2380	(1930)	2060	(1670)	149	(79)	101	(53)	786	(414)
26	461	(301)	143	(93)	965	(630)	835	(545)	158	(73)	107	(50)	830	(384)
27	449	(155)	139	(48)	939	(323)	812	(280)	91.8	(40.7)	62.3	(27.6)	483	(214)
28	600	(340)	186	(105)	1250	(711)	1090	(615)	118	(67)	80.0	(45.2)	621	(351)
29	749	(485)	232	(150)	1570	(1010)	1350	(877)	245	(180)	166	(122)	1290	(950)
30	943	(393)	292	(122)	1970	(822.0)	1710	(712)	73.3	(35.7)	49.7	(24.2)	386	(188)
Mean	836		259		1770		1540		213		144		1120	
n	18		18		18		18		26		26		26	
SD	253		78		548		474		132		90		696	
Min	449		139		939		812		69.2		47.0		364	
Max	1470		455		3180		2750		507		344		2670	

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for October, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	663 (277)	205 (86)	1390 (578)	1200 (500)	217 (110)	147 (75)	1140 (581)
2	195 (58)	60.5 (17.8)	408 (120)	353 (104)	287 (100)	195 (68)	1510 (525)
3	202 (64)	62.5 (19.9)	422 (134)	365 (116)	294 (133)	199 (91)	1550 (703)
4	300 (192)	92.7 (59.4)	626 (401)	541 (347)	201 (73)	136 (50)	1060 (386)
5	349 (159)	108 (49)	728 (332)	630 (287)	270 (169)	183 (115)	1420 (891)
6	229 (144)	71.0 (44.7)	479 (301)	415 (261)	438 (317)	297 (215)	2310 (1670)
7	244 (161)	75.5 (49.8)	510 (336)	441 (291)	223 (199)	151 (135)	1170 (1040)
8	496 (384)	154 (119)	1040 (807)	900 (699)	176 (82)	119 (56)	927 (431)
9	341 (186)	106 (58)	715 (390)	619 (338)	237 (102)	161 (69)	1250 (535)
10	725 (667)	224 (207)	1520 (1400)	1320 (1210)	387 (316)	262 (214)	2040 (1660)
11	562 (247)	174 (77)	1170 (518)	1010 (448)	103 (33)	69.7 (22.5)	541 (175)
12	579 (452)	179 (140)	1250 (987)	1080 (855)	369 (327)	250 (222)	1940 (1720)
13	497 (387)	154 (120)	1090 (849)	945 (735)	146 (155)	99 (105)	770 (813)
14	457 (332)	141 (103)	998 (729)	864 (631)	458 (412)	311 (280)	2410 (2170)
15	481 (376)	149 (116)	1040 (815)	904 (706)	166 (130)	112 (88)	872 (685)
16	378 (326)	117 (101)	822 (707)	711 (612)	220 (172)	149 (116)	1160 (903)
17	509 (269)	158 (83)	1110 (586)	956 (507)	178 (101)	121 (69)	936 (532)
18	365 (142)	113 (44)	783 (305)	678 (264)	244 (176)	166 (119)	1290 (924)
19	401 (208)	124 (64)	880 (456)	762 (395)	323 (222)	219 (151)	1700 (1170)
20	259 (175)	80.2 (54.2)	580 (391)	502 (338)	233 (180)	158 (122)	1230 (946)
21	119 (67)	36.8 (20.8)	263 (149)	227 (129)	292 (162)	198 (110)	1540 (853)
22	173 (96)	53.5 (29.6)	378 (209)	327 (181)	134 (110)	90.9 (74.6)	706 (579)
23	74.5 (53.7)	23.1 (16.6)	161 (117)	140 (101)	70.0 (38.2)	47.5 (25.9)	368 (201)
24	89.1 (26.7)	27.6 (8.3)	191 (57)	165 (50)	118 (40)	79.9 (26.8)	620 (208)
25	109 (43)	33.8 (13.3)	232 (91)	200 (79)	161 (54)	109 (37)	848 (285)
26	132 (34)	40.9 (10.5)	286 (75)	247 (65)	181 (37)	123 (25)	955 (193)
27					213 (68)	145 (46)	1120 (357)
28	104 (43)	32.1 (13.2)	230 (94)	199 (82)	122 (39)	83.0 (26.4)	644 (205)
29	73.8 (22.2)	22.9 (6.9)	163 (49)	141 (42)	95.6 (23.6)	64.8 (16.0)	503 (124)
30	92.5 (50.7)	28.6 (15.7)	201 (110)	174 (96)	92.4 (36.1)	62.7 (24.5)	487 (190)
31							
Mean	317	98.2	678	587	222	150	1170
n	29	29	29	29	30	30	30
SD	188	58.2	399	345	99	67.4	523
Min	73.8	22.9	161	140	70	47.5	368
Max	725	224	1520	1320	458	311	2410

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for November, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	168 (32)	51.9 (9.8)	357 (67)	309 (58)	170 (79)	115 (53)	894 (415)
2					276 (208)	187 (141)	1450 (1090)
3					243 (114)	165 (78)	1280 (602)
4					143 (88)	97.0 (59.9)	753 (465)
5					98.4 (63.9)	66.7 (43.4)	518 (336)
6					83.3 (30.8)	56.5 (20.9)	439 (162)
7					86.9 (19.6)	59.0 (13.3)	458 (103)
8					174 (135)	118 (92)	913 (712)
9					622 (429)	422 (291)	3270 (2260)
10					585 (707)	397 (480)	3080 (3720)
11					468 (495)	317 (336)	2460 (2600)
12					252 (123)	171 (83)	1320 (647)
13							
14					149 (106)	101 (72)	782 (560)
15					103 (54)	69.9 (36.6)	543 (284)
16					283 (193)	192 (131)	1490 (1020)
17					288 (153)	195 (104)	1510 (803)
18					89.0 (53.1)	60.4 (36.0)	468 (280)
19					91.9 (70.3)	62.3 (47.7)	484 (370)
20					51.1 (44.9)	34.6 (30.5)	269 (237)
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
Mean					224	152	1180
n	1	1	1	1	19	19	19
SD					164	111	863
Min					51.1	34.6	269
Max					622	422	3270

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for December, 2008.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23	181 (53)	56.1 (16.3)	397 (115)	343 (99)	49.9 (24.8)	33.8 (16.8)	263 (130)
24	93.3 (24.8)	28.9 (7.7)	206 (55)	178 (47)	84.0 (42.6)	57.0 (28.9)	442 (224)
25	89.7 (53.9)	27.8 (16.7)	193 (114)	167 (99)	124 (84)	84.0 (56.8)	652 (441)
26	226 (97)	69.9 (30.0)	479 (206)	415 (178)	145 (99)	98.2 (67.0)	762 (520)
27	200 (92)	62.1 (28.6)	423 (194)	366 (168)	448 (346)	304 (235)	2360 (1820)
28	211 (98)	65.4 (30.2)	449 (210)	388 (181)	299 (167)	203 (113)	1580 (880)
29	508 (458)	157 (142)	1090 (983)	943 (851)	521 (310)	353 (210)	2740 (1630)
30	114 (66)	35.3 (20.6)	243 (142)	210 (123)	170 (128)	116 (87)	897 (672)
31							
Mean	203	62.8	435	376	230	156	1210
n	8	8	8	8	8	8	8
SD	126	39.0	269	233	163	111	859
Min	89.7	27.8	193	167	49.9	33.8	263
Max	508	157	1090	943	521	353	2740

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for January, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6	337 (126)	104 (39)	722 (268)	625 (232)	82.4 (36.8)	55.9 (25.0)	434 (194)
7	302 (146)	93.5 (45.1)	647 (311)	560 (269)	179 (112)	122 (76)	943 (591)
8	201 (84)	62.3 (25.9)	429 (178)	372 (154)	82.4 (68.7)	55.9 (46.6)	434 (362)
9	202 (92)	62.6 (28.5)	431 (195)	373 (169)	52.5 (20.9)	35.6 (14.2)	276 (110)
10	298 (111)	92.4 (34.5)	630 (234)	545 (202)	41.1 (19.1)	27.9 (13.0)	217 (101)
11	425 (258)	132 (80)	921 (566)	797 (490)	74.1 (39.0)	50.3 (26.5)	390 (205)
12	224 (219)	69.3 (67.9)	496 (485)	430 (420)	41.9 (21.5)	28.4 (14.6)	220 (113)
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Mean	284	88.0	611	529	79.1	53.6	416
n	7	7	7	7	7	7	7
SD	76	23.5	164	142	44.1	29.9	232
Min	201	62.3	429	372	41.1	27.9	217
Max	425	132	921	797	179	122	943

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for February, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4	169 (66)	52.3 (20.5)	359 (140)	311 (121)	22.7 (7.0)	15.4 (4.8)	120 (37)
5	125 (81)	38.6 (24.9)	263 (170)	228 (147)	17.7 (22.1)	12.0 (15.0)	93 (116)
6	95.9 (83.2)	29.7 (25.7)	201 (175)	174 (151)	21.6 (28.7)	14.6 (19.5)	113 (151)
7	89.1 (41.7)	27.6 (12.9)	188 (88)	162 (76)	33.1 (16.9)	22.4 (11.5)	174 (89)
8	52.5 (20.9)	16.3 (6.5)	113 (46)	98.1 (39.9)	36.7 (11.2)	24.9 (7.6)	193 (59)
9	112 (53)	34.6 (16.4)	245 (116)	212 (100)	32.0 (14.9)	21.7 (10.1)	168 (78)
10	71.8 (25.0)	22.2 (7.7)	157 (55)	136 (47)	37.4 (16.9)	25.4 (11.5)	197 (89)
11	122 (63)	37.8 (19.4)	268 (138)	232 (119)	31.3 (25.3)	21.2 (17.2)	165 (133)
12	61.8 (18.9)	19.1 (5.9)	135 (41)	117 (36)	28.3 (9.5)	19.2 (6.4)	149 (50)
13	91.4 (40.4)	28.3 (12.5)	197 (87)	170 (75)	35.1 (18.8)	23.8 (12.8)	185 (99)
14	104 (24)	32.1 (7.5)	223 (52)	193 (45)	31.2 (12.0)	21.2 (8.1)	164 (63)
15	72.9 (33.8)	22.6 (10.5)	161 (75)	139 (65)	22.1 (10.2)	15.0 (6.9)	117 (54)
16	88.5 (26.4)	27.4 (8.2)	196 (58)	170 (50)	35.0 (15.7)	23.8 (10.6)	184 (83)
17	96.3 (22.3)	29.8 (6.9)	210 (49)	182 (42)	52.0 (55.0)	35.3 (37.3)	274 (289)
18	65.0 (20.0)	20.1 (6.2)	141 (43)	122 (37)	21.1 (11.1)	14.3 (7.5)	111 (58)
19	52.6 (18.1)	16.3 (5.6)	113 (39)	97.6 (33.8)	23.9 (11.9)	16.2 (8.1)	126 (63)
20	33.0 (7.9)	10.2 (2.5)	70.3 (16.9)	60.8 (14.6)	7.3 (4.1)	4.9 (2.8)	38.4 (21.5)
21	55.9 (20.5)	17.3 (6.3)	118 (43)	102 (37)	23.4 (11.8)	15.9 (8.0)	123 (62)
22	60.6 (17.7)	18.8 (5.5)	130 (38)	112 (33)	38.1 (23.7)	25.8 (16.1)	200 (125)
23	42.6 (12.0)	13.2 (3.7)	92.2 (25.7)	79.8 (22.2)	10.7 (4.7)	7.3 (3.2)	56.3 (24.9)
24	90.0 (64.4)	27.9 (19.9)	194 (139)	168 (120)	23.7 (12.7)	16.1 (8.6)	125 (67)
25	69.5 (18.1)	21.5 (5.6)	149 (39)	129 (34)	27.5 (14.0)	18.7 (9.5)	145 (73)
26							
27							
28							
Mean	82.8	25.6	178	154	27.8	18.9	146
n	22	22	22	22	22	22	22
SD	30.8	9.5	65.9	57.0	9.7	6.5	50.8
Min	33.0	10.2	70.3	60.8	7.3	4.9	38.4
Max	169	52.3	359	311	52.0	35.3	274

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for March, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4							
5							
6							
7							
8							
9							
10	198 (79)	61.3 (24.5)	416 (167)	360 (144)	115 (74)	78.2 (50.2)	607 (390)
11	56.5 (20.5)	17.5 (6.3)	118 (43)	102 (37)	48.9 (30.1)	33.2 (20.4)	257 (158)
12	140 (69)	43.3 (21.3)	291 (143)	252 (124)	68.0 (29.0)	46.1 (19.7)	358 (152)
13	166 (77)	51.3 (23.7)	342 (158)	296 (137)	88.8 (63.1)	60.2 (42.8)	467 (332)
14	101 (59)	31.1 (18.3)	207 (122)	179 (105)	85.3 (58.1)	57.8 (39.4)	449 (306)
15	229 (149)	70.9 (46.0)	478 (312)	414 (270)	50.9 (23.8)	34.5 (16.2)	268 (125)
16	181 (57)	55.9 (17.7)	381 (121)	330 (105)	46.5 (22.9)	31.6 (15.5)	245 (121)
17	162 (87)	50.2 (26.9)	339 (181)	294 (157)	124 (54)	83.8 (36.5)	650 (283)
18	115 (76)	35.6 (23.5)	239 (158)	207 (137)	148 (63)	100 (43)	779 (333)
19	111 (69)	34.3 (21.5)	230 (144)	199 (125)			
20	140 (56)	43.3 (17.4)	288 (116)	249 (100)	144 (280)	97.5 (190.0)	757 (1470)
21	87.7 (34.7)	27.1 (10.7)	180 (71)	155 (62)	82.8 (44.6)	56.2 (30.2)	436 (235)
22	82.5 (54.8)	25.6 (17.0)	174 (118)	151 (102)	84.2 (29.8)	57.1 (20.2)	443 (157)
23	102 (69)	31.5 (21.3)	218 (148)	188 (128)	53.9 (27.4)	36.5 (18.6)	283 (144)
24	102 (38)	31.5 (11.9)	215 (80)	186 (70)	32.2 (13.6)	21.8 (9.2)	170 (72)
25	78.8 (20.2)	24.4 (6.3)	164 (42)	142 (36)	31.3 (8.7)	21.2 (5.9)	165 (46)
26	94.3 (13.4)	29.2 (4.1)	196 (28)	170 (24)	51.3 (14.1)	34.8 (9.6)	270 (74)
27	94.6 (42.8)	29.3 (13.2)	196 (89)	170 (77)	42.9 (13.3)	29.1 (9.0)	226 (70)
28	134 (51)	41.4 (15.8)	278 (106)	240 (91)	32.6 (11.2)	22.1 (7.6)	172 (59)
29	163 (34)	50.4 (10.4)	342 (72)	296 (62)	40.7 (19.4)	27.6 (13.2)	214 (102)
30	65.8 (23.5)	20.4 (7.3)	139 (50)	121 (43)	39.9 (12.9)	27.1 (8.7)	210 (68)
31	135 (79)	41.8 (24.3)	285 (166)	246 (143)	59.2 (37.6)	40.2 (25.5)	312 (198)
Mean	124	38.5	260	225	70.0	47.5	368
n	22	22	22	22	21	21	21
SD	43.5	13.5	91	79	35.4	24.0	186
Min	56.5	17.5	118	102	31.3	21.2	165
Max	229	70.9	478	414	148	100	779

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for April, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	76.0 (23.0)	23.5 (7.1)	160 (49)	138 (42)	45.8 (17.6)	31.1 (12.0)	241 (93)
2	153 (41)	47.3 (12.7)	322 (87)	279 (75)	47.4 (20.9)	32.2 (14.2)	250 (110)
3	146 (47)	45.1 (14.6)	307 (99)	266 (86)	40.0 (21.4)	27.1 (14.5)	210 (113)
4	61.8 (33.7)	19.1 (10.4)	130 (71)	112 (61)	28.6 (16.9)	19.4 (11.5)	150 (89)
5	128 (106)	39.7 (32.9)	275 (231)	238 (200)	124 (63)	84.4 (42.7)	655 (331)
6	115 (69)	35.5 (21.3)	247 (149)	214 (129)	104 (68)	70.3 (46.0)	546 (357)
7	71.1 (41.2)	22.0 (12.8)	152 (88)	132 (76)	48.3 (45.6)	32.8 (30.9)	254 (240)
8	89.7 (37.6)	27.8 (11.6)	192 (81)	166 (70)	43.9 (19.9)	29.8 (13.5)	231 (105)
9	135 (67)	41.9 (20.8)	291 (144)	252 (125)	46.8 (12.7)	31.7 (8.6)	246 (67)
10	149 (46)	46.2 (14.3)	320 (99)	277 (86)	55.7 (24.2)	37.8 (16.4)	293 (127)
11	83.4 (16.7)	25.8 (5.2)	179 (36)	155 (31)	65.1 (38.0)	44.1 (25.8)	343 (200)
12	53.2 (16.9)	16.5 (5.2)	116 (36)	100 (31)	50.1 (19.7)	34.0 (13.3)	263 (104)
13	78.5 (21.2)	24.3 (6.6)	173 (46)	150 (40)	45.5 (21.9)	30.9 (14.8)	239 (115)
14	83.9 (34.2)	26.0 (10.6)	184 (75)	159 (65)	21.7 (15.2)	14.7 (10.3)	114 (80)
15	128 (56)	39.7 (17.5)	281 (124)	244 (107)	21.3 (10.3)	14.5 (7.0)	112 (54)
16	177 (63)	54.9 (19.5)	389 (139)	337 (120)	31.8 (9.5)	21.6 (6.5)	167 (50)
17	145 (58)	45.0 (18.1)	318 (128)	275 (110)	39.1 (14.6)	26.5 (9.9)	206 (77)
18	242 (174)	74.9 (53.9)	521 (373)	451 (322)	55.9 (43.7)	37.9 (29.6)	294 (230)
19	487 (173)	151 (54)	1050 (373)	912 (323)	42.9 (43.6)	29.1 (29.6)	226 (230)
20	173 (66)	53.5 (20.5)	380 (146)	329 (126)	34.4 (12.6)	23.3 (8.6)	181 (67)
21	160 (69)	49.4 (21.4)	347 (149)	300 (129)	67.7 (31.9)	45.9 (21.6)	356 (168)
22	156 (104)	48.2 (32.2)	337 (225)	292 (195)	149 (47)	101 (32)	784 (249)
23	84.4 (35.3)	26.1 (10.9)	183 (77)	158 (66)	84.9 (63.5)	57.6 (43.1)	447 (334)
24	306 (148)	94.7 (45.8)	661 (319)	572 (276)	46.7 (25.9)	31.7 (17.5)	246 (136)
25	288 (140)	89.0 (43.4)	612 (299)	529 (258)	50.0 (26.9)	33.9 (18.2)	263 (141)
26	333 (208)	103 (64)	713 (435)	617 (377)	85.4 (24.0)	57.9 (16.3)	450 (126)
27	231 (113)	71.4 (35.1)	503 (247)	435 (214)	85.2 (47.5)	57.8 (32.2)	448 (250)
28	236 (65)	73.0 (20.1)	508 (140)	440 (121)	72.1 (35.6)	48.9 (24.1)	379 (187)
29	256 (181)	79.1 (56.0)	554 (392)	479 (339)	79.2 (85.2)	53.7 (57.8)	417 (448)
30	207 (71)	64.2 (21.9)	449 (153)	388 (133)	35.7 (23.4)	24.2 (15.9)	188 (123)
Mean	168	51.9	362	313	58.3	39.5	307
n	30	30	30	30	30	30	30
SD	95.2	29.5	206	178	28.9	19.6	152
Min	53.2	16.5	116	100	21.3	14.5	112
Max	487	151	1050	912	149	101	784

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for May, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4					60.5 (29.7)	41.1 (20.1)	319 (156)
5					65.3 (51.4)	44.3 (34.9)	344 (271)
6					58.7 (35.1)	39.8 (23.8)	309 (185)
7					104 (73)	70.3 (49.8)	546 (387)
8					82.3 (36.3)	55.8 (24.6)	433 (191)
9					160 (120)	108 (81.7)	842 (634)
10					229 (58.3)	155 (39.5)	1200 (307)
11	120 (210)	37.3 (65.1)	262 (458)	227 (396)	76.9 (67.3)	52.1 (45.6)	405 (354)
12	228 (124)	70.5 (38.5)	492 (267)	426 (231)	60.8 (40.9)	41.2 (27.8)	320 (216)
13	240 (87)	74.4 (27.0)	518 (188)	449 (162)	32.3 (10.4)	21.9 (7.1)	170 (55)
14	181 (78)	55.9 (24.2)	391 (169)	338 (146)	45.3 (24.8)	30.7 (16.8)	239 (130)
15	288 (249)	89.1 (77.2)	621 (539)	537 (466)	18.0 (36.3)	12.2 (24.6)	95 (191)
16	307 (93)	94.9 (28.7)	659 (199)	571 (172)	34.9 (13.0)	23.7 (8.8)	184 (68)
17	168 (72)	52.1 (22.1)	370 (161)	321 (139)	108 (51)	73.0 (34.2)	566 (266)
18	162 (55)	50.1 (17.0)	362 (122)	313 (106)	36.4 (21.5)	24.7 (14.6)	192 (113)
19							
20	242 (107)	74.9 (33.1)	537 (238)	465 (206)	56.4 (27.6)	38.3 (18.7)	297 (145)
21	316 (215)	97.9 (66.6)	703 (478)	608 (414)	59.5 (43.8)	40.4 (29.7)	313 (230)
22	327 (118)	101 (37)	718 (256)	621 (222)	73.7 (50.3)	50.0 (34.1)	388 (265)
23	413 (269)	128 (83)	922 (611)	798 (529)	81.3 (40.3)	55.1 (27.4)	428 (212)
24	325 (129)	101 (40)	734 (288)	635 (249)	111 (40)	75.2 (26.9)	584 (209)
25	251 (133)	77.8 (41.3)	556 (297)	481 (257)	93.1 (58.2)	63.2 (39.5)	490 (307)
26	265 (77)	81.9 (23.8)	579 (168)	501 (146)	84.8 (55.8)	57.5 (37.9)	446 (294)
27	275 (83)	85.1 (25.6)	599 (180)	518 (156)	85.2 (38.4)	57.8 (26.1)	448 (202)
28	348 (83)	108 (26)	753 (179)	652 (155)	94.5 (22.9)	64.1 (15.5)	498 (120)
29	246 (161)	76.2 (49.9)	528 (346)	457 (300)	54.5 (36.3)	36.9 (24.6)	287 (191)
30	302 (177)	93.5 (54.9)	642 (377)	555 (326)	165 (102)	112 (69)	869 (536)
31	207 (104)	64.0 (32.2)	441 (221)	382 (191)	212 (108)	144 (73)	1110 (568)
Mean	261	80.7	569	493	86.7	58.8	457
n	20	20	20	20	27	27	27
SD	70	21.5	155	134	50.5	34.3	266
Min	120	37.3	262	227	18.0	12.2	94.7
Max	413	128	922	798	229	155	1200

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for June, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	232 (132)	72.0 (40.8)	499 (283)	432 (245)	93.5 (82.1)	63.4 (55.7)	492 (432)
2	260 (73)	80.6 (22.7)	561 (158)	486 (137)	39.0 (24.0)	26.5 (16.3)	205 (127)
3	362 (194)	112 (60)	784 (421)	678 (365)	47.5 (34.2)	32.2 (23.2)	250 (180)
4	411 (197)	127 (61)	895 (430)	775 (372)	50.7 (35.4)	34.4 (24.0)	267 (186)
5	322 (76)	99.6 (23.5)	700 (166)	606 (143)	36.2 (33.2)	24.5 (22.5)	190 (175)
6	489 (319)	152 (99)	1060 (691)	919 (598)	38.1 (22.3)	25.9 (15.1)	201 (117)
7	348 (114)	108 (35)	769 (256)	666 (222)	33.4 (13.3)	22.6 (9.0)	176 (70)
8	466 (173)	144 (54)	1040 (387)	904 (335)	41.0 (14.7)	27.8 (10.0)	216 (77)
9	416 (142)	129 (44)	930 (318)	805 (275)	76.6 (43.4)	52.0 (29.4)	403 (228)
10	425 (207)	131 (64)	943 (460)	816 (398)	154 (180)	104 (122)	810 (950)
11	482 (229)	149 (71)	1060 (504)	921 (436)	86.2 (20.7)	58.4 (14.1)	453 (109)
12	438 (242)	136 (75)	957 (526)	828 (456)	94.2 (35.3)	63.9 (24.0)	496 (186)
13	423 (254)	131 (79)	913 (550)	790 (476)	90.9 (45.7)	61.7 (31.0)	479 (241)
14	365 (81)	113 (25)	797 (178)	690 (154)	99.9 (43.0)	67.8 (29.2)	526 (226)
15	401 (182)	124 (56)	897 (408)	776 (353)	106 (64)	71.8 (43.3)	557 (336)
16	648 (377)	201 (117)	1450 (841)	1250 (728)	124 (88)	83.9 (59.6)	651 (463)
17	351 (92)	109 (29)	784 (206)	678 (178)	67.5 (30.9)	45.8 (21.0)	355 (163)
18	323 (70)	100 (22)	715 (154)	619 (133)	88.2 (44.2)	59.8 (30.0)	464 (233)
19	312 (96)	96.6 (29.8)	683 (211)	591 (182)	117 (38)	79.1 (25.5)	613 (198)
20	410 (169)	127 (52)	899 (370)	778 (321)	108 (64)	72.9 (43.7)	566 (339)
21	444 (161)	137 (50)	978 (355)	846 (308)	86.2 (45.9)	58.4 (31.1)	453 (241)
22	666 (427)	206 (132)	1470 (944)	1270 (817)	85.9 (38.1)	58.2 (25.9)	452 (201)
23	560 (207)	173 (64)	1230 (454)	1070 (393)	114 (87)	77.6 (58.6)	602 (455)
24	390 (253)	121 (78)	853 (551)	738 (477)	105 (104)	71.2 (70.5)	552 (547)
25	809 (719)	250 (223)	1760 (1560)	1520 (1350)	88.5 (41.3)	60.0 (28.0)	466 (218)
26	466 (189)	144 (59)	1000 (404)	867 (350)	105 (97)	71.2 (66.0)	553 (512)
27	484 (108)	150 (33)	1030 (229)	891 (198)	64.2 (18.6)	43.5 (12.6)	338 (98)
28	438 (119)	136 (37)	945 (262)	818 (227)	131 (44)	89.0 (30.1)	691 (233)
29	462 (126)	143 (39)	1020 (278)	879 (240)	117 (78)	79.0 (53.0)	613 (411)
30							
Mean	435	135	953	825	85.8	58.2	451
n	29	29	29	29	29	29	29
SD	118	36.7	261	226	31.1	21.1	164
Min	232	72.0	499	432	33.4	22.6	176
Max	809	250	1760	1520	154	104	810

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for July, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1							
2							
3							
4	512 (185)	158 (57)	1110 (400)	956 (346)	84.2 (39.5)	57.1 (26.8)	443 (208)
5	604 (365)	187 (113)	1330 (810)	1150 (701)	77.7 (24.0)	52.7 (16.3)	409 (127)
6	643 (258)	199 (80)	1420 (569)	1230 (492)	78.9 (37.0)	53.5 (25.1)	415 (195)
7	596 (176)	185 (54)	1310 (387)	1140 (335)	84.1 (36.8)	57.0 (25.0)	442 (194)
8	548 (217)	170 (67)	1210 (478)	1040 (414)	47.6 (14.0)	32.3 (9.5)	251 (74)
9	519 (183)	161 (57)	1140 (401)	986 (347)	57.3 (31.5)	38.9 (21.3)	301 (166)
10	596 (192)	184 (60)	1300 (422)	1130 (365)	73.1 (21.2)	49.6 (14.4)	385 (112)
11	662 (298)	205 (92)	1430 (644)	1240 (558)	70.9 (19.6)	48.1 (13.3)	373 (103)
12	671 (511)	208 (158)	1480 (1110)	1280 (963)	49.5 (58.2)	33.6 (39.4)	261 (306)
13	489 (189)	152 (58)	1100 (424)	949 (367)	104 (44)	70.5 (29.5)	547 (229)
14	503 (222)	156 (69)	1110 (492)	964 (426)	54.3 (23.2)	36.8 (15.8)	286 (122)
15	568 (193)	176 (60)	1250 (425)	1080 (368)	91.1 (31.4)	61.8 (21.3)	480 (165)
16	496 (190)	154 (59)	1080 (414)	937 (359)	71.4 (31.6)	48.4 (21.4)	376 (166)
17	707 (222)	219 (69)	1530 (483)	1320 (418)	85.8 (22.8)	58.2 (15.5)	452 (120)
18	691 (198)	214 (61)	1480 (426)	1280 (368)	120 (85)	81.1 (57.6)	629 (447)
19	500 (341)	155 (106)	1070 (733)	930 (635)	66.8 (49.4)	45.3 (33.5)	352 (260)
20							
21							
22							
23							
24							
25	815 (288)	252 (89)	1700 (613)	1470 (531)	104 (33)	70.4 (22.5)	546 (175)
26	852 (167)	264 (52)	1810 (354)	1560 (306)	130 (43)	88.0 (28.9)	683 (224)
27	886 (608)	274 (188)	1880 (1290)	1620 (1110)	163 (57)	110 (38)	856 (298)
28	990 (567)	307 (175)	2090 (1200)	1810 (1040)	114 (106)	77.3 (71.8)	600 (557)
29	817 (232)	253 (72)	1720 (490)	1490 (424)	140 (59)	95.1 (39.7)	738 (308)
30	738 (241)	229 (75)	1550 (504)	1340 (436)	102 (62)	68.9 (41.9)	534 (325)
31	849 (177)	263 (55)	1770 (368)	1530 (319)	127 (44)	86.4 (29.5)	671 (229)
Mean	663	205	1430	1240	91.1	61.8	480
n	23	23	23	23	23	23	23
SD	143	44	284	246	29.8	20.2	157
Min	489	152	1070	930	47.6	32.3	251
Max	990	307	2090	1810	163	110	856

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for August, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	998 (444)	309 (137)	2070 (920)	1790 (796)	122 (45)	83.0 (30.5)	644 (236)
2	848 (179)	263 (55)	1780 (364)	1540 (315)	154 (69)	104 (47)	810 (364)
3	657 (230)	203 (71)	1410 (494)	1220 (428)	125 (63)	84.4 (43.0)	655 (334)
4	863 (429)	267 (133)	1850 (919)	1600 (795)	114 (47)	77.4 (31.7)	601 (246)
5	951 (423)	294 (131)	2040 (908)	1760 (786)	130 (88)	87.9 (59.4)	682 (461)
6	655 (286)	203 (88)	1390 (602)	1200 (521)	122 (88)	82.9 (60.0)	643 (465)
7	614 (188)	190 (58)	1290 (393)	1110 (340)	122 (45)	82.9 (30.5)	643 (237)
8	691 (298)	214 (92)	1440 (621)	1250 (538)	130 (61)	88.1 (41.3)	684 (321)
9	750 (147)	232 (46)	1590 (324)	1380 (280)	177 (54)	120 (36)	933 (282)
10	779 (229)	241 (71)	1680 (493)	1460 (426)	181 (77)	122 (52)	950 (404)
11							
12	914 (158)	283 (49)	1970 (340)	1700 (295)	167 (56)	113 (38)	880 (293)
13	1190 (434)	369 (134)	2550 (926)	2210 (802)	186 (110)	126 (75)	978 (581)
14	1350 (760)	417 (235)	2870 (1620)	2490 (1400)	177 (55)	120 (38)	934 (292)
15	1710 (1360)	530 (421)	3630 (2880)	3140 (2500)	252 (162)	171 (110)	1330 (855)
16	1410 (694)	437 (215)	3040 (1490)	2630 (1290)	208 (156)	141 (106)	1090 (820)
17	988 (741)	306 (229)	2180 (1630)	1880 (1410)	131 (203)	89 (138)	690 (1070)
18	1040 (303)	323 (94)	2270 (653)	1970 (565)	182 (110)	123 (74)	956 (577)
19	1160 (232)	358 (72)	2480 (498)	2150 (431)			
20	1260 (391)	390 (121)	2690 (832)	2330 (720)	181 (156)	123 (106)	954 (820)
21	1320 (408)	408 (126)	2810 (869)	2430 (752)	155 (29)	105 (20)	816 (152)
22	1300 (399)	403 (124)	2760 (851)	2390 (737)	210 (99)	142 (67)	1100 (523)
23	972 (192)	301 (59)	2070 (412)	1790 (357)	168 (57)	114 (39)	882 (302)
24	997 (336)	309 (104)	2150 (723)	1860 (626)	178 (104)	121 (71)	939 (548)
25	1260 (699)	389 (217)	2700 (1500)	2340 (1300)	95.9 (40.7)	65.0 (27.6)	505 (214)
26	1150 (488)	357 (151)	2470 (1050)	2140 (905)	114 (109)	77.4 (73.8)	600 (573)
27	1250 (636)	388 (197)	2680 (1360)	2320 (1180)	221 (136)	150 (92)	1160 (716)
28	1390 (519)	430 (161)	2950 (1100)	2550 (952)	162 (85)	110 (58)	854 (449)
29	1250 (627)	387 (194)	2640 (1320)	2290 (1150)	196 (128)	133 (87)	1030 (671)
30	938 (244)	290 (76)	2010 (520)	1740 (450)	145 (73)	98.2 (49.3)	762 (383)
31							
Mean	1060	327	2260	1950	161	109	847
n	29	29	29	29	28	28	28
SD	265	82	567	491	36.9	25.0	194
Min	614	190	1290	1110	95.9	65.0	505
Max	1710	530	3630	3140	252	171	1330

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for September, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	932 (361)	289 (112)	2010 (774)	1740 (670)	88.4 (139.0)	60.0 (94.4)	465 (733)
2	984 (320)	305 (99)	2120 (691)	1840 (598)	108 (49)	73.4 (33.1)	570 (257)
3	1300 (891)	402 (276)	2800 (1930)	2430 (1670)	93.8 (28.0)	63.6 (19.0)	494 (148)
4	1240 (711)	382 (220)	2660 (1530)	2300 (1320)	125 (55)	84.9 (37.2)	659 (289)
5	872 (364)	270 (113)	1870 (781)	1620 (676)	131 (95)	88.8 (64.3)	689 (499)
6	1260 (858)	392 (266)	2730 (1850)	2360 (1600)	41 (187)	27.6 (127.0)	215 (983)
7	1030 (465)	318 (144)	2220 (1010)	1920 (873)	154 (79)	104 (54)	811 (415)
8	986 (445)	305 (138)	2150 (971)	1860 (840)	92.6 (80.7)	62.8 (54.7)	488 (425)
9	1320 (973)	407 (301)	2880 (2140)	2500 (1850)			
10	413 (830)	128 (257)	908 (1830)	786 (1580)	-171 (242)	-116 (164)	-898 (1270)
11							
12	926 (423)	287 (131)	1990 (912)	1720 (789)	83.0 (91.2)	56.3 (61.8)	437 (480)
13	1280 (909)	396 (282)	2710 (1930)	2350 (1670)	239 (179)	162 (121)	1260 (941)
14	1210 (1170)	374 (361)	2600 (2480)	2250 (2140)	235 (152)	159 (103)	1240 (799)
15	875 (497)	271 (154)	1910 (1070)	1650 (927)	91.9 (52.7)	62.3 (35.8)	484 (278)
16	1260 (1130)	389 (348)	2710 (2430)	2350 (2100)			
17	619 (237)	191 (73)	1320 (502)	1140 (435)			
18							
19	1330 (1200)	412 (371)	2760 (2480)	2390 (2150)			
20	1220 (855)	377 (265)	2530 (1780)	2190 (1540)	74.0 (20.9)	50.2 (14.1)	389 (110)
21	587 (202)	182 (63)	1230 (422)	1060 (365)	45.7 (24.9)	31.0 (16.9)	240 (131)
22	866 (242)	268 (75)	1800 (501)	1550 (434)	68.8 (14.9)	46.6 (10.1)	362 (78)
23	836 (228)	259 (71)	1740 (475)	1510 (411)	91.8 (33.0)	62.2 (22.4)	483 (174)
24	1270 (633)	394 (196)	2650 (1320)	2300 (1140)	123 (73)	83.6 (49.7)	649 (385)
25	927 (631)	287 (195)	1920 (1310)	1670 (1140)	154 (99)	105 (67)	813 (521)
26	483 (151)	149 (47)	997 (312)	863 (270)	176 (79)	119 (54)	925 (415)
27	563 (350)	174 (108)	1200 (761)	1040 (658)	182 (80)	123 (54)	958 (419)
28	594 (386)	184 (119)	1290 (842)	1110 (728)	138 (44)	93.8 (29.9)	728 (232)
29	488 (120)	151 (37)	1040 (255)	901 (221)	110 (29)	74.4 (19.8)	577 (154)
30	255 (63)	78.9 (19.5)	543 (134)	470 (116)	126 (50)	85.3 (33.6)	662 (261)
Mean	925	286	1980	1710	108	73.5	570
n	28	28	28	28	24	24	24
SD	315	97.4	674	583	77	51.9	403
Min	255	78.9	543	470	-171	-116	-898
Max	1330	412	2880	2500	239	162	1260

Table E10. Daily means (SD) of H_2S emissions at Site NY5B for October, 2009.

Day	Barn 1				Milking center		
	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}	mg d^{-1} AU^{-1}	g d^{-1}	mg d^{-1} m^{-2}	mg d^{-1} hd^{-1}
1	378 (357)	117 (110)	803 (757)	695 (655)	159 (130)	108 (88)	835 (682)
2	501 (265)	155 (82)	1060 (559)	915 (483)	123 (103)	83.4 (70.0)	647 (544)
3							
4	503 (261)	156 (81)	1050 (544)	906 (471)	166 (57)	112 (39)	873 (301)
5	362 (161)	112 (50)	755 (335)	654 (290)	193 (91)	131 (62)	1020 (477)
6	452 (360)	140 (111)	946 (753)	818 (652)	214 (72)	145 (49)	1130 (380)
7	184 (55)	57.1 (17.1)	387 (116)	335 (100)	185 (64)	125 (44)	972 (338)
8	311 (464)	96 (144)	656 (978)	568 (847)	74.4 (123.0)	50.4 (83.6)	391 (649)
9	343 (193)	106 (60)	725 (409)	627 (354)	104 (45)	70.4 (30.6)	546 (238)
10	415 (340)	128 (105)	879 (721)	761 (624)			
11	306 (260)	94.6 (80.5)	639 (539)	553 (467)	316 (282)	214 (191)	1660 (1490)
12	356 (366)	110 (113)	746 (760)	645 (658)	94.1 (93.0)	63.8 (63.1)	495 (489)
13	123 (69)	38.1 (21.3)	261 (146)	226 (126)	196 (203)	133 (137)	1030 (1070)
14	362 (241)	112 (75)	767 (511)	664 (442)	52.0 (43.7)	35.2 (29.6)	274 (230)
15	348 (143)	108 (44)	726 (298)	628 (258)	44.0 (11.9)	29.8 (8.0)	231 (62)
16	397 (232)	123 (72)	816 (476)	706 (412)	45.5 (11.5)	30.9 (7.8)	240 (60)
17	415 (239)	129 (74)	847 (488)	733 (422)	25.7 (20.7)	17.4 (14.1)	135 (109)
18	353 (191)	109 (59)	728 (395)	630 (342)	50.4 (45.2)	34.2 (30.7)	265 (238)
19	567 (409)	176 (127)	1190 (858)	1030 (743)	49.3 (30.0)	33.4 (20.4)	259 (158)
20	246 (162)	76.3 (50.2)	515 (340)	446 (295)	17.5 (21.1)	11.9 (14.3)	92 (111)
21	419 (416)	130 (129)	865 (860)	749 (744)	27.4 (42.9)	18.6 (29.1)	144 (226)
22	290 (58)	89.7 (17.8)	595 (119)	515 (103)	50.9 (40.7)	34.5 (27.6)	268 (214)
23	315 (123)	97.4 (38.0)	642 (249)	555 (216)	43.7 (16.8)	29.7 (11.4)	230 (88)
24							
25							
26							
27							
28							
29							
30							
31							
Mean	361	112	754	653	106	72.0	559
n	22	22	22	22	21	21	21
SD	101	31.4	213	184	78.6	53.3	413
Min	123	38.1	261	226	17.5	11.9	92
Max	567	176	1190	1030	316	214	1660

Table E11. Completeness of airflow and emission data.

Table E11. Completeness of airflow and emission data at Site NY5B for October, 2007.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24	50	50	0	0	0	0	49	50	0	0	0	0
25	100	100	0	0	0	0	99	100	0	0	0	0
26	100	100	0	0	0	0	100	100	0	0	0	0
27	100	100	0	0	0	0	86	100	0	0	0	0
28	100	100	0	0	0	0	67	100	0	0	0	0
29	100	100	0	0	0	0	89	100	0	0	0	0
30	100	100	0	0	0	0	99	100	0	0	0	0
31	69	94	0	2	0	2	69	94	0	0	0	0
Mean	23	24	0	0	0	0	21	24	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	40	42	0	0	0	0	37	42	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	0	2	0	2	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for November, 2007.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	0	0	66	88	0	0	0	0
2	100	100	0	1	0	1	100	100	0	0	0	0
3	100	100	0	0	0	0	92	99	0	0	0	0
4	100	100	0	0	0	0	80	100	0	0	0	0
5	91	100	0	0	0	0	77	89	0	0	0	0
6	100	100	0	0	0	0	60	94	0	0	0	0
7	100	100	0	0	0	0	99	100	0	0	0	0
8	100	100	0	0	0	0	96	97	0	0	0	0
9	95	100	0	0	0	0	93	100	0	0	0	0
10	69	69	0	0	0	0	64	69	0	0	0	0
11	48	48	0	0	0	0	42	48	0	0	0	0
12	100	100	0	0	0	0	60	100	0	0	0	0
13	94	97	0	0	41	45	54	97	0	0	0	0
14	100	100	0	0	100	100	90	100	0	0	0	0
15	100	100	0	0	100	100	58	100	0	0	0	0
16	100	100	0	0	100	100	63	96	0	0	0	0
17	100	100	0	0	100	100	99	100	0	0	0	0
18	100	100	0	0	100	100	100	100	0	0	0	0
19	99	99	22	22	99	99	99	99	0	0	0	0
20	100	100	64	70	64	72	90	100	0	0	0	0
21	100	100	100	100	100	100	79	96	0	0	0	0
22	100	100	100	100	100	100	54	100	0	0	0	0
23	100	100	100	100	100	100	69	88	0	0	0	0
24	100	100	100	100	100	100	98	99	0	0	0	0
25	100	100	100	100	100	100	70	100	0	0	0	0
26	100	100	100	100	100	100	91	100	0	0	0	0
27	100	100	72	77	72	77	27	100	0	0	0	0
28	100	100	100	100	100	100	97	99	0	0	0	0
29	100	100	72	80	72	81	73	100	0	0	0	0
30	100	100	100	100	100	100	62	100	0	0	0	0
Mean	97	97	34	35	55	56	77	95	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	11	11	45	45	47	47	19	11	0	0	0	0
Min	48	48	0	0	0	0	27	48	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for December, 2007.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	84	0	0	0	0	0
2	100	100	100	100	100	100	95	0	0	0	0	0
3	100	100	100	100	100	100	89	0	0	0	0	0
4	100	100	100	100	100	100	94	0	0	0	0	0
5	100	100	100	100	100	100	98	0	0	0	0	0
6	100	100	100	100	100	100	97	0	0	0	0	0
7	100	100	100	100	100	100	94	0	0	0	0	0
8	100	100	100	100	100	100	100	0	0	0	0	0
9	100	100	100	100	100	100	99	0	0	0	0	0
10	100	100	100	100	100	100	96	0	0	0	0	0
11	100	100	100	100	100	100	98	0	0	0	0	0
12	90	93	90	93	90	93	78	0	0	0	0	0
13	100	100	100	100	100	100	92	55	0	0	0	0
14	100	100	99	100	99	100	49	62	0	0	35	35
15	100	100	100	100	100	100	0	0	0	0	87	61
16	100	100	100	100	100	100	0	0	0	0	76	76
17	100	100	100	100	100	100	0	0	0	0	0	97
18	100	100	100	100	100	100	0	0	0	0	0	95
19	100	100	100	100	100	100	0	0	0	0	0	99
20	78	78	72	72	72	72	0	0	0	0	42	77
21	100	100	100	100	100	100	29	25	0	0	66	64
22	100	100	100	100	100	100	93	96	0	0	0	0
23	100	100	100	100	100	100	93	95	0	0	0	0
24	100	100	100	100	100	100	81	100	0	0	0	0
25	100	100	100	100	100	100	88	100	0	0	0	0
26	100	100	100	100	100	100	96	99	0	0	0	0
27	100	100	100	100	100	100	94	100	0	0	0	0
28	100	100	100	100	100	100	90	89	0	0	0	0
29	100	100	100	100	100	100	76	100	0	0	0	0
30	100	100	100	100	100	100	99	100	0	0	0	0
31	99	99	99	99	99	99	90	99	0	0	0	0
Mean	99	99	99	99	99	99	71	36	0	0	10	19
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	4	4	5	5	5	5	38	45	0	0	24	35
Min	78	78	72	72	72	72	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	87	99

Table E11. Completeness of airflow and emission data at Site NY5B for January, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	81	100	81	100	81	100	76	99	0	0	0	0
2	100	100	100	100	100	100	88	77	0	0	0	0
3	100	100	100	100	100	100	72	8	0	0	0	0
4	100	100	100	100	100	100	86	89	0	0	0	0
5	100	100	100	100	100	100	96	100	0	0	0	0
6	100	100	100	100	100	100	89	100	0	0	0	0
7	100	100	100	100	100	100	61	100	0	0	0	0
8	100	100	100	100	100	100	76	100	0	0	0	0
9	36	100	36	100	36	100	34	100	0	0	0	0
10	98	98	98	98	98	98	97	98	0	0	0	0
11	62	77	57	73	61	74	31	48	23	24	0	0
12	96	96	95	92	95	93	0	0	95	96	0	0
13	100	100	100	100	100	100	0	0	99	99	0	0
14	100	100	100	100	100	100	0	0	86	98	0	0
15	100	100	100	100	100	100	0	0	99	100	0	0
16	100	100	100	100	100	100	0	0	98	96	0	0
17	100	100	100	100	100	100	0	0	99	96	0	0
18	100	100	100	100	100	100	0	0	84	94	0	0
19	100	100	100	100	100	100	0	0	95	100	0	0
20	100	100	100	100	100	100	0	0	92	57	0	0
21	100	98	100	98	100	98	0	0	88	40	0	0
22	98	100	98	100	98	100	0	0	92	88	0	0
23	98	100	98	100	98	100	0	0	93	100	0	0
24	100	100	100	100	100	100	0	0	94	100	0	0
25	100	100	100	100	100	100	38	38	49	55	0	0
26	100	100	100	100	100	100	99	99	0	0	0	0
27	100	100	100	100	100	100	100	100	0	0	0	0
28	100	100	100	100	100	100	99	100	0	0	0	0
29	100	100	100	100	100	100	99	100	0	0	0	0
30	100	100	100	100	100	100	91	98	0	0	0	0
31	100	100	100	100	100	100	98	93	0	0	0	0
Mean	96	99	96	99	96	99	46	50	41	40	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	13	4	14	5	13	5	43	47	45	45	0	0
Min	36	77	36	73	36	74	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	99	100	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for February, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	90	79	0	0	0	0
2	100	100	100	100	100	100	99	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	97	98	0	0	0	0
5	100	100	100	100	100	100	91	96	0	0	0	0
6	100	100	100	100	100	100	96	99	0	0	0	0
7	100	100	100	100	100	100	86	91	0	0	0	0
8	100	100	100	100	100	100	100	100	0	0	0	0
9	100	100	100	100	100	100	99	99	0	0	0	0
10	100	100	100	100	100	100	88	84	0	0	0	0
11	100	100	100	100	100	100	83	40	0	0	0	0
12	100	100	100	100	100	100	99	66	0	0	0	0
13	100	100	100	100	100	100	59	71	0	0	19	24
14	100	100	100	100	100	100	0	0	0	0	91	100
15	100	100	100	100	100	100	0	0	0	0	93	98
16	82	82	82	74	82	74	0	0	0	0	82	75
17	63	100	63	100	63	100	0	0	0	0	63	67
18	100	100	100	100	100	100	0	0	0	0	65	84
19	100	100	100	100	100	100	0	0	0	0	91	100
20	100	100	100	100	100	100	0	0	0	0	95	99
21	99	99	99	99	99	99	41	42	0	0	47	47
22	100	100	100	100	100	100	99	99	0	0	0	0
23	100	100	100	100	100	100	84	100	0	0	0	0
24	100	100	100	100	100	100	98	100	0	0	0	0
25	100	100	100	100	100	100	93	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	92	100	0	0	0	0
28	100	100	100	100	100	100	92	100	0	0	0	0
29	57	95	57	95	57	95	53	85	0	0	0	0
Mean	97	99	97	99	97	99	67	67	0	0	22	24
n	29	29	29	29	29	29	29	29	29	29	29	29
SD	11	3	11	5	11	5	40	41	0	0	36	38
Min	57	82	57	74	57	74	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	95	100

Table E11. Completeness of airflow and emission data at Site NY5B for March, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	95	96	0	0	0	0
2	100	100	100	100	100	100	99	100	0	0	0	0
3	100	100	100	100	100	100	95	59	0	0	0	0
4	100	100	100	100	100	100	98	100	0	0	0	0
5	100	100	100	100	100	100	93	100	0	0	0	0
6	100	100	100	100	100	100	94	95	0	0	0	0
7	100	100	73	74	74	74	100	100	0	0	0	0
8	100	100	100	100	100	100	94	100	0	0	0	0
9	100	100	100	100	100	100	96	100	0	0	0	0
10	100	100	100	100	100	100	99	100	0	0	0	0
11	74	100	74	100	74	100	69	92	0	0	0	0
12	100	100	100	100	100	100	89	100	0	0	0	0
13	74	100	74	100	74	100	61	82	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	21	95	0	0	0	0
18	100	100	100	100	100	100	0	96	0	0	0	0
19	100	100	100	100	100	100	33	90	0	0	0	0
20	100	100	100	100	100	100	76	100	0	0	0	0
21	100	100	100	100	100	100	88	100	0	0	0	0
22	100	100	100	100	100	100	98	100	0	0	0	0
23	100	100	100	100	100	100	97	100	0	0	0	0
24	100	100	100	100	100	100	97	96	0	0	0	0
25	100	100	100	100	100	100	98	91	0	0	0	0
26	100	100	100	100	100	100	90	100	0	0	0	0
27	100	100	100	100	100	100	99	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	93	100	0	0	0	0
30	100	100	100	100	100	100	100	92	0	0	0	0
31	100	100	100	100	100	100	99	76	0	0	0	0
Mean	98	100	97	99	98	99	86	95	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	6	0	8	5	8	5	24	9	0	0	0	0
Min	74	100	73	74	74	74	0	59	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for April, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	70	100	70	100	70	100	66	63	0	0	0	0
2	95	95	95	95	95	95	53	70	0	0	0	0
3	100	100	100	100	100	100	51	50	0	0	0	0
4	100	100	100	100	100	100	58	62	0	0	37	35
5	100	100	100	100	100	100	0	0	0	0	99	100
6	100	100	100	100	100	100	0	0	0	0	100	99
7	100	100	100	100	100	100	0	0	0	0	100	80
8	100	100	100	100	100	100	0	0	0	0	93	87
9	100	100	100	100	100	100	0	0	0	0	90	66
10	100	100	100	100	100	100	0	0	0	0	76	100
11	99	99	99	99	99	99	33	26	0	0	65	55
12	100	100	100	100	100	100	43	98	0	0	0	0
13	100	100	100	100	100	100	54	100	0	0	0	0
14	100	100	100	100	100	100	72	24	0	0	0	0
15	100	100	100	100	100	100	74	0	0	0	0	0
16	79	100	79	100	79	100	62	42	0	0	0	0
17	100	100	100	100	100	100	99	100	0	0	0	0
18	100	100	100	100	100	100	99	100	0	0	0	0
19	47	100	45	100	45	34	34	100	0	0	0	0
20	39	85	36	84	35	22	24	85	0	0	0	0
21	64	64	63	61	63	61	64	64	0	0	0	0
22	100	100	100	100	100	100	94	95	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	91	93	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	65	99	0	0	0	0
29	99	99	13	13	99	99	36	89	0	0	0	0
30	100	100	0	0	100	100	61	96	0	0	0	0
Mean	93	98	87	92	93	94	54	62	0	0	22	21
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	16	7	27	24	17	19	35	40	0	0	38	36
Min	39	64	0	0	35	22	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table E11. Completeness of airflow and emission data at Site NY5B for May, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	100	100	91	100	0	0	0	0
2	100	100	0	0	100	100	100	100	0	0	0	0
3	100	100	0	0	100	100	98	100	0	0	0	0
4	100	100	2	0	100	100	52	100	0	0	0	0
5	100	100	0	0	100	100	94	100	0	0	0	0
6	100	100	0	0	100	100	85	100	0	0	0	0
7	100	100	0	0	100	100	95	97	0	0	0	0
8	100	100	0	0	100	100	59	100	0	0	0	0
9	100	100	0	0	100	100	99	100	0	0	0	0
10	100	100	0	0	100	100	77	100	0	0	0	0
11	100	100	0	0	100	100	100	90	0	0	0	0
12	100	100	1	0	100	100	100	100	0	0	0	0
13	100	100	0	0	100	100	84	95	0	0	0	0
14	100	100	0	0	100	100	98	100	0	0	0	0
15	100	100	39	0	97	100	56	100	0	0	0	0
16	100	100	0	0	100	100	97	100	0	0	0	0
17	100	100	0	0	100	100	82	100	0	0	0	0
18	100	100	0	0	100	100	77	100	0	0	0	0
19	100	100	8	1	100	100	25	100	0	0	0	0
20	100	100	0	0	100	100	76	98	0	0	0	0
21	100	100	0	0	100	100	51	100	0	0	0	0
22	100	100	0	0	100	100	43	100	0	0	0	0
23	100	100	0	0	100	100	47	100	0	0	0	0
24	100	100	0	0	100	100	77	100	0	0	0	0
25	100	100	0	0	100	100	94	100	0	0	0	0
26	100	100	1	0	100	100	94	100	0	0	0	0
27	100	100	0	0	100	100	61	100	0	0	0	0
28	100	100	0	0	100	100	78	100	0	0	0	0
29	100	100	0	0	100	100	70	100	0	0	0	0
30	100	100	0	0	100	100	100	100	0	0	0	0
31	42	42	0	0	40	36	42	42	0	0	0	0
Mean	98	98	2	0	98	98	77	97	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	10	10	7	0	11	11	21	10	0	0	0	0
Min	42	42	0	0	40	36	25	42	0	0	0	0
Max	100	100	39	1	100	100	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for June, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	100	100	92	100	0	0	0	0
2	100	100	1	0	100	100	98	100	0	0	0	0
3	100	100	0	0	100	100	100	100	0	0	0	0
4	100	100	0	0	100	100	100	100	0	0	0	0
5	100	100	0	0	100	100	100	100	0	0	0	0
6	100	100	0	0	100	100	100	100	0	0	0	0
7	100	100	0	0	100	100	100	100	0	0	0	0
8	100	100	0	0	100	100	99	100	0	0	0	0
9	100	100	0	0	100	100	100	100	0	0	0	0
10	97	97	25	27	71	73	97	97	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	100	100	100	100	100	95	98	0	0	0	0
15	100	100	100	100	100	100	100	100	0	0	0	0
16	100	100	100	100	100	100	99	100	0	0	0	0
17	100	100	100	100	100	100	98	100	0	0	0	0
18	100	100	100	100	100	100	100	100	0	0	0	0
19	38	38	37	36	38	36	36	36	0	0	0	0
20	43	43	41	39	41	39	42	43	0	0	0	0
21	100	100	100	100	100	100	74	76	0	0	0	0
22	100	100	100	100	100	100	100	100	0	0	0	0
23	100	100	100	100	100	100	99	100	0	0	0	0
24	100	100	100	100	100	100	56	58	0	0	40	40
25	100	100	100	100	100	100	0	0	0	0	100	100
26	100	100	100	100	100	100	0	0	0	0	100	100
27	100	100	100	100	100	100	0	0	0	0	100	100
28	100	100	100	100	100	100	0	0	0	0	100	100
29	100	100	100	100	100	100	0	0	0	0	100	100
30	100	100	100	100	100	100	0	0	0	0	99	100
Mean	96	96	63	63	95	95	73	74	0	0	21	21
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	15	15	46	46	16	16	40	40	0	0	40	40
Min	38	38	0	0	38	36	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table E11. Completeness of airflow and emission data at Site NY5B for July, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	0	0	0	0	100	100
2	100	100	100	100	100	100	0	0	0	0	100	100
3	100	100	100	100	100	100	0	0	0	0	100	100
4	100	100	100	100	100	100	0	0	0	0	100	100
5	100	100	100	100	100	100	0	0	0	0	100	100
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	100	100	100	100	0	0	0	0	100	100
9	100	100	100	100	100	100	0	0	0	0	100	100
10	100	100	100	100	100	100	41	43	0	0	48	48
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	100	100	100	100	100	99	100	0	0	0	0
15	100	100	100	100	100	100	100	100	0	0	0	0
16	85	85	83	83	83	83	83	83	0	0	0	0
17	69	69	46	66	46	66	46	65	0	0	0	0
18	100	100	60	100	60	100	52	77	0	0	0	0
19	100	100	58	100	58	100	58	100	0	0	0	0
20	100	100	0	100	0	100	0	100	0	0	0	0
21	100	100	9	100	9	100	6	100	0	0	0	0
22	100	100	96	100	96	100	96	100	0	0	0	0
23	100	100	100	100	100	100	100	100	0	0	0	0
24	99	99	99	99	99	99	32	35	51	51	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	88	100	88	100	0	0	88	100	0	0
28	100	100	100	100	100	100	0	0	99	100	0	0
29	100	100	100	100	100	100	0	0	100	100	0	0
30	100	100	100	100	100	100	0	0	100	100	0	0
31	100	100	100	100	100	100	0	0	100	100	0	0
Mean	98	98	88	98	88	98	33	42	24	24	31	31
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	6	6	26	7	26	7	42	46	41	42	45	45
Min	69	69	0	66	0	66	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	100	100

Table E11. Completeness of airflow and emission data at Site NY5B for August, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	99	100	99	100	0	0	95	96	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	94	100	94	100	94	100	0	0	91	99	0	0
5	100	100	100	100	100	100	0	0	100	100	0	0
6	100	100	100	100	100	100	0	0	99	100	0	0
7	100	100	98	100	98	100	0	0	98	100	0	0
8	100	100	100	100	100	100	0	0	98	98	0	0
9	100	100	100	100	100	100	0	0	99	99	0	0
10	100	100	100	100	100	100	0	0	100	100	0	0
11	100	100	100	100	100	100	0	0	99	99	0	0
12	100	100	100	100	100	100	0	0	99	99	0	0
13	100	100	75	100	75	100	0	0	74	100	0	0
14	59	100	52	100	52	100	0	0	52	100	0	0
15	21	100	21	100	21	100	0	0	20	99	0	0
16	49	100	49	100	49	100	0	0	49	99	0	0
17	100	100	96	100	96	100	0	0	95	99	0	0
18	100	100	100	100	100	100	0	0	98	98	0	0
19	100	100	97	100	97	100	0	0	87	91	0	0
20	100	100	81	100	81	100	0	0	80	97	0	0
21	100	100	100	100	100	100	0	0	99	99	0	0
22	100	100	100	100	100	100	0	0	99	99	0	0
23	100	100	100	100	100	100	0	0	100	100	0	0
24	100	100	100	100	100	100	0	0	99	99	0	0
25	100	100	95	100	95	100	0	0	84	93	0	0
26	100	100	100	100	100	100	0	0	99	99	0	0
27	100	100	100	100	100	100	28	27	60	60	0	0
28	100	100	100	100	100	100	100	100	0	0	0	0
29	100	84	100	84	100	84	82	83	0	0	0	0
30	100	100	100	100	100	100	98	98	0	0	0	0
31	100	100	100	100	100	100	100	100	0	0	0	0
Mean	94	99	92	99	92	99	13	13	77	85	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	18	3	18	3	18	3	32	32	35	33	0	0
Min	21	84	21	84	21	84	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	100	100	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for September, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	99	100	0	0	0	0
2	100	100	45	47	100	100	51	45	0	0	0	0
3	100	100	0	64	3	100	0	0	0	0	0	0
4	66	66	0	49	0	49	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	50	50	0	28	0	29	0	0	0	0	0	0
7	100	100	0	100	0	100	0	0	0	0	0	0
8	100	100	2	100	2	100	0	0	0	0	0	0
9	100	100	0	100	0	100	0	0	0	0	0	0
10	100	100	0	100	0	100	0	0	0	0	0	0
11	100	100	0	100	0	100	0	0	0	0	0	0
12	57	57	0	51	0	52	0	0	0	0	0	0
13	100	100	0	100	0	100	0	0	0	0	0	0
14	100	100	59	100	59	100	0	0	0	0	0	0
15	100	100	100	100	100	100	0	0	0	0	0	0
16	89	89	89	89	89	89	48	48	0	0	0	0
17	100	100	100	100	100	100	100	96	0	0	0	0
18	99	99	99	99	99	99	99	99	0	0	0	0
19	100	100	100	100	100	100	100	100	0	0	0	0
20	100	100	100	100	100	100	100	100	0	0	0	0
21	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	99	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	30	95	0	0	0	0
26	100	100	100	100	100	100	0	100	0	0	0	0
27	100	100	100	100	100	100	0	100	0	0	0	0
28	100	100	100	100	100	100	0	100	0	0	0	0
29	100	100	97	100	97	100	0	98	0	0	0	0
30	100	100	100	100	100	100	0	100	0	0	0	0
Mean	92	92	60	88	62	91	34	53	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	21	21	47	26	47	24	45	48	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 E11. Completeness of airflow and emission data at Site NY5B for October, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	0	95	0	0	0	0
2	100	100	100	100	100	100	22	100	0	0	0	0
3	100	100	100	100	100	100	48	100	0	0	0	0
4	100	100	100	100	100	100	77	100	0	0	0	0
5	100	100	100	100	100	100	86	100	0	0	0	0
6	100	100	100	100	100	100	91	100	0	0	0	0
7	100	100	100	100	100	100	99	100	0	0	0	0
8	100	100	70	70	100	100	99	100	0	0	0	0
9	100	100	0	0	100	100	77	100	0	0	0	0
10	100	100	0	0	100	100	93	100	0	0	0	0
11	100	100	0	0	100	100	99	100	0	0	0	0
12	100	100	0	0	100	100	100	100	0	0	0	0
13	100	100	1	0	100	100	99	100	0	0	0	0
14	100	100	0	2	100	100	93	99	0	0	0	0
15	100	100	0	0	100	100	93	100	0	0	0	0
16	100	100	0	0	100	100	53	100	0	0	0	0
17	100	100	0	0	99	100	86	97	0	0	0	0
18	100	100	0	0	100	100	96	100	0	0	0	0
19	100	100	0	0	100	100	99	100	0	0	0	0
20	100	100	3	0	100	100	89	100	0	0	0	0
21	89	100	0	1	89	100	33	100	0	0	0	0
22	100	100	0	0	100	100	82	100	0	0	0	0
23	100	100	0	0	100	100	98	100	0	0	0	0
24	100	100	0	0	100	100	92	99	0	0	0	0
25	100	100	0	0	100	100	79	98	0	0	0	0
26	100	100	0	0	100	100	85	96	0	0	0	0
27	100	100	8	0	57	100	63	64	0	0	0	0
28	99	99	0	0	81	99	69	68	0	0	0	0
29	100	100	0	0	100	100	80	22	0	0	0	0
30	100	100	0	0	100	100	98	0	0	0	0	0
31	51	51	0	1	50	51	38	0	0	0	0	0
Mean	98	98	25	25	96	98	78	88	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	9	9	42	42	12	9	25	28	0	0	0	0
Min	51	51	0	0	50	51	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for November, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	89	89	0	0	88	86	72	0	0	0	0	0
2	100	100	5	0	23	100	90	0	0	0	0	0
3	96	100	2	0	4	100	89	0	0	0	0	0
4	94	94	0	0	0	94	37	0	42	0	0	0
5	97	97	0	0	0	97	0	0	97	0	0	0
6	98	100	0	0	0	78	0	0	98	0	0	0
7	99	99	0	0	0	99	0	0	99	0	0	0
8	100	100	0	0	0	100	0	0	90	0	0	0
9	100	100	0	0	0	100	0	0	46	0	0	0
10	100	100	43	0	43	100	0	0	20	0	0	0
11	100	100	37	0	37	100	0	0	33	0	0	0
12	100	100	0	0	0	100	0	0	99	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	100	100	0	0	0	99	0	0	83	0	0	0
15	100	100	0	0	0	100	0	0	86	0	0	0
16	47	99	0	0	0	99	0	0	9	0	0	0
17	100	100	0	0	0	100	0	0	74	0	0	0
18	100	100	0	0	0	100	0	0	97	0	0	0
19	97	97	0	34	0	97	0	0	96	0	0	0
20	100	100	0	100	0	100	0	0	100	0	0	0
21	97	100	3	23	3	23	0	0	96	0	0	0
22	53	53	0	0	0	0	0	0	52	0	0	0
23	75	75	3	0	3	0	0	0	72	0	0	0
24	99	71	0	0	0	0	41	3	44	0	0	0
25	100	69	0	0	0	0	100	69	0	0	0	0
26	100	100	0	0	0	0	94	100	0	0	0	0
27	100	100	0	0	0	0	99	99	0	0	0	0
28	100	100	0	0	0	0	97	96	0	0	0	0
29	100	100	0	0	0	0	99	100	0	0	0	0
30	100	100	0	0	0	0	99	96	0	0	0	0
Mean	91	91	3	5	7	62	31	19	48	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	21	21	10	19	18	46	42	38	41	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	43	100	88	100	100	100	100	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for December, 2008.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	97	100	0	0	0	0	60	88	0	0	0	0
2	100	100	0	0	0	0	97	99	0	0	0	0
3	100	100	0	0	0	0	78	85	0	0	0	0
4	100	100	0	0	0	0	63	95	0	0	0	0
5	100	100	0	0	0	0	62	94	0	0	0	0
6	100	100	0	0	0	0	99	71	0	0	0	0
7	100	100	0	0	0	0	84	95	0	0	0	0
8	100	100	0	0	0	0	96	98	0	0	0	0
9	97	100	0	0	0	0	91	60	0	0	0	0
10	90	100	0	0	0	0	59	82	0	0	0	0
11	100	100	0	0	0	0	92	94	0	0	0	0
12	100	100	0	0	0	0	69	100	0	0	0	0
13	100	100	0	0	0	0	96	98	0	0	0	0
14	100	100	0	0	0	0	76	83	0	0	0	0
15	100	100	0	0	0	0	73	62	0	0	0	0
16	100	100	0	0	0	0	86	0	0	0	0	0
17	96	96	0	0	0	0	63	41	0	0	0	0
18	100	100	0	0	0	0	71	81	0	0	0	0
19	100	100	0	0	0	0	84	85	0	0	0	0
20	100	100	0	0	0	0	0	0	0	0	0	0
21	100	100	0	0	0	0	76	73	0	0	0	0
22	100	100	32	32	33	33	0	0	0	0	0	0
23	100	100	100	100	100	100	88	95	0	0	0	0
24	96	96	96	96	96	96	75	67	0	0	0	0
25	100	100	100	100	100	100	57	100	0	0	0	0
26	100	100	100	100	100	100	92	97	0	0	0	0
27	100	100	100	100	100	100	58	94	0	0	0	0
28	100	100	100	100	100	100	65	90	0	0	0	0
29	100	100	100	100	100	100	67	96	0	0	0	0
30	100	100	88	88	88	88	71	100	0	0	0	0
31	53	53	0	0	0	0	49	53	0	0	0	0
Mean	98	98	26	26	26	26	71	77	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	9	8	43	43	43	43	23	29	0	0	0	0
Min	53	53	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	99	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for January, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	0	0	97	99	0	0	0	0
2	99	100	0	0	0	0	76	91	0	0	0	0
3	100	100	0	0	0	0	66	100	0	0	0	0
4	100	100	0	0	0	0	99	100	0	0	0	0
5	100	100	35	35	36	36	62	100	0	0	0	0
6	100	100	100	100	100	100	99	94	0	0	0	0
7	100	100	100	100	100	100	87	91	0	0	0	0
8	100	100	100	100	100	100	88	100	0	0	0	0
9	99	100	99	100	99	100	81	100	0	0	0	0
10	100	100	100	100	100	100	100	94	0	0	0	0
11	100	100	100	100	100	100	91	100	0	0	0	0
12	100	100	100	100	100	100	86	93	0	0	0	0
13	100	100	47	47	47	47	40	39	0	0	52	50
14	100	100	0	0	0	0	0	0	0	0	100	100
15	100	100	0	0	0	0	0	0	0	0	93	39
16	100	100	0	0	0	0	0	0	0	0	98	0
17	100	100	0	0	0	0	0	0	0	0	97	0
18	100	100	0	0	0	0	0	0	0	0	99	0
19	100	100	0	0	0	0	0	0	0	0	99	0
20	100	100	0	0	0	0	62	0	0	0	34	0
21	100	100	0	0	0	0	83	0	0	0	0	0
22	100	100	0	0	0	0	87	0	0	0	0	0
23	100	100	0	0	0	0	66	0	0	0	0	0
24	100	100	0	0	0	0	93	0	0	0	0	0
25	100	100	0	0	0	0	78	0	0	0	0	0
26	100	100	0	0	0	0	88	0	0	0	0	0
27	100	100	0	0	0	0	94	0	0	0	0	0
28	100	100	0	0	0	0	95	0	0	0	0	0
29	100	100	0	32	0	32	87	0	0	0	0	0
30	100	100	0	34	0	34	81	0	0	0	0	0
31	100	100	0	0	0	0	95	0	0	0	0	0
Mean	100	100	25	27	25	27	67	39	0	0	22	6
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	0	0	42	41	42	41	35	47	0	0	39	20
Min	99	100	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table E11. Completeness of airflow and emission data at Site NY5B for February, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	0	0	67	0	0	0	0	0
2	100	100	0	0	0	0	67	0	0	0	0	0
3	100	100	27	24	27	25	99	0	0	0	0	0
4	100	100	100	100	100	100	98	0	0	0	0	0
5	100	100	100	100	100	100	98	0	0	0	0	0
6	100	100	100	100	100	100	97	0	0	0	0	0
7	100	100	100	100	100	100	67	0	0	0	0	0
8	100	100	100	100	100	100	18	0	0	0	0	0
9	100	100	100	100	100	100	87	0	0	0	0	0
10	100	100	100	100	100	100	46	0	0	0	0	0
11	100	100	100	100	100	100	73	0	0	0	0	0
12	100	100	100	100	100	100	47	0	0	0	0	0
13	100	100	100	100	100	100	66	0	0	0	0	0
14	100	100	100	100	100	100	94	0	0	0	0	0
15	100	100	100	100	100	100	80	0	0	0	0	0
16	100	100	100	100	100	100	69	0	0	0	0	0
17	100	100	100	100	100	100	89	0	0	0	0	0
18	100	100	100	100	100	100	96	0	0	0	0	0
19	100	100	100	100	100	100	63	0	0	0	0	0
20	100	100	100	100	100	100	79	0	0	0	0	0
21	100	100	100	100	100	100	87	0	0	0	0	0
22	100	100	100	100	100	100	85	0	0	0	0	0
23	100	100	100	100	100	100	86	0	0	0	0	0
24	100	100	100	100	100	100	88	0	0	0	0	0
25	100	100	100	100	100	100	92	0	0	0	0	0
26	95	95	39	50	48	50	49	0	0	0	0	0
27	100	100	0	0	0	0	62	0	0	0	0	0
28	100	100	0	0	0	0	62	0	0	0	0	0
Mean	100	100	81	81	81	81	75	0	0	0	0	0
n	28	28	28	28	28	28	28	28	28	28	28	28
SD	1	1	37	37	37	37	19	0	0	0	0	0
Min	95	95	0	0	0	0	18	0	0	0	0	0
Max	100	100	100	100	100	100	99	0	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for March, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	0	0	71	0	0	0	0	0
2	100	100	0	0	0	0	44	0	0	0	0	0
3	100	100	6	0	6	0	54	0	0	0	0	0
4	100	100	1	4	1	4	86	0	0	0	0	0
5	100	100	0	0	0	0	90	0	0	0	0	0
6	100	100	0	0	0	0	19	0	0	0	0	0
7	100	100	0	0	0	0	70	0	0	0	0	0
8	99	99	0	0	0	0	49	0	0	0	0	0
9	100	100	22	22	23	23	37	0	0	0	0	0
10	100	100	100	100	100	100	92	0	0	0	0	0
11	100	100	100	100	100	100	48	0	0	0	0	0
12	97	97	97	97	97	97	27	0	0	0	0	0
13	96	96	96	96	96	96	3	0	0	0	33	0
14	100	100	100	100	100	100	0	0	0	0	67	0
15	100	100	100	100	100	100	0	0	0	0	73	0
16	100	100	100	100	100	100	0	0	0	0	78	0
17	100	100	100	100	100	100	0	0	0	0	60	0
18	95	95	95	95	95	95	0	0	0	0	28	0
19	79	79	73	73	78	73	5	0	0	0	10	0
20	87	100	87	100	87	100	8	0	0	0	0	0
21	100	100	100	100	100	100	53	0	0	0	0	0
22	100	100	100	100	100	100	20	0	0	0	0	0
23	100	100	100	100	100	100	27	34	0	0	0	0
24	100	100	100	100	100	100	80	99	0	0	0	0
25	99	99	99	99	99	99	80	93	0	0	0	0
26	100	100	100	100	100	100	22	96	0	0	0	0
27	100	100	100	100	100	100	30	100	0	0	0	0
28	100	100	100	100	100	100	62	96	0	0	0	0
29	100	100	100	100	100	100	59	80	0	0	0	0
30	100	100	100	100	100	100	42	100	0	0	0	0
31	100	100	26	26	100	100	55	97	0	0	0	0
Mean	98	99	68	68	70	71	40	26	0	0	11	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	4	4	44	44	43	44	30	42	0	0	24	0
Min	79	79	0	0	0	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	92	100	0	0	78	0

Table E11. Completeness of airflow and emission data at Site NY5B for April, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	100	100	62	62	0	0	0	0
2	100	100	0	0	100	100	62	96	0	0	0	0
3	100	100	0	0	100	100	66	74	0	0	0	0
4	100	100	0	0	100	100	57	100	0	0	0	0
5	100	100	0	0	100	100	29	100	0	0	0	0
6	100	100	0	0	100	100	46	88	0	0	0	0
7	100	100	0	0	100	100	59	100	0	0	0	0
8	100	100	0	0	100	100	57	100	0	0	0	0
9	100	100	0	0	100	100	62	100	0	0	0	0
10	100	100	0	0	100	100	55	98	0	0	0	0
11	100	100	0	0	100	100	29	100	0	0	0	0
12	100	100	0	0	100	100	18	99	0	0	0	0
13	100	100	0	0	100	100	40	98	0	0	0	0
14	100	100	1	0	100	100	68	94	0	0	0	0
15	100	100	0	0	100	100	72	95	0	0	0	0
16	100	100	0	0	100	100	62	97	0	0	0	0
17	100	100	0	0	100	100	66	100	0	0	0	0
18	100	100	0	0	100	100	48	100	0	0	0	0
19	100	100	0	0	100	100	40	97	0	0	0	0
20	100	100	1	0	100	100	86	72	0	0	0	0
21	100	100	0	0	100	100	61	92	0	0	0	0
22	100	100	0	0	100	100	43	99	0	0	0	0
23	98	98	1	0	97	98	25	97	0	0	0	0
24	98	98	27	27	98	98	86	96	0	0	0	0
25	100	100	100	100	100	100	97	99	0	0	0	0
26	100	100	100	100	100	100	100	100	0	0	0	0
27	99	100	99	100	99	100	80	100	0	0	0	0
28	100	100	100	100	100	100	98	100	0	0	0	0
29	100	100	100	100	100	100	99	100	0	0	0	0
30	100	100	100	100	100	100	98	70	0	0	0	0
Mean	100	100	21	21	100	100	62	94	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	1	1	40	40	1	1	23	10	0	0	0	0
Min	98	98	0	0	97	98	18	62	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for May, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	70	70	19	19	19	19	57	59	0	0	0	0
2	56	56	54	54	54	54	37	53	0	0	0	0
3	70	70	29	67	29	67	61	70	0	0	0	0
4	100	100	0	20	0	100	95	100	0	0	0	0
5	100	100	1	0	1	100	98	100	0	0	0	0
6	100	100	3	0	3	100	88	98	0	0	0	0
7	100	100	0	0	0	100	92	96	0	0	0	0
8	100	100	0	0	0	100	100	100	0	0	0	0
9	100	100	0	0	0	100	64	100	0	0	0	0
10	100	100	19	0	58	100	28	100	0	0	0	0
11	100	100	0	0	100	100	34	34	0	0	60	60
12	100	100	0	0	100	100	0	0	0	0	100	100
13	100	100	0	0	100	100	0	0	0	0	100	100
14	100	100	0	0	100	100	0	0	0	0	100	96
15	100	100	0	0	100	100	0	0	0	0	100	100
16	100	100	0	0	100	100	0	0	0	0	99	97
17	100	100	0	0	100	100	0	0	0	0	76	100
18	100	100	0	0	99	100	53	57	0	0	36	38
19	100	100	3	4	73	74	97	97	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	100	100	98	98	0	0	0	0
23	100	100	0	0	100	100	100	100	0	0	0	0
24	100	100	0	0	100	100	100	100	0	0	0	0
25	100	100	0	0	100	100	100	100	0	0	0	0
26	100	100	28	28	100	100	99	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	100	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	94	100	0	0	0	0
Mean	97	97	21	22	72	94	68	73	0	0	22	22
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	11	11	37	38	41	17	39	40	0	0	39	39
Min	56	56	0	0	0	19	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	100	100

Table E11. Completeness of airflow and emission data at Site NY5B for June, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	99	100	99	100	99	100	95	95	0	0	0	0
2	100	100	100	100	100	100	99	98	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	95	96	0	0	0	0
6	100	100	100	100	100	100	100	100	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	36	36	0	0	0	0
10	100	100	100	100	100	100	72	72	0	0	0	0
11	100	100	100	100	100	100	100	100	0	0	0	0
12	99	99	99	99	99	99	7	98	0	0	0	0
13	100	100	100	100	100	100	0	100	0	0	0	0
14	100	100	100	100	100	100	0	100	0	0	0	0
15	100	100	100	100	100	100	0	100	0	0	0	0
16	100	100	100	100	100	100	0	100	0	0	0	0
17	97	97	97	97	97	97	0	97	0	0	0	0
18	100	100	100	100	100	100	0	100	0	0	0	0
19	100	100	100	100	100	100	0	100	0	0	0	0
20	100	100	100	100	100	100	0	99	0	0	0	0
21	100	100	100	100	100	100	0	100	0	0	0	0
22	100	100	100	100	100	100	0	100	0	0	0	0
23	100	100	100	100	100	100	0	94	0	0	0	0
24	100	100	100	100	100	100	0	100	0	0	0	0
25	100	100	100	100	100	100	0	100	0	0	0	0
26	100	100	100	100	100	100	0	100	0	0	0	0
27	100	100	100	100	100	100	0	100	0	0	0	0
28	100	100	100	100	100	100	0	100	0	0	0	0
29	100	100	100	100	100	100	0	100	0	0	0	0
30	29	29	19	19	19	19	0	29	0	0	0	0
Mean	97	98	97	97	97	97	34	94	0	0	0	0
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	13	13	15	15	15	15	45	17	0	0	0	0
Min	29	29	19	19	19	19	0	29	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for July, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
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	55	55	0	0	29	29	0	55	0	0	0	0
4	100	100	0	0	100	100	0	100	0	0	0	0
5	100	100	0	0	100	100	0	100	0	0	0	0
6	100	100	0	0	100	100	0	100	0	0	0	0
7	100	100	0	2	100	100	0	100	0	0	0	0
8	100	100	0	0	100	100	0	100	0	0	0	0
9	100	100	0	0	100	100	0	100	0	0	0	0
10	100	100	0	0	100	100	0	97	0	0	0	0
11	100	100	0	0	100	100	0	100	0	0	0	0
12	100	100	0	0	100	100	0	100	0	0	0	0
13	100	100	0	0	100	100	0	100	0	0	0	0
14	100	100	0	0	100	100	0	100	0	0	0	0
15	99	99	0	0	99	99	0	99	0	0	0	0
16	100	100	0	0	100	100	0	100	0	0	0	0
17	100	100	0	0	100	100	0	100	0	0	0	0
18	100	100	0	0	100	100	0	100	0	0	0	0
19	100	100	0	0	100	100	0	100	0	0	0	0
20	29	29	0	0	25	27	0	29	0	0	0	0
21	52	52	0	0	51	49	0	52	0	0	0	0
22	31	31	0	0	12	16	0	31	0	0	0	0
23	4	4	0	0	0	0	0	4	0	0	0	0
24	43	43	0	0	17	17	0	43	0	0	0	0
25	100	100	0	0	100	100	0	100	0	0	0	0
26	100	100	0	0	100	100	0	100	0	0	0	0
27	100	100	0	0	100	100	0	99	0	0	0	0
28	100	100	0	0	100	100	0	100	0	0	0	0
29	100	100	0	0	100	100	0	100	0	0	0	0
30	100	100	0	0	100	100	0	100	0	0	0	0
31	100	100	0	0	100	100	0	100	0	0	0	0
Mean	81	81	0	0	78	79	0	81	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	34	34	0	0	37	37	0	34	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Max	100	100	0	2	100	100	0	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for August, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	0	0	100	100	0	100	0	0	0	0
2	100	100	0	0	100	100	0	100	0	0	0	0
3	100	100	0	0	100	100	0	100	0	0	0	0
4	100	100	1	0	100	100	0	100	0	0	0	0
5	100	100	0	0	100	100	0	98	0	0	0	0
6	100	100	0	0	100	100	0	100	0	0	0	0
7	100	100	0	0	100	100	0	100	0	0	0	0
8	100	100	0	0	100	100	0	100	0	0	0	0
9	100	100	0	0	100	100	0	100	0	0	0	0
10	79	79	0	0	78	79	0	79	0	0	0	0
11	70	70	0	0	69	67	0	68	0	0	0	0
12	100	100	0	0	100	100	0	100	0	0	0	0
13	100	100	0	0	100	100	0	99	0	0	0	0
14	100	100	0	0	100	100	0	100	0	0	0	0
15	100	100	0	0	100	100	0	100	0	0	0	0
16	100	100	0	0	100	100	0	25	0	0	0	0
17	100	100	0	0	100	100	0	0	0	0	0	0
18	100	100	0	0	100	100	0	0	0	0	0	0
19	100	100	0	0	78	74	0	0	0	0	0	0
20	100	100	0	0	100	100	0	0	0	0	0	0
21	100	100	0	0	100	100	0	0	0	0	0	0
22	100	100	0	0	100	100	0	0	0	0	0	0
23	100	100	0	0	100	100	0	0	0	0	0	0
24	100	100	0	0	100	100	0	0	0	0	0	0
25	84	84	11	11	84	80	0	0	0	0	0	0
26	100	100	100	100	100	100	0	0	0	0	0	0
27	100	100	100	100	100	100	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	42	45	42	45	0	0	0	0	0	0
Mean	98	98	18	18	95	95	0	47	0	0	0	0
n	31	31	31	31	31	31	31	31	31	31	31	31
SD	7	7	37	37	13	13	0	48	0	0	0	0
Min	70	70	0	0	42	45	0	0	0	0	0	0
Max	100	100	100	100	100	100	0	100	0	0	0	0

Table E11. Completeness of airflow and emission data at Site NY5B for September, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	0	0	0	0	0	0
2	100	100	100	100	100	100	0	0	0	0	0	0
3	100	100	100	100	100	100	0	0	0	0	0	0
4	100	100	100	100	100	100	0	0	0	0	0	0
5	100	100	100	100	100	100	0	0	0	0	0	0
6	100	100	100	100	100	100	0	0	0	0	0	0
7	100	100	100	100	100	100	0	0	0	0	0	0
8	99	76	99	76	99	76	0	0	0	0	0	0
9	100	75	100	75	100	75	0	0	0	0	0	0
10	99	99	99	99	99	99	0	0	0	0	0	0
11	74	74	68	68	68	68	0	0	0	0	0	35
12	100	100	100	100	100	100	0	0	0	0	0	100
13	100	100	100	100	100	100	0	0	0	0	0	100
14	100	100	97	97	97	97	0	0	0	0	0	97
15	98	84	98	84	98	84	0	0	0	0	0	84
16	100	0	100	0	100	0	0	0	0	0	0	0
17	99	0	99	0	99	0	0	0	0	0	0	0
18	100	0	23	0	27	0	0	0	0	0	0	0
19	100	63	91	63	91	63	0	0	0	0	0	63
20	100	99	100	99	100	99	0	0	0	0	0	99
21	100	90	100	90	100	90	65	64	0	0	0	26
22	96	89	96	89	96	89	96	89	0	0	0	0
23	98	98	98	98	98	98	98	98	0	0	0	0
24	100	100	100	100	100	100	100	100	0	0	0	0
25	100	81	100	81	100	81	100	81	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	99	99	0	0	0	0
30	100	100	100	100	100	100	99	100	0	0	0	0
Mean	99	84	96	84	96	84	32	31	0	0	0	20
n	30	30	30	30	30	30	30	30	30	30	30	30
SD	5	30	15	30	14	30	46	44	0	0	0	37
Min	74	0	23	0	27	0	0	0	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	100

Table E11. Completeness of airflow and emission data at Site NY5B for October, 2009.

Day	Airflow		Ammonia		Hydrogen sulfide		PM_{10}		$PM_{2.5}$		TSP	
	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC	B1	MC
1	100	100	100	100	100	100	97	100	0	0	0	0
2	88	88	88	84	88	84	88	88	0	0	0	0
3	34	34	33	31	33	31	34	34	0	0	0	0
4	100	100	100	100	100	100	98	100	0	0	0	0
5	100	100	100	100	100	100	96	100	0	0	0	0
6	100	100	100	100	100	100	96	100	0	0	0	0
7	100	100	100	100	100	100	59	100	0	0	0	0
8	100	91	100	91	100	91	92	87	0	0	0	0
9	100	100	100	100	100	100	100	100	0	0	0	0
10	100	73	100	73	100	73	84	73	0	0	0	0
11	100	85	100	85	100	85	66	85	0	0	0	0
12	100	100	100	100	100	100	99	100	0	0	0	0
13	100	100	100	100	100	100	96	100	0	0	0	0
14	100	100	100	100	100	100	98	100	0	0	0	0
15	100	100	98	100	98	100	99	99	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	96	100	0	0	0	0
19	100	100	100	100	100	100	96	100	0	0	0	0
20	99	100	99	100	99	100	98	97	0	0	0	0
21	100	100	100	100	100	100	100	100	0	0	0	0
22	100	100	100	100	100	100	88	99	0	0	0	0
23	100	100	87	87	87	87	97	95	0	0	0	0
24												
25												
26												
27												
28												
29												
30												
31												
Mean	97	94	96	93	96	93	90	94	0	0	0	0
n	23	23	23	23	23	23	23	23	23	23	23	23
SD	14	15	14	15	14	15	16	15	0	0	0	0
Min	34	34	33	31	33	31	34	34	0	0	0	0
Max	100	100	100	100	100	100	100	100	0	0	0	0

13. APPENDIX F. BIOMATERIALS CHARACTERISTICS.

Table F1. Manure characteristics (mean ± SD)

Pens	Date	n	pH (SU)	Percent (wet weight basis)			
				Nitrogen	Solids	Ammonia	Ash
5-8	3/30/09	4	N/A	0.92 ± 0.12	41.0 ± 2.42	N/A	N/A
5-8	4/28/09	4	N/A	0.68 ± 0.08	31.7 ± 1.63	N/A	N/A
5-8	5/12/09	4	8.70 ± 0.13	0.65 ± 0.15	31.4 ± 4.51	0.01 ± 0.01	4.35 ± 0.99
5-8	6/2/09	4	9.56 ± 0.11	0.75 ± 0.05	40.0 ± 2.49	0.05 ± 0.02	5.84 ± 1.11
5-8	7/15/09	4	N/A	1.17 ± 0.59	49.4 ± 4.63	N/A	N/A
5-8	8/13/09	4	N/A	1.11 ± 0.08	49.0 ± 4.63	N/A	6.83 ± 0.47
5-8	10/27/09	4	N/A	0.82 ± 0.15	34.3 ± 6.87	0.00 ± 0.00	7.10 ± 1.98

Table F2. Bedding characteristics (mean ± SD)

Pens	Date	n	pH (SU)	Percent (wet weight basis)			
				Nitrogen	Solids	Ammonia	Ash
5-8	3/11/09	4	7.90 ± 0.20	0.46 ± 0.03	12.6 ± 1.39	0.19 ± 0.04	2.08 ± 0.23
5-8	3/30/09	4	6.70 ± 0.06	0.51 ± 0.03	12.0 ± 0.70	0.17 ± 0.01	2.00 ± 0.09
5-8	4/28/09	4	7.11 ± 0.29	0.46 ± 0.07	13.4 ± 0.93	0.15 ± 0.05	2.16 ± 0.31
5-8	5/12/09	4	7.07 ± 0.15	0.60 ± 0.12	13.9 ± 1.30	0.14 ± 0.04	2.33 ± 0.44
5-8	5/31/09	4	6.68 ± 0.10	0.54 ± 0.10	15.5 ± 1.54	0.12 ± 0.04	2.33 ± 0.47
5-8	8/13/09	4	6.54 ± 0.27	0.44 ± 0.01	13.1 ± 0.89	0.08 ± 0.02	1.74 ± 0.27
5-8	10/27/09	4	6.98 ± 0.09	0.48 ± 0.04	13.7 ± 0.81	0.17 ± 0.04	2.11 ± 0.16

Table F3. Feed characteristics (mean ± SD)

Pens	Date	n	Percent (wet weight basis)			
			Nitrogen	Solids	Ammonia	Ash
5-8	1/26/10	4	0.89 ± 0.10	N/A	N/A	3.60 ± 0.15

Table F4. Water characteristics (mean ± SD)

Pens	Date	n	Nitrogen (Kjeldahl), mg L^{-1}	Nitrogen (Total), mg L^{-1}	Sulfur, mg L^{-1}
5-8	1/26/10	4	0.28 ± 0.56	3.31 ± 0.82	8.68 ± 0.54