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Reinventing the Centre to Meet Changing Industry Needs

Lee Whittington
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As record high pork prices in midsummer dominated the headlines in the US, Canadian prices responded slowly with optimism that the substantial reduction in sows in Canada over the past three years would provide positive returns. The feed price increases over last year of $60 or more per tonne will likely moderate somewhat and allow the industry some further profitability. However the emphasis this year will be on feed – efficiency, waste, feeder settings, energy levels, and alternative ingredients should dominate the discussions at meetings this fall. Three articles in this issue take a new approach to some familiar questions – Should I creep feed? How much of these opportunity ingredients can I use? What does the future hold when feeding very prolific sows? The new scientific results captured here demonstrate the production impact, and where possible we have included some current feed pricing to look at the financial impact of the science. Watch our website or sign up for our electronic newsletter at www.prairieswine.com/signup/ to receive further financial analysis on the impact.

Throughout the challenges of the past three years, the Centre has been successful in obtaining research funding from both industry and government to continue the work of providing answers into the economically important questions in pork production. This will mean that you can expect to hear more from us as we refill the Manager Information Services

(Reinventing the Centre ... continued on page 10)

Publication # 40010021

Evaluation of temperature conditions in trucks during transport of market pigs to slaughter in four seasons


Harold Gonyou PhD Jen Brown PhD

T. S. Samarakone, T. Crowe, S. Torrey, R. Bergeron, T. Widowski, C. Dewey, and L. Faucitano

Previous research at PSC has shown there is significant variation in conditions (temperature and humidity) among different compartments in trucks transporting market pigs. This study examined conditions in truck compartments in greater depth by measuring temperature and humidity variation during transport of market pigs throughout the year. Pigs were transported from a commercial farm in Saskatchewan to a packing plant on a weekly basis, involving approximately 7.5 hours of travel. This report describes the variable conditions observed during transport in different seasons, with pigs transported in the 'belly', upper-front and middle-front compartments encountering the least favourable conditions.

Background

Transportation of pigs to slaughter involves economic losses due to deaths, 'suspect' animals on arrival at the processing plant and reduced meat quality, and raises concerns regarding the welfare of pigs. Death losses in market pigs during transport in Canada range from 0.05 to 0.17%, accounting for approximately 16,000 pigs per year, with an additional 0.10 to 0.20% of animals becoming non-ambulatory during transport. These losses are seasonal, with higher losses reported in summer, and vary among compartments within a truck. Previous research at PSC has demonstrated significant variation in temperature and humidity conditions between different compartments on trailers. In this study, which began in January 2010 and was completed in March 2011, we examined temperature and humidity conditions on a commercial tri-axle trailer to examine how conditions vary in compartments during different seasons of the year.

Experimental approach

Animals used in this study were market pigs weighing approximately 115 kg. The animals included a mixture of males (barrows) and females, and were assembled from multiple pens. All animals were from a single commercial farm in Saskatchewan. The trials were conducted on a weekly basis, beginning January 08, 2010, and completed in March 07, 2011. The pigs were generally loaded early in the morning (approximately 4:00 am) and travelled for approximately 7.5 h, arriving at the packing plant approximately at 12 noon. A single tri-axle livestock trailer was used for the study. Compartments in the upper deck were numbered from 1, at the front, to 4, at the back. The middle deck was numbered from 5, at the front, to 8, at the back. Compartments in the pot-belly were numbered 9, at the front, and 10, at the back. Pigs were loaded in 8 of the 10 compartments. Compartments 6 and 7 were not used due to availability of pigs and load limitations. Loading density was approximately 0.41 m^2/pig (0.36 m^2/100 kg). Temperature and relative humidity within the compartments were monitored using data logging devices (iButtons). The devices were programmed to record data at 5 minute

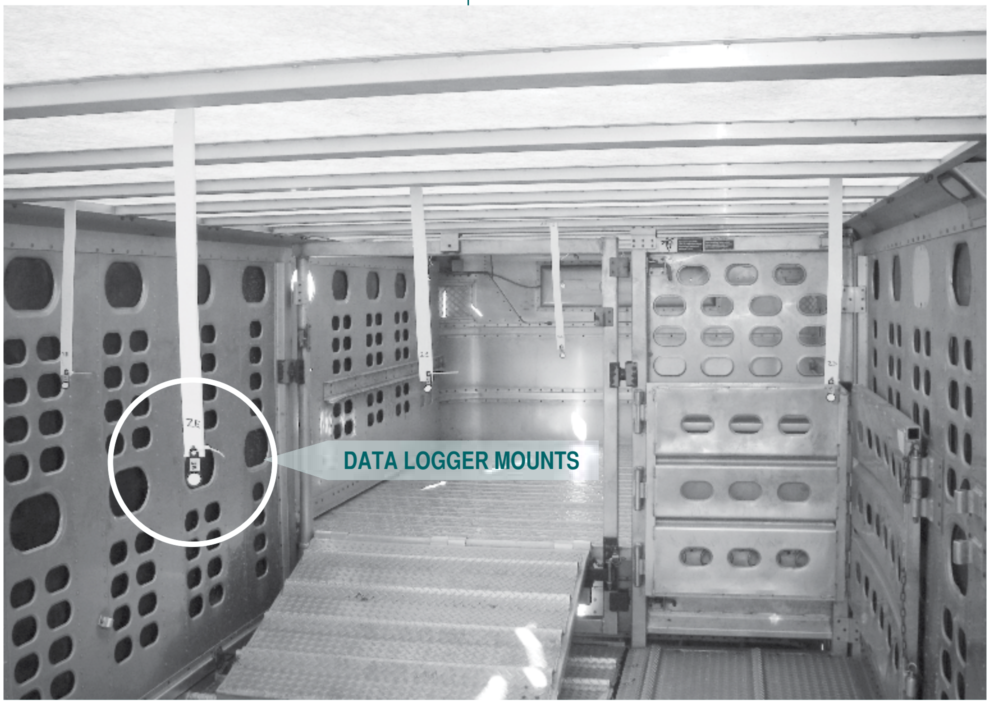

Figure 1. Placement of data loggers in the trailer (compartment 3).

intervals. Five data loggers were mounted in each compartment, with all loggers placed 130 cm above the floor to standardize the measures between compartments. The devices were suspended from the ceiling on strips of hard plastic (Figure 1); one was mounted in the centre of each compartment and the remaining four were placed 15 cm from the centre of each wall. Two data loggers were also mounted on the truck side mirrors outside the trailer to monitor ambient conditions.

To compare seasonal variation in transport conditions, four seasons were identified based on ambient temperatures at the time of departure (approximately 5:00 a.m.). Season 1 included trips where the ambient temperature was below minus 10°C (extreme cold), Season 2 included ambient temperatures from 0oc to - 10°C (moderate cold), Season 3 included ambient temperatures from 0°C to 10°C (mild, above zero), and Season 4 included ambient temperatures above 10°C (extreme, above zero). Temperatures were determined for each compartment at the time the truck left the farm (departure), and as the truck was travelling to the packing plant. The number of truck loads per each season and the average ambient temperatures (outdoors) at the time of departure from farm, during travelling, and on arrival at the packing plant are presented in Table 1.

Table 1. Average and range of ambient temperatures (outdoors) encountered at the time of departure from the farm, during transport, and on arrival at the packing plant.

	Season			
	1 (< - 10°C)	2 (- 10°C - 0°C)	3 (0°C - 10°C)	4 (> 10°C)
Number of truck loads of pigs	12	8	16	6
Average ambient temperature at the time of departure from the farm (°C)	-19.4	-6.3	4.4	14.7
Range	-31.1 – -10.5	- 8.9 – -0.1	-0.6 - 10.4	11.7 - 18.2
Average ambient temperature during transportation of pigs (°C)	-19.1	- 6.4	8.6	18.6
Range	-19.5 – -7.0	- 7.2 - 7.7	3.6 - 24.2	18.2 - 30.9
Average ambient temperature at the time of arrival at the packing plant (°C)	-13.8	-1.4	13.2	24.7
Range	-28.9 – -10.5	- 11.2 – -1.2	- 0.6 - 17.3	15.0 - 22.0

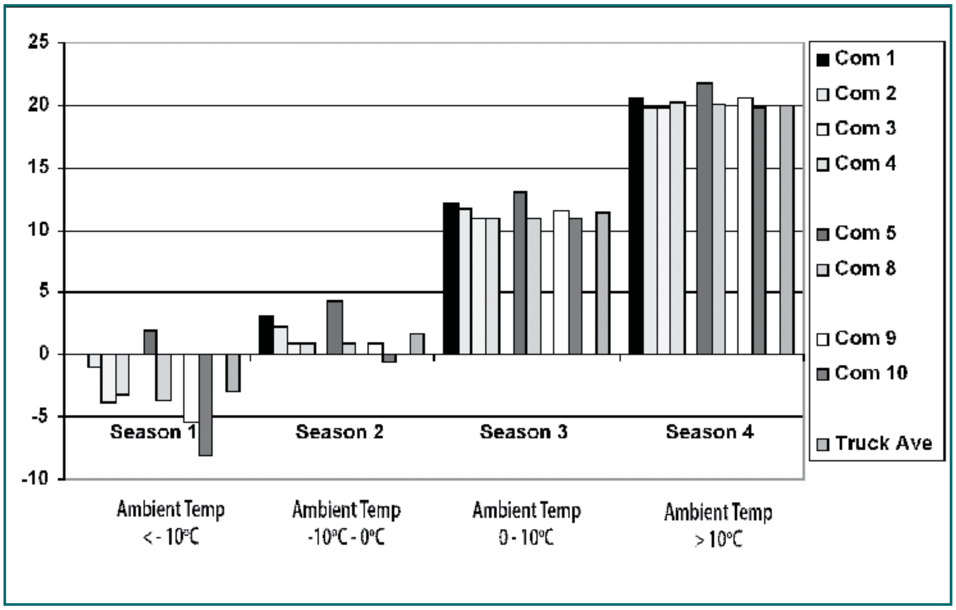

Figure 2. Truck temperatures during transportation in four seasons.

The results:

The average temperature within each compartment of the truck at the time of departure is presented in Table 2. In all four seasons, temperatures at departure were lowest in the 'belly' compared to other compartments, and highest in the middle-front and upper-front compartments.

During transport, compartments in the middle-front (compartment 5) and upper-front deck (compartments 1 and 2) had higher temperatures compared to others in all four seasons (Table 2 and Figure 2). These compartments had relatively poor ventilation, as the front of the trailer was solid. Compartment 5 is also immediately above the truck drive wheels and transmission, which will be dissipating heat. Furthermore, previous research indicates that cool air enters at the back of the truck during transport, becoming warmer as it moves towards the front of the truck. Together these factors may have contributed to higher temperatures in the front compartments.

In extreme cold conditions (Season 1), compartments in the 'belly' had the lowest temperatures compared to others, and a similar trend was found in Season 2 (Table 2 and Figure 2). These compartments had higher ceiling heights as the compartments immediately above them were not used. Thus, extreme cold conditions in the 'belly' compartments was likely due to cool air entering from the back of the truck and the absence of pigs above them to warm the ceilings.

The Bottom Line:

Pigs are exposed to variable temperatures during transport, with pigs transported in 'belly' compartments encountering lower than average temperatures, and those in upper-front and middle-front compartments encountering elevated temperatures. The effects of different boarding and insulation treatments on transport conditions during winter were examined, but further analysis is needed to determine their effectiveness. The results of these studies will provide important information for improving conditions during transport, and for the direction of future research.

(Evaluation of Temp ... continued on page 5)

A comprehensive approach to animal welfare science

Harold Gonyou PhD Jen Brown PhD

The following article was adapted from presentations given by Harold Gonyou this spring at producer meetings in Manitoba, Saskatchewan and Alberta. It gives a brief discussion of the emerging field of animal welfare science and how this science can be used in evaluating management practices and identifying production systems that optimize animal health, economic factors and consumer satisfaction.

Concern for animal welfare is evident at all levels of swine production, from producers and industry to society and consumers, and takes different forms at each level. For the individual producer, it involves daily decisions on the basic care of animals- from feeding and general management, to the quality of health checks and maintaining vaccination protocols. Within the pork industry, concern for animal welfare takes the form of codes of practice and quality assurance programs designed to define acceptable industry standards for the care and management of animals. From a societal perspective, concern for animal welfare is shown in laws governing major issues such as humane slaughter and housing practices, as well as in the purchasing choices of individual consumers.

Few consumers know, or are able to select, the farm from which they obtain their food. Their satisfaction with their food relies on their confidence in the industry which produces it. As such, the importance of animal welfare has increased, and with it the need for producers and the livestock industry to demonstrate good care. The field of animal welfare science arose along-side these changes as a tool to help address questions related to management practices that affect the physical and psychological well-being of animals. This article describes general perspectives in animal welfare science, it explores the measures used in welfare science, and how these measures are used to evaluate management practices.

As David Fraser of the University of British Columbia describes in his recent book, Understanding Animal Welfare (2008), animal welfare is generally viewed from three philosophical perspectives, with each perspective emphasizing different components of welfare.

One approach to animal welfare examines how well animals function in their environment. The 'functional approach' assumes that if animals are healthy and productive their welfare must also be good, and uses measures related to growth, reproduction, and health (or absence of poor health) to demonstrate good welfare. Physiological measures indicative of stress are also used to demonstrate how well animals are functioning in their production system.

The functional approach can be applied to plants just as well as it can to animals, yet we are more concerned about the welfare of animals than that of plants. The reason for this is that animals are sentient, that is, they have feelings. We recognize that animals can feel pain, experience fear, and have a sense of comfort and discomfort. A second component of animal welfare relates to these 'affective states', or how animals feel. This approach emphasizes the importance of emotional states and the feelings of animals, using measures such as pain, fear and discomfort (or alternatively, positive emotions) as indicators of well-being.

The third component of animal welfare is known as the 'natural approach'. Through thousands of years living in the wild, our animals have relied on their natural responses to cope with environmental challenges. When they encounter similar challenges in our production systems, they will attempt to use these same natural responses to attempt to cope. Among other things, our animals will use exploratory behaviour to become familiar with their environment, to adapt their social

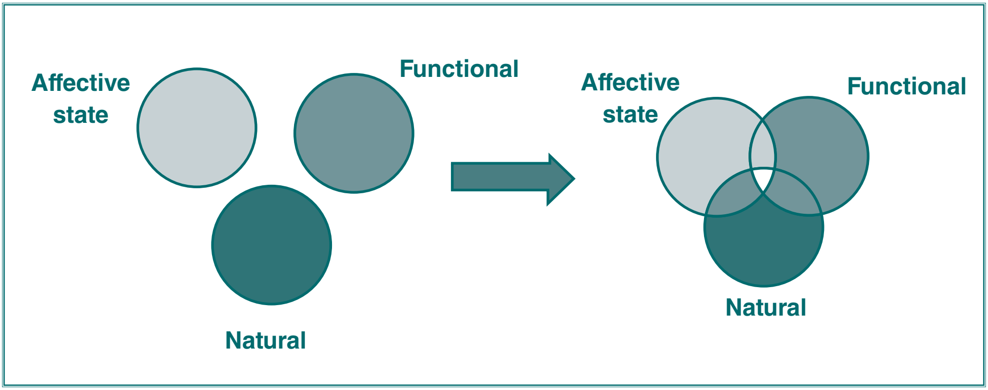

Figure 1. Components of animal welfare and the comprehensive approach

behaviour to alleviate competition, and use thermoregulatory behaviour to avoid cold or extreme heat. If the animal is unable to express these behaviours, it will become frustrated and stressed. It may be able to express the behaviours, but be ineffective in coping because a critical part of the environment is missing, for example, a wallow (cooling device) in hot conditions. In some cases, the behaviour may be harmful, such as when attempts to root for food result in injury. The natural approach considers how well the system accommodates the responses of the animal. Its motto can be expressed as 'fit the farm to the animal, not the animal to the farm'. Freedom of movement is a critical component of the natural approach to animal welfare.

While these three approaches- 'functional', 'affective states' and 'natural'- can be used separately, when used alone they run the risk of jeopardizing other components of animal welfare. Rather than placing our emphasis on any one component of animal welfare, we should look for systems that overlap (see Figure 1), and meet a comprehensive definition: a system in which an animal functions well, in which positive feelings outweigh negative, and in which it can express its natural behaviour in an effective manner.

Table 1. The Five Freedoms defined by the Farm Animal Welfare Council (FAWC,1979).

Freedom from thirst and hunger	by ready access to fresh water and a diet to maintain full health and vigour
Freedom from discomfort	by providing an appropriate environment including shelter and a comfortable resting area
Freedom from pain, injury, and disease	by prevention or rapid diagnosis and treatment
Freedom to express normal behavior	by providing sufficient space, proper facilities and company of the animal's own kind
Freedom from fear and distress	by ensuring conditions and treatment which avoid mental suffering

This comprehensive definition of animal welfare meets the approval of most members of society. It is also evident in the Five Freedoms (Table 1), which are accepted guidelines for animal well-being used by many animal production organizations. In the current revision process for Canadian Codes of Practice, for pigs and other species, the mandate includes this comprehensive approach. The challenge to modern producers will be to achieve these goals in a production system that is also efficient and profitable.

This is the first in a series of articles using animal welfare science to address production issues in modern pork production.

From a research perspective, the challenge to scientists at the Prairie Swine Centre is to identify management practices that can optimize animal welfare while at the same time maintaining or improving productivity, efficiency and profitability. This is the first in a series of articles using animal welfare science to address production issues in modern pork production.

References:

Fraser, D. 2008, Understanding Animal Welfare: the science in its cultural context. Wiley-Blackwell, Hoboken, NJ.

Farm Animal Welfare Council, 1979. See http://www.fawc.org.uk/freedoms.htm

a 'drop-off' in the middle of the day. Comparing these results with other studies suggests that the younger pigs were limited in the number of feeder spaces, and had to shift eating from the normal peak periods to the less intensive mid-day period.

(Evaluation of Temp ... continued from page 3)

Table 2. Average temperatures within truck compartments at the time of departure from the farm and during transport to the packing plant.

	Compartment									
	1	2	3	4	5	8	9	10	S.E.	P
Departure										
Season 1 (< - 10°C)	20.7^{a}	18.5^{ab}	16.7^{ab}	14.4^{b}	14.9^{b}	8.9^{c}	3.5^{d}	3.9^{d}	1.7	<0.01
Season 2 (- 10°C - 0°C)	18.9^{a}	15.9^{ab}	15.5^{ab}	14.4^{ab}	16.8^{ab}	11.4^{bc}	7.6^{c}	8.4^{c}	2.2	<0.01
Season 3 (0°C - 10°C)	16.3^{a}	13.5^{b}	13.6^{b}	13.1^{b}	17.9^{a}	13.4^{b}	11.2^{c}	12.4^{bc}	0.6	<0.01
Season 4 (> 10°C)	20.1	18.0	17.8	18.4	22.7	19.2	17.6	17.6	1.2	0.44
During transport										
Season 1 (< - 10°C)	0.1	-1.0	-3.8	-3.2	2.0	-3.6	-5.4	-8.1	1.4	<0.01
Season 2 (- 10°C - 0°C)	3.2	2.6	1.0	0.9	4.3	0.9	0.9	-0.6	1.3	0.15
Season 3 (0°C - 10°C)	12.2	11.7	11.0	10.9	13.0	10.9	11.5	10.9	1.2	0.88
Season 4 (> 10°C)	20.5	19.9	19.9	20.3	21.7	20.2	20.5	19.8	1.2	0.44

Comparative evaluation of the use of heat exchanger, ground source heat pump and conventional heating systems in grow-finish rooms

Leila Dominguez and Alvin Alvarado

Bernardo Predicala

Energy cost is one component of swine production cost that can be further reduced by using energy as efficiently as possible, particularly for many barns currently in use that have not been optimized due to low cost of energy in the past. Results from our previous work showed that space heating is an area where energy reduction can be achieved (PSC Annual Report 2008, pp. 19-20). Thus, the performance of different heating systems: a heat recovery ventilator with a forced-convection heater, a ground source heat pump, and a stand-alone forced-convection heater, in terms of energy consumption and animal productivity was evaluated in this study.

The three heating systems were installed in three 120-head grow-finish rooms at PSC barn facility. Room assignment was as follows: the room heated with the stand-alone-forced convection heater was the Control room, the one heated with the heat recovery ventilator was the HRV room and one heated with the ground source system was the GSHP room. The rooms had similar building construction, pen configuration and pig capacity. For each grow-finish cycle, a total of 360 pigs were distributed equally to the three rooms. Metering equipment were installed to monitor the electric consumption of the heat pump, heaters, lights, ventilation and recirculation fans, as well as the natural gas consumption of the forced-convection heaters in the heat exchanger and control rooms.

The heat exchanger installed was a 1500-cfm aluminum core heat recovery ventilator (Figure 1), which recovers the heat energy from exhaust air stream by heat transfer to the incoming fresh air stream.

The ground source heating system, alternatively known as geothermal heat pump, geoexchange, earth-coupled or earth-energy system was composed of a heat pump and 1800 ft of 3/4" diameter polyethylene pipes buried in 8.5 to 10 ft deep trenches in the ground beside the PSC barn (Figure 2). The buried pipes contained 20% methanol - 80% water solution for absorbing heat from the ground for heating and for using the ground as heat sink when cooling is needed.

Data collection from two grow-finish cycles was conducted from October to December 2010 and January to March 2011, respectively. The mild weather condition during the first cycle did not necessitate the use of heating. For the second cycle, energy consumption for heating and ventilation of each of the three rooms are presented in Figure 3. The energy consumption for heating included both the electrical and heating fuel consumption of the heat pump and heaters while that for ventilation included the electrical consumption for both ventilation and recirculation fans. The energy consumption data were all converted to gigajoules (GJ) to provide a better comparison of the systems.

Among the three heating systems, the heat exchanger required the least energy for heating

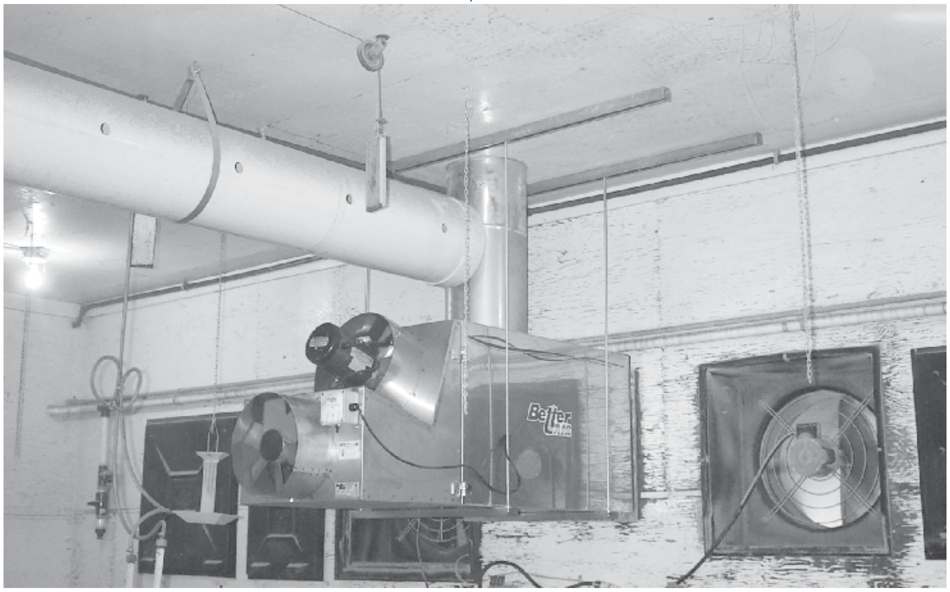

Figure 1. Heat exchanger installed in a grow-finish room.

Figure 2. Installation of pipes for the ground source heating system installed in a grow-finish room.

"the use of heat exchanger led to 52% less total energy used for heating and ventilation compared to the conventional room with forced-convection heater."

Table 1. Average daily gain (kg/day) and feed intake (kg/day-pig) in the three rooms for the January to March 2011 cycle.

Room	ADG (kg/day)*	ADFI
(kg/day-pig)		
ground source heat pump	0.99	2.48
heat exchanger	0.97	2.37
control	0.99	2.55

** BW start 20 kg, BW end 120 kg*

but had the highest consumption for ventilation. The heating requirement was reduced as the heat exchanger pre-heated the incoming cold air with heat from the warm exhaust air. In terms of function, the heat exchanger basically replaced the stage 1 fan and because its power rating was higher than that of a regular stage 1 fan, the energy requirement for ventilation for the room was increased. Nevertheless, the use of heat exchanger led to 52% less total energy used for heating and ventilation compared to the conventional room with forced-convection heater.

The GSHP required less energy to extract heat from the ground and heat the room air compared to the conventional heater. The use of the GSHP system led to 39% reduction in total energy needed for heating and ventilation compared to the control room.

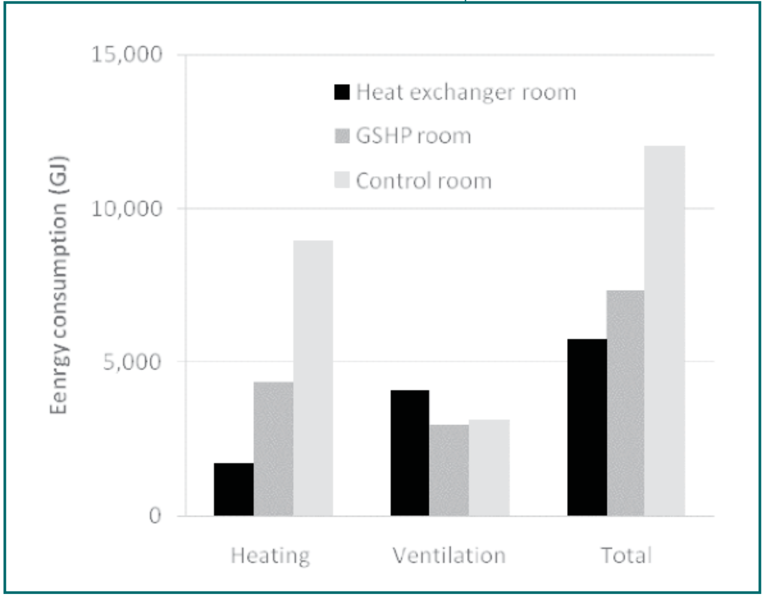

Figure 3. Energy consumption for the three rooms from January to March 2011.

Pig performance in all three rooms were relatively similar as shown in Table 1, although feed intake tended to be lower in the rooms with GSHP and heat exchanger compared to the conventional room.

The Bottom Line:

The use of the heat recovery ventilator with a forced-convection heater and the ground source heat pump system resulted in 52% to 39% reduction in energy consumption for heating and ventilation, respectively, relative to the conventional forced-convection heater after one heating season. However, data collection from multiple heating and cooling seasons is still needed to be able to fully compare the performance and feasibility of these three systems. Reduced energy costs will translate to reduced production cost and will help improve the profitability or minimize losses in swine operations.

Acknowledgement

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Weaning at 28 days. Is creep feeding beneficial?

Denise Beaulieu PhD,
Janice Shea and
Doug Gillis

Summary

Allowing piglets access to a Phase 1 diet (creep feed) in the farrowing room for the final 7 days prior to weaning on day 28 provided no sustained performance benefit, regardless of weaning weight.

Introduction

Providing supplemental feed to the piglets in the farrowing room, or creep feeding, is practised to ensure a smooth transition onto solid feed at weaning. It is assumed that even a limited intake of the creep feed will familiarize the piglet with solid feed and lessen a post-weaning growth lag by 1) increasing the body weight of piglets at weaning, 2) encouraging consumption of solid feed following weaning and, 3) adapting the gastro-intestinal tract to solid feed. This study was initiated when the Prairie Swine Centre moved to a later weaning age (28 days). We hypothesized that the benefits of creep feeding would be more evident with later weaning. Additionally, we examined if the response to creep feeding would differ between light and heavy birth-weight pigs.

Experimental Procedures

This experiment used data from 15 weeks of farrowing (12 sows per room) at PSCI. Piglets were provided access to a Phase 1 diet (commercial) in multi-space circular feeders in the farrowing room on days 21 to 28 for the first 8 farrowing rooms only. Piglets were weaned on day 28.

Each week, representing one creep treatment, the entire weaning group was weighed and pigs ranked according to body weight within gender. The 24 heaviest and 24 lightest pigs were assigned to pen, 4 pigs per pen. Pens were then randomly assigned to a treatment. Thus each week there were 6 pens of the heaviest and 6 pens of the lightest pigs. Care was taken to ensure that the time between the removal of the piglets from the sow and access to feed in the nursery was the same for all piglets and all weeks.

> "Providing creep feed in farrowing room had no sustained benefit on pig performance in nursery"

Video cameras set up over the pens recorded individual feeder approach which was defined as a pig placing their head over and down into the feeder. Piglets were numbered on their backs for identification. To accommodate the video recording, lights were on continuously.

Results and Discussion

Piglets who had access to creep feed for the final week prior to weaning weighed 130 grams more at weaning (Table 1). This did not approach statistical significance however, indicating that factors other than the presence of creep feed may be responsible for this difference (P > 0.10).

All piglets lost weight during the initial 24 hours following weaning. Contrary to what we expected, piglets which had not received creep feed tended to have improved growth post-weaning and feed intake was unaffected (P > 0.10). Overall feed efficiency therefore, was improved in non-creep fed piglets (P > 0.01).

The creep by body-weight interaction described in Table 1 (day 0, 1, and 4; P < 0.05) is shown in more detail in Figure 1 for day 0 (weaning). The response to creep was greater in heavier (240 grams weaning weight improvement or 2.3 % of body weight) than lighter pigs (30 grams improvement or 0.5% of body weight).

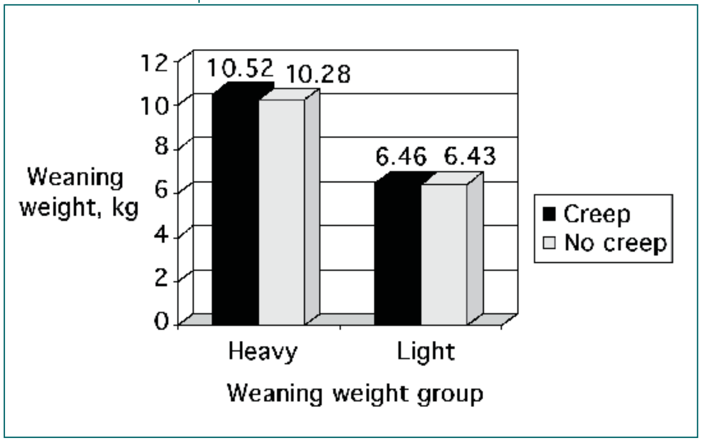

Figure 1. The interaction between weaning weight group and feeding creep in the nursery (P < 0.05). Numbers over the bars are the weaning weight for the sub-group.

Table 1. The effect of weaning weight and presence of creep feed in the farrowing room on growth and feed intake in the nursery.

	Creep Feed				Weaning Weight Group				Creep *BW
	Day[a]	No	Yes	P value	Heavy	Light	P value	SEM[b]	P value
Wean. wt, kg	0	8.36	8.49	0.35	10.40	6.44	<0.001	0.10	0.01
	1	8.24	8.33	0.49	10.15	6.42	<0.001	0.10	0.02
	4	8.56	8.61	0.75	10.42	6.76	<0.001	0.11	0.05
	7	8.88	8.96	0.70	10.71	7.13	<0.001	0.14	0.23
	14	11.17	11.04	0.67	12.73	9.48	<0.001	0.21	0.85
ADG, kg/day	0-1	-0.12	-0.16	0.36	-0.26	-0.02	<0.001	0.02	0.79
	2-4	0.08	0.07	0.43	0.07	0.08	0.040	0.01	0.60
	5-7	0.16	0.12	0.11	0.12	0.15	0.001	0.02	0.84
	8-14	0.33	0.30	0.20	0.29	0.34	<0.001	0.02	0.57
	0-14	0.20	0.17	0.05	0.16	0.21	<0.001	0.01	0.63
ADFI, kg/day	0-1	0.12	0.10	0.10	0.09	0.13	<0.001	0.01	0.42
	2-4	0.13	0.13	0.77	0.13	0.13	0.14	0.01	0.68
	5-7	0.22	0.21	0.88	0.22	0.21	0.720	0.01	0.80
	8-14	0.37	0.34	0.16	0.35	0.35	0.770	0.01	0.45
	0-14	0.26	0.25	0.33	0.25	0.25	0.830	0.01	0.59
FCE, G/F	0-1	-2.51	-4.19	0.06	-5.36	-1.34	<0.001	0.59	0.33
	2-4	0.39	0.44	0.75	0.40	0.43	0.840	0.10	0.21
	5-7	0.70	0.25	<0.001	0.43	0.52	0.001	0.06	0.11
	8-14	0.89	0.88	0.92	0.81	0.96	<0.001	0.03	0.47
	0-14	0.77	0.61	0.05	0.59	0.79	<0.001	0.05	0.56

[a]Day 0 is weaning.
[b]Because of the unbalanced design the SEM was slightly different for the effects of weaning and creep feeding. The larger SEM is shown.

Further work is underway to determine if this is because the heavier piglets consumed more creep while in the farrowing room.

Piglets who had access to creep feed in the farrowing room had fewer visits to the nursery feeder on day 0, 1 and 4 post-weaning. This pattern is most notable in the final 8 hours of each 24-hour period. Again, this is contrary to our hypothesis, that feeding creep would acclimate the piglets to solid food and thus encourage consumption in the nursery. Feed intake was comparable, thus it appears that those piglets who had received creep feed in the nursery consumed more feed after each visit to the nursery feeder. The increased visits by the pigs who hadn't received creep during the final 8 hours of each day could be because these piglets, unaccustomed to the solid feed, were consuming less feed with each visit, and are then motivated by hunger to visit the feeder during the latter part of each day. This awaits confirmation.

Table 2. The effect of creep feeding in the farrowing room on the number of feeder visits in the nursery.

	Creep	No creep	SEM	P value
Day 0	6.3	8.6	0.45	0.02*
Day 1	7.0	9.1	0.32	0.04*
Day 4	7.4	8.0	0.29	0.12*

**Hour by creep, P < 0.001*

Conclusion

Allowing pigs access to a Phase 1 diet in the farrowing room for 7 days prior to weaning had no sustained beneficial effect on performance in the nursery, regardless of weaning weight.

The Bottom Line:

Research is currently under way to validate these results in a more commercial-like setting. Producers should not, however, assume that piglets would respond to creep feeding.

Acknowledgements

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(Weening at 28 days ... continued on page 11)

Gonyou Named Honorary Fellow of Scientific Society

Dr. Harold Gonyou was recently honored as an Honorary Fellow of the International Society for Applied Ethology. Former graduate student, Dr. Moira Harris, presented the award to Harold in August at the ISAE's 45th international congress in Indianapolis, making him the 16th Honorary Fellow of ISAE. Harold has been a very active member of the ISAE community throughout his carrer, acting as president of the society and US editor-in-chief of The Journal of Animal Behaviour Science. Following the presentation, Harold thanked the ISAE for this honor and noted that the organization was a source of inspiration and development for his career. Dr. Gonyou recently 'retired' from PSC but maintains contact with the industry through his writing, teaching and research advisory capacity.

Harold Gonyou (right) receiving award from Dr. Vicki Sandilands while Dr. Moira Harris looks on.

(Reinventing the Centre ... continued from page 1)

Harold Gonyou presenting at the Spring tour meeting in Lethbridge Alberta

> It is often said that "it takes a village to raise a child" and it can be said "it takes an industry to nurture a Centre"

position that has been vacant for three years. In addition we have a world-wide search ongoing to replace Dr Harold Gonyou in behaviour and welfare research. Many ethology projects continue in the areas of gestation, sow housing, lameness, transportation and handling.

One of the exciting new developments was the announcement in July of our first industry sponsored graduate student award. Gowans Feed Consulting, of Wainwright, Alberta is sponsoring the award to train new nutritionists at Prairie Swine Centre to fill the growing need for increased expertise in this area. This award is seeking personnel with previous experience perhaps as a feed sales representative or junior nutritionist that is looking for both academic and practical nutrition and mill management training. Creating industry partnerships like the Gowans Feed Consulting Award reinforces the Centre's ability to maintain its practical approach to the science of pork production and engages a broader group in the pork value chain. It is often said that "it takes a village to raise a child" and it takes an industry to nurture a Centre. It is not the responsibility of government, or industry alone to fund research but all parts of government from many provinces, and all parts of the pork value chain. Reinventing the business model that allows this Centre to serve the industry is important. When the Centre was created in 1991 it broke new ground in private/public partnership. Redeveloping what the industry needs in 2011 should not only ensure sufficient funding but also reinforces ownership by all parts of society that benefit from a profitable, sustainable pork industry, which uses the latest knowledge to cut costs, improve product quality and lower impacts on the environment.

Friends of the Centre

Lee Whittington, B.Sc. (Agr), MBA

Objective

To allow a broader group of pork industry individuals and corporations to lend their support to the Prairie Swine Centre.

Concept

"Friends of the Centre" is way for for pork producers, suppliers, packers, processors and others to show their support. Benefi ts from having a dedicated swine research facility flows to all parts of the value chain. As a friend of the Centre you will ensure Prairie Swine Centre remains a viable part of the pork industry in thefuture.

Benefits to our Friends

- The opportunity to play a visible and meaninful role in the continuation of the unique industry-orientated research and technology transfer programs off ered by Prairie Swine Centre.
- Friends receive advanced notice of seminars, publications and special events sponsored by the Centre.
- Friends will have their business recognized as "Friends of the Centre" on the PSC Website.
- Friends will also be provided with exclusive opportunities to provide advertorial materials for insertion in newsletters, Centred on Swine publications and the Annual Research Reports.
- Friends will also benefit by knowing that they made a diff erence when it really mattered.

Benefits to Prairie Swine Centre

- The Centre gains a voluntary source of funds to partially fill the gap in the business plan created by variable pig prices and the declining check-off funds available for pork associations to allocate to research.
- The Centre gains a group of motivated and interested champions that see value in maintaining a strong industry orientated research program.
- The sharing of costs incurred to generate knowledge is spread over a greater portion of the industry and better reflects the allocation of benefits to multiple members of the pork value chain. This way the number of champions that take ownership for the Centre as well as the knowledge it develops, increases.

To provide your support to the Centre please consider the following voluntary contributions to the "Friends of the Centre" Campaign

$200 individual farm membership
$1500 regional suppliers
$2500 national/international suppliers

Cheques can be made payable to:
Prairie Swine Centre
Box 21057, 2105 8th Street East
Saskatoon, Saskatchewan S7H 5N9 CANADA
A receipt can be provided upon request.

(Weening at 28 Days ... continued from page 9)

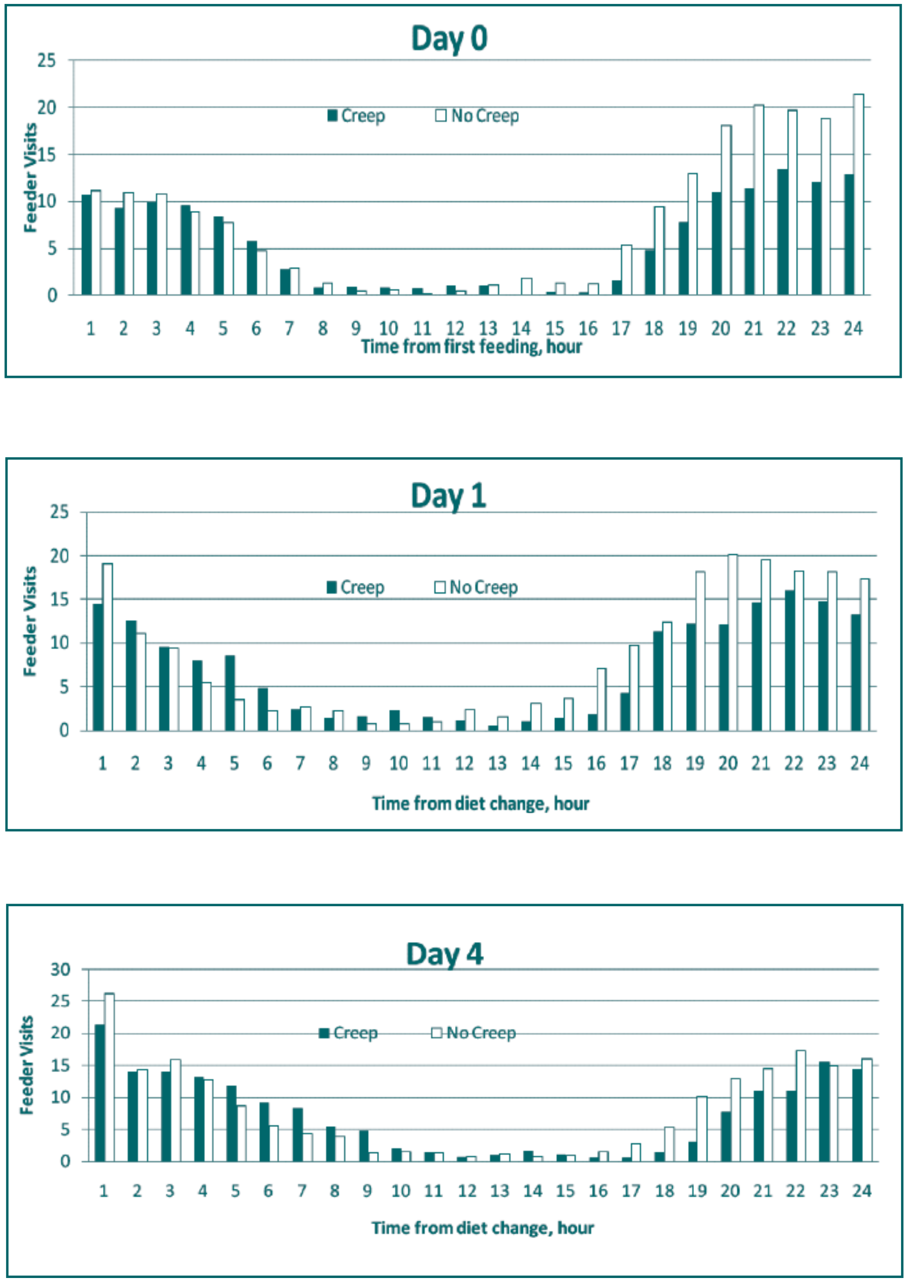

Figure 2. The effect of feeding creep in the farrowing room on feeder visits in the nursery, day 0, 1 and 4 post-weaning. Day 0 refers to the 24 hours following initiation of feeding in the nursery, while day 1 and day 4 are the 24 hours following the morning feeding.

Personal Profile

Janardhanan Rajendram

Janardhanan (Jana) Rajendram is currently a graduate student at the University of Saskatchewan and the Prairie Swine Centre. The objective of his research work is to generate original information about the effect of peas on feed intake and the feeding behaviour of pigs. Jana has always been interested in working with animals. After completing his Bachelors' in Agriculture at the University of Peradeniya (Sri Lanka) he was able to secure a job as a teaching assistant at the university. His time at the university made him realize his passion for research, and he decided to pursue a MSc. program focused on nutrition and behaviour. He hopes to contribute to the fields of animal nutrition and welfare.

Sébastien Goumon

Sébastien grew up in a small town on the west coast of France. Although he was living close to the ocean, he didn't want to be a fisherman like his dad, but definitely wanted to work with animals. Before moving to Canada, he completed his BSc in Animal Biology at the University of Rennes (France). Afterwards he obtained his MSc in Animal Behaviour from the National Institute of Agronomy in Paris (France), working on the effects of prenatal stress on behaviour and learning abilities in piglets. Sébastien is interested in animal welfare of domestic animals, and more specifically the effect of stress on animal behaviour. Moreover, he always wanted to be part of other cultures and to travel. His wish came true when he got his chance to study in Canada. Sébastien is doing a PhD in Animal Sciences under the supervision of Dr Renée Bergeron (Laval and Guelph Universities) and Dr Harold Gonyou (Prairie Swine Centre). Although he is actually a student at Laval University (Quebec), he has been part of the Ethology team at the Prairie Swine Centre since the beginning of his PhD (2009). His project aims at finding means of reducing stress of transportation on pigs.

Coming Events

Swine Technology Conference
November 2, 2011
Red Deer, Alberta

Saskatchewan Pork Industry Symposium
November 15-16, 2011
Saskatoon, Saskatchewan

Banff Pork Seminar
January 17-21, 2012
Banff, Alberta

Manitoba Swine Seminar
February 1-2, 2012
Winnipeg, Manitoba

PRAIRIE SWINE CENTRE

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