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Saskatchewan Agriculture, Food and Rural Revitalization

Economic Impact of DE Concentration in Commercial Conditions

Denise Beaulieu, PhD and
John Patience, PhD

The primary objective of pork production is to produce lean meat in a cost effective and sustainable manner. From a nutritional perspective, energy is perhaps the most critical nutrient, because it is the most expensive to provide in the diet. Other nutrients are less expensive to provide, and can always be provided in amounts that meet or exceed the pig's requirement for growth. Because energy is considered the most important driver of growth in the diet, achieving the full genetic potential for growth in the modern pig requires a clear and definitive understanding of the energy response curve in all phases of production. Establishing responses to nutrient intake levels is particularly critical in defining feeding programs to optimize carcass quality.

Two experiments were therefore conducted by the Prairie Swine Centre to develop energy response curves for pigs during the growing and finishing phases of production. The first experiment was conducted at the Centre. Each room contained 20 pens, with 5 pigs per pen, or 300 pigs on test. This experiment employed 5 experimental treatments in each of three phases of growth. Diets varied from 3.00 to 3.60 Mcal/kg DE. The increase in diet DE concentration was achieved by increasing canola oil, wheat and soybean meal at the expense of barley.

Energy density of the diet did not affect pig growth, bodyweight, or the variability in growth during any growth phase ($P>0.05$). Feed intake decreased as energy density of the diet increased ($P<0.001$); consequently, feed efficiency improved ($P<0.001$). However, because of the increased cost of the high energy rations, feed costs per pig increased by 20% as diet DE increased from 3.0 to 3.6 Mcal/kg (Figure 1). Back fat thickness increased from 16.8 to 19.4 mm as diet DE increased from 3.0 to 3.6 Mcal/kg ($P<0.001$). Carcass value, and premiums paid, however, were surprisingly not different among energylevels ($P>0.10$). Therefore, the increased cost of the high energy diets made them uneconomical to feed.

Upon reviewing the results of experiment #1, we wondered if the level of feed intake impacted the response to energy. Feed intake, which typically varies a lot amongst farms, could conceivably mitigate a response to the higher energy diets.

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The Dr. F.X. Aherne Prize for Innovative Pork Production 2006

Innovators' Ideas Are Rewarded

The three winners of the Dr. F. X. Aherne Prize for Innovative Pork Production receive two free registrations for the 35th Anniversary of the Banff Pork Seminar (January 17 – 20, 2006) held at the Banff Centre. The package includes 3-night accommodation for the three winners and one guest each, meals, and up to $800 reimbursement for travel expenses per winner. Applications must be made by October 28, 2005 and can be received by calling 780-492-3651, or email info@banffpork.ca, or online at www.banffpork.ca.

Lee Whittington, B.Sc., MBA and
Ken Engele, BSA

Innovation isn't easy and although it may be rewarding, even fun, for the innovator, it can go unnoticed and its true value to the business, industry or society may never be realized. The pork industry is taking a positive step forward to ensure that good ideas get recognized and shared. What better place to do this than among some of the industry top innovators attending the Banff Pork Seminar 2006?

Are you an innovator? Have your ideas developed into modifications to equipment, building or processes or perhaps new management techniques that improve productivity, profitability, working conditions for staff, animal well-being, reducing environmental impact or improving pork meat quality and safety? If you answered yes to any one of these possible categories you could be one of three innovators honoured at the Banff Pork Seminar, in January 2006. It is important to note that although we frequently think of innovations as equipment related, this competition is open to innovations in any aspect of the business. The prize contest is open to western Canadian producers, including owners, production managers, herdspeople or their consultants and suppliers all qualify.

Beginning in 2003, the Dr. F. X. Aherne Prize for Innovative Pork Production was established in honour of Dr. Frank X. Aherne, now retired professor of Swine Nutrition in the Department of Animal Science at the University of Alberta. "Dr. Aherne was a unanimous choice of committee members when seeking to name the new competition", notes Dr. Ron Ball, University of Alberta. Dr. Aherne's contributions included numerous innovations in the field of nutrition, which have benefited pork producers in Canada and indeed around the world. Dr. Aherne exemplifies the qualities typical of innovators – embracing new ideas, taking risks and implementing their ideas in the practical world. Dr. Aherne also established the first Banff Pork Seminar early in his career in Western Canada. The F. X. Aherne Prize for Innovative Pork Production, therefore, is a fitting tribute to that early innovation in extension.

In 2005, three innovators were honoured for their contributions to their farms and communities.

Don and Nancy Lidster

Don and Nancy Lidster received the award for their innovative pork industry training video series "Staff training for pig skills." The Lidsters, being long-time producers themselves, realized that a major limitation was finding adequate training resources. They made the shift from producers to consultants, and with assistance of industry, have produced more than 50 videos of swine management techniques. The videos are used by employees or by producers wanting to improve skills.

Rocky Morril

Rocky Morrill of Peace Pork Inc. received the award for the incorporation of large-group housing and an auto-sort system into an existing fully-slatted barn. Today, the farm uses 48 auto-sorters in four barns and markets 80,000 pigs per year from the large-group housing. An innovative system of gates and a well-designed floor plan allow pigs to acclimatize to the system on their own, with little negative impact on productivity. A significant factor in the change was the improved work experience for staff.

Shokry Rashwan

Shokry Rashwan, The Puratone Company received the award for development of the Biovator, a unique vessel for composting animal mortalities and by-products. Disposing of dead animals is a significant challenge to livestock producers. This innovative process shortens composting time from five months to less than a week, and at low cost. It operates year round, even in cold weather. The resulting product is safe, natural and valuable compost.

The Bottom Line

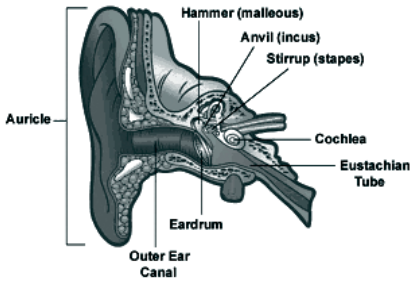
If you know an innovator, most likely, he would be pleased to be nominated for his efforts. Maybe you are the innovator, and you may apply on your own behalf or seek a nominator. Members of the Banff Pork Seminar conduct all judging, results are confidential and only the winners are announced at the conference. Unsuccessful applicants can reapply in future years.

The Invisible Hazard

Deb Ehmann

The Pork Interpretive Gallery has developed safety resources that are available to the pork industry as well as the general public. Safety displays and information will be seen throughout the gallery to reinforce our message "Safety in Everything We Do".

A Hearing Safety Exhibit is the first of a series of displays being developed. It has been constructed specifically to speak to the importance of using hearing protection at all times while working in the barns.



You have Two Ears Protect Them!

The cochlea of the ear is very sensitive and when damage occurs it cannot be repaired. The injury to the cochlea cells is usually gradual unless there is a very loud sound like a short sudden squeal or a gunshot that can cause immediate permanent damage. We all know of farmers who have lost their hearing from years of exposure to noise. Unfortunately the results of exposure to excessive noise, is similar to the effects of smoking, the damage is often not realized until it's too late. Noise is often referred to as the 'Invisible Hazard'.

Think of the cochlea cells as lawn grass. Each blade of grass stands up to reach for the sun. The first time you step on the lawn, the grass lies down but eventually stands up again. If you continue to walk on the same grassed area gradually the damaged blades take longer to recover. Soon only some of the grass stands back up and eventually with continued traffic the grass dies. The Cochlea cells react the same way if continuously exposed to harmful levels of noise over extended time periods without proper hearing protection.

The decibel (dB) is used to measure sound level, but it is also widely used in electronics, signals and communication. The faintest sound perceived by the human ear is zero db and 130 dB is the point at which sound becomes painful.

The following table gives you an idea of the intensity or loudness of some sounds measured on the Db scale:

25 dB	whispered conversation
43 dB	a room in an average home
65 dB	normal conversation
80 dB	inside auto at high speed
100 dB	inside propeller plane
130 dB	threshold of pain
140 dB	jet aircraft

Institute of Agricultural Rural and Environmental Health

It is difficult to determine how much noise is too much. A simple guideline would be if you have to raise your voice to be heard at work by someone a metre away, then the noise level is probably loud enough to damage your hearing.

Workers must be informed of the hazards of occupational noise exposure, provided hearing protection and training on the use and maintenance of the hearing protectors if the noise level exceeds 85 DBL in the workplace.

Many Saskatchewan people are employed directly in pork production. This means that workers can be exposed, on a daily basis, to safety and health risks that are unique to the hog barn environment.

Everyone in the workplace shares the responsibility to make the workplace healthy and safe. Occupational Health and Safety committee members need to be familiar with the guidelines and regulations and ensure that all employees whether fulltime, part time or temporary are aware of their responsibility to keep themselves safe.

The Pork Interpretive Gallery (P.I.G.) in conjunction with the Canadian Agricultural Safety Association (CASA) and Sask Pork have developed a safety manual entitled, " Workplace Safety & Health Manual for the Saskatchewan Pork Industry". It was prepared to provide people within the industry with the information they need to make safe decisions. P.I.G. and CASA have also developed a poster that provides important information to barn workers on chemical hazards. These resources and more will be available on the soon to be activated P.I.G. Farm Safety Website.

The Bottom Line

Let's work together to instil " Safety in Everything We Do".

As leaders in the Pork Industry, employers must set an example and provide a safe environment to work in. This means providing orientation to all new employees, protective equipment and training with respect to safety and health issues.

Hydrogen Sulphide Awareness Training

Shannon LaRoche

We feel it is very important that we continue to provide updated information to employers and employees who deal with and handle liquid manure. In July of 2004 a revision to the original training booklet was completed. Training in Hydrogen Sulphide Awareness started in the fall of 2000. To date there has been over 2100 people trained in H_2S awareness.

Proper use of an SCBA is explained.

Recertification is required every three years.

Why should we recertify?
What are the benefits of recertification?

- Because we practice due diligence and pride ourselves on a proactive image within the Swine Industry.
- We consider training an investment in people.
- Provides an on going awareness associated with the risks and dangers of H_2S exposure.
- Provides the opportunity to know, participate and take ownership of safety and our health and well being in the workplace.
- A chance to review Standard Operating Procedures. Are we knowingly adhering to them? Are they working well or do we see a need to improve or change what we do? Have we become complacent in what we do?
- An opportunity to share with each other actual incidents and accidents in the industry that may help save others from experiencing the same thing. By hearing, listening and sharing we can learn from the mistakes of others.
- Provides the latest information in research and testing results in studies being conducted at PSCI to reduce or eliminate H_2S exposure.
- Reaffirms the reality of the dangers of H_2S exposure.

I have been delivering the Hydrogen Sulphide Awareness workshop since November of 2002. Anyone who has taken the course prior to this or started with me in the fall of 2002 should be considered for recertification. Many companies have already sent employees for retraining. I am always encouraged by remarks such as: "the course has sure changed since I took it the first time" ... "it never hurts to be reminded of the need to be aware and review the procedures we are using right now"... "I think that we have become complacent in the workplace because nothing has ever happened"... "Thank you Shannon for truly caring about what you do, you teach from the heart and it is so nice to have someone training this course that really cares about what we are doing in the barns and cares about our safety"... "You honor the death of your son by making a difference for us in the workplace"... "You really care about what you do and that is reflected in the way you present yourself and the ease with which you deliver the workshop"... "you make me feel important and you are a very personable trainer".

Thank you for all of the kind comments over the years. I recently attended a luncheon at the Ramada Inn and listened to a guest speaker that motivated and encouraged me in so many ways. How important it is to believe in what you do, believe in the company you work for and believe in the product you sell. Well I believe in Hydrogen Sulphide Awareness training and I believe that I represent a leader in the industry, Prairie Swine Centre and I believe that together we can make a huge difference in company safety by investing in our people by providing training. Let us help one another in taking ownership of safety and the health and well being of one another.

Students are provided an opportunity to practice in hands on rescue techniques.

Recertification every three years ensures due dilligence and portrays a proactive image within the Swine Industry.

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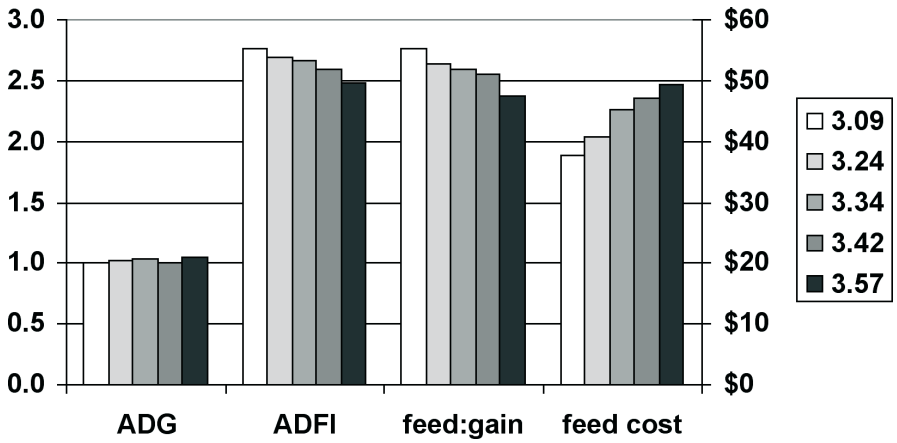

Figure 1. The effect of diet DE concentration (Mcal/kg) on average daily gain, feed intake, feed:gain ratio and feed cost ($ per pig uisng average ingredient costs, Sept 2003) of pigs growing from 31 kg to market (115 kg).

Therefore, a commercial farm was considered as another model to evaluate the response of pigs to dietary energy concentration.

The second experiment was conducted at St. Denis Stock Farm, located at St. Denis, SK, about 50 km east of Saskatoon, SK. It is a single site, 600-sow farrow-to-finish operation constructed about 10 years ago. It operates as a strictly commercial entity, and is not normally used for research. Three grower and 3 finisher rooms, with 12 pens each were utilized. Each pen housed 20 pigs, for a total of 36 pens and 720 pigs on test.

Three dietary energy levels were employed: 3.20, 3.35 and 3.50 Mcal DE/kg. This range in energy was selected as it represented the reasonable expected range of energy used in typical commercial diets in western Canada. Ingredient and nutrient composition are shown in Table 1. This table shows the formulated and the actual DE, which was determined for each treatment and gender at the mid-point of each phase. The deviation we observed between formulated DE values and determined DE values in the experimental diets confirms the importance of this measurement. The average deviation between formulated and determined DE, reported herein, was 71 kcal/kg, or 2.1%, a significant amount in the context of practical swine diet formulation.

The diets were formulated according to commercial practice, such that increasing the energy content of the diet resulted in increased use of wheat, soybean meal and tallow, and less barley. The upper limit of tallow levels in the highest energy diets – 4.0% - was determined by the handling capacity of most on-farm mills, especially during the winter months.

Pigs performed very well on this experiment, with daily gain averaging 990 g/d across treatment. Average daily gain and feed efficiency were improved during the early phases of the experiment (P<0.05). Up to about 80 kg, there was no effect of diet on average daily feed (P>0.10), so increased dietary energy concentration resulted in increased daily energy

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Table 1. Ingredient composition of the low, and high energy diets.[a]

	Phase I		Phase II		Phase III	
Ingredient	**3.20**	**3.50**	**3.20**	**3.50**	**3.20**	**3.50**
Barley	61.42	22.10	63.42	28.10	54.91	15.70
Wheat	16.42	49.43	15.41	43.87	25.18	58.15
Soymeal	15.30	17.90	14.80	18.10	13.80	16.50
Meat meal	4.00	4.00	4.00	4.00	3.00	3.00
Tallow	0.50	4.00	0.50	4.00	0.50	4.00
l-lysine HCl	0.29	0.35	0.16	0.20	0.02	0.05
l-threonine	0.08	0.11	0.01	0.04	------	------
dl-methionine	0.04	0.07	------	------	------	------
Oxytetracycline 200[b]	0.08	0.08	------	------	------	------
Tylan 40[c]	-----	-----	0.05	0.05	------	------
Minerals and vitamins	1.95	2.05	1.70	1.70	2.60	2.60
Nutrients						
DE, Mcal/kg (measured)[d]	3.10	3.47	3.00	3.38	3.25	3.44
dLYS/DE g/Mcal	2.94	2.94	2.59	2.64	2.09	2.11
Crude fat, %	2.41	5.34	1.95	4.94	1.88	4.99

[a] *Only the low and high treatments are illustrated. The medium treatment was intermediate.*
[b] *Provided 330 gm/t activity of oxytetracycline HCl. Initially, the Phase 1 diets did not contain medication, but oxytetracycline was added due to diarrhea.*
[c] *Provided 44 gm/t activity of tylosin phosphate.*
[d] *Determined by analyzing the energy content of faeces, collected at the mid-point of each phase.*

Table 2. Effects of feeding diets formulated to contain 3.20, 3.35 or 3.50 Mcal/kg DE on the performance of growing/finishing pigs in a commercial barn[a]

	Digestible energy[a]				
Item	**3.12**	**3.30**	**3.43**	**SEM**	**P**
No. pigs	240	240	240		
Body weight, kg					
d 0	37.4	36.6	36.5	0.87	0.02
1st pull (d 57)	93.5	94.5	95.7	1.66	0.14
Average daily gain, kg/d					
d 0-21	0.91	0.96	1.00	0.06	0.02
d 22 - 42	0.96	1.01	1.07	0.05	0.02
d 43 - 1st pull (d 57)	1.08	1.08	1.05	0.03	0.41
d 57 - market	0.98	0.91	0.94	0.02	0.08
d 0 – end	0.99	0.98	1.00	0.02	0.31
Average daily feed intake, kg/d					
d 0 - 21	2.09	2.11	2.08	0.07	0.74
d 22 -42.	2.75	2.72	2.67	0.08	0.21
d 43 - 1st pull (d 57)	3.48	3.33	3.21	0.09	0.10
d 57 - market	3.53	3.34	3.20	0.08	0.02
d 0 – end	2.94	2.85	2.77	0.04	0.01
Feed efficiency, gain/feed					
d 0 - 21	0.44	0.46	0.48	0.01	<0.001
d 22 - 42	0.36	0.37	0.40	0.01	0.003
d 43 -1st pull (d 57)	0.32	0.33	0.33	0.02	0.34
d 57 - market	0.28	0.27	0.29	0.01	0.17
d 0 – end	0.34	0.34	0.36	0.01	0.002
Tail-enders[b]	48	45	37	------	------
Days to market (average)[b]	79.9	80.7	79.0	------	------

[a] *Measured values.*
[b] *Number of pigs not reaching market weight during the allotted experimental period.*
[c] *Of those pigs reaching the minimum market weight.*

The Effects of Housing Grow-finish Pigs In Two Different Group Sizes On Health Status and the Presence of Injuries.

B. R. Street, T. S. Samarakone and H. W. Gonyou

Traditionally pigs have been housed in group sizes of approximately 25 pigs per pen. However, the swine industry is beginning to shift towards housing grow-finish pigs in groups as large as 100 to 1000. With increasing group size has come concerns that pigs in these groups will suffer a higher degree of injuries, such as lameness, and reduced health status.

We conducted a series of studies on pigs in groups of 18 and 108 examining a number of factors in relation to the pigs' health and welfare. Injury scores were carried out on a biweekly basis, at the same time as weighing. The pigs were scored for the presence of flank bites, tail bites, lesions on the legs and lameness. Scores increased as severity increased. Twice daily walk-through health assessments were also conducted, and any illnesses were recorded in detail and treated as necessary.

Overall flank bite and tail bite scores were not affected by group size (Table 1). Group size did, however, have an effect on lameness scores (Table 1, Figure 1a). Overall, pigs housed in the large groups experienced more lameness. This was particularly evident during the second and final scoring periods, when the pigs weighed approximately 50 kg and 95 kg, respectively. One possible explanation may be that pigs in the large groups spent more time inactive than pigs in small groups, which may have increased the occurrence of limb stiffness resulting in lameness. Another possibility is that large group housing allows more space for running. If the pigs' feet were to get caught in the slats while running, injury to the limb would be more likely. Casual observations of pigs running through a large group indicate that they also run into walls and other pigs more often, likely because they are traveling too fast to stop in time.

Overall leg lesion scores were higher among large group pigs (Table 1, Figure 1b). The difference in lesion scores was most evident during the second scoring period. Large group pigs may have experienced a higher score for these injuries because they spent more time lying down than small group pigs, which would have allowed their legs to rub on the concrete more frequently than the legs of pigs in the small groups.

Although there were significant

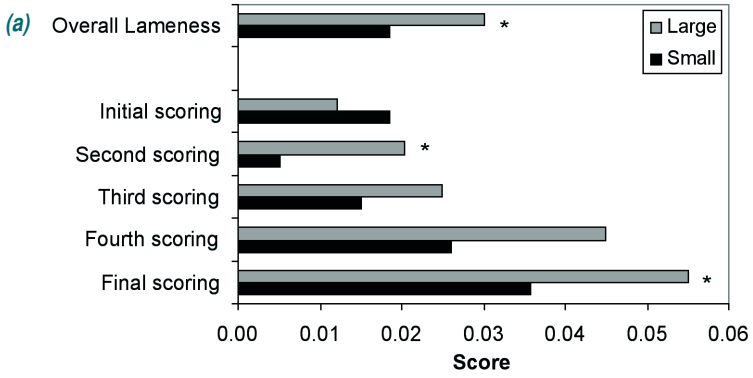
Table 1. Overall and biweekly injury scores of grow-finish pigs housed in large (108 pigs) and small (18 pigs) group sizes

Type of Injury Scoring Period	Group Size Small	Large	p
Overall Lameness	0.0186	0.0300	*
Initial scoring	0.019	0.012	ns
Second scoring	0.0052	0.0204	*
Third scoring	0.0150	0.0250	ns
Fourth scoring	0.026	0.045	ns
Final scoring	0.036	0.055	*
Overall Flank Bites	0.036	0.041	ns
Initial scoring	0.0079	0.0186	ns
Second scoring	0.0024	0.0039	ns
Third scoring	0.0170	0.0100	ns
Fourth scoring	0.053	0.058	ns
Final scoring	0.106	0.121	ns
Overall Tail Bites	0.054	0.031	ns
Initial scoring	0.0129	0.0143	ns
Second scoring	0.051	0.032	ns
Third scoring	0.047	0.032	ns
Fourth scoring	0.085	0.046	ns
Final scoring	0.104	0.058	ns
Overall Leg Lesions	0.128	0.166	*
Initial scoring	0.075	0.094	ns
Second scoring	0.032	0.081	*
Third scoring	0.125	0.153	ns
Fourth scoring	0.207	0.284	ns
Final scoring	0.34	0.35	ns

[1] taken after a habituation period of three to four days

[2] p values are derived from analysis of the square root transformation of the raw data; ns: non-significant ($p > 0.05$)

Figure 1. Comparison of (a) lameness and (b) leg lesion injury scores between large (108 pigs) and small (18 pigs) groups of grow-finish pigs



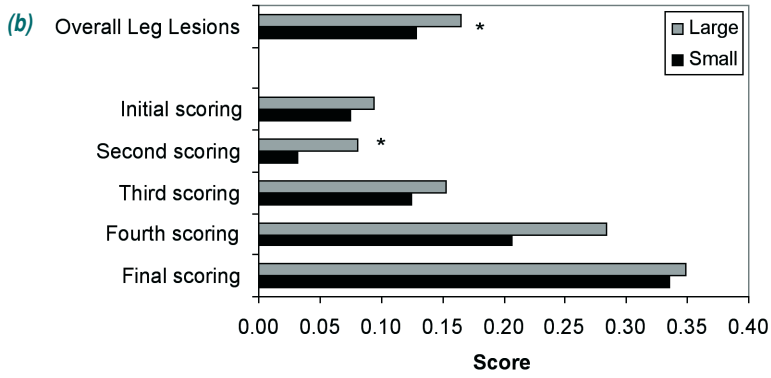


Table 2. The percentage of grow-finish pigs in large (108 pigs) and small (18 pigs) group sizes given antibiotic treatment or removed from the trial due to illness

Pig Health Measurement	Group Size		
	Small	Large	p
% received antibiotics			
lameness	4.3	5.1	ns
other	2.3	3.1	ns
total	6.6	8.2	ns
% removed			
mortality	0.7	0.7	ns
lameness	0.9	1.4	ns
tail bitten	1.0	0.8	ns
other	0.5	1.2	ns
total	3.1	4.1	ns

[1] other: refers to pigs who had open wounds, hernia, rash, prolapse, respiratory problems, or were a poor doer

(Street, 2005)

Table 3. The percentage of grow-finish pigs in large (108 pigs) and small (18 pigs) group sizes removed from the trial, due to illness

Pig Health Measurement	Group Size		
	Small	Large	p
% removed			
mortality	0.7	0.9	ns
lameness	1.7	1.0	ns
tail bitten	4.8	3.6	ns
other	1.2	0.8	ns
total	8.4	6.2	ns

[1] other: refers to pigs who had open wounds, hernia, rash, prolapse, respiratory problems, or were a poor doer

(Samarakone, 2005)

differences in leg lesion and lameness scores among small and large groups, the severity did not justify antibiotic treatment or a pig's removal from the trial (Tables 2 and 3). It is possible that the higher overall scores were an artifact of a large number of low lameness or lesion scores that would not justify antibiotic treatment or animal removal, rather than a minimal number of high lameness or lesion scores that would justify treatment or removal. Mortality rates ranged from 0.7 to 0.9 % and did not differ between the group sizes.

The Bottom Line

Large group housing for grow-finish pigs is not as detrimental to pig vitality as once presumed. When provided with adequate space, large group pigs experience a marginal increase in lameness and leg lesion prevalence. However, the occurrence does not appear severe enough to justify treatment. Overall, large group housed pigs do not seem to suffer reduced welfare as long as regular and thorough health checks are performed.

Continued from page 5

intake (P<0.05). However, beyond about 80 kg, pigs tended to consume less of the higher energy diets, so growth rate was not affected by diet during this period. Of particular interest to commercial barn operators was the observation that the number of tail-end pigs, those that did not achieve the target shipping weight within the room turn period, was higher on the lower energy diet (Table 2).

Interestingly, dietary energy did not affect carcass backfat thickness, lean yield, carcass index or carcass value (P>0.10). However, the higher energy diets tended to increase loin thickness (P<0.10), something we have seen in previous experiments. The dressing percentage of the pigs on the low energy diet tended to be lower than pigs on the other treatments (P<0.10).

The dietary energy concentration did not improve the uniformity of the pigs, nor the uniformity of their carcasses. Thus, producers should not increase diet energy concentration with the expectation that pigs will reach market in a more uniform manner, or produce more uniform carcasses. The latter will be much more dependent on selection practices at the time of shipping.

An economic analysis was conducted using longer-term average prices for pigs (1.45/kg) and ingredients: (wheat, $130/t; barley, $110/t; soybean meal, $340/t; canola meal, $204/t, tallow, $550/t) (Table 3). Two possible scenarios for the adoption of these results on a commercial farm were considered. In scenario #1, all pigs were shipped by the time the finishing room was turned over to the next group; some pigs would be marketed below the core weight and revenues reflected the associated lost value. Under this circumstance, the best return over growout feed cost was earned on the lowest energy diet, with an advantage in the range of $2.12 compared to the medium energy program, and $4.04 over the high energy program. In the second scenario, the tail-end pigs were held back until they reached the minimum market weight; this resulted in a higher gross income, since all pigs would be marketed within the optimum weight range, but the cost would be higher, since there would a considerable increase in the feed required. Space to house the tail-end pigs would also be required. In this scenario, the advantage again fell to the lowest energy program, earning $1.26 more than the medium energy program, and $4.02 compared to the high energy program. In the latter scenario, no charge for housing was included, as it was assumed that hold-back pigs would be moved into an existing hold-back room, or would be placed with other pigs.

In conclusion, net income can be maximized by feeding lower energy programs. However, the results of individual phases within this experiment suggest that feeding higher energy diets up to 80 kg may be warranted, as this is the period when pigs would respond the most to the higher energy diets.

It is clear from this experiment, and from others conducted previously, that the response to dietary energy concentration is not easy to predict. If pigs are able to consume sufficient quantities of feed to achieve excellent growth on lower energy diets, then feeding higher energy diets is unlikely to be beneficial. However, if feed intake is low, then there may be a benefit to feeding higher energy diets, to increase daily energy intake and thus support faster growth. Nonetheless, we caution producers from assuming that increasing dietary energy will universally increase pig performance; experimental data does not support such an assumption.

Finally, in terms of gross numbers, the numerical difference in growth rate between the low and higher energy diets was very similar at St. Denis as compared to the Prairie Swine Centre; while conducting research at multiple locations is obviously preferable, it is also very expensive. These comparative data confirm the validity of the response of pigs housed under the conditions of the Prairie Swine Centre.

Personal Profile

Dr Pascal Leterme

Dr Pascal Leterme joined Prairie Swine Centre in August 2005 as Research Scientist in Nutrition.

Pascal is originally from Belgium. He obtained his formal academic training in Agronomy, at the Faculty of Gembloux. He established his academic career at that same institution. His research focused on ingredient evaluation, including the role of diet on gastrointestinal function. His PhD dissertation work was on the effect of dietary factors that affect the endogenous protein losses. Therefore, he developed an original method based on the use of ingredients labeled with stable isotopes. Afterwards, he spent four months as a Post Doctoral Fellow, at the Research Institute on the Biology of Farm Animals of Rostock (Germany), where the Net Energy system was developed. Thanks to a grant of the prestigious A. von Humboldt Foundation. For his studies, he usually took field peas as a model. His expertise on that ingredient brought him to the Scientific Committee of the European Association of Grain Legume Research, based in Paris. He has been involved in that Association for 13 years now and has been Editor of the Grain Legumes magazine for 6 years.

In 1998, he moved to Colombia, where he developed a new laboratory and taught Animal Nutrition at the National University of Colombia. He also led two research programs. The first one dealt with sustainable pork production systems and was mainly focused on unconventional feed evaluation and technology transfer. The second aimed to study the impact of bean proteins on gut physiology, in collaboration with the INRA institute of Rennes (France).

In 2003, he returned to Europe where he taught Animal Husbandry at the National Veterinary School of Lyon in France. However, "the possibilities for me to build up a new research program were tiny" he says. "Therefore, in agreement with my wife and my two boys, we decided to cross, again, the Atlantic ocean but more to the North!".

Pascal feels very fortunate to come into a well-established nutrition research program that is well-recognized and highly-supported by the swine industry. Presently, his priorities include getting to know the industry better, establishing working relations with existing and new collaborators and partners, as well as setting up new research activities in line with the program's and the Centre's strategic objectives.

Coming Events

Growing the Livestock Industry Conference
Saskatoon, Saskatchewan
October 25-26, 2005

Saskatchewan Pork Industry Symposium
Saskatoon, Saskatchewan
November 8-10, 2005

Manitoba Hog Days
Brandon, Manitoba
December 7-8, 2005

Banff Pork Seminar
Banff, Alberta
January 17-20, 2006

Focus on the Future Conference
March 21-22, 2006
Saskatoon, Saskatchewan

Hydrogen Sulphide Awareness Workshop

TRAINING

IMPORTANT INFORMATION AND EDUCATION FOR ANYONE WHO WORKS WITH OR TRANSPORTS LIQUID MANURE

THE 4-HOUR WORKSHOP INCLUDES INSTRUCTION IN:

- Properties of H_2S
- Exposure limits
- Effects that H_2S may have on humans
- Demonstration of H_2S monitor detection and safety equipment
- Critical manure management
- Importance of Standard Operating Procedures (SOPs) and a hands-on approach to writing a procedure
- Response techniques
- Rescue Strategies
- Importance of implementing a emergency response plan

YOU WILL LEARN

- H_2S Awareness
- How to be Prepared
- How to Work Towards a Safer Workplace

Shannon LaRoche delivers this Hydrogen Sulphide (H_2S) workshop on contract through the Prairie Swine Centre

Participants receive a wallet certificate and training certificate upon completion of the course

For More Information Please Contact:
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