

# **Western Hog**

**SPRING 2008** Volume 29, Number 5 Date of Issue: May 2008

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# **COVER PHOTO**

A dry sow enjoys the freedom of group housing at one of Big Sky's production units (see story page 38)

### WEBSITES OF INTEREST

### PROVINCIAL ASSOCIATIONS

Alberta Pork www.albertapork.com Saskatchewan Pork www.saskpork.com Manitoba Pork Council www.manitobapork.com Nova Scotia Pork www.pork.ns.ca Ontario Pork www.ontariopork.on.ca PEI Pork www.peipork.pe.ca

### NATIONAL ASSOCIATIONS

Canadian Pork Council www.cpc-ccp.com Canada Pork International www.canadapork.com www.nppc.org Na ti onal Pork Producers

### MARKETING ASSOCIATIONS

Manitoba Pork Marketing Co-op Inc. www.mpmc.mb.ca SPI Marketing Group Inc. www.spimg.ca Westem Hog Exchange www.westemhogexchange.com

### OTHER SITES OF INTEREST

Banff Pork Seminar www.banffpork.ca La combe Research Centre http://res2.agr.ca/lacombe/ Prairie Swine Centre www.prairieswine.com U of A www.afns.ualberta.ca VIDO www.usask.ca/vido

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# • Editor's Notes



It's going to be a long, hard slog for Canadian pig producers this ye a r. That much is evident from the predictions on hog supplies, hog prices, the cost of feed and the continuing strength of the Canadian dollar. The US Hogs and Pigs Report, which shows that the numbers of grow-finish pigs in the USA is up over 7% year-on-year, provides no indication that producers will make a profit until 2009. Meanwhile, the anticipated drop in pig



numbers in Canada seems to be taking place much more slowly than anticipated, although some have questioned their accura cy. Already shell-shocked by the economic situation, producers in Manitoba received a further blow when Manitoba Conservation

announced that it was implementing indefinite moratoriums on the construction of new or expanded hog operations in three regions of the province, without having a shred of evidence to support its case. Not only that, but Manitoba producers - and the increasing number of producers in other provinces that are shipping pigs to the USA - have the threat of COOL hanging over them until the legislation is clearer and processors decide their policy on Canadian pigs.

Amidst this scenario, it's hardly surprising that many producers feel that their livelihood is severely threatened. But, unlike their counterparts in many other parts of the world, Canadian p roducers have federal and provincial governments that have been prepared to listen and to offer financial support as best they can without triggering a countervail. Industry leaders have lobbied long and hard for assistance and have had some notable successes.

But, while this support is gratefully received, producers must also

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reduce take steps production costs maximize their revenue. That means attending meetings such excellent Survival Strategies series organized by the Prairie Swine Centre, seeking advice from advisors and technical hunting down information that will help in becoming more cost efficient. We at WHI try to play an important role in presenting s ome of the information you need.

In this issue, we have a summarv of recommendations made by Prairie Swine Centre researchers at their recent producer meetings, a report of some of the presentations given at the Manitoba Swine Seminar, an article on the use of oats in swine diets and a review of the use of by-products in pig diets. Many of our regular features such as Eve on Research and New Product Showcase also contain information that we hope will help you to become more efficient and control your financial losses until the storm douds have passed by.



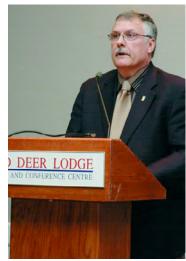
# • News and Views



### Dr. John Patience honoured in Alberta

For the second time in six months, President and CEO of the Prairie Swine Centre, Dr. John Patience, received a Lifetime Achievement Award; this time at the Alberta Pork Congress held March 12-13. The Saskatchewan Po rk Development Board presented Patience with a similar award last November. He is leaving his position in June, after 20 years at the centre.

Dr. Patience is a graduate of the University of Guelph, where he received a B.Sc.



Iohn Patience

(Agr) in 1974 and a M.Sc. in animal nutrition in 1976. After leaving the University, he began his career in Saskatchewan as a provincial swine specialist. Three years later he moved to Saskatoon where he worked for Federated Co-op as the company's swine nutritionist and then head nutritionist. He held that position for four years before deciding to return to school. He received a Ph.D. in nutritional biochemistry from Comell University in 1985.

Dr Patience was instrumental in gaining international recognition for the Prairie Swine Centre for its practical research and communication of information to the industry. Under his leadership the centre has grown and now has a staff of over 50. He is a well-known speaker and has addressed conferences in many parts of the world.

Also presented at the Pork Congress banquet was the Elanco Pork Industry Leadership Award, which went to Jurgen Preugschas of Mayerthorpe, Alberta, a former chairman of Alberta Pork and currently First Vice-President of the Canadian Pork Council.

### End of KVD to benefit livestock producers

Minister of Agriculture Gerry Ritz announced on February 11th the full removal of kernel visual distinguishability (KVD) as a variety registration screening criterion for all classes of Western Canadian wheat as of August 1, 2008. "Canadian farmers need access to the best crop science and varieties to be successful and the Government of Canada is working to give producers every advantage," said Minister Ritz. "Moving beyond KVD will allow Canadian farmers to harness the potential of new crop varieties tailored to livestock nutrition and biofuel production."

The Canadian Grain Commission (CGC) announced in June 2006 that KVD would end for the minor classes of wheat by August 1, 2008. The recent announcement extends the removal of KVD in 2008 to all classes of Western Canadian wheat, including Canada Western Red Spring and Canada Western Amber Durum.

Removing the KVD requirements for wheat registration and segregation will allow for the development and registration of new high-yielding varieties of wheat suitable for other uses such as feed and biofuels, without requiring that they look different than milling wheats.

# Safeway makes welfare moves

North America's third largest grocery retailer, Safeway, has taken steps to improve animal welfare in its food purchasing decisions of pork and poultry. It will increase the amount of pork sourced from production systems that do not use gestation stalls by 5% per year over the next three years to a total of 15% in 2010.

The company also said it will favour the purchase of eggs from cage-free systems, stating that it will more than double the percentage of cage-free eggs it offers to over 6% of its total egg sales within two years.

The Humane Society of the United States (HSUS) applauded Safeway's announcement. It has been in dialogue with the retailer since last November about improving its farm animal welfare standards.

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# Consumer study reveals meat purchase preferences

Early results from an ongoing consumer data project are yielding significant information on consumers' meat purchase habits. Data on chicken, lamb, pork and veal shows that while price and value for money are important factors in driving consumer meat purchases, neither is the most influential. For all meat choices, the biggest driver is whether or not the entire family will enjoy eating the product.

Colin Siren of Ipsos-Reid, who collected the data using their consumer online I-Say Panel, notes that "one of the most intriguing findings, something that is common among chicken, pork, veal and lamb consumers, is the degree to which meat and specific cut preference is influenced by the type of dining occasion. This information is critically important for meat producers to understand, as it illustrates how their products are positioned in the minds of their consumers."

In addition to identifying other leading purchase drivers, such as taste, nutrition, product information, and reduced preparation time, the research shows that buyers value quality and are willing to pay for it. In fact, of all the meats, veal is purchased least on promotion. As well, organic or antibiotic-free meats, particularly chicken and pork, appear to have tremendous market opportunities.

According to Martin Gooch, coordinator of the project for the George Morris Centre, "with knowledge comes the ability to innovate successfully. The results of this study will allow members of the agriculture and agri-food sector to identify potential market opportunities and add value to their products."

The three-year consumer data initiative is a joint effort from the Canadian Pork Council, Chicken Farmers of Canada, Canadian Sheep Federation, Ontario Veal Association and the George Morris Centre. The project is funded, in part, by Agriculture and Agri-Food Canada through their Advancing Canadian Agriculture and Agri-Food (ACAAF) program.

### Dr. Walter Heuser joins Pfizer Animal Health

Pfizer Animal Health Canada has announced that Dr. Walter Heuser, BSP DVM has joined the company's swine team.

"We are thrilled to have a veterinarian with Walter's reputation and experience join our marketing team," said Peter Mumford, Swine Business Unit Director, Pfizer Animal Health Canada. "With nearly 30 years of experience as a practicing veterinarian, Walter has a keen understanding of the needs and practices of both veterinarians and producers."



Dr. Heuser

Dr. Heuser has been working with Pfizer Animal Health as a technical support veterinarian on a part-time basis since April 2007. In his new, full-time role with the company he will be part of the marketing team and will lead the launch of a new swine product expected to be available in 2009.

Dr. Heuser was most recently owner and an active partner at Sheidan, Heuser, Provis Swine Health Services in Steinbach, MB. Established in 1988, the practice employs eight veterinarians and provides health and production support to independent swine producers, breeding stock producers and integrated swine companies.

He is also a member of the advisory board for the Vaccine and Infectious Disease Organization (VIDO), the board of the Canadian Integrated Program for Antibiotic Resistance Surveillance (CIPARS) and the International Pig Veterinary Society (IPVS) 2010 organizing committee.

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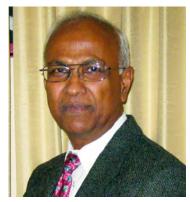


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### **New face at Alberta Feed and Consulting**

Alberta Feed & Ltd. Consulting has announced the appointment of Sam Jaikaran to its team. Sam brings a wide range of livestock nutrition experience obtained over his 15 vears in the feed industry and another 20 as Alberta Agriculture provincial swine He is well nutritionist. known to livestock producers and other stakeholders in the pork industry.



Sam Jaikaran

Sam received the Lifetime Achievement Award in 2005 from Alberta Pork Congress noting his extensive work in swine research and extension. Sam's initial focus will be to expand the Alberta Feeds swine and beef programs. "His nutrition expertise will be a welcome addition to our team," says the company.

# **Shock at Manitoba regional moratoriums** *From Farmscape files*

The announcement March 3rd by Manitoba Conservation that it was implementing indefinite moratoriums on the construction of new or expanded hog operations in three regions of the province led to reactions of shock and outrage from industry representatives. Conservation Minister Stan Struthers said that the restrictions applied to southeastern Manitoba, the Red River Valley and the Interlake, while the moratorium for the rest of the province was lifted. However, the report of the Clean Environment Committee also made 48 recommendations aimed at making the hog industry more environmentally sustainable. These include a requirement for new manure storage facilities to

have synthetic covers and a complete ban on winter manure spreading from 2013.

Manitoba Pork Council chairman Karl Kynoch says imposing a permanent moratorium will hurt the value of existing farms in the affected area, especially small family farms, and may end any opportunity to attract a new processing plant to the province. "We were expecting, after the public consultations, that there weren't too many huge issues and that it would be a fairly neutral report," he explains. "We have some concerns with the CEC report but what just blew us out of the water was the fact that the government went outside of the report and implemented a permanent moratorium on the eastern side of the province."

Kynoch believes that the moratorium will affect at least two thirds of the production because most of the production is in those regions. He says that his big concern is the potential devaluation of buildings and the effect on the viability of family farms that are unable to expand or develop their facilities. "There's going to be a lot of hard decisions made, especially on some of the small family farms, whether to continue on or whether to shut the operation down."

Kynoch says that singling out the hog industry, which accounts for only about 1.5 percent of the phosphorus runoff ending up in Lake Winnipeg, is the wrong way to go, especially when farmers will still be allowed to use chemical fertilizer. He also notes that swine manure contains a wider range of nutrients needed by crops and the moratorium will limit access to that source of crop nutrients at a time when farmers are looking for every opportunity to reduce input costs.

In response to the government's decision, Manitoba Pork Council, Keystone Agricultural Producers and the Manitoba Chambers of Commerce announced they had formed an alliance that will work to have the decision overturned. A working group will be formed to examine the CEC report and its recommendations and identify the best way to implement those recommendations, engage in lobby efforts to convince the



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government to reverse the decision and conduct public education to build awareness of the issue.

Karl Kynoch says targeting one industry is unjustified. "What's really concerning is the fact that the government spent \$750,000 doing a Clean Environment Commission review of our industry and has now gone outside of those recommendations. The CEC did not recommend putting a moratorium on the hog industry and we feel that the government has announced this moratorium, at the same time the report has come out, just trying to blame it on the commission. It's very disappointing for us to see them do that kind of an investigation on our industry and then go outside the recommendations and put this moratorium

on."

Keystone Agricultural Producers president Ian Wishart observes that only the hog industry is being targeted which makes you wonder about the science behind all of this. "You can generally explain that approach to farmers and get good cooperation but, if it isn't based on science, it's pretty hard to get farmers to act," he says.

Manitoba Chambers of Commerce policy and communications director Dan Overall agrees the government has not dealt with the hog industry in an evenhanded manner. "It's bad not only for that specific industry but for our reputation as a province. Government needs to deal with industry in an evenhanded manner and it needs to know that it can't get away with not doing that," he says.

# Saskatchewan slaughter plant remains on track

### From Farmscape files

The Chair of the Saskatchewan Slaughter Plant Initiative says that efforts to bring a new primary pork processing plant to Saskatchewan remain on target for a projected September 2009 opening.

Partners in the project include Saskatchewan First Nations, the Saskatchewan Pork Development Board and Big Sky Farms. The proposed new plant will be located in Saskatoon's north industrial area and have an initial capacity of one million head per year, expandable to two million head on a double shift.

Initiative Chair Jim Ramsay says an extensive evaluation shows the plan is economically feasible and that it is a sound business concept. "We took an extra month to make sure that we had full consideration of the pressures that are in the industry and

we reworked the numbers a couple of times over just to make sure we had a good conservative view of what was happening to see if this was based on sound business principles," he explains. "Our plan was to get things going into the summer, possibly into the fall with opening in September of 2009 and we have not had to adjust those dates as of yet."

Ramsay says the business development process focused on marketing and there is interest being expressed by potential marketing partners. He notes discussions aimed at securing the 100 million dollars needed to finance the first stage of development are underway and remain on track.

\*WHJ



# • New Product Showcase



### Intervet introduces Circumvent™ PCV vaccine

Intervet Canada Ltd. has announced the registration of Circumvent<sup>TM</sup> PCV vaccine for use in the prevention of PCV2 (Porcine Circovirus, type 2) infection in pigs.

Circumwent<sup>TM</sup> PCV, a proven efficacious vaccine against circovins infection (PCVAD - Porcine Circovins Associated Diseases), is now fully licensed in Canada and the US. This product has been available in limited quantities since spring 2006 through emergency use provisions to assist in the circovinus emerging disease cisis.

"Circumvent™ PCV has saved a lot of bacon", said Dr. Jorgen Jorgensen, General Manager of Intervet Canada. "Two years ago we received the first supply of this product to be tested in Canada. It wasn't long before we witnessed significant results. Mortality rates of 40 to 50% were reduced dramatically down to low single digits."

"Veterinarians and producers are also seeing secondary benefits when vaccinating with Circumvent™ PCV," said Dr. Jorgensen. "Along with the dramatic decrease in mortality, producers are also experiencing better growth rates, heavier pigs and healthier herds. The use of antibiotics has been reported to have dropped, even in the presence of PRRS and feed gain has improved, demonstrating that the investment of vaccination is returned many times," said Dr. Jorgensen.

Circumvent<sup>TM</sup> PCV is registered for use in healthy swine, three weeks of age or older, as an aid in the prevention of viremia and vins shedding caused by Porcine Circovirus, type 2.

For additional product, technical or order information please contact your Intervet Technical Sales Representative, log on to www.intervet.ca or call 1-800-268-4257.

# Engage Animal Health launches new VIR-KILT disinfectant

Engage Animal Health has announced the launch of VIR-KILT, a broad-spectrum disinfectant offering superior efficacy, safety, convenience and value.

According to Shawna MacNeil, Marketing Manager with the company, VIR-KILT provides exceptional performance at a cost that's less than current alternatives. VIR-KILT's two active

ingredients work synergistically to 'recycle' the product's chlorine molecules to repeatedly regenerate active chlorine for sustained antimicrobial action.

"VIR-KILT combines efficacy, convenience and cost-efficiency in a powerful way, and we expect it will quickly become a product of choice for Canadian producers," says the company. VIR-KILT will be available at farm supply retailers and veterinary clinics coast to coast.

For more information, please contact: Shawna MacNeil, Engage Animal Health Corporation, on (519) 826-7878 or by Email: smacneil@engageah.com

# Electronic feeder increases sow lifetime production

Recently introduced to western Canada, the Gestal electronic lactation feeder from Quebecbased Jyga Concept, allows feed curves and times of feeding to be implemented automatically. The system was developed to maximize lactation feed intake and reduce sow backfat loss over the suckling period, which leads to a shorter interval to breeding and higher subsequent litter size. Experience Quebec over the last 10 years suggests that sow longevity and piglets weaned per sow lifetime are improved where lactation intake increased through the use of this feeder. The Gestal system allows



Blair Gordon, of Jyga Concept, demonstrates the Gestal lactation feeder

different feed curves to be set for gilts and older sows, whichhelps to avoid both under and over-feeding and maximizes individual feed intake. "Feeding the correct amount in the first 7 days after farrowing is critical in order to maximize intake during the rest of lactation," says Gestal Sales Representative Blair Gordon. "Following a curve during this period avoids the problems associated with ad-lib feeding during the first week." The feeding computer tracks feed intake for individual sows and flags up any "problem eaters", which can be checked by the farm staff. A useful feature is the ability to adjust individual sows intake using a control on the feeder itself after the trough has been inspected, increasing or decreasing the feed curve depending on whether sows have eaten all their feed or not. Feed is dropped into the trough in 2lb doses when sows activate a mechanism that looks like a hock ey puck. The operator can set the amount of feed for each period during the day.

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Du ring hot weather, the system can be programmed to provide more feed during the early morning and late evening periods when it is cooler and sows are more likely to eat.

For further information, contact Blair Gordon on (519) 274-3224, email blairgordon@rogers.com or go to www.jygaconcept.com

# Portable sorter designed for small group systems

Automatic sorting systems for finishing pigs are becoming more and more common. However, they are on ly justified economically where group size is 500 or more. In order to gain the same benefits where pigs are housed in smaller groups, Crystal Spring Hog Equipment, based in St. Agathe, Man., have developed the "egate" portable electronic sorter. Constructed in stainless steel, its unique feature is that the rear end of the weighing crate folds up, reducing the length of the scale, which allows it to be moved around in conventional barn layouts with a central alleyway. Jonathan Kleinsasser, Managing Director of Crystal Spring, says that the scale marks pigs automatically if they are ready for market and also marks pigs that will be ready the following week. It displays the



The egate portable sorter has a fold-up rear section making it easier to move around

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average weight of these two groups of pigs and the average weight of all the pigs weighed, so that growth rate can be calculated. The crate has an automatic sorting gate, which allows selection and removal of market weight hogs, while the others can be returned to the pen.

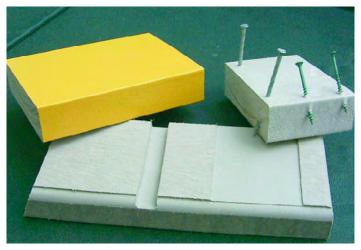
For further information, contact Jonathan Kleinsasser on (204) 433-7178, email info@crystalspringhog.com or visit www.crystalspringhog.com

# "Think Plastics" for barn applications

Two innovative environmental products, ideal for pig barns and other farm applications, are now available in western Canada.

Think Plastics Inc. of New Hamburg, Ontario manufactures Baleboard®, a 100% solid polyethylene plastic lumber made from recycled agricultural bale wrap and greenhouse film. Since 2005, the company has diverted more than 636-tonnes of scrap plastic from landfill sites and burn barrels in south central Ontario.

Baleboard® can be used in any non-load bearing application where wood and composite products are used. It contains no wood or other fillers. Company President Chuck Sparks says that's the reason the product is so popular. "Baleboard® is one polymer – polyethylene – which makes it extremely strong andwersatile. It is a popular choice for home decks and cottage docks. But its resistance to ammonia, oil and gas, and the fact that the boards are not slippery when wet, also make it an excellent choice for use on the farm." Baleboard® can be power-washed and steam-cleaned. Lab tests show it does not rot or leach. Sparks adds, "We haven't found an animal yet that can chew it."



Baleboard can be routed and planed – even painted. It can be nailed and screwed close to the edge without splitting or breaking.

Baleboard® is available in two colours, Sandstone and Cedartone, and five sizes: square-edged 2" x 4" x 12', 2" x 6" x 12', 4" x 4" x 10', and round-edged Custom 2" x 6" x 12' and 5/4" x 6" x 12'. The Ontario company also manufactures "Nusheet", a flexible 4' x 8' off-white sheet, 1/8" thick, made from recycled greenhouse film. Nusheet is being used to line barn walls, horse wash stalls, shelves, trucks interiors and sheds.

Baleboard® and Nusheet are available in the west through Riverbend Building Supplies. Contact Michael Maendel at (204) 761-0252, email Michael@rb.hbni.net, or visit www.riverbendbuilding.com

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# • Eye on Research



# Seven-day Regumate treatment effective for cycling gilts

Previous studies at the University of Alberta have shown that implementation of an efficient gilt development unit (GDU) management program and the use of Regumate in gilts that have shown estrus is an effective tool in GDU management. The program can be refined further by reducing the period of Regumate treatment although, to do this, it is essential that the first day of standing estrus is recorded. Regumate is then administered from day 9-13 onwards, when the natural progesterne level is high. The

U of A researchers have compared a 7-day treatment with a 14-day treatment in gilts that either cycled naturally or where estrus was induced using PG600.

Breedings were targeted to occur Tuesday to Friday to avoid weekend breedings, to coincide with semen delivery and optimize quality Therefore, Regumate treatment was started on a Friday Gilts detected in heat Saturday - Wednesday of the previous week were allocated to the 7-day protocol (RM7) (corresponding to day 9 -13 of the estrus cycle). Gilts detected in heat on Thursday - Friday from two weeks previous, or cyclic gilts with unknown heat

dates, were allocated to the 14-day protocol (RM14).

The percentage of gilts bred within 10 days of Regumate withdrawal was higher (87.4%) in RM7 gilts than RM14 (84.8%). However, there was no difference in numbers total born or born alive. Gilts that had been treated with PG600 took a longer time to show estrus after Regumate withdrawal (6.6 vs 6.3 days) and fewer of these gilts were bred by 10 days (81.3 vs 91.9 %). Also, numbers born alive (10.9 vs 11.6 pigs) were lower, although total number born was not statistically different.

WHJ comment: This work suggests that reducing the number of treatment days when using Regumate to synchronize gilts is effective. It also shows that gilts that did not cycle quickly a fter boar exposure and were given PG600 to induce estrus had lower fertility Regumate and PG600 are both valuable tools in GDU management, however good boar stimulation to induce estrus is the key to achieving a rapid onset of estrus. The use of either a 7-day or a 14-day treatment period with Regumate, depending on when estrus occurs, provides a means of synchronizing gilts that have shown estrus at different times.

Reference: J. Patterson, N. Wlliams, G. Spronk and G. Foxcro ft (2008) Efficacy of a 7 vs 14 day Regumate protocol in cyclic gilts. Advances in Pork Production: Volume 19, Abstract #25

# Vitamin A at weaning and breeding increases litter size

A study was conducted by five cooperating experimental stations in the USA to determine the effects of an intramuscular injection of vitamin A at weaning and breeding on subsequent litter size of sows. Sows were assigned to one of three treatments given at weaning and again at breeding: 1) a placebo injection (2 mL of corn oil), 2) injection with 250,000 IU of vitamin A, and 3) i.m. injection with 500,000 IU of vitamin A. A common vitamin-mineral premix that supplied 11,000 IU of vitamin A/kg of diet (as-fed) was used by



# Peace Pork inc

# Methane Blogas Manager

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The ideal candidate would be licensed in at least one trade (mechanical, electrical, pipefitting or similar) — or have equivalent work experience. Consideration will also be given to experienced managers in the hog industry. This is an outstanding opportunity for an individual interested in becoming involved in the developing field of green energy and environmental sustainability. Peace Pork Inc. is a dynamic growth-oriented company with multiple hog barn facilities based in Falher; Alberta, Industry leading compensation package is available including relocation incentives. Qualified candidates can apply in confidence to:

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all stations. As would be expected, station effects were noted for many response measures. Analysis of the data also showed interactions between station, treatment and parity.

For sows of pari ty 1 and 2, litter sizes increased from treatments 1 to 3, respectively, for total pigs born (10.15, 12.14, and 13.18), live born (9.70, 11.14, and 12.16) and weaned (8.92, 10.12, and 10.60) piglets. However, for sows of pari ty 3 to 6, litter sizes were not affected by the treatment with 11.82, 11.71, and 11.46 total born pigs respectively, 10.82, 10.64, and 10.23 live born, and 8.65, 9.01, 8.79 weaned piglets. Piglet birth weight decreased due to vitamin A treatment in pari ty 1 and 2 sows and was likely due to the differences observed in litter size. The results of this regional project demonstrated that injection of high doses of vitamin A in young sows at weaning and breeding improves the subsequent number of pigs born and weaned per litter, indicating that vitamin A requirements for maximal performance may vary with age.

WHJ comment: Many years ago it was quite common to give an injection of Vitamins A, D and E at weaning, although the response was often not clear on commercial farms. This trial work shows that the response to Vitamin A is quite large in young females but that there is not much benefit for older sows. The industry is becoming more aware that gilts and second litter sows need higher levels of certain numents, which sometimes cannot be supplied through the normal diet. While further work in this whole area is required Vitamin A injection, as shown in the trial, can be considered by producers as a technique for improving litter size in young females.

**Reference:** M. D. Lindemann, J. H. Brendemuhl, L. I. Chiba, C. S. Darroch, C. R. Dove, M. J. Estienne and A. F. Harper (2008). A regional evaluation of injections of high levels of vitamin A on reproductive performance of sows. J. Anim Sci. 86:333-338. doi:10.2527/jas.2007-0153

# Drinker design affects water intake and wastage in the nursery

During the first few days after weaning, pigs often experience body weight loss as they adapt to eating solid food. During this time period, they are also observed to drink excessively and develop abnormal oral behaviour such as belly nosing. Some recently published research suggests that this excessive drinking may be from piglets' attempting to satiate their hunger through gut fill.

Gut fill through water intake may affect establishment of feeding behaviour. Using drinker devices other than the standard nipple drinker may ease piglets' transition at weaning by facilitating initiation of feeding and preventing development of behaviour problems. This experiment examined the effect of drinker type on water and food intake, growth rates, and belly nosing in newly weaned piglets.

Eighteen pens of 15 piglets each (270 piglets) were weaned at 18 days of age. They were housed in pens containing one of three

continued on page 20

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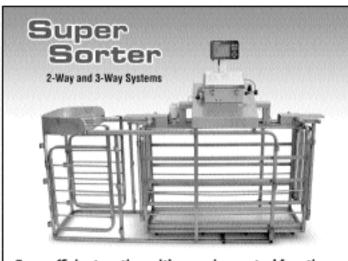
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drinker devices: a standard nipple, a push-lever bowl or a float bowl. Rglets' water and feed intake, water usage, body weight and behaviour were examined for two weeks post weaning.

Piglets with nipple drinkers wasted more water than those using other types of drinker. The amount of wastage was 1114, 295 and 186 ml respectively for nipple, float and push-lever type drinkers. Those piglets with float bowls consumed less water than other piglets. Consumption was 879, 475 and 774 ml respectively for the three drinker types. Piglets with push-lever bowls spent less time at the feeder than other piglets, although no differences were detected in feed intake or overall daily gain between any of the drinker types. Piglets with push-lever bowls also tended to perform less piglet-directed nosing behaviour than piglets with the float bowl.

The researchers noted that piglets appear to use more water during the first two days after weaning with certain drinker types. However, they say, piglets do not appear to attain satiety through water consumption because most of the water used during the first few days after weaning is wasted. This excessive drinking and water wastage can be abated through use of push-lever drinkers without negative implications on feed intake and growthrates.

WHJ comment: Nipple drinkers wasted about six times more water than the push-lever bowl type, which has significant implications for the cost of water and for manure disposal. The disadvantage of the float-type bowl is that it reduces water intake, probably due to a build-up of debris such as feed particles in the bowl making the water less palatable. Push-lever type bowls usually have a very shallow bowl, which is easily cleaned out and less likely to accumulate debris. This work suggests that choice of drinker type



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in the nursery is perhaps more crucial than we thought and that a push-leer bowl drinker is most suitable type for nursery pigs.

**Reference:** S. Torrey, E. L. M. Toth Tamminga and T. M. Widowski (2008). Effect of drinker type on water intake and waste in newly weaned piglets. J. Anim Sci., doi: 10.2527/jas.2007-0632

# Selection for uterine capacity improves fetal survival

Work at the University of Alberta has shown that in very prolific sows with a high ovulation rate, embryo survival and quality of piglets at birth may be compromised due to limitations in nutrient supplyvia the placenta. One solution to this problem is to select for uterine capacityrather than total numbers born. Recent work by the USDA's Animal Research Center in Nebraska, suggests that this approach does indeed improve fetal survival and, as a result, litter size.

The researchers selected pigs over 11 generations on the basis of ovulation rate (OR) or uterine capacity(UC) and then looked at the number of fetuses at different stages of gestation for each of these lines and an unselected control line (CO). Gilts had one horn of their uterus and the corresponding ovary removed at 160 days of age. A fter breeding they were slaughtered at 25, 45, 65, 85 or 105 days of gestation and ovulation rate and the number of live and dead fetuses recorded. Fetal and placental weights were also recorded.

As might be expected, the ovulation rate of OR gilts was highest (18.0) compared to the UC and CO lines, with 15.0 and 14.0 respectively. However, as pregnancy progressed and embryo losses occurred, the UC gilts had better embryo survival (Table 1). In fact, at full term, the number of pigs produced by UC gilts was predicted to be 19.6% higher than for the OR gilts.

Table 1: Embryo numbers in gilts selected for ovulation rate or uterine capacity

	D ays of gestation				
	25	45	65	85	105
Unselected control (CO)	10.1	8.3	7.2	6.7	7.3
Ovulation Rate (OR)	13.4	8.3	7.9	6.5	6.7
Uterine Capacity (UC)	10.2	9.0	8.5	7.5	8.0

In each line, the number of live fetuses at day 25 was approximately 72% of ovulation rate. Mortality to day 45 was greatest in OR, intermediate in CO, and least in UC. Reductions in live fetuses continued to occur from day 45 to 105, but line differences at day 45 were essentially maintained to day 105. Selection for uterine capacity improved fetal survival primarily during the time period between days 25 and 45. Relative growth rate of placental tissue during gestation suggested a relatively later growth pattern of placental tissue in the UC line.

WHJ comment: The differences between the three lines are quite staggering. It can be seen from the table that, even though the OR line had a much higher number of live embryos at day 25, their numbers decreased much more rapidly than the two other lines. This suggests that selection on the basis of uterine capacity should result in more piglets born alive per litter.

**Reference:** B. A. Freking, K. A. Leymaster, J. L. Vallet and R. K. Christenson. Number of fetuses and conceptus growth throughout gestation in lines of pigs selected for ovulationrate or uterine capacity J. Anim Sci. 2007. 85:2093-2103. doi:10.2527/jas.2006-766

\*WH.J\*

# • Industry Crisis



### Surprise at January census data

With anecdotal evidence of a significant number of producers quitting production, especially in Alberta and Saskatchewan, there was surprise at the December pig census data released by Statistics Canada in January, which showed only a 1.9% drop in breeding stock numbers. Total pig numbers, down 6%, perhaps better reflected the liquidation that is taking place, although a significant proportion of this is likely due to the increased numbers of pigs being shipped to the USA for finishing or slaughter.

Alberta showed the biggest drop in number of breeding pigs, at 4.9%, while total pig numbers fe ll 10.6%. However, a survey carried out by Alberta Pork in late 2007 suggested that about 15% of producers intended to quit and that there were possibly another 15% that had already started the process of running down their operations and therefore did not respond to the survey. Saskatchewan had the next biggest drop in breeding pig numbers, at 3%, while numbers in Manitoba fell by only 0.6%. Ontario and Quebec also showed modest reductions of 1.6% and 1.3% respectively.

Table 1: Percentage change in pig numbers – December 2006 to December 2007

	CAN	AB	SK	MB
Total pigs	-6	-10.6	-10.3	-2.0
B reeding stock	-1.9	-4.9	-3.0	-0.6
Other pigs	-6.5	-5.0	-11.1	-2.2
< 20kg	-1	-11.3	-5.1	+13.4
20-60kg	-11.4	-11.3	-18.0	-12.3
> 60kg	-7.3	-10.7	-10.4	-11.4

It seems likely that the unexpectedly low reduction in breeding pig numbers reflects the time taken to dispose of inventory and the difficulty in getting sows slaughtered at the end of 2007 and into 2008 was probably also a factor. Many producers seem to have taken their decision in the late fall and the reduced numbers will be shown more clearly in the April census data.

Numbers of pigs in the weight classes from weaning to slaughter were significantly down, indicative of the large increase in numbers being shipped to the USA. For Alberta, numbers in the <20kg, 20-60kg and >60g categories were all down about 11%, and similarly in Manitoba, where numbers fell by around 12%. In Saskatchewan, pigs in the 20-60kg category fell by a massive 18%, as the province's two largest production companies continued to increase the number of pigs finished in the USA.

While the January figures do not truly reflect the situation on the ground, they do show a trend towards a steady reduction in the national herd, which seems likely to continue for some time. With or without the federal Cull Breeding Swine Program, we are likely to see a further 10% reduction in sow numbers during 2008.

# New government support includes cull sow program

Federal Minister of Agriculture and Agri-Food, Gerry Ritz, announced changes to the Agricultural Marketing Products Act (AMPA) at the end of February that will provide producers with better access to cash advances. He also announced a new sow cull program designed to assist producers who are either reducing their herds or exiting the industry altogether. Both the Canadian pork and beef sectors are now considered by the gove rument to be facing "s evere economic hardship" and therefore can qualify for emergency advances under the amended Act.



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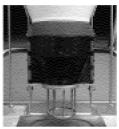
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The requirement for livestock producers to use business risk management programs as security for cash advances has been removed and inventory values will be used instead. This provision means that producers will not be limited by the value of their CAIS/Agri-Stability reference margin for the advance. Producers will also not have to use payments from these programs (such as interims, targeted advances or final CAIS/AgriStability payments) to repay the loans, unless they are in a default position.

The amendment has added "severe economic hardship" as a trigger for an emergency advance. When the "severe economic hardship" condition is declared, the requirement that the security for the advance be in first position is removed and the maximum amount of the advance raised to \$400,000. The advance will be based on 50% of expected market price times

the number of animals in inventory.

"Producers will have quicker and easier access to cash advances," says Minister Ritz. "And, if all producers take advantage of the improved program, an estimated \$3.3 billion in advance payments will be available."

"This is much needed help," says Canadian Pork Council (CPC) president Clare Schlegel.

He notes, while this isn't new money, the proposed changes to the APP will provide the breathing ro om lives tock producers have been asking for. However he admits, "It doesn't get us out of the woods by any stretch of the imagination but it is much needed help."

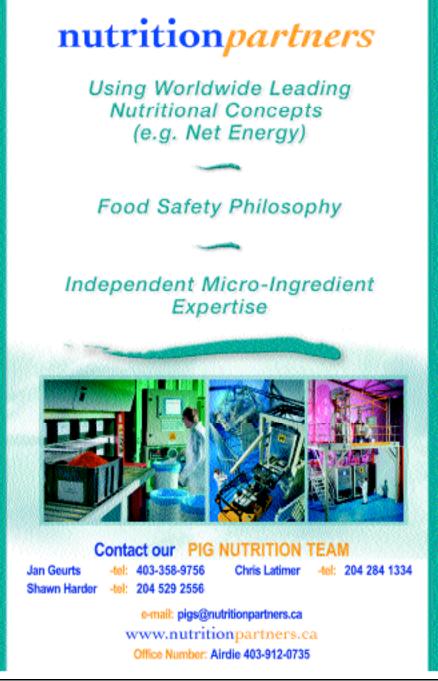
In addition to these measures, a new \$50 million Cull Breeding Program will provide support for hog producers taking steps to exit the industry or who permanently down size their operations. The objective is to reduce the national breeding herd by an additional ten percent over and above normal annual liquidations to more accurately reflect market conditions. Producers will be eligible for a per head payment for animals slaughtered and reimbursement for slaughter and disposal costs based on several conditions including that they depopulate at least one barn and not restock for three years.

Sows and boars marketed from November 1, 2007 until the date when program applications become available will be eligible for a \$225 payment per animal less the selling price received. The marketing of these animals is not subject to the restrictions for animals marketed a fter the applications become available, when slaughtered sows and boars must not enter the human food chain. For the latest information, go to the CPC website, www.cpc-ccp.com

# Provinces announce more help for livestock producers

Western provincial governments have responded positively to requests for assistance from lives to ckproducer organizations as the high price of feed and low market prices continue. In February, producers in Alberta received an additional payment under the Alberta Farm Recovery Plan (AFRP), which was designed to compensate all farmers, not just those with livestock, for the high feed, fuel and fertilizer costs. Re-appointed Agriculture Minister George Groeneveld delighted pork producers attending the Alberta Pork Congress in March when he hinted that the AFRP would likely be extended for another year.

Manitoba's Agriculture, Food and Rural Initiatives Minister Rosann Wowchuk also announced support for cattle and hog producers. The province, through the Manitoba Agricultural continued on page 24



SPRING 2008 23

Services Corporation (MASC), is making \$60 million in loan support available to hog producers at attractive interest rates, which will assist producers facing significant cash flow challenges. Producers will be able to borrow \$35 per slaughter hog and \$10 per weanling sold between October 1, 2007, and May 31, 2008. Loans will be termed over eight years with the maximum amount being \$2.5 million.

Principal payments on these loans will be deferred for the first three years. The first year interest rate will be 2.25 per cent on borrowed amounts of up to \$1.5 million with 4.5 per centcharged on any remaining loan amount. All loans will have an interest rate of 4.5 per cent for years two and three and six per cent for the last five years. An additional interest rate reduction of one per cent will be available for young farmers for the first three years.

"The lives to ckindustry in Manitoba and across Canada has been under significant pressure," said Wowchuk. "Producers in Manitoba need assistance and our government is committed to ensuring our farmers in this important sector receive support to maintain their farm businesses today and position the sector for future profitability"

Saskatchewan's pig producers are being offered early access to their expected 2008 AgriStability payout under a Targeted Advance Payment (TAP) program. The 2008 program announcement came two months after Saskatchewan pig farmers went public with notices received from the agriculture income stabilization (CAIS) office, s aying the farmers' TAPs from the 2007

AgriStability program were going to be much less than what the office had originally informed them they would receive or, in some cases, zero.

# Little comfort from Hogs and Pigs Report

The USDA Quarterly Hogs and Pigs Report, released on March 28, p rovided little hope for pork producers in the USA and Canada, suggesting that there is going to be a lot more pork on the market than expected. Virtually all the inventory numbers set new records for March. All hogs and pigs came in at 65.909 million head, which is 6.5% more than last year and nearly 3% above pre-report estimates. The breeding herd inventory was slightly larger than last year and the market herd saw a jump of 7.2% from last year to 59.77 million head, a much bigger jump than estimates had predicted. USDA also revised its 2008 pork production fore cast by adding 90 million pounds to the first-quarter estimate to reflect higher-than-expected hog slaughter in February.

First-quarter pork production is expected to be 5.96 billion pounds, a massive 10.5 percent above the same period last year. Total commercial pork production in 2008 is expected to be 23.1 billion pounds, 5.4 percent above 2007. First-quarter liveweight p rices for 51-52 percent lean hogs are predicted to range between \$40 and \$41 per hundredweight, 12 percent below the same period a year ago. Worse still, stocks of fro zen pork on January 31, 2008 were 563.6 million pounds, 16 percent above year-earlier levels. C ontinued build-up of cold stocks may signal a slowdown in pork demand.

The one bright spot is that January 2008 pork exports were more than 353 million pounds, almost 27 percent above January 2007.

Kevin Greer, Senior An a lyst at the George Morris Centre, s ays in his Alberta Pork Hog Market Report that, based on US forecasts and a par dollar, producers are in for a very difficult year. He predicts 110-index prices of \$1.15-\$1.20 per kilo in the second quarter, "over \$1.30" in the third and a dri ft down to \$1.15 to \$1.20 in the last quarter of the year.

# Smithfield to reduce sow herd by five percent

Smithfield Foods announced in February that it will cut its US sow herd by 4-5% or 40,000 to 50,000 sows - a move that will ultimately result in production of 800,000 to 1 million fewer market hogs annually. The company raises 18 million market hogs annually at present and said that it was introducing the changes immediately although the effects on the number of pigs marketed will not be seen until early 2009.

"Given the economics for raising hogs today, we cannot continue on the current path; something has to change," said C. Larry Pope, president and chief executive officer. "Grain costs continue at record levels, with the potential of escalating, given the current US government policy favouring corn for ethanol. Today the economics are very challenging, and we believe that these increased costs will translate eventually into still higher food costs for the American consumer. In the meantime, Smithfield is taking immediate action to improve the efficiencies of our live production operations."

Murphy-Brown, Smithfield's production division, announced last year that it was moving towards group sow housing, which for continued on page 26

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existing farms, will likely result in fewer sow places, especially in those locations where the opportunity to construct additional space is limited. Also, in North Carolina, changes to environmental regulations may lead to the need to reduce animal numbers. Therefore, although Smithfield cites economic conditions as the reason for the cutbacks, it seems likely that these factors played a major role in their decision.

"Other hog producers will likely follow Smithfield's lead and trim production," believes Ron Plain, agricultural economist at the University of Missouri. Also, he suggests, more cutbacks will be needed to push hog prices high enough to cover production costs. "This is not enough of a cutb a ck to turn things around," he said of Smithfield's action.

# European prices on the turn as pig numbers plummet

The European average pig price increased by about 10% in the first quarter of 2008 and industry commentators expect further rises to continue as pig numbers throughout the region fall. There is hope that this signals a return to profitability for producers, whose costs have soared due to increases in feed prices. Census figures published so far this year show reductions of up to 10% in pig numbers. In Hungary, the Czech Republic and Poland the sow herd fell by 10-11%, be tween December 2006 and December 2007. Data from NorthemIreland show an 8% reductionin sow and gilt

numbers, while reports from Europe's largest pig producing nations - Spain, Germany and Denmark - also suggest significant herd reductions.

Despite the promise of better times to come, half of Denmark's pig producers are at risk of going out of business in the next two years, according to Henrik Jeppesen of the country's Fionia Bank. Producers are concerned that his view could be an expression of no faith in the ability of producers to survive the current shakeout in the European pig industry. They fear that, if the bank starts a credit squeeze, producers will not be able to invest in new housing and equipment and that could signal Danish productiongrinding to a standstill. A Danish Bacon and Meat Council spokesman is quoted as saying that during second half of this year there will again be enough profit for Danish pig farmers to "cover their expenses".

Meanwhile British producer organization, the National Pig Association, continues its creative campaign to persuade the country's retailers to pay producers more for their pigs, while increasing public awareness of the situation the industry is in. In February, a group of producers took to the recording studio to record the song "Stand by your ham", which received massive publicity around the world. Then, in early March, this was followed up with a rally in London, when around 1000 producers and supporters lobbied MPs and received a high profile in the media (see Stuart Lumb's article in *Vi ew from Europe* in this issue)





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# PRRS continues to be major health challenge, says Minnesota vet.

### By Myron Love

Despite good success in controlling and reducing PRRS in North America, the virus continues to be a leading cause of illness among sows, says Dr. Tim Loula. "PRRS has been the major health challenge in the industry since the 1980s," said Loula, a weterinarian working out in the Swine Vet Center in St. Peter, Minnesota.

Loula was in Winnipeg on January 30 to address producers attending Manitoba Swine Seminar 2008. This past winter, he reported, a large percentage of the American Midwest was infected with PRRS and there was an outbreak in China in January. He noted that outbreaks are worse in winter. Among the effects of the disease, Loula listed lower litter size, lower farrowing rate, lower average daily gain, increased feed conversion, increased cost of medications and vaccinations, increased variation, decreased number of full value market hogs and higher mortalityrates.

Loula described the creation of a North American PRRS Eradication Task Force that was initiated at the AASV board of directors meeting in Kansas City in 2006. The Task Force's goal is the complete eradication of PRRS. Members, Loula said, have been starting local task forces in their regions bringing together producers, production systems, vets, industry partners and researchers to eliminate the disease region by region. He reported that such task forces have already been established in Ontario, North Carolina and Minnesota. Three counties in Minnesota have eradicated PRRS in their area.

"The first step is to map out where the pigs and the viruses are so that we can track where they are going," Loula said. He discussed some current methods of eliminating the disease in specific herds. One way is to depopulate and then repopulate the site. By moving the entire herd out of the barn, the producer is able to clean and disinfect the entire site. The herd is brought back in after everything has dried and the process takes about a week. Follow-up studies, Loula reported, show that 49% of farms are still clear after 120 weeks and 39% after 150 weeks.

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Herd closure is another method of controlling or eliminating PRRS by stopping the introduction of replacement animals to the sow herd for an extended period of time. Those farms that have kept out replacement sows for more than 200 days have generally been successful. This method allows the herd to develop a strong immunity to the virus. New sows can be brought in 30 days after the last dinical signs of the disease.

Producers can also try a direct virus exposure using serum. Of more than 150,000 sows thus treated, Loula said, there were only two bad experiences. A test and removal approach, Loula noted, is not in common use and works best alongside a second type of stabilization program.

Loula spoke of biosecurity measures intended to keep PRRS at b ay in the first place. He suggested filters to keep insects out of the bars and having visitors remove their shoes.

He also noted that vaccines are also available for some strains. "Hog producers need to become knowledgeable about epidemiology, sanitation and biosecurity," Loula said. "That will benefit you long after the herd is free of the disease."

# British researcher suggests high fibre feeds for sows

### By Myron Love

With the cost of feed ingredients continuing to increase, hog producers may want to consider some non-conventional and less costlysources of animal nutrition, suggests Pro fessor Peter Brooks of the University of Plymouth. Sources include silage materials (grass, maize, com cobs), food industry by-products (from the production of bio-ethanol, for example) and root crops (fodder beets and potatoes).

Peter Brooks, head of the School of Biological Sciences at the British university and a professor of animal production, was in Winnipeg on January 30, to speak to Manitoba hog producers attending Manitoba Swine Seminar 2008 about the importance of fibre in sow diets. He noted that researchers over the past 20-25 years have come to recognize that recommended feed intake levels for gestating sows are considerably less than the amount of feed they actually require.

"The stere o typical behaviour often observed in confined gilts was generally put down to boredom and flustration," he noted. "But a study in 1987 (by Appleby and Lawrence) demonstrated that an increase in a sow's feed intake from 1.25 to 4 kg a day almost completely eliminated the behaviour." He added that incorporating fibre in diets to increase bulk, without changing the dietary energy supply, resulted in at least a doubling of eating time, a 20% reduction in feeding rate and a decrease in restlessness and aggression. "It would appear that foraging behaviour is an intrinsic drive in pigs and that bulkier diets that take longer to consume help to satisfy this need," he said.

Brooks reported that other studies show that providing sows with straw bedding also reduces the stereotypical behaviour. Although the use of straw is widespread in the UK, he noted, elsewhere in Europe producers use slatted floors, which are geared for liquid manure systems rather than solid manure. In Northem



Ireland, Brooks reported, producers have tried putting straw in racks for the sows to eat. That hasn't been that successful because too many of the sows spend time exploring the racks instead of eating the straw.

Offering grass rather than straw in the racks seems to be more appealing to the sows. Brooks cited studies that show that sows will consume an average 2kg of grass silage a day and that the grass is easily digestible. He reported that some commercial units have successfully tried grass and maize silage and corn cob mix in conjunction with electronic sow feeders.

Other potential fibre sources for sows that Brooks identified were wheat and rice bran, malt culms, oat husks, soya bran hulls, sugar beet pulp and citrus pulp. There have been some experiments in Europe with chicory pulp, too. Studies indicate that feeding sows sugar beet pulp and citrus pulp produce the bestresults.

Bro oks added that in Europe as many as 30% of sows are being fed liquid diets which makes the animals more restful. That is because the solid fraction of the diet becomes hydrated more quickly, altering the viscosity and rate of gut transit of the diet. High fibre diets, in particular those that include sugar beet pulp, reduced water consumption by sows with an accompanying reduction in urinary output.

In conduding, Bro oks observed that higher prices for traditional feed ingredients combined with a greater understanding of the nutritional needs of sows and the growing public demand for more humane housing solutions means that producers have to rethink how they house, feed and manage sows.

# Segregating sows by parity improves performance

### By Bernie Peet

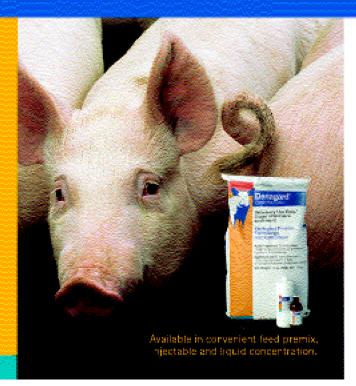
Segregating gilts and sows into sub-populations based on parity and providing different nutritional regimes can increase the number of pigs born per litter and per sow lifetime, says Dr. Dean Boyd, of the Hanor Company, Franklin, Kentucky. This is because the amount and type of nutrients required by young, immature sows (1-2 litters and older females (>5 litters) is very different, he told delegates at the Manitoba Swine Seminar. Furthermore, such an approach compliments health and reproductive considerations,

The fist litter female is especially vulnerable to body protein loss during lactation, explains Boyd. "The foremost consideration is to formulate and feed to conserve body protein loss, since there is a direct effect of this on wean to estrus (WEI) interval and second litter size," he says. "For example, a 4kg body protein loss during first lactation is sufficient to reduce second litter size by 0.75 pigs, whereas, in contrast, limiting protein loss to less than 2 kg can result in a second litter size 1.0 higher than the first." WEI increases in proportion to body protein loss and it is not

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uncommon for it to be extended by up to 10 days for gilts that have raised a large litter, milked well and suffered too much protein loss. "Unfortunately, this is sometimes interpreted as 'reproductive failure' and may result in early culling from the herd," notes Boyd.

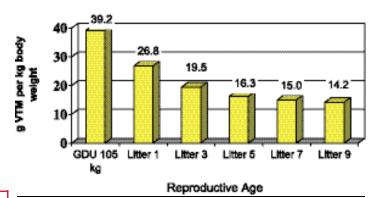
Total pigs born and born alive increase until the third litter, are then constant until about litter 5 or 6 and, thereafter, a progressive decline is observed. Boyd says this parity-related decline seems premature from a reproductive perspective. "The lost opportunity is probably in the order of 1.8 to 3.3 pigs per sow lifetime, depending on whether productive life is 8 or 10 litters," he believes. "We hypothesize that this is due in part to the progressive decline in micro-nutrent profile as the sow ages."

### Micro-nutrient deficiency in older sows

Micro-nutrients consist of Vitamins and Trace Minerals (VTM) and represent 0.12-0.15% of the diet but about 50% of the nutrients. In theory, micro-nutrients are formulated in diets at levels that prevent deficiency and include a margin of safe ty. How ever, says Boyd, there is a steady decline in the "safe ty margin" with increasing reproductive age. The reduction in body mineral levels that has been observed is most likely because pregnancy feed intake is held about constant (once body condition has been restored) across all parities, in order to limit growth. However, body weight progressively increases with reproductive age, Boyd points out. "This 'constant' feed policy is appropriate for protein and energy needs, however, it probably does not work for VTM

because the amount that is required to support normal tissue metabolism increases with the increase in tissue mass," he says. This results in a marked decline in the grams of VTM/kg body weight with increasing parity (Figure 1). "The problem is that this occurs with each pregnancy and, to a lesser extent, in lactation," Boyd explains. "Thus, the older, heavier sow is placed at increasing nutritional risk, reproductive ly and immunologically."

Figure 1: Example calculation of declining Vitamin – Trace Mineral intake with advancing reproductive age, g VTM / kg body weight (Calculated by Boyd and Hedges, 2004, using PIC USA 2002 ADFI x sow weight by parity, assuming 0.149% dietary VTM)



The hypothesis that an age-related decline in litter size might be nutrition related was tested in the mature sow (parities 3-10) sections of two Hanor farms. In each farm, parity segregation is practiced by designating one section for sows of parity 3 or more. In the trial, control sows received 0.15% VTM as usual, whereas the test diets for older sows were designed to provide the same VTM per kg bodyweight for a P-7 female as would be provided to a P-3 sow. The annual cost of this increase was approximately \$1.69 per sow, compared to the control diets. Evaluation of herd data showed that the diets equalized for VTM did, in fact, improve performance. "Litter size weaned was improved for sows in parities 4 to 10 by an average of 0.6 pigs per litter of 1.44 pigs/sow/year," notes Boyd. "However, sow viability was not significantly improved during the term of this study".

The concept of organizing the sow farm in order to nutritionally manage younger and older females differently, was originally demonstrated in the Hanor system by dividing the herd into three sub-populations, however, this has now been reduced to two. This nutrition-specific approach has been shown to lead to increased lifetime pig output and reduced risk to sow viability with no increase in feed cost per weaned pig. "For young females, the expected outcome is to improve lifetime pig output by producing a large first litter and then to manage her in a way that does not compromise second litter size," say Boyd. "Once P-1 females are successfully re-bred and managed to 30 days of gestation, then the need for specialized 'young sow' nutrition probably ends." However, he notes, there may be health-based reasons for also keeping younger sows in this sub-population.

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5.5	1.4	0.9	0.6
6	1.3	0.8	0.5
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7	1.1	0.7	0.4
7.5	1.0	0.6	0.4

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### **MANITOBA SWINE SEMINAR CONTINUED**

# Animal nutritionist touts benefits of auto sort finishing By Myron Love

With equipment, feed and production costs near record high levels, hog producers have to be pro-active at finding new ways to raise their pigs more efficiently, says Dr. Marvin Wastell. One solution discussed by the Omaha, Nebraska-based animal nutritionist (he is associated with Gro Master, Inc.) is the use of large group auto systems for managing growing/finishing pigs. Wastell was in Winnipeg on January 31 to explain the benefits of the systems to producers attending Manitoba Swine Seminar 2008. In addition to higher production costs, he noted, consumers are demanding consistent quality and many care that the animal products that they buy come from animals that were raised in a friendly environment.

In December 2005, Wastell reported, swine producers from five different countries met with a group of scientists in Le Mars, Iowa, to discuss and evaluate raising hogs in large pens using Auto Sorters. The producers learned that there is an economic improvement potential of up to \$16 US per pig marketed by raising pigs in this way.

He noted that there were rumours at one time that Auto Sorters resulted in some pigs dying. He dispelled that myth by citing results in northwest Illinois where 21,000 Auto Sort spaces have been installed with no fatalities.

He compared the results of using an Auto So rt system versus a small pen on the Blue Marsh Hog Farm near Plum Coulee. Manitoba. The Auto So rt system resulted in slightly higher ave rage daily weight gain, considerably less man hours invoked in marketing (2.7 as compared to 32 for the pigs in the small pens) and more than \$1 per pig less in labour costs.

A South Dakota producer found he could sell his Auto Sort-raised hog carcasses for \$5.44 more than carcasses from hogs raised in small pens. His production costs were \$1.31 a head less. Wastell added that Homel, an American packer in attendance at the Le Mars meeting, reported that pigs marketed by producers with auto sorters have a \$5.70 increased value over producers who don't use auto sorters.

"A second question that is frequently asked is how many pigs can be sorted by a given sorter." Wastell noted. manufacturer recommends 1000-1400 pigs per sorter, but there are several different systems." Food court design can also have an effect on pig gains, he said. Saskatchewan producer was able to increase ave rage daily gain by 160 g/day by changing the design of his food court. Large pen auto sorting is not for everyone though, Wastell noted. "Preplanning is a must," he said. "The system must be designed for pig flow and people and training for pigs and people is a must. There also has to be changes in management procedure. "To be successful the AutoSort system requires commitment from the producer, the employees managing the barns, the distributor and the manufacturer."

# Fresh markets still favourite for Chinese consumers

By Myron Love

Although packaged meats sold in supermarkets are beginning to catch on in Chinese cities, 85% of pork consumed in China is still purchased in open markets where the hogs have been butchered the same moming. That was one of the findings that Claude Vielfaure, executive vice-president of Hytek Ltd., shared with p roducers attending Manitoba Swine Seminar 2008 in Winnipeg on January 31.

Vielfaure has visited China several times in recent years to meet with Hytek partners in the region. His most recent visit was as part of a Canadian trade mission attending the World Pork Congress in Nanjing last September. The group also visited some hog farms and a major hog processing operation - the Yurun Food Industry Group - inNanjing.

He reported that pork and pigs are a central part of Chinese culture. The Chinese pictogram for "family", he noted, is a picture of a pig under a roof. China, he said, accounts for 50% of world pig production. Total pork production - 53 million tonnes last year - is almost triple what it was 18 years ago. At the same time, imports (400,000 tonnes last year) are almost double what they were 15 years ago.

Chinese per capita pig consumption is 39.6 kg, a third more than in the US and Canada and accounts for three-quarters of



Chinese meat consumption. However, Vielfaure reported that pork prices in China are soaring, with the price last August 77% higher than the year before. "The government is making an effort to keep hog and pork prices down," Vielfaure said, "but chronic low profitability turned into severe losses after corn prices jumped. To save on costs, many producers stopped vaccinating and forgot about biosecuri ty. The result is that PRRS has become rampant. While the government estimates that 20,000 pigs were lost, private estimates put the figure in the millions."

Vielfaure reported huge potential for increased sow productivity in China through improved genetics and biosecuri ty and a decline in backyard producers. There is also enormous potential for increased feed grain production. On the other hand, he noted, lack of infrastructure and availability of water are problems. Also, feed transport costs are substantial because the grain productionis mainly in northem China while hog production is principally in the south.

The Chinese government, he reported, recently announced a 7 billion RMB program to address pork price inflation whichincludes subsidies for breeding sows, money for building new breeding systems, vaccination subsidies and a campaign to encourage a move toward more intensive, large scale production.

For Canadian companies in the hog production industry, Vielfaure identified opportunities in China for genetic suppliers and providers of feed manufacturing infrastructure. The government's push for better food safe ty practices will also diminish the importance

of open markets and increase the sale of packaged meat.

# Hiring the right staff requires thorough planning

### By Myron Love

Making sure you are hiring the right person requires thorough planning, says Shirley Hoult, Director of Human Resources for the Puratone Corporation, speaking at the Manitoba Swine Seminar 2008 on January 31, in Winnipeg.

The first step, she said, is to review the job you are hiring for and study your options. Are you looking for full time, part time or casual workers? Did the last person leave because of a problem related to your business? If so, how can you fix the problem before hiring some one new?

There are many ways to advertise for new workers, Hoult noted. In addition to the usual means of communication - newspaper ads, websites, job fairs, word of mouth, school presentations and local bulletin boards, Hoult also suggested using cinema ads, flyers in mailboxes, billboard signs, placemat and menu ads, windshield flyers and accessing foreign worker programs. Advertising, she said, should include an introduction to your business, with clear and concise information about the job and the qualifications required, contact information and the deadline for applying.

Once you have the applications in, make sure that the candidate is able to comply with biosecurity requirements and is able to work in a farm environment, for example doesn't have any allergies or suffer from asthma. In preparing to interview prospective workers, Hoult urges that you make sure the person(s) conducting the interview is knowledgeable about the job. "Ask each applicant the same questions," she said. "Provide information about the company culture. Listen rather than talk. Set a minimum score and identify the top two candidates."

It is important to ascertain that the new employee is comfortable with the pay range for the position and to check all references, Hoult said. She also recommended that the new hire be tested out with a trial day on the farm to see if he is up to the work and fits in with the farm culture. She also advised following up with new employees at 30 day intervals to make sure that all is going well and to be able to correct any problems quick ly.

Puratone, she said, provides a disciplined on-the-job training program with a 12-week training manual that covers all sections of its farms. Each employee also has his own development plan. "You should also provide frequent performance feedback for new employees over the first 90 days and at regular intervals thereafter," she said. "Pay should be linked to performance and there should be annual evaluations tied to both team and individual results."

Of course, she noted, it is better to be able to retain existing staff than have to hire some one new. "The key is to create a positive, respectful workplace where workers receive recognition for a job well done and everyone is treated fairly and consistently."

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# Special Features



# \$1.4 million to promote Canadian Pork as imports soar

So aing pork imports - estimated to be 25% higher in 2008 - have heightened the need for more consumer awareness of the origin of the pork that they purchase. Pork Marketing Canada (PMC) recently announced that it had obtained funding of almost \$1.4 million for its Canadian Pork initiative, which is aimed at increasing sales of Canadian pork. A new "Canadian Pork" label will be used to identify the product in participating grocery stores.

"Shoppers now have the choice to choose Canadian," says Roy Kruse, Manager of Pork Marketing Canada. "Until this label, consumers didn't know whether or not the pork they found at their local meat counter was imported or Canadian. The new label gives them the opportunity to identify and choose Canadian pork over imports."

The PMC initiative is supported by studies that show Canadian consumers will



Roy Kruse, Manager of Pork Marketing Canada



The new Canadian Pork label that will identify homeproduced product in retail stores

choose Canadian products over imports if given the choice. "Canadians want high-quality foods that are safe and produced under environmentally sustainable practices," notes Kruse. "More and more, they want to buy Canadian." A study by the Canadian Federation of Agriculture found that 90% of Canadian consumers felt Canadian-grown product should be easily identifiable in stores. Further, 95% of consumers would prefer to buy Canadian-grown product that is competitively priced.

These findings are consistent with an Agriculture and Agri-Food Canada study that found the quality of food produced in Canada is viewed as better than food produced in other countries. Canadian consumers continue to believe that Canada has better production practices and standards and more rules and regulations than other countries. "Not surprisingly, the demand for local food continues to rise," explains Kruse. "With heightened concerns for the environment and an increasing focus on food safe ty, people are more interested than ever in the food on their plate."

In western Canada, participating stores initially include Save On Foods, Overwaitee and Safeway. "It is hoped more retailers will come on board as time goes on," says Kruse.

Also, some Maple Leaf Foods fresh pork products will be labelled Canadian in retail stores where Maple Leaf Foods fresh pork products are carried. Labels will be on fresh pork products from early April onwards. "The assumption is that consumers will choose Canadian product over other options if pork is dearly labelled," Kruse believes.

The labelling initiative will be supported by an ongoing media campaign to improve consumer awareness. "This campaign is about people as much as it is about pork," says Kruse. "The campaign will focus on the positive aspects of Canadian pork producers, their high quality product and their contribution to Canadian society and its economy."

Pork Marketing Canada expects the "Canadian Pork" label campaign to help boost sales of Canadian pork and help to mitigate some of the financial issues faced by the industry.

Pork Marketing Canada is a national marketing initiative of provincial pork organizations across Canada. The purpose of this alliance is to increase the consumption of Canadian pork by partnering with packers, processors, retailers and food service distributors and operators. Pork Marketing Canada offers expertise, information and funding towards programs that promote pork, and further develop sales. For more information, visit www.putporkonyourfork.com

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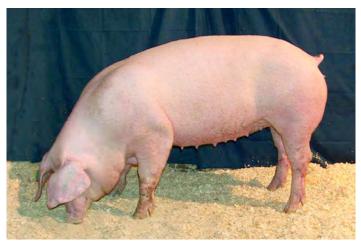


# Lacombe breed celebrates 50 years

By Bernie Peet

The Lacombe hog, the only "made in Canada" pig, celebrates 50 years since its creation, although there are now not many of them around to crack open the champagne! Developed at the Lacombe Research Station, work on the new breed started in 1947 and was completed in 1958. The brainchild of Station Superintendent (later Director) Jack Stothart and geneticist Howard Fredeen, the Lacombe was bred from Danish Landrace, Berkshires from Britain and Chester Whites from the USA. "The intention was to produce a sire line that could be crossed with a Yorkshire sow to produce vigorous, fast-growing progeny with a good carcass," explains Jurgen Preugschas of Five Lakes Farms, near Mayerthorpe, Alta., who, with his brother Walter, has 200 purebred Lacombes. "In those days, a pure Danish Landrace was used to cross with the Yorkshire, but they were not robust enough," adds Alfred Wahl, General Manager of Peak Swine Genetics, which utilizes the Lacombe in its Trailblazer boar. "They needed a bacon pig, but without any colour, because bacon had the rind on in those days. Hardiness was also a key objective and that came from the Chester White breed."

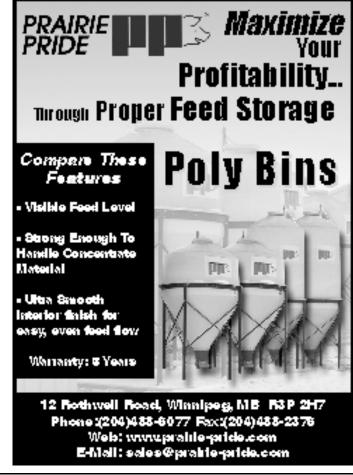
The three component breeds were crossed and back-crossed to form a pure composite breed, with selection being based on growth rate, litter size and carcass quality of 3-4 randomly



A purebred Lacombe gilt (photo courtesy Peak Swine Genetics)

selected littermates. Any pigs that had below average performance or had coloured skin were culled and these criteria led to 76% of all potential breeding stock being discarded. The resulting purebred Lacombe hog had 55% Landrace, 22% Chester White and 23% Berkshire genes.







Based on the results obtained in field testing of the Lacombe when used for crossbreeding and also in purebred experimental herds at Scott, Indian Head, Olds and Vermilion, the advisory committee recommended release of the breed in 1957. Contract multiplier herds were then established, complete pedigree records were submitted to Canadian National Livestock Records and genetic purity for white colour was established. Also, Jack Stothart and Howard Fredeen developed a system of selective registration, based on minimum standards for growth rate, feed efficiency, and carcass merit. The Lacombe was the only breed to have this requirement, which provided proof of the pigs' performance potential.

The first public exhibition of the Lacombe was made at the National Swine Show held in Brandon on July 1, 1957. This was followed on October 7th by a public draw to determine the recipients of the first 50 boars released. There were 823 applications and the successful producers came from right across Canada. Among these was Jurgen Preugschas' father, Kurt, who had not previously been involved in producing pure bred pigs. "You had to send in a submission explaining why you wanted to be a Lacombe breeder," explains Jurgen Preugschas. "My father had been involved in breeding pigs, cattle and horses in Germany and his success in the draw gave him a start in swine breeding here in Canada."

From 1958 onwards, breeding groups of Lacombes were released each year and, by 1960, 462 breeding females were in the hands of private breeders. "This new pig really only became available to breeders in 1958, so 2008 is its 50th anniversary," notes Preugschas. The number of Lacombe pigs increased rapidly and by 1964 registration papers had been issued for 10,600 pigs. The 2326 Lacombes registered in that year accounted for 11% of all pedigree certificates issued.

Results obtained in four years of field testing showed that the La c ombe produced ca reasses equivalent in merit to the Yorkshire and had a 10% advantage in weaning weight and post-weaning growth rate. The only disadvantage of the breed seems to be its poor vision due to its floppy ears. "The La c ombes could not see fences and so would go straight through them!" exclaims Dr. Al Schaefer, Researth Scientist at the La c ombe Station, whose father kept the breed. "Also, they seemed to have difficulty



The draw for the first breeding groups of Lacombe pigs, with Jack Stothart (far left) and Howard Fredeen (far right)

diffe rentiating between the lying and dunging areas of their pen, whichmeant that they were always dirty."

Whatever its advantages and disadvantages, the Lacombe has been eclipsed by the advent of large scale breeding companies and a focus on fewer pure breeds. The 200 Lacombes owned by Jurgen and Walter Preugschas are thought to account for the vast majority of the purebred pigs in the country. They are crossed with the Duroc to produce the Trailblazer boar, which is marketed by Peak Swine Genetics of Leduc, Alta. "The Trailblazer is a very vigorous F1 boar and is popular for natural service," says Alfred Wahl. "However, what particularly interests us is the pork quality attributes of the Lacombe and we are currently carrying out gene evaluation on this. We want to take advantage of the meat quality attributes and this may result in a new lease of life for the breed".

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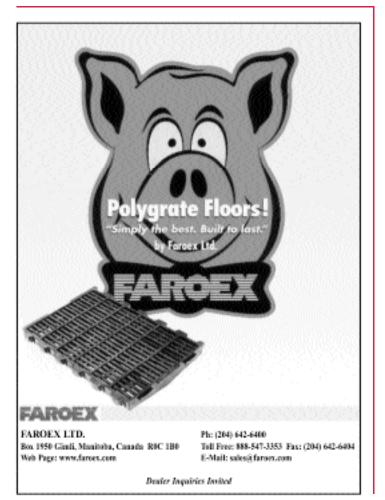
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# Remodelling expands Big Sky sow base

By Bernie Peet

Complete remodelling of 600-sow farrow to finish barns into 1800-sow units producing isowean pigs is the route to expanding the sow base at Humboldt, Sask. based Big Sky Farms, which currently has 49,000 sows. And, says production manager Richard Johnson, it will cut overhead costs per sow leading to a lower cost per piglet produced. The company purchased the assets of Community Pork Ventures (CPV) in 2005, a production system that had been based on 600-sow farrow to finish barns, with four units in the 12,000 sow operation holding 1200 sows. However, the Big Sky production model was based on three-site production, with large-scale breeding units, off-site nurseries and contract finishing barns. "As we got to know and work with the CPV system, we thought there was an opportunity to expand and/or retrofit the systems, which in turn would give us a greater return on capital invested," explains Johnson. "Not only can we spread our central overhead and management costs over more sows but the specialization in just breeding and farrowing leads to better results.'

The first unit to undergo the transformation was the company's Kelsey barn, located near Melfort, Sask. Additional sow pens were made by modifying the existing part slatted finishing rooms,





Richard Johnson discusses the group sow pens with unit manager Susan Armstrong

which had pens of 23 pigs. Three pens were made into one, although the pen divisions between the lying areas were left in place. Each pen now holds 30 sows, which are fed on the floor using volumetric drop dispensers. One of the finisher rooms was left with 12 small pens in order to house sick, lame or thin sows, something Johnson knew was essential in a floor-fed system from his previous experience with group housing in the UK. In addition, two of the grower rooms were also converted to sows pens, giving a total capacity for 1120 sows from 30 days into gestation up to removal for farrowing. The remaining 6 grower rooms were used to construct a further 240 farrowing pens, while the original nursery rooms hold piglets ready for shipping. From weaning until 30 days, sows are housed in stalls in the existing breeding and gestation areas.

Experience with the group sow pens has been generally positive, but not without its teething problems, says unit manager Susan Armstrong. "Our biggest problem has been variation in the weight of feed dispensed, which has ranged from 7-12 lb per drop, making it difficult to feed accurately." Gilts are penned separately and sows are grouped by body condition in order to feed more accurately, something that's necessary when floor feeding. However, that makes it more difficult to remove sows for farrowing, says Armstrong. "We can't remove all the sows at one time as we would if they were grouped strictly by breeding date," she explains. Also, sow behaviour is rather aggressive with floor feeding, although no vulva biting has been noted so far. Scanning sows in the group has proved more difficult than when sows are in stalls. "We carry out the first scan when sows are in stalls in the implantation area, but we also like to do a second confirmation of pregnancy at 65 days," Armstrong says.

Farrowing the target of 85 sows per week started at the beginning of December and the goal is to wean 900 pigs per week

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Sows lie quietly in the converted finishing pens

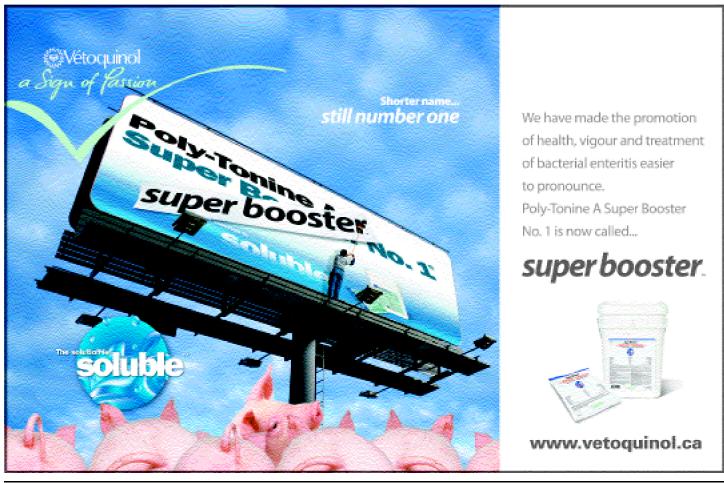
at an age of 20-21 days. These are shipped to the USA with 900 pigs from another barn to make up a full load of 1800. Big Sky has a contract in place for these pigs to be raised in wean-to-finish barns in Iowa, managed by South Central Management Services, but they retain ownership. Finished pigs will be marketed in the US Mid-West but, initially at least, not tied to a specific packer.

While the decision at the time was to finish pigs in the USA, they could just as easily be reared in low-cost contract finishing barns in Saskatchewan, says Richard Johnson. "It's currently a lot more attractive to finish in the US, but that could change." The main motivation for the unit remodelling was to improve return on capital, he stresses. "We will make more money doing this than operating a farrow to finish operation. We modelled a range of different scenarios for these barns with a range of feed prices and in every case the farrow to isowean option was the most profitable."

Big Sky plans to convert more of the ex-CPV units, drawing on the experience of this first one, especially how the group housing works. "It may prove best to remove the partial pen divisions in the group pens, to allow for sows to move around freely while feeding." Johnson feels. "Also, we may need to fine-tune space all owances and how we group sows according to age and condition." So far, though, performance has been up to expectations, with the mainly gilt herd farrowing 11.9 born alive per litter.

In time, converting all the ten 600-sow barns would allow an increase in the company's sow base of 12,000, but Johnson says that's a long-term goal. "We do want to expand in order to reduce cost," he says. "Also, having a lot of sows in group housing will give us additional marketing opportunities and could allow us to develop added value pork products."

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# Understanding the response of your ventilation controller to changing conditions

By Dr Mike Brumm, Brumm Swine Consultancy, Inc. North Mankato, MN 56003

In both new and remodeled swine production facilities, it is not uncommon to have fans, inlets, heaters and controllers supplied by up to four different companies. While the wntilation controller is the hub for all heating and ventilation system operations, many, if not most, producers rely on their many suppliers and/or builders to integrate the components into a working system.

When construction and/or equipment installation is completed, there is often only a 20-30 minute 'training' session on the system and the producers are left to fend for themselves in management of the system. With four or more brands of equipment, there is most likely no detailed explanation of how and/or why the various components were chosen, nor is there detail as to the capacities of the components or verification of the settings most likely input into the ventilation controller by the installer.

For many producers and their employees, ventilation controllers are something to be feared, meaning that operation of the entire heating and ventilation system remains a mystery.

The obvious place to start in understanding your ventilation system is to list the fans, furnaces and inlets installed, and the capacities of these devices. It is not enough to list the fans as '24 inch Multifan pit fans' since that tells potential users of the information nothing about the capacity of the device or specific model number, an important criteria when ordering parts or estimating performance. For example, Multifan has 6 different 24" fans listed in the BESS Labs manual (www.bess.uiuc.edu) with capacities at 0.05 in. w.g. static pressure (1.25 mm w.g.) ranging from 4,520 to 7,280 cfm (7,680 to 12,370 m3/hr). Armed with fan specific information, it is possible to predict how a ventilation system will respond to various pig size during varying seasons and to compare the installed capacity versus recognized ventilation needs (Table 1).



Table 1: Recommended minimum (cold weather) ventilation rates for moisture control in growing pig facilities. MWPS (1990)

Pig Wt, kg	CFM	m³/hr
5-13	2	3.4
13-34	3	5.1
34-68	7	11.9
68+	10	17.0

Assuming insulation values of R=35 for ceilings and R=20 for side walls, combining pig heat production estimates (Brown-Brandl et al, 2004) with facility heat loss equations (MWPS, 1977) make it possible to create Table 2. The balance point temperature in Table 2 is the estimated incoming air temperature at which heat production equals heat loss via the wentilation system and insulated walls at various combinations of pig weight and room temperatures. Note that the cfm's chosen represent typical fan ventilation capacities for fully slatted wean-finish and grow-finish facilities in the US. For example, the 10 cfm rate would represent 2-24 in. diameter pit fans at 100% of rated capacity in a 1200 head room, while the 5 cfm would be the fans operating as variable speed fans at 50% of capacity, etc.

Table 2: Balance point temperature (in C degree) for growing pig facilities

	Set Point			CFM/pig		
Pig Wt	Temperature	2.5	5	10	15	20
Kg	°C	°C Balance Point Temperature				ture
11	26	-17	4	16	20	23
23	22	-42	-11	6	13	16
45	18		-33	-7	3	8
68	17		-49	-15	-4	3
91	17		-62	-22	-8	0

For pigs weighing 23 kg, if the set point of the controller is 22° C, and the first stage variable speed fan has a bandwidth of 1.1° C (2° F) with the minimum speed set to ventilate at 5 cfm/pig, the room is in balance when the incoming air (outside air temperature) is -11° C. That is, if the incoming air temperature is lower than this, heat must be added to the room or facility, or the room temperature willgradually lower. If the incoming air temperature is higher than this, the ventilation system will gradually increase the amount of air removed (increased cfm), while also raising room temperature. When the stage 1 fan(s) is running at 100% speed (often 10 cfm/pig in US fully slatted finishing facilities), the room temperature is 1.1° C



higher (bandwidth setting in the controller) than the set point and the incoming air will now be approximately 6° C.

In essence, Table 2 allows producers to develop an expectation of how their ventilation system should operate. When they walk into a room or facility, with pigs of a certain size, given outside air

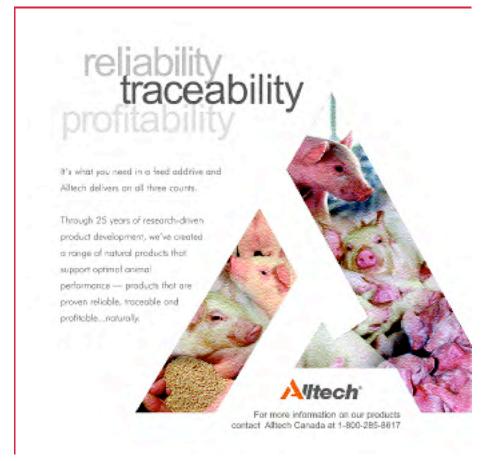
temperature, which fan(s) should be operating, and for variable speed fans, what speed should they be operating at? For example, with 45 kg BW pigs, if the outside air temperature is near 0° C, the first stage fans (10 cfm) should be operating at full speed, and the second stage fans (an additional 10 cfm in US facilities) should be cycling on and off. For 91 kg BW pigs, the same outside conditions should mean that stage 1 and stage 2 fans are at or very near to full speed (20 cfm in a typical US facility).

As Table 2 illustrates, one of the biggest ventilation challenges in many production facilities is to get the ventilation rate low enough for 11 kg or smaller pigs. In well insulated facilities, the balance point changes from -17° C to 4° C as the ventilation rate increases from 2.5 to 5 cfm/pig for 11 kg pigs. At the 5 cmf/pig rate this means that heat must be added to the system, either as room heat or supplemental zone heat whenever the incoming air is colder than 4° C.

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# Incorporation of oats into swine diets

By Mick Hazzledine & Jan Geurts, Nutrition Partners Inc.

### Introduction

The high fibre content of oats, which are widely grown in Western Canada, has historically limited their use as an energy source in swine rations. In fact, oats have been shown to have approximately 10% less digestible energy (DE) than barley and 17% and 19% less DE than wheat and corn respectively. However, a recent seminar given at the Western Nutrition Conference in Saskatoon (September, 2007) showed that grower and finisher pigs can be fed diets containing up to 25% oats without compromising growth performance.

This article will review the nutritional profile of oats and will provide recommendations for how oats can be used in swine diets to reduce feeding costs while maintaining performance.

### An overview of oats

Canada is the second largest producer of oats (3.3mt) after Russia (4.6mt), but before the USA (1.7mt), Poland (1.2mt) and Finland (1.2mt). Oats are a common crop in Canada and conditions in Manitoba are thought to be ideal. Oats were the third most important crop in the US but are currently in decline.

In comparison to other cereals, oats have a high fibre content as the hull comprises about 23% of the whole grain. Thus, they are lower in energy value than other cereals, making them a popular cereal for ruminants and horses, but traditionally less so for poultry and pigs. Additionally, the nutritional composition varies widely with variety, climate and fertilization.

Oats have a high oil level and relatively good protein quality compared with other cereals. The fibre fraction is highly lignified, resulting in reduced digestibility. The soluble fibre in oats is largely due to non-digestible b-glucans located primarily in the endosperm cell wall. In general, oat fibre has a low water holding capacity and is therefore not particularly good at reducing constipation in monogastric animals.

Table 1: Nutritional composition of oats in comparison to barley

Nutrient	Barley	Oats
Dry matter (%)	87	87
Crude protein (%)	9.5	10.5
Crude Fibre (%)	4.7	11.6
NDF (%)	17.5	38.4
Oil (%)	1.7	5.2
Ash (%)	2.2	2.5
DE (MJ/kg)	13	11.0
NE (MJ/kg)	9.6	8.2

Source: Atlas & INRA, 2002

# The feeding value of oats

As with other high fibre ingredients, the feeding value of oats is best determined by assessing how inclusion affects the overall diet's fibre level. This is because, as fibre increases, the transit rate of digesta through the gut of pigs decreases, resulting in a reduction in performance through reduced digestibility and increased mucus production. As a result of this, oats must be limit fed depending on the animal's stage of development.

Table 2: Potential savings when including oats into various hog rations

	_	•		
Stage of animal	No oats (\$/MT)	Oats at % limit (\$/MT)	Savings (\$/MT)	Recommended maximum oat limit (% of diet)
Grower pigs	\$235	\$228	<b>\$7</b>	25
Finisher pigs	\$229	\$222	<b>\$7</b>	25
Dry sows	\$222	\$217	\$5	20

Diets assume the following prices/MT: Wheat \$215; Barley \$205; Soya \$300; Oats \$170.

Table 2 shows that there is a potential to save on feeding costs but that the highest savings can be realized with growing and finishing pigs. Due to limited research examining the nutritional value of oats within sow diets, a conservative limit of 20% is recommended. Assuming a herd size of 250 sows, farrow to finish, this could equate to a feed savings of approximately \$660 per month or \$8000 per year.

### **Oats and Net Energy**

An important point to remember is that higher oat inclusion only works when diets are formulated to net energy (NE) and

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digestible amino acids. Again, this is because of the high fibre percentage, because diets formulated to ME or DE will decrease in NE as oat levels increase. Reducing NE through inclusion of high fibre ingredients has been shown time and again to reduce performance.

Table 3: Effect of dietary level of oats on grower and finisher pig growth performance<sup>1,2</sup>

		Level of	foats (%)	)
	0	25	50	P-value
Grower (27.5 - 67.5kg)				
Daily gain (kg)	0.83	0.83	0.85	0.67
Daily intake (kg)	1.88	1.87	1.89	0.85
FCŘ	2.27	2.26	2.25	0.78
NE	2027	2025	2041	
NE w/out tallow	n/a	1991	1955	
Finisher (67.5 - 80kg)				
Daily gain (kg)	1.16	1.16	1.17	0.78
Daily intake (kg)	2.89a	2.84a	3.08b	0.01
FCŘ	2.51	2.49	2.70	0.06
NE	2033	2058	2075	
NE w/out tallow	n/a	1997	1960	

Source: Zalinko et al., 2007 Proc. W. Nutr. Conf. pp 253

One should note that in the study outlined in Table 3, NE levels were balanced by indusion of tall ow. If this had been ignored the amount of energy each pig consumed per kg of gain would have been sub-optimal and growth would have deteriorated. However, if tallow or vegetable oil cannot be handled in a given on-farm mixing system, adequate levels of dietary energy can be obtained by using wheat or corn with similar financial savings being realized.

# Some points to consider

### What are the nutrient levels?

It is generally a good idea to send a sample of your oats for nutrient analysis. This will allow for more accurate formulation and will prevent the feeding of rations containing excess amounts of NDF (Neutral Detergent Fibre).

### Will you be pelleting your feed?

Oats tend to give a poorer pellet quality than other cereals because the fibrous husk tends to give pellets fracture lines. Thus, one should consider limiting oats to 7.5% of the diet and apply a fine grind if pellets are manufactured.

### Should you include an enzyme?

In Europe, where high fibre ingredients such as mill run are commonly used in pig rations, so too are enzymes. However, inclusion costs of enzymes in North America are much higher than in Europe, which typically limits their addition into starter rations.

So does it make financial sense to use an enzyme? A recent article published by researchers at the University of Saskatchewan examined the effect of supplementing grower and finisher diets containing 40% oats with a mixed ß-glucanase / xylanase enzyme product. The study showed that crude protein, dry matter and gross energy digestibilities all increased by 3% as a result of enzyme supplementation. If enzyme inclusion costs approximately \$3/tonne, nutrient digestibility would have to improve by around 2% to break even. Based on this study, and many other enzyme focused studies, it would seem likely that enzyme inclusion would make economic sense when diets are formulated to contain high levels of oats.

### **Conclusions**

Inclusion of oats at the levels recommended in this article is nutritionally and economically viable. However, in order to reap these benefits, one must be mindful of the method of formulation being applied to their rations. The NE system combined with digestible amino acids currently used by Nutrition Partners is a good way of ensuring the risk of reduced nutrient digestibility and animal performance is minimized.



<sup>&</sup>lt;sup>2</sup> Values within a row not sharing similar superscripts differ significantly

# Arginine supplementation boosts litter size and weight

By Stacy Kish, CSREES

For more than 20 years, intensive genetic selection has led to an increase in both litter size and birth weight in swine. However, prenatal death and fetal growth restriction remain important factors that limit maximum reproductive performance in swine. New research, funded by USDA's Cooperative State Research, Education, and Extension Service (CSREES), shows this problem may be all eviated by dietary adjustments that can enhance placental growth, thereby promoting an optimal intrauterine environment throughout pregnancy.

Naturally occurring limitations in the placenta's ability to supply an adequate amount of nutrients to the fetus can result in prenatal death and fetal growth restriction. Increased death and reduced growth of fetuses are further exacerbated by the widespread practice of restricted feeding programs to prevent excessive weight gain of sows during pregnancy.

Although this feeding regimen can ameliorate farrowing difficulties and appetite reductionduring lactation, research from a team of scientists at Texas A&M University and Texas Tech University indicate that sows may not receive sufficient amounts of certain nutrients during mid- to late-gestation to support rapid absolute growth of their fetuses and mammary tissues. Specifically, these nutrients include arginine, one of the amino acids that are the building blocks for tissue proteins.

With grant support from the CSREES National Research Initiative (NRI), Gu oyao Wu, Sung Woo Kim and colleagues discovered that prenatal death in swine could be greatlyreduced by supplementing standard corn and soybean-based maternal diets with an additional 0.83 percent arginine between days 30 and 114 of gestation.

Compared to the control sows that received no additional arginine, the additional supplementation increased the number and

total litter weight of piglets born alive by two pigs per litter and 24 percent, respectively. The study shows that a specific dietary intervention can enhance reproductive performance in pigs.

This recent discovery may result in a significant economic return to pork producers. An increase in the number of live-born pigs will markedly reduce the production costs associated with sow reproductionand lactation. An increase in the vitality of newborn pigs will increase their rate of survival to weaning.

This use of dietary arginine supplementation was based on the findings of basic research on arginine biochemistry and nutrition that was supported by the USDA-NRI since 1992. Arginine plays multiple roles in animal metabolism by serving as a substrate for the synthesis of various important molecules that enhance placental growth (including placental vascular growth). Utimately this can result in increased utero-placental blood flow and, therefore, improved transfer of nutrients from mother to fetus.

Årginine can be synthesized by sows and its concentration is relatively high in corn- and soybean meal- based diets. Thus, it was traditionally considered that arginine was a non-essential amino acid for pregnant pigs and that the amount consumed from a conventional diet was sufficient for optimal reproductive performance. However, recent biochemical studies revealed that arginine serves key regulatory functions in nutrient metabolism and fetal growth in pigs. Thus, there has been a paradigm shift in our understanding of the beneficial roles for arginine in swine nutrition and production.

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# Danish Crown goes for growth, despite high costs

By Bernie Peet



Karl Christian Møller, Senior Analyst with Danish Crown

The world's second largest meat processor, Danish Crown, is pursuing a growth strategy and sees many opportunities in the future, despite its high cost structure, the company's Chief Analyst, Karl Christian Møller, told delegates at Alberta Pork's AGM last December. A focus on increasing the valueadded component of its business, forging supply chain partnerships with retailers and an expansion of localized production in other European countries is the key to future success, he says. The cooperative company, owned by its 13,000 supplying producers, has recently agreed the purchase of companies in Sweden, Slovakia and Britain. "These local activities are increasing the most, because they have lower production costs," Møller explained. "We have purchased high quality companies, with good management, who know the local market well, so we can tailor our products to local needs."

High costs are the albatross around the necks of both Danish producers and the processing sector. Producers have to meet stringent environmental and welfare regulations and also have high feed and labour costs. "The price of wheat is now \$382/tonne and producers aren't able to purchase corn from the USA due to a ban on GMO crop imports into the EU," Møller pointed out. "Producers are now losing \$45 per hog." Danish Crown's average cost of employing people working in their plants is \$43/hour, compared with a figure of \$10-15 in Germany, where processors employ workers from Eastern Europe. In response, the company has rationalized its operations from 20 to 10 plants, maximized the use of automation and increased capacity utilization. A new plant at Horsens, Jutland, which opened in 2005, slaughters 90,000 pigs per week with a two-shift system and a staff of only 1300.

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Value added processing is the key to Danish Crown's success. (Photo courtesy Danish Bacon and Meat Council)



Møller sees opportunities both in the "old" EU countries and in the new member countries. "After 1990, meat consumption in the Central European countries fell by 40-60%," he noted. "There is a big demand for pork and consumption is rising as incomes increase." Because labour is relatively cheap, further processing in these countries is profitable. "Also, the retail structure is changing away from butchers' shops to larger retailers that want to source meat from vet-inspected modern plants," Møller said.

In Western Europe, customer focus is on convenience, food variety, safety, animal welfare and impact on the environment. Incomes are high and the demands on food producers reflect that. "Many consumers have a zero attitude to risk and yet, at the same time, they go to the discount supermarket to buy meat as cheaply as possible!" Møller exclaimed. Countres that have set high standards for safe ty or welfare offer an opport unity to sell at higher prices, he said. "Sweden has a zero-Salmonella policy so pork prices are very high because there are few imports." In the UK, where the Danes have been exporting bacon for 150 years, prices are 30% higher than in Denmark due to high welfare standards, such as a requirement for group housed sows. Danish Crown owns 40,000 outdoor-housed sows in Eastern England and its Tulip Foods subsidiary accounts for 32% of the company's total turnover. It has recently purchased George Adams, a company that processes 15,000 pigs per week, carries out a high degree of further processing and turns over \$350 million per year. Danish producers also provide pigs for the UK market, produced to UK standards, for which they are paid a premium of 10 cents/kg.

In high-income countries, demand for organic pork is increasing rapidly and Danish Crown subsidiary Friland is one of the leading suppliers. "Producers get paid around three times the normal price and their production cost is about double, so it's very profitable for them,"  $M \emptyset ller$  noted.

The Danish cooperative model could provide a model for Canadian producers in the future, Møller fæels, allowing them to capture some of the added value created in the supply chain. Danish producers build up equity in the company through a "Personal Capital Account" by paying 1.5% of the value of pigs sold and producer equity is \$1bn of the total \$4bn companyequity. "Although they get their money back when they leave the company, they have to give one year's notice because a stable supplyof pigs is essential," Møller stressed. The hog price is set by taking the total value of product sold in the global mark e tplace and deducting processing costs. A fter the year-end, producers receive a bonus, giving a return on their investment, which for 2006-7 was 15 cents per kilo for market hogs.

Asked if his company had any interest in owning a plant in Canada, Møller said that EU markets were much more profitable. "It's better to be in a place where production is declining and demand is increasing," he explained. "However, as competitors with Canada in world export markets, Danish producers think that Canadian producers have many advantages such as lower feed costs and space to produce pigs, so they do fear you as competitors."



# Natural pork provides niche market opportunity

### By Bernie Peet

The econ omic pressures faced by small-scale pig producers have caused many to quit the business, unable to compete with larger, more cost efficient operations. The alternative is to look for a niche market opportunity to add value to the pork in order to remain profitable. Two years ago, George and Shelley Matheson, of Stonewall, Manitoba decided to downsize their 100-sow unit and focus on developing retail sales of "natural" pork. Being only half an hour from Winnipeg, with 600,000 potential customers, they saw an opportunity to capitalize on the increasing interest in how food is produced. "When you sell direct to the public and people come to the farm, they are very interested in how the pigs are reared, the diets we are using, the ages of the pigs and the breeds," George explains.

Although there is no official definition of "natural", the Mathesons believe that it means operating a production system where pigs can fulfil their natural behaviour and are fed simple rations made on the farm from home grown cereals. Sows are kept outside all the year round and have small sheds with deep straw to keep warm in the winter. They go indoors into conventional crates to farrow and, after weaning, the piglets stay inside until they are 50lbs, when they move into biotech bams with deep straw bedding. Although most of the finished hogs are still sold into the commodity market, eight per month go to Interlake Packers at St. Laurent. There they are custom killed, butchered into retail sized cuts, the hams and bacon smoked and



George Matheson (right) and his son Austin with pigs in one of the biotech shelters

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everything vacuum packed. "We sell quarter, half or whole hog packs with 33, 66 or 132 pounds of pork and each has nine different cuts," says George. "Good packing ensures the product will last at least a year."

With many customers coming to the farm to collect the pork, the Mathesons are keen to show them the animals and explain how they are produced. "People are detached from agriculture these days, so they really enjoy seeing what we are doing and are very interested," George explains. "They see the



The Mathesons' youngest daughter, Hannah, who helps with chores on the farm

pigs outside or on deep straw and they like it." The Matheson's also rear 1000 chickens on pasture each year, during the summer and say they are so popular, they could easily sell 10,000. "People tell us that the taste is very different from mass produced chickens," says George.

In addition to selling directly from the farm, the Matheson's attend farmers' markets and produce markets in the area. They recently participated in a seminar on buying food locally, which was attended by 140 people and try to attend as many local food-related events as possible. "Shelley is the marketing guru and has produced a leaflet on our products and is working on a website," George says. "We want to increase the pork sales and eventually be able to sell all our pigs direct to the public." He believes that adding value in this way and producing feed from grain produced on the farm can be profitable. "We can definitely improve our marketing and Shelley has a good way of making our products sound attractive."

The Matheson's four children are also involved on the farm on a daily basis. "They all have their chores to do and this gives them an exposure to farming life, says George. "Most kids don't know that the little pigs grow up so quickly and become pork and bacon!" The children also help out showing visitors the animals and go to the farmers' markets.

With the mainstream pork industry in such dire straights, selling direct to the public is an attractive option for some small producers, despite the additional work involved. It has an added benefit for the industry at large through helping the public understand livestock rearing methods and letting them talk directly to the people producing their food.





# Scientific review will help to define new pig transport standards



Al Schaefer, from Lacombe Research Station, one of the authors of the transport review

The Canadian Food Inspection Agency (CFIA) is currently in the process of revising existing regulations on the transport of animals, which have not been substantially updated since 1975. However, industry practices have changed considerably since then and new scientific research has given us a better understanding of what is required to ensure the humane treatment of animals during transport.

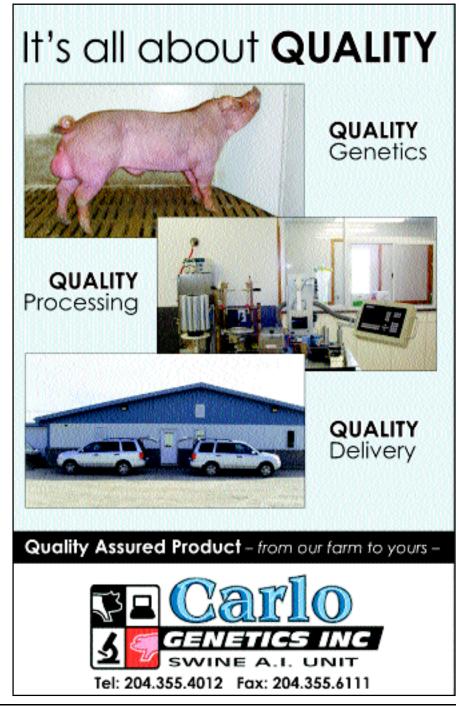
The World Organization for Animal Health will also soon adopt the first ever global standards for the transport of live animals, including pigs. Ensuring that transport industry standards meet international norms is critical for a country like Canada which exports about half its annual production – including nearly 10 million live hogs a year.

Drs. Al Schaefer and Clover Bench, Agriculture and Agri-Food Canada scientists in Lacombe, Alberta have been coordinators of a review of the existing recommendations, standards, laws and regulations on pig welfare during transport, to compare them with current scientific literature that started in 2005. This review will help ensure the upcoming changes to Canada's Livestock Transport Code of Practice are based on scientific data to improve the welfare of animals and, subsequently, maintain or improve meat quality.

"The events that affect animals, like transport stress, are linked directly to actual outcomes in meat quality, food safety and animal welfare," notes Dr. Schæfer. "Stress causes a number of physical changes in precisely the things that affect food flavour and quality."

His team specifically examined loading density and journey duration standards (including rest periods and the supply of food and water) in The Recommended Code of Practice for the Care and Handling of Farm Animals

continued on page 50



### **SCIENTIFIC REVIEW CONTINUED**

-Transportation and the Canadian Health of Animals Act. The review also examined recommendations and regulations in a number of other countries, including the USA, Australia, Ireland, the UK and other EU countries.

### Loading density standards

At lower space allowances, pigs encounter higher ambient temperatures, decreased ventilation and air quality, as well as insufficient space to lie down in transit. At the other end of the spectrum, increased space allowance reduces which temperature and increases ventilation, but it can also increase the incidence of fighting and aggression in transit.

Overcrowding can result in increased mortality rates, food safe ty concems, and reduced meat quality (primarily the incidence of pale-soft-exudative (PSE) meat). Space allowances above 0.45-0.5 m2/100 kg pig can increase skin damage and the incidence of dark-firm-dry (DFD) meat.

Proper pig density can offset the effects of high temperatures by providing adequate wntilation through vehicle vents, regulating heat production within the whicle, and providing animals with adequate space to accommodate their size, behaviour and positions during transport.

"The effect of extremely hot and extremely cold conditions during transport and its effect on loading density also needs to be studied in greater detail," say Dr. Schaefer. "This is of particular importance in Canada due to the extremes in temperature which are experienced throughout the country and over the course of a year."

### Travel duration

The scientific literature has yet to reacha consensus on maximum transport times or the precise impact of rest periods during transport, both of which can affect meat, points out Dr. Schaefer. In fact, he says, there is one school of thought that says short journ eys may be more detrimental - for instance higher mortality rates due to animals being unable to adjust to transport stress - than for longer ones and every effort to attenuate such stress during short transport

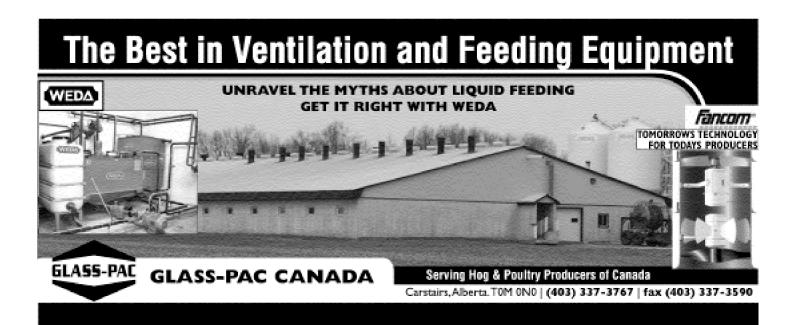


Livestock transport practices have changed and regulations are in need of updating

journeys should be made.

The loading and unloading of animals is the most stressful component of livestock transport. Unloading animals for rest periods mid-transport may increase the stress experienced by transported animals. "Research on loading and unloading during long distance travel and the methods used to load and unload animals is urgently needed from the point of view of animal welfare and meat quality," says Dr. Bench. "Further studies need to determine if it would be better to allow animals to remain on the transport truck and continue their journ ey, with access to food and water on a 'higher standard' vehicle, or if it would be better to transport them shorter distances on a 'basic' wehicle and unload them for a rest period with access to food and water."

"As consumers globally increasingly demand higher standards for the welfare of animals both in their rearing and transport, we must maintain the highest standards of animal welfare or risk losing market share to countries that have implemented increasingly rigorous regulations," concludes Dr. Schaefer.



## Focus on maximizing pig value, US economist advises



Dennis DiPietre

Producers should focus on maximizing the value of the pigs that they sell in order to improve margins, rather than trying to cut costs without understanding the potential consequences, says Dr. Dennis DiPietre, an economist from Missouri. He was speaking at a series of meetings held across Canada, which were organized by Elanco Animal Health. "When people are in survival mode, they make decisions that might look as if they are going to result in a net benefit, but very often they don't," he says.

"During the 1998-9 pig crisis, one large US production company took all the cell phones away from their staff. What might be the cost of missing just one vital communication?"

DiPietre says that herd recording programs focus on subsystems of production and fail to tie the whole production process together. "That means we lose the idea that the value of the end product is the key thing," he explains. "For example, weaning age and weight affect growth in the nursery and through to market, but this never used to be considered by the sow farms. Bonus schemes focussed on breeding parameters, not what happened in the nursery. Now the impact is appreciated, producers are investing in more farrowing crates in order to increase weaning age."

Producers can increase their income by maximizing the number of "Full Value Pigs" that they sell, says DiPietre. He defines these as high health, quality pigs that reach an optimum weight in the desired time to achieve maximum market price. In order to increase the number of Full Value Pigs, it is necessary to know the growth rate of pigs close to market weight and their feed intake. It is also essential to know the relationship between carcass weight and lean percentage in the population of pigs because, as pigs get heavier, their carcass lean reduces, which may have an impact on index and value. The price received for the various weight classes of pig, as defined by the grading grid, must also be known. From all this data, the weight at which net revenue is highest can be calculated and compared with the actual weight of pigs shipped.

"The optimum weight is dependent on the grading grid and also the cost of feed," DiPietre notes. "The profit-maximizing weight under November 2006 assumptions for the US was 135kg, but today it is only 127kg."

The number of Full Value Pigs can be increased by moving the average weight of pigs shipped closer to the optimum and by reducing the degree of weight variation. "The greater the variation in weight of pigs shipped, the lower the optimum

weight at slaughter," explains DiPietre. "Therefore, if you can reduce variation, average market weight can be higher, giving more kilos sold and increasing value." This will also increase the average price received per kilo, he says, because the biggest price discounts are in the extremes of the weight distribution. A tighter weight range will also result in improved feed efficiency and lower feed costs, DiPietre notes.

In addition to improving selection of pigs for market to optimize weight, producers should look for the reasons for variation within their pigs, he believes. This could be related to health challenges, variation in weaning age, variation in throughput and stocking density or variation in feeds. Better management to reduce such variation, such as more timely treatment of health problems, will increase the percentage of Full Value Pigs, DiPietre says. He advises producers to focus on the bottom 30% of pigs because this will have the most impact.

Maximizing the value of the end product will become essential in the new high-cost feed environment, stresses DiPietre. "A doubling of feed prices means that producers will have to deliver more value than in the past," he says. "This is what will separate those people that are going to be successful in the future and those that aren't."



## Survival strategies – When every penny counts

Lee Whittington, Ken Engele, John Patience and Bernardo Predicala, Prairie Swine Centre

#### Introduction



Research Profits Everyone

It is a significant challenge to suggest how a Canadian pork producer in today's economic environment can turn a loss into a profit. Indeed the "perfect storm" of pork prices, exchange rate

and input costs have made losses of \$30-\$50/hog the norm over the last several months. It is the intent of this paper to reinforce production practices, backed by research and actual commercial practice, that can produce savings of not just \$2-3 per market animal but multiples of that. Too often do we hear "I am doing everything possible already" in reference to cutting costs. Production systems are living entities with fluctuations in productivity, management and staff that are overwhelmed with daily distractions and in-barn procedures which evolve whether you want them to or not. There are opportunities, and every dollar saved is one less dollar borrowed under the present conditions. The following is a checklist to take to the barn and help you evaluate where the opportunities exist in your operation.

The focus is on the cost areas with the greatest potential for payback for the efforts invested. These are in order of importance and relativesize of annual expenditure: feed (52.7%), wages & benefits 11.2%, and utilities & fuel 4.7%. These three account for nearly 70% of all expenditures on a typical farm in western Canada in 2007, so our approach to addressing costs will be confined to these areas.

#### Feeding Program

This begins with defining the objective of the feeding program that can be any one of the six objectives in Figure 1.

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### Figure 1: Objectives of a feeding program

- 1. Maximize return over feed cost/pig sold
- 2. Maximize return over feed cost/year
- 3. Maximize expression of genetic potential
- 4. Achieve specific carcass characteristics
- 5. Achieve specific pork characteristics
- 6. Minimize operational losses

Action #1: Feeding program objectives must be clearly defined; Objectives can and indeed will change over time

The purpose of defining the program makes it possible for the nutritionist to assist in diet formulation and ingredient selection to achieve that end. So the first opportunity for cost reduction is - Are we formulating to minimize operational losses? This includes a review of selecting optimum energy levels, defining lysine:energy ratios, defining the ratio of other amino acid levels to lysine, setting mineral levels (even withdrawing in late stage finisher diets) and making use of opportunity ingredients. The out come should be a feed budget similar to Figure 2. The regular matching of actual feed usage by diet type to the budget is the exe rcise in Figure 3 which shows that after a 5 month period in fact this 600 sow farrow-to-finish farm had excessiveuse of some of the most expensive diets on the farm and resulted in an ave rage cost increase of almost \$6 per market hog. But the owner thought they were doing "everything they could" because they had a competitive feed budget. The problem was not the budget but the fact it was not being adhered to for any number of reasons, perhaps as simple as not explaining to the person making or delivering the feed that the number of pigs in the nursery was below budget, in this case because of a PCVAD outbreak.

Figure 2: Example of a typical western Canadian feed budget

Diet	Pig Wt., kg	Days	A.D.G., g/d	A.D.F.I., g/d	Feed, kg/pig
St #1	6	4	115	125	0.5
St #2	7 to 8	6	300	330	2.0
St #3	8 to 14	13	475	620	8
St #4	14 to 22	13	600	870	11
St #5	22 to 35	17	765	1,224	21
Gr #1	35 to 50	16	865	1,900	31
Gr #2	50 to 65	16	920	2,300	38
Fi #1	65 to 80	16	930	2,600	46
Fi #2	80 to 95	16	930	2,850	46
Fi #3	95 to 105	11	880	3,000	38
Fi #4	105 to Mkt	12	830	3,000	32



Figure 3: Reconciliation of actual feed usage versus budget

Diet	Budget	Actual (5 month avg)
Wean diet	2.5	3.3*
Starter 1	8	9.1*
Starter 2	11	12.8*
Starter 3	21	23.4*
Grower 1	31	40.1*
Grower 2	38	43.3*
Barrow fin1	46	41.6
Barrow fin2	46	42.9
Barrow fin3	38	43.1*
Barrow fin-mkt	32	46.5*
Gilt fin1	46	48.0
Gilt fin2	46	46.6
Gilt fin3	36	46.1*
Gilt fin-mkt	30	47.4*
Gestation	37	18.1
Lactation	22	18.3
Cost/pig marketed	\$83.42	\$89.35

Difference \$5.93

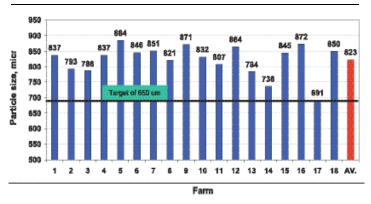
Numbers in RED\* are greater than 10% over budget

Other aspects of the feeding program that need to be evaluated include evaluating the energy content of the final diets and implementing the Net Energy system to seek further savings by crediting the most accurate energy value available to each ingredient. Reformulating frequently is important when commodity prices move up or down. The general "rule of thumb" is to reformulate whenever the main grain and protein ingredients move by a pre-determined amount (for example \$5-10 per metric tonne).

Alternative feed ingredients at times can be the single largest opportunity to reduce feed costs. This includes co-products of the ethanol, bakery and food processing industry but also includes common ingredients like corn. Currently in western Canadian diets implementing a change from wheat to corn could save as much as \$4-5/pig marketed depending on your local cost of wheat.

Once the diet has been formulated there are still opportunities to reduce costs by observing particle size stays within the 650-700 micron range to ensure optimum digestibility. Frequently, due to screen wear, improper screen size or hammer wear, the feeds milled on farm are significantly over the 700-micron threshold (surveys show a range of particle size 700-900 microns - Figure 4). For every 100 microns under 700 the feed conversion improves 1.2%. With feed costs today of \$80 per finished hog, moving from say a 3.0 F/G to a 2.96 F/G (the effect of 1.2% improvement, or 100 micron reduction in feed particle size) is worth \$1.00 per pig marketed.

Figure 4: On-farm survey of average feed grain particle size



From: Stirdon Betker, Alberta

Please view our Survival Strategies publications on our website www.prairieswine.ca for more tips like:

• Moving from 2 phases to 4 phase feeding programs can easily save \$1-2/pig

continued on page 54



- Trace minerals and vitamins can be removed from last three weeks of finishing diet (not for gilts for breeding or pigs on Paylean)
- Use of phytase and reduction of dicalcium phosphate in diet has saved \$0.50 per pig or more under some market conditions

#### Labour

Which is more important - breeding sows or shipping pigs? Although the question is not really which is more important, it does point to the two areas where our people have a significant impact in our success as a production unit. Figure 5 shows one farm's analysis of how management and labour have to respond when market conditions change. The most profitable hog in May 2006 provided a carcass of 100-105 kg whereas that same farm maximized returns by dropping carcass weights 5kg in October 2007 in response to declining hog prices and increasing feed prices. Once the new target is established, consistently hitting the target is important. Unfortunately many packers still report that only 66% of the hogs they receive fall into "core". This is unfortunate since weighing, marking and forecasting growth rates should allow the personnel to hit 85% in core consistently. The loss due to this slippage is approaching \$2.00 per hog marketed.

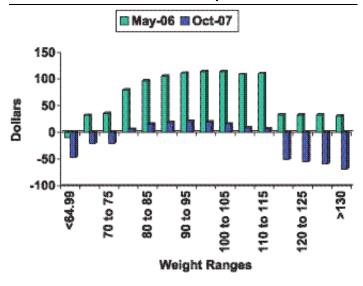
#### **Utilities**

Utilities are the third largest expense in pork production after feed and labour. This cost area has seen significant increases across Canada over the past 5 years. In 2003 we did extensive analysis on the effect of ventilation rate and set point temperature adjustments that can save on energy costs. At the time we found losses of \$1 per pig marketed were likely when a finishing barn was over-ventilated by just 10% in the winter. Today electricity prices are three times what we paid in 2003. Our opportunity for savings of up to \$3 per hog marketed is possible by ensuring our ventilation systems are performing properly.

An extensive analysis of utility costs is being undertaken in a variety of barns across Saskatchewan. The initial results reported in Figure 6 show that the range of energy use is four fold across various farrow-to-finish operations. Although disappointing for those farms at the high end, it does indicate that there is



Figure 5: On farms analysis of carcass weight relative to returns at two time periods



Action #8: In May, 2006, return over feed cost was maximized in carcasses weighing 100 to 105 kg; in October, 2007, returns were maximized in carcasses weighing 95 to 100kg

significant opportunity to reduce costs incurred for utilities - at least \$3-5 per pig marketed. Some of the differences contributing to these vast differences in cost include:

- Limit use of heat lamps in farrowing and move to heat mats
- Move from incandescent to T-8 fluorescent bulbs
- Reduce the number of hours of light or amount of light in nursery and grow finish rooms
- When fans need replacing select new ones on the basis of energy efficiency

Figure 6: Survey showing range in energy use across farm types - Energy, \$/100kg pig, over 3 years

Barn type	No. of barns	Mean	Min	Max
Farrow-finish	8	6.76	3.31	12.24
Nursery	2	1.70	1.36	2.48
Finish	4	1.35	0.95	2.07
Farrow	2	13.08	11.83	13.93
Farrow-nursery	2	16.21	8.93	23.06
Nursery-finish	1	2.66	1.71	4.06

Additional information will be forthcoming in this area as research uncovers the hidden profit robbers hiding in our utility bills.

Most farms don't receive a water bill but waste here also contributes to farm costs. Scientific and industry surveys both point to the fact that about 40% of the water delive red to the nipple is wasted. This wasted water ends up as slurry and increases our manure hauling costs by at least \$0.70 per pig.



The things to look for:

- In a recent survey 20-70% of nipples provided flow rates in excess of recommendations. This excess water is beyond the pig's capacity to consume it resulting in higher waste.
- Water disappearance is 34% less on wet/dry feeders compared to dry feeders and wall mount nipples.
- · Nipples installed at 900 to the wall should be located at shoulder height; nipples located 450 to the wall should be 2 inches above shoulder height (a well-positioned nipple will reduce water wastage to 25% of total volume delivered).
- Replacing nipple drinkers with swing drinkers, bite-ball nipples or bowls has also been shown to decrease wastage.

### **Productivity**

When prices are low and losses are high it is easy to turn our attention away from the demanding management of sow reproduction, "so what if we wean a few less pigs, they are not worth anything any way". However each pig contributes to carrying the overhead of all those fixed costs our barns incur. Actually, outside of feed and trucking, most costs are fixed in our systems so the impact of sow productivity can be profound. For example, in November we completed an analysis asking what if we move from 22 pigs weaned (20.7 pigs sold) per year to 28 pigs weaned (26.3 pigs sold) per year? During this November period our breakeven price for producing a market hog dropped from \$1.60/kg to \$1.47/kg when looking at just the impact of sow productivity.

### **Conclusions**

There are opportunities for savings on every farm in Canada. Finding these savings takes a methodical and careful process of comparing our targets to what we are actually achieving - doing this on a regular basis will frequently find opportunities to save. Perhaps savings of \$15/hog are possible. These savings don't all exist on all farms but some of them exist on some farms and it is our job to find them and correct them. Then next month look again and find those that escaped our gaze the first time, and be committed to doing it over and over again as we work to maintain margins in a challenging commodity market.

#### **Survival Checklist**

- Action #1: Feeding program objectives must be clearly defined; objectives can and indeed will change over time
- Action # 2: Selecting the correct dietary energy concentration can lower costs by \$1 - \$13 per
- Adoption of Net Energy system for diet Action #3: formulation can reduce feed costs by \$1 and \$5 per pig.
- Action # 4: Aggressive adoption of a variety of ingredients can reduce feed costs by up to \$5 per pig
- Regular re-formulation of diets can reduce Action #5: feed costs by \$3 to \$4 per pig.
- Tracking implementation of feed budget can Action # 6: reduce costs by \$5 per pig.
- Cost of particle size deviation from target can Action #7: e xceed \$1 per pig.
- In May 2006, return over feed cost was Action #8: maximized in carcasses weighing 100-105 kg, in October 2007, that same farm found returns maximized in carcasses weighing 95-100 kg.
- Achieving 85% in core, rather than 66% in Action #9: core would increase return over feed costs by up to \$1.80 per pig
- **Action # 10:** Increased sow productivity (from 22-28 p/s/y) can reduce break even \$13/ckg or about 10%.
- Action #11: Operating procedures and equipment can both contribute to excess power consumption. Turn lights off, switch to heat mats and reduce heat lamp use.
- Action #12: Improper minimum ventilation (10% above requirement) adds up to \$3 per pig
- Action #13: On average 40% of water delivered to the nipple is wasted, that is an additional \$070/pig in slurry hauling costs.

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**SPRING 2008** 55



## Feeding by-products to grower-finisher pigs A must for regaining competitiveness

Ruurd T. Zijlstra, University of Alberta

#### Take Home Message

The draconian rise in feed costs is directly associated with a drastic rise in price of locally-grown wheat and barley. Thus, the most immediate method to keep the rise in feed cost in check is to increase the dietary content of feedstuffs such as by-products by partially replacing cereal grains. The increased use of by-products must coincide with the use of modern feed quality evaluations systems for energy, amino acids, and phosphorus. Then, the risk of increased dietary protein and fiber content due to increased by-product use can, to a great extent, be managed. Growth performance and carcass quality of grower-finisher pigs can be maintained with reasoned changes in feedstuff composition of feeds, while simultaneously formulating more cost-effective feeds by using more by-products.

#### **Current status**

In the last decade, the Western Canadian pork industry has expanded rapidly, supported by competitive locally-grown feed grains, an advantageous exchange rate, and overall reasonable



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Darren Ward or Ryan Slozka Phone: (250) 768-4321 darren.ward@rycomtrading.com ryan.slozka@rycomtrading.com prices for market pigs. Within the last year, this combined picture has changed quickly. Especially for feed grain prices and current exchange rate, the current situation might last for a while. The expansion of the bio-fuels industry, especially in the US, and pressure in global wheat markets are main causes for high feed grain prices. In other words, local crop producers have now been given access to markets that are able and willing to pay more than the local livestock and feed industry for locally-grown grains that were used previously in swine feeds. As result, competitiveness to feed grower-finisher pigs in Western Canada was lost relative to the Northern US, as has been reflected by increasing numbers of young pigs that are being born in Western Canada to be finished in the US.

#### **Instant solution**

To regain competitiveness, the Western Canadian pork industry must implement aggressive strategies to use other feedstuff combinations than have been used for the last decade. The use of alternative feedstuffs was not required for the last decade, because grain producers were forced to trade large quantities of grains domestically to feed markets following the elimination of transport subsidies. The feed grain markets have now changed for the foreseeable future. By-products should be used by the pork industry to a much greater extent as feedstuffs in swine feeds than during the last decade to regain competitiveness short-term, or as a minimum, to reduce feed costs. By-products would include feedstuffs such as dried distiller's grain plus solubles (DDGS), millrun, canola meal, etc., but also raw materials that have been extruded and are costeffective should be considered. Medium-term, rapid feed quality evaluation systems combined with trading based on feed quality and modern feed processing techniques will support the costeffective use of locally-grown and locally-produced feedstuffs.





Crop breeding programs might provide relief long-term, especially if yields per acre can be enhanced beyond averages achieved in the last decade. But obviously long-term breeding efforts do not provide solutions that are required immediately to keep a viable local pork industry in western Canada.

### Risk management - energy

To feed pigs diets with an increased content of by-products presents a risk to maintaining growth performance and carcass

composition. However, other areas in the world, especially in Western Europe, have managed this risk to a great extent by using more modern feed quality evaluation systems, at least systems that are more modern than used traditionally in North America. Byproducts such as canola meal, millrun, DDGS, etc. generally have a much higher protein and fibre content and lower starch content than grains. Therefore, less starch and more protein and fibre will be used to supply energy to support protein deposition. Better energy systems than digestible energy (DE) and metabolizable energy (ME) are required, because these two systems overestimate the amount of energy supplied by protein and fibre. The net energy (NE) system is such a system. Although the NE system has not been validated for extreme inclusion levels of byproducts in swine diets, a large body of evidence of European and North American data suggest that the NE system is superior to the DE and ME system in dealing with large fluctuations in dietary content macronutrients, especially protein. In other words, growth performance and carcass quality can be maintained more easily across a wider spectrum of changes in dietary protein content. In contrast, if expected changes in macronutrient composition are small, not much of an advantage of the NE system will be observed.

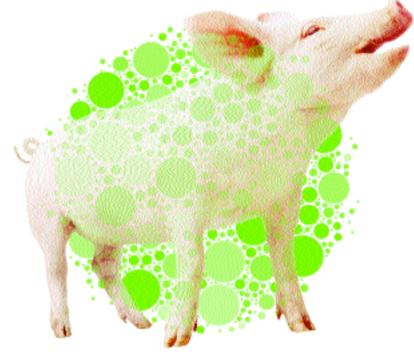
### Risk management - other constituents

Apart from energy, dietary amino acids should be formulated using the standardized ileal digestible (SID) amino acid system, and the use of total and apparent digestible amino acids for feed formulation should be avoided entirely. Furthermore, phosphorus should be formulated as digestible or available phosphorus and not as total phosphorus. Some by-products such as DDGS have a high content of digestible phosphorus and this potential advantage would be ignored if the total phosphorus system is used to formulate

swine feeds. Moreover, by-products present a risk because concentrations of mycotoxins or anti-nutritional factors can potentially be higher than in the original cereal grain. For example, vomitoxin or DON can survive the fermentation and drying process, and can thus be concentrated in DDGS in comparison to the feedstock grain. Finally, the high fibre content of by-products and thus compounded feeds will mean that pigs should be marketed 1 to 2 kg heavier to ensure that target carcass

continued on page 58

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### FEEDING BY-PRODUCTS TO GROWER-FINISHER PIGS CONTINUED

weight will be reached. The increased fibre content will stimulate intestine growth and dressing percentage will thus be slightly

### Risk management - guidance

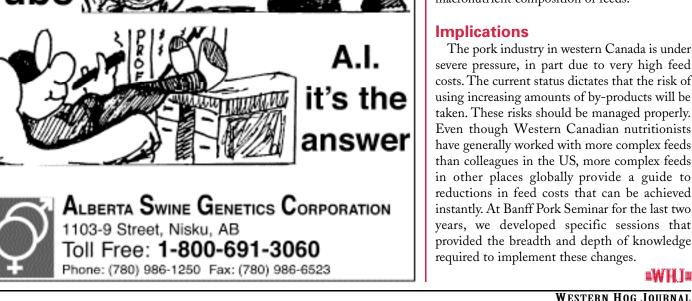
The risk of including an increasing amount of by-products into swine feeds can be managed better by including multiple byproducts each at a lower inclusion level in swine diets than a large quantity of a single by-product. Unfortunately, local research efforts have been mostly directed towards studying the impact of individual by-products, rather than studying the maximum inclusion level of a mix of by-products. Still, if one of the following feedstuffs - tallow, canola meal, phytase, and DDGS, and perhaps even extruded feedstuffs - are currently missing from

your feed formulations for grower-finisher pigs, your feed costs are likely too high. If the combined total of these feedstuffs, excluding soybean meal, is currently less than 30% of grower diets, opportunities to develop a more cost-effective feeding program exist. Experiences with by-products in The Netherlands indicate that combined total of by-products can be pushed to 70% in compounded feeds and up to 95% in liquid feeding systems. The Western Canadian pork industry has barely explored such opportunities. Unfortunately, pork producers in western Canada do not have the same extent of opportunities as pork producers in Ontario to use liquid by-products from the food industries. Still, sufficient opportunities exist to explore larger inclusion rates of by-products

#### **Databases**

To use local by-products effectively, information on the content of their constituents NE, SID amino acids, and digestible/available phosphorus is essential. Throughout history, large databases containing the nutritional quality of these constituents have been acquired for an array of feedstuffs including by-products, especially in Western Europe. In particular local feed consultants have brought this information to Western Canada, and have implemented the use of these databases to formulate feeds. A steep learning curve followed. For example, some differences in macronutrient profile of byproducts likely exist between continents that should be accounted for properly using laboratory analyses. Correct NE content and ratios of SID lysine to NE had to be implemented, whereas SID ratios of other amino acids to lysine were more easily implemented. Also, even though the NE system can predict performance and carcass quality better than the DE and ME systems, it does not mean that the NE system can be implemented without reasoned changes in feedstuff and macronutrient composition of feeds.

The pork industry in western Canada is under severe pressure, in part due to very high feed costs. The current status dictates that the risk of using increasing amounts of by-products will be taken. These risks should be managed properly. Even though Western Canadian nutritionists have generally worked with more complex feeds than colleagues in the US, more complex feeds in other places globally provide a guide to reductions in feed costs that can be achieved instantly. At Banff Pork Seminar for the last two years, we developed specific sessions that provided the breadth and depth of knowledge



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## Recommendations for procuring DDGS for hog rations

By Neil Campbell, Gowans Feed Consulting

Dried Distillers Grains with Solubles (DDGS), a co-product of the rapidly growing ethanol industry is an increasingly available ingredient that can be used cost effective ly in hog diets. However, special attention needs to be given to the quality of the DDGS to be used in pig feeds as there is a large variation in quality between DDGS sources. Receiving low quality DDGS into a feed mill and including it in pig diets can have negative economic consequences on pig performance. Pig producers and pig feed manufacturers must ensure they are procuring consistently high quality corn DDGS at all times to capture the cost savings of using them. The following recommendations should be considered by swine feed manufacturers for the procurement of DDGS:

### **Know the source plant**

The quality of DDGS can vary between and within manufacturing plants due to differences in manufacturing processes, process control, drying technology and ingredient quality control in the production of DDGS.

Quality standards need to be established and verified before price is a consideration. Use an approved-supplier process to select the plants that can provide DDGS that meet the required quality specifications. This includes obtaining nutrient specifications including proximate and amino acids analysis, mycotoxin analysis, and physical samples of the products.

The following specifications are recommended by Gowans Feed Consulting:

#### Check list when buying corn DDGS.

Item	Minimum	Maximum
C rude protein, %	27.0	-
Fat, %	9.0	-
Phosphorus, %	0.55	_
Lysine	2.80% of crude protein	_
ADF, %	-	12.0
NDF, %	-	40.0
Mycotoxins (ppm) in the	finished feed	
Aflatoxin	-	0.02
Vomitoxin	-	1.00
Fumonisin	-	1.00
Zearalone	-	0.50

### Specify the source plant and DDGS quality specifications in the purchase contracts

Incorporate the DDGS quality specifications including the analytical methods for nutrients and the name and location of

the approved source plant into the purchase contract. Ensure that the supplier can trace the delive red DDGS back to the origin plant. This is especially important when the supplier is bringing multiple sources of DDGS in by rail and trans-loading onto trucks as there is a risk that DDGS from difference origins can be mixed up. Verify the supplier's product liability insurance coverage.

### Inspect the load and retain a sample

Obtain a representative sample of the DDGS before unloading and verify that it matches the original sample. Inspect the colour (a dark colour may indicate overheating and lower digestible lysine), check the odour (a burnt smell also may indicate overheating) and observe the bulk density and particle size. Reject the load if the representative sample does not closely match the original.

#### Samples of corn DDGS



Source: University of Minnesotahttp://www.ddgs.umn.edu

### Monitor DDGS for mycotoxins and nutrient content

Mycotoxin content present in DDGS is three times the level that may be present in the corn used for the production of ethanol. Test the DDGS periodically for mycotoxin content to confirm that excessive levels are not present. Require routine nutrient information from DDGS suppliers.

For more information on feeding and buying DDGS visit the following organization's websites:

U.S. G rains Council http://www.grains.org

University of Minnesota Distillers Grains By-products Web Site http://www.ddgs.umn.edu/

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### **•** Herd Health



## Producer meetings address challenges and opportunities

By Western Swine Health Associates: Drs. Frank Marshall, Chris Misutka, Pete Pawluk, Shawn Davidson, Chris Byra, Gail Cunningham and Egan Brockhoff

"It is not the strongest of the species that survive, nor the most intelligent, but the ones most responsive to change"

- Charles Darwin

I (Dr. Egan Brockhoff) recently had the opportunity to attend a number of workshops focused on the best practices of leading farmers. Having farmed myself for many years prior to entering my veterinary career it was interesting for me to be reminded that such a diverse range of practices are necessary for success in primary agricultural production today. A colleague and friend of mine once told me that within every challenge lies an opportunity. Recognizing the challenges that our industry faces, it was outlined at this workshop that advancement through continuing education will be a big part of the future successes of our best practices producers. Beginning in February of this year the Western Swine Health Associates (WSHA) began their first eight-day advanced swine management

and nutrition course for barn managers and owners.

The initial success of this particular course lends much to the foundational work that Dr. Melodie Chan has done in the western dairy industry. By adapting that portfolio of work in adult learning to swine production and nutrition the WSHA and other industry resource persons have been able to work with 24 producers since Christmas so far in two four week courses.

The finer details of the course itself fall outside the scope of this article; however, a number of bullet points are noteworthy. The approach was directed at providing a balanced portfolio of skills for our producers: Productivity, Human Resources, Fiscal Management, and Customer Satisfaction.

Factors of successful production are often the tenets of many producer seminars. This course works hard to underscore the differences between production and productivity and how that relates to sustainability and profitability. The correlation between production and productivity is often murky and can typically only be realized through the specifics rational enterprise analysis.

We also wanted to introduce concepts of human resources (HR) management into our course model. Even at the level of the 200-sow unit, its productivity is increasingly impacted by HR and the management of those people resources. Whether it is keeping a single staff member motivated and happy or an entire team the fundamentals of people management hold true. In many ways, the day spent with the course participants on HR, generational differences and communication was about more than what goes on in the barn. It was about how all relationships can be strengthened and how those can and will impact the future of your business and your life around it.

Understanding the needs of your customers was also a topic we wanted to bring forward. Not only did we spend time defining our various customers as producers of pork products we also spoke to how these various customers will and do perceive pork production. interesting question comes to mind. Recently I attended a meeting in Kansas City. The hot topics of the day were the handling of the downer dairy cows at a California slaughter facility and the long haul transport of pigs from Alberta. The question we as veterinarians had to ask ourselves at this meeting and you as producers have to ask yourself every day is are we ready to allow cameras into our barns? Do we do the best we can with pain management? How do we handle downers? What has been acceptable, what is acceptable, and what will be acceptable? These are all questions we asked and addressed during the course.

To bring a close to the course we included talks in financial analysis and benchmarking. In itself this could have been a month long or even year-long subject to cover. Nevertheless it is a timely discussion and went along way to showing the importance of putting yourself under a microscope from time to time. Walking through benchmarking exercises brought to the fore front the significant variation in the productivity of various enterprises. Many years ago I was in troduced to the idea that you can't manage what you do not measure. Certainly that still holds true today.

The opportunity to bring these courses forward to producers has been a professionally rewarding experience for the WSHA, our producers, and I as the project coordinator. As we all reflect upon our past accomplishments, meditate on those that we presently strive towards, we must not forget to look forward. There are many opportunities ahead along with the challenges.

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60 Western Hog Journal



## Back to the basics Key learnings from Walking the Pens

By Don McDermid, Pfizer Animal Health

If you are a regular reader of Western Hog Journal, you likely saw the Fall 2007 and Winter 2008 articles based on Pfizer Animal Health's producer education program, Walking the Pens. Launched in 2007, the program is designed to help producers identify and treat individual pigs. It is one way that Pfizer supports the Canadian hog industry. As a reminder, in

the first article we looked at how to start pigs properly. In the second, we reviewed common illnesses and their treatments and how to identify sick pigs quickly and efficiently.

However, having knowledge is not enough to ensure that your pigs are healthy. Successful operation of any nursery or grow-finish operation depends on a myriad of factors - quality and health of the stock, quality of the rations, facilities, weather, staff - the list seems endless. Critical to many of these is one overriding factor: the performance of the people responsible for day-to-day operations. Every member of your team must be clear about their responsibilities and learn to recognize or, even better, anticipate problems.

In this article we will examine successful methods for sharing hog health knowledge with employees and how Walking the Pens has helped Canadian farmers in their operations. We have held over 100 training sessions over the past year. Attendees have had the opportunity to strengthen their operation by sharing the information they have gained through the sessions with others working in their harn.

### Barn walk-through

Whether introducing new employees to the barn, or reviewing the basics with your peers, consider the walk-through as the basic tool and start with a review of the barn records. Accuracy, timeliness and good record keeping are very important, and tying the records' use to specific decisions reinforces their importance.

Reviewing the recent diagnostic history of the sow herd or herds and any other related pig flows at the barn gives employees context for current illnesses. Previous group closeouts and current mortality or morbidity records are also helpful. When reviewing these records look for consistent patterns. Death loss and sickness occurring in the first two weeks post entry into grow-finish is usually due to either high infection pressure from the sow herd, such as with PRRS, or an inability to start

continued on page 62



#### **BACK TO BASICS CONTINUED**

pigs well. Death loss and sickness reoccurring three to eight weeks post entry is typically due to disease.

The next step is the walk-through itself. Think about and talk to employees about the basic equipment they should carry on each visit:

- a marker to identify pigs needing treatment or evaluation
- · medicines that are regularly administered
- a notebook or clipboard to record treatments, observations or needed repairs

Once the barn walk-through is complete, review all of the teachable moments. For new employees, consider creating a pocket-sized, laminated reference card to outline the goals for each turn.

### Hog health maintenance

Professionals such as engineers, nutritionists, veterinarians, and animal handlers can all add to the successful education of employees. For example, an engineer has the equipment and experience to troubleshoot the ventilation within a barn and to develop standard operating procedures to properly manage the barn environment. A nutritionist will focus on diet budgeting, diet quality, growth performance, feed particle size and feed wastage.

If you have concerns about the health of your herd, don't hesitate to get your veterinarian involved: he or she can help you troubleshoot problems and involve other consultants if necessary.

Exposing employees to these experts and giving them a chance to be part of the discussion can help them anticipate issues and know when and who to ask for advice.

#### **Barn management**

Each barn should have a sheet that records key events and information such as entry date, weight, source, lot number, mortality, treatments, removals, feed budgeting, temperatures and other comments. Comments should include information such as quality of the pigs at entry, response to treatment or environmental challenges such as fans not being operational. This information can be kept as individual records by topic or consolidated on one form.

Similarly, environmental data and financial information should also be recorded and actively managed. These records

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can help to identify the early onset of a health challenge, and can be reviewed with your veterinarian in troubleshooting problems.

Remember, the initial education phase is only the first part of developing better husbandry skills. Proper husbandry skills need to be developed/taught/reinforced throughout the 22 to 26 weeks it takes for pigs to get to market. By the time new employees have loaded 260 pound pigs onto a truck, they may have forgotten the skills it takes to get a 10 pound pig started on concrete slats. To be successful, the system has to have regular, ongoing education.

As one Walking the Pens participant noted, the program's goal "is to perfect what you're doing, and improve on what you aren't paying attention to...A lot of the materials, you have done before, but this program brought it all back to reality."

#### Conclusion

It is important for all of us all to recognize that the learning process never ends. The commitment to ongoing education is essential to the success of your operation.

You are the people that see the pigs day in, day out. This is why it is important for all employees to be well versed in, and focused on, sick pig identification. At the same time, concem about the overuse of antibiotics and maximum residue limits or tissue tolerances in food animals has increased the need to be selective in the administration of treatments, placing more importance on individual, rather than blanket treatment.

The industry is shifting emphasis from group to individual pig treatment, and Pfizer stands ready with health protocols and products to aid in this transition. Our hope is that the practices and procedures outlined in Walking the Pens will assist you to produce healthy, high-quality pigs and contribute to your success and profitability. And, if you are interested in participating in a Walking the Pens session but haven't had a chance yet, please contact your veterinarian for more information.

Dr. Don McDermid is Manager of Veterinary Services in the Swine Group at Pfizer Animal Health.

After training new employees, a close look at the following indicators will provide clues to the areas that may need to be addressed through additional training and education:

- **Record keeping** Are employees making notes as needed? Do the treatment marks on pigs match the actual records?
- **Pig behaviour** Are pigs overly scared of employees? If so, not enough time is being spent in and around the pens evaluating pigs' condition.
- **Inventory** Are products being used at the expected rate?
- Feeders and waterers Are they adjusted properly?
- Syringe care Have they been cleaned and stored correctly?



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### • Quality Assurance



### **CQA** Program reaches 10-year milestone

On April 8, 1998, a small group of Canadian hog industry stakeholders and government representatives gathered in Ottawa to announce the launch of the Canadian Quality Assurance Program, an on-farm food safety program for Canadian hog producers. Shortly after that announcement, the first farms were enrolled.

The dewlopment of the program had begun in the fall of 1995, and over the next two and a half years, producers, weterinarians, processors and production specialists from across the country worked together to come to a consensus on a Canadian program that would be based upon science, rather than the whims of the marketplace.

While 2007 participation numbers have yet to be completed, registration data at the end of 2006 reflected a little over 7000 production sites representing 68% of all hogs born in Canada and 95% of all hogs processed in Canada.

The launch of the program represented a reinforcement of the idea that Canadian hog farmers are producing not only an animal, but a food product, and that these producers are committed to taking all the necessary steps on farm to produce a safe product. The CQA program offered an opportunity for producers to have a third-party assessment of their production practices, following a common standard across the country, a practice that was being adopted throughout European countries and that was being requested by major pork importing countries.

Despite a rocky start to the program, with hog prices crashing during the fall of 1998, producers recognized the importance of CQA and that this was the direction that the worldwide hog industry was taking. Canadian pork had an excellent reputation as a high-quality and safe product and the CQA program would support that and offer evidence to a world that no longer worked on a handshake.

While CQA had been piloted on a number of farms across the country, the early days, as with the beginning of any program, reflected areas that needed improvement to make the program as user-friendly as possible and as flexible as possible to meet the needs of the various producers and production types across the country while still maintaining program integrity on the world stage. These changes were made and built upon over the years to strengthen the program and support the producers who took part in it.

From early in the development of the program, there was interest in having the support of the federal government in recognizing on-farm food safety programs. The Canadian Food Inspection Agency worked together with commodity groups to develop a recognition program. This recognition program was implemented only after the CQA program had been in operation for some time, but was used as a tool to review the program content for updating and submission to CFIA for

technical review. In 2004, the Canadian Pork Council and CFIA announced that the CQA program had successfully completed technical review and program materials were relaunched with an updated look, a new layout and a website.

CQA program materials continue to be regularly reviewed and updated. This program is very much a living one that is constantly striving to meet the needs of producers and the marketplace, to respond to updates in scientific understanding and government regulations. During this most recent downturn in the Canadian hog industry, the CQA program continues to be a part of the day-to-day operations of farms across the country and an important tool in managing hog farms as well as demonstrating Canadian producer commitment to providing a safe and high quality product to Canadians and to the world.

For more information on the CQA program, you can visit the website at www.cqa-aqc.comor contact your provincial delivery agent

#WHJ#



### • International Round-up



### Tyson to supply pork for US Olympic athletes

The US Olympic Committee (USOC) has decided to import lean proteins, such as pork, for its "Performance Nutrition" program for athletes at the Beijing Olympics. This decision is driven, in part, by concerns that such protein foods, if obtained in Beijing, may contain steroids, says the *New York Times*.

In preparing to take a delegation of more than 600 athletes to the Summer Games in Beijing, the USOC says it faces food issues beyond steroid-laced pork. In recent years, some foods in China have been found to be tainted with insecticides and illegal veterinary drugs, and the standards applied to meat there are lower than those in the US, raising fears of food-borne illnesses.

The USOC has tried to figure out how to avoid such dangers. It has made arrangements with sponsors Kellogg's and Tyson Foods to ship 25,000 pounds of lean protein to China about two months before the opening ceremony. Lo cal vendors and importers will be hired to secure other foods and cooking equipment at the Games.

### First GM "Phytase" corn licensed

China-based supplier of crop seeds and agri-biotech research, Origin Agritech, says it has licensed a new genetically modified com variety that includes the beneficial enzyme Phytase.

This transgenic corn is believed to be one of the first of its kind to be approved and sold commercially into the domestic marketplace, says a report for Fox Business. It is expected to be commercially available in 2009.

The Phytase enz yme increases phosphorus absorption in animals by 60 per cent and is used as a mandatory additive for animal feed in Europe, Southeast Asia, South Korea, Japan and Taiwan to reduce the environmental impact of livestock manure.

"Phytic acid, the main form of phosphorous in plant-origin animal feeds, is poorly available to monogastric animals as they lack the enzyme capable of hydrolyzing phytic acid to release phosphate. Genetic modificationis the world class standard and that is where China is moving," explained Dr. Yun-Liu Fan, a scientist at the Chinese Academy of Agricultural Science and member of the development team.

The development of this phytase - containing cereal means that feed producers will not have to purchase phytase and corn separately. This will reduce production costs and improve manufacturing efficiency. The Phytase transgenic corn has taken seven years to produce.

### New record for US pork exports

The US pork industry achieved its 16th consecutive record-setting year of exports in 2007, according to statistics compiled by the US Meat Export Federation (USMEF). One of every four pounds of pork traded today originates from the US.

Overall, pork exports increased three percent in volume compared to 2006,

surpassing 1.3 million metric tons, nearly 2.9 billion pounds. The value of those exports jumped 10 percent over 2006, exceeding \$3.15 billion.

Japan remains the top destination and accounts for 36 percent of the value of all US pork exports. It imported 358,582 metric tons during 2007, valued at \$1.152 billion and a six percent increase on the year. "US Pork is perceived as the highest quality product available," said Greg Hanes, USMEF Japan director.

Mexico is the second highest importer of US pork and pork products although this market saw a 22 percent decline in imports during 2007.

China/Hong Kong was the largest growth market for US pork exports, jumping 91 percent to 169,160 metric tons, nearly 373 million pounds, valued at almost \$271 million. Exports to China/Hong Kong surpassed exports to Canada in volume, with 148,576 metric tons or 327.5 million pounds, but Canada remains the No. 3 market in value of pork exports at \$491.58 million, a 12 percent jump over 2006.

### Pork features well in environmental survey

European retail chains are requesting more documentation regarding the environmental aspects of the products they purchase. Especially in the UK, the terms "food miles" and "carbon footprint" are gaining in popularity. The agricultural faculty of the University of Aarhus in Denmark recently carried out a life cycle analysis of pork from Denmark, the Netherlands and the UK on behalf of the Danish Meat Association.

The term "Food Miles" means the amount of greenhouse gas emissions (g CO<sub>2</sub>) during the transport of foodstuffs from the producer to the consumer. "Carbon Footprint" refers to the entire life cycle of a product and its greenhouse gas emissions. This term covers the entire value chain.

In the calculation of greenhouse gas emissions, the soybean crop growing in Argentina, the feed production in Denmark and the entire pig production chain including fertiliser production, slaughtering and meat dispatch was included. Through adding all emission values, a realistic value of





greenhouse emissions can be calculated per kilo of pork.

According to the life cycle analysis, 1kg pork contributes 3.6kg CO<sub>2</sub> equivalents to global warming. As a comparison, replacing a normal 60-watt lamp with an energy saving lamp burning for an hour provides a yearly reduction of 13kg of greenhouse emissions. Transporting by truck to Munich or by ship to Tokyo, the amount increases to 3.7-3.8kg CO<sub>2</sub> equivalents per kg pork. This indicates that "Food Miles" do not have much of an environmental effect and represent less than 1% of the entire emissions in the productionchain.

The study revealed no large differences between Danish, Dutch and British greenhouse gas emissions for pork.

### Ethanol boom running out of gas

Development of new ethanol plants in the USA is grinding to a halt, according to a recent report by Jon Birger in CNN Money's Fortune Magazine. Cargill has announced it is scrapping plans for a \$200 million ethanol plant near Topeka, Kan. and the bankrupt cysale of an unfinished ethanol plant in Canton, Ill. was approved in early March, says the article.

Plans for as many as 50 new ethanol plants have been shelved in recent months, as Wall Street pulls back from the sector, says Paul Ho, a Credit Suisse investment banker specializing in alternative energy. Financing for new ethanol plants, Ho says, "has been shut down."

The reason for the slowdown is runaway comprices, notes the report. Spurred by an ethanol plant construction binge, comprices have gone stratospheric, it says, soaring from below \$2 a bushel in 2006 to over \$5.25 a bushel today. As a result, it's become difficult for ethanol plants to make a healthy profit, even with oil at \$100 a barrel.

### Energy: main income for pork producers?

Energy could be the prime source of income for pig producers, and pork - in financial terms - might simply become a byproduct, says Martin Barker, managing director of British company Midland Pig Producers (MPP).

With the world focus on renewable energy, he sees the system of biogas

production - converting pig manure into methane and then electricity - as a competitive way forward. His company is developing a "Green circle pig production concept" in which the manure from 52,000 finishing pigs will be used to generate £1m (\$2m) worth of electricity annually. A 3 MW biogas plant is being built, which will also process 'kitchen' waste that would otherwise go to landfill. In addition, the waste processing will generate income, since landfill disposal fees for this amount to around £65 (\$130) per tonne.

When the waste is processed, an odourless liquid is produced, which is a valuable fertilizer. MPP is currently arranging agreements with local farmers whereby they are supplied with free seed and fertilizer and in return sell grain to MPP at prices reflecting the value of the inputs. The fertilizer should be sufficient for 2,000 hectares of anable land producing enough grain for 15,000 tonnes of pig feed.

"Pig farmers' survival might depend on energy production and such a system could make pig farming profitable again," said Mr Barker. He also noted that utilizing homegrown feed for pigs with home-produced fertilizer made good environmental sense.

The bio-digester would produce heat for pig buildings as well as cheap electricity for milling the grain. In addition to reducing nitrates, grain produced within the 'Green Circle' concept would cut food miles, further reducing the carbon footprint.

He explained that while these ingredients would not be cheap, they would be relatively cheap in relation to cereals.

### Ethanol powering US meat and poultry price rise

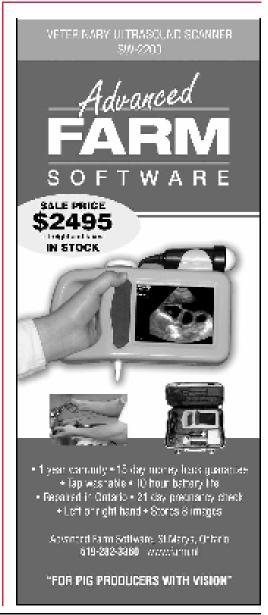
Soaring meat and poultry prices in the US are being fuelled by the country's ethanol policy, says economist Dr. Tom Elam, president of Farm Econ. "You cannot use the combined grain crops of Australia and Indonesia for US fuel and not have an impact on com, soybean and food prices", he explains. Elam expects food price inflation to rise five or six percent in 2009 and estimates the cumulative costs to the food industry of the renewable

fuel program will be about \$100 billion from 2005-2010. The program mandates minimum ethanol production and provides tax incentives for ethanol use.

As part of his analysis, Elam compared what would have happened without the federal bio-fuels program with what has happened. According to his findings, farm level corn prices in 2008 would have averaged about \$2.77 per bushel without the program. Ethanol tax credits have added \$1.33 per bushel, and may drive corn to more than \$5 a bushel in 2009, he says.

Elam has calculated production costs per animal have increased by 53 cents per chicken; \$3.40 per turkey; \$38 per hog and \$117.50 per fed beef animal.

ETHWE



### • View From Europe



## Creep feeding - the "Three Threes" - and why they are important

By John Gadd

### C'mon guys, you really must creep feed these days!

In the Winter issue I talked about the 'Shattered Sow Syndrome', which is the result of excellent world-wide progress in the breeding barn, with large litters of 13 being seen more and more often. In fact the last three farms I visited over here were averaging a whisker under 13 bom-alive. Terrific!

But moving on into their mating units, there were too many sows already well into the body-condition 'nose-dive', especially those in the vulnerable 1st and 2nd parities - 'shattered sows', which should have had the weight of a prolific and rapidly growing litter taken off them. Feeding a well-designed and carefully made creep feed early on is a primary line of defence, yet two of the breeders were not doing so, and the third unskillfully.

### Why no creep feed?

I asked the two defaulters who had recently stopped. "Too much bother and we've not enough labour". "Very expensive". "Last time we tried it we saw no definite benefit." "It caused scour". "The little pigs don't seem to like it" .... and so on.

The last three reasons were almost certainly due to the creep feed itself. I looked at their specifications, smelled the feed, tasted it\* and asked the price. Not impressed!

A really well designed creep feed contains expensive in gredients – even nucleotides, which you probably haven't even heard about – but you will soon. It is the cheap formulae which cause scour. The new creep formulae do not do so and ensure the vital palatability – they can even produce better performance than sow's milk alon e, some nutritionists are now able to claim.

\* Don't do the latter, it could be dangerous. But I'm a risk-taker and onfarm I am tempted to be a bit of an idiot in my enthusiasm to get a message across. So far I've got away with it!



Yes, and this particular choice of raw materials and very careful, specialized manufacture costs dollars – a lot of dollars – per tonne. So let's look at the cost aspect.

### The econometrics (cost-effectiveness) of creep feeding

There are now several statistically-valid trials of well-designed creep feeds providing another whole kilogram at 28 day weaning (for example Varley, Pig World 2006, p. 39). This gave 8.4 kg vs 7.4 kg – and 7.4kg is not bad, is it! There are dozens that show at least a 500g advantage.

An half- kilogramme advantage at weaning can provide 50 to 60 g/day better growth to slaughter, worth another CDN\$8 - \$12 per pig at our current European finished pig prices. And what is the cost per finished pig of feeding a really sophisticated creep feed? With 700g consumed by weaning, this cost about CDN\$3.50/pig, and with the extra labour needed, another 50 cents. These are pessimistic assumptions but they still give an REO (Return on Extra Outlay) ratio of 2 to 4:1.

This payback doesn't include the value of a better immune response later in life (helped by things like nucleotides), a well-primed enzyme system at weaning and fewer 'shattered sows', especially in the earlier parities when the big litters now being achieved as routine shorten the sow's productive life. Sow longevity is a major problem worldwide and I will address this "scandal in our midst" in the next issue.

### Do it properly guys!

The experts tell us that the piglet needs to eat at least 400g of solid food so as to precondition the absorptive area of the gut wall so that solid food can be safely digested once the sow is removed.

**Start early:** Sure, they will waste a lot but reduce this by offering a light scattering of creep on a small shallow plastic tray with a 1 cm - high flange. You will need two of these to be removed at least once or twice a day or when soiled.

**Feed fresh:** Along with a water supply nearby, this is easily the most significant benefit to rapid, trouble-free uptake of a good creep feed. Freshness in the creep receptade is materially helped by adopting my "Three-Threes" approach.

The Three-Threes: This means for the first three days, ie from day 3 to 4 from birth until day 6 to 7, the creep must be offered three times a day and only enough should be offered to last three hours. Any creep starter feed not consumed should be given to sows in the least-good condition, being heavily milked, one suspected of a low milk yield, or to smaller gilts. This way it will not be wasted. Now I know this is a chore – a darned nuisance. But a survey I published a while ago showed that skilled pig technicians must spend more "quality-time" with the pigs and less on heavy-duty tasks which can be done adequately enough by less-skilled or contract labour.

During these intensive "care days" the small, first-stage creep receptades must be taken up and cleaned once a day. Indeed as staff



are busy enough at that time, spares are a boon so that a daily bulk cleaning and drying period can be accommodated with the minimum of work and disturbance to routine.

### **Creep feeders**

Fortunately these creep feeders are small and inexpensive. Another type is a heavy, cast-iron circular bowl with metal rod dividers falling from a central carrying handle. But they are heavy things to cart around and keep clean. A concrete/resin heavy bowl is more convenient. Plastic or steel designs are cheaper and lighter but need to be anchored to the farrowing pen perforated floor, in which case a central, spring-loaded handle is depressed and twisted

to lock a small 'T-piece' under the slat and keep it from being overturned. Preferably do not use those with solid dividers as piglets like to see others eating and the more timid will start eating that bit sooner.

Another more costly but intelligent design, which does not need such frequent replenishment, is one I've seen used and made by Osborne, Kansas. This has a mini tray under a small dispensing hopper which itself keeps the creep away from flies and odours. The larger tray underneath the fixed mini tray can be taken off and washed, but ask for an extra number of these so that the device can be kept as clean as possible by cleaning and replacing with the spares. I hope they are still available, as we always got good results with them. Many creep feeders are what I call "permanent" - heavy, well made, the trough partitioned and with a generous feed hopper. Fine! But they tend to be overfilled and thus the feeding space is not cleaned frequently enough during those first vital 4 to 7 days of use.

Spotless cleanliness is the keystone of successful early-starting creep feeding - once you have summoned up courage to buy a really good creep feed, of course.

Plenty of spare small creep receptacles, frequently sanitized, enables this to be done.

Be cause the larger conventional creep hoppers are so permanent, they are not placed in the farrowing pen until too late, in other words when the technician thinks the piglets will eat the creep feed willingly, which is at about 10-12 days. Use them later by all means - providing the trough is kept clean.

For the 'Three-Threes' it is better to have a smaller dedicated dispenser and change to a conventional feeder later on – if kept clean and sweet.

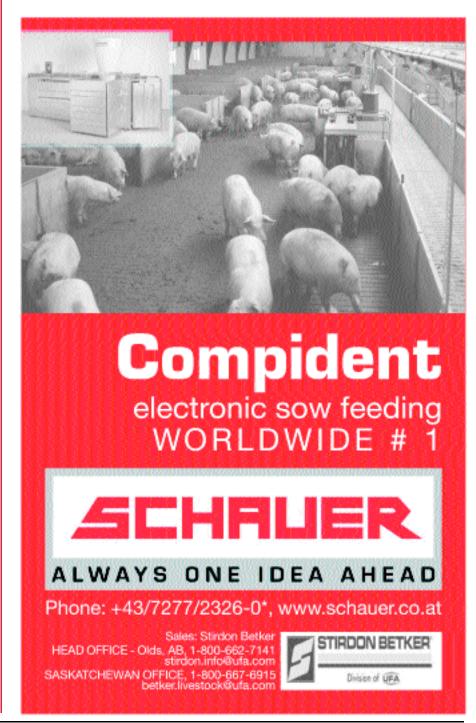
### Placing of the creep dispenser

This is a big subject, too complex to be described here as it involves "best locations" in the four main farrowing pen designs -

central crate/side creep (preferred), central crate/forward creep, central crate/corner creep and diagonal crate/corner creep. In the limited space left to me here, suffice it to say that you should, in all cases, keep the creep dispenser away from a heat source, place it as near as possible to a water source (but not that of the sow), never overfill and keep it away from the sow's urine splashings.

#### A tip to finish with

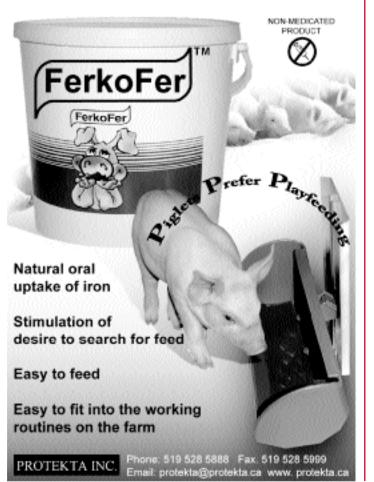
Can you get potato starch in Canada? If so, mix a little in with the creep pellets or sprinkle a little over the shallow pre-starter tray on the first day of weaning – you will be surp rised how quickly they take to it.



## Brits roll out the charm offensive ...and it's working!

By Stuart Lumb

UK producers have been hit with rocketing raw material prices just like the rest of the world and are currently losing \$40 per slaughter pig. Some shrewd and farsighted pig farmers bought forward last summer, but many got caught out. Now even producers who grow their own grain are having to buy in as last harvest's stocks have been used up. Some operators have used the current crisis to depopulate and re stock, whilst many contract finishers have opted to leave their barns empty. Having said that, high raw material prices are not a one-year wonder and for the UK industry to survive the producer must get a decent price for his pigs - \$2.80 per kg. British farmers tended to look down their noses at their counterparts across the English Channel who over the years have staged noisy demonstrations to draw attention to low prices, yet who would have believed that a few years ago, during the last pig crisis, Yorkshire pig farmers, immaculately dressed in a flannel shirt, tie, sports jacket and smartly tailored trousers could be found manning picket lines at many of the big supermarkets' massive distribution centres, causing huge disruption to these operations. A small group of hard headed Yorkshire producers were fed up with falling UK pig prices and the sight of supermarket shelves full of imported pork and bacon,





British pig producers sing a rousing chorus of "Stand by you ham" at the rally in London

so they set up the British Pig Industry Support Group (BPISG), a somewhat clandestine group of producers, their employees plus allied industry staff. These picketing operations were well planned, usually taking place on Thursday nights as these centres were working flat out getting products out for anticipated big weekend sales. One such operation caused massive disruption to a huge distribution centre near Doncaster resulting in a complete shut down by 2am the following morning, losing that company thousands of dollars. As the weary protesters drove home, they passed a long line of 90 loaded refrigerated semis, all stood stationary, backed up for 3km and which wouldn't be unloaded until the day shift came into work. That's what you call Pig Farmer Power!

About 18 months ago, when prices were again low, the "nightriders" went out again. Previously any brushes with the police had been good-natured, but on this occasion the police outnumbered the pickets, turned up with dogs and threatened arrest for trespass. Hence Plan B had to be devised.

Traceability and independently audited quality assurance have been part and parcel of UK pigs for many years. All pork, bacon, ham and sausages produced under this scheme carry an easily identifiable distinctive colourful logo incorporating a Union flag, the British Meat Quality Standard Mark (QSM) on the pack. The British consumer has always been concerned about welfare and surveys carried out 15 years ago indicated that consumers didn't like sows in stalls and appreciated that loose systems increased production costs, but wouldn't pay more for the end product. This has changed over the years. Now British producers "play the welfare card" to justify the higher cost of the UK product versus cheaper imports and, according to a recent survey, 78% of people polled were prepared to pay a little more to cover rising production costs and support British producers. Only 9% of those surveyed thought that farmers were paid a fair price by British retailers. This COOL initiative has worked very well for

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the British pig farmer, but our circumstances are somewhat different to those existing right now in Canada.

The Meat and LivestockCommission (MLC) is a Government body set up many years ago to oversee the UK pig industry with regard to research projects and promoting livestock in general. Many UK pig producers felt that the MLC was not responsive enough with regard to industry needs and so the British Pig Executive(BPEX) was set up a few years ago. The BPEX board is made up of 7 leading English producers along with 3 key players in the processing trade. B PEX operates with maximum autonomy within MLC's statutory responsibilities. An example of this is that in the past MLC might have decided to carry out research that in the view of pig farmers was too far removed from the "coal face". Now research topics are agreed by BPEX and implemented by MLC.

The profile of the British industry has been significantly raised of late and a lot of this is due to the hard work of producer Stewart Houston. Stewart plays an extremely pivotal role in the industry being an MLC commissioner and chairman of BPEX. Significantly Stewart is currently NPA executive director as well as NPA chairman. Stewart is on first name terms with key Ministers in the Government and so can put pressure on key politicians at very short notice, plus he has good working relationships with the big supermarkets. Consequently when raw materials shot up in price last summer NPA/BPEX were quick off the mark explaining to the supermarkets that this was a worldwide problem and that they would not be able to source cheap pigmeat from abroad, as has



Stewart Houston, Chairman of the British Pig Association, (second left) prepares to hand in a petition to the Prime Minister's residence, 10 Downing Street

happened too many times in the past, and that they needed to be aware that UK producers were losing \$40 per pig. If retail prices didn't lift then it would mean the demise of the UK pig industry. Pig producers regularlymonitor the supermarkets for the amounts

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#### BRITISH ROLL OUT THE CHARM OFFENSIVE CONTINUED

and type of imported pork and bacon being sold and this is displayed in the form of a league table. This invaluable data can then be used by industry leaders to put pressure on certain supermarkets to sell more British product. Good communications are vital in any sector. Pig farming is a very isolated business. This has been recognized here and excellent links have been established via the press, websites and SMS messaging. PIGWORLD is now the sole surviving pig magazine in the UK – not long ago we had three. It devotes many pages to NPA activities each month and editor Digby Scott also runs the NPA website. This site is updated daily plus a forum page displays comments and queries from anyone in the industry. Hence the UK industry is "very light on its feet" and can respond to any crisis or development literally within

hours, n ever mind days. We also musn't forget the ladies. Ladies In Pigs (LIPS) do a sterling job touring the country promoting the industry at shows and backing up other demonstrations. The smell of cooking bacon is irresistible – even to vegetarians, s ome of whom think bacon isn't meat (don't dispel that myth though!) and these ladies, all unpaid volunteers, do a great job dishing out bacon sandwicks from their mobile kitchen across the length and breadth of the kingdom as and when required.

Part of plan B still invokes demonstrating, but rather less confrontationally than at the turn of the century. The Institute of Grocery Distribution holds its AGM each year in October and pig farmers used this meeting as an opportunity to ram home the current crisis. Seventy producers braved the driving rain to

demonstrate outside London's Royal Lancaster Hotel with the message that if the UK industry becomes decimated then in 12 month's time pork, bacon, ham and sausage prices will have gone sky high. A masterstroke was the presence of LIPS serving delegates with delicious bacon sandwiches as they arrived for their meeting. October is also the time of year when the industry celebrates British Sausage Week, which has now been running for 10 years. A TV celebrity is crowned "King of Sizzle" and tours the country in a bid to find Britain's Best Banger. Organized by the British Sausage Appreciation Society, British Sausage Week celebrates the taste, quality and variety of the sausage of which there some 400 named varieties in Britain alone. Sausages are now a quality meat dish made of 90% pork, not rusk and bread as used to be the case, and British Sausage Week has undoubtedly raised the profile of the humble "banger" over the last 10 wars.

The Pig - O - Meter appeared on the B PEX website. This was an ingenious idea and shows vividly how much money the industry was losing minute by the minute, hour-by-hour and day-by-day. Another winner has been the "Pigs are worth it" website. www.pigsareworthit.co.uk/epetition.html. This advert states that the industry is losing \$12 every second. It shows a picture of a disappearing pig and pig farmer and then an empty pen with a caption "Save our bacon, before it's too late" and urges viewers to register and log on line to show their support for the industry.

BPEX has spent \$5 million (which included \$1.6million from the government for post –FMD recovery) on the campaign to get a fairer return for UK pig farmers, which has included a series of high profile consumer adverts, which started last September, in national newspapers, magazines and supplements. Many of the leading TV cooks have also come on board, supporting retail price increases to save the industry. Incidentally, pig farmers pay a levy for pig meat



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promotion of \$1.70 per pig, although because of the current crisis producers are getting a 12-month levy reduction of 20cents per pig from April 1. Processors contribute 40 cents per pig.

Pig farmers were encouraged to write to their local newspapers and contact their local radio and TV stations to promote awareness of the industry's plight. Coaching in presentational skills was given to individuals so that the message came across in a professional way.

Another brilliant NPA idea was to get a nationwide group of pig farmers, wives and family together in an EMI recording studio to make a recording of "Stand by Your Ham", a spin off of the 1968 Tammy Wynette classic "Stand by your Man". The recording was released just before the "Pigs are worth it! Rally",

which took place on March 4 outside Downing Street, home to UK Prime Minister Gordon Brown. A petition containing over 13,000 names was handed in to the Prime Minister's residence, 10 Downing St. Farmers were also joined by "Winnie The Pig", veteran of the industry's 3-month protest in front of the Houses of Parliament in the year 2000. (Winnie was so called because her pen was literally under the famous statue of Sir Winston Churchill, in Parliament Square). I was proud to help out in 2000 and recount the tale whereby I wheeled a barrow of pig manure up Whitehall at 7.30am, to be used to fertilize PM Tony Blair's rose trees. The policemen on duty thought otherwise and I had to wheel it all back again!

The March 4 demo was a huge success, with over 1000 farmers turning out from all over the country. Local co-ordinators worked their socks off sending countless SMS messages to keep farmers updated regarding bus departure times and the like. The press coverage was simply amazing. I left home at 6am and "Stand by Your Ham" was played constantly on national radio, all morning. The video clip also featured on national Breakfast TV and at other times and many foreign TV crews covered the event. The rally featured in 9 national newspapers, 17 regionals and on countless websites. In fact, Ontario Pork wants to use "Stand by Your Ham " at their next AGM!

Farmers met their MPs after the rally and many MPs had their picture taken with Winnie, amongst them former Tory Agriculture Minister John Gummer. Government support has come from the appropriately named MP Richard Bacon who has tabled a cross party Early Day Motion which will call for the Government's support to stop the disappearance of British pig farming.

Supermarkets have raised pigmeat prices but little, if any, of this increase has flowed down the supply chain to the producer. The industry is not resting on its laurels. Using the March 4 rally as a springboard, a special trailer carrying pigs is embarking on a nationwide tour. The pigs will be parked in town centres with placard-waving farmers putting across the message that the industry is in dire straights and singing – of course – "Stand by Your Ham"!

It's absolutely amazing what a small nucleus of determined individuals, working night and day, have achieved over the last few months. The Canadian industry is more dispersed than here in the UK, but many of the initiatives outlined in this article could be successfully adopted on a Provincial basis. I'm in BC and Alberta in early June so will be following your progress with great interest!

### Alberta Pork Spectra Award Friend of the Industry presented to Alfred Wahl



Friend of the Industry award presented during the Alberta Pork AGM in December 2007. Pictured above Penny Jones, Herman Simons, chairman of Alberta Pork and recipient Alfred Wahl.



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### • Pigs Down Under



#### By John Riley, IAS Management Services

High feed prices and low hog prices have led to a huge increase in sow slaughterings in Australia and there is a low level of confidence among producers, says production consultant John Riley. Meanwhile, imports of pork products soar, including those from Canada, putting even more pressure on producers.

The winter edition of the Westem Hog Farmer summarizes the Canadian industry's response to high feed costs, the weakness of the US dollar and unsatisfactory market returns.

The dismal picture in Canada is mirrored in the Australian industry. In the last month, one of the largest production units in Queensland that is owned by a Japanese company has been put on the market. If this 7,000 sow, farrow to finish business closes, there will be serious repercussions for the local feed mill and the two abattoirs in the state.

Another company to call it a day is the breeding company Hyfarm-JSR. They have sold their 600-sow high health nucleus unit to a Dutch family who recently settled in the state. In addition, the Hyfarm-JSR multiplication unit is now on the market with limited expressions of interest by prospective purchasers.

Ironically, the Dutch family were encouraged to settle in Australia by a state government in 2002 which promoted the financial benefits of investing in the pig industry in Queensland.

The Productivity Commission report that handed down its findings in December, determined that the unprofitability of the Australian industry was not due to imports from the USA, Denmark and Canada, but was due to high feed costs.

In parts of New South Wales and Queensland, harvesting of the sorghum crop is well advanced with record yields being recorded. Sorghum is a summer grain crop used in animal feeds. Normally the price is around \$AU160 per tonne but this year the price is holding firm at around \$AU\$260 per tonne due to the high demand worldwide for wheat and barley. The usual seasonal reduction in average feed costs has not materialized so far in 2008.

During the last quarter of 2007, s ow slaughtering was 49.5% higher than in the last quarter of 2006. The level of imports of processed pig meat during the 12 months ending December 2007 was 29% higher than in 2006 with imports from Canada totalling 43,415 tonnes shipped weight, an increase of 24.8% on the previous year. In the same period imports from the United States increased by 52%.

The lack of confidence in the industry has resulted in very little investment in housing systems that comply with the new welfare codes. The codes dictate that within ten years, housing of sows in stalls for more than four weeks during gestation will not be allowed.

A few producers in the east that have moved to group housing in gestation have adapted grower pens and introduced feeding of small groups.



Producers in Australia are moving towards group sow housing

In some instances in Western Australia sows have been housed in larger groups on deep litter in shelters and fed through traditional feeding stalls on a concrete pad in or adjacent to the shelter. The feeding stalls service more than one group of pigs on a rotation system. The main disadvantage of the system is the high labour required in moving sows.

There is only limited interest in electronic feeding systems. In the past Australia's isolation in regard to after sales services has led to frustration and a few systems that were installed in the early 1990's were subsequently removed. However, interest has been rekindled in recent months and two large-scale producers have installed Mannebeck systems in naturally ventilated slatted floor sheds.

In addition to high feed costs and poor market retums, producers in Queensland were shocked to read in March of their state government's proposal to increase the cost of meeting the environmental legislation. The proposal, if implemented, will see a producer with 100 sows producing bacon pigs paying \$52 per sow per year to government and a producer with 600 sows with progeny to bacon will pay about \$9,800 per annum. The State government has decided on a policy of full cost recovery from potential polluters of the environment for the implementation and the policing of the legislation. Interestingly a local mining company selling gold worth \$108 million will pay just \$20,000 if the legislation is passed.

A further major change will dictate that multi-site operations will pay the fee on every site because multi site discounts will be withdrawn. Pig producers in Queensland are far from happy and more could well exit the industry in the next six months.

## • Recipe Corner



### **Caribbean Grilled Pork Sirloin Steaks**

By Roy Kruse, Alberta Pork



Yield: serves 6 ❖ Cooking time: 10 min ❖ Preparation time: 5 mins

#### Ingredients

2lbs	(1 kg)	Pork sirloin steaks, b oneless
1	large	red onion, thinlysliced
3/4 cup	(175 ml)	fresh lime juice
1 tsp	(5 ml)	salt
1/2 tsp	(2 ml)	cayenne pepper

#### **Cooking Instructions**

Place pork and onion in plastic bag or non-metal sealable container. Combine remaining ingredients and pour over pork. C over and refrige rate 4 hours.

Drain marinade and on i ors into a saucepan. Preheat barbecue on high; reduce temperature to medium. Place pork on grill; close barbecue cover and grill 5 to 10 minutes per side.

Meanwhile, bring reserved on ions and marinade to a boil; spoon over pork.

Serve with vegetable skewers or fruit salad.

Nutritional information  Caribbean Grilled Pork Sirloin Steaks  Per 1 person serving			
Calories	240	Cholesterol	115mg
Fat	6g	Sodium	500mg
Saturated	$^{\circ}$ 2g	Carbohydrate	6g
Monounsaturated	2.5g	Fibre	
Polyunsaturated	1g	Protein	1g 38g

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### • Events Diary

11-13th

VIV Asia

Committee of the Control of

May			
13-14th	British Pig & Poultry Fair	Stoneleigh, UK	www.pigandpoultryfair.org.uk Contact: Alice Bell +44 2476 858 276
27-29th	VIV Europe	Moscow, Russia	www.viv.net Contact: +31 30 295 2772
June			
5-7th	World Pork Expo	Des Moines, Iowa	www.worldpork.org Contact: John Wrigley (417) 451-6004
18-19th	Ontario Pork Congress	Stratford, Ontario	www.porkcongress.on.ca Contact: (519) 625-8811
18-20th	Western Canada Farm Progress Show	Regina, Saskatchewan	www.wcfps.com Contact: 888 734-3975
18-20th	Pan Pacific Pork Expo & Uptake 2008	Queensland, Australia	www.apl.au.com/pppe Contact: Natalie Wimmer +61 2 6285 2200
22-25th	20th International Pig Veterinary Society Congress	Durban, South Africa	www.ipvs2008.org.za Contact: +27 31 3321451
22-29th	Advanced Swine Production Technology Course	Illinois, USA	www.livestocktrail.uiuc.edu/porknet Contact: Gilbert Hollis (217) 265-9191
Septem	ber		
7-10th	World Meat Conference	Cape Town, S.A.	www.worldmeatcongress2008.co.za Contact: Nr Manie Booysen (+27) 12361-4545
20 -23rd	Allan D Leman Swine Conference	Minnesota, USA	www.cvm.umn.edu Contact: (800) 380-8636 or (612) 624-3434
30 – 2nd Oc	ct Pork Expo Brazil 2008 & IV International Forum on Swine Production	Parana, Brazil	www.porkexpo.com.br/index.php/pasta/2/ Contact: +55 3888-2077
October	r		
20-22nd	VIV China 2008	Beijing, China	www.viv.net Contact: +31 30 295 2772
Noveml	ber		
11-14th	EuroTier	Hanover, Germany	www.eurotier.de
Decemb	per		
3-4th	Hog and Poultry Days	Winnipeg, Manitoba	www.hogandpoultrydays.com
2009			
<b>January</b>	<i>(</i>		
20-23rd	Banff Pork Seminar	Banff, Alberta	www.banffpork.ca Contact: Ruth Ball (780) 492-3651
March			
7-10th	American Association of Swine Veterinarians 2009 Annual Meeting	Dallas, Texas	www.aasv.org Contact: (515) 465-5255

Please let us know details of any events you would like to see listed above - call Bernie Peet on (403) 782-3776 or email whj@albertapork.com

For all your advertising requirements, please contact: James Shaw at (416) 231-1812 or jamesshaw@rogers.com

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