WINTER 2010

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Vestern Hog Journal

IN THIS ISSUE:
Maximizing grow-finish margins
Gilts – are we up with the times?

The First Power In Genetics GENESSUS

THE TRUE ALTERNATIVE

Meeting the challenge of today's hog producers Genesus continues to set Industry Standards in the world's largest independent benchmarking system Swine Management Services (SMS) of Fremont, Nebraska. SMS database 2008 - 1,175,053 females.

	GENESUS 49 FARMS	SMS 585 FARMS		
TRAIT	AVERAGE ALL	AVERAGE ALL	DIFFERENCE	
Pigs weaned /				
Mated female / Year	26.78	23.30	3.48	
Litters / mated female / ye	ar 2.45	2.36	0.09	
Wean 1st Service Interval	6.45	7.01	-0.56	
Female Death Loss	5.7	7.7	-2.0	
Farrowing rate (%)	87.8	82.8	5.0	
Weaned / female farrowed	11.06	9.95	1.11	
Total born / female	13.56	12.59	0.97	
Born live / female	12.25	11.42	0.83	

Of the entire SMS database of 585 farms with 1,175,053 sows Genesus was the #1 herd and the only herd with over 30 p/s/y. Genesus also held 8 of the top 9, 12 of the top 15, and 15 of the top 20 spots for p/s/y.

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Western Hog **rn**2

Volume 31, Number 3

WINTER 2010

Date of Issue: January 2010

IN THIS ISSUE:

Page 26

Maximizing grow-finish margins

Page 53

Gilts – are we up with the times?

COVER PHOTO

Nursery piglets at Gle Haahr's 820 sow unit in Denmark - see story page 55. (Photo courtesy Danish Agriculture & Food Council)

WEBSITES OF INTEREST

PROVINCIAL ASSOCIATIONS

Alberta Pork Saskatchewan Pork Manitoba Pork Council Nova Scotia Pork Ontario Pork PEI Pork

www.albertapork.com www.saskpork.com www.manitobapork.com www.pork.ns.ca www.ontariopork.on.ca www.peipork.pe.ca

www.canadapork.com

www.nppc.org

www.spimg.ca

NATIONAL ASSOCIATIONS www.cpc-ccp.com

Canadian Pork Council Canada Pork International National Pork Producers

MARKETING ASSOCIATIONS

Manitoba Pork Marketing Co-op Inc. www.mpmc.mb.ca SPI Marketing Group Inc. Western Hog Exchange

OTHER SITES OF INTEREST Banff Pork Seminar Lacombe Research Centre Prairie Swine Centre U of A VIDO

www.banffpork.ca http://res2.agr.ca/lacombe/ www.prairieswine.com www.afns.ualberta.ca www.usask.ca/vido

www.westernhogexchange.com

Editors Notes	4
News and Views	6
Industry Crisis	16
Swine Technology Workshop	
Euthanasia – When, Where and How?	20
The dirt on cleaning and disinfection	24
Maximizing grow-finish margins	26
Optimizing lifetime sow condition	30
Special Features	
Designing a group gestation pen – it's more than square footage per sow: Part 2	32
Birth weight affects performance and carcass quality	36
Is supply management the answer to the industry crisis?	37
Danish producers continue productivity advances	39
Downturn still a good time for improving genetics	41
Families behind the farms	43
Herd Health	
Optimal breeding productivity through careful management of sow herds: Part 2	46
International Round-up	48
View from Europe	
Gilts - are we up with the times?	53
Not so great in Denmark either	55
Pigs Down Under	
Pigs profitable but imports increase	57
Recipe Corner	59
Events Diary	61
Ad Index	62

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• Editor's Notes



The impact of the USA's COOL legislation on the Canadian pork industry has been nothing short of devastating. It is likely that the numbers for export of live pigs for 2009 will come in at around 6 million, or 4 million pigs down compared to 2008. While to some extent that has been good news for Canadian processors who have been able to counter the continuing fall in Canadian hog production, it has been nothing short of a catastrophe for producers who built their businesses on supplying isowean or feeder pigs for rearing and finishing in the USA. Canada has the edge on the USA when it comes to producing weaned pigs efficiently and cheaply. Demand in the US for the progeny was strong until COOL came along. Now the mutually beneficial arrangement has been damaged beyond repair. Worse still,

have had to shut down facilities, w h i l e finishing



barns in the US stand empty.

To add insult to injury, imports of pork from the USA look likely to hit a massive 200,000 tonnes for 2009. Imports have been rising steadily year on year, from a figure of just 20,000 tonnes in 1990, and have been stimulated in recent years by the low US dollar. Why doesn't the industry respond more vigorously when the US has done such irreparable damage to Canadian Maybe it's time to make producers? consumers more aware of the benefits of eating Canadian pork and perhaps even name and shame those retailers that sell US product? What if producers demonstrated outside a retailer that sells US pork and explained to shoppers what damage imports have done to our industry and that Canadian pork is a better choice?

The sad fact is that in the majority of retailers it's impossible to distinguish Canadian pork from imported product so, even if consumers want to support Canadian farmers, they cannot. Industry organizations and producers need to be much more aggressive about countering the threat of US imports which are contributing to the decline of our industry. Identifying Canadian pork clearly would be a good start. More effective communication with consumers about the virtues of our excellent product would also help, in addition to persuading retailers of the long term advantages of supporting Canadian producers.

Banie Peek.





WESTERN HOG JOURNAL

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¹ Patience, J. et al. 2006. "Effect of Ractopamine in Finishing Swine Diets on Growth Performance, Carcass Measurements and Pork Quality." Prairie Swine Centre Inc. Data on file.

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News and Views

Video shows how to maximize grow-finish margins

A new video – Maximizing Grow-Finish Margins – has been produced by Red Deer Swine Technology Workshop following the success of a similar video on piglet survival in 2008. It was shot at two finishing units within the Eclipse Pork system, a 2500-sow operation in the Lacombe, AB area, with the assistance of Paragon Pork Management. One unit has a conventional layout with pens of up to 50 pigs and the other is a large-group system with auto-sort scales. Topics include maximizing growth rate, improving feed efficiency, selection of market hogs and use of performance data.

"The video was a very popular part of the workshop program and allowed us to show the hands-on techniques used in the barns, which is valuable to producers," says Bernie Peet, the workshop manager and producer of the video. "It is also consistent with our aim of focussing the workshop on practical management-related topics aimed at increasing productivity and profitability."

Copies of the half-hour video, in DVD format, are available from Pork Chain Consulting Ltd., 37, Coventry Lane, Lacombe, AB, T4L 1T6 Phone: (403) 782-3776, Fax: (403) 782-4161. They cost \$40 each and cheques should be made payable to Swine Technology Workshop.

Government acts to improve food safety

The Canadian Government will invest \$75 million in Canada's food safety system and act on all 57 recommendations made by independent investigator Sheila Weatherill, following the Listeria outbreak involving Maple Leaf Foods meat products.

"We are making significant investments to hire more inspectors; update technologies and protocols; and, improve communication so that Canadians have the information they need to protect their families," said Agriculture Minister Gerry Ritz.

The new investments, announced last September, will improve the Government's ability to prevent, detect and respond to future food borne illness outbreaks. Among other improvements, the Government will:

• hire 166 new food safety staff with 70 focusing on ready-to-eat meat facilities;



- provide 24/7 availability of health risk assessment teams to improve support to food safety investigations;
- improve coordination among federal and provincial departments and agencies;
- improve communications to vulnerable populations before and during a food borne illness outbreak;
- improve tracking of potential food borne illness outbreaks through a national surveillance system;
- improve detection methods for Listeria monocytogenes and other hazards in food to reduce testing time and enable more rapid response during food safety investigations, as well as expanding the Government's ability to do additional Listeria testing; and
- initiate a third-party audit to make sure Canada's food inspection system has the right resources dedicated to the right priorities.

The Government has already made significant changes to Canada's Listeria management strategy, including making environmental testing and reporting mandatory in ready-to-eat meat plants.

Paylean receives regulatory approval for new dose range

Paylean[®], a swine feed ingredient, has received a new dose range approval for its label. In addition to the two existing approved dose rates of five parts per million for improved weight gain and feed efficiency and ten parts per million for increased carcass leanness and dressing percent, Paylean can now be administered at rates between these dose levels.

"The increased flexibility provided by the new dose range will bring additional benefits to Canadian pork producers who use Paylean," says Elanco Canada Swine Marketing Associate, Peter Mumford. "Data based on Paylean use at a rate of 7.5 parts per million, for example, clearly indicates a number of significant advantages that will contribute to increased profit potential." The data referred to by Mumford indicates that increasing Paylean doses from 5 parts per million to 7.5 parts per million results in an additional improvement of 4 percent in feed efficiency, an additional 4 percent increase in average daily gain and an additional 1 kilogram increase in total weight gain over the course of the feeding period.

Paylean's active ingredient, ractopamine hydrochloride, works to increase the natural process of protein synthesis, at the expense of fat synthesis, resulting in increased muscle fibre size. The effects of Paylean on carcass composition are directly related to the increase in muscle metabolism and, because lean tissue is more efficient to produce than fat, pigs fed Paylean convert feed to weight more effectively.

Elanco swine veterinarian, Dr. Isabelle Moreau, says Paylean provides live performance benefits in the form of average daily gain and feed to gain improvements. "The data from numerous studies indicate a consistent, positive performance response with Paylean. For Canadian producers, this means fewer days to market, an increase in carcass weight of lightweight pigs and an *continued on page 8*



WHAT SETS US APART FROM OUR COMPETITOR'S GENETIC VOR

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NEWS AND VIEWS CONTINUED

increase in kilograms of pork sold in a fixed number of pig spaces." Dr. Moreau also notes that the consistent improvement in feed to gain means less feed per kilogram of pork produced, which contributes to cost savings and reduced environmental impact of pork production.

According to Swine Marketing Associate Mumford, one of the biggest benefits of Paylean is its consistent performance response, with both the lightest and heaviest pigs, across a range of conditions and genetic sources. "Given the diversity of pork production practices in Canada, Paylean is a very good fit and the new dose range will provide producers with even more flexibility to tailor Paylean use to their individual pig performance and production objectives."

Paylean has a zero-day withdrawal and is quickly excreted from the pig's body. Paylean has also been recognized for its contribution to stewardship of farm land resources by increasing nutrient retention, while decreasing total manure and nitrogen output.

For more information about Paylean, pork producers are encouraged to consult their feed consultant.

New President and CEO for the Alberta Livestock and Meat Agency

An accomplished leader in the private and public agriculture industry with diverse experience in the agri-food business has been named the new President and CEO of the Alberta Livestock and Meat Agency (ALMA). Gordon Cove will help ALMA achieve its mandate as a catalyst for innovation and competitiveness in the agriculture industry, under the auspices of the Alberta Livestock and Meat Strategy (ALMS).

In his previous role with ALMA, Cove helped develop and implement the ALMS. With his past private sector experience, he was instrumental in developing ALMA programs and was a vital link to the meat industry. Cove has worked for ARD since 2003, moving to ALMA in 2009. His private sector experience includes 21 years in management roles with Olymel/Premium Brands Inc. (formerly Fletcher's Fine Foods Ltd.) in Red Deer.

Speaking to WHJ, Cove said that ALMA's role is to help the pork industry move to a situation where it is profitable and sustainable. "There are a number of changes that need to be made to improve long term



Gordon Cove, the new President and CEO of the Alberta Livestock and Meat Agency

viability," he said. "It needs to adopt new technologies that improve productivity and there are also structural changes that need to take place. Market access is a continuing challenge that we have to address."

Cove stressed the need for radical change within the pork industry. "If we keep doing what we're doing, we are going to get more of the same," he said. "We must move away from commodity product and differentiate ourselves. We are very adaptive and can stand out from the pack in terms of traceability, feeding regimes and production standards, so we should use these factors to our advantage." However, he warned, this is going to be hard to do. "Within the industry there are lots of ideas and ALMA can help by being a catalyst and we have some funding too."

continued on page 10



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NEWS AND VIEWS CONTINUED

The biggest challenge is how to create value chains, Cove believes. "We currently have supply chains where everyone is in it for themselves but we need to create more value and share it out," he comments. "We have the best product in the world and there is demand for that product but we need a big change in thinking as to how we go about things. The people who have a stake in the industry need to come forward and give us ideas and then we can help to move the industry forward."

Maple Leaf Foods unveils food innovation centre

Maple Leaf Foods has opened its ThinkFOOD! Centre, a state-of-the-art culinary innovation facility and the only one of its kind in Canada. It offers an unprecedented and holistic approach to creative thinking and collaboration to facilitate accelerated innovation and growth across Maple Leaf's global bakery and protein businesses, says a company news release.

The Centre will be the hub where Company experts in product development, brand innovation, food education, customer relationship development, consumer research and global trend tracking come together to share new product ideas and identify joint opportunities to bring innovation to life.

"We've created an innovative environment where all of our food innovators can work together under one roof in collaboration with customers and increase the speed-to-market for introducing exciting new food ideas from around the world," said Michael McCain, President and CEO of Maple Leaf Foods. "ThinkFOOD! is a place where we draw inspiration from a global food basket of ideas and innovate to create products that will delight the palates of our consumers and customers."

The \$12 million Centre occupies 25,000 square feet on the campus of Maple Leaf's corporate offices in Mississauga, Ontario, and operates as the Company's product development hub, supporting customer research and product testing. ThinkFOOD! was designed to provide a central hands-on learning environment where employees can develop, share and collaborate on new food concepts with foodservice and retail customers.

The Centre's culinary amenities include presentation kitchens, teaching and demonstration facilities, research labs, product

development and sensory testing areas, simulated retail environments, and trends resource library.

Genesus establishes multiplication unit in Mexico

Genesus Genetics, based in Oakville Manitoba, has announced the establishment of its first genetic multiplier in Mexico. DP Farm is a new 2400 sow facility on an isolated plateau in central Mexico.

The state of the art bio-secure operation will produce Genesus gilts for existing and new customers in Mexico. Jim Long, President and CEO of Genesus Inc. said: "We have been sending breeding stock to Mexico for 15 years. Current transportation costs and logistic issues made it necessary for us to find a Mexican location and facility that would meet Genesus' commitment of delivering top quality, healthy swine genetics to our customers. Mexican swine producers have been financially pressured, like many in other countries by H1N1, high feed prices, and financial losses."

"Genesus believes that the future success in swine production is the adaption of technology that maximizes productivity and producer returns. Genesus' Mexican genetic production is our commitment and belief in the future of Mexico's swine industry," Long added.

For further information, contact Jim Long on 1-888-572-4647 or email genesus@bellnet.ca

Manitoba pork producers assisted to purchase needleless injectors *From Farmscape.ca*

Manitoba Agriculture Food and Rural Initiatives has launched a new program under Growing Forward which will help producers with the purchase of needleless injectors, which allow the administration of vaccines and other medications to livestock without the use of needles.

As part of the On-Farm Food Safety Program, offered under the federal-provincial Growing Forward Program, Manitoba Agriculture Food and Rural Initiatives will provide up to two thousand dollars to be applied toward the purchase of a needleless injector. Business development specialist for swine



Robyn Harte says farmers, their suppliers, assembly yards and livestock haulers are eligible to apply.

"Animal welfare is a large component of a needleless injector," says Harte. "The ease of use is another one but primarily the interest is having to not puncture the animal, reducing its stress and reducing the damage that can come from a needle injector so that's reducing things like abscesses or tears in the skin." The ease of use is also an important function, says Harte. "It allows producers to move a lot more easily in the pens to vaccinate the animals and it also allows them to get into perhaps more awkward positions that a regular needle wouldn't allow because you wouldn't be able to get the appropriate injection angle."

Harte says there are no specific application deadlines but funding is being offered on a first come first served basis. She recommends obtaining approval prior to purchasing the equipment.

Government invest in Canada Brand promotion

The Canadian government is investing \$32 million in a "Canada Brand" initiative aimed at putting the maple leaf brand on the top quality products Canadian farmers grow and increasing sales around the world.

"Canadian farmers want to make their living in the marketplace and buyers around the world are looking for the premium products the maple leaf has come to symbolize," said Agriculture Minister Gerry Ritz, announcing the initiative. "This investment is going to help Canadian farmers drive market research and promotional campaigns to maximize opportunities around the world."

The Canada Brand initiative will fund market analysis, advertising campaigns and public opinion research that will promote Canada's safe, top quality agriculture. The Canada Brand initiative will work in lockstep with industry as a springboard to complement the successes already achieved in key markets.

Canada Brand is the third program delivered from the \$500 million AgriFlexibility fund that was part of Canada's Economic Action Plan. The AgriFlexibility fund was created to help reduce costs of production and improve environmental sustainability for the sector; promote value-chain innovation and sectoral adaptation; and respond to emerging opportunities and market challenges for the sector.

Manitoba firm's organic waste composters go green

Since 2004, the BIOvator[™] composter from Manitoba-based Nioex Systems Inc. has become widely embraced by hog and poultry farms throughout North America for its environmentally sound animal mortality management. In its most recent application, a trial phase at The Forks Market in Winnipeg, the BIOvator[™] was tested for its ability to turn nearly 320 tonnes of annual garbage into green friendly reusable organic compost.

The BIOvatorTM on-site composter provides a highly cost-efficient and environmentally conscious solution to waste management, as large volumes can

continued on page 12



NEWS AND VIEWS CONTINUED

be composted and reused on site within days. First introduced as an animal mortality solution, Nioex Systems Inc. president, Shawn Compton, knew the BIOvator[™] had broader market appeal. In July, he approached The Forks with the product to help it achieve its carbon neutral plan for 2010. The BIOvator[™] was on site within just a few weeks.

Experimental trials at The Forks showed that with the BIOvator[™] they could keep nearly 80% of their garbage out of landfills. "Its design virtually eliminates bio-security risks, reduces many of the concerns associated with more traditional methods of disposal and provides an exceptionally green friendly alternative," says Compton.



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For more information contact Shawn Compton on 1-701-370-0782, or email scompton@nioex.com

New Dean for U of S Veterinary College

The University of Saskatchewan's Board of Governors has approved the appointment of Dr. Douglas Freeman as the

Western College of Veterinary Medicine's (WCVM) new dean.

Freeman, who begins his five-year term on March 1, 2010, will become the regional veterinary college's sixth dean in its 45-year history. He will replace Dr. Charles Rhodes, the WCVM's dean since 2002. Rhodes is retiring after 39 years of service with the college.

During his 26-year career, Freeman has gained a valuable range of experience as a veterinary practitioner, an administrator of clinical and diagnostic services, a researcher and an academic department head. Since 2001, he has been a professor and head of two departments -Veterinary Diagnostic Services and Veterinary and Microbiological Sciences - at North Dakota State University in Fargo, N.D.

New website for western producers

Swineweb.com has launched a sub domain specifically for the western Canadian pork industry, aimed at bringing the latest news, technical information and commentary to producers and industry professionals. The website - www.westerncanada.swineweb.com - launched recently in response to demand for more local information, also includes videos, links to publications such as WHJ, events information, a business directory and Jim Long's popular commentary. "The Swineweb sites allow people to access a summary of industry news items and activities all in one location," explains Jim Eadie, co-founder and CMO of Dynamik Group, which owns and manages the sites. "There was nothing specifically for producers in Canada, or indeed North America."

The western Canadian edition of Swineweb also includes links to information from the Prairie Swine Centre, Banff Pork Seminar and Farmscape, as well as information from provincial pork producer organizations, Eadie notes. There is a link to job postings at employment website Pig Careers.com, also owned by Dynamik Group. "Pig Careers.com allows employers to post a job position for just \$50 and potential employees to search for suitable jobs," says Jim Eadie. "It's also good for people outside the industry to see the wide range of jobs that are available, from production to sales and administration, which might encourage them to look further into what it has to offer as a career."

For more information, or to submit information for the website, contact Jim Eadie on 519-438-0444 or email jim.eadie@dynamikgroup.com

Low stress pig handling course now online

DNL Farms Ltd. of White Fox Saskatchewan now has its Low Stress Pig Handling Course for Truckers online at www.dnlfarmstraining.com This course covers topics not included in TQA.

Animal welfare audits as they apply to truckers

Packing plants can fail a third party animal welfare audit because of a trucker's actions. That could cost sales to premium customers and hundreds of thousands of dollars in lost revenue for the plant and its entire pork chain. The driver responsible for the failed audit could be banned from future deliveries to that plant.

"Eliminating electric prods doesn't eliminate all pig welfare problems. A driver whacking a pig on the head with a paddle, or unloading hogs fast enough that more than 1% fall coming off the trailer are only two of many actions that can cause a failed welfare audit," says Nancy Lidster of DNL Farms. "We

outline audit rules and highlight situations that are most likely to cause problems for drivers."

Practical pig handling methods

Many drivers have excellent pig handling skills and little difficulty loading and unloading all compartments of a pot belly trailer. "Drivers with poor pig handling skills are more likely to cause meat trim, meat quality losses, and pig death losses to say nothing of higher costs in wasted time, driver turnover, and replacement driver training," says Nancy Lidster. "Drivers need to know what to expect, what to look for, and what to do. We show common problems and their causes, and handling methods that help drivers load and unload each compartment effectively and humanely."

Human instincts and old habits

Drivers who are inexperienced, or who frequently have problems, need to know how their instincts and old habits interfere with pig movement. Even as they learn and practice more effective pig handling skills, in times of hurry and high tension they need to be particularly careful to keep their instincts in check.

The Low Stress Pig Handling Course for Truckers focuses on applying practical pig



Ideal unloading: hogs coming down the ramp in a calm controlled manner. Intentionally driving pigs into a pile on the ramp is a Wilful Act of Abuse and grounds for automatic welfare audit failure.

handling skills under the rules, conditions, and situations drivers face when loading and unloading pot belly trailers. It is now available online at www.dnlfarmstraining.com

continued on page 14



NEWS AND VIEWS CONTINUED

Woodland Colony tops Genesus 25+ awards By Myron Love

Woodland Colony has once again walked away with top spot in Genesus Genetics' annual 25-plus awards. Woodland was the first herd in North America to surpass 30 pigs per sow per year and this was the third year in a row that the Manitoba Hutterite Colony at Poplar Point surpassed the benchmark of 30 piglets per sow over the course of the year.

Woodland Colony was one of three Genesus clients in Manitoba to surpass the standard this year. Numbers two and three were Grand Colony and Evergreen Colony respectively. All of the 25-plus award winners received their plaques at an awards presentation, information session and banquet at the CanadInn in Portage La Prairie on November 3rd.

Prior to the presentations, the hog producers in attendance heard an update on Genesus Genetics' latest research delivered by Dr. Bob Kemp and a market overview from Genesus President Jim Long. Long noted that Genesus Genetics is by far the largest purebred pig operation in Canada. "Our registered purebred herd is the largest in the world," he said. "That gives us a leg up when it comes to export markets."

Long lamented the state of the industry. "These last two years have been the worst stretch the industry has been through in living memory," he noted. "North American producers have lost \$7 billion over that span. A lot of good operators have been forced to quit because they ran out of money."



Left to right: Terry Hofer, Michael Hofer, Jack Hofer (manager) and Andy Gross of Woodland Colony, together with Jim Long, President of Genesus Genetics

"One of the biggest challenges that producers face is the extreme volatility in the value of the dollar and the cost of feed," he noted. "It takes strong people to stay in this business. And Manitoba has some of the best producers in the world." However, despite the industry's recent trials, Long remains optimistic – particularly about prospects in export markets. "I do a lot of travelling," he says, "and I have found that in North America, we are years ahead in production technique over some areas of the world."

In Russia, for example, they know very little about hog production. "The price per hog in Russia is currently \$275 while the price for wheat is \$2.50 a bushel. We believe that the low input costs and high prices mean big opportunities."

In China, he reported, hogs are selling at \$2.25 a kilo and that country has



recently begun accepting American pork products again. "At \$2.25 a kilo, it suggests that there is probably some truth to reports of disease outbreaks," Long said. "That could provide some opportunity, too."

Long noted that Genesus began selling breeding stock to South Korea four years ago and now accounts for two-thirds of all pigs imported into the East Asian country. "Market hogs are selling for \$275 each," he said. "We have a big order going in there next year."

In Mexico, the market price for pigs is 56 cents (US liveweight) a pound. "Feed prices are very high," Long said. "As a result, many producers have been liquidating their stock. In September, we stocked a 2,400 sow unit for a packer who looked to us because there were no hogs in Mexico for him to buy."

Bob Kemp outlined some of the research that Genesus is currently pursuing. "We are looking at improving our data collection and re-estimating the relationship between different traits," Kemp said. "We are planning to start focusing on sow longevity, litter size and piglet survival." He added that Genesus is also starting its own genome project for EBV's (Estimated Breeding Value) - and that Genesus technicians are training in new ultrasound technology which would allow the company to estimate the market value of its live animals as well as those recently slaughtered.



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• Industry Crisis

Industry decline continues

Hog inventories for October 1st reflected the continued decline in both the number of hogs and number of producers in the Canadian pork industry. Year-on-year total hog numbers fell by 7.3% as producers endured a third year of losses, with the biggest reductions in the Atlantic provinces, which showed a 16% drop in total pig numbers and nearly 25% fewer breeding pigs. Saskatchewan had 12.2% fewer total pigs, while breeding pig numbers fell 19.5%. Over the last four years, total hog numbers in Canada have fallen by 22% and the number of sows and bred gilts has reduced by 16%.

As might be expected, the effect of the current crisis has been different in each province, for a variety of reasons. Ontario and Quebec, both with fairly similar pig numbers have fared very differently over the last four years. While Ontario has lost 25% of total pig numbers since October 1st 2005, Quebec has lost exactly half this amount. The number of sows and gilts fell 19% in Ontario, but only 8% in Quebec during the same period. Producers in Quebec are supported by the ASRA program, which protects them against periods of low prices.

In the west, Manitoba has experienced the smallest reduction in pig numbers, with 18.2% less total pigs than four years ago and 11% fewer sows. While the industry has been hit hard by the effects of COOL, most of the impact has been felt in the last 12 months and there are a lot of newer barns that producers are reluctant to shut down. However, it seems likely that some producers will now take advantage of the Hog Farm Transition Program, accelerating the reduction in the province's pig numbers. In Saskatchewan, the loss of pig numbers has been dramatic, with a 44% reduction in total pig numbers and 32% fewer sows over the last four years. Many smaller and older barns went out of production in 2007-8 and then the demise of Stomp Pork Farms hit pig numbers again. Alberta has also experienced a steady decline in numbers, with total pigs down 25% and sows and bred gilts 22%. So far, most of the attrition seems to have been the older and smaller barns, but it seems likely that the 153,000 sows recorded on October 1st will shrink further as

producers choose to exit via the Transition Program. Some producers across the western provinces are depopulating - if they can afford that option – with the intention of sitting on the sidelines until profitability returns.

Exports of live hogs, mainly from Manitoba, showed a 31.5% drop in the first three quarters of 2009, compared with the same period in 2008, with exports of 5 million head. Total live exports peaked at over 10 million in 2007 and are likely to be around 6.5 million for 2009. Despite the decline in hog production overall, domestic slaughter increased by 5.9% in the third quarter of 2009, compared with 2008, reflecting the greater availability of market hogs due to reduced live exports.

The number of farms reporting to Statscan has, not surprisingly, dropped with a 36% reduction in producers over the last four years, from 12,095 to 7,675. Percentage reductions in producer numbers range from a massive 66% in Saskatchewan and 47% in Alberta to 36% in Ontario and 30% in Manitoba, but only 21% in Quebec.

With the Hog Farm Transition Program likely to reduce the national herd by at least 120,000 and possibly as many as 140,000 sows, breeding stock numbers could be down to 1.2 million in 6 months time, roughly 25% down from their peak in 2004-5. But, with the continuing strength of the Canadian dollar and a hog price tied to the USA, it's anybody's guess whether the decline in the national herd will continue, even when prices improve. Sow numbers in the USA have failed to match the cutbacks in Canada by a long way, which combined with productivity increases and tough export markets, will continue to put pressure on the Canadian industry.

Manitoba weanlings register double digit decline

By Myron Love

Manitoba's hog industry is reeling after posting a double digit decline of more than 28% in weanlings (down to 703,000 animals) over the last year. Sow inventories are also down (by 3.5%) and Karl Kynoch, the chair of the Manitoba Pork Council,



notes that although the number of finishing hogs is up slightly, he expects their numbers to decline also as the number of sows being liquidated continues to grow.

Kynoch reports that a growing number of Manitoba producers are either cutting back on their operations or selling out entirely. He attributes the dramatic decline in Manitoba pork production to the American government's introduction of Country of Origin Labelling in 2008. Manitoba producers had been the major exporters of weanlings to the US, accounting for two-thirds of the total.

"We had two or three major plants that stopped buying from us after the Country of Origin Labelling was introduced," Kynoch says. The 30-year veteran hog farmer says that he has never seen an industry shakeup of this magnitude. He says that he can't predict how many producers will be left in business a year from now and believes that a substantial reduction in hog production is needed to restore balance to world markets and that it needs to be a North America-wide restructuring.

Big Sky Farms seeks creditor protection

Humboldt, Saskatchewan based Big Sky Farms, one of the largest production operations in western Canada, with 42,000 sows, announced on November 10th that it had applied for protection under the *Companys' Creditors Arrangement Act* (Canada) or CCAA.

"The protracted downturn in the North American pork market prompted the company to seek court approval for creditor protection," said Big Sky President and CEO Casey Smit. "Big Sky has consistently ranked in the top percentile of North American producers; however, the extended downturn and a recent collapse in hog prices associated with the risk of an H1N1 flu pandemic, which has resulted in an abatement of consumer demand for pork products, coupled with the rising Canadian dollar and American trade barriers left us no other option."

The CCAA process provides a period of time for the company to continue to operate while restructuring its financial obligations. The process involves the appointment of a Monitor who assists the company through the restructuring process.

"Over the coming days and weeks, we will work with the company's advisors and stakeholders on a plan to restructure the

company's financial obligations. As we have done over the past two years we will continue to look for ways to improve profitability through revenue generation and the realization of operational efficiencies," said Smit.

Part of the restructuring effort will entail re-aligning the company to access federal government support programs, including a recently announced loan guarantee program designed to support the industry, says a company news release. However, this move attracted strong criticism from some producers, who point out that the Saskatchewan government, which owns 62% of the company, has already poured \$30 million into Big Sky.

Court filings reveal that, as of November 10th, Big Sky owed a total of \$81 million to secured creditors, including \$71 million to Scotia Capital, and nearly \$15 million to unsecured creditors.

Results of first hog tender released

The Canadian Pork Council announced the results of the first tender under the Hog Farm Transition Program (HFTP) on November 9th after the results had been officially approved by the Program Administrator and an independent third party scrutinizer.

In order for bids to be compared among all types of animals and facilities, a system to compare bids equitably was developed. Using this system, each total farm bid submitted was converted to a dollar per "animal unit equivalent" or AUE. Of the total 261 bids submitted, 74 bids were accepted before the \$10 million allotted to this first tender was allocated. A total of \$10,546,919 was issued to successful bidders under this tender, as a result of identical final bids.

The weighted average of the 74 successful bids was \$765.52/AUE, according to CPC. Accepted bids ranged from a low of \$300/AUE to a high of \$997/AUE. Lowest bids were accepted first, followed by successively higher bids until the funds for that tender were exhausted.

The first tender saw inventory of 21997 sows, 44564 weaners to 30 kg and 59653 hogs from 31 kg to market weight taken out of production for the next three years.

The second tender for the Hog Farm Transition Program was rescheduled from November 18, 2009 to December 9, 2009, just after WHJ went to press. The decision to extend the deadline for *continued on page 18*



INDUSTRY CRISIS CONTINUED

the second tender was made to ensure as many registered producers as possible could be approved to receive a bid package prior to the next tender deadline. Many of the registration forms submitted required additional information, causing a significant backlog in the administrative approval process, said CPC.

The tendering process will continue until all of the \$75 million available for the program have been used up. Registration forms for the Hog Farm Transition Program are available from the Canadian Pork Council at www.cpc-ccp.com. Producers need only register once to be approved for all program tendering opportunities and can continue to tender in successive rounds.



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Canada requests WTO panel on COOL

The Canadian Government launched a World Trade Organization dispute settlement process over US mandatory country-of-origin labelling (COOL) last October. The new COOL legislation, implemented from March 2009, has decimated the numbers of live pigs exported to the US from Canada, especially market hogs, and also damaged the beef industry.

"The US COOL requirements are so onerous that they affect the ability of our cattle and hog exporters to compete fairly in the US market," said Stockwell Day, Minister of International

> Trade and Minister for the Asia-Pacific Gateway. "That is why our government has no choice but to request a WTO panel. This request demonstrates our ongoing commitment to resolving this issue and defending the interests of Canadian producers."

> "Canadian farmers and ranchers produce top-quality food, and they are facing unfair discrimination because of COOL legislation," said Agriculture Minister Gerry Ritz. "This government is standing up for Canadian farmers and ranchers by exercising Canada's rights under the WTO, and we are confident our challenge will be successful."

> "These provisions impose unfair and unnecessary costs on integrated North American supply chains, reducing competitiveness in both Canada and the US. COOL has created confusion and uncertainty for livestock industries on both sides of the border," says a government news release.

> Canada's request for a panel comes after two rounds of WTO consultations with the US failed to resolve the issue. Panels are the next step in the WTO's dispute settlement process.

> Canada initially requested WTO consultations with the US on COOL in December 2008, as it believed the measures were creating undue trade restrictions, to the detriment of Canadian exporters. At that time, US provisions were being implemented based on the interim final rule. The Final Rule was subsequently published in the US Federal Register on January 15, 2009, and implemented on March 16, 2009.

> On June 5, 2009, Canada held a further round of consultations with the United States on COOL. The WTO panel is expected to issue its opinion on the issue by summer or early fall of 2010.

The US and Canada are each other's

largest agricultural trading partners. In 2008, bilateral agricultural trade totalled approximately \$37 billion. Reducing obstacles to trade has contributed to mutually beneficial supply chains, making both countries more competitive domestically and internationally.

Pork imports continue to rise

Pork exports into Canada, primarily from the USA, continue their inexorable rise and are increasing their share of the domestic market for pork. The rapid increase started in the mid 1990s when the Canadian pork industry started its expansion, as the graph from CPC shows. In recent years, the weak US dollar has made the purchase of pork from south of the border an attractive proposition for both retailers and further processors and now the annual amount is approaching 200,000 tonnes. This is double the amount imported just 5 years ago. With poor identification of Canadian product in stores, consumers are often not able to select home-produced product even if they want to support their local producers.

Total pork imports from all countries



Denmark forecast to maintain production

Pig production in Denmark for 2009 is forecast to be 27.4 million pigs, exactly the same as in 2009, according to Karsten Flemin, market analyst with the Danish Agriculture and Food Council. DAFC was formed in June 2009 from a merger of several agricultural organizations including the pig producers' umbrella body Danske Slagterier (Danish Slaughterhouses). However, the apparent success in maintaining output during a period of severe economic stress is marred by an exodus of weaner pigs to Germany for finishing and slaughter. Germany is Denmark's biggest export market for pork within the EU, but it is proving more lucrative for producers to build or contract finishing units in Germany and sell their market hogs there, rather than sell to the producer cooperative processors Danish Crown or Tican. Exports of live pigs grew from 3 million in 2005 to a forecast 7 million in 2009, Flemin says. As a result, the number of pigs slaughtered at the cooperatives has fallen from 21.2 million in 2005 to a forecast 17.1 million for 2009. In 2008, Germany overtook Denmark to become the second largest pork exporter after the USA.

"Danish producers are highly efficient at piglet production," commented Nicolaj Nørgaard, CEO of DAFC's Pig Research Centre. "Land requirements for finisher production are high and production costs are also high, plus producers receive a higher price for their weaners in Germany."

A reduced supply of market hogs has meant that processing giant Danish Crown has had to downsize its Danish operations and reduce staff numbers. A wage rate 50% higher than in Germany has also made Danish processors less competitive. However, thanks to rationalization, DC posted higher profits for its 2008-9 fiscal year, making a profit of around C\$200 million. "The strategic approach is proving its worth after a highly challenging year. We have been focused and ambitious in our efforts to strengthen Danish Crown's competitiveness, and at the end of the financial year we can see that these efforts are bearing fruit," said Kjeld Johannesen, its CEO.

Danish Crown paid its producer owners a "supplementary payment" or bonus of nearly 15 cents per kilo carcass weight for market hogs. The average price paid for hogs during 2008-9 was equivalent to about C\$2.00 per kilo. ≡WHJ≡

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Euthanasia - When, Where and How?

By Jeff Hill, Alberta Agriculture and Rural Development

Introduction

Euthanasia literally translates to mean a "good death", however ensuring a "good death" is an issue that the swine industry has struggled with for many years. In past years, situations regarding the inhumane killing of animals have garnered extensive public attention (Bell Farms, Seaboard Farms, Murphy Brown LLC, etc.), and as a recent court battle in Ohio highlighted there is significant disagreement and confusion among producers, veterinarians and law enforcement regarding proper methods for euthanasia of pigs.

There are over 200 published definition of euthanasia; however in 2009 the NPB/AASV updated the definition of euthanasia for the swine industry as the "humane process whereby the pig is rendered insensible, with minimal pain and distress, until death".

NIMAL HEALT STARTS ON THE FAR

Putting preventive measures in place to keep animals healthy has been a long-standing and successful practice on Canadian farms. These measures form a biosecurity plan. By adopting a few basic measures, you can help keep your animals healthy and your business strong.

Review your biosecurity plan

Be sure it focuses on:

- Controlling visitor access to your animals
- · Preventing contact between production animals and wild animals
- Practising good daily record keeping
- Routinely cleaning and maintaining barns and pens, as well as feed and watering systems
- · Washing your hands before and after working with your animals
- Designating work clothes and boots strictly for work carried out on your farm
- Promptly removing and restricting access to carcasses

Observe your animals

Canadian Food

Watch for changes in your animals' appearance, behaviour and eating habits.

Consult with a veterinarian

Consult with a veterinarian or an animal health professional as soon as possible if you have sick animals. This can reduce the impact of disease on your farm and on surrounding farms.

Farm-level biosecurity is the best investment you can make to help keep your animals healthy.

For more information, call 1-800-442-2342 or visit www.inspection.gc.ca/biosecurity



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Euthanasia must be viewed as a management tool for production agriculture as it provides a means to alleviate the suffering of the individual animal, protect the health of all animals and ensure the viability of the production operation.

When to consider euthanasia

Euthanasia should be seriously considered if:

- The animal is severely injured or non-ambulatory with the inability to recover.
- The animal shows inadequate improvement or that has minimal prospect for improvement after 2 days of intensive care.
- The animal is experiencing a high level of pain.
- The animal will have to endure a significant level of pain and suffering during recovery and treatment that will adversely affect its quality of life.
- The animal is unable to or having difficulty accessing feed and water.
- The animal will not achieve a full recovery.
- The animal is contagious and can spread disease or illness to other animals, adversely affecting the welfare and the economics of the facility.
- · The animal will be at elevated risk for being condemned if delivered for meat processing.
- The animal must be held to adhere to an extended withdrawal time due to medications previously administered. It is unethical to allow an animal to suffer strictly to meet the withdrawal time so that it can be processed for human consumption.

Understanding your options for euthanasia

The most updated guidance on selection and adoption of euthanasia techniques for the swine industry is the NPB/AASV publication On-Farm Euthanasia of Swine; Recommendation for the Producer. However, the European Food Safety Authority has noted that preferred methods for on-farm euthanasia should in addition to providing a "good death":

- · Induce unconsciousness and death either simultaneously or sequentially (in rapid fashion)
- Not rely on a secondary kill step (i.e. bleeding) to cause death • Be proven effective

These requirements significantly increase the responsibility of the producer to more fully understand the equipment parameters



The Cash Special Heavy Duty Euthanizer unit

and specific attributes of each available method of euthanasia before selection and utilization within their operation.

Lethal injection

While lethal injection is considered by many the gold standard of euthanasia, the administration requirements, the regulatory limitations and its impact on disposal options limits its usability on commercial swine production facilities.

Blunt force trauma

Blunt force trauma creates a state of immediate unconsciousness and possibly death due to multiple primary effects including;

- The impact of the tool to the skull which results in a violent collision of the brain with the skull plate.
- · Sudden rotational forces that lead to shearing strains and stresses which destroy nerve fibers within the brain.
- · Massive bleeding, bruising and swelling of the tissue in the brain.

There are 2 distinct categories of blunt force trauma including manual and controlled blunt force trauma.

continued on page 22



EUTHANASIA – WHEN, WHERE AND HOW? CONTINUED

Manual blunt force trauma (MFBT)

A blow to the head may possibly be an effective means of euthanasia for small piglets less than 12lbs as their skull bones are thin enough for the force to cause massive brain damage. However, to be successful a single, sharp blow must be delivered with sufficient force to produce immediate depression of the central nervous system and sufficient traumatic brain injury necessary to ensure death.

There are serious concerns regarding MFBT as a method of swine euthanasia including;

- Differences in operators, individual techniques, etc result in inconsistent effectiveness.
- Secondary injuries during the application of MBFT such as dislocated joints, broken bones, etc.
- Applied aggressively, MBFT results in breakage of the skin/skull resulting in a biosecurity risk.
- It is often considered aesthetically objectionable to the people administering or observing the technique.
- Significant risk of injury to the operator especially with larger piglets.
- This technique has become a primary target for animal rights activities.
- Euthanasia by MBFT is considered unacceptable by the vast majority of society, including our customers.
- The application of MBFT is one of the few standard agricultural practices that have resulted in charges under animal cruelty legislation.

These concerns have led numerous international organizations to remove MBFT as a recommended/approved method of euthanasia. Therefore continued use of MBFT is an evergrowing risk to the survivability of your operation and continued success of the swine industry.

Controlled blunt force trauma

In contrast, the goal of controlled blunt force trauma (CBFT) is to provide an exacting force at the precise location necessary to cause massive traumatic brain injury resulting in the immediate loss of consciousness and a humane death. The primary device for CBFT is the non-penetrating captive bolt which utilizes springs, elastic bands, air power or an explosive charge to propel a flat or convex (mushroom) bolt to the forehead of the animal.

For use as a method of on-farm euthanasia it is imperative that force development and muzzle designs are created that cause a level of traumatic brain injury necessary to result in the loss of consciousness and ensure a humane death, while avoiding extreme forces that could cause penetration of the skin, expulsion of brain matter or excessive bleeding.

Historically, the utilization of non-penetrating captive bolts for on-farm euthanasia was very limited, however with societies evolving attitudes regarding MBFT significant improvements in the design and operation of CBFT systems have recently occurred.

Penetrating captive bolt

Traditional penetrating captive bolts utilize springs, air power or an explosive charge to propel a concave sharpened metal rod through the skull into the brain creating a state of immediate unconsciousness and possibly death. This is due to multiple primary effects;

- Direct trauma due to bolt penetration of the primary regions of the brain.
- Sudden rotational forces that lead to shearing strains and stresses which destroy nerve fibers within the brain.
- Massive bleeding, bruising and swelling of the tissue in the brain due to stretching effects and shockwave pressures induced by the impact.

Traditional captive bolts are in use in slaughter facilities for the stunning of cattle, sheep, goats, and pigs. This experience indicates that when properly applied, the brain damage is irreversible and animals will not return to consciousness. The factors that determine if a secondary kill step is required include;

- The proper match of equipment to the age/size of the animal.
- The force developed by the captive bolt unit.
- Proper targeting and positioning of the captive bolt.
- Muzzle design of the captive bolt.

However, as traditional penetrating captive bolts were designed only to stun during the slaughtering process most international regulations require that a secondary kill step (bleeding, pithing, etc.) be applied immediately following stunning to ensure death.

New era in captive bolt technology

Much of the past research that discredits the use of a captive bolt gun for on-farm euthanasia has been done with traditional captive bolt units designed for stunning in meat processing facilities, such as the Schermer ME. However there is little published work utilizing the newer captive bolt guns designed specifically for on-farm euthanasia of livestock.

These are designed to be a single step euthanasia device that causes traumatic brain injury resulting in an immediate loss of consciousness and such massive damage to the brainstem to ensure the loss of life functions with NO chance of recovery. This is accomplished by designing the unit based upon the specific physiological parameters of the target size/age category of pig.

However, as the critical physiological parameters (skull thickness, bone hardness, depth of brain, etc.) of the pig change dramatically during its lifetime, these devices are either limited to a single production phase (i.e. nursery) or utilize a system of muzzles and developed forces to provide euthanasia capabilities throughout the entire production model.

An example of this new technology is the Cash Special Heavy Duty Euthanizer unit which is a device with interchangeable barrels that allows for a non-penetrating captive bolt of piglets, a short bolt for nursery piglets, a standard bolt for grow/finish pigs, and extended bolt for sows/boars, all sold in one kit. To maximize effectiveness and ensure a humane death, each barrel utilizes cartridge combinations specifically designed based on the physiological parameters of the target size/weight categories of pig.

Industry experience, preliminary research results and utilization in mass destruction operations indicate that proper application of this technology will provide an acceptable method of euthanasia for pigs ranging from a newborn neonate to mature sows/boars.

In a second article in the series, to be published in the spring issue of WHJ, Jeff Hill will consider the use of CO_2 and other gases for euthanasia and review the use of electrocution and firearms.

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The dirt on cleaning and disinfection

By Dave Van Walleghem, Biosecurity Consultant, Vetoquinol

Introduction

Today we are not considered farmers any more - we are now food pork producers and with this new title comes many challenges. We need to be environmentally friendly in rearing and still be economical in the end. This requires us to focus heavily on many management factors that can increase productivity, which means finding areas in production where management practices can reduce any excessive amounts of energy that animals may waste to counter environment; like proper nutrition for maximizing gut flora, cooling or heating for comfortable temperatures and cleaning and disinfecting to reduce outside challenges. Cleaning and disinfecting may seem like the most tedious job on the farm and is often delegated to the "low man on the totem pole" but in fact is one of the most important tasks. As with the other factors, management practices can counter this energy-stealing process by making Bacteria and Viruses (B&V) less invasive. Cleaning and disinfecting is the main tool in the management kit to help with this fight. In this presentation we will dig further down into the process and describe why and how we get the best results.



Product selection

Product selection is the first step. There are literally hundreds of different types out there, how do we know which to get? It is an over whelming task! We need to step back and look at our situation and then narrow it down by elimination of products that will not work. I think of the situation like purchasing tires for my truck. I know the size of tire and what season I am driving in and what type of driving I do. All of these factors help me to narrow the field down to only a few that fit the bill. This is exactly the same for our barns. We are challenged with high levels of organics, water type, water temperature, safety and One other factor you should be aware of is the more. economics. The cost of detergents is not just the number on the shelf, but rather the amount it will cost to do an area. Different products go on at different rates and the final cost of a room is the real economics. Many products seem cheaper, but when compared to the cost to do a room, might be more expensive or may not produce all the desired results.

Cleaning the room

Now we will go to the barn and start. First thing we try to do is remove as much bulk organics as we can. This is B&V's growing grounds and removal will get rid of a large chunk. This can be done by physical removal or by water. If using water you must leave the area alone for a period of time so that the excess moisture does not hinder the next step. This means that the area is not dripping. The next step is to apply the detergent. The job of the detergent is to remove the biofilms that are protecting and hiding the B&V. There are two main types of biofilms - mineral and greasy biofilms. The mineral is very easy to spot - it is that rust stain or other sediments left behind from the water. In some areas the water leaves more than others. An acidic detergent (Biofoam) is necessary to dissolve the minerals and remove them, because the bacteria are hiding behind the minerals. The second and more prominent biofilm is the greasy one. It is the protective coat that the B&V have put out to resist any adverse environment and most disinfectants are not made to penetrate this film. An alkaline detergent (Biosolve plus) is developed to remove this layer. Rotation between the two is a great practice and ratio depends on the sediment amounts left from the water type. As important as picking the right detergent for the right time or place is the application. I always like to compare application to painting. The key to get the results you desire in painting is to use enough product to cover the surface area and also to apply it so it stays on the surface to do what it is meant to do. This is exactly like application of all products in cleaning and disinfection. Applying the detergent so it "paints" the surfaces properly will allow the best efficacy from the product. Detergents should be applied so that they are at the label concentration and have time to work (minimum of 10 minutes).

With the detergents on the surfaces the biofilms will be loosened so that we can pressure wash them off with the B&V. =

Just using high pressure and hot water alone will never replace the job that the detergents do; those biofilms are just too hard to remove. Be careful not to use too hot water, temperatures over 140 degrees F will start baking protein and "cook" it on to the surface, making it harder to get off. After washing we want to leave the surfaces for a period so that they are not dripping. Excess moisture can dilute any products that we try to put on afterwards.

Disinfecting

Disinfecting is the next step in the process. This step is touted by many as the most important, but I disagree. All the steps are just as important and if they are not done properly, this step will not be effective. The whole procedure is like climbing steps; if you miss one, you can trip and fall all the way back down! After the surfaces are prepared from the previous steps you can continue with this step. Choosing a disinfectant is a complicated procedure. Not only are we looking for the best to control the B&V that are present, but also we are looking at safety for the animals and our workers. Then adding to this is the pressure from society to use environmentally sound products. There are some disinfectants that are harmful and even carcinogenic and personal protective equipment is a must when handling them, however I recommend that you always use personal protective equipment whenever handling all chemicals like disinfectants, because they are normally in a high concentration when they are used. As above with the detergents we need to "paint" the

disinfectant on properly. Reading the label will ensure that the right concentration hits the wall and stays there to do its work. All disinfectants labels indicate that they will do their work in 10 minutes, however if it can dry on the better the results.

Calculating the amount of disinfectant required

This all sounds simple to follow but the real challenge is to mix the "paint" (products) properly to get the best results. Below is a calculation for a farrowing room that will give an idea of how to do it.

Say we start with a farrowing room 24 x 35 x 10 feet

The total treated surface area is figured out:

24 x 35 = 840 - floor

24 x 35 = 840 - ceiling

$$24 \ge 10 \ge 2 = 480 - end$$
 walls

- $35 \ge 10 = 700 side$ walls
- Total = 2,860 sq. ft

20% extra surfaces for the farrowing crate walls

 $2,860 \ge 20\% = 572$ for a total of 3,432 treated surfaces

250 ml/10 sq. ft is an amount that will result in water just starting to drip down a wall, which is an efficient amount to apply.

This means we will need 85.8 litres to soak the room. Read the product label to see the concentration: For an example:

1:100 = 1%

This means that 1% of the 85.8 litres needs to be product or 0.858 litres

If we mix one big tank and just use it for application we would be accurate with these numbers, however most use some type of applying apparatus to put the product on. These systems normally run by drawing from a stock solution while adding water to produce the same result. Dry runs to determine the mixing rates of the added water are a good practice so that we only add the necessary amounts of water needed and concentrate the stock to compensate for the added water.

Conclusions

Wow - simply washing and disinfecting has more to it than you think! Many have noted that cleaning and disinfection is the cheapest form of medication you can get. It's worth the extra time and effort. This management practice will get the pigs off to a better start, and help reduce medication use. We all know that at any stage of production, if we can give more energy to development rather than fighting disease, the faster and better quality the pigs grow. Let's all put this tool to good use; happy cleaning and disinfecting!

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Maximizing grow-finish margins

By Pat Monaghan, Paragon Pork Management, Lacombe, Alberta

In his video presentation, Pat Monaghan discussed some of the key aspects of maximizing grow-finish margins. The video was shot at two barns within the Eclipse Pork production system, a 2500-sow operation located just outside Lacombe, Alberta. The first barn is a 4000 -place contract barn owned by Bruce Paulson and situated near Donalda, while the second barn, near to Lacombe, is owned by Eclipse Pork and has 2000 places, with pigs in pens of 500 incorporating an auto-sort system.

Take Home Messages

In order to maximize margins in the grow-finish herd, management must be focused on achieving rapid growth through to market weight, by ensuring a good quality pig enters the finishing barn from the nursery, through rapid identification and prompt treatment of any sick, injured or disadvantaged pigs and by encouraging a high feed intake. Because feed is by far the biggest single cost, close attention to feed quality, feeder adjustment and water availability is essential. The use of feed budgeting and split sex feeding also helps to improve feed efficiency. Finally, careful selection of market hogs in order to closely meet the needs of the processor will maximize value per pig and improve value per market hog shipped.

Quality of the nursery pig

The quality of pigs coming into the grow-finish barn has a huge influence on growth rate up to market weight. Transferring heavier pigs into the finishing barn not only results in faster growth, but lower mortality and morbidity, improved feed efficiency and better carcass quality. Research suggests that a 1 kilo heavier pig results in 2.5 - 3.0kg higher carcass weight or 3 less days to market weight. Therefore, effort to improve weaning weight and post-weaning feed intake will not only result in faster growth in the nursery but also fewer days to market and a higher margin at the grow-finish stage.





High quality pigs arriving from the nursery result in rapid growth up to market weight

Maximizing growth rate

Pig health

Pig health has a major effect on growth rate and feed efficiency, so it is important that daily health checks are effective and treatments carried out in a timely manner. Ideally, pigs should be sorted by size and quality as they leave the nursery, so that substandard pigs can be penned separately wherever possible. At entry to the barn, pigs should be closely observed for any signs of illness and, if necessary, treated and/or moved to a hospital pen.

Daily health checks should centre on careful observation of pig behaviour in order to identify any abnormalities or disease in individual pigs. The impact of health problems is minimized by rapid identification and treatment. Hospital pens are essential in grow-finish operations, especially in those with large group layouts. They allow sick and disadvantaged pigs to be segregated from the group, which results in a faster recovery.

It is very important to have well-defined treatment protocols for diseases and health conditions typically experienced in each barn or system. These are put together by the veterinarian and provide clear guidance to staff as to the correct (and most effective) treatment for each health problem at particular stages of production. They can be reviewed periodically by the veterinarian and the farm's management in the light of experience and modified where necessary. Treatment protocols also save money by defining the most cost effective treatment and avoiding unnecessary treatments. They are also part of a Herd Health Plan

formulated by the veterinarian, which includes vaccinations for specific diseases and routine treatments.

Accurate recording of treatments is also important, not only to meet the requirements of the CQA program, but to monitor medicines usage and identify any over-treatment that may be taking place.

Influences on growth rate

In order to achieve a high growth rate, feed intake must be maximized. Some key influences on feed intake are:

- Ensuring there are enough feeders for the number of pigs in the pen
- Providing the correct space allowance per pig - inadequate space reduces feed intake, irrespective of the number of feeders
- Adjusting feeders to provide easy availability of feed without resulting in wastage
- Carrying out daily checks for correct drinker operation
- Where possible adjusting drinker height to be at shoulder height of the smallest pig in the pen
- Reducing environmental temperature steadily as pigs grow in order to stimulate appetite. Within the Eclipse finishing barns, temperature at entry is 21.5°C, which is gradually reduced to 16°C by the time the pigs reach 90kg live weight.

Improving feed efficiency

Most of the feed used to produce a market hog is consumed during the growing and finishing period and so it is vital to maximize the efficiency with which it is converted into pig growth. The type of feeder used can have a big effect. Most of the Eclipse finishing barns use wet/dry feeders, which lead to a high feed intake without wastage. Of course, correct feeder adjustment is essential to achieve this. Feed quality, especially particle size, also has an impact on the efficiency of feed utilization.

Correct feed formulation for pigs at different stages of production, with a different feeding program for barrows and gilts, is essential to minimize feed costs. Feed budgeting involves feeding a series of diets, which reduce in lysine content as pigs get older and are different for barrows and gilts. This helps to reduce feed costs because overfeeding lysine is very expensive and barrows and gilts have very different requirements for protein relative to their weight. Five different diets are used within the Eclipse system, the final one including Paylean. While the same diets are fed to barrows and gilts, the timing of diet changeovers differ and the fourth diet is fed to barrows only.

Trials at the Prairie Swine Centre showed that using Paylean for an average of 28 days prior to slaughter improved average daily gain by 13% and feed to gain ratio by 12.5%. When fed at an inclusion rate of 5ppm Paylean improves both daily gain and feed efficiency by 10 - 15% with no impact on meat quality and there is no withdrawal period required.

Selecting market hogs

One of the main factors influencing carcass value is the number of pigs in the "core" weight range required by the processor. A good target is a minimum of 90% of carcasses in the core. At

continued on page 28



MAXIMIZING GROW-FINISH MARGINS CONTINUED



Correct feeder adjustment is essential in order to maximize feed intake and minimize wastage

Bruce Paulson's barn, a central weighing area is used to select pigs. Weighing takes place every two weeks and pigs are marked differently depending on weight, split into 3kg weight bands. This allows a good prediction of what will be available for slaughter in the following few weeks, using an assumed growth rate of 6kg/week or 7kg when pigs are being fed Paylean.

In the barn with auto-sort, automatic weighing reduces the time input for selection but adequate training of pigs when they enter the barn is essential. Pigs are trained one week after entry and then again one week later. This involves moving them out of the two feed court areas and confining them in the lying area. They then have to go through the scale to get into the feed court. When pigs are ready to be sorted for market, the same process



Large pens with an auto-sort system save labour but pigs must be properly trained at entry to the barn

occurs, except that one of the two feed court areas is used as a collection pen for market hogs and pigs over a threshold weight are diverted into this area.

Performance monitoring and cost control

Detailed production records allow all aspects of physical performance, such as feed intake, growth rate, feed efficiency and carcass characteristics to be closely monitored, along with financial data such as feed costs and overhead costs. Analysis of this data relative to target figures allows problems to quickly identified and resolved, while also enabling the impact of changes to management or feeding to be measured.

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Optimizing lifetime sow condition

Managing feed intake in order to optimize sow condition can extend the productive life of the sow and increase productivity, says Alastair Bratton, manager of two 3000-sow units for Pinnacle Swine Inc., Strathmore, Alberta. Speaking to delegates at the Red Deer Swine Technology Worksop, Bratton said that getting sow condition right not only leads to better sow performance but reduces the number of gilt replacements required and leads to a more stable herd parity structure.

Optimizing condition over the sow's lifetime starts by ensuring gilts enter the breeding barn in the correct condition, having had at least one heat and preferably two while in the gilt development unit, Bratton says. "Gilts at service should be in the same condition we would like them to farrow in, that is condition score 3 to 3.5," he advises. "They should also be moved into a sow stall at least 14 days prior to breeding to



Every teat that is used during the first lactation, even for a few days, will produce 25% more milk in the next lactation



allow them to acclimatize and we flush feed them for 7-10 days before service to increase ovulation rate." Once gilts are bred, they are fed at maintenance level because they are in the correct condition. "This means we don't have to over-feed during early gestation, which is ideal because excess protein during the implantation period increases embryo death." However, Bratton notes, from day 90 of gestation it is essential to increase feed intake because 65 - 75% of piglet growth takes place after this point. "We feed an additional 0.5 - 0.75 kilos up to the time the gilt enters the farrowing room."

Lactation feeding for gilts is the most crucial stage in the whole cycle, Bratton believes. "Feed intake during the suckling period not only affects performance in the following parity but also lifetime performance and therefore the length of time in the herd," he says. "Feed is reduced two days prior to farrowing because this helps maintain appetite after farrowing. Once the gilt has farrowed we increase the feed level by 2 lbs per day to increase intake rapidly." A high protein top dressing with added vitamins and minerals is beneficial for parity 1 and 2 sows and any thin sows. Sows in the Pinnacle production system consume 10-12kg of feed per day, which results in an average weaning weight of 5.5kg at 17 days, Bratton notes.



The target is to get sows in the condition we want them to be at farrowing by day 56 of gestation, says Alastair Bratton

Gilts should be given a full complement of piglets when fostering takes place, Bratton stresses. "Every teat that is used during the first lactation, even for a few days, will produce 25% more milk in the next lactation," he explains. However, he says, the number of piglets suckling should be reduced by at least one or two at 3-5 days prior to weaning. "This lessens the strain on the gilt when demand is at its highest and helps to reduce body fat loss," he notes. "Make sure that a minimum of 7 piglets are left on the gilt, because suckling fewer than this can cause the onset of heat."

After weaning, both sows and gilts should be fed as much as they can eat and Bratton advises the use of a lactation diet if possible and a top dressing for younger females and thin sows to increase their protein intake. "Breeding should be delayed for sows that have lost the biggest percentage of their body mass," he suggests. "These are not necessarily the thinnest ones at weaning."

After breeding, feed levels should be set according to body condition and any sows that are in poor condition fed as much as they will eat until they regain condition, Bratton says. "Our target is to get sows in the condition we want them to be at farrowing by day 56 of gestation," he explains. "Sows are condition scored at days 21, 35 and 56 after breeding and then at day 56, feed intake is reduced to a maintenance level through to day 90." Overfeeding during the 56 to 90 day period negatively influences lactation feed intake and can cause reduced milk production, he stresses.

Although there are several ways of assessing sow condition, Bratton prefers condition scoring. "We tried measuring backfat and had variable results, for example we had very fit sows that only had 18mm of backfat." When condition scoring is carried out, the whole body is assessed and compared to a detailed sow condition scoring chart. "We often have two people doing it, which increases accuracy and have the same people doing it all the time which increases consistency," he notes. "Also we visit our sister units to compare condition scoring standards, especially to establish a standard for the 3 - 3.5 range because it's the target at farrowing." A girth tape is used to estimate gilt weight prior to breeding in order to avoid gilts being served too light, which would have an adverse effect on lifetime performance.

The objective of feeding and other aspects of management that affect condition is to minimize the number of sows culled and retain females in the herd as long as possible, Bratton concludes. "Every stage of the cycle affects the next and so it's important to get it right all the time," he notes. The Pinnacle units achieve a figure of 27 pigs weaned per sow, with an average parity of 3.1 indicating that sows have a long productive life, so he clearly achieves his objectives.

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• Special Features



Designing a group gestation pen – it's more than square footage per sow Part 2: New systems of floor feeding; adding complexity to gestating sow pens

By Kathy Zurbrigg and Franklin Kains

If sows perceive an advantage from competing for feed, aggressive encounters occur to improve access to feed in the pen. To decrease the severity and frequency of aggressive encounters, sows must perceive that feed is not a limited resource. This is best achieved with frequent meals spread out over a large feeding area. Distributing feed widely throughout a complex or structured pen eliminates aggressive encounters by decreasing the perception that competing for feed will result in improved access to feed.

Figure 1: Partition walls add complexity and structure to a pen by breaking it up into quadrants



How a pen is structured and how feed is delivered is critical to the success of pen gestation. Separate feeding areas within a single pen can be created with the addition of partition walls at the side or in the centre of the pen (Figures 1 and 2). Such pen complexity provides timid sows a chance to escape aggressive encounters and discourages aggressive sows from pursuing attacks. A centre dunging alley is another way to structure a pen into distinct areas for different groups of sows to eat and rest (Figure 3). A third method of adding structure to a pen is to increase the number of sows in the pen. In groups of 20 or more sows, the sows themselves serve as partitions and create complexity within the pen.

Where partially-slatted finishing pens are to be converted into gestation pens, the partitions over the dunging area between two

Figure 2: Partition walls added in an "x" design to the centre of the pen



or three pens should be removed. The solid-floored portion of each pen then becomes a separate feeding area for drop feeding while the remaining interior walls serve as partitions (Figure 4). This increases the total number of sows per pen because each pen

Figure 3: Use of a solid or slatted centre dunging alley creates two separate feeding surfaces



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Figure 4: Schematic of three partially-slatted finishing pens converted into one sow gestation pen by removing the partitions between the pens over the dunging area.



is now larger. The sows themselves add complexity to the pen and benefit from the increased "shared" space (Figure 5). The "right" number of sows per pen is determined in part by the number of farrowings per week. Farms with less than 15 farrowings per week should consider batch farrowing so that a larger number of sows can be grouped in a pen. Some producers choose to have a "dynamic" pen, where sows are continually added and removed. Pen design, space allowance per sow and feeding methods are much more critical in a dynamic pen. If some sows perceive that feed is limited, aggression will be continuous in a dynamic system as new fights ensue each time sows are added or removed. Farms farrowing more than 40 sows a week should

Figure 5: Diagram of increased "shared space" per sow.



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have two sow pens for each week so that sows can be divided into two pens by size or body condition. The producer can then better control the amount of feed per sow, decreasing feed to the pen of larger sows and increasing feed to the pen of thin or smaller sows.

Peak floor feeding efficiency is achieved by spreading out the feed in both space and time. Dispense the feed over the entire solid floor area by using cones or "y" diverters under feed drops (Figure 6). Spread out the feed in time, by feeding multiple times a day. The appropriate amount of ration for a pen of sows should be dropped in small amounts 3-8 times throughout the day. This method prevents sows from becoming overly hungry and anxious at feeding time, thus reducing the incentive for aggression. A timer added to the auger, ensures regular drops without added labour.

Figure 6: "Y" diverters or cones underneath feed drops are a simple method for increasing feed dispersion



One method of providing multiple daily feedings is to split each feeding episode into two stages. The more aggressive sows start eating after the first drop and the more timid sows move in and eat during the second feed drop. There are two ways to utilize this variation. One method has feed dropped in different

continued on page 34



DESIGNING A GROUP GESTATION PEN CONTINUED

areas of the pen at different times. For example, if using a pen with a centre dunging alley, feed drops on the solid portion of the floor at one end of the pen first. Thirty seconds to one minute later, the feed drops on the solid portion of the floor at the other end of the pen. With this feeding technique, the more aggressive sows start eating as soon as the first feed drop occurs. More timid sows move towards the other feeding floor and start eating when the feed drops there. When the sows are first mixed they may move back and forth between the two feeding surfaces until each surface has formed a stable group in which the sows are compatible with each other at feeding times.

The second variation on the two-stage feeding system drops feed 15-20 minutes apart at each feeding episode. The more aggressive sows eat when the first feed is dropped. After approximately 20 minutes, these sows lay down to rest. The shyer or slower eating sows eat during the second drop. This is an acceptable feeding method for existing pens that have been converted to sow pens, where it might not be possible to spread feed out over the entire solid floor. For drop feeding to work well, there should be at least 15 square feet of feeding floor per sow. A 5% slope on the solid flooring surfaces running towards the dunging area ensures that the solid flooring remains clean and dry.

Group gestation barns are a quiet, pleasant environment for both the sows and employees. They are equal or less expensive to build than traditional stall barns. Prices per square foot are difficult to list as they vary from region to region. The cost of a group housing gestation barn will vary according to design, the



square footage allowed per sow, complexity of the pen, feeding method and amount of slatted area. However, group gestation barns are generally less expensive to build than crated gestation barns as there is no cost for stalls, feed troughs or more complex gutter and floor designs. In a recent analysis of Ontario building costs, a group gestation barn with pen structure, automaticmultiple times a day drop feeding and 25 square feet per sow, could be built for the same price as a stalled barn.

Producers using multiple times a day feeding for sows in group gestation report that the sows are calmer compared to once a day feeding. By spreading out both the sows and the feed over the entire solid pen surface multiple times a day, competition and resulting aggression is decreased. However, even with perfect pen design and feeding techniques, occasionally an overly aggressive or shy sow will prove incompatible with the group. Though rare, these sows must be removed from the group and producers should have a small pen available for them for the duration of their gestation.

Producers using the above mentioned group housing designs wean their sows into breeding stalls. If weaned into pens, sows can injure themselves or others when demonstrating estrus behaviour. The length of time the sows spend in the breeding stalls varies from farm to farm. Some producers mix sows into a pen immediately after breeding. On these farms, pregnancy ultrasounding is done in the pen. Other producers prefer to hold sows in the breeding stalls for 35 days, until they are confirmed pregnant. If the gestation pens are well designed and managed, sows can be mixed immediately after breeding with little fear of aggressive encounters resulting in decreased reproductive performance.

The above housing designs and management systems were created on Ontario farms by producers who converted to group sow gestation housing. Swine producers created these systems through trial and error until they had limited or eliminated aggression between sows. The success of these systems has been evaluated in a number of ways:

- 1. The sows have fewer scratches, injuries, and lamenesses and their body condition remains even
- 2. The farrowing rates are greater than 80%, with a few approaching 90%
- 3. Producers rarely have to remove a sow that is not doing well in the group situation
- 4. Producers find working in group sow housing barns a quiet and pleasant alternative to crated gestation.

A new DVD showcasing 4 Ontario farms using group gestation housing is now available at no cost through the Ontario Pork Producers Marketing Board and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). The DVD includes a handout detailing the layout and management techniques of each farm that are discussed in the video.

An earlier DVD (produced in 2002) is also available, which features 3 other group gestation housing barns in Ontario, including one that uses straw. To receive either or both DVDs contact:

Kathy Zurbrigg, **OMAFRA** 519-846-3418 or Kathy.zurbrigg@ontario.ca

If you have questions regarding group housing or converting a conventional crated barn to group pens please feel free to contact me.



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Birth weight affects performance and carcass quality

There is a direct relationship between piglet birth weight and subsequent performance to market, including carcass quality and meat quality, according to PIC research conducted by N. Matthews, S. Jungst, C. Jones, B. Fields and A. Sosnicki. They presented their paper at the 55th International Congress of Meat Science and Technology.

Data from 5,186 pigs, representing 464 litters, which were sired by 43 PIC380 boars, were used in the analyses. Each piglet was weighed at birth and its performance was monitored from birth to the time the pigs were slaughtered.

At the farm where the trial was conducted, aggressive crossfostering occurred after piglets were weighed. Lifetime average daily carcass gain was calculated for each pig by dividing the weight of the carcass by the age of the pig when it was slaughtered and was the measure of growth in the trial. Carcass backfat thickness, loin depth and lean percentage were adjusted to 175 days of age at harvest.

The results showed that:

- Pre-weaning survivability, nursery survivability and full-value pigs marketed percentages increased as birth weight increased. Most of this improvement occurred in piglets weighing less than 1.36 kg.
- Lifetime average daily carcass gain and hot carcass weight increased as birth weight increased.
- Ham, belly, loin and boneless loin weights all increased as birth weight increased when adjusted to a constant age at harvest.
- When adjusted to 175 days of age, backfat thickness decreased and loin depth increased as birth weight increased, resulting in higher lean percentage.
- Objective loin colour measurements of Minolta L* (darker) and b* (less yellow) improved as birth weight increased, but Minolta a* (redness) was not affected by birth weight.



Piglet birth weight influences subsequent performance to market, including carcass quality and meat quality

- Subjective loin colour (Japanese colour score), loin pH, loin drip loss and loin firmness were not affected by birth weight.
- · Loin marbling decreased as birth weight increased.

Results from these data clearly show that lower piglet weights have a detrimental effect on the survivability of the piglet from birth to market, lifetime growth rate, carcass composition and, to some extent, meat quality.

As the number of piglets born alive per litter increases due to selection for litter sizes, the pig industry must find new management strategies to decrease the incidence of piglets weighing less than 900g at birth, say the authors.

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Is supply management the answer to the industry crisis?

After three years of economic crisis, the pork industry is desperate for solutions that will improve profitability and slow the exodus of producers. Similarly, beef producers have also endured a poor economic environment, with low prices and high input costs, compounded by the strength of the Canadian dollar. Looking longingly at the profits enjoyed by their counterparts in the dairy and poultry industries, pig and beef producers can be forgiven for thinking that supply management might be a solution to their industry's ills. But a recent report by the George Morris Centre pours cold water on this idea and points out the many



Al Mussell, of the George Morris Centre, says that supply management is not the answer to the pork industry's ills.

reasons why supply management would not be a feasible option. Written by senior research associate Al Mussell, it says that the Canadian beef and pork sectors would be better served by focusing on more tractable alternatives than supply management and that the current supply management debate detracts from this focus.

"There appears to be a renewed interest in supply management and measures involving licensing of production capacity," explains Mussell. "For example, the hog industry in Ontario has witnessed recent proposals for supply management and a sow licensing scheme. The issue is being taken seriously enough that a study of the implications was commissioned and recently released." However, there are critical differences between the markets for beef and pork compared to those for dairy and poultry, Mussell points out. "These do not appear to be well understood, but must be before a full assessment of the merits of a supply management scheme for beef and pork can be made," he says. "This is important, as pork and beef must focus if they are to effectively adjust to the current situation."

Among the basic foundations of supply management is the ability to generate significant increases in price as supply is restricted so that the total revenue, which forms the budget for settlement with producers, increases as the supply decreases. "This requires a robust demand for the product, which means that restricting the supply will be most effective in increasing the price when demand is growing - or at least stable - and when few good substitutes for the product exist," comments Mussell. "A second fundamental aspect of supply management is the ability to discipline the supply. This requires two sets of instruments. First, quotas are used to limit domestic marketings," he continues. "Second, a set of controls on imports using tariffs and tariff-rate quotas (TRQ's) is implemented. When supply management was introduced, access was allowed for imports at historical levels, with prohibitions on imports above this level. These have since been converted to TRQ's and very high tariffs."

Different conditions in beef and pork markets

It is important to consider the correspondence between the conditions that were conducive to a supply management marketing scheme and those in Canadian beef and pork, stresses Mussell.

"Supply management developed in an environment in which markets were highly fragmented, market information was sparse, and processor market power influenced pricing and market access," he says. "With regard to pork and beef, it is hard to see how the market is fragmented.

Rather, the market is North American, if not global, in scope." Secondly, market information in cattle, hog, beef, and pork markets is extensive, he notes. "Also, competition for livestock between primary beef and pork processors appears to be competitive and aggressive, and spans wide geographies."

In addition, Mussell says, we must look at demand for pork and beef in relation to the price consumers pay. Despite the fact that supply management has led to a steady increase in the price of chicken, consumption has gone up. However, demand for beef and pork has been declining. "At a given price level, Canadians have consumed less on a per capita basis, and this has been declining over

continued on page 38



IS SUPPLY MANAGEMENT THE ANSWER TO THE INDUSTRY CRISIS? CONTINUED

time," Mussell explains. "The data suggest a significant decline in this decade as pork consumption has given way to substitution by competing meats, and due to other non-price considerations." Given this, a supply management scheme that attempted to markedly increase prices (by referencing a measure of production costs, for example) is likely to only accelerate and exacerbate this decline in demand, he concludes.

Exports effectively balance the demand for various cuts of pork in the domestic market. For example, loin cuts are in greater demand by Canadian consumers, while other components of the carcass like shoulders, pigs' feet, and pigs' tails have a heavier demand in export markets. A supply management scheme based on the domestic market would need to scale itself around the domestic demand for all cuts, not on a carcass basis, Mussell points out. Cuts unwanted in the domestic market, such as tails, would have to be sold at exceptionally low prices or sent for rendering. This would reduce the overall value of a pig carcass to the production system as a whole.

Export and domestic trade

Beef and pork in Canada are export-driven segments, Mussell notes. "In 2008, almost 500,000 tonnes of beef, and about 1.6 million head of live cattle were exported. This is in addition to pork exports of about 1.15 million tonnes, and live hog exports of almost 9.4 million head, he says. "Thus, exports are a critical aspect of the business and without exports, beef and pork would be much smaller scale industries. "Conversely, if beef and pork were restructured on a supply managed basis, the industries would be much smaller in scale," he adds. "For example, when Canadian hog and pork production is converted to a carcass basis, Canadian hog production would need to decrease by about 63% to match domestic consumption. This is based on domestic pork consumption of about 23.5 kg, carcass equivalent basis."

Canada faces important international trade constraints in considering supply management for beef and pork, Mussell observes. Supply management schemes require tariffs to control imports, but historic import suppliers must be given permanent access, therefore the system would not result in Canadian beef and pork producers supplying the whole of the domestic market.

Secondly, Mussell says, by raising or introducing new tariffs and TRQs, Canada would be bound by WTO Article 28 to provide





Supply management makes dairy farming very lucrative, but would it work for pork producers? (©istockphoto.com)

compensation to countries that historically exported to Canada and are disadvantaged with regard to lost future growth in trade as a result.

"Thirdly, since supply managed industries are deemed subsidized they must report product specific subsidies," Mussell comments. "Discussions in the Doha Round aim to reduce both productspecific and overall distorting support. A new supply management scheme is directly at odds with this."

Canada also has trade obligations relative to NAFTA partners, which are broadly similar to the WTO constraints. Therefore protectionist measures require that compensation be provided for lost market access.

"Canada faces significant restraints under trade agreements that were not in place when previous supply management schemes were implemented. While these do not rule out a new supply management scheme for beef or pork, they would make it exceptionally costly, with the prospect of generating costs outside of the agri-food sector," Mussell suggests. "The NAFTA implications appear particularly onerous, as they can be expected to carry implications for the dairy, poultry and egg segments."

Another important consideration is interprovincial trade in livestock and products. "Provincial livestock production is frequently out of balance relative to processing capacity," says Mussell. "At the same time, consumer demand for processed products in a given province, relative to processing capacity, can differ sharply." Negotiations over allocation of processing capacity relative to farm production between provinces can be expected to

be especially difficult, he predicts.

"For the reasons outlined above, supply management currently serves as a distraction to more realistic approaches for addressing challenges in beef and pork marketing," Mussell concludes.

"The beef and pork segments need to challenge themselves and pursue marketing alternatives that leverage Canada's natural advantages as exporters, and set aside apparently simple (but practically difficult) solutions like supply management. This will require focus, as alternatives will be more challenging to envision and develop than a mandated supply management scheme."

Danish producers continue productivity advances

The latest production data from Denmark shows that Danish pig producers are continuing to make solid progress in the major measures of productivity. Data for 2008, presented during a recent visit arranged by the Danish Agriculture and Food Council for British farm journalists, indicates that the top 25% of producers are close to reaching 30 pigs/sow/year (see Table 1).



Danish sows pour out the piglets, with 14.4 born alive in top 25% herds

"Danish pig producers are among the most productive and efficient producers in the world," says Nicolaj Nørgaard, CEO of DAFC's Pig Research Centre. "This analysis is from our national production data collection system. Twice a year we collect data from a number of farms and analyse them to monitor the development in productivity and efficiency. The data is from about 200,000 sows."

Table 1: Breeding herd productivity in Danish herds

	20	008
	Average	Top 25 %
Live born / litter	13.8	14.4
Pre weaning mortality,%	14.3	11.9
Weaned / litter	11.8	12.7
Litters / sow / year	2.25	2.31
Weaned / per sow / per year	26.6	29.3

continued on page 40



DANISH PRODUCERS CONTINUE PRODUCTIVITY ADVANCES CONTINUED

The figures show that liveborn pigs per litter now average 13.8, with the best producers averaging 14.4. Although the figure for litters per sow per year is relatively low due to a high average lactation length of around 30 days, producers wean an average of 26.6 pigs per sow and the top 25% achieve 29.3.

"We look very carefully at the top 25% herds because it tells us the potential in weaner production we still have the opportunity to achieve," comments Nørgaard. "You can see it is still possible to improve the productivity in our sow herds."

At the nursery stage, data is standardized to an exit weight of 30 kg to allow more accurate comparison of results. Entry weight is, on average, about 7.2 kg. The average daily gain is 448 g/day, resulting in an age of 82 days at 30 kg, while the top 25% of producers achieve 466 g/day and 78 days respectively. Feed efficiency is 1.77 and 1.75 respectively, while the average mortality is 3.1 percent, with a top 25% figure of 2.2%.

"The results from the weaners are perhaps not too impressive," admits Nørgaard. "Since 2000 we have not been allowed to use growth promoters in Denmark and this has had a significant negative impact on our efficiency, especially the first 4-5 weeks after weaning." But the results from the best 25% herds are quite good, he believes. "They encourage us to do a lot of farm tests to improve the results in all our farms. But it is a hard task we are dealing with."



Dealer Inquiries Invited

01		
	20	008
	Average	Top 25 %
Daily gain, g/day	879	958
Feed conversion ratio, kg per kg weight gained	2.69	2.54
Average slaughter weight, kg	81	81
Average live weight, kg	106	106
Average lean meat, %	60.4	60.4
Dead and culled, %	4.3	3.0

Table 2: Finishing performance in Danish herds

At the finishing stage, Nørgaard is a lot happier about performance. Average daily gain between 30kg and a live weight at slaughter of 106 kg is 879 g/day, while top 25% producers achieve 958 g/day. Average and top 25% feed efficiencies are 2.69 and 2.54 respectively (Table 2).

"We think that our efficiency results in the slaughter pig production are quite good compared with other countries," says Nørgaard. "Despite that, we now put more focus on finisher production, because we know from our breeding herds that there is an enormous potential that is not utilized at the moment. We are convinced that we can have a much higher daily gain and better feed conversion ratio." He believes this means focusing on biosecurity, high health status, appropriate feed, daily management routines, pig environment, feed wastage and treatment of sick animals."

Denmark has a similar number of producers and sows to Canada, with a total of around 7500 farms with pigs. There are 3,550 breeding herds with an average of 323 sows. About 60% of sows are in herds of 500 or more and 75% of sows herds use group housing (EU law requires a transition to group housing for sows after 28 days of gestation by 2013). Half of the farms with sows also finish the progeny, but there has been a trend towards weaner production rather than farrow to finish operations over the last 10-15 years.

DAFC's economic data shows that producers have had a difficult two years, losing an average of 139 DKK (nearly \$27) per pig in 2008 and a predicted loss of 72 DKK (nearly \$14) per pig. In cash terms, there was an actual loss of 93 DKK (\$18) per pig in 2008 due to production costs of 12.24/kg (\$2.35) DW, but lower feed costs in 2009 are predicted to result in a positive cash position of 36 DKK (\$7) per pig. The forecast for 2010 is a cash result of 123 DKK per pig (\$23.50) leading to a profit after non-cash items of 40 DKK or \$8.

Nørgaard notes that investment by producers dropped sharply in 2008 due to the banking crisis and because land values in Denmark, which are extremely high, have fallen by 25% since 2006. Producers have, in the past used rapidly appreciating land values as a source of security for the banks.



Downturn still a good time for improving genetics

By Dr. Tom Riek

It's a difficult time to thinking about be making improvements on hog farms. Most producers are concentrating on making ends meet, looking for ways to decrease costs or just stay in business. Survival techniques are top of the mind rather than evaluating and production adjusting practices to prepare for market recovery.

But historically, industry downturns have been a good time for producers to evaluate and improve genetics within their



Dr. Tom Riek, Health Assurance and Multiplication Manager, PIC Canada

herds. Introducing new genetics takes time and may come with a period where animals are not producing to ideal capacity – and what better time to be temporarily out of production than when market prices are reduced. Breeding stock costs are often reduced during an industry downturn simply because of reduced market prices. The idea is that once the market recovers your herd is producing at full capacity with new and improved genetic potential. So now may be a great time to take a hard look at your operation to consider what efficiencies can be gained.

Efficiency can be improved in a number of ways; I don't just mean the lowest cost of inputs. For example, the lowest cost feed may result in poorer feed conversion, reduced growth rates and lower returns. The same is true of genetic inputs. Take the time now to evaluate your herd, genetics, facilities and herd management practices to create the best possible position for your farm when the market recovers.

Genetics influence profitability

Consider starting your on-farm evaluation with genetics. Genetics are a key component of potential profitability, that can be realized from increased efficiencies and this is the ideal time to start making improvements. Genetics contribute to some of the most basic, yet important aspects of herd production.

Feed efficiency – On average feed costs represent over 60% of the total cost of production in a hog operation making feed efficiency a top factor in genetic selection. And while we typically think of feed efficiency in terms of the growing pig, it's important to look at sow feed usage as well.

Maternal influence – It's well known that female genetics influence reproductive traits like litter size, and weaning weights, but we need to remember that they also contribute 50% of the genes that will influence finishing performance.

Throughput – Genetics contribute to average daily gains and the robustness of animals within the herd. A more robust pig with better feed conversion, higher daily gains, and improved survival rate is more likely to reach ideal market weight within the target timeframe. Higher throughput also improves facility utilization and reduces fixed costs.

Carcass traits – Genetics contribute to grading grid results and carcass value since indexes are based on back fat depth and loin size. Meat quality is also influenced by genetics and while producers are not necessarily compensated for meat quality under current systems, these traits are important to packers and may impact marketing opportunities for producers.

continued on page 42





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DOWNTURN STILL A GOOD TIME CONTINUED

The bottom line – Genetics play a significant role in the cost of production and return on investment. As producers, keep a close eye on your bottom line and don't underestimate the influence genetics has on returns.

Take a hard look at your operation and make sure you have the right genetics to position your farm for future efficiencies and profitable hog production. Improving herd genetics puts you in the best possible production position when the hog market recovers. And when you are evaluating your genetics, consider performance of the entire herd, from reproduction through to market.

I encourage producers to talk to their genetics supplier for assistance in herd genetic evaluation. Genetics companies can evaluate your herds' potential and identify where improvements need to be made. Ask them questions to determine if they offer the ideal genetics for your herd. How does their company evaluate economic traits such as feed efficiency? How much emphasis is placed on testing for various economically important traits? Do they use comparative data to critically evaluate their own herds? When looking at data supplied by genetics companies understand the quality of the data look for well conducted science-based research that includes trials.

Making the switch

Once you have evaluated your herd and found appropriate genetics, the next step is how to introduce them into your herd. Options range from a full depopulation-repopulation to simply changing sires. Ask yourself how quickly you want to change your genetics. The fastest way is to introduce terminal semen, creating a changeover in market hogs within 10 months. Bringing in replacement females or boars can be a longer process. The typical replacement rate on Canadian hog farms is 45-50%, which means it can take a minimum of two years to roll a herd over to fully producing a new line of genetics. Some farms also need to consider the age of the females they introduce into their herd. Depending on the herd and health status, consider bringing in gilts ready to breed or a multi-weight delivery of females. If there are health challenges within a herd, introduce younger females to allow time for them to adjust to the new environment and build immunity before breeding. Simply changing the sire or semen within a herd is the most popular way to introduce new genetics; it is less intrusive and disruptive to the herd. But you know what's best for your herd.

Introducing new genetics into a swine herd isn't only about improving production efficiencies. Upgrading the health status of your herd is another good reason to consider a new genetic line. Consider restocking your barns with new genetics to upgrade your herd health through depopulation and repopulation of the herd to improve the overall health and introduce new genetics at the same time. It's during a down cycle that a depopulationrepopulation may make the most economic sense if you can time it so that you are out of production during unprofitable times and restocking while replacement costs are lower. The trick is to hit the recovering market when your new production comes on stream.

Despite the very tough challenges the hog industry is facing, we know things will change. We may not know what the future looks like, but that doesn't mean we shouldn't prepare for it. Producers today are looking closely their operations to maintain at survival, but it's just as important to ensure a presence in the future of the Looking forward and industry. creating the best possible position is just as important as survival. Consider ways to make your operation as efficient as possible today, to face the industry in the future. Take the time to critically review your operation and take advantage of this downturn to build efficiencies and improve your genetics.

Dr. Tom Riek is the Health Assurance and Multiplication Manager for PIC Canada.

Families behind the farms

By Kim Langen

It started out as business as usual. But as marketing company Edge began to delve deeper into the issues facing pork producers today, it became more of an obsession. Now they are raring to change things up, and help rebuild the image and profitability of hog farmers in their home province of Manitoba.

They aren't farmers themselves, but a marketing group in Winnipeg that wants to bring farm families into the homes of everyday Manitobans so they can all get acquainted.

Not at the table, of course, but through a new internet website that will allow consumers in the city to really see the folks who are out there, working hard to produce top-quality pork, raising their own families, and living their lives pretty much like anyone else in the province of Manitoba. They want to bring the two together and change the image – and the future – of pork producers.

"Our mandate is to turn around the minds of Manitobans to the industry," said Elizabeth Mitchell, Marketing Strategist with Edge Business Strategies. "I don't want the producers to hurt any more. They have suffered enough. From here on, let's go forward."

The upcoming website, 'The Family Behind the Farm', is scheduled to come on stream by the spring of 2010, and is just one part of Edge's multi-pronged campaign to move the industry into a warmer light, and one with dollar signs. They will also be targeting education, through Ag in the Classroom, running creative ad campaigns through various media genres, and by updating consumer packaging and promotional material for pork products. And they plan to win.

"Manitoba produces the best pork in the world," said Mitchell. "I know this from the research that we have done this past year. I want producers to put out this positive message. One of the big issues they face is that there is a disconnect between urbanites and pork producers. We need to build a positive connection between the two. We need Manitobans to take pride in their pork industry."

Producer families

The company is currently lining up a number of pork producer families from around the province who will appear on the website, 'familybehindthefarm.ca', and whose members will be interviewed, photographed, and profiled to showcase both their good animal husbandry and their family life. "It will be an on-going farm family story, and we will build on these families. Urbanites can get to know the family behind the farm," said Mitchell, who came up with the website idea along with colleague Robert Mensies, Principal and Creative Director at Edge Business Strategies.

For Mensies, a project that started out as simply business soon became something deeper. He originally put together a marketing proposal for the Manitoba Pork Council in late 2008, with an eye to improving their public image, and the council took on Edge as promotional partners. But as he learned more about the plight of farmers, Mensies' determination became stronger.

"Initially it was just business," said Mensies, who comes from a small rural town outside Winnipeg. "But as we did our research, and learned about what it means to the province, it made me care even more. I *continued on page 44*

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From left to right are: Elizabeth Mitchell, Marketing Strategist with Edge Business Strategies, Kelly Funke, Manager of Communications and Media Programs with the Manitoba Pork Council, and Robert Mensies, Principal and Creative Director with Edge Business Strategies.





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FAMILIES BEHIND THE FARMS CONTINUED

personally want to make a difference now. When we hear now that farmers are calling up the Pork Council on a daily basis, and saying they are giving up and going bankrupt, that's when the emotions hit you."

"We want to focus on the positive," said Mensies. "And there are so many positives in the pork industry. Returning sustainability to the pork industry is our main goal."

After beginning the marketing project in early 2009, Edge first investigated systems of pork production in other countries.

"We looked at hog producers and the issues that they face. We looked at the different solutions that they have found to overcome those challenges," says Mitchell. "We looked at strengths and weaknesses around the world."

The end goal is to get pork producers back into profit, she said. And to stay that way.

Driving the change

They are also seeking to draw more pork producers into the fold of the Manitoba Pork Council, including those on the production fringe. If everyone pulls together, change



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"The Manitoba Pork Council is working for all producers, including the niche pork producers such as specialty breeds," she said. "We want to pull together the people who are stakeholders in the pork industry - the pork producers, processors, retailers, and those who supply to the industry. That's because they are going to drive the change, from a negative perception to a positive one. It's the industry itself that's going to drive the change."

Their multi-media creative ad campaign is set to run throughout Winnipeg and rural communities immediately, and has been designed by Edge to draw in consumers on a personal level.

"These are ads that will create heartfelt emotional bonds between themselves and producers," said Mitchell. "They will see that, hey, pork producers are people like me."

An element of the Manitoba Pork logo has also been adjusted, with an emphasis on the word 'Manitoba' rather than 'Pork'. Plans are also underway to expand the industry's role in Ag in the Classroom in the 2010 - 2011 school year on a province-wide level, said Mitchell.

Positive images

Edge's drive and desire for a newer, positive image for the hog sector is shared by Manitoba Pork Council's new communications manager, who was drawn to the Pork Council for the same reasons. Kelly Funke, who served on the Canola Council for nine years as editor of in-house publication Canola Digest, left that group in September, 2008, to take up her new role as Manitoba Pork Council's Manager of Communications and Media Programs. She was looking for a challenge, she said, and she found it within the pork sector.

"It was a challenging time for them, and that appealed to me," said Funke, who holds a degree in journalism from Carleton University. "I believe in farmers, and the important job that they do in our world. When you see these people that we believe in, that are struggling, you want to lend your own skills, and try to help them."

Funke said that all the focus up to that point had been on Bill 17. It was time for the industry, which brings a billion dollars into the provincial economy annually, and provides 13,000 jobs for Manitobans and new immigrants, to 'move forward', she said. "We needed to look at the larger picture, and talk about our strengths, and what we provide to the province," she said.

Leaner and meaner

Casualties of the crisis were inevitable, however, but Funke believes a new, sustainable industry will evolve from this unexpected crucible of change.

"We'll emerge leaner, meaner and a more efficient industry. And I'm sure that's what everybody in the industry wants to see," Funke said.

Factors such as the strong Canadian dollar, Mandatory Country of Origin Labeling (COOL) in the US, feed price increases, and internationally low hog prices have all contributed to the near-collapse of the hog market, but one more obstacle reared its head to further damage the industry, said Funke.

"In March it looked like things were looking up, but then the H1N1 pandemic came, and that was it," Funke said. "That was the icing on the cake, and now it's a lingering psychological influence."

Despite these hurdles, the Manitoba Pork Council is working hard for producers, she said, to constantly improve the industry in every way.

"The Pork Council funds research - we are always looking for a better way. For transport, for handling, housing, and manure management - these are the big ones," said Funke. "During the ad campaign, it's important to have producers out front. There are bridges that need to be built, and we need more pork purchased. I would like to see Manitobans have an open mind, and be proud of their pork, and buy it in the stores. And I want to ensure that the industry operates successfully, and that individual producers are successful. That means some are leaving, and I just hope we emerge on the other side as a better industry."

The team at Edge have no doubt there will be an improvement in the lives and fortunes of pork producers.

"I feel blessed to be a part of the industry at this critical time," said Mitchell, "because they are up against the wall. And to be part of the solution is phenomenal. I know we will succeed because I believe that the producers themselves are ready to take part in driving the change. Together we can make it happen."

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• Herd Health



Optimal breeding productivity through careful management of sow herds: Part 2

By Western Swine Health Associates: Drs. Egan Brockhoff, Chris Byra, Gail Cunningham, Frank Marshall, Chris Misutka, & Peter Pawluk

Using the farrowing fate report from computer records to enable hitting breeding targets/week

In assessment of key determinants of the number of pigs born and weaned per week, the single biggest factor needing attention is meeting breeding targets, with the second largest risk factor being farrowing rate. Table 1 shows the relative importance by percentage of different components of the breeding herd efficiency for achieving a uniform weaned pig flow to the nursery¹.

Table 1: Relative importance (%) of different componentsof the breeding herd efficiency for uniform pigflow to the nursery (Dial 2002)

Number of sows served	60%
Farrowing rate	30%
Number born alive per litter	5%
Mortality of pigs born alive	5%

Thus the primary focus of the breeding herd management is to ensure enough available gilts and weaned sows are present on a weekly basis to meet projected needs.

To enable hitting breeding targets consistent use of the Farrowing Rate Report (Breeding Herd Reports/Farrowing Rate in PigChamp) to see the "holes" in numbers served/week will allow us to strategize to ensure adequate numbers of gilts are available for each sow group coming out of the farrowing crates into the breeding barn. When running the report always make sure that the report runs from a Monday to a Sunday therefore always ending on a Sunday. (Unless special herd or system requirements apply).

Rule #1: Note that if we desire to breed gilts always on their 2nd estrus (min) after delivery to the farm, then we need to incorporate this rule into projected gilt deliveries. This ensures 2 cycles prior to breeding so that the gilt will farrow with enough body mass to allow

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Rule #2: Calculate gilt needs based on number of sows or gilts maintained pregnant by the 10th week of pregnancy. (Easily seen on the "Farrowing Rate Report")

Rule #3: Calculation of gilt requirement formula: {(Target breeding #, minus # sows farrowed, or intended to wean) + (culling rate or # of culled weaned sows/wk)} minus (0.5 x # of repeats/week). Note that generally with repeat animals perhaps only 75 % of the time they are actually fit to rebreed depending on parity and previous history.

Rule #4: Once we have the "Calculated gilt requirement number", we need to relate this to the breeding group in question, and then go back into our gilt pool and identify the gilts that have shown 1st standing estrus 3 weeks prior to our "hole in breeding". These animals are flagged for my identified "hole" in breeding.

Using this principle we can allow ourselves enough time to strategize gilt deliveries with our breeding company, and/or make better use of our own internal gilt development program.

Feeding the lactating sow

It is a fact that today's sow will milk 25 times more pound for pound than the average dairy cow! This incredible milking machine requires staff to be diligent in the pursuit of maximizing feed intake during lactation. Without doubt, there is an art to feeding sows! Today's lactation sow diet has to be more protein and energy dense than that described by the last NRC specifications. Typical diet specifications should be based on average daily sow feed intake during lactation. (Tonnage per day divided by the percentage of occupied farrowing crates per day). Regardless, today's lactation rations typically run total lysine at 0.95% in sows and up to 1.25% in gilt start ups, with energy 3400 DE/kg. The basic premise is to take the sow/gilt progressively towards full feed by increasing feed intake by increments of 0.5 kg (1 lb-gilts) - 0.75kg (sows) per day for the first five days, and at the 5th day make a judgement call as to whether we can increase by 1.5 lbs/day thereafter. By the 10th day we want to be at 16+ pounds of total feed per day. This allows peaking by 7-10 days post farrowing and should be targeted at greater than 8lbs twice daily by 7 days. It has been my experience to see mid parity sows consume up to 15lbs twice daily! (of a quality ration formulation).

The feed levels for gilts shown in Table 2 are appropriate for 1st and 2nd litter sows for the first week; this will also reduce the number of sows that have the "crash and burn" feed intake sometimes observed. If we use a hot lactation sow diet of 1.1% total lysine and 3400 DE, usage of the following chart is recommended. For the first week a small 1 kg (2 lb) scoop should be used so that staff can be very accurate when feeding, no matter who is feeding.

Table 2: Lactation feed levels for gilts

							-					
Day	1	2	3	4	5	6	7	8	9	10	11	12
Total lbs	4	5	6	7	8	9	10	12	14	14	16	16
lb am	2	2	3	3	4	4	5	6	7	7	8	8

This methodology has been the most consistent to control:

Udder edema: (hard udders/congestion) situation, which is different from mastitis.

Milk/nutritional scours: due to overfeeding of the sow in the immediate post-farrowing period. This is due to the sow producing more milk than the piglets are capable of handling and as a consequence they will get diarrhoea and potentially get out of control.

Dritz and Tokach at Kansas State University proposed a simplified feeding system⁶. Their system is based on a 4 lb feed scoop. Sows are fed three times a day and receive 0, 1 or 2 scoops of feed at each meal. If there is feed left over from a previous feeding then no new feed is added. If there is a small amount of feed (< 2 lb) remaining, 1 scoop is added. If the sow's feeder is empty then 2 scoops are fed. The exception to this pattern of sow feeding is the two days following farrowing. In this time period sows are fed 0 or 1 scoop. Sows should not receive 2 scoops at a single feeding during this time period. Table 3 shows the feeding procedure outlined above.

If more than one person is feeding the sows, a way of communicating to one another what the sow's appetite has been like at the previous 2 or 3 feedings will have to be used. This will help to identify sows that are off feed and aid in making your evening feeding decisions. Feed intake cards work well for this purpose but clothes pins clipped to the feeder or a chalk line on the feeder can be used. The sow card can be rotated a half turn if a sow failed to eat at the last feeding.

Correct timely proactive use of records

We are in an information age, and there are no less than 6-7 reasonable computerized swine data management programs that allow trouble shooting of all aspects of the sow herd. Proper usage by a skilled part of the management team is critical here to allow trouble shooting and investigation when necessary. These programs will allow insight into the critical components involved and give direction to correct the issues discovered there.

Sow welfare

Last but certainly not the least, sow welfare thankfully is on the forefront for our industry and is an ongoing developmental issue. It is amazing that only in the last year we finally have available approved non-steroidal analgesic and anti-inflammatory drugs.

Evaluation of alternative housing systems continues to be debated. As an industry we need to rise above the hype of extremism and seek out the best system to provide the

Table 3: "To appetite" feeding method (Dritz and Tokach)

Number of each feedin	f 4 lb scoops ng from day	to feed at 0 to 2	at Number of 4 lb scoops to feed at each feeding from day 2 to weaning			each
Feed in Feeder	Feeding AM	PM	Feed in Feeder	AM	Feeding Noon	PM
Empty	1	1	Empty	2	2	2
< 2 lb	0	0.5	< 2 lb	1	1	2
> 2 lb	0	0	> 2 lb	0	0	1

optimized situation that will allow good science-based animal welfare, good biosecurity, and ultimately the best for food safety.

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WINTER 2010

International Round-up



Danes breed better barley for animal feed

Danish scientists are working on developing barley cultivars for animal feed that not only have a sufficient amount of protein, but the right kind of amino acid profile. Barley with a better protein quality grain could save money for farmers, because it more closely meets the animals' requirements. It would also decrease the need for importing protein and help reduce the amount of unutilized nitrogen ending up in the environment.

Traditionally, feed barley has been bred for centuries to have a higher protein content in order to meet the protein requirements of farm animals. However, the breeding focused on higher protein quantity while the nutritional value was not addressed. Non-essential amino acids such as proline and glutamine are found in excess in these modern cultivars with a higher protein content. After having made their way through the animals' digestive system, such non-essential amino acids, which are not utilized, end up as nitrogen contamination in the manure. The manure is typically spread on fields as fertilizer but the excess nitrogen is leached from the soil, finding its way into the aquatic environment.

One way to solve the problem is to feed low-protein barley, but that would require an additional protein supplement in the feed, such as imported soybean protein and essential amino acids, in particular lysine, threonine and methionine.





Danish researchers are developing new varieties of barley that better meet the pig's needs

"We could save money on imported protein feedstuffs and be more protective of the environment if we could find barley cultivars with a high protein content but a lower content of proline and glutamine," says senior scientist Eva Vincze from the Faculty of Agricultural Sciences at Aarhus University.

The search for high-protein, low non-essential amino acid barley cultivars has already begun, with the scientists evaluating more than 300 different barley cultivars from all over the world.

Unlocking the potential of corn DDGS

Pig producers looking for lower feed costs in diets containing distillers dried grains with solubles (DDGS) can save around \$5/tonne, without risking animal performance, according to the latest research from Danisco Animal Nutrition.

As feed costs continue to fluctuate, by-products from the food and fuel ethanol industries can provide alternative, more costeffective ingredient options for the nutritionist. The use of DDGS in animal feed has increased with the growth of the bio-ethanol industry. Whilst DDGS is potentially a cost effective and valuable feed ingredient, there are certain anti-nutritional factors which can limit its use in pig feed.

In a trial conducted at the University of Illinois, USA, combining a new-generation phytase (Phyzyme® XP) with a highly effective xylanase enzyme (Porzyme® 9302) in corn-based pig diets containing 20% corn DDGS significantly improved digestible energy by 5.6% (175 kcal/kg, 0.73 MJ/kg), ileal amino acid digestibility by 4-8% and increased phosphorus digestibility from 22% to 51%.

In a trial conducted at the University of Kentucky, USA, adding the xylanase and phytase combination resulted in net savings in feed costs of around \$5/tonne. Performance of pigs fed a cornbased diet containing 20% corn DDGS reduced in both digestible energy (95 kcal/kg; 0.40 MJ/kg) and available phosphorus (0.01-0.04%) and supplemented with the enzyme combination was at least equivalent to the performance of pigs fed a more expensive standard diet.

"Pig producers are continually looking for opportunities which allow more flexibility in both the levels and types of ingredients which can be added to the feed. This is particularly important during these turbulent times," comments Dr Gary Partridge, Global Technical Services Director, Danisco Animal Nutrition. "Optimized enzyme solutions offer great opportunities to keep feed costs to a minimum and help boost profits."

Brits to change quality pork logo

The British Quality Standard Mark for pork, bacon and ham has been a huge success over the last 10 years and achieved almost universal recognition among consumers. From the industry's viewpoint, it has been the centre point of promotion activities to differentiate British pork products from imported product, often produced to lower welfare and food safety standards. However, The British Pig Executive (BPEX) has confirmed it will be using a new logo to promote the high standards of quality assured pig meat to consumers from April 2010. A revised "Red Tractor" logo will be used, incorporating all the existing standards of the Quality Standard Mark covering production, welfare and quality. The Red Tractor logo is used by other agricultural sectors to indicate products are quality assured.

BPEX chairman Stewart Houston said: "The Quality Standard Mark has been the brand that we have successfully used, and the industry has marched behind, to communicate the high welfare standards and quality of pork and pig meat products we produce to consumers for over a decade."

"Using a variant of a logo that has widespread visibility with consumers will be of benefit to the English pig industry. The standards and values behind the new logo will be identical to the QSM, the design will be similar and we are planning to have pork, bacon and sausage variants."

Michigan passes bill to phase out close confinement

The state of Michigan has passed a bill that will phase out gestation stalls for breeding sows within 10 years and end close confinement for other farm animals. The move has been welcomed by animal welfare groups.

Michigan Governor, Jennifer Granholm, signed a landmark bill on October 12th that will, for the first time, extend modest yet meaningful protections to farm animals, reports The Humane Society of the United States (HSUS). A result of extensive negotiations between humane and agricultural groups, the law requires that certain farm animals have enough room to stand up, lie down, turn around and extend their limbs, rather than being confined in tiny cages.

HB 5127 phases out veal crates for calves within three years, and battery cages for laying hens and gestation crates for breeding sows within ten years. The state has more than ten million laying hens, approximately 100,000 breeding pigs, and is ranked by the Cattleman's Beef Board as a top veal-producing state.

Michigan becomes the seventh state to ban gestation crates, the fifth to ban veal crates, and the second to ban battery cages. Arizona, California and Florida have passed similar measures through ballot initiatives, and Maine, Colorado and Oregon have passed related laws in their state legislatures.

Danes use more antibiotics but less of importance to humans

New figures from the Technical University of Denmark (DTU) show a 12 per cent rise in the use of antibiotics for pigs in Denmark during the first half of 2009. At the same time, a recent report from the Danish Integrated Antimicrobial Resistance Monitoring and Research Program (DANMAP) shows a fall in the use of antibiotics that are critical to the development of resistance to antibiotics.

The growth in the use of antibiotics reflects an increase in the number of animals in pig production during the first half of 2009. The number of sows rose by 6-7 per cent, leading to a rise in the number of piglets, says the report. Part of the rise in antibiotics consumption can be explained by the greater incidence of diseases among these younger pigs, and thus there were more animals to be treated in the first half of 2009.

In both 2008 and the first half of 2009 there was a general cut in the use of antibiotics that are important in the human treatment. "Denmark is a pioneer in limiting the use of antibiotics, especially the type of antibiotics that can promote the development of resistance and thus threaten the treatment of both people and animals," says Minister of Food, Agriculture and Fisheries Eva Kjer Hansen. "Therefore it is positive to see a

continued on page 50



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INTERNATIONAL ROUND-UP CONTINUED

continued fall in the use of cephalosporins, which are some of these critical antibiotics."

The Danish Veterinary and Food Administration's veterinary inspection team will target its inspections and advisory functions on veterinarians who prescribe medicine to the herds with the largest use of antibiotics. If the veterinarians do not change their prescription habits, the veterinary inspection team can start to monitor them closely and if necessary can order laboratory examinations before the veterinarians prescribe medicine. This method was used successfully when there was an unexpected 25 per cent rise in the use of antibiotics for pigs between 2002 and 2004, stopping the rise in consumption.

In addition, the Danish Veterinary and Food Administration has started a dialogue with veterinarians and pig producers about the causes of the rise in use of antibiotics.



The use of therapeutic antibiotics has increased in Denmark since growth promoters for pigs were banned

First draft of pig genome completed

An international team of scientists has completed the first draft of the genome of a domesticated pig, which will spur advancements in swine production and human medicine, USDA announced recently.

At 98 percent complete, the draft sequence of a red-haired Duroc pig will allow researchers to pinpoint genes that are useful to pork production or are involved in immunity or other important physiological processes in the pig, USDA said in a



news release. It will enhance breeding practices, offer insight into diseases that afflict pigs - and, sometimes, also humans - and will help in efforts to preserve the global heritage of rare, endangered and wild pigs.

The project was funded with a \$10 million grant in 2006 to the University of Illinois at Urbana-Champaign from the National Institute of Food and Agriculture (NIFA), previously the Cooperative State Research, Education, and Extension Service. The total cost was about \$24.3 million, with additional support from USDA's Agricultural Research Service and various American, Asian and European sources.

European MRSA survey finds big variation in occurrence

The European Food Safety Authority has published the first European-Union-wide survey on MRSA (Methicillin-resistant Staphylococcus aureus) in breeding pigs. The results indicate that MRSA, a bacterium resistant to many antibiotics, is commonly detected in holdings with breeding pigs in some European Union member countries. However, the incidence varies considerably between countries, with the UK and Scandinavian countries having no positive samples from testing on breeding units, while Germany and Spain had over 40%.

The survey provides estimates of its occurrence and makes recommendations for further monitoring and investigation of the causes and implications of MRSA findings in pig holdings in the European Union.

The survey was carried out in 24 member countries, 17 of which found some type of MRSA in their holdings with breeding pigs and 7 none at all. On average, different types of MRSA were found in one out of four holdings with breeding pigs across the European Union.

But the survey also says the figures vary greatly between member countries. MRSA ST398 was the most reported type of MRSA among the holdings with breeding pigs in the European Union; some member countries also reported other types, but their prevalence was much lower.

MRSA is a major concern for public health and its various types are recognised as an important cause of hospital-acquired infections in humans. The specific type MRSA ST398 has been identified in some domestic animals and is considered an occupational health risk for farmers, veterinarians and their families, who may become exposed to it through direct or indirect contact with these animals.

In an opinion published earlier this year, the European Food Safety Authority's biological hazards panel assessed the public health significance of MRSA in animals and food and concluded the MRSA ST398 strain is less likely to contribute to the spread of MRSA in hospitals than other types carried by humans. The panel also said there is currently no evidence that MRSA ST398 can be transmitted to humans by eating or handling contaminated food.

The European Food Safety Authority recommends monitoring of pigs and other food producing animals for MRSA. It also says further research should be carried out, so that the reasons for differences in the prevalence of MRSA in the various member countries can be identified and used to propose options on possible control measures.

How evolving consumer concerns influence food purchases

American consumers are increasingly making decisions about food purchases based on product claims for food safety, health and ethical considerations, while there is a shift away from other quality claims such as organic and free range, according to the results of a recent survey carried out by Context Marketing.

The company recently surveyed a national sample of more affluent consumers to determine which issues-based product claims are most important to them when making specialty grocery and restaurant menu decisions. The research emphasized quality claims having to do with safety and health, as well as ethical considerations and their role in the purchase decision. It did not include nutrition claims.

"While the results confirm the strong influence of low price on the purchase decision, they also illustrate several trends, including a shift away from some familiar quality claims such as organic and free-range," says the report. "It is not that these terms are no longer valued, rather that newer claims have captured the consumer's attention."

Key findings from the report suggest that:

Consumers are paying closer attention to food quality claims. They also are increasingly savvy about evaluating them. The more educated and affluent consumers included in the survey are familiar with many, if not most, of the issues behind the claims being made today by producers, manufacturers and restaurants.

Safety concerns lead the list. The quality claims that consumers find most meaningful today relate to food safety. Most important are claims that assure consumers that the things they do not want to see in food are not there, such as antibiotics and artificial hormones. Food safety is important to the majority of shoppers and especially women who bring somewhat greater concerns to food choices.

Ethical claims are important. Although safety is the primary concern, ethicallybased claims are also important, especially with a large subset of consumers. One reason is because ethical claims are frequently linked to safety issues; another is that ethical behaviour is important for a company seeking to gain consumer trust and loyalty.

Most will pay up to 10% more for quality. Despite the fact that most consumers report that low price is the main reason why they purchase a product in the supermarket, 60% of respondents reported they are willing to pay up to 10% more for food that promises to be healthier, safer or produced to higher ethical standards. Another 12% said they would pay more than a 10% premium.



Consumers are increasingly making decisions about food purchases based on product claims for food safety, health and ethical considerations. (©istockphoto.com)

continued on page 52



New energy table for weaner pigs

Schothorst Feed Research in the Netherlands has developed a separate energy table of feedstuffs for weaner pigs up to 25 kg. This table provides feed manufacturers and producers the opportunity to improve the accuracy of diet formulation because currently they have to rely on energy tables for growing and finishing pigs. However, the digestive system of pigs develops rapidly during the first months of life and the capacity of pigs to digest protein and crude fibre reaches its maximum at a weight of around 60 kg. Also, the weaning process has a large effect on nutrient digestion and absorption, resulting in reduced fat and protein digestion and absorption.

The digestibility of feedstuffs changes as pigs get older. Highly digestible feedstuffs are less affected by age than less digestible feedstuffs. Therefore, clear changes in the energy ranking of feedstuffs was found compared to growing and finishing pigs, which justified the development of a separate energy table for piglets. The table is based on feeding values measured in weaned piglets up to 25 kg live weight and includes specific feedstuffs that are commonly used in the initial post-weaning period.

In comparison to the table for growing and finishing pigs, feedstuffs containing high amounts of protein and non-starch polysaccharides have a lower energy value, say the researchers.

The formulation of diets for weaned pigs not only has to take into account the usual criteria like the nutritional value and price of feedstuffs, but also the effect of feed ingredients on gastrointestinal health, especially post-weaning diarrhea. One of the financial effects of the new energy table is that it favours highly digestible feedstuffs over less digestible materials.

UK launches landmark report on farm animal welfare

The UK's Farm Animal Welfare Council (FAWC), which advises the government, has published a new report on the welfare of farmed livestock entitled Farmed Animals in Great Britain: Past, Present and Future.

Chairman of FAWC, Professor Christopher Wathes said: "In this landmark report, FAWC has examined the



effectiveness of British policy on farm animal welfare since the Brambell Report in 1965 and sets out a strategy that will lead to improvements in welfare over the next 20 years."

He continued to say that policy and practice must seek to eliminate cruelty and unnecessary suffering and to cater for an animal's needs. But in the future farmers must ensure that each and every animal has a life worth living, from the animal's point of view. This emphasis on an animal's quality of life means that positive as well as negative experiences must be counted. This will require new methods to assess animal welfare over the animal's lifetime.

Professor Wathes outlined the main conditions that FAWC believes to be necessary for ethical consumerism and improved farm animal welfare as follows:

- The Government to act as the guardian of farm animal welfare
- Standards for a good life to be defined by an independent body
- Minimum welfare standards to be defined by an animal's quality of life
- Stockmen to be educated and trained to a high standard about animal welfare
- Welfare assessment to be valid, feasible and rigorous with independent audit
- The food supply chain to show due diligence with marketing claims verified
- Citizens to be educated about food and farming from childhood, and
- Animal products to be labelled according to welfare provenance to provide consumer choice.

Farming Minister, Jim Fitzpatrick, said: "This important report gives us a fresh insight into the moral and ethical debate about the humane treatment of farm animals. The report acknowledges improvements to farm animal welfare made in recent years, and the government is committed to ensuring that all farm animals are treated humanely."

Australian industry aims to be carbon neutral

The Australian pork industry believes it can be carbon neutral within five years, according to a report by the Australian Broadcasting Corporation. It says that producer organization Australian Pork Ltd. believes consumers want to buy sustainably-produced food and cutting emissions from pig farms is an important part of that.

Australian Pork Limited's research and innovation manager, Darryl D'Souza says emissions will be eliminated by introducing new types of feed and making better use of pig waste. "Technology is developing very quickly to deal with methane capture and we're looking at things like algae, potentially, as a source of energy or feed," he says.

"That will potentially be grown in our effluent ponds," Mr D'Souza said. He added that the ultimate goal was to use the cycle to make them carbon neutral.



Gilts - are we up with the times?

By John Gadd

Our UK columnist John Gadd thinks not. In fact he is getting increasingly worried that in several areas of gilt management and feeding, the typical producer, while he is to be complimented in his wisdom in investing in modern sow genetics, is missing out on managing and feeding the modern gilt (as distinct from the gilt of 8 to 10 years ago) and thus wasting a lot of his investment in reduced potential productivity and - just as important - in higher disease in the breeding herd. Let him explain - in several forthcoming articles - on what he sees needs to be done.

The importance of Sow Productive Life (SPL)

Have a look at Table 1. This is what modern genetic improvement in the sow can achieve. This table is not out of the top of my head, but typical of that being achieved consistently by four of my clients and reinforced by some six others who are not.

Table 1	I: What is p (lifetime pr	ossible today oductivity) pe	/ in tern er sow	ns of SPL
Weaners per SPL	Av. sow lifespan (parities)	Av. weaner weight at 26 days (kg)	Av. weaned per litter	Weaner weight per SPL (kg)
70	6.0	7.5	11.2	500

The figure of half a tonne of reared weaners per sow's lifetime is practically, not theoretically, achievable and is being reached by the best breeders.

Table 2: How adrift many breeders are today						
Weaners per SPL	Av. sow lifespan (parities)	Av. weaner weight at 26 days (kg)	Av. weaned per litter	Weaner weight per SPL (kg)		
40	3.8	7.0	10.5	279		

continued on page 54



GILTS – ARE WE UP WITH THE TIMES? CONTINUED

This (Table 2) is nearly half of the productivity per sow lifetime achieved by the best producers!

While the typical breeder today does a good job of rearing what weaners he gets, he falls far short of capitalizing - in both senses of the word - on making the best use of an expensive sow, both to buy as a gilt and then to look after subsequently. Consider a truck haulage business, with each truck capable of 500,000 miles before it is worn out and has to be replaced. The average producer is in the position of having to replace his vehicles after only 279,000 miles, with the resultant strain on his borrowings, not to mention his cash flow. As Canadian producers have recently unhappily discovered, it is lack of immediate cash flow that has worried them, not necessarily lack of profits which follow on later.

Table 3 is perhaps the most interesting of the three. The figures are averaged from 11 progressive breeders with good staff who have bought genetically-improved 'latest model' gilts from five different breeding companies. They started off brilliantly - so far so good. But even they couldn't seem to maintain the numbers weaned in the second and third parities and only regained genetic potential performance in the 4th and 5th parities. So to continue the analogy, their 'trucks' had to be replaced at 364,000 miles, some 14% short of target. For pig breeders this means 22% more capital requirement.

Table 3: Results from 11 breeders who had the rightidea, but in terms of feeding and managingthe animals in the first two parities were, inthe author's opinion, 'behind the times'

Weaners per SPL	Av. sow lifespan (parities)	Av. weaner weight at 26 days (kg)	Av. weaned per litter	Weaner weight per SPL (kg)
56	5.1	7.34	9.72	364
(Time or	fanaming calcul	tions in all 3 tab	las a diaustad	to 26 days)

(Time of weaning calculations in all 3 tables adjusted to 26 days)

In these cases while the performance started to recover in parity 3 and got back on track by the last two parities, compared to those in Table 1 they were still on average short of a parity before culling and the damage suffered in parities 2 and 3 was never compensated by the recovery in 4 and 5. Indeed, the average weaned per litter was below that of the average breeder - but they still had the output from 1.3 more parities in their sow's productive lifetime so that they got much more mileage out of their 'trucks' than the typical producer in Table 2, that is carried more 'goods' and earned more money for the 'haulage firm' before they had to be 'scrapped' as worn out.

So what am I saying?

Where are you in the three tables? Some of you will be in or around table 2 - why not do some calculations and see. Don't be disheartened - the solution is in your hands, and not at much extra cost, either. Many of you - and I come across them every week - are getting these genetically-improved females and that is good. That is the future, for sure. I also find from evidence from customers of at least six breeding companies that there seems to be little difference among them in sow potential



Many producers are not realizing the genetic potential of today's highly prolific gilts

productivity* if fed and managed properly along the suggestions I shall outline in further articles in this series. Trouble is that they aren't doing so! Not yet and at best not sufficiently.

I firmly believe that such genetics have steadily outstripped the advice on when to mate such animals, and how to feed and manage them to sustain the remarkable productive capability that such gilts now possess.

Hyperprolificacy - a problem?

It seems a paradox – that hyperprolificacy could actually be penalizing performance as is suggested by Table 3, where even experienced breeders fully au fait with the skills of the past have been smacked down, to their considerable surprise, by a fall in productivity immediately after that first gilt's impressive litter and sometimes even longer. Of course the second litter fallaway has long been known. It is re-appearing in a new and potentially more damaging form and we must do something about it. What these measures could be – and the evidence for them - will be the subject of my next few columns. A lot is quite new thinking. Some of it is existing advice but with the cachet of "just do it this time – it will no longer be optional!"

Those producers in Table 1 are doing it or most of it, so my advice starts from there. Forewarned is forearmed.

*One of the commonest questions I get asked is "With your international experience, which do you find the best breed to use?" Answer is that there isn't one. The best breed for you is the one most likely to fill in your weaknesses as revealed from your production and profit against target records. This is more important for the growing/finishing pig than for the sow if only because I find there really is not that much difference in genetically-based breeding capability between the female lines on sale from the leading companies – they all seem to be excellent. Yes, there are breed differences for outdoor production and for tropical climes etc., but for standard conditions, providing their feeding and management is up to date, there seems little to choose between them. Thanks Mr. Geneticist! Go for track record, health assurance and service, then do the best deal you can secure.

Not so great in Denmark either

By Stuart Lumb

As far as pig production goes in Europe, generally the Danes lead and everyone else follows - 30 years ago everyone beat a path to England's door, but we won't open up that can of worms again. The Danes have been suffering which hopefully is some consolation to you guys across the pond. The UK is a major export market for Danish pork and of course bacon. Exports of late have been decreasing though. Danish Crown has been closing slaughter plants in part due to the very high wages that Danish workers are paid. There has been increasing political pressure on the Danish pig industry with pig farmers no longer commanding the respect they once were accorded, given that agricultural products account for 20% of Danish exports. All the multitude of farming organizations have been amalgamated under one new umbrella, the Danish Agriculture and Food Council. New regulations relating to farming are being passed in the Danish parliament, but the farming organizations had no say in these discussions. Planning permission for new barns can take for ever, although given the current economic situation this is a bit academic as many new projects are on hold due to a freeze on lending by the banks. With respect to planning permission, the amount of red tape involved was highlighted by 34 year old Ole Haahr who farms near Aarhus, as it took Ole 3 years to get planning for his 820 sow unit. Ole and wife Helena farm with his father and a few years back they realised that the 160 hectares of arable land would not support two families and so they decided to go into pigs and put up the unit, which takes pigs through to 30kg. The whole unit cost 25million Danish Kroner and production started in2007. "We got our finance through in the nick of time," chuckled Ole. "We'd have had no chance today (Sept 2009) as the banks don't want to know when it comes to lending". How times have changed!



Ole Haahr in his part kennelled nursery pens

As in Canada, the pigs are all housed under one roof in a massive barn. Ole's barn really did look like a pig factory, a term which the UK industry is dearly trying to get rid of, in these days of heightened consumer awareness of animal welfare.

The farm is quite isolated and is SPF, like many in Denmark. Breeding stock is vaccinated against Glasser's, E.Coli, Erysipelas and Parvo. Ole buys in all his F1 gilts which are York/Landrace and uses Duroc semen on them, from his own boars. The farm farrows 40 sows a week and weans at 32 days, every Sunday. This is quite unusual but gets away from weekend farrowings. Prostaglandins are not used as they can only be injected by a vet and this costs too much. Litters are averaging 15.3 born alive and so there's a lot of activity at farrowing. Lots of fostering takes place with older sows suckling 12 piglets and younger ones 15. Nurse sows are used a lot given the big litters these Danbred females shell out. Piglets are tailed and ironed at 4 days. No teeth clipping takes place as Ole reckons it's not necessary plus is a job less to do. Now in Denmark piglets must receive a shot of local anaesthetic before castration - one job more!



Loose farrowing pens have resulted in far higher piglet mortality than conventional crates

continued on page 56



NOT SO GREAT IN DENMARK EITHER CONTINUED

Creeps have underfloor heating, which uses piped hot water and special heat treated chopped straw is used as bedding. Piglet scour has been a problem and it wasn't responding to the normal treatments. Fortunately the scour disappeared and Ole put it down to the incorporation of new crop cereals in the pig feed. Piglets receive creep feed from 2 weeks of age. With these big litters, it's essential that sows get plenty to eat, to produce lots of milk and not lose condition. In the first week post-farrowing, sows just get fed twice a day, but thereafter feed is given 4 times a day, at 7am, 12am, 5pm and 9pm. Wet feeding is the norm, which is ideal to boost intake and a stepped feeding scale is followed.

The Danes are spending a lot on researching loose farrowing, as welfare is an increasingly big issue there. As well as using research farms, farmers are used as test beds. Hence Ole was trialling some loose farrowing pens (for which, incidentally, he gets paid). With the current design, creep access is very difficult and of course aggressive sows can attack the staff. Pre-weaning mortality is running at 20% (hence his payments) although other trial setups are getting better liveability. Whilst Ole likes to see the sows loose he admits losses are far too high and the design must be fine tuned to get losses down to those found in a conventional crate. His standard crates have a side which opens after a week and I reckon that this is a pretty good compromise – although the crate can be kept closed all the time if required.

The UK now has 40-50% of its sow herd outdoors and sows rear big litters in simple farrowing arks. Duroc sows are very good mothers and undoubtedly the fact that most of the outdoor sows are 50% Duroc contributes a lot towards piglet survival. If the Danes are determined to push forward with this totally loose farrowing concept then maybe they should start to use Duroc cross sows in these trials and see what happens to pre-weaning mortality. I suspect it would go down which would be great, but would Danish Crown be happy trying to sell carcases containing 25% Duroc blood instead of the traditional 50%?

Ole and his staff's weaning time is 8am each Sunday. The sows are taken out of the farrowing pens but the piglets are left a further day, which helps minimize the stress of weaning. This is a management trick originating in GB over 30 years ago - there's very little new in hog farming, I guess. Weaners get transferred to kennelled pens with part slatted flooring and get feed from ad





After 4 weeks in stalls, sows are housed in groups of 45 with electronic feeding

lib hoppers. Straw is given via hoppers placed on the pen divisions and the EU requirement for "manipulable materials" is met by putting small wooden logs in each pen. At 30kg pigs are shipped out for finishing elsewhere.

The weaned sows are housed in stalls and inseminated 24 hours apart using sponge catheters. Semen comes from 6 Duroc boars kept on the farm. Sows remain in the stalls for 4 weeks after service and are scanned at 21 days post-service. The feed regime is interesting, as feed levels are kept quite high for the first 3 weeks after service and then cut back. Ole opted for an ESF system for housing his gestating sows after being in the stalls. Each pen holds 45 sows.

Shoulder sores have been a big problem in Denmark - maybe in part due to the massive demands imposed on the sow's body when producing over 30 pigs per year. Consequently Ole has a number of hospital sow stalls which are partially floored with a layer of thick rubber, which allows sows to recuperate.

Ole has borrowed a lot of money, but he runs "a tight ship" and with his excellent productivity he should be keeping his bank manager happy, at least some of the time!

Key production data	
Pigs/ weaned/sow/yr	30.7
Weaning age (days)	32
Weaning weight (kg)	8.0
Born alive/litter	15.3
Born dead/litter	1.8
Pre-wean mortality (%)	12
Culling percentage	45
Post-weaning losses (%)	2



Pigs profitable but imports increase

By John Riley, IAS Management Services

During November the Australian Pig Science Association held its bi-annual conference at Cairns in tropical north Queensland within sight of the Great Barrier Reef. Over 200 scientists and industry identities from around the world including Dr Martin from Quebec attended and discussed a range of topics associated with pig production.

Unfortunately, due to an argument with an uncooperative horse

(which I lost) I was unable to attend this year's event. In frustration at home rather than in a luxury hotel in Tropical Queensland I spent some time considering what I was possibly missing. Whilst accepting the fact that I was missing an opportunity to rub shoulders with the movers and shakers in research I took some comfort from the fact that if producers applied just 25% of published research results their performance and hence profit margins would be enhanced significantly.

Feed is the major cost of production. The requirements of the pig at each stage of the production cycle are well documented but the variation between units and even sheds within units are considerable. However, it is questionable whether more research is needed on pig nutrition BUT it is critical that more resources are applied to the application of the published research by commercial units.

For the 12 month period ending September 2009 a sample of IAS clients in Australia recorded an average dead weight herd feed conversion ratio (kilograms of feed used in the herd to produce 1 kg of carcass) for a 81.5 kg carcass of 3.78:1. The difference between the best performing herd (3.4:1) and the worst performing herd (4.15:1) for that one critical performance parameter was 0.75:1 which, at the average feed cost for the group of \$382 per tonne in that period, equates to \$23 per pig sold or more than \$450 per sow. The application of basic operating procedures to reduce feed wastage on the poorest performing herd to achieve the group average would result in \$11.50 extra margin per pig sold.

When the industry is under severe financial pressure, as is the case in Canada at the present time, expenditure on repairs and renewals stops. The result is that damaged feeders are not repaired or replaced and feed wastage increases putting the business under further financial pressure. As illustrated by the IAS sample data, some producers are still catching up on their repairs and renewal programs. The merits of liquid feeding, pellet feeding and meal feeding are well documented as are the benefits of phase feeding. However, if staff are not prepared to check feeders for wastage at least daily and recalibrate if necessary the benefits of technology are foregone. Similarly if damaged feeders are not repaired wastage *continued on page 58*



Lacombe and Duroc breeds tested in the Western Swine Breeders Association, Canadian Centre for Swine Improvement and Lacombe Research Centre research project showed highest meat color compared to the other breeds on test. This positive contribution to meat color by the Lacombes and Durocs is carried through into our *Trailblazer* boars.



#217, 5906 - 50 Street, Leduc, AB, T9E 0R6 **TOII Free 1-888-235-7325** Les Robinson 250-833-6196 Art Goelema 403-963-0171 Paul Klingeman 509-989-1347 Phone: 780-986-4647 Fax: 780-986-4694 email: peak@peakswine.com website: www.peakswine.com increases. Sara Willis of the Queensland Department of Primary Industries and Fisheries has found that even on the best run units feed wastage is in the order of 5% of feed offered and up to 15% on some units.

In addition to daily inspection feeders will almost certainly need to be recalibrated when diet ingredients change and when particle size is modified.

Environmental and animal welfare legislation continues to have an impact on the costs incurred by producers. The Codes of Recommendations for the Welfare of Animals - Pigs 2008 stated that persons managing or conducting procedures on pigs must be trained or under the direct supervision of a person who is trained. The industry is introducing a training program in 2010 to meet the requirements of the code with the cost of the training program met by the individual producer.

The Australian industry continues to be profitable with some producers claiming a profit margin of \$80 per bacon pig in late November. The profit margin claimed is due in part to the traditional seasonal increase in market returns leading up to Christmas and the continuing relatively low cost of grains compared with recent years

The prudent producers are investing wisely in repairs and renewals in their production systems which were not carried out during the period of very high grain prices and low market returns for pig meat during the period 2006 to 2008 and which are illustrated in Figure 1. There are some clear warning signs that the current profitable times will not last with increases in imports and domestic production not matched by increases in exports.

The strength of the Australian dollar against international currencies has reduced the export of Australian products and encourages inputs. The Australian producer has seen a gradual reduction in the export of Australian product as the strength of the dollar has increased. Exports in September 2009 were down by 19% to 2,900 tonnes compared with September 2008. In 2002 Australia was exporting more than 6,000 tonnes of pork a month with Japan taking up to 1,600 tonnes and Singapore up to 3,000 tonnes per month. The Japanese market has virtually been lost with only 24





tonnes exported there in September 2009 whilst the Singapore market has fallen by almost 50%.

Imports however have increased as the Australian dollar has strengthened. Imports from Canada have increased by 91% to 5,100 tonnes in September 2009 at an average value of \$2.90 per kg a drop of almost 16% compared with September 2008.

The reduction in domestic production has, it appears from slaughterhouse returns, been arrested with slaughtering in August and September 2009 being slightly above the same months in 2008. If domestic production exceeds the demand for fresh pork then the price received by the producer will fall as the demand for processed product will almost certainly be met by imports from your industry in Canada and producers in the USA.

The increase in bank interest rates in Australia, it is confidently predicted, will continue resulting in the Australian dollar remaining strong against international currencies for several months. As a result imported pig meat will be very attractive to the processing sector.

The signs are that Australian producers must invest wisely if they are to secure the long term sustainability of their businesses.



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• Recipe Corner



Crock pot pork shoulder recipe with fennel and tomato

By Roy Kruse and Justin Chatlain, Alberta Pork



Yield: serves 6 * Preparation Time: 10 minutes * Cooking Time: 4-10 hours

Ingredients

excess
es
of celery,

1 cup	250 mL	chicken or vegetable broth, sodium-reduced
2 cups	500 mL	crushed tomatoes or your favourite tomato sauce
1 tsp	5 mL	dried thyme
1 tbsp	15 mL	balsamic vinegar
1 tsp	5 mL	EACH: salt and pepper

Cooking Instructions

Add all ingredients to slow cooker; stir to combine. Cover and cook on low for 8 to 10 hours or on high for 4 to 5 hours.

Discard the layer of fat that may have settled on top by using a spoon or paper towel and serve with fresh bread.

Crock pot po	Nutritional info rk shoulder recipe with fennel	rmation and tomato • (1/6 of recipe) •	Per 1 person serving
Energy	342 kCal	For more bork recibes	INDIAN P
Protein	49 g	For more pork recipes,	JA ANTA
Carbohydrate	14 g	go to putporkonyourfork.com	
Fat	10 g (3.7 g saturated)	or porkfits com	and the
Sodium	747 mg	or porkjus.com	CANAD



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- Producing Antibiotic-free Pork
- Best Practices in Financial & Risk Management

- H1N1 Influenza: Past, Present, Future
- Livestock Health Surveillance
- Trade Impediments of our own Making
- Future Animal Welfare Demands
- Chemical Castration
- Genomic Selection & Breeding
- Do I Cut Costs or Increase Productivity?

For information and to register, contact:

Website: www.banffpork.ca Phone: (780) 492-3651

E-mail: info@banffpork.ca *Fax*: (780) 492-5771

• Events Diary



January	/		
19-22nd	Banff Pork Seminar	Banff, Alberta	www.banffpork.ca Contact: (780) 492-3651
19-21st	Manitoba Ag Days	Brandon, Manitoba	Contact: +1 (2) 04 5716566
Februar	v		
3-4th	Manitoba Swine Seminar	Winnipeg, Manitoba	Contact: Dallas Balance (204) 475-8585
March			
6-9th	American Association of Swine	Omaha, Nebraska	www.aasv.org
	Veterinarians 2010 Annual Meeting		Contact: (515) 465-5255
17-18th	Alberta Pork Congress	Red Deer, Alberta	www.albertaporkcongress.com Contact: (403) 244-7821
25th	Alberta Farm Animal Care AGM	Red Deer, Alberta	www.afac.ab.ca Contact: (403) 932-8050
26th	AFAC Livestock Care Conference	Red Deer, Alberta	www.afac.ab.ca/lcc.htm Contact: (403) 932-8050
31st- 1st April	London Swine Congress	London, Ontario	www.londonswineconference.com Contact: Linda Dillon (519) 482 3333
April			
12-14th	BSAS Annual Conference	Belfast, N Ireland	www.bsas.org.uk
20.22.1	VIVE	TT. 1. NT.1 1 1	Contact: +44 (0) 131445 4508
20-22nd	vIv Europe	Offecht, Netherlands	www.viv.net
May			
11-12th	British Pig & Poultry Fair	Warwickshire, UK	www.pigandpoultryfair.org.uk Contact: Alice Bell +44 (2476) 858-276
16-19th	Alltech's International Animal Health & Nutrition Symposium 2010	Lexington, Kentucky	www.alltech.com
26-30th	European Pig Producers Meeting	Eindhoven, Netherlands	www.epp2010.nl Contact: (0) 621 212426
June			
9-11th	World Pork Expo 2010	Des Moines, Iowa	www.worldpork.org Contact: John Wrigley (417) 451-6004
July			
18-21st	International Pig Veterinary Society Congress	Vancouver, BC	www.ipvs2010.com Contact: (604) 6889655 ext. 2
Septem	iber		
14-16th	Brazilian Pork Expo	Curitiba, Brazil	www.porkexpo.com.br
14-17th	SPACE 2010 Animal Production Show	Rennes, France	www.space.fr Contact: +33 223 482880
18-21st	Allen D Leman Swine Conference	St Paul, Minnesota	www.cvm.umn.edu/outreach Contact: (612) 624-3434
Novem	ber		
3rd	Red Deer Swine Technology Workshop	Red Deer, Alberta	Contact: Bernie Peet (403) 782-3776
16-19th	Eurotier 2010	Hanover, Germany	www.eurotier.de Contact: Friedrich Rach +49 69-24 788-202
17-18th	Sask. Pork Industry Symposium	Saskatoon, SK	www.saskpork.com Contact: (306) 244-7752
30th - Dec 4th	Agromek 2010	Herning, Denmark	www.agromek.dk Contact: +45 8675-4545

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

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AD INDEX

Agriculture and Agri-Food 12	Faroex
Agrovision/ Farm Software	Genesus 2/64
Alberta Swine Genetics	Glass-Pac
Banff Pork Seminar 2010 60	Husky Farm Equipment 31
Biovator/Nioex Systems Inc 4	Нурог 13
Boehringer Ingeheim(Canada) Ltd 9/35/63	Intervet Canada Corp 23
Canada Farm Distributors	ITSI 55
Canadian Bio-Systems 45	Kane Manufacturing 42
Canadian Food Inspection 20	Kenpal Farm Products Inc/dry START 56
Canadian Nurs-ette Distributors 26	Longarm 16
Carlo Genetics	Magnum Swine Genetics 17/19/21
Champion Alstoe Animal Health Inc 6/33/52	Manitoba Swine Seminar 62
Danisco	Maximum Swine Marketing 28
DPI Global/MICRO-AID 41	Nutrition Partners 11
Egebjerg North America Ltd36	Parks Livestock 8
Elanco 5/51	Peak Swine Genetics 57

Genesus	ł
Glass-Pac	I
Husky Farm Equipment 31	F
Нурог 13	I
Intervet Canada Corp 23	I
ITSI	I
Kane Manufacturing 42	I
Kenpal Farm Products Inc/dry START 56	I
Longarm 16	S
Magnum Swine Genetics 17/19/21	S
Manitoba Swine Seminar	S
Maximum Swine Marketing 28	S
Nutrition Partners 11	S
Parks Livestock	S
Peak Swine Genetics 57	Ţ

PIC	7
Pig Win	44
Pork Chain Consulting	14
Prairie Swine Centre 30/5	50
Precision Management	33
Pro-Ag Products 15/4	47
Rivard Instruments Inc	10
Roeske & Associates	46
Rycom Trading Ltd	48
Sand Ridge Farm Ltd	49
SHAC Environmental Products Inc 4	43
Sierens Equipment	39
Siga Farm Software	18
Sun-North Systems	25
Swine Books Pro	24
Vetoquinol	29





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