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Canadian Hog JOURNAL

Canada's national hog magazine

This adorable photo was captured by reader Lane Foxwell!

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Canadian Hog JOURNAL
Canada's national hog magazine

Canada's pork producers' technical and business information resource.

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Advertising
Please direct advertising and marketing inquiries to Sheri Monk.
Phone: 403-904-5100
Email: sherimonk@gmail.com

Publisher
Darcy Fitzgerald

Business Manager & Editorial Director
Sheri Monk
Phone: 403-627-9108
sherimonk@gmail.com

Cover Photo
This adorable photo was taken by Lane Foxwell, who farms with his father near Edgerton, Alberta. For more information, and how your photo can become our front page, turn to page 52.

Pork Congresses in session

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Canadian Hog JOURNAL

Message from the editor

It has long been said that time and tide wait for no man. But if there were such a man, it might be Mr. James Shaw... and both time and tide would probably have agreed to buy an ad in the Canadian Hog Journal by the end of it all.

After 40 illustrious years as the advertising manager for the Canadian Hog Journal, James is retiring. He has overseen the development of this publication from a provincial magazine, to a regional one, and finally to the only national pig industry publication in the country. That's an incredible feat over the stretch of anyone's career, but it's even more significant when you consider how much the industry has consolidated over the years. Yet somehow, James always kept enough advertising coming in to keep the lights on for us – something I am incredibly grateful for.

In 2015, James received the Canadian Agri-Marketing Association Lifetime Achievement Award for his long history of success and creativity in agricultural marketing. James' enthusiasm, dedication and perhaps most notoriously, his persistence, are unmatched and have become legendary in swine circles across the country.

James Shaw (left) accepts the Canadian Agri-Marketing Association Lifetime Achievement Award in 2015.

James told me many times over how important this job has been to him over the years, and how he feels as though his clients aren't just business associates, but true friends. I know it wasn't an easy decision to hang up his hog hat, but James is finally going to be able to enjoy more time with his wife and hobbies.

I will be trying to fill James' very large shoes, and I want to extend my appreciation to all of our valued clients for your continued support, and your mentorship and patience through this transition. I can be reached at any time at 403-904-5100 or at sherimonk@gmail.com to discuss your marketing needs. I will remain at the helm as editor, and will

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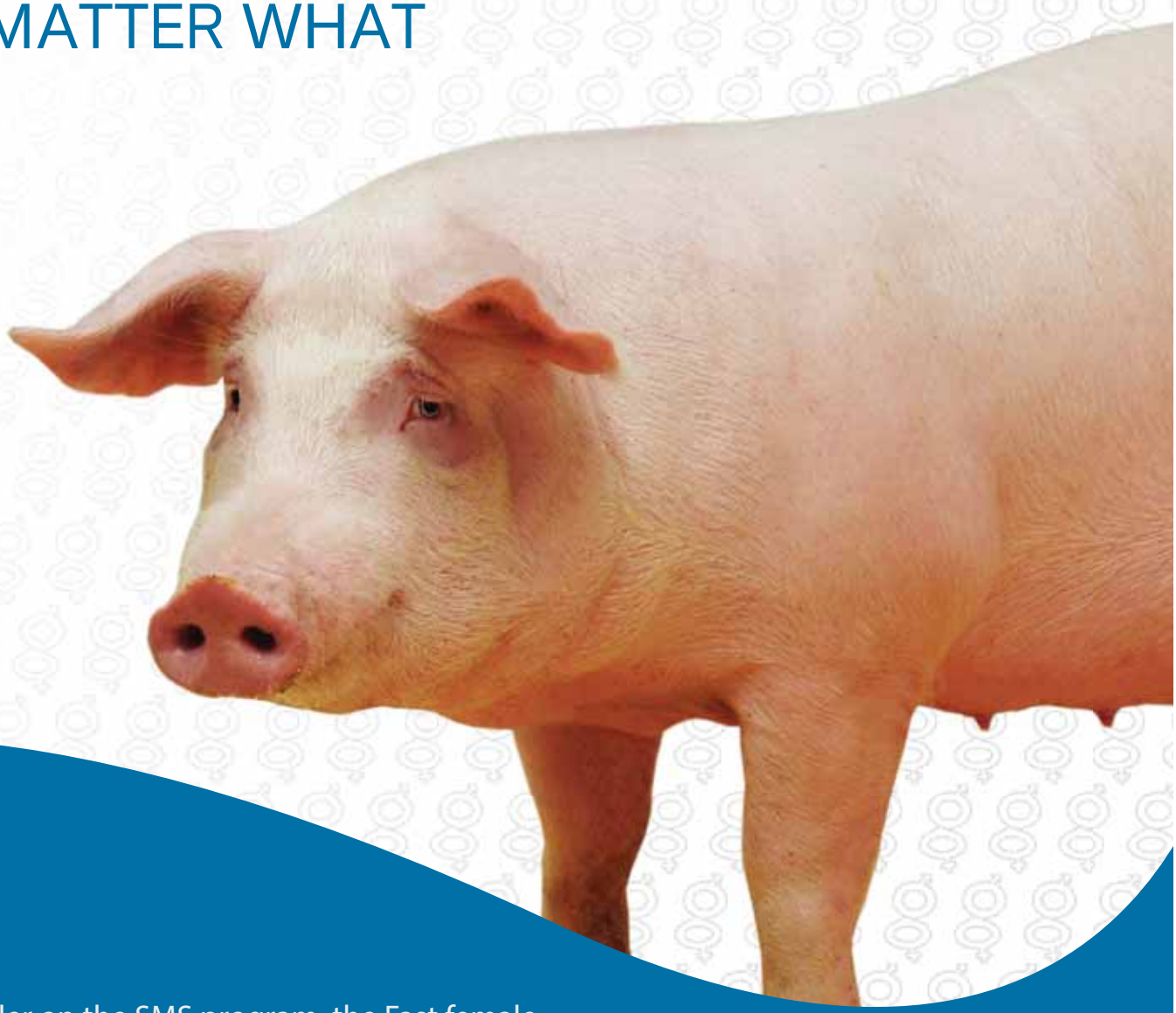

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Western Hog Journal

News and Views from Far and Near

DNA Genetics adds Andrimner as distribution partner in southern Europe

DNA™ Genetics is pleased to announce an agreement has been reached with Andrimner for the exclusive distribution of genetics to Spain, Italy and Portugal.

"This partnership fits our strategy to be an international genetics company," says Brett Bonwell, CEO of DNA Genetics. "Working with a growing, innovative organization like Andrimner, we can leverage our success in North America to this progressive swine market."

The transfer of genetics, both live animals and semen, is already underway from North America to southern Europe for multiplication. DNA Genetics' maternal and terminal lines will be available there in the near future. This will provide producers in southern Europe with the fastest-growing genetics in North America, and help them compete in the global marketplace.

Andrimner plans to announce their new partnership with DNA Genetics at the Figan International Fair, a leading international livestock production trade show, being held in Zaragoza, Spain, in March.

Soren Hertel, CEO of Andrimner, said, "Andrimner can provide pork producers with the highest quality genetics, and has the support of DNA Genetics, a company with a great understanding of the swine sector. We are looking forward to working with DNA Genetics for many years to come."

Topigs Norsvin sows in North America: +2.55 pig weaned

The annual reproduction benchmarking of Swine Management Systems (SMS) demonstrates that producers with Topigs Norsvin sows wean +2.55 pigs per year more than the SMS industry average. The SMS data further revealed a lower sow death loss for Topigs Norsvin producers – 3.5 per cent below the industry average. These data confirm the highly productive and robust nature of Topigs Norsvin females.

This year's benchmark is the first to include performance data from Topigs Norsvin's newest parent female, the TN70. Introduced last year, more and more data of the TN70 is now included in the SMS benchmark. Thus, data for the most recent quarter in the SMS benchmark demonstrates an even greater reproductive advantage of +2.70 pigs weaned per year for Topigs Norsvin females and greater differentiation in terms of sow death loss (4.4 per cent below the industry average).

"The TN70 is clearly having a positive impact for our customers," notes Mike Terrill, president and CEO, Topigs Norsvin USA. "This data mirrors the feedback we have received from customers regarding improvements in

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Message from the editor

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continue to oversee the Canadian Hog Journal's content and coverage of our industry.

James, we wish you nothing but happiness, adventure and good health through your retirement. Thank you from the bottom of our hearts for your many years of service, and for your commitment and service to this publication, and to the swine industry in Canada. ■

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Editor, business manager

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reproductive performance and sow death loss. Additionally, they report improvements in both finisher performance and carcass cut-outs."

The Swine Management Systems (SMS) database includes data from 982 farms and 1,735,000 sows throughout the U.S. and Canada. For the 2015/2016 benchmarking, the list of participating Topigs Norsvin customers has grown to include 95 farms and 106,000 sows.

Ralco and Genesus Partner on Swine Research

Ralco announced in December, 2016 that it has joined forces with Genesus swine genetics company to advance swine nutrition and genetic characteristics for swine producers around the world. The two global companies will work together to improve return on gain and meat quality through nutrition at Ralco's swine research facilities in southwest Minnesota.

The partnership was born of a shared desire to provide the global swine industry with research proven concepts and technologies that increase customer profitability through the most advanced swine nutrition technology that leads to a higher carcass value. Genesus will provide hogs for Ralco's 1,200-head nursery and 2,400-head finishing state-of-the-art research barns to continue pushing the boundaries of swine nutrition and meat quality, said Ralco President Brian Knochenmus.

"Partnering with Genesus to advance our nutrition technology is a win for all of our customers and the entire swine industry. We have taken swine nutrition to the next level with what we have learned from our research team and facilities over the years. This partnership allows us to take our research even further by advancing the nutrition and genetic characteristics of swine," Knochenmus said.

President and CEO of Genesus Inc., Jim Long, said the combination of state-of-the-art nutrition and genetics provides an exciting opportunity to provide customers and consumers with a superior product.

"Genesus and Ralco's desire to bring maximum profitability and nutrition results to the industry has led to this mutual co-operation," says Jim Long, President and CEO of Genesus Inc. "We look forward to continually improving rations that lead to Genesus' top performance with the lowest cost of gain, while producing the ultimate pork that consumers crave to eat."

New CFIA-approved algae product will enable producers to bring DHA-enriched pork to market

Alltech's ForPlus and All-G Rich will provide Canadian pig, dairy and layer producers with a sustainable and competitive advantage to enrich pork, milk and eggs with DHA.

Algae nutritional products from Alltech are now registered with the Canadian Food Inspection Agency (CFIA) for use in the diets of pigs, dairy cows and laying hens. The DHA found within algae can naturally enrich pork, milk and eggs. Canadian dairy, swine and layer producers will be able to market their DHA-enriched products as value-added functional foods, meeting consumer demand for nutrient-rich foods and beverages.

"Consumers are becoming increasingly nutrition-focused, seeking out foods that provide specific health benefits when shopping at the supermarket," said Nikki Putnam, registered dietitian nutritionist at Alltech. "They're demanding more nutrition out of each bite while asking farmers and the food industry to keep their food fresh and flavorful. Alltech's ForPlus and All-G Rich dried micro-algae fermentation products give producers the opportunity to increase the nutrient content

of pork, milk and eggs without changing the flavour and quality consumers expect."

Algae are gaining attention for their application to the feed and food industries as a highly sustainable source of DHA. Docosahexaenoic acid, or DHA, is an omega-3 fatty acid naturally found in some species of algae and in fatty fish used for fish oil. Research has demonstrated DHA's importance as an essential nutrient for health at all stages of both human and animal life. In humans, DHA is essential for brain and eye development. Plentiful levels of dietary DHA are also linked to improved cognitive function and learning ability in children, including benefits for children with ADHD, as well as reduced risk of coronary heart disease, depression and Alzheimer's disease.

As such, Alltech is continuing to expand its algae DHA plant, one of only two plants commercially producing high-DHA heterotrophic microalgae. The facility, which is capable of producing approximately 15,000 tons of algae per year, has already been updated since its opening in early 2011.

"Alltech's newly received approval from the CFIA on ForPlus and All-G Rich is an incredible step forward in sustainable animal agriculture," said Stuart McGregor, Alltech Canada general manager. "This will provide the Canadian market with a renewable and competitive advantage to enrich pork, milk and eggs with DHA while also offering a sustainable alternative to current DHA omega-3 fatty acid sources that are depleting global fish stocks."

Alltech algae products ForPlus and All-G Rich will be available through Canadian feed suppliers. For more information, contact your local Alltech Canada representative at http://go.alltech.com/the-dha-opportunity.

Topigs Norsvin Canada Inc. announces new Manitoba business development representative

Topigs Norsvin Canada announced in January that Trenton Schultz has joined its staff as Manitoba business development representative, based out of the Winnipeg head office. In his new role, Trenton will be focused on business development in Manitoba and also assist in company logistics.

Trenton is a graduate from the Steinbach Regional Secondary School. Along with sales experience in Manitoba he also has several years of experience at genetic nucleus level production, being involved in many areas of pig breeding and production.

"Trenton brings considerable, well rounded experience to the growing, dynamic Topigs Norsvin team and will be a great asset for us," said John Sawatzky, sales manager, Topigs Norsvin Canada.

"I am very excited to have the opportunity to work with Topigs Norsvin," Trenton said. "I'm looking forward to further my career in sales as well as the logistics role. Manitoba has many quality producers

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and I am proud to be a part of this industry. I am excited for the future opportunities that lie ahead with Topigs Norsvin."

Trenton can be reached at (204) 770-1885 or trenton.schultz@topigsnorsvin.ca.

Dr. Derek Petry joins Genesus

Genesus is pleased to announce that addition of Dr. Derek Petry as chief development officer. Dr. Petry joins Genesus from Choice Genetics USA, where he serves as the CEO and global director of research and development.

Dr. Petry holds a PhD, MBA and an MS. His previous experience includes six years for Triumph Foods as the assistant vice president of research and technical services and he was responsible for food safety, quality assurance, sanitation, research and development and the microbiology lab.

"I made the choice to come to Genesus because I was able to see the nucleus and commercial operations in person and how well they are performing," stated Petry. "Then, tasting the product, it became clear to me that Genesus has the best tasting pork in the industry and has the ability to product as efficient or better than the competition."

"We welcome Dr. Petry to further Genesus development in breeding stock markets and genetic improvement. His experience in so many facets of the industry is a welcome addition to the Genesus team," said Jim Long, president-CEO of Genesus Inc.

Hypor Customers Honored at Le Porc Show for Improving the Industry

Congratulations to Hypor customers, Ferme Équiporc Inc., and Shur-Gain for receiving the Prix de reconnaissance de la filière porcine at Le Porc Show in Québec, Canada in December 2016.

The awards are given to people, companies or organizations in Québec that have outperformed in their sector and have seized the opportunity to improve results for their customers, pork consumers and the entire pork chain.

The awards are a highlight at the annual Pork Show that is attended by more than 950 industry professionals from around the world.

Ferme Équiporc, a family-owned farm and member of Isoporc, received the top award for breeding. Shur-Gain received the top award in the supplier/processing category.

"These are significant achievements for Ferme Équiporc and Shur-Gain and for Hypor," says Hypor sales representative Gilbert De Roy. Both the winners receive their genetics through Gène-Alliance—Hypor's largest genetic supplier in Canada.

Shur-Gain and Isoporc are actively involved in the swine production with Gène-Alliance, and together they have carved an enviable niche in Canada with market shares in the Québec market of nearly 25 per cent in both female and male lines. By using the Hypor Magnus Duroc, they are able to produce lines with superior carcass and meat quality traits and provide high value products for both domestic and export markets.

The Hypor Magnus Duroc is the fastest growing terminal sire in North America, and is bred to produce uniform litters that are lean and feed efficient and that produce a high quality meat and carcass.

"Hypor believes that the best pig for the industry is the pig that benefits the whole pork chain," De Roy explains. "And the best businesses are the businesses, like Ferme Équiporc and Shur-Gain, that benefit the entire pork industry."

Hypor and Gène-Alliance celebrate decades together as business partners offering Quebec pork producers the best in genetics

Hypor's largest genetic distributor in Canada, Gène-Alliance Inc., is celebrating 20 years of genetic service in the Quebec pork market—home to more than 300,000 sows.

"Our lines are tailor-made to meet the 'Quebec Quality' classification grid, which enables our producers to maximize their revenue," says Gène-Alliance CEO Christian Blais.

Gène-Alliance runs its business under the motto: Genetic choice—Economic choice. Because of this motto, Gène-Alliance chose to partner with Hypor.

Hypor provides product and support for Gene-Alliance's Multiplication herd system producing Libra Star and Hypor Magnus boar program. The strong overall production on the farm keeps the cost of production low while the superior carcass and meat quality traits of the Magnus Duroc help to create high value products for both domestic and export markets.

"Gene-Alliance is a very professional and effective distributor," says Hypor sales and technical representative Canada Gilbert De Roy. "They bring a very strong understanding of the unique cultural and production environment in Québec."

Through its association with Shur-Gain/Nutreco and its shareholders Isoporc, Couture and Robitaille who are actively involved in swine production, Gène-Alliance has carved an enviable niche in

CONTINUED ON PAGE 12

Canada with market shares in the Quebec market of nearly 25 per cent in both female and male lines.

Gène-Alliance offers a variety of products lines that must be evaluated in terms of the Quebec production context and its rearers' constraints. In order to help producers, Gène-Alliance makes it its duty to demonstrate, with the help of reliable data, the different characteristics at both zootechnical and carcass quality level.

Furthermore, the management of biosecurity at all levels has always been a constant priority, guaranteeing our customers' highest health standards.

Lorne Tannas appointed general manager of China

Genesus is pleased to announce Lorne Tannas as general manager, China. Lorne has had a distinguished career in swine production including more than 30 years in the swine industry, working as a production manager and supervisor in several large systems, 10 years of swine research with Agriculture Canada and 10 years at Assiniboine Community College instructing the swine management program and the journeyman swine technician program.

Additionally, Lorne was the owner-operator of a 2,500-sow Genesus Nucleus barn, with 15 years history as a Genesus customer, as well as the author of numerous courses, technical papers and standard operating procedures for the swine industry. Congratulations Lorne!

For a second year in a row, Jefo is recognized for excellence in business performance as one of Canada's Best Managed Companies

Jefo was recently honoured with the prestigious Canada's Best Managed Companies designation. The 2017 Best Managed program recognizes the best-in-class of Canadian owned-and-managed companies with revenues over $15 million demonstrating strategy, capability and commitment to achieve sustainable growth.

"Best Managed companies deserve recognition for their entrepreneurial approach to excelling in an uncertain economic climate. They truly bring out the best in Canadian business leadership," said Peter Brown, partner, Deloitte and Co-Leader, Canada's Best Managed Companies program.

From the beginning, Jefo has concentrated on innovation – understanding and contributing to the science, economics and practices of livestock production and management. Today, Jefo is a world leader and global partner in the field of feed additives, with its pioneering, cost-saving and efficient solutions, that also promote sustainable development.

Established in 1993, Canada's Best Managed Companies is one of the country's leading business awards programs recognizing Canadian-owned and managed companies for innovative, world-class business practices. Winners are an important engine of economic growth for being adaptable and sustainable in a global market. Applicants are evaluated by an independent judging panel made up of judges from Deloitte, CIBC, Canadian Business, Smith School of Business and MacKay CEO Forums.

Best Managed companies share commonalities that include an emphasis on culture and people, innovation, sustained performance and strong financial results.

"I am very proud that Jefo is being requalified as one of Canada's Best Managed Companies. 2017 marks the anniversary of our 35 years of success... 35 years since the introduction of new ideas in animal nutrition in Canada. Since our modest beginnings, we have been able to carve out an enviable place in a competitive environment. Our originality has attracted the attention of many customers. As the saying goes – give and you shall receive! At Jefo we embrace this philosophy, which is why we are investing to make life easier for all our partners," said Jean Fontaine, president and founder of Jefo.

"CIBC proudly congratulates the 2017 winners of Canada's Best Managed Companies, who exemplify business excellence and success," says Jon Houn-

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talas, executive vice president, business and corporate banking, CIBC. "This year's winners reinforce the significant impact that privately owned

Canadian companies are making by pursuing innovation and maintaining a sharp focus on their clients."

Robert Varnedoe, president of Kane Manufacturing, announces the passing of company founder Mike Kane

Donna Kane and Mike Kane receiving the Iowa Exporter of the Year award for 1991 from Iowa Governor Terry Branstad.

Mike Kane, founder of Kane Manufacturing, passed away on April 11th at the age of 79. Born and raised on a farm in South Dakota, Mike was a dynamic entrepreneur who grew his business from his origins as a salesman with a small customer base in the South Dakota and Iowa livestock industry. Mike Kane founded Kane Manufacturing in 1969 and grew it into a leading national manufacturer of equipment for customers in North America and around the world.

In 2016, Kane Manufacturing was acquired by an affiliated company of Lee Container (a leading manufacturer of plastic containers headquartered in Homerville, Georgia). After the acquisition, Lee's president Robert Varnedoe became president of Kane Manufacturing and Mike Kane stayed with the company as a consultant. The company continues to

operate under the name Kane Manufacturing and serves its customers from its headquarters in Pleasant Hill, Iowa with Kane's experienced staff.

"We here at Kane Manufacturing are all moved by Mike's passing," said Robert Varnedoe, president of Kane Manufacturing. "Mike Kane was larger than life, and that showed in his passion for his customers, his business and making farming easier, more efficient, and more humane."

Kane Manufacturing primarily serves customers in the pork industry. Kane's product line includes a variety of heat mats for pigs, pets and reptiles, a full line of pig equipment from farrow to finish, all sizes of animal feeders and watering equipment, and animal sorting products. Kane Manufacturing serves customers in North America and markets around the world.

Introduction to New Alberta Pork Staff as of March, 2017

Alberta Pork continues to build on its new strategic plan initiated by the board in the fall of 2015. As part of this new strategy, Alberta Pork has refocused its efforts on more direct support for producers, a realignment toward community engagement from traditional retail marketing, and a new communication strategy to better serve producers.

As a part of the communication strategy, Alberta Pork is happy to announce that Mr. Scott Archer is joining our team as the new communication projects coordinator. Last December, Scott finished his university degree at MacEwan University with Bachelor of Communication Studies. This is not his first time working with Alberta Pork. In the summer of 2016, Scott joined us as a summer student and marketing assistant. In his short time here, he helped with the promotion of the pork industry at Porkapalooza and the Calgary Stampede, while also providing support to other Alberta Pork projects.

In his return to Alberta Pork, he will be responsible for both producer and public communications. This will include such as ensuring brand consistency, key messaging, and coordination of communications within and outside of our organization. He will also help to develop more high quality communication pieces to improve messaging from Alberta Pork to pork producers, our industry partners, government, and the public. Scott looks forward to being a part of Alberta Pork team and its long-term strategic goal to better service our producers. ■

Optimism in Ontario

By Kevin Grier

The Statistics Canada January 1, 2017 Hog Inventory report showed the Canadian sow inventory had increased by one per cent compared to January 2016. That was an increase of about 14,500 sows for a total of 1.23 million sows in Canada. Both Manitoba and Saskatchewan saw very modest declines in the provincial sow herds while Alberta had a one per cent increase. British Columbia's already very small herd declined further by nearly four per cent.

For its part, Quebec saw an above average growth of nearly two per cent as of January 1 this year compared to January 1, 2016. What was also very interesting about the report was that Ontario had the biggest increase of the provinces with a 3.3 per cent growth rate in over the course of 2016. In fact, of the 14,500-head net growth in Canada, 10,000 of that came from Ontario. What is even more interesting is that the 10,000-head rate of growth is likely to continue or be exceeded in 2017.

The expansion in Ontario came from a combination of new barns and renovations or expansions to existing barns. The bulk of the expansion last year in Ontario was likely weighted more towards the renovations and expansions to existing barns, as opposed to entirely new barns. One common form of expansion has been renovations for loose sow housing. As producers renovate towards that end, they are also expanding the facility in order to enable greater numbers of sows. Beyond those facts, producers have added sows where and when they can, and Ontario facilities are running strong. Further to that point, sow productivity is notably increasing. There is practically no empty nursery or finishing spaces in the province.

The expansions are taking place given the solid profitability of the industry from 2014 through 2016. The long term wreck of the second half of 2006 through the first half of 2013 has not been forgotten, but there is optimism and liquidity to back up the optimism.

The growth is occurring in a cross-section of the industry from the largest hog operations to the land-based farmer operations. Of course, Ontario's largest operations are not large compared to those in the rest of the country. In the meantime, there are significant numbers of new sow barns and nursery/finishing operations that have been under construction over the last six months. There are more barns planned for construction this year. These will add to sow numbers by about another 10,000 head by next January.

While there is optimism given the margins in the business over the last few years, there should be solid questions pertaining to where the hogs can be marketed. While Conestoga

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has expanded and Sofina has remained an aggressive operator, the loss of Quality still hangs over the industry. The last two years have seen many instances where marketings have been pressured and backed-up by even minor disruptions such as holidays. The strike at Olymel in the spring of 2015 and the cooler problems at Olymel last year caused major disruptions. At those times, large numbers were forced to Brandon and into the United States. In fact, Brandon is still getting 1-2,000 head from Ontario each week even without challenges in Quebec. In other words, even without expansion in sow numbers, Ontario marketings are on a knife's edge.

With that noted, the Olymel expansion at Saint-Esprit which was announced last spring has recently been completed. That plant was previously running about 29,000 head per week and the expansion was to get the facility up to 40,000. That would make that plant, which takes most of the Ontario hogs, the largest of the Olymel Quebec plants. While the plant is not yet up to its 40,000 head capacity, it should be by later in the spring.

Ontario is an important source of hogs for Olymel as well as for Breton in Quebec. Ontario regularly ships 25-30,000 head per week to Quebec, most of which go to Saint-Esprit. Further to that, Olymel has been making its presence felt in Ontario with interesting contract offerings in recent months. That in turn would also help boost Ontario producer optimism.

Another source of optimism is the new Clemens Food Group plant at Coldwater, Michigan. The plant, which is to have a one shift daily capacity of 10,000 head, is just 460 kilometers from Stratford. The plant is to be operational this fall on one shift and is likely to go to two shifts within a couple of years. The one shift is, however, already filled with Clemens hogs or its U.S. suppliers. Ontario producers might be able to work to supply the second shift, but even that is not guaranteed. With that noted, even if they cannot get to Coldwater, there will be more U.S. demand for hogs created given that new plant as well as the new Seaboard and Prestage Foods operations. In other words, there is reason to believe there will be U.S. demand for Ontario hogs, even if it is not directly from Coldwater.

Even acknowledging those potential marketing problems, the new sows are coming and producers believe they will always have the option of sending isoweans to the United States. Given the expansion in packing capacity in the United States, there is solid reasoning behind an increase in U.S. finishing demand for Ontario weaners. In any event, the expansion in Ontario highlights the diversity of supply and demand across the country. Capacity challenges on the prairies and Quebec and hogs looking for hook space in Ontario.

Strong Results for Producers and Packers Continue

Historically it is unusual for both producer and packer margins to be as strong as they have been at the same time, in the last few quarters. Actually, however, the past year or so has been good for both packers and producers, notwithstanding some tough weeks in last year's fourth quarter for producers. From the packer side there are two things which are driving the market – Bellies and China.

Bellies are a reflection of domestic demand. Most North American bacon/bellies stay home. With the exception of single rib bellies to Japan, I'm not aware of much in belly exports (although there's probably some.) Bellies have historically been about 20 per cent of the total primal value. Early this year they were almost 40 per cent. Packers were chasing hogs for the belly this year. Pulled pork has also helped demand in North America. Pulled pork sandwiches are in every restaurant. However, butt pricing hasn't changed much so it is uncertain about the impact of that on the overall cutout and margins. Clearly it has helped. Going into the second quarter the belly came back down to earth, but it remains in tight supply and at fairly robust pricing levels.

Not surprisingly the big driver beyond the belly has been China. The demand there is so huge that if Canada sent all of our exports there it would barely make a dent on their supply. Packers in Canada would likely credit the lion's share of their strong returns to Chinese demand.

The bottom line is that packers have been filling strong demand and are still seeing good margins. That means strong packer demand for hogs and that has translated into profitable pricing for producers.

HyLife Expands With its Demand

Last fall, HyLife Foods announced that it was investing up to $125 million to modernize what it calls its Integrated Pork Production and Processing System starting this year. That includes another expansion of the slaughter plant. According to a company release last October, HyLife is going to expand its Neepawa plant by moving to a full double shift. The company is also going to be investing in technologies to improve yields and processes and to increase shelf life. Hylife also plans to construct new finishing barns and a feed mill.

Of the $125 million, $90 million will be at the plant. This will be at least the third time the plant has been significantly expanded and modernized since Hytek purchased it in 2007. The company is particularly looking forward to quality and yield prospects that will result from new technologies to be employed on the cut floor. With regard to slaughter, currently the plant is doing about 6,750 head per day on two shifts, or over 33,000 per week. The plant will eventually be able to do up to 39,000 per week when the expansion is complete, hopefully by mid-2018.

The company currently sells about 85 per cent of its production into export markets. The plan with the expansion is to continue to grow the markets that they are currently serving – particularly, Japan, China and Mexico. A key focus has been higher end fresh chilled product to Japan. Domestic markets tend to be more eastern Canadian-based in both retail and processed product.

HyLife's hog supply at the plant is about 80 per cent its own production or joint ventures. According to the 2016 Successful Farming "Pork Powerhouses," HyLife has 73,000 sows. That total includes company owned and joint ventures. For 2017 the total will be 78,000 sows.

In any event, in 2007 when then Hytek purchased the Springhill Farms plant, it was the eighth largest plant in Canada. By 2018 the plant at up to 39,000 head per week, is likely to be the fourth largest plant in Canada. The growth of HyLife has been good for the prairie hog industry and that growth is likely to continue to contribute to the prairie industry. ■

Kevin Grier Market Analysis and Consulting provides industry market reports and analysis, as well as consulting services and public event speaking. You can reach him at kevin@kevingrier.com to comment or to request a free two-month trial of the Canadian Pork Market Review.

Pig breeding in Canada – Part 2

A look at global breeding trends and new technologies

By Treena Hein

In our Winter 2017 issue, we looked at breeding through the lens of preserving heritage genetics. In this issue, the focus is on Canadian and global pig breeding trends and new technologies (with sex-sorted sperm being covered in the summer 2016 issue).

Like many others, Dr. Tom Rathje sees a need for a broad breeding approach going forward.

"As litter size improves, we need to remain focused on pig quality and not just quantity," says the chief technical officer at DNA Genetics.

Rathje also sees the genetics of swine health – understanding how genetic variation affects susceptibility to pathogens and traits involved in successful antibiotic-free production – as a key trend, along with a focus on more valuable pork products.

"To limit this to 'meat quality' is misleading," he observes. "What traits do we need to focus on in the future to provide more value to integrated systems?" Lastly, Rathje identifies a need for more robust and easy-to-manage sows as labour becomes more difficult.

Dr. Bob Kemp (geneticist and partner at Genesus) foresees an increased worldwide pig breeding focus on the consumer pork-eating experience.

"This is more than niche markets of very high-quality products, but also at the level of everyday fresh product," he stresses, "where a positive eating experience drives consumers to purchase pork more often."

Like Rathje, he also identifies a breeding push towards better health of pigs with less required treatment, with strong disease resilience "because exposure to multiple diseases is a reality in most, if not all pork-producing countries."

Lastly, Kemp says important breeding discussions are happening on the shift from feed efficiency as a physical-based measure of feed and growth rate to one focused on profitability, along with selection for grow-finish feed efficiency throughout the whole herd, sow longevity and reduced variation in groups of slaughter pigs.

On the same note, Dr. Lindsay Case believes total economics in breeding programs will remain very important to optimize herd value for producers.

"The next 12 to 18 months will be extremely tough for hog producers in North America," notes the genetic services manager at PIC North America. "Swine genetic programs that are focused on maximizing revenue while minimizing cost of production will be critical."

Specifically, she says genetic programs should work to increase pounds of pork produced per sow per year, while decreasing costs to produce each weaned pig and decreasing feed costs per pound of gain.

Because of increasing costs of genetics programs due to new technologies like genomic selection and more product testing, Arjan Neerhof predicts genetics industry consolidation.

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"Larger production systems will use more in-house breeding programs," adds the director of genetics at Topigs Norsvin, "to avoid the necessity of bringing new breeding stock onto the farm. Furthermore, increasingly efficient feed conversion is needed within the whole production chain, as feed costs remain one of the major challenges of pig producers worldwide."

Neerhof says that due to shortages in quality farm employees, producers also want pigs that allow for easier production, which boosts breeding demand for traits related to behavior, survival, piglet quality and uniformity, as well as better performance under disease challenge. This wide range of traits is also important to address animal welfare concerns, he notes, and conditions under new types of housing.

In the view of Hypor's research and development director Abe Huisman, efficiency continues to be the main breeding driver, but he also believes more and more attention will be paid to traits that address welfare-related issues such as non-castration, group housing and antibiotic-free production.

"Pork quality will gain more momentum," he adds. "Farm animal breeding is now increasingly more balanced and sustainable – improved science, larger breeding populations and modern computing power are delivering better balanced breeding programs which address the key issues of food safety and public health, product quality, genetic diversity, efficiency, environmental impact, animal health and animal welfare."

Grant Wilson, manager of marketing and business analysis at Fast Genetics, identifies similar trends, including better meat quality, genomic evaluations, increasing litter sizes, and traits related to welfare-friendly and different housing systems, as well as value chain integration.

Trends relating to new tech and techniques

Rathje identifies the most intriguing new breeding technology to be gene editing (CRISPR).

"Over the next 20 or so years, this tool will become part of the repertoire of tools used to enhance genetic improvement," he predicts. "It will take more time that we believe today, but will follow the path of genomic selection [based on analysis of an organism's entire genome] and become routinely integrated into selection programs."

However, Rathje believes breeders must not lose sight of technologies such as pig monitoring systems, databases and analytics software programs that allow for improved straightforward understanding of pig biology and behavior (individual feed and water intake in real time, movement, performance and disease response over time). "CRISPR and genomic selection are useless without phenotypes," he notes, "and we often forget how important these more 'mundane' technologies are to our future success."

Mohsen Jafarikia, geneticist at the Canadian Centre for Swine Improvement, also identifies genomics and monitoring technologies as increasingly important, with new tools promising even more benefits. "Studies on productivity, health and meat quality traits have demonstrated the power and potential of genomics," he reports, adding that "there are many different fields of science related to genomics such as transcriptomics, which is looking at the transcription of DNA, or metabolomics, which is looking at different metabolites that can be under the influence of individual's genetic makeup."

Gene editing (changes to an individual's DNA), says Jafarikia, has potential to change industry practices in near future, and it has been used in recent promising studies on porcine reproductive and respiratory syndrome. He identifies other promising breeding technologies to be ultrasound for prediction of intramuscular fat in live pigs, vision systems for weight prediction and infrared thermography for monitoring health and prediction of feed efficiency.

Coming back to genomics, Jafarikia believes that its success requires large numbers of DNA markers to be established and mapping the genes of thousands of animals for comparative reference. Although costly, this will allow interest in creating more accurate performance records for animal selection to grow.

"Technologies such as computer vision have a huge potential to help breeders capture precise and specific traits and use them for genetic selection of the animals," he adds. "These phenotypes can be used to select animals for better meat quality, carcass composition and also select for more feed and water-efficient animals. It is also possible to monitor their health and welfare with a greater precision and in less time."

Like Rathje and Jafarikia, Huisman also sees more and more utilization of DNA to come in future breeding programs, combined with the smart collection of commercial phenotypes. Kemp agrees.

"We need large populations measured for the unique and new traits and with genotypes so that we can assess the importance and potential impact of genetic improvement on these traits."

Kemp also predicts that technologies which enable more accurate measurement of pork meat quality and eating quality, especially at the live animal level, will be important going forward.

Neerhof notes that most of the recent breeding progress in pigs has been in the use of novel statistical models for more accurate estimation of breeding values. "These developments considerably speed up genetic progress," he says. "Furthermore, large-scale precision phenotyping with the use of tools like CT scanning will enable genetic progress in unique traits related to sow longevity, carcass value and pork quality."

New technologies such as gene editing and the newest genomic tools, reports Case, will be used to help create natural mutations that might lead to healthier, more robust animals with resistance to specific diseases. For example, in December 2015, her parent company Genus PIC announced the discovery of PRRSv-resistant pigs. However, Case notes that "this is early stage technology, and it will be at least five years until PRRSv-resistant animals are available to pig farmers. Genus PIC is committed to responsible development of technology, adherence to regulatory standards and responsible management of animals as we work through these developments."

Wilson says that besides pioneering sex-sorted sperm and low-dose technology in the swine industry, Fast Genetics is genotyping all animals to achieve significantly faster genetic gain.

"Fast Genetics is committed to genotyping, so much so that its parent company owns a genotyping laboratory," he says. Lastly, he notes that SNP information (SNP or single nucleotide polymorphism refers to a gene sequence that differs in a single base pair in two or more animals) can be used to created genomic 'Estimated Breeding Values,' which enable more accurate selection of young pigs.

Jafarikia feels it's worth mentioning that although revolutionary technologies such as gene editing can allow breeders to change a genome in a very specific manner, they "might receive controversial reactions from public."

However, he points out that increasing human population means there is an ever-greater need to boost livestock production efficiency.

"Efficiency of animals can help to provide humans with nutritious and healthy food, producing less pollution and less competition with humans for grain consumption," he concludes. "Science is helping breeders to make pigs more efficient and pork production a sustainable industry by being cautious about the nature and also the welfare of the pigs, which is a very important practice for any serious and responsible producer." ■

The buzz about Alberta's Bill 9

The rest of the country isn't doing it – are refunds overrated?

By Geoff Geddes

Debating whether levy refunds are a good thing is sort of like asking if a fight is fair – It depends which side you're on. It's no surprise that the introduction of *Bill 9-Marketing of Agricultural Products Amendment Act* to the Alberta legislature on April 11 certainly had producers and agricultural stakeholders talking. The bill allows agriculture commissions hold a plebiscite to decide whether they want their levies to be refundable or non-refundable. For the uninitiated, in many agricultural sectors, levies are charged when an animal (or product) is sold. The levy (sometimes referred to as "check-off") is collected to find producer organizations such as Alberta Pork, the Beef Farmers of Ontario, and many others across the country.

Since the bulk of Alberta Pork's revenue flows from a producer levy of $1 per market hog and $0.25 per weaner pig, the levy conversation is important feature of the agricultural landscape in the province.

First, some history (the interesting kind)

The *Marketing of Agricultural Products Act* (MAPA) of 1965 enabled producers to create agricultural commissions, provide services and help regulate sectors within the agricultural industry. Before 2009, agricultural commissions in Alberta had the option of refundable or non-refundable service charges.

MAPA also governs the Alberta Agricultural Products Marketing Council, the provincial agency that oversees the operations of marketing boards and commissions, administers regulations under MAPA and provides advice to government.

In 2009, MAPA was amended to require all commissions to issue refunds of their service charges at the voluntary request of any producer members. The 2009 amendment specifically applied to the commissions for beef, lamb, potatoes and pork – all of which previously had non-refundable models.

Alberta (dis)advantage?

In what the government called an effort to "restore autonomy to agricultural commissions and their members," Bill 9 was born. Since Alberta is the only jurisdiction in Canada with refundable service charges, some welcome the move as bringing Alberta in line with other provinces. The executive director of Alberta Pork, however, sees it a bit differently.

"This bill was not prompted by a request from us," said Darcy Fitzgerald. "We have lots of things we need to work on with producers and holding a plebiscite around Bill 9 is just not a priority."

That work includes everything from quality assurance to addressing regulatory and public concerns while being the voice of producers on all fronts.

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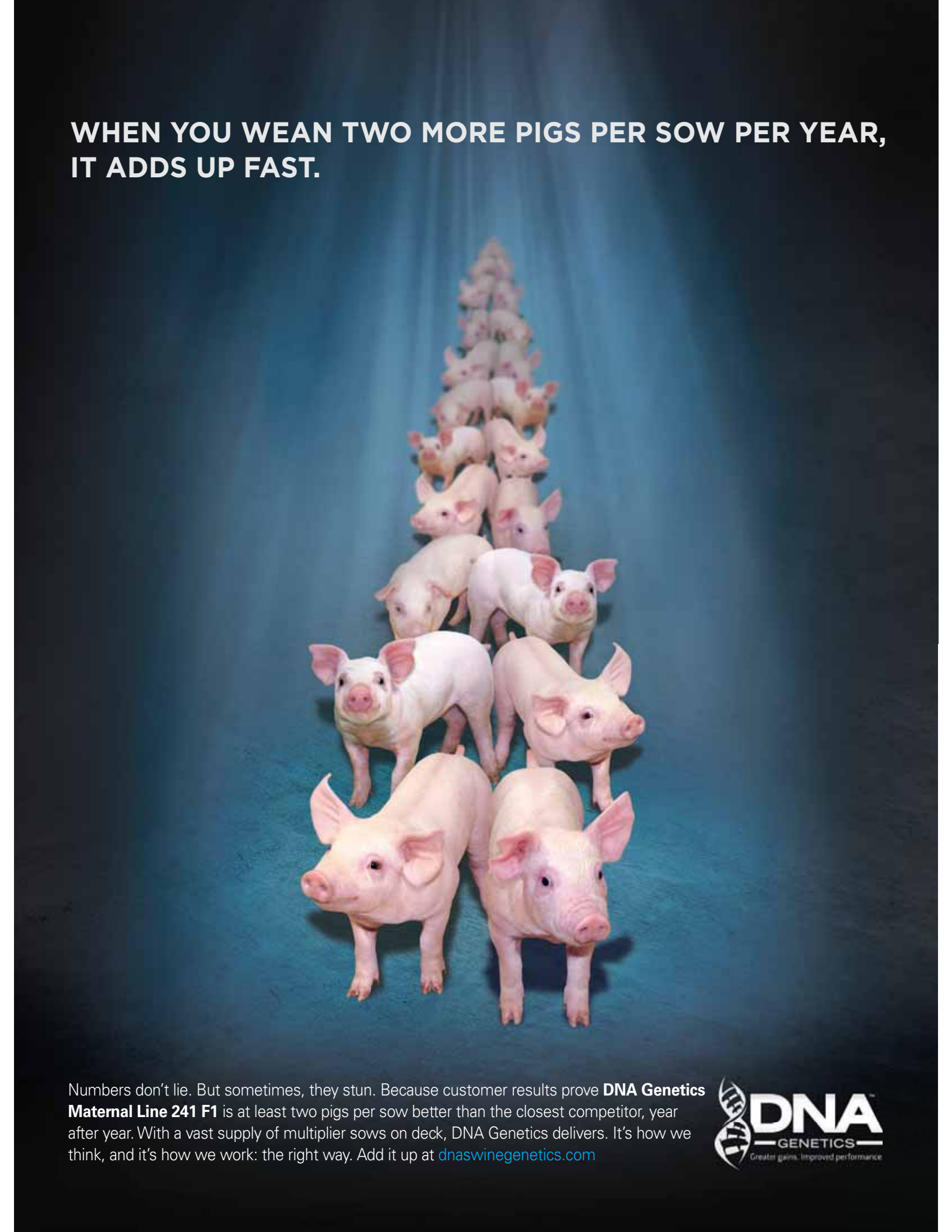

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The way Fitzgerald views it, the switch to a refundable levy in 2009 "emphasized that we must always be mindful of our producers, who pay the bills. If we do good work for producers they will see the value of what we're doing and won't ask for the levy back."

Manitoba mindset

Manitoba Pork also collects a producer levy of $0.80 for market hogs and $0.19 for weanlings. Though the amounts vary slightly from Alberta, the big difference is the association's levy perspective

"Personally I've never heard any of our producers ask for a refundable levy," said Michael Teillet, manager of sustainable development programs for Manitoba Pork. "In fact, they're quite negative on the idea."

The feeling from their members is that making the levy refundable defeats the purpose of collecting it in the first place.

"It is pretty much everything for us," said Teillet. "It allows us to do so much in terms of pork promotion, lobbying and program creation. Representing pig farmers in the province is our whole purpose and we can't do that without the levy income."

Saskatchewan stance

"I haven't received any complaints about our non-refundable levy in my time here. I think producers appreciate the services we provide and understand that doing so takes money."

So says Mark Ferguson, manager of industry and policy analysis with the Saskatchewan Pork Development Board (Sask Pork).

Prior to 2014 when it was raised to $.85 for market hogs, the Saskatchewan levy was the lowest in Canada. The increase helped maintain Saskatchewan Pork's ability to fund core areas of interest such as research, marketing and traceability.

To some extent, Ferguson understands the Alberta position in that "if we're doing a good job we should get few requests for refunds. But we would never suggest this province move that way [towards refundable levies] with their regulations as it is one more function for a board or staff to worry about."

There is also the issue of fairness.

"The biggest thing with a refundable levy is that the organizations funded by levy dollars provide services that benefit all producers, so it's only fair that all producers pay for the services they receive," said Ferguson.

"If you had a segment that decided to take the refund and still

reap the benefits it would be unfair to other producers who are paying the levy and paying for the organization to exist."

No Quebec quandary

Equally assured about the need for non-refundable levies is the Fédération des Producteurs de Porcs du Québec (FPPQ) representing pork producers in the province.

Their levy, which amounts to $1.59 for a typical market hog, facilitates negotiation of hog marketing conditions, research, health initiatives and development of risk management tools, among other things. Part of the money collected flows to affiliated organizations like the Canadian Pork Council, Swine Innovation Porc for research and Canada Pork International to support marketing efforts for Canadian pork.

Even with the relatively high levy rate in Quebec, producers seem to be on board with it.

"We ensure our farmer members get value for their money," said Vincent Cloutier, strategic advisor to senior management for the FPPQ. "Every year at the annual general meeting we're accountable to our delegates regarding the use of their levy dollars."

Would a refundable levy detract from their ability to serve producers? No one knows for sure, but it's not a risk they want to take.

"Along with the trust farmers have in their collective organization, a sufficient and stable financing capacity is the foundation of our ability to fulfill our mission and get things done," said Cloutier.

Team spirit

While each province has successfully applied the levy to fund market promotion, development and research activities, there are ongoing efforts to establish a national levy and create the Promotion and Research Agency to achieve a national coordinated approach to issues that are becoming more complex and interwoven.

"Each province already pays into a national levy and works collaboratively in areas like quality assurance and research," said Gary Stordy, public relations manager for the Canadian Pork Council (CPC).

"This agency formalizes the process and allows the provincial offices to create synergies. For example, we have a number of experts on the promotion side working in each province. A more structured process allows them to come together, discuss priorities and find better ways of doing things while still focusing on their regional needs."

Regardless of the region and the refundable status of levies, Fitzgerald's philosophy seems to apply.

"Producers give us their payments and we do the best job we can for them."

So ask any pork board in Canada about the importance of the levy and you'll learn about what's being done on behalf of producers behind-the-scenes to help the industry. If you're outside Alberta though, just don't ask for it back. ■

Industry News

Pork Congresses in session across the country

Whether you're heading east or west, there's a congress worth attending

By Geoff Geddes

The term "congress" conjures images of sharply dressed members discussing urgent business. While the dress code will be less formal at the pork congresses in Alberta and Ontario this June, the business will be just as pressing. And unlike that other more formal congress south of the border, the Canadian ones actually get stuff done.

Red Deer aims for black ink

Running June 14 and 15 at Westerner Park in Red Deer, the Alberta Pork Congress features an industry tradeshow, awards banquet and barbeque. Now in its 43rd year, the event shows no signs of aging. Thanks to good planning and strong industry support, 2017 looks promising despite the volatile Alberta pork industry.

"We've already sold out of booths on the main floor and added 13 more by the lunch area which are going fast as well," said Kate Cheney, owner of ConventionALL Management Inc., and general manager of the event.

Daniel Van Ginkel holding his balloon creation from the Balloon man a few years back. Photo courtesy Prairie Hog Country

"We didn't expect that booths would be snapped up that early so we're delighted," said Cheney.

Known informally as "the people's congress," the Alberta version has earned its nickname.

"It's a great chance for networking and people do a lot of business on the tradeshow floor, but it's also about the face time," said Cheney. "Deals are signed that day while relationships are built for the rest of the year."

An awarding experience

Equally important is the Wednesday night banquet where industry awards are presented for lifetime achievement, top farm team, pork industry ambassador and even best booth. There are also Olymel's "Reach for the Top" awards, which recognize production excellence in a number of categories such as high health and food safety.

"The banquet is an opportunity to recognize people who contribute and make the pork business what it is," said Cheney.

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Line up of Pork Crown Roasts for banquet supper. Photo courtesy Prairie Hog Country

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Shoe shiners Dan Tarini and Franklin Marroqui at Friesen Nutrition Booth. Photo courtesy Prairie Hog Country

Gesiena Hooijer from Vereijken Hooijer BV, a company from Denmark, showing off a farrowing pen. Photo courtesy Prairie Hog Country

Michael Waldner keeps on trucking. Photo courtesy Prairie Hog Country

Kurt Preugschas talking to a couple of Colony members. Photo courtesy Prairie Hog Country

"The award winners are the backbone of our industry."

One person uniquely qualified to speak on the importance of the Alberta Pork Congress is Laurie Brandly, publisher and ad manager at Prairie Hog Country Magazine. Apart from being on (and off) the event's board of directors for the last 13 years, Brandly has had a booth on the tradeshow floor for two decades now.

"The show has certainly changed over the years as there aren't 3,000 producers in the province anymore. However, we've managed to maintain it as the go-to show for western Canada," said Brandly.

They've done that in part by combining all aspects of the industry under one roof, from genetic companies to feed suppliers and everything in between.

"It's a one-stop shop where people can browse, snoop and chat while re-connecting with old contacts and making new ones."

Organizers have also kept on top of changes in the industry ¬– like the move to loose sow housing – to remain relevant over the years.

For Sale: 15 minutes of fame

Another way the show has maintained interest is through new wrinkles. This year they've added live info pod casts to the program.

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Mialta Colony accepts Grand Champion from Olymel Reach for the Top awards. Photo courtesy Prairie Hog Country

Alberta Pork Congress board members help bartend at the BBQ.

Nor-Ag's Jeremy Santrau working the booth. Photo courtesy Prairie Hog Country

Overhead view of tradeshow floor. Photo courtesy Prairie Hog Country

Geoff Geddes, a swine industry journalist, has the honour of carving the crown roast at the Alberta Pork Congress. Photo courtesy Prairie Hog Country

"Vendors can purchase a 15-minute time slot and do a brief presentation on their product or service right on the tradeshow floor," said Cheney.

For $250, participants will get a microphone, screen and the attention of their target audience as they make their pitch.

One thing that hasn't changed is the reputation of the Alberta Pork Congress as a popular gathering spot regardless of market conditions.

"Some years we've shared positive stories and other years have been pretty tough," said Brandly. "It's just great that we can be there to support each other through good times and bad."

An info feast farther east

Not to be outdone, the Ontario Pork Congress in Stratford is also celebrating 43 years on June 22 and 23.

The Ontario Pork Congress, courtesy Ontario Pork Congress.

Each year, the event brings together all segments of the pork industry for two days of networking, education, food and festivities. For 2017, organizers expect about 2,000 people and 100 exhibitors, and they have plenty to keep them busy.

One longstanding event is the Bacon Maker Classic, a live hog show spotlighting the next generation of pork producers' knowledge, skills and showmanship.

There's also a "Taste the Best" event that showcases local pork prepared by local chefs, along with craft beer.

In the BMC Education Centre, attendees can take an interactive educational tour of the entire pork production process, with individual stations focusing on health and genetics, management, production, nutrition and biosecurity.

The Ontario Pork Congress, courtesy Ontario Pork Congress.

Some good-natured ribbing

Like its western counterpart, the Ontario Pork Congress keeps things fresh by adding events such as last year's rib eating contest.

"We got a couple of farms from the area and some local celebrities together and it went over very well," said Jackie Littlejohn, an agri-marketer who sits on the promotions committee for the congress.

As much as the Ontario Pork Congress is focused on the industry, it also sees the big picture.

"Each year we hold a Hog Jog fundraiser where participants can choose a 3.5 km run/walk or 10 km run," said Littlejohn.

This year's charity of choice is Optimism Place, a Perth County shelter that serves

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The Ontario Pork Congress, courtesy Ontario Pork Congress.

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Those planning the congress are as impressed by the range of attendees as they are by the numbers.

"We attract the whole spectrum from consumers to producers to industry partners," said Littlejohn.

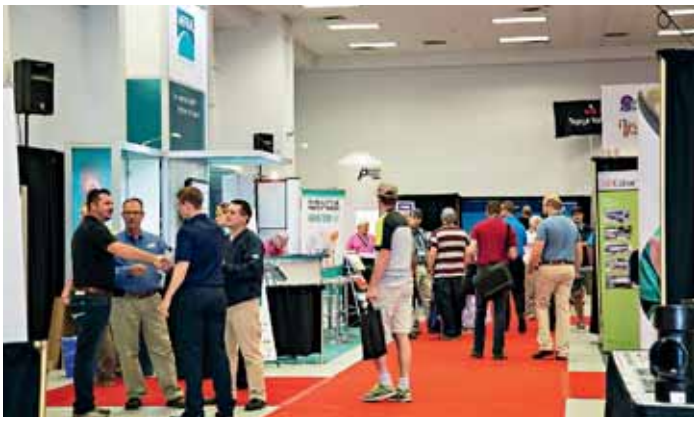
No border walls

While the majority of visitors are from within the province, organizers have pushed to expand their advertising over the last few years into Manitoba, Saskatchewan and Alberta, as well as south of the border at the Iowa Pork Congress.

That push seems to be paying off, and Littlejohn for one is not surprised.

"As a producer in 2017 you want to stay on the cutting edge of developments that can help with production and overall sustainability. You need to know what's going on at your front door as well as throughout the industry," said Littlejohn.

By making a positive impact on their respective audiences and focusing on the practical, the Alberta and Ontario events are miles ahead of that "other" congress, with no gridlock in sight. ■



The Ontario Pork Congress, courtesy Ontario Pork Congress.

The Ontario Pork Congress, courtesy Ontario Pork Congress.

Managing feeding to reduce wastage in lactation

Submitted by Dan Columbus, PhD, Prairie Swine Centre, Inc.

Feed is the single largest cost associated with producing pork, ranging from 50-70 per cent of the total cost of production. When looking to save money in their feeding programs, producers typically consider the finishing herd as it represents approximately two-thirds of the total feed cost. One area that can be easily overlooked is lactation feeding strategies and delivery.

Traditionally most producers feed lactating sows manually, feeding sows up to three times per day in order to maximize feed intake and optimize litter performance. However, providing large quantities of feed may result in increased feed wastage or spoilage. One technology pork producers have utilized to maximize lactation performance is electronic feeding systems for sows during lactation. These systems have multiple advantages over manual feed delivery including collection of feed intake data, controlled delivery of fresh feed, reduced feed wastage, and lower labour costs, however, these feed systems can be costly to install and maintain.

A project at Prairie Swine Centre set out to develop a modified feeding system which provides the advantage of the delivery of fresh feed to the sow without the expense of the electronic feeding system. A simple feeding system was developed which consisted of a feed drop tube which extends to approximately one inch above the base of the feeder, requiring the sow to manipulate the tube to release small quantities of feed.

A total of 45 sows and litters were randomly assigned to one of three feeding systems, consisting of manual feeding, a commercially available electronic sow feeder, and the modified system. Sow body weight, back fat, and body condition score were recorded when moved into the farrowing room and at weaning, 21 days post-farrowing. Sow feed intake was recorded daily with any spoiled feed being removed, weighed, and feed intake adjusted. Litter growth performance was measured weekly over the three-week lactation.

What did we find?

The type of feeding system used had no effect on sow body weight, body condition score, or back fat. There was a slight decrease in litter average daily gain in the third week post-farrowing on the electronic feeding system when compared to manual feeding, however, this did not result in a difference in overall litter weight. Sow feed intake was significantly higher with manual feeding when compared to the other two feeding systems in the first two weeks of lactation, but this difference was no longer evident in the third week.

For pork producers, what's the most important impact?

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This study demonstrated that manual feeding of sows during lactation can result in higher feed usage with no corresponding increase in sow or litter productivity. At today's feed prices the reduction in feed intake associated with the electronic or modified feeding system would save producers an estimated $8.50 per lactation when compared to manual feeding. Therefore, the electronic and modified feeding should be considered to minimize feed wastage and maximize returns. While both systems would reduce feed usage and labour costs associated with feeding, higher costs associated with the electronic feeding system needs to be weighed against additional benefits, such as automatic recording of feed intake when considering which system to implement in their facility. ■

Technical/financial numbers and their impact on the bottom line

Submitted by Jan Geurts, Nutrition Partners Inc.

Hog producers are always looking to improve their farm's bottom line by improving performance and reducing costs. To do that, producers benchmark their technical/financial performance numbers.

Simple benchmarking

This can be done fairly simply when producers are talking amongst themselves and asking questions such as:

- "How many pigs do you wean/sow/year?"
- "What is your farrowing rate?"
- "How high is your born alive/litter?"

These are pretty crude measures, and don't identify the weak areas on the farm, and what factors contribute the most to improving the bottom line.

Extensive benchmarking

Then on the other hand you have the more complete benchmarking numbers like SMS (Swine Management Services). SMS benchmarks the production records of about 1,500,000 sows in the USA and Canada (see figure 1). This gives more detailed information on a farm's performance. For example the 2016 rolling 52 week averages seen in Figure 1.

Different categories show the performance of the average farm, the 10% best farms and the 30% worst farms, and enables the individual producer to compare production with the benchmarked farms, and roughly see how they measure up.

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Figure 1. SMS Farm Benchmarking

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SMS Farm Benchmarking

Table 1	52 Week						13 Week	26 Week	12 Quarter
Percentile	90-100	70-90	50-70	30-50	0-30	All	All	All	All
Number of farms	89	176	177	177	264	883	883	883	883
Average Female Inventory	167,251	291,989	318,114	310,841	492,050	1,580,244	1,601,587	1,596,883	1,508,350
SMS Production Index (52 Weeks)									
SMS Production Index	86	70	57	41	16	44			
Potential for Improvement in Pigs Weaned / Mated Female / Year	4.60	7.50	9.10	11.01	15.22	10.61	10.38	10.45	10.83
Pigs Weaned / Mated Female / Year	31.40	28.50	26.90	24.99	20.78	25.39	25.62	25.55	25.17
Total Born / Mated Female / Year	38.08	35.66	34.65	32.83	29.05	33.10	33.25	33.46	32.78
Piglet Survival (100% - stillborn % - pre-weaning mortality %)	84.7%	81.5%	79.3%	77.9%	74.5%	78.8%	78.9%	78.6%	78.8%
Litters / Mated Female / Year	2.49	2.45	2.40	2.34	2.15	2.33	2.31	2.33	2.34
Wean to 1st Service Interval	5.25	5.80	6.12	6.85	8.89	6.92	7.07	7.07	6.98
Farrowing Rate %	91.2%	89.0%	86.5%	84.4%	78.8%	84.7%	85.2%	85.1%	84.8%
Female Death Loss %	6.8%	7.8%	9.3%	9.6%	13.5%	10.1%	10.4%	10.6%	9.3%
Gilt Farrowing Rate %	90.4%	87.5%	86.2%	83.5%	77.6%	83.6%			
Total Pigs Born / Female Farrowed (P1+P2+P3)	45.07	42.88	42.62	41.98	40.44	42.20	Parity Information is only done for 52 weeks		
Total Pigs Born / Female Farrowed - P 1	14.35	13.67	13.64	13.44	12.92	13.47			
Retention % (100% - P1-P2-P3 cull & dl)	62.7%	66.6%	67.9%	63.4%	58.3%	63.3%			

Source : Swine Management Services LLC

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Which factors have the biggest impact on the bottom line?

To make progress improving the bottom line, you need to also know the financial impact of the different parameters and ask yourself:

- What performance parameters can be improved?
- Which parameter adds the most value to my bottom line?
- What is the extra value of an improvement ?
- What is the impact of any extra cost (e.g. more expensive lactation feed to improve litter and post-weaning performance)?

To be able to calculate this you have to look at the factors in play, and their connections to each other.

From the return side of things, Figure 2 outlines all the factors that influence the financial return of the pigs shipped per sow per year, and the connections between each factor. All the factors that influence the costs per sow per year are outlined in Figure 3.

To answer these questions, we at Nutrition Partners Inc., developed the NPI Farrow-To-Finish Analyzer.

Figure 2. Factors that influence the financial return of pigs shipped/sow/year

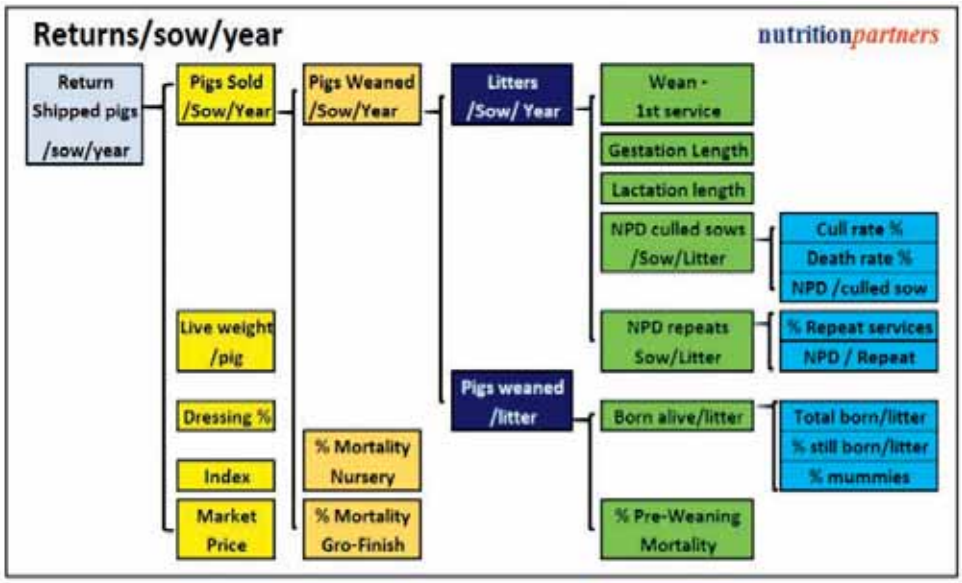
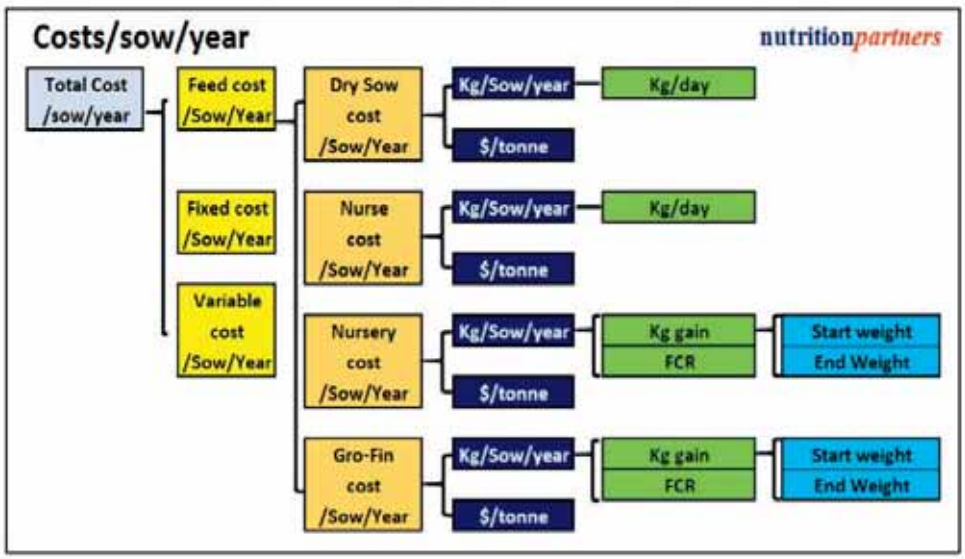


Figure 3. Factors that influence the costs per sow per year

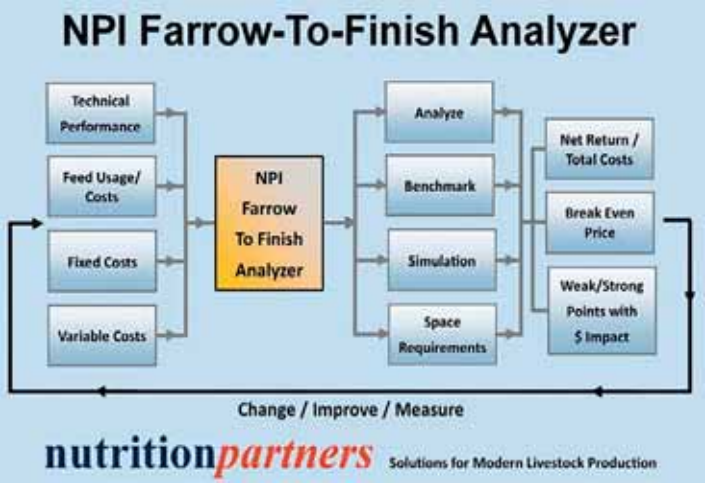


NPI Farrow-To-Finish Analyzer

The NPI Farrow-To-Finish Analyzer program is outlined in Figure 4, and can be used to:

- Analyze technical/financial performance.
- Benchmark a farm against another farm's performance.
- Run simulations of changing technical/financial parameters.

Figure 4. Factors and interactions compared by the NPI Farrow-To-Finish Analyzer



As an example, Figure 5 illustrates the differences between Farm 1 and the average SMS 2016 farm :

Figure 5. Performance comparisons between Farm 1 and the SMS 2016 average farm

Farm :	Farm 1			SMS AVG			
TECHNICAL							
Number of sows	300			300			
Litters/sow/year	2.380		Days/cycle	2.330		Days/cycle	Differ.
- wean-1st service	5.0	===>	5.0	6.9	===>	6.9	-1.9
- Gestation length	115.0	===>	115.0	115.0	===>	115.0	
- Lactation length	26.0	===>	26.0	20.0	===>	20.0	6.0
Cull rate %	40.0			50.0			
Death rate %	6.0	===>	3.9	10.1	===>	10.3	-6.5
NPD/culled sows/year	20.0			40.0			
% Repeat services	7.0	===>	3.5	10.0	===>	4.4	-0.9
Avg. NPD/repeat	49.9			44.3			
Total days/cycle			153.4			156.7	-3.3
Total born/litter	14.00			14.21			-0.21
% Still born/litter	6.5			5.0			1.50
% Mummies	2.0			2.0			
Born alive/litter	12.81			13.22			-0.41
% Pre-weaning mortality	12.0			17.5			-5.5
Pigs weaned/litter	11.27			10.90			0.37
Pigs weaned/sow/year	26.83			25.40			1.43
% Mortality Nursery	1.5			5.2			-3.70
% Mortality Grow-Finish	3.5			5.5			-2.00
Pigs sold/sow/year	25.50			22.76			2.74
Pigs sold/farm/year	7651			6827			823

CONTINUED ON PAGE 40

In Figure 5, the difference in performance of Farm 1 and the SMS 2016 average farm:

1. Based on wean-1st service interval, lactation length, NPD culled/dead sows and NPD repeats Farm 1 had:
   - 3.3 fewer days/ sow/cycle
   - **0.050 more litters / sow /year**
2. Based on total born, % still born and % pre-weaning mortality, Farm 1 **weaned 0.37 more pigs/ litter.**
3. Based on % Nursery Mortality, and % Grow-Finish Mortality, combined with the higher litters/sow/year and more pigs weaned/litter, Farm 1 sold **2.74 more pigs sow/year.**

The differences in the Financial / Feed numbers between Farm 1 and the SMS 2016 average farm are shown in Figure 6. Farm 1 had a:

- 0.1% lower finisher feed conversion
- $10 higher finisher feed cost/ton
- 0.5 lower index price (110.5 vs 111.0)

Figure 6. Comparison of financial and feed numbers between Farm 1 (left) and the SMS 2016 average farm (right)

FINANCIAL / FEED						
Sows	Kg/day	Cost/tonne	Kg/sow/yr	Kg/day	Cost/tonne	Kg/sow/yr
Dry Sow feed	2.50	$ 198.46	758	2.50	$ 198.46	796
Nurse Sow Feed	6.25	$ 295.73	387	6.25	$ 295.73	291
Nursery						
Start weight	8.0			8.0		
End weight	21.0			21.0		
Feed Conversion	1.50			1.50		
ADG (g/day)	475	27.4 days		475	27.4 days	
Creep	1.00	$ 1,400.00	26	1.00	$ 1,400.00	24
Starter 1	5.00	$ 900.00	132	5.00	$ 900.00	120
Starter 2	0.00		0	0.00		0
	0.00	$ -	0	0.00	$ -	0
Starter 3	13.50	$ 400.00	357	13.50	$ 400.00	325
Total kg	19.50	$ 579.49	515	19.50	$ 579.49	470
Grower-Finisher						
Start weight	21.0			21.0		
End weight	125.0			125.0		
Feed Conversion	2.90			3.00		
ADG (g/day)	850	122.4 days		850	122.4 days	
	Kg/pig			Kg/pig		
Pre-Grower	50.0	$ 300.00	1275	50.0	$ 290.00	1138
Grower	100.0	$ 250.00	2550	100.0	$ 240.00	2276
			0			0
			0			0
Finisher	151.6	$ 200.00	3866	162.0	$ 190.00	3687
Total kg	301.6	$ 233.16	7691	312.0	$ 222.05	7100
Dressing %	80.0			80.0		
Market Price - Index 100	$ 1.60			$ 1.60		
Index	110.5			111.0		
Net Bonus/pig	$ -			$ -		
Fixed cost calculation						
Total investment/sow	$ 3,000			$ 3,000		
Depreciation (years)	20			20		
Interest rate (%)	7.0			7.0		
Taxes and insurance (%)	1.0			1.0		
Fixed cost /sow/year	$ 264.00			$ 264.00		
Fixed cost /shipped pig	$ 10.35			$ 11.60		
Variable costs						
Labour, # fulltime people	2.0			2.0		
Cost /fulltime/year	$ 40,000			$ 40,000		
Labour costs/shipped pig	$ 10.46			$ 11.72		
Variable cost /sow/yr	$ 257.61			$ 257.61		
Variable cost /ship.pig	$ 15.98			$ 15.98		

Story Ideas? Press release? Comments?

Email the editor!
sherimonk@gmail.com

Figure 7. Financial Summary comparing Farm 1 (left) and the SMS 2016 average farm (right)

FINANCIAL SUMMARY

	/ship.pig	/sow	/farm	/ship.pig	/sow	/farm
Return shipped pigs	$ 176.80	$ 4,509	$ 1,352,620	$ 177.60	$ 4,042	$ 1,212,527
Feedcosts						
Dry Sow feed	$ 5.90	$ 150.39	$ 45,118	$ 6.94	$ 157.97	$ 47,392
Nurse Sow feed	$ 4.48	$ 114.37	$ 34,312	$ 3.78	$ 86.13	$ 25,839
Nursery feed	$ 11.71	$ 298.62	$ 89,587	$ 11.96	$ 272.13	$ 81,638
Grower-Finisher feed	$ 70.32	$ 1,793.29	$ 537,988	$ 69.28	$ 1,576.65	$ 472,995
Total feedcosts	$ 92.41	$ 2,356.68	$ 707,005	$ 91.96	$ 2,092.88	$ 627,865
Return over feed	$ 84.39	$ 2,152.05	$ 645,615	$ 85.64	$ 1,948.87	$ 584,662
Fixed costs	$ 10.35	$ 264.00	$ 79,200	$ 11.60	$ 264.00	$ 79,200
Variable costs	$ 36.54	$ 931.80	$ 279,539	$ 39.02	$ 887.94	$ 266,383
Net Return	$ 37.50	$ 956.25	$ 286,876	$ 35.02	$ 796.93	$ 239,079
Difference	$ 2.48	$ 159.33	$ 47,798			
Total cost	$ 139.30	$ 3,552.48	$ 1,065,744	$ 142.58	$ 3,244.83	$ 973,448
Break even price	$ 1.26			$ 1.28		

Total Feed Usage	kg/ship.pig	kg/sow	Tonnes/farm	kg/ship.pig	kg/sow	Tonnes/farm
Total Feed Usage	367	9,351	2,805	380	8,657	2,597
Farm FCR	2.93			3.04		

Figure 7 illustrates the Financial Summary of Farm 1 and the SMS 2016 average farm and shows all the numbers per :

- Shipped Pig
- Sow per year
- Farm per year

Although the net return per shipped pig is only $2.48 higher on Farm 1 than the SMS 2016 average farm ($37.50 vs $35.02), the net return per sow per year and the total farm was much higher on Farm 1 than the SMS 2016 average farm by :

- $159.33 per sow/year, and
- $47,798 for the whole farm per year

CONTINUED ON PAGE 42

Figure 8. Analysis Financial Impact versus Benchmark

TECHNICAL	Difference	------ / Sow / Year ------	
Litters/sow/year	0.05	15.95	
- Wean-1st service	-1.9		20.30
- Gestation length	0.0		0.00
- Lactation length	6.0		-85.71
- Culling-, death rate	-6.5		71.45
- Repeat services	-0.9		9.91
Born alive /litter	-0.4	-53.98	
- Total born /litter	-0.2		-25.59
- % Stillborn	1.5		-28.39
- % mummies	0.0		0.00
% Mortality pre-weaning	-5.5	110.00	
% Mortality Nursery	-3.7	61.98	
% Mortality Grow-Finish	-2.0	38.55	
FINANCIAL/FEED			
Cost Dry Sow Feed		0.00	
- Kg Dry Sow/day	0.00		0.00
- Cost Dry Sow /tonne	$ -		0.00
Cost Nurse Sow Feed		0.00	
- Kg Nurse Sow	0.00		0.00
- Cost Nurse Sow	$ -		0.00
Cost Nursery feed		0.00	
- Kg growth in nursery	0.0		0.00
- Feed conversion	0.00		0.00
- Avg. cost starter/tonne	$ -		0.00
Cost Grow-Finish feed		-23.67	
- Kg growth in Grow-Fin	0.0		0.00
- Feed conversion	-0.10		55.18
- Avg. cost feed/tonne	$ 11.11		-78.85
Live shipping weight	0.0	0.00	
Dressing %	0.0	0.00	
Market price - Index 100	$ -	0.00	
Index	-0.50	-18.21	
Nett Bonus	$ -	0.00	
Fixed costs	$ -	0.00	
Labour costs	$ -	28.70	
Variable cost sow	$ -	0.00	
Variable cost pig	$ -	0.00	
TOTAL DIFFERENCE /SOW		159.33	
TOTAL DIFFERENCE FARM		$ 47,798	
TOTAL DIFFERENCE /SHIPPED PIG		$ 2.48	

The problem always is, it is hard to see what the financial impact of each factor is because many factors influence the final result. Knowing how the different factors impact the financial bottom line will help to decide what to work on to make the most impactful progress.

The Analysis in Figure 8 shows the financial impact of the differences in all numbers versus the benchmark expressed in $/sow/year.

$ Value of performance numbers with different market prices

With changing market prices, the $ value of performance differences can vary significantly. Logically, if the market price is higher, net returns are better, and the value of every improvement is also higher.

Figure 9. $ Value of performance numbers

$ value/sow/yr	Difference	P/S/Y	$ 1.20	$ 1.45	$ 1.60
- wean-1st service	1.0	-0.17	-$ 5.17	-$ 9.74	-$ 12.47
- Gestation length	1.0	-0.17	-$ 5.17	-$ 9.74	-$ 12.47
- Lactation length	1.0	-0.17	-$ 8.37	-$ 12.93	-$ 15.67
Cull rate %	1.0	-0.01	-$ 0.44	-$ 0.82	-$ 1.05
Death rate %	1.0	-0.01	-$ 0.44	-$ 0.82	-$ 1.05
NPD/culled sows/year	1.0	-0.03	-$ 1.00	-$ 1.89	-$ 2.42
% Repeat services	1.0	-0.08	-$ 2.59	-$ 4.88	-$ 6.25
Avg. NPD/repeat	1.0	-0.01	-$ 0.36	-$ 0.69	-$ 0.88
Total born/litter	0.1	0.18	$ 6.30	$ 11.33	$ 14.35
% Still born/litter	1.0	-0.28	-$ 9.64	-$ 17.34	-$ 21.96
% Mummies	1.0	-0.28	-$ 9.64	-$ 17.34	-$ 21.96
% Pre-weaning mortality	1.0	-0.29	-$ 10.02	-$ 18.03	-$ 22.83
% Mortality Nursery	1.0	-0.26	-$ 8.96	-$ 16.11	-$ 20.40
% Mortality Grow-Finish	1.0	-0.26	-$ 12.24	-$ 19.54	-$ 23.92
Cost Dry Sow ration	$ 10.00		-$ 7.58	-$ 7.58	-$ 7.58
Cost Nurse Sow ration	$ 10.00		-$ 3.87	-$ 3.87	-$ 3.87
FCR Nursery	0.10		-$ 19.91	-$ 19.91	-$ 19.91
Avg. Cost Nursery feed	$ 10.00		-$ 5.15	-$ 5.15	-$ 5.15
FCR Grower/Finisher	0.10		-$ 61.84	-$ 61.84	-$ 61.84
Avg. Cost Grow/Fin feed	$ 10.00		-$ 76.91	-$ 76.91	-$ 76.91
Index	1.00		$ 30.60	$ 36.98	$ 40.80

In this scenario we looked at the impact of differences in performance on Farm 1 with three market prices (Index 100): $1.20, $1.45 and $1.60.

This can be very useful when you want to evaluate strategies financially, and puts everything in perspective.

For example, if you want to improve your total born/litter, the improved Nurse Sow ration may cost cost $10 extra/ton. The Nurse Sow feed cost would be $ 3.87 more per sow per year.

To calculate how big the improvement has to be to cover those increased costs:

At a market price of $ 1.20, +0.1 total born/litter results in $ 6.30 improvement per sow per year. The improvement needed is therefore $3.87 / $6.30 x 0.1. This is a 0.061 improvement needed

At a market price of $ 1.45, +0.1 total born/litter results in $ 11.33 improvement per sow per year. The improvement needed is therefore $3.87 / $11.33 x 0.1. This is a 0.034 improvement needed.

At a market price of $ 1.20, +0.1 total born/litter results in $ 14.35 improvement per sow per year. The improvement needed is therefore $3.87 / $14.35 x 0.1. This is a 0.027 improvement needed

You can relate the $10 extra nurse sow ration cost per ton of feed also to the cost of a micro or premix if you wanted to. Sometimes there are added cost from specific ingredients, different vitamin levels, added amino acids. At the end of the day, it is all about the price of the ration (and of course the FCR combined with that ration).

To relate the price of a premix back to the cost of the final ration :

- $10 extra/ton of feed with a 30 kg premix/ton => 1000/30 x $ 10 = $333.33 /ton
- $10 extra/ton of feed with a 5 kg micro/ton => 1000/ 5 x $ 10 = $2,000.00 /ton
- $10 extra/ton of feed with a 1 kg micro/ton => 1000/ 1 x $ 10 = $10,000.00 /ton

Concluding remarks:

- Knowing all your technical/financial performance is critical for a good evaluation of performance.
- In general, technical performance of sows is monitored fairly well with management programs.
- Not enough attention is paid to Nursery-Grower-Finisher performance (ADG, FCR, Mortality, Optimal Dressed Weight, Index), which can have a big impact on the bottom line. ■

Assessing the cleanliness of swine transportation trailers

Submitted by Prairie Swine Centre

Pig transportation is widely recognized as a significant risk for transmission of swine diseases. With the outbreaks of Porcine Epidemic Diarrhea (PEDv) and the potential for Porcine Reproductive and Respiratory Syndrome (PRRS), a great deal of effort has been put forth to ensure transport trailers are properly washed, disinfected and inspected for organic matter and microbial contamination prior to use. Typically, visual inspection is carried out to assess the cleanliness of trailers after washing/disinfection/drying procedure, supplemented by microbiological testing using the culture method (CSHB, 2011) in certain situations.

However, work at the Prairie Swine Centre has found visual inspection to be not consistent or very reliable assessment. While traditional microbiological culture method involves the use of plated media which need to be incubated and analyzed to obtain an indication of the contamination of the sampled surfaces. Also relies heavily on the quality control process of sampling and analysis. This can cause significant down-time for trailer operation, and delays implementation of corrective actions while waiting for test results. Work led by Dr. Bernardo Predicala, at the Prairie Swine Centre set out to find an alternative reliable, rapid and easy to use means of monitoring surface cleanliness of swine transport trailers.

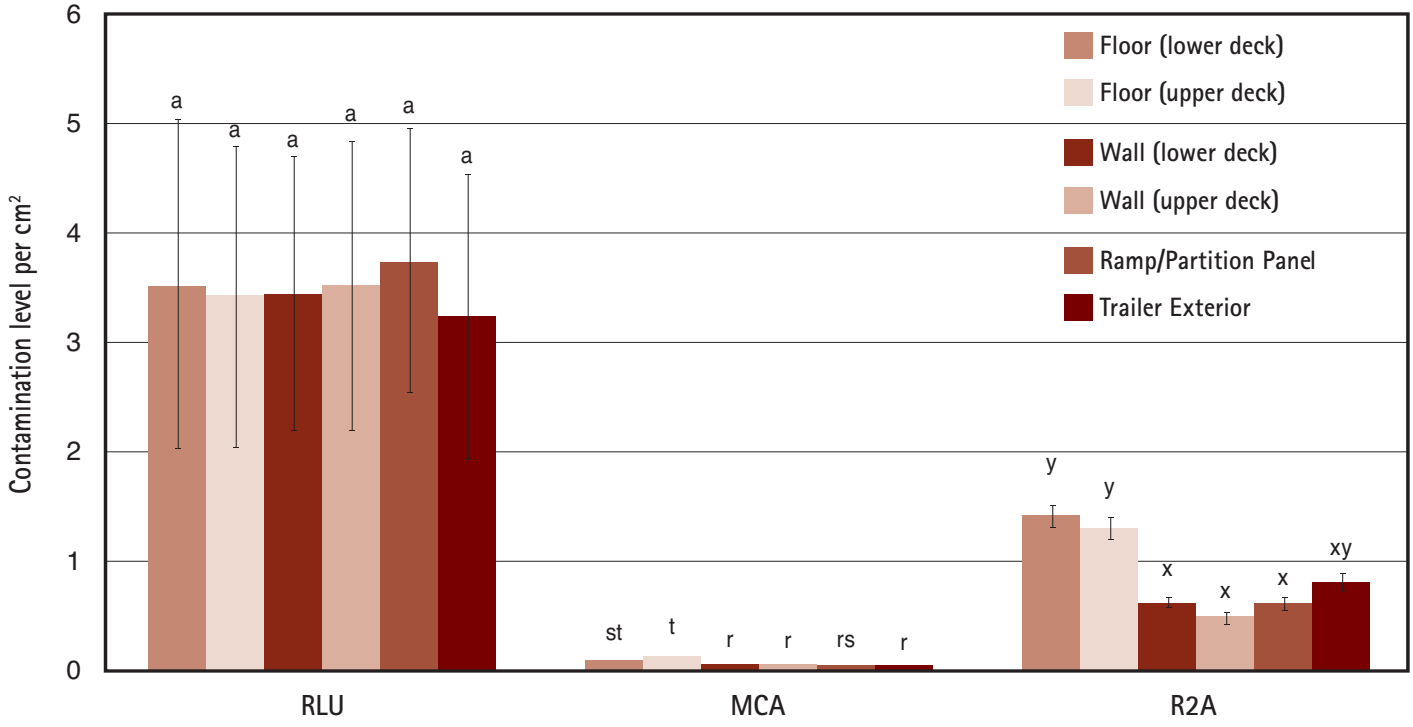
Over the last decade, the ATP method (adenosine triphosphate bioluminescence) has been used in other industries (food, hospitals, cattle) for monitoring surface cleanliness and microbial contamination, the opportunity of the ATP method was explored for practical application within the pork industry. This particular method uses bioluminescence as an indicator of the level of residual ATP present on swabbed surfaces. Once a surface is swabbed, the sample is exposed to an ATP-releasing agent (lysis buffer) and an ATP-activated light-producing substrate and enzyme (luciferin and luciferase). The amount of ATP present on the tested surfaces can then be quantified by the amount of light emitted during the enzymatic reaction (in terms of relative luminescence units, RLU). The intensity of light is proportional to the amount of ATP and the degree of contamination.

Samples were taken from dry, cleaned trailers using an ATP swab by swabbing an area of 10 cm x 10 cm in multiple locations in the trailer and were tested for microbial contamination level using an ATP bioluminescence meter. Results obtained from ATP testing were compared to the co-located samples taken using standard microbiological techniques with MacConkey and R2A agar contact plates (diameter = 60 mm). From a total of more than 500 samples (for each method) collected from 18 commercial swine transport trailers across Saskatchewan, a moderate correlation was found between ATP bioluminescence method and standard mi-

Table 1. Threshold values in assessing effectiveness of swine transport trailer washing/disinfection/drying protocol using MCA, ATP bioluminescence and R2A

Assessment criteria from CSHB, 2011		Threshold Values		
Category	Remarks	MacConkey agar[a]	ATP bioluminescence[b]	R2A agar[c]
Pass	Maintain wash, disinfection and drying protocols.	0 – 10	0 – 430	0 – 140
Critical	Risk of disease propagation, improve protocols. Room for improvement.	11 – 50	431 – 850	141 – 625
Fail	High risk of disease propagation. Identify problem and correct the wash, disinfect and drying protocol and its observance.	>50	>850	>625

Figure 1. Mean (±SE) contamination levels (n = 16) of different sampling locations in the trailers as detected by the ATP bioluminescence meter (in RLU per cm2), and MCA and R2A agar plates (in CFU per cm2). Means with the same letters are not significantly different (p>0.05).



crobiological technique using R2A agar plates. Poor correlation, however, was found between ATP method and MacConkey agar plate counts. Unlike R2A that detects a wider group of bacteria, MacConkey agar supports only the growth of selected Gram-negative bacteria while ATP bioluminescence detects ATP from both microbial and organic sources. Threshold values in assessing the effectiveness of swine transport trailer cleaning protocol using ATP bioluminescence method were established with 570 RLU per 100 cm^2 and below as *'Pass'* while 800 RLU per 100 cm^2 and above as *'Fail'* or has high risk of disease propagation.

The benefit of the ATP method is the ability to provide results within minutes, as opposed to a number of days for traditional microbiological testing, making ATP bioluminescence a good alternative for quick monitoring of surface cleanliness of transport trailers.

Take home messages

- ATP bioluminescence method can be used as a tool for rapid assessment of surface cleanliness of swine transport trailers, complementing the procedures.
- Dirty areas in trailers can be conveniently and rapidly identified using ATP method, and corrective actions on the current washing/disinfection protocol can be made.
- Visual inspection of newly-cleaned transport trailers is not sufficient in assessing surface cleanliness.
- Trailer floors posed the highest risk of microbial contamination among the six critical areas tested. ■

Feed nutrient digestibility and growth performance of weaned pigs fed canola meal varying in nutritive quality

Lifang Wang[1], Eduardo Beltranena[1,2] and Ruurd T. Zijlstra[1*]

[1]Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB; [2]Alberta Agriculture and Forestry, Edmonton, AB
*E-mail address: ruurd.zijlstra@ualberta.ca

Take Home Message

Imported soybean meal can be an expensive protein source. Feed inclusion of canola meal to replace 20 per cent soybean meal did not affect feed intake and weight gain of weaned pigs. However, quality can differ among canola meal samples that may result in differences in growth performance of pigs.

Feeding canola meal diets

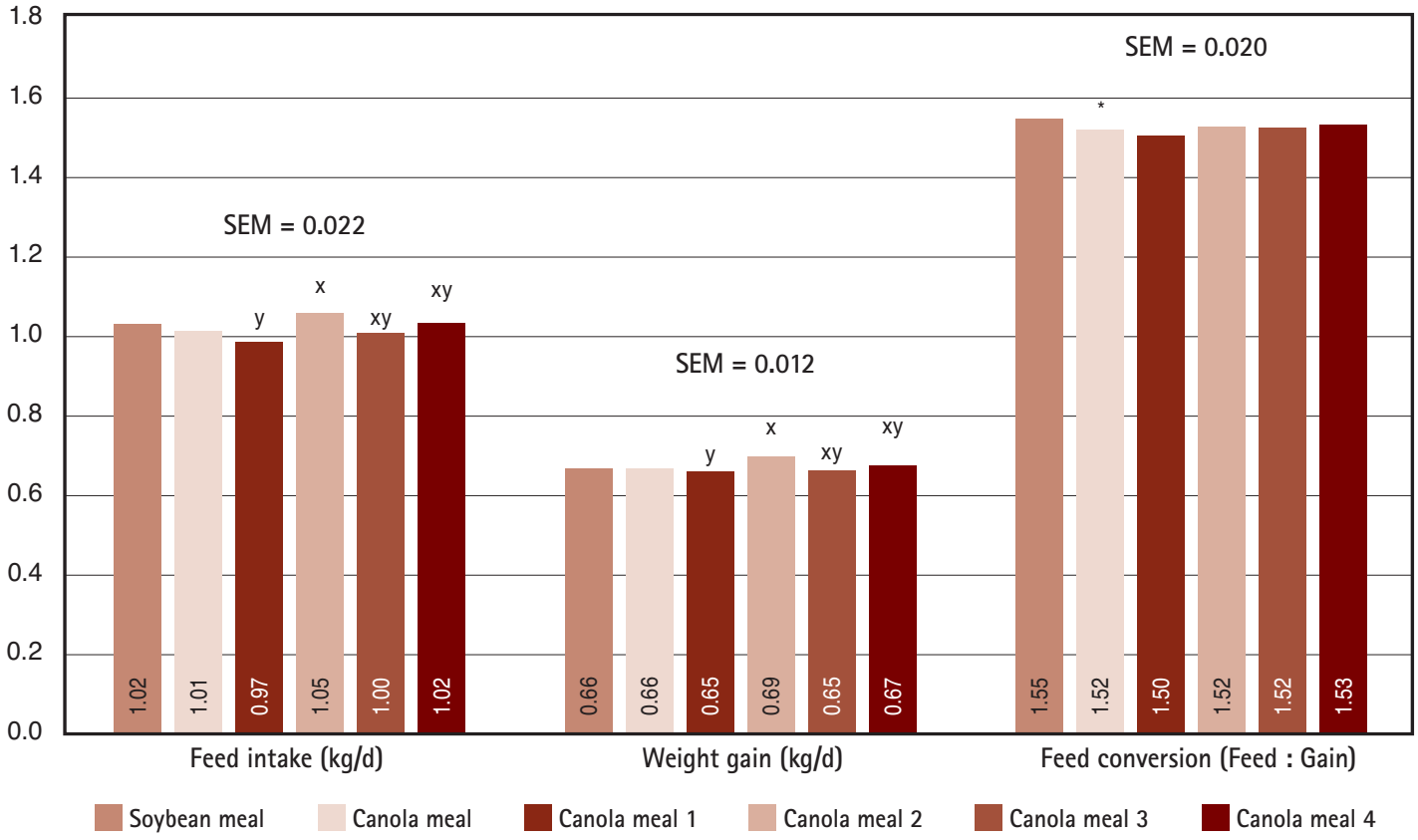
Globally, canola meal is the second most fed protein source after soybean meal in swine production. In Canada, crushing canola seed generates four million tonnes of canola meal annually. Two decades ago, the recommended maximum feed inclusion rates of canola meal for starter, grower and finisher pigs were 8, 12 and 15 per cent, respectively. With advances in plant breeding, modern canola meal contains much less glucosinolates than decades ago that permits greater dietary inclusion. Previously, we showed that canola meal replacing 20 per cent soybean meal in diets for weaned pigs did not affect growth performance. But at such high feed inclusion of canola meal, variation in quality, for example, glucosinolates content and protein quality can become a concern. Glucosinolates could reduce palatability of diets and feed intake and protein quality could affect availability of amino acids. Differences in crushing conditions among plants may also cause variation in quality of canola meal. Whether variation in quality translates into variation in nutrient digestibility and growth performance of young pigs remains unknown. We sampled canola meal from four crushing plants to establish diet apparent total tract digestibility of protein and energy and evaluate growth performance of weaned pigs fed 20 per cent canola meal to replace 20 per cent soybean meal. Diets were formulated to equal net energy (NE) value and standardised ileal digestible (SID) amino acids content.

Diets and nutrient profile of canola meal samples

A wheat-based soybean meal control diet and four diets containing 20 per cent canola meal were formulated by replacing soybean meal with four canola meal samples sourced from four different canola crushers in AB, SK and MB. The canola meal samples were processed from regular dark-seeded Brassica napus canola seed. Diets were formulated without antimicrobials or growth promoters to provide 2.3 Mcal NE/kg and 5.1 g SID lysine per Mcal NE. Other key amino acids were formulated as an ideal ratio to lysine. Fish meal and soy protein concentrate were included in all five diets at 5 per cent and 2.5 per cent, respectively. Diets were mixed and steam-pelleted at 70°C.

Canola meal samples contained 18.8–22.9 per cent total dietary fibre (vs 6.8 per cent for soybean meal), 3.1–3.8 per cent fat and 36.2–41.9 per cent protein. Consequently, dietary in-

Figure 1. Growth performance of weaned pigs fed diets containing canola meal in substitution for 20% soybean meal.



* Within each growth performance variable, the average of 4 canola meals differed from that of soybean meal ($P < 0.05$).

x,y Within each growth performance variable, means of canola meal without a common superscript differed ($P < 0.05$).

clusion of 20 per cent canola meal to replace soybean meal increased dietary fibre and decreased dietary protein content. Chemically-available lysine content was close to total lysine content in the four canola meal samples, indicating that little protein damage occurred during desolventising (oil removal) and drying of the meal afterwards. Total glucosinolates content varied largely among the four canola meal samples, from 1.13 to 7.38 µmol/g. However, glucosinolate levels in diets containing 20 per cent canola meal remained below 2.4 µmol/kg feed that growing pigs can tolerate without adverse effects on growth performance.

Weaned pig trial

The pig trial was conducted at the Swine Research and Technology Centre, University of Alberta (Edmonton, AB). In total, 240 pigs (initial BW: 9.6 kg; Duroc × Large White/Landrace F1; Hypor, Regina, SK) weaned at 19 ± one days of age were

CONTINUED ON PAGE 48

used in a four-week trial that started two weeks after weaning. At weaning, pigs were fed sequentially commercial pre-starter and starter diets (Hi-Pro Feeds, Sherwood Park, AB) for two and 12 days, respectively. Pens were then randomized to be fed one of the five test diets to achieve 12 pen-replicates per diet. Pigs were housed in three nursery rooms for a total of 60 pens containing two barrows and 2 gilts each. Pigs had free access to feed and water during the entire 28-day trial. Individual pigs, feed added and feed remaining were weighed weekly. Faeces were collected during the last two days on test to calculate digestibility of nutrients and energy.

Trial results

Pigs maintained good health and diarrhoea was not observed during the trial. Compared with soybean meal, canola meal inclusion decreased diet digestibility of dry matter, energy and protein by 3.3, 3.4 and 3.8 %-units, respectively, mainly due to the greater fibre content of canola meal. The hull fraction of canola seed is difficult for pigs to digest because 20 per cent of the hull is indigestible lignin. Nevertheless, with inclusion of oil to counteract lower digestibility of canola meal, calculated NE value was 0.02 Mcal/kg greater in canola meal diets than the SBM diet, indicating the NE value of canola meal might be greater than the book value used in diet formulation. Hulls in canola meal contain 15 per cent protein, but that protein is tightly bound to fibre so it is difficult to digest, resulting in reduced protein digestibility. The lower protein content and digestibility of canola meal necessitate greater inclusion of synthetic amino acids in canola meal diets to meet the requirements. The variation of nutrient composition of canola meal was small, thus, digestibility of dry matter, energy and protein was similar among the four canola meal diets.

For growth performance, daily feed intake did not differ between pigs fed canola meal diets and pigs fed the soybean meal diet for the entire trial (day 1–28) and each week on test. Pigs fed canola meal diets had two per cent better feed conversion than pigs fed the soybean meal diet for the entire trial. Their maintained growth performance and better feed conversion was likely attributed to greater NE value of canola meal diets than soybean meal diet. Glucosinolates in canola meal samples were negatively correlated with feed intake of pigs for day 8–14, whereas feed intake was positively related to weight gain for all weeks for canola meal diets. Greater feed intake thus drove energy intake and thereby supported greater growth. Nevertheless, feed conversion did not differ among canola meal diets.

Cost vs. benefit

Prices per metric tonne were as follows: wheat, $199; soybean meal, $562; canola meal, $355; soy protein concentrate, $1,500; fish meal, $1,616; canola oil, $1,100; limestone, $109; mono-/di-calcium phosphate, $965; L-lysine-HCl, $2,150; L-threonine, $3,050; DL-methionine, $5,850; L-tryptophan, $14,000. Feed inclusion of canola meal to replace 20 per cent soybean meal decreased feed cost by $5.23 per metric tonne of feed and decreased feed cost by 2.3 cents per kg of body weight gain. However, due to variation in quality among the four canola meal samples, the feed cost savings ranged from 1.8 to 3.2 cents per kg of body weight gain.

Recommendation

Despite the fact that it reduced diet protein and energy digestibility, results of this trial confirmed that feed inclusion of canola meal to replace soybean meal in diets for weaned pigs did not affect feed intake, weight gain and feed conversion. Producers should therefore consider including locally-produced canola meal to replace imported soybean meal in diets for weaned pigs to save feed cost. Among canola meal samples, feed intake and weight gain differed; thus, quality differences of canola meal sourced from different plants can affect growth performance of pigs.

Acknowledgements

Funding for this research was provided by the Canola Cluster, sponsored by the Canola Council of Canada and Agriculture and Agri-Food Canada.Figure 1. Growth performance of weaned pigs fed diets containing canola meal in substitution for 20% soybean meal. ■

YOUR DAILY BACON

BY BUDDY SIMMONS

Ahoy, fellow bacon lovers! It seems like it has been awhile since we've come to your mailbox to sing the praises of bacon! Well fear not! We've returned with a bundle of memes and a tale for you. (A tale of questionable veracity, but interesting none the less...) And slightly spooky as well. So, let's get right to it!

In the U.S., there has been a long-running legend of alligators in the sewers of New York City. You've probably heard of that one. As the story goes, somebody brought home a baby alligator from a vacation trip to Florida and apparently having tired of the toothy critter very quickly, opted to flush it. That landed it in the sewers beneath the city, where it grew to a menacing size. A cheesy movie was even made about it, in fact.

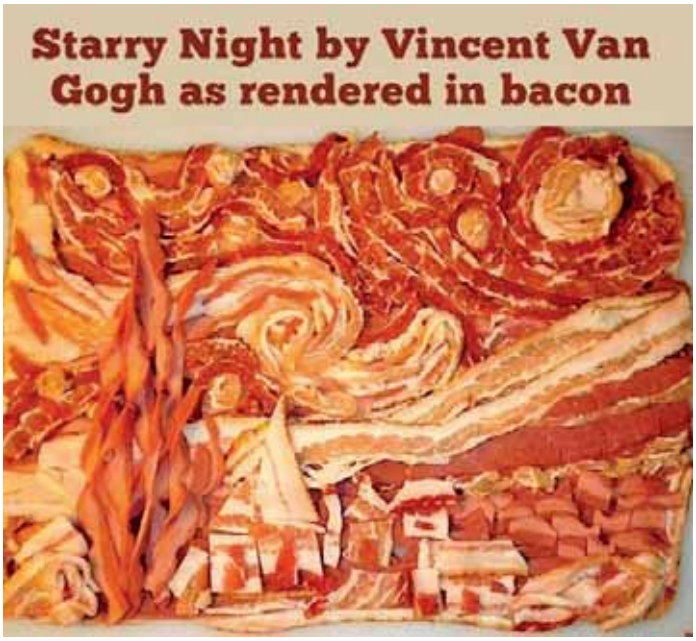
But, what you may not have heard about is the legendary Black Swine of Hampstead, from London, England. The story is a bit similar in nature, but somehow even odder. In the 1860s, a story began to circulate about a sow who somehow ended up in the sewers of London. How, it isn't entirely clear, but she certainly wasn't flushed. After all, it can be tricky enough to get a pig into a pen, let alone into a toilet!

But the difference between the Black Swine of Hampstead and the tale of the New York Alligator in the U.S. diverges quite a bit even beyond that particular logistic.

First, one must keep in mind that sewers did not used to be the "luxurious" places they are now. Back in those days, waste disposal systems were not very sophisticated and so plenty ended up down there, including garbage, which of course among other things would consist of food waste. So, according to the legend, the sow had plenty to dine upon. Plus, conveniently for a really good legend, the sow was in a delicate condition so to speak, and birthed a litter.

CONTINUED ON PAGE 50

We all should strive for perfection, after all!

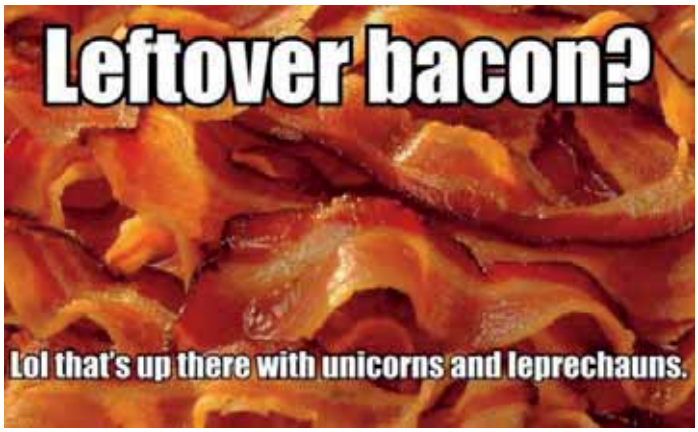


Van Gogh chose the wrong medium for his art. This is much better.

One thing led to another and soon reports of an entire herd of ravenous and aggressive porkers were said to inhabit the underworld of London, the progeny of that one wayward sow.

And this was not a legend that was just whispered about in London pubs or told to children to frighten them into behaving. An article was written about the pig-infested sewers and Charles Dickens supposedly even mentioned them in one of his writings. Whether that is true was not confirmed by Your Daily Bacon, however.

The story proliferated by way of a group of people in London known as "sewer hunters" in that era. Also known as "toshers," these were rather entrepreneurial individuals who scavenged the sewers in search of valuables that made their way there through one misfortune or another, such as being lost in the streets and subsequently being washed down the drains. Sieving through the muck and effluvia for coins,



And up there with Black Swine too, of course.

You have to be a Star Wars fan, really, but we loved this one!

jewelry, and other lost valuables could be fairly lucrative, with truly dedicated toshers earning around six shillings a day. Not bad for a day's work in the 1860s! The downside was that they probably didn't get invited to many dinner parties following a day's work. In any event, it would make a certain amount of sense for them to spread the story. Sewers are creepy enough by nature, but what better way to discourage competition by creating a rumour of killer "black swine" roaming the underworld of London?

But why would the fearsome critters not emerge to wreak havoc, one might ask. Well, in order to do so, keep in mind that at the time all sewage outlets led to the Fleet River, which was little more than an open sewer in and of itself at the time. Not that the pigs would have minded that so much, but it was reasoned that they would be loathe to brave the current, and remained in their subterranean lair, and so London was safe from the fell beasts.

The legend does not seem to live on today, though. Probably for a couple reasons. We figure that the most likely explanation to be because the sewer-hunting market isn't quite the business opportunity it used to be, meaning there is less incentive for anybody to scare off competition down there. The other reason is that like most legends of that sort, it's just too silly to be true. We hope!

Maybe just a little heavy on the lettuce, but acceptable.

Now, while Your Daily Bacon categorically refuses to sieve through sewage for treasure, we have always been more than happy to sieve through the internet to bring you more bacon meme treasures for your enjoyment, and we've done so again! ■

A Mother's Day card guaranteed to bring a tear to mom's eye.

We FULLY support this movement!

Come “like” us on Facebook!

By Sheri Monk

The Canadian Hog Journal now has a Facebook page! We are still working on our website, but our social media personality is a big and important part of our makeover and long-term strategy. And it’s fun!

This edition’s front page photo came from Facebook friend Lane Foxwell after we put out a call for front page photo submissions.

“We have a mixed farm with about 70 head of cattle and I’ve always liked pigs so I bought four gilts last spring. This was their second set of piglets. The sows are Berkshire and the boar is a Yorkshire. They were born April 25 in a batch of nine. We’re up to 10 sows, 30 of these little guys, and we have around 10 we’re feeding out right now. I was thrilled to hear they made the front page,” he said.

Thanks for the photo Lane – it’s a keeper!

The next three photos came from Dr. Dawn Magrath, who many of our readers will remember as a contributor to the Canadian Hog Journal. What a reminder that spring is green, gorgeous and sometimes a little muddy!

We received this adorable photo from Facebook fan Jannet Overweg. To join our Facebook community, search for "Canadian Hog Journal" or visit https://www.facebook.com/CdnHogJournal. ■

Thanks Jannet! The only thing that could make those two kidlets cuter was the addition of the two piglets!

Ad Index

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