MANITOBA’S HOGTIED INDUSTRY FIGHTING TO GROW

Feature story on Page 25
MAX THRU PUT

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It’s probably beginning to seem redundant, but once again another summer has flown by. Maybe it was because of the chronic smoke darkening the sky, but summer didn’t even feel like summer this year, and in the blink of an eye, it was over.

Regular readers will be familiar with our feature entitled “Your Daily Bacon” which is authored by Buddy Simmons, an old and dear online friend of mine who lives in West Virginia. Buddy is a skilled and hilarious writer who just never had a chance to publish anything until a number of years ago when I used to own a community newspaper in southwest Saskatchewan. Buddy is very well read, but not very well-travelled as he has spent many years looking after his ailing mother and handicapped sister.

Last summer, I took my two sons on a road trip with just the three of us to Texas and then to Florida, making all kinds of stops along the way. On our way back up to Canada, we made a special stop in West Virginia to meet Buddy in person for the first time. We picked him up and went to Washington D.C. and he was away from his home for the night for the first time in many, many years. That experience gave him the travel bug, and earlier this summer Buddy flew into Winnipeg where I was visiting my sister, and I toured him across western Canada. It was great fun to teach someone not only about our geography and culture, but all about our thriving agricultural sector. Buddy has been proofreading my work for many years and has learned a lot about the livestock industry, but to show it to him in person was an incredibly positive experience. It might be hard for people outside of our industry to imagine, but he was thrilled to see his first truck hauling pigs to market!

Buddy’s enthusiasm for everything from our canola crops to our funny looking money really renewed my pride not only in our industry, but in Canada too. I have spent much of my vacation time going to other countries, but hosting a foreign visitor helped me see my own nation with new eyes – and I loved what I saw.

Oh, and a big shout-out to our friends at Magnum Swine Genetics Inc., who are wonderful supporters of this publication, and being located in Fort Macleod, Alberta, they are some of my closest industry neighbours! Although most of us don’t want to announce our age, you should know that Magnum Swine Genetics is now celebrating their 18th year of service. In our last edition, their ads said they were in their 16th year... I know I wouldn’t mind being 16 all over again, but I also admit it’s nice to be of legal age too!

I hope you enjoy the fall edition of Western Hog Journal. You can look forward to some very exciting coverage in our next edition, hitting mailboxes in early January. Until then, here’s wishing everyone had a tremendous fall harvest and a wonderful Thanksgiving with loved ones.

Until next time...

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Canadian Bio-Systems expands NutraMix availability for harvest time

In September, Canadian Bio-Systems Inc. (CBS Inc.) announced it again expanded the availability of its feed quality product NutraMix in time for harvest as a means to provide industry with an important safeguard to ensure high quality livestock feed.

“This is a critical time of year for feed production and livestock sectors,” says Mark Peters, CBS Inc. sales and marketing director. “Having that insurance policy to support high quality feed is of utmost importance. We’re pleased to offer expanded availability of NutraMix to customers across North America and internationally, both directly and through our distribution partners.”

NutraMix offers a powerful one-two punch as a feed enhancer that helps support safe, high-quality feed as well as animal performance benefits. It is available for use with both monogastric and ruminant livestock, including pigs, poultry, beef cattle and dairy cattle.

“It’s about feed quality. It’s about performance. It’s about the right science making a difference, to provide that peace of mind,” says Peters. “With NutraMix, you know the quality is there and the animal is getting the best nutritional value possible from the feed.”

Threats from grain diseases and other potential sources of contaminants present a real concern that fluctuates year-to-year based on the growing conditions and region, says Rob Patterson, CBS Inc. technical director.

“The risk is pretty substantial in a lot of places. No matter where you are it can be tough to predict. The approach with NutraMix is to take away the guessing game and know you’re protected. It’s unique in the marketplace and we see growing demand among feedmills, producers, nutritionists and others in the industry to get that combination of defence and feed value optimization.”

One key component of the CBS Inc. NutraMix system is MycoCheck – a custom feed analysis tool available to NutraMix customers. “Mycobase allows us to analyze samples and come back with precise recommendations on the best use of NutraMix,” says Patterson. “Customers only use what they need and make sure they have the right application level to get the job done.”

NutraMix includes a combination of absorbents, yeast polysaccharides and vitamins, carefully formulated to maximize the complementary activities of these ingredients.

Canadian Bio-Systems Inc. is an innovation-focused company that researches, develops and manufactures a wide range of products used in feed, food, industrial and environmental applications. More information on NutraMix, MycoCheck, and the full lineup of CBS Inc. products is available at www.canadianbio.com

Air powered tattooing for piglet processing

Ketchum Manufacturing, with help from partners has developed a compressed air driven tattooer that attaches to piglet processing carts. The tattooer uses 1/4" (6mm) characters and quickly integrates into barns using compressed air for vaccinations. The recommended pressure range is approximately 90 PSI, and the tattooer operates with a foot pedal that is mounted to the cart.

The idea is to remove the hand strain associated with ear tagging/tattooing large lots of piglets with a herd mark. Early feedback has shown more consistent tattoos with the regulated air pressure in a more efficient manner. This tattooing option allows producers to completely integrate identification of their pigs whether they are exporting as isoweans or finishing at a further facility.

For more information please contact Ketchum at 613-342-8455 or ketchum@sympatico.ca.
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Opening of new state-of-the-art truck wash bay helps to maintain highest level of biosecurity

The grand opening of a new state-of-the-art truck wash bay near Iona Station, Ontario on Friday Aug. 14 will help keep the customers of Bodmin Swine Genetics and their purebred nucleus herd to maintain the highest level of biosecurity.

The new wash bay, owned by Bodmin Swine Genetics, nucleus herd for Alliance Genetics Canada was completed in March 2015. Features include two high-power heated pressure washers, a complete pre-soak and disinfectant foaming system, in-floor heating for quick drying, a negative pressure airflow system, and a separate room for changing and showering with a washer and dryer. The entire property is a traffic controlled biosecure site.

The wash bay is sized 60 feet by 112 feet and will fit any size of truck or trailer.

“We strive to maintain the highest health and biosecurity standards in the industry,” says Philip Smith, partner at Bodmin Swine Genetics. “This state-of-the-art wash bay will allow us to protect the high health of our herds as well as those of our customers. We only sell pigs that meet our high health standards which includes leaving the farm on disinfected trucks.”

The grand opening was held in conjunction with Alliance Genetics Canada’s Customer Appreciation Day and Industry Update. The event featured a variety of informative speakers including Brian Sullivan of the Canadian Centre for Swine Improvement, Margaret May of the Ontario Soil and Crop Improvement Association, Dr. Doug MacDougald of Southwest Veterinary Services and Dr. Darwin Reicks of the Swine Vet Center of Minnesota, USA.

“We value our customers and we continually challenge ourselves to go beyond ‘best’ to make our customers more successful,” says Dave Vandenbroek, president of Alliance Genetics Canada. “Providing an industry update and hosting a grand opening of the wash bay are examples of making our customers more successful.”

CONTINUED ON PAGE 10

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Ag research policy poised to enhance Canada’s prospects on international scene

The Agricultural Institute of Canada’s (AIC) National Policy Conference comes to a close July 14, and Canada’s top agricultural researchers and experts from a variety of sectors have identified clear directions for the future of agricultural research in Canada.

“This is not your average eyes-glazing-over national policy,” said Serge Buy, CEO of AIC. “Canada has the potential to regain its leadership on agricultural research issues. Research helps innovation, sustainability, productivity, safety and this in turn supports jobs, exports and our overall economy. That is what this agricultural research policy is all about.”

AIC invited more than 1,000 academics, research groups, and organizations to provide their input on what should be included in a national agricultural research policy. A summarized document will be available on AIC’s website and to members.

“There is a fundamental disconnect between the importance of agricultural research and the perception that the public has about the need for this research. It’s crucial that we make this reconnection,” said Mr. Buy.

Through a coordinated approach that spanned sectors and included academics from across the country, participants discussed:

- Scientific discovery and application: balancing pure and applied research
- Interdisciplinary partnerships, collaboration and cooperation
- Public-private partnerships

About AIC

Created in 1920, the Agricultural Institute of Canada is a centre of knowledge for science in agriculture. Our mandate is to advocate on behalf of agricultural research, disseminate information on agricultural research, promote careers in agricultural research and create international linkages. Visit www.aic.ca for more information.

Nor-Feed and Agribution announce partnership for Canada

NOR-FEED SUD (Angers, France) and Agribution Canada Ltd. (Steinbach, Manitoba) have formally announced that Agribution will distribute Nor-Feed’s products in Canada.

“We are excited to have a partner like Nor-Feed work with us as we develop our new business in Canada” said Norm Paisley, President of Agribution. “Nor-Feed is a leader in the development and production of natural plant based extracts for animal nutrition.”

“Nor-Feed is looking forward to working with Agribution in the Canadian marketplace” said Olivier Clech, CEO of Nor-Feed. “Agribution is well positioned to help grow our product range and brand within the livestock sectors that they serve.”

Nor-Feed develops, manufactures and markets innovative natural plant based feed additives for the animal production sector. Nor-Feed was created in 2003 and is active in more than 30 countries. Nor-Feed focuses its research and development on a limited number of active concepts in the areas of polyphenols, citrus and saponin based solutions. Nor-Feed will market its products under the Phytovia Brand in Canada.

Agribution Canada Ltd is a new company located in Steinbach, Manitoba that specializes in the sourcing, marketing and distribution of products for livestock
production. Agribution serves the livestock industry through a business-to-business sales channel.

For more information contact Norm Paisley, norm@agribution.com, 1.204.381.9098 or Olivier Clech, olivier.clech@nor-feedsud.fr, 33 (241) 937 456.

Lead Le Roy Concept introduces heat recovery ventilator

Lead Le Roy Concept has developed a heat recovery ventilator (HRV), which can be adapted to all kinds of livestock buildings. The Lead’Air HRV works by extracting the stale, humid air with an exhaust fan and blows it out through a heat exchanger core. A second fan draws fresh outside air through the opposite direction in the core so it is preheated before entering the building. This crucial part of the design allows the two air movements come as close together as possible without recycling exhaust air ensuring the fresh air is not contaminated. The result is an improved climate within the building and reduced energy costs.

The HRV can be integrated with existing ventilation controls or regulated with the optional controller, which has additional features unique for the operation of the exchanger. The exchanger core is made from lightweight, robust material that will not corrode for a long service life. It is also easily accessible from inside the building for cleaning and disinfection so the operator does not have to go outside to service the unit. All these features make the Lead’Air the best value for money on the market. For more information contact Equipements Modernes in Quebec 800-667-2781 or County Line Equipment in Ontario 800-463-7622.

Loblaw planning to close 52 stores in the next year

In July, Loblaw Companies Ltd. announced plans to close 52 unprofitable stores across the country. The announcement came in its second quarter earnings report, and the closures will affect all of its formats such as gas bars, Joe Fresh stores, as well as pharmacies and grocery stores.

The closures are reportedly more numerous than a typical year, but officials said the company strategy isn’t changing. Loblaw’s current portfolio includes more than 2,300 stores and encompasses

CONTINUED ON PAGE 12
such banners as Loblaws, Provigo, Extra Foods and Shoppers Drug Mart. Despite the closures, the company says it is still on track to provide growing employment opportunities and industry analysts believe the move is part of a typical trend to invest in high-performance locations.

**Topigs Norsvin Canada acquires Signature Genes**

Topigs Norsvin Canada Inc. announced on September 14 that it has purchased the swine genetics and business operations of Signature Genes of Ste. Anne, Manitoba. The Signature Genes Duroc herd is a high-health, elite population of high quality Durocs that is well known in Manitoba and western Canada. Established in 1981, this herd has been performance tested for more than 30 years. Throughout these years, the use of the most modern testing methods has been applied. Measurement and selection for backfat, growth rate, feed conversion and meat quality have made the Signature Duroc desirable by both producers and packers.

“The completion of this purchase is the result of several years of planning. The merger of TOPIGS and Norsvin in 2014 brought the Norsvin Duroc line to Canada. Now with the acquisition of the Signature Duroc we will be able to offer two very distinct Duroc lines to our customers,” said Topigs Norsvin Canada general manager Cam McGavin. “As with all of our lines, we will apply the very best methods of genetic improvement and technology to the Signature lines.”

The Signature Duroc boars and semen are currently available at several AI studs in Canada with new opportunities being pursued.

**Sexing Technologies acquires Fast Genetics**

Sexing Technologies, the global livestock reproductive services innovator, announced July 8 it would acquire swine genetics leader Fast Genetics from Hylife with an anticipated closing date of July 21, 2015. The deal will allow the introduction of sex-sorted sperm to the swine industry.

The acquisition will bring accelerated genetic improvement at Fast Genetics by skewing gender ratio in its nucleus farms and through leveraging high-index males to service more females via deep uterine and low-dose semen technology. The sex sorted sperm technology will also allow for significant output advantages throughout Fast Genetics’ multiplication. In the future, Fast Genetics’ customers will be able to purchase semen selected for male or female offspring, thereby having the ability to predetermine gender and tailor their product based on individual production economics and packer relationships. The acquisition of Fast Genetics diversifies Sexing Technologies’ business and expands the scope of its operations into the pig genetics business.

Fast Genetics will continue its dynamic and strategic partnership with Hylife, Canada’s leading pork producer, supplying maternal and terminal genetics for HyLife’s sow herds. HyLife will continue its multiplication commitment by providing Fast Genetics’ high-health gilts to the United States and Canada. Customers will notice little change in Fast Genetics’ commitment and service. Shannon Meyers will continue his executive leadership as the company’s Chief Operating Officer. Throughout the last decade, Meyers lead Fast Genetics through its largest and most successful growth era, expanding its operations throughout Canada, the United States, and into Asia.
“These are extremely exciting times for Fast Genetics customers and employees. Our world class genetics program will see accelerated improvements with the implementation of the most innovative technology in the industry,” said Meyers.

Gregg BeVier, first hired by Sexing Technologies to introduce its sex sorted sperm technology to the swine industry, will become Fast Genetics’ Chief Executive Officer based in the United States. BeVier brings over 30 years of senior management experience, adding significant scientific and managerial knowledge to Fast Genetics’ business.

“Fast Genetics offers excellent health and genetics and we are excited about integrating sexed sperm combined with advanced genomic testing to further improve our products at a more rapid rate,” said BeVier. “The best genetics and health combined with the best reproductive and genomic technologies available will better position Fast Genetics’ customers for the globally competitive environment.”

“The sale of Fast Genetics will allow HyLife and Sexing Technologies to continue offering world class products to the global marketplace,” explains Grant Lazaruk, HyLife’s Chief Executive Officer. “We are looking forward to continuing our efforts in providing the best pork food products in an environmentally sustainable manner, with access to even stronger genetic products.”

Fast Genetics is committed to maintaining its integrated business model approach to genetic selection, but will significantly improve it by amplifying its already expanding genomics platform and including exclusive sexed sorted and low dose sperm technology not available anywhere else in the industry. Sexing Technologies and Fast Genetics are excited about the new relationship and mutual benefits and opportunities that will follow. Sexing Technologies and Fast Genetics look forward to providing even greater value to Fast Genetics’ customers.

**More on Fast Genetics**

Headquartered in Saskatoon, Saskatchewan, Fast Genetics provides highly prolific maternal genetic lines and terminal genetic lines that have unrivaled carcass value, meat quality, and growth characteristics. Fast Genetics supplies the global market with high-health and world-class performing swine breeding stock. To learn more about Fast Genetics visit www.fastgenetics.com

**More on Sexing Technologies**

Navasota, Texas, based Sexing Technologies is best known for its cutting-edge, proprietary process for commercially separating X-bearing (female) chromosomes from Y-bearing (male) chromosomes in cattle, horse, and deer semen for use in artificial insemination and in vitro fertilization, allowing producers the freedom to determine offspring gender. To learn more about Sexing Technologies visit www.sexingtechnologies.com.

CONTINUED ON PAGE 14
Save money with the Vostermans ECplus

Vostermans Ventilation introduced at Space 2015, held in September in Rennes, France, the revolutionary ECplus fan concept. The French market was chosen for the pre-introduction of the ECplus fan concept due to the high demand for energy saving solutions for the installed base (with matching subsidies) in that country.

The new fan is one of the most energy-efficient currently available on the market, thus daily use will provide massive savings for its users. The ECplus fan concept is distinguished by its proven reliability under demanding operating conditions in the livestock industry, as well as by their user convenience. These fans are available in both well-known brands Multifan as well as EMI.

Vostermans Ventilation achieved the high-energy savings by further optimizing the motors and impellers. Above all, by merging the fan with the control unit, the ECplus is optimally calibrated for the motor-impeller configuration. By realizing a lower motor temperature, more energy is saved and the fan’s average life span has been extended. Recent tests of the ECplus at the French research institute IFIP show energy savings above 80 per cent compared to traditional fan systems.

The reliability of the fan system is a key aspect of each branch of livestock farming. After all, failures in the fan system can have disastrous consequences. Based on 60 years of experience in the agricultural applications, Vostermans Ventilation focused the development of the ECplus line on the reliability of their fan systems under such demanding operating conditions. In addition, it is possible to incorporate an optional bypass with the ECplus fans. With the bypass the fan can be switched on manually once the controller fails, for example in extreme weather conditions.

Thermo Fisher Scientific introduces safer, cleaner method to test swine carcasses for Trichinella

A safer alternative to the current pepsin digestion method

Abattoirs and meat packers have a cleaner, safer way to test swine carcasses for potentially dangerous Trichinella at meat inspection – new PrioCHECK™ Trichinella AAD from Thermo Fisher Scientific.

The alternative artificial digestion (AAD) method has been validated and approved by the European Union and is now listed in commission regulation (EC) 2075/2005. “Monitoring the health of animals at harvest helps determine a precursor for food safety,” said Martin Guillet, global head and general manager of animal health at Thermo Fisher Scientific. “Testing for Trichinella at inspection is considered as an essential way to prevent zoonosis. Our solution contributes to this type of testing, helping to ensure the safety of the food source, and is in line with the Thermo Fisher Scientific mission of enabling customers to make the world healthier, cleaner and safer.”

PrioCHECK Trichinella AAD is a reliable alternative to the currently used pepsin-based artificial digestion method, because the test uses a recombinantly produced enzyme from a standardized and secured production facility, ensuring good availability of the enzyme and consistent quality. In addition, it does not use pepsin powder or hydrochloric acid, increasing ease of handling and worker safety.

The Community Reference Laboratory (CRL) for Trichinella in Rome has extensively validated the performance of the PrioCHECK Trichinella AAD Kit and has approved the product as an official method for use in the in vitro detection of Trichinella spp in meat of domestic swine.

Laboratories do not have to change their testing routine since the protocol of the
sample preparation method follows the same steps as that of the currently used pepsin-based method. A piece of muscle tissue is chopped, minced and then digested with digestive enzymes. In the case of PrioCHECK Trichinella AAD, this enzyme is a subtilisin. The digestion solution is filtered, and after sedimentation steps, examined by microscope for the presence of the larvae. All components of the PrioCHECK Trichinella AAD are liquid solutions, and no acid is to be added. Therefore, the risks associated with handling powder or concentrated acids are avoided.

Trichinellosis is a zoonotic disease (can be transmitted from animals to humans) that occurs worldwide and is caused by the larvae of the nematode (roundworm) *Trichinella*. Humans can be infected by eating raw or insufficiently cooked meat. Under the European Commission (EC) Directive No. 2075/2005, all pigs slaughtered for human consumption have to be tested for *Trichinella* spp by artificial digestion.

For more information about PrioCHECK Trichinella AAD, please visit www.thermofisher.com/animalhealth.

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**IDT Biologika acquires Gallant Custom Laboratories Inc., an autogenous vaccine manufacturer in Canada**

IDT Biologika announced August 25 the acquisition of Gallant Custom Laboratories, based in Ontario, Canada. Gallant Custom Laboratories is the only Canadian company authorized by the Canadian Food Inspection Agency (CFIA) to manufacture autogenous viral and bacterial vaccines.

“With its strong scientific focus, in-house research and development and production of autogenous vaccines for the Canadian market, Gallant is an outstanding match for the IDT Group,” says IDT Biologika CEO Dr. Ralf Pfirrmann. “With this second acquisition in North America within just a few months, IDT Biologika is highlighting its expanding commitment to meeting the vaccine manufacturing needs in these key international markets.” Gallant serves customers throughout Canada, particularly to those who provide vaccines to the Canadian livestock and poultry industry.

The company relies on modern in-house diagnostic laboratory facilities to identify viral and bacterial diseases in pigs, sheep, goats, cattle and poultry, and to subsequently manufacture and supply the appropriate autogenous vaccines corresponding to specific pathogens out of its Cambridge-based manufacturing facilities in Ontario. Gallant presently employs twelve people, and will continue to do business as Gallant Customs Laboratories, an IDT Biologika company.

CONTINUED ON PAGE 16
Renewable Nutrients announces the first commercial pilot of its Quick Wash™ process in the animal agriculture sector

Renewable Nutrients, LLC, a firm focused on nutrient extraction, recovery, and reuse, announced on August 12 that it will be piloting its Quick Wash™ phosphorus extraction and recovery process at Walk Stock Farm, a large swine production farm in Neoga, Illinois, in late August 2015.

“This will mark our first in-field operation in the animal agriculture sector, outside of small, bench scale tests in the laboratory,” said Jeff Dawson, president and chief executive officer of renewable nutrients. “We couldn’t be more pleased in the interest that Walk Stock Farm has expressed in finding a scalable, economical solution to recovering phosphorus from their swine waste. The Renewable Nutrients team is eager to test and prove Quick Wash’s effectiveness and practicality for on-farm operations,” added Dawson.

Quick Wash has been successfully piloted at wastewater treatment facilities throughout the mid-Atlantic, including Ephrata, PA, Westminster, MD, and Greenville, Chapel Hill, and Raleigh, NC. The upcoming pilot at Walk Stock Farm represents the first time Quick Wash will be tested and utilized to extract and recover phosphorus from animal manure in a real-world, on-farm scenario. “We have been following Renewable Nutrients’ rollout of their Quick Wash technology within the waste water treatment industry, and we feel that it’s a very promising solution for reducing and recovering the phosphorus loads in our hog manure,” said Roger Walk, president of Walk Stock Farms. “If Quick Wash can extract an acceptable level of phosphorus from our manure, we feel we will have a very sustainable — perhaps future-proof — solution for managing our manure and transporting and spreading it on our crop fields. We are excited to host this first animal agriculture-specific pilot of the Quick Wash system, and we look forward to seeing it in operation and reviewing its performance,” added Walk. Animal and plant growing operations throughout the country (specifically in areas close to or leading to fragile watersheds) are under increasing pressure to employ best farming practices that eliminate or lessen nutrient runoff from crop fields where manure has been applied. Given a tool (like Quick Wash) to extract and recover phosphorus from animal manure, farmers can spread the resultant low or no-phosphorus manure without fear of phosphorus runoff or soil saturation. Quick Wash also provides farmers with a means of selling the extracted phosphorus on the open market or engaging in the trading of nutrient credits.

SEC REPRO Inc. introduces the SV1 Wireless Ultrasound

Now pregnancy ultrasounds can be conducted on sows without having the probe cable in the way, and without the risk of cable breakage. The wireless ultrasound weight is just 200 grams, and the battery life is three hours. It is a 3.5 MHz probe with a variable depth of 100-180 mm, with a freeze button. It can also review last few seconds of scanning. It is connected to a mini IPad and includes a case with straps to ensure hands are free for working. SEC REPRO Inc 1-888-446-4647 info@secrepro.com www.secrepro.com
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Farm Credit Canada renews support for 4-H Canada

4-H Canada and Farm Credit Canada (FCC) are happy to announce the extension of FCC funding to 4-H Canada to 2018. FCC’s annual 4-H Canada funding commitment of $250,000 supports national, provincial, and club level programs and initiatives, including the popular FCC 4-H Club Fund. The announcement was made at 4-H Canada’s Annual General Meeting on Friday June 12, 2015.

4-H Canada and FCC have much in common, particularly their efforts to foster a thriving agricultural community in Canada. Their partnership over the past 25 years is therefore easily understood. 4-H Canada’s goal of helping young Canadians “Learn To Do By Doing” in a safe, inclusive, and fun environment has been supported greatly by FCC through the life of the 4-H FCC Club Fund and other funding initiatives.

For Canada’s leading agriculture lender, nurturing responsible, engaged, and confident leaders who are committed to positively impacting their communities across Canada is a win-win outcome.

“We are grateful for the support that our partner FCC has contributed to the 4-H movement in Canada for the past quarter century,” said 4-H Canada CEO, Shannon Benner. “As our most generous corporate partner, we have truly built something special and long-lasting for 4-H clubs across Canada. The positive outcomes and tangible benefits can be seen across the country.”

Stalosan delivers powerful punch to PEDv

PEDv, a viral disease to which suckling pigs and newly weaned piglets are particularly vulnerable, now looks to have a powerful opponent.

Researchers at the University
of Minnesota have shown that Stalosan is particularly effective against PEDv.

PEDv has caused significant losses for a number of years in the United States, China and eastern Europe. Although it is now tapering off in the U.S., the status remains unchanged in China and Eastern Europe. In order to evaluate the possibilities of limiting this disease on an international level, Vitfoss decided earlier this year to have researchers look at whether Stalosan, already known for being effective against PRRS virus as well as Salmonella- and Lawsonia bacteria, has any effect against PEDv. Results from a series of lab tests at the University of Minnesota show that Stalosan has a significant effect on PEDv.

"The results obtained by the researchers are extremely interesting. So it is significant that Stalosan appears to have a particularly good effect, as it almost completely eliminated the PEDv virus in trials. According to the trials it is 99.9 per cent effective," says Ivan Gospodinov, who oversaw trial design in cooperation with the University of Minnesota.

The clear messages from American researchers mean that Vitfoss is now gearing up to market Stalosan and the product’s efficacy to prevent and fight PEDv in those areas of the world where the disease remains a problem. PEDv results in reduced appetite, diarrhea and vomiting.

"PEDv is a major problem in many countries, so we now want to drill down on getting the news and the product out to the affected areas and to minimize spread of the disease," says Dr Ivan Gospodinov.

Danish veterinarian Pia Conradsen, from Svinevet, applauds the new results. "In addition to the fact that infected pens need to be immunized, step two is then to reduce infection pressure. This is where the results from the Stalosan tests are immensely interesting – until now we did not have any effective agents against it," said Conradsen, who also stressed that it is important to reduce infection pressure on infected properties, just as it is critical to limit risk of spreading the infection during transport between pens.

For more information contact Morten Jakobsen: morten@protekta.ca 1. 519. 357 .8454

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Results from the University of Minnesota, from professor of virology Sagar M. Goyal. August 2015.

CONTINUED ON PAGE 20
Research shows benefit of Ralco’s Regano

Numerous research studies have shown the benefits of using Ralco product Regano®, a feed flavoring agent combining essential oils and prebiotic fiber, with sows and nursery pigs. Recently a research study conducted by Purdue University with Regano®-fed grow-finish hogs and a typical antibiotic control was presented at the Midwest Animal Science meeting. The results of the study demonstrated that Regano® significantly increased gain and feed:gain of finishing hogs.

The university research showed the group fed Regano® significantly outperformed the antibiotic-fed group on daily gain and feed:gain during weeks 15-18. Feed:gain numerically improved by 0.2 during weeks 18-21 when feeding Regano®. Overall, pigs fed Regano® gained an average of 2.57 lbs. more than the antibiotic-fed group. Also, overall feed conversion improved 0.22 for pigs fed Regano®.

The Purdue University study showed that statistically significant differences in average daily gain (ADG) and feed:gain were achieved though the Regano®-fed hogs had a lower average daily feed intake. The results of the research trial demonstrated that hogs fed Regano® gained more and consumed less feed.

“We appreciate the research conducted by Purdue University, which reinforces previous studies that have been conducted around the world to determine the effects of feeding Regano® on swine performance. At Ralco, we strive to develop technologies that naturally promote production. This study supports our approach,” said Dr. Jim Hedges, head of the Ralco Nutrition swine technical team.

Regano® is a product of Ralco, a third-generation family owned multinational company with distribution in more than 30 countries. A leading global provider of livestock nutrition, animal health products and crop enhancement products; Ralco supports large segments of the livestock, poultry, aquaculture and crop industries.

Osborne introduces new heat pad indicator light for Stanfield pig heating pads

Osborne Industries, Inc., a leading manufacturer of swine management equipment, introduced in August an all-new electric indicator light for the company’s signature Stanfield pig heating pads. The patent-pending indicator light provides visual confirmation that heat pads are operating properly and providing crucial heat to newborn piglets in farrowing or growing pigs in nurseries.

Unlike other heat pad indicators, Osborne’s product features two LED lights. The unique two-light system shows that electrical circuits are functioning properly, and that heat pads are drawing electricity and providing the necessary heat for young pigs. The addition of the heat pad indicator to Stanfield heat pads eliminates the need for infrared temperature wands or physically inspecting individual pads to ensure they are operating properly.

Developed by Osborne engineers, the system mounts on standard, single-gang electrical boxes at 120 or 240 volts and is easily installed by a certified electrician. The LED lights remain consistently bright, regardless of variable watt power. This means if the temperature of a heat pad is controlled by a ramping controller to compensate for the reduction in heating required for piglet development, the LED lights remain consistently bright and visible, even as power is reduced to the pad.

The heat pad indicator light is a powerful diagnostic tool.

“For more than 40 years, producers have recognized Osborne’s Stanfield Heat Pads as the safest and most reliable method of providing under-body heat to baby pigs,” said Osborne’s engineering manager, Brent Brown. “The reliability of the Stanfield brand is further solidified with the addition of this new product. Farm personnel will now have a visual way to reaffirm their heat pads are operating properly.”

The heat pad indicator light will alert producers to
Farrowing stalls requiring attention, so piglets are never without heat.

For more information on Osborne's new heat pad indicator light, or Osborne's complete line of pig production equipment, please call 1-800-255-0316 (1-785-346-2192) or visit www.osbornelivestockequipment.com.

**Trevor Elyk joins Genesus Inc., as general manager – Canada**

Trevor recently was a farm management consultant with MNPLL (formerly Meyers, Norris, Penny) a major tax, accounting and business advisory group. At MNP, Trevor worked with all aspects of the agricultural industry, including intensive livestock, crop production, grain marketing, and consulting to primary producers. He has worked intensively in the hog industry with organizations such as Canadian Pork Council, Manitoba Pork Council, Maple Leaf, Olymel, and large hog producers across Western Canada. His problem-solving techniques and ability to establish strong client relationships give him the confidence and knowledge to find the best solutions for today's agriculture operations.

Trevor began his education with a Bachelor of Science degree in Agribusiness from University of Manitoba, and subsequently earned his Professional Agrologist Designation, and Designation in Supply Chain and Transportation Logistics Management, and Certificate in Logistics.

Prior to joining MNP, he started his career as a customer service representative for Agricore United where he managed inventories, sales, budgeting, contracting, and building relationships with producers. He moved onto the merchandising, transportation and logistics department where he established and communicated programs, and developed procedures that were used to purchase and ship grain. He worked with the Canadian railways to establish policies and guidelines in shipping grain.

“With Trevor’s strong Ag-business knowledge and experience, he will be a great addition to the Canadian team,” said Jim Long, president and CEO of Genesus.
The Statistics Canada mid-year inventory report showed that the Canadian sow herd increased July 1 by nearly one per cent compared to last year. That increase amounted to about 10,000 head this year compared to last year. The eastern sow herd increased by about half a percent while the western herd increased by 1.3 per cent. Within the west the change in sow herd year over year is particularly interesting. The Manitoba and Alberta herds were up by half a percent while the Saskatchewan sow herd increased by an impressive five per cent. The BC herd was flat. In terms of raw numbers the Manitoba herd eked out a 1,600 head increase while the Saskatchewan herd increased by nearly 5,000 head. Alberta added another 500 head. Essentially Saskatchewan added almost half the sows gained in the entire country.

It is likely no surprise that Saskatchewan, with its 100,000 head sow base, is the only area of Canada that has seen any material growth. The Manitoba government has had its thumb on the hog industry in Manitoba for nearly a decade. While the moratorium is said to be over, its impact and fallout continue to drain the province of its potential. Saskatchewan is the logical location to benefit from the Manitoba policies.

Another point that is of note with regard to the sow herd is the degree to which the herd has declined from its peak. That is, the peak of the Canadian sow herd occurred in January of 2005. As of July 1 this year, the Canadian herd is a full 25 per cent lower than that January 2005 inventory tally. The Ontario herd is down 30 per cent from that 2005 peak while Quebec is down 24 per cent. It is interesting to note that even with Quebec's lucrative subsidy program, the herd is still down by that amount. Across the prairies, the Manitoba and Saskatchewan herds are down by 14 per cent and 21 per cent respectively this year compared to the 2005 peak. For its part the Alberta herd is down by 31 per cent from the peak while BC, with its less than 9,000 sows is down over 50 per cent.

Olymel to begin construction of first of five sow barns in Quebec

Fermes Boréales is a Olymel-lead project comprising five collectively-owned sow barns. It involves a partnership between Olymel, cooperatives in La Coop Network and independent pork producers, says Cooperateur.coop, May 21, 2015.

During August Olymel obtained its permit allowing construction of its first of the five sow barns in the
Témiscamingue region of Quebec. The company expects to begin construction by the end of September. The actual location of the first sow barn is near a small town about an hour north of Témiscamingue in Ville Marie. It is right at the Quebec-Ontario border near the beginning of the Ottawa River. This barn as with the others will house 2,360 sows. Another two are planned for 2016 and the final two in 2017. According to Cooperateur.coop, the final tally of nearly 12,000 sows will produce weaners that go to “forty finishing farms belonging to partners in the group sow barns project.”

According to Canadian Pork Council (CPC) tabulations, Quebec has slaughter capacity of about 177,000. Of the ten federally inspected plants in the province, Olymel owns three with a combined capacity of 82,000. In the meantime, weekly kills in the province are typically running about 165,000 on non-holiday weeks, for a capacity utilization rate of about 93%. That capacity utilization rate is very healthy, but of course about 20-25,000 head of those 165,000 come from Ontario. The Quebec based utilization rate is just about 80%, which is not a healthy rate. Given its size and the fact that it is not directly vertically integrated, Olymel stands out as a packer that is particularly facing underutilized plants.

Eventually the Olymel sow production project will generate another 5,000-5,200 head per week which will help the company’s capacity situation. Nevertheless unless there are serious additions in Quebec, Olymel and the one or two others that are active in Ontario will continue to need another 15-20,000 from Ontario.

Ontario pressured for hook space

The situation in Ontario is the opposite of Quebec. In Ontario, the CPC estimates that total federally inspected capacity is 71-72,000 head, with Conestoga in Breslau at 28,000 and Sofina in Burlington at 43,500. In addition to the two federal plants, there are many provincial plants that kill about 7,000 in total. That federal capacity compares to 95,000 head per week at the start of last year before the loss of Quality (30,000) and Mitchell (6,500), and before the
13,000 head expansion at Conestoga.

Most weeks in Ontario slaughter runs about 71-72,000 head. In other words the province’s federally inspected plants are running at or near full capacity. According to StatsCan data, there are about 42,000 finished head per month moving out of Ontario to the United States. The volumes going to the United States are about two times the volume that was going prior to the Quality closure.

As such, in addition to the 20-25,000 per week going to Quebec, there are another 10-12,000 head per week going to the U.S. While the underutilized capacity situation in Quebec is unhealthy for the plants, the movement of hogs out of the province in Ontario is unhealthy for producers. Hog farmers cannot look to expand or even look to market current levels with confidence given the capacity situation. While producers benefit from companies like JBS, Tyson and a few smaller companies taking Ontario hogs, it is not enough to build assurance to expand herds.

Of course there is reason to be hopeful regarding the new plant in Michigan. There will be a plant built by the Clemens Food Group (Hatfield) and 12 producers from Michigan, Ohio and Indiana. It will be open likely by the fourth quarter of 2017 and will be able to handle 10,000 per day. That plant is potentially good news for Ontario producers but there is really no guarantee they will need Ontario hogs.

Mid-Year pork demand

AgCanada’s Red Meat Section calculates that Canadian pork consumption is up by over 20 per cent during the first half of the year compared to last year. It is not surprising that pork consumption is up compared to last year given the PED depleted North American supplies. Prices were also much higher last year, which impacted consumption as well. It is also not surprising that pork consumption is up this year given the dearth of beef production and the resulting sky-high beef prices in Canada. Pork is being substituted for beef in meat cases and menus across Canada.

It is also noteworthy that Canadian pork prices, fresh and processed, are up 9 per cent during the first six months of this year compared to last. That means that pork consumption is up materially despite a substantial increase in pork prices.

Combining the increased consumption with the increased pricing leads to the conclusion that there is a good news story to tell with regard to pork demand. After many years of declining demand for pork in Canada, during the last two years at least, there appears to have been a turnaround. Not surprisingly the demand situation in the United States is also showing good strength after years of weakness as well. Strong demand provides support for pricing throughout the pork supply chain from retail through weaner pigs.

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

For nearly 15 years, the Manitoba hog industry has been fighting a battle of survival against its own government  By Sheri Monk

Trying to figure out what’s happened to Manitoba’s pork industry at the hands of its own government is a lot like trying to solve a murder mystery.

“The government has been saying all along that it’s because of water quality issues,” said Mike Teillet, manager of sustainable development for Manitoba Pork. “There was just never any evidence that we were in any way a major contributor to the problems of the lake, so it could never have been that – especially given all of the laws and regulations that came.”

In the beginning

To even begin to understand, one has to travel back to 1999 when the provincial Progressive Conservative government was ousted by the NDP – who still reign today. In the same year, just a few months before the election, Maple Leaf opened a new pig processing plant near Brandon, Manitoba with a weekly capacity of 90,000 head on a two-shift schedule.

In early 2000, the very beginnings of the eventual moratorium could be seen when the government introduced

CONTINUED ON PAGE 26
the Livestock Stewardship Initiative and the implementation of the Livestock Stewardship Panel. A report was released in December of the same year that decreed the hog industry sustainable, but with better enforcement of existing regulations and some minor regulatory changes.

However, despite the report, in 2004 the government introduced Bill 40, which introduced new regulations for livestock production in the province. After much opposition, including from the Manitoba Pork Council – the bill was withdrawn, but many of its features were blended into a different piece of legislation anyway. This new Planning Act made significant changes to livestock production in Manitoba.

The Lake Winnipeg problem

Shortly afterward, the Phosphorus Experts Committee released a report in 2006 largely exonerating the pork industry of being a major contributor to the blue-green algae crisis plaguing Lake Winnipeg. Nearly six million people reply on the health of the lake, and its algae blooms are considered the worst of any freshwater lake in the world. The government was under tremendous pressure to do something about the problem, but the lake is unique in that not only is it huge – the 11th largest freshwater lake in the world – but its watershed inflow area is massive. As a result, Lake Winnipeg is very prone to eutrophication, (the enrichment of minerals such as nitrogen and phosphorus) from its inflow sources, including the Winnipeg River, the Red River and the Saskatchewan River.

The first of the “pauses”

Despite the findings of the report, in 2006 the government tasked the Manitoba Clean Environment Commission with reviewing the sustainability of the hog industry in Manitoba. At the same time, the government informed the industry a “pause” would be enacted prohibiting the expansion of hog barns – but only until the report was released. Meanwhile, the Lake Winnipeg Stewardship Board released a report on reducing the nutrient load into Lake Winnipeg and the livestock industry played a very minor role.

I think the water quality issue was just perhaps a way for them to hide behind something tangible as opposed to a general dislike of the industry. ~ Mike Teillet, Manitoba Pork

“Whenever we have suggested that they’re singling us out they always say, ‘No we’re not, we’ve also been bringing in various other regulations for other industries.’ I think that’s probably true, but they certainly seem, to some extent, to have gone after the hog industry... especially considering many of these regulations don’t even apply to other livestock sectors let alone other sectors of the economy,” said Teillet.

The Clean Environment Commission’s report was released in April 2008 and again, it was determined that Manitoba’s hog sector could be viable with some adjustment.

A slap in the face

The pork industry was relieved to read the report, and was subsequently shocked to learn the pause had been extended, and Bill 17, an amendment to the Environment Act, which banned hog barns in all or parts of 35 municipalities, was introduced. Despite vocal opposition from multiple stakeholders, the bill was passed in October of 2008.

Although multiple reports had found the hog industry could be sustainable with modification and its low profile role in the Lake Winnipeg problem, the government hired an expert to delve into the province’s hog industry. Meanwhile the “pause” was still in effect as the newest report was being compiled. After its release, the government introduced Bill 46, the Save Lake Winnipeg Act, banning new hog barns across the province.

Speculation

The move to ban all new barns stunned the industry, and while no one is sure why the government seemed to be so anti-hog, Teillet says there has been a lot of speculation.
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“I think in general they don’t particularly like the hog industry for a variety of reasons and that all relates to things that people call corporate farming and factory farming, and all these things that I think many people consider that the hog industry represents. And there’s the animal welfare issues that people often point to like gestation stalls,” said Teillet. “And so I think the water quality issue was just perhaps a way for them to hide behind something tangible as opposed to a general dislike of the industry.”

Negotiating

After the ban, the Manitoba Pork Council repeatedly engaged the government trying to come up with solutions to allow the hog industry to survive. With a new state-of-the-art processing plant at stake, producers didn’t want to see production in the province drop so much that the plant wouldn’t be viable in the future.

Discussions with the government encompassed environmental mitigations to determine what would be “as good or better than” anaerobic digestion, according to Teillet.

A tentative agreement was reached by the fall of 2012, but for unknown reasons, the dialogue faltered and wasn’t reinitiated until 2013. The government promised resolution by Christmas 2013, but by December 2014, the Manitoba hog industry didn’t seem any closer to clarity. Progress seemed to have stalled entirely until June 24, 2014 when the Manitoba Pork Council received a phone call out of the blue that an open letter about the government’s position on the moratorium was going to be printed in the next day’s edition of the Brandon Sun.

“That announcement made in the Brandon Sun… that was quite a shocker,” said Teillet. “They came up with a whole bunch of new things that we had never heard of before or seen before, so that got us into another round of negotiations trying to first of all understand what they meant.”

Essentially, the open letter that was published introduced a pilot project that might allow some new barns to be built – if the requirements could ever be deciphered well enough. Teillet said they asked several times for the requirements in writing, which led to a series of meetings that ultimately revealed the requirements hadn’t really been determined yet in a practical sense. Manitoba Pork Council agreed to generate a protocol for the pilot expansion process, which was finally accepted April of 2015 – nearly a year after the open letter was published in the newspaper.

The aftermath

It’s hard to estimate what effect the government’s “pauses” have had on strangling the hog industry in Manitoba, but the Maple Leaf plant in Brandon is not operating to capacity. Teillet says officials were told that grassroots production would decline during the moratorium as producers exited the industry.

“As it turns out the plant is now running anywhere from about 60,000-70,000 pigs a week. That means they’re down anywhere from 20,000-30,000 a week, which is significant,” he said. “There’s something like 28 separate laws and regulations that have been passed since the NDP came into power, and not all specific to water quality, but all of those 28 had a significant impact on the hog industry.”

Despite several years of terrible prices and the stagnation of the industry caused by the government, producer interest in expansion is still strong – though not a lot is likely to happen until next year.

“I think there are going to be some people building. We estimate the approval process will take six to eight months,” Teillet said, adding that some producers have likely invested some of that time already trying to get their ducks in a row to build. There is no carte blanche for the pilot either – for instance, there are no new builds permitted east of the Red River. Additionally, many rural municipalities have their own hoops for producers to jump through.
through in order to expand or build. Times have changed as well and producers will be building differently than they would have even five years ago. Group housing requirements, and a new building code for barns that never existed before will also come into play as plans are being drawn.

“We think there will be people building new. I’ve probably been getting three to four calls a week since this announcement came out from interested guys. There’s interest there and there’s a pent-up demand because no one has been able to build – and now they may be able to,” Teillet said.

**Financing the future**

Another challenge the industry faces – not just in Manitoba, but across the nation – is that of securing financing from lending institutions. The earnings average over the last number of years aren’t enough to get the banking sector excited, and when barns have sold, they haven’t sold for very much. That can make it very difficult for producers to secure the loans they need in order to grow.

“It’s very capital intensive, and the other thing is since no one has built a barn for a while – we’re not even quite sure how much it’s going to cost. We’re hearing all sorts of numbers, but we’re anticipating we will have a few guys that will dip their toe in the water and go for it,” Teillet said.

**What’s next?**

It’s been a long fight, and there are no guarantees that the pilot project will endure forever. Considering the arduous opposition producers were up against, it’s a tremendous vote of confidence that there is any desire to build new barns. And without a doubt, the additional regulatory burden Manitoba producers will shoulder will be another hurdle to overcome.

“We believe we are the most tightly regulated hog industry in North America,” Teillet said.

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**Western Swine Health Network steps up to keep disease out**

By Geoff Geddes

Okay, so it doesn’t exactly roll off the tongue, but since it was rolled out earlier this year, the Canada-West Swine Health Intelligence Network (CWSHIN) has given the pork industry plenty to talk about. And that is, after all, its primary goal.

“It's a network of veterinarians and producers that share health information for the betterment of the industry,” said Dr. Chris Byra, manager of CWSHIN. “In doing so, it gives us an understanding of current problems and how to deal with them.”

As Byra explained, the network actually has two parts.

“We start by surveying vets to determine the most pressing swine health issues. Then each quarter, we hold a teleconference to discuss problems and possible solutions.”

From there, a report is compiled and distributed to producers that informs them what to watch for in protecting their herds. With Ontario and Quebec compiling similar data, the three regions hold national meetings where they compare notes and get a grasp of the big picture.

“That's really important as we have breeding stock moving between eastern and western Canada,” said Byra, “and the potential exists for health problems to move with them if left unchecked.”

“Originally, the Canadian Swine Health Board (CSHB) funded a project to develop a national surveillance network,” said Byra. “Unfortunately, there was a lack of support for the network nationally, but the four pork boards in Western Canada (B.C., Alberta, Saskatchewan and Manitoba) recognized the value in such an undertaking and saw CWSHIN as a chance to keep it alive.”

At present, funding is being provided by the four western pork boards. As the executive director of one of those boards, Darcy Fitzgerald with Alberta Pork sees CWSHIN as a sound investment.

“Addressing potential disease issues through surveillance processes that help identify trends, connect veterinarians to their colleagues and protect the swine herd is a win for the whole industry,” said Fitzgerald, “so we’re hopeful that the four western provincial governments will also be part of the funding model shortly. Collaboration with the chief provincial veterinarians and our practicing western swine veterinarians is central to achieving success.”

For Andrew Dickson, general manager of Manitoba Pork, the timing couldn’t be better.

“With the scale of barns today, it’s so important to get on top of diseases before they spread,” said Dickson. “Back when most farms were maybe 200 sows farrow-to-finish, they could contain problems, but now that 1,000 sows and their offspring are not uncommon, the impact is much greater on the industry as a whole.”

As a result, it’s more important than ever for producers to be up to date on swine diseases, allowing them to have meaningful discussions with vets on how to safeguard their herds.

"When farmers are informed, it’s easier to make the economic case for doing what needs to be done to minimize disease impact,” said Dickson. “Whether it’s replacing equipment, having special areas for sorting animals or quarantine systems for new stock, the more you understand how disease works, the more likely that you’ll employ the technology needed to protect your business.”
If you build it, will they come?

Like any large undertaking, the formation of CWSHIN was not without its challenges.

“The biggest hurdle we faced in launching CWSHIN was getting a grassroots movement to adopt surveillance as a necessary tool in building intelligence around animal health and disease prevention,” said Dr. Egan Brockhoff.

A prominent swine veterinarian and owner of Prairie Swine Health Services in Red Deer, Brockhoff worked with Byra to help build CSHIN and later the western version (CWSHIN).

“We are as far ahead as anyone in the world on this. ~ Dr. Chris Byra

“It has taken us eight years from the day we started provincial pilot projects to move into a national project with the CSHB and then back to a regional model,” said Brockhoff.

Over the last four decades, North America has seen four emerging swine diseases. According to Brockhoff, circovirus was the one that sparked the interest of swine vets and some producers in health intelligence from a broad point of view rather than strictly a local one.

“That’s when health surveillance started to blossom, and it really bloomed in 2012 with the arrival of PED in North America. Finally, everyone from the grassroots up realized how important it was to identify early emerging diseases regardless of whether they are reportable.”

Fitzgerald is pleased with the speed at which things came together in forming the CWSHIN process.

“Less than one year ago, the industry said ‘here are some things we need to accomplish, so let’s do it; let’s set a timeframe and put the resources in place to protect our industry.”

“Working as a team, we can achieve much more than tackling swine health issues alone,” said Fitzgerald. “We need to think of CWSHIN as a smoke detector that warns us of potential problems. If the alarm doesn’t sound that is a good thing. But if it does, we can react much faster to address it.”

Technically speaking

Of course, in the absence of reliable data to support it, an intelligence network is like the nerdy kid who’s dateless for the prom: All dressed up and nowhere to go.

That’s where Dr. Brockhoff came in. Through a company called SDS of which he’s part owner, Brockhoff provided

CONTINUED ON PAGE 32
technology for CWSHIN to collect the surveillance data so critical to achieving its goals.

Refining their “App”roach

If you don’t think there’s an app for everything these days, you haven’t tried “Annoy a Teen”, which plays high frequency sounds that only teenagers and dogs can hear. A far more useful app, however, was recently developed by Byra and several veterinarians to improve the precision of CWSHIN.

Funded by producer associations in western Canada and Agriculture and Agri-Food Canada, the app allows vets to enter health information after a barn visit or discussion about a farm health or production issue. It’s fast (1-2 minutes), easy and offers immediate results, providing a heads up when problems arise.

With the new app, vets can quickly go online when they spot an issue and see in real time if it’s occurring at other farms in the area.

“The network will provide earlier knowledge of emerging problems,” said Byra, “allowing steps to be taken to prevent the spread of disease.”

Perhaps most importantly for producers, all the information on the app is confidential, supplying disease data for different regions without identifying specific farms.

Since the app launched in July, half of the vet practices in western Canada, representing 70 per cent of the pig population, are beginning to use it.

“What got me charged about this project was the ability to identify key disease issues and compile a lot of powerful information on them for vets and ultimately producers,” said Byra. “It will allow us to really focus research dollars from industry and government on areas most valuable to producers and improve herd health in the long run.”

Leading the charge

Just as the app is on the cutting edge of technology, CWSHIN is at the forefront of a global trend in battling livestock disease.

“We are as far ahead as anyone in the world on this,” said Byra. “The United States ran two-year projects in Texas and New Mexico that were multi-species and are now being spun out into 13 states. They use almost identical information to what we’re gathering here, and similar things are happening in Europe. It has become a cost-effective way to do surveillance.”

Brockhoff sees benefits on both a farm and industry level.

“As a swine vet, surveillance is all about providing me with knowledge and intelligence to help me better protect the health of herds I work with.”

“At the same time, it’s about creating a sustainable, profitable and healthy swine industry for Canada.”

Just as communication was the impetus for CWSHIN, Brockhoff sees it as vital to the network’s continued success.

“All of the health networks - western, Ontario and Quebec - can be strong individually, but for each to be successful in the long run, they need to talk to each other through CWSHIN and create a national direction; one hand needs to know what the other is doing. With an American network now starting, we have a chance to create continental knowledge around disease awareness and prevention, and that’s very exciting.”

Maybe talk is cheap in some circles. But for pork organizations, vets, government and producers fighting to keep their herds healthy and businesses afloat, it’s priceless.
The national sow housing conversion project

Submitted by Y.M. Seddon, M. Fynn, C. Xiang, M. Elliott, L. Connor, L. Whittington and J.A. Brown, Prairie Swine Centre

The National Sow Housing Conversion Project (NSHCP) is designed to help Canada’s swine producers to respond to ongoing changes in the industry related to group sow housing. By compiling the best information available on group housing and working with producers on demonstration projects, the project will aid producers in meeting this challenge in an efficient manner.

In 2007, the largest pork producers in the U.S. and Canada pledged to transition their sow housing to group systems over the next 10 years. In 2013, EU countries implemented a ban on the use of sow gestation stalls after four weeks gestation. These trends and recent changes to the Code of Practice have placed Canadian producers under pressure to convert existing gestation stall systems to group housing. With over 60 per cent of Canadian pork going to export markets, the future strength of the industry depends on maintaining and increasing access to global markets.

There are major concerns surrounding the conversion from stalls to group housing. The process requires a large capital investment, there are a variety of systems available, and the ‘right’ system will vary depending on capital available, herd size, barn layout and management style. Within the Canadian industry there is relatively little knowledge or experience on the management of sows in group housing. Group housing systems are categorised primarily according to the feeding system, with ‘competitive’ and ‘non-competitive’ systems being the two main categories.

Most group systems require more space and different management skills than stall housing, but overall labour inputs are reported to be similar. Without proper support and advice during this transition, there is the potential for substantial losses in herd productivity, a decline in sow welfare and potentially an overall reduction in the Canadian breeding herd as producers make this change. The National Sow Housing Conversion Project (NSHCP) brings together industry and scientific expertise to produce a comprehensive national strategy, involving demonstration farms and technology transfer, to support and inform Canadian pork producers in this conversion.

Developing resources for producers

The NSHCP is a descriptive project with the practical aim of generating information that will increase producer’s

CONTINUED ON PAGE 34
confident when considering and implementing group sow housing. This is being achieved through several key activities:

**Development of information resources on group sow housing**

Factsheets and articles (Science of Ethology) have been developed based on research and extension work describing the advantages and disadvantages of different group housing systems and principles that promote ease-of-management, sow productivity and welfare. These materials are distributed at producer meetings, through provincial pork organisations and are available at prairieswine.com.

**Development of barn conversion plans**

Four barn sites are being identified across the country and are in the process of converting to groups. The NSHCP will work with these producers to develop conversion plans aided by the University of Manitoba's Swine Housing Conversion Design Utility (SHCDU), a computer software program designed to model different group housing systems and estimate sow numbers and conversion costs. Once sites are confirmed, the conversion is documented through questionnaires, interviews, farm visits, photos, and videos taken before, during, and after the transition. As well, producers are asked to provide production data and cost data. In addition to the four primary barn conversions, up to ten other barns that are already managing sows in group housing will be documented across the country. Less intensive data will be collected from these sites, including questionnaires, interviews, photos, videos, and barn visits. These additional sites will be used to demonstrate a wider variety of design choices, and highlight the necessity of developing a system that works with the individual barn design, budget, and management style.

**Technology transfer: disseminating barn conversion information**

Communicating the results to producers interested in converting to group housing is one of the main goals of the NSHCP. Results are being presented through workshops and producer meetings, a bi-annual newsletter, and the development of a website that will contain the full documentation of the four conversions, secondary sites, general, web links and contact information for further information and advice. The working group will remain active through the four year project, and will continue to have meetings throughout the project.

**Refining the University of Manitoba barn conversion computer model**

Two pilot sites were used as case studies for testing the Swine Housing Conversion Design Utility (SHCDU). Over the course of the project, numerous improvements have been made to the SHCDU based on limitations that were identified through the use of these case studies.

**Development of a national working group**

The National Sow Housing Working Group (NSHWG) was formed, consisting of producer groups, industry representatives and scientists from across the country. The goal of the NSHWG will be to advise and coordinate the long term NSHCP. Having a national working group to coordinate future projects will ensure that producers...
across the country have access to similar information and the best possible advice regarding barn conversions.

**Results**

Based on data from the University of Manitoba, CDPO and NSHCP, cost estimates for barn renovations range from approximately $300 to over $1,000 per sow, depending on the system selected, condition of existing facilities and availability of labour on-farm. Investment in flooring, pits and penning are the most costly items. Renovation costs per sow also depend to a large extent on the number of sows that can be accommodated.

On a cost per square foot basis, competitive feeding systems such as floor feeding or short stalls are the least expensive option. This is due to the ability to re-use existing feed lines and stall fronts. However, the longer term costs such as increased management inputs and potential for production losses due to competitive feeding should also be considered. Transition costs, such as the transfer of sows to another site during the renovation period, are not included in most estimates, and have been estimated at an additional $75-100/sow.

Some areas for improvement and cost saving have been suggested. If existing floors and pits can be used, this can result in significant cost savings, however, flooring can also have a great impact on sow lameness and productivity in groups. Existing stall flooring is generally unsuitable for loose housing. While slat and gap widths have not been studied scientifically, the general recommendation of having gap widths no greater than 20mm has gained wide acceptance in the EU and with ESF manufacturers.

The National Sow Housing Conversion Project (NSHCP) is designed to assist pork producers looking to make the transition to group sow housing as smooth as possible. If you are a producer looking to make the transition to group sow housing prior to 2017, the NSCHP is still looking for two locations to participate in the NSHCP. For more information on this opportunity please contact the Prairie Swine Centre.
Industry News

Summer at Alberta Pork is never boar-ing
Submitted by Geoff Geddes, Alberta Pork

Bad puns aside, a lot of good things are happening at Alberta Pork as summer winds down. Like a pig on a spit, we've been heating things up and making progress at every turn.

Ring around the province
I'm not sure which to be prouder of: Our producers for remaining PED-free or myself for introducing Dr. Julia Keenliside at our town halls for two years and never stumbling over “veterinary epidemiologist”.

Our latest call focused on BC Pork's new bio-containment plan with co-author and project manager Heather Carriere. In just 12 months, BC Pork worked with government, producers and industry partners to devise a comprehensive checklist of what to do and who to contact when disease invades your farm.

Alberta Pork is working on a similar plan as a follow-up to our biosecurity assessment that many producers have already used to help protect their animals. Watch for complete information coming soon or contact Javier Bahamon at our office to learn more.

Disorder at the border
Unless you're a fan of strip searches (in which case you're reading the wrong magazine), crossing the Canada-U.S. border is never fun. But for pork producers in Canada, it's about to get downright concerning from a business standpoint. We were recently advised that as of October 1, 2015, the Canadian Food Inspection Agency (CFIA) will no longer allow livestock trailers returning from farms in the U.S. to enter Canada at any port-of-entry unless they have been washed in the U.S. as outlined in the federal Health of Animals Regulation, Section 106.

In our opinion, this will elevate the risk of PEDv and other diseases entering Western Canada. In addition, it will mostly certainly increase the cost of transportation for the approximately 600,000 weaner pigs sent to the United States. We are continuing to press the federal government on this and have sent a communication to producers encouraging them to share their concern as well.

By supporting our efforts at biosecurity, both the provincial and federal governments have played a substantial role in our PED success story to date. But maintaining the practices that have kept PED in check is essential to protecting our animals and preserving our place as a key contributor to the economy. Anything less, and the time and money invested in PED prevention may be for naught.

Camera shy? Not our producers
As part of our effort to constantly promote Alberta producers and tell their story to the world, we completed photo and video shoots at two farms in southern Alberta this month. I don't get a lot of chances to go on-farm but when I do, it reminds me of the passion and dedication shown by pork producers throughout the province. Enduring inclement weather, constant price fluctuations and pressure from the vocal minority that speaks first and thinks later, they persevere in their role of feeding the world. Kind of makes my whining about a slow winter commute to my temperature-controlled office sound hollow.

A huge “thank you” goes out to producers Rein Overweig and Mark Wipf, as well as their families and staff, for opening up their homes and farms to us.
Safety First (and second and third)

Speaking of families and staff, a key focus for us these days is on farm safety. The rewards of working in agriculture are plentiful, but so too are the hazards. With that in mind, we are working on a number of fronts to ensure that producers, their families and their employees return home safely at the end of each day.

Part of that effort includes the periodic publishing of farm safety tips to address areas of particular risk or dangers that are often overlooked. Watch for a fall safety tip coming soon to our website and the fall issue of the Industry Review at the end of September.

Well, like the pig on the spit, I think I’m done. Make sure you register soon for the Red Deer Swine Technology Workshop on October 21 and the Alberta Pork Annual General Meeting in Calgary on November 6. They’re both great opportunities to enhance your knowledge, advance your business and catch up with friends and colleagues. If you’d like more information, just call or email me.

In the meantime, we’ll continue working hard for producers and try to avoid those lame, attention-seeking pork puns. Far be it from us to hog the spotlight. ■

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Industry News

The Western Canadian Swine Transport Wash Program Submitted by Mark Fynn, M.Sc., Manitoba Pork Council

The Western Canadian Swine Transport Wash Program (WCSTWP) is a voluntary program delivered through the four provincial pork producer organizations in Western Canada, which swine transport wash operators are encouraged to participate in. The program provides assessment and benchmarking tools for wash operations to assess their facilities, identify areas for improvement, and track their improvements over time and against other wash operations. The program also provides a disclosure document for transporters to inform their pork producer clients about the cleaning and biosecurity measures taken for specific truckloads.

Program objectives

1. Provide framework by which wash operations can have a third party assess their facilities and wash procedures with a goal of optimizing C&I effectiveness.

2. Enable wash operations to benchmark themselves over time and against the industry average with the goal of continuous improvement.

3. Offer a platform by which wash operations can publicize their participation in the program.

4. Encourage transporters to use documents which detail the travel and wash history of a specific truck-trailer unit and provide them to their swine clients prior to arriving at the clients’ sites.

Overview of the Assessments

There are two assessments that were developed by a working group consisting of swine veterinarians and staff from provincial pork producer organizations – a wash facility assessment and a wash procedure assessment.

Some of the critical control points identified in the Wash Facility Assessment include:

- The exclusive use of fresh, non-recycled water, which can be heated all year round.

- The availability of detergents and disinfectants at effective concentrations.

- The use of a high-pressure wash system.

- The ability for the wash bays to be fully cleaned and disinfected between trailers.

- The separation of wash bays by physical barriers to prevent cross-contamination.

- The implementation of standard operating procedures and wash staff training.

- The appropriate planning and control of onsite traffic to avoid cross-contamination.

- The effectiveness of onsite drainage to prevent water moving from dirty to clean areas.

- The accessibility of facilities or areas to allow the trailers to dry completely.

The program is designed to have the assessments carried out be a third party to ensure credibility with clients.

Overview of the Disclosure Document

The disclosure document allows the transporter to identify what type of swine facility the truck and trailer, respectively, have come from most recently and how they have been cleaned after this visit and prior to arriving at the clients’ sites.

CONTINUED ON PAGE 40
ROOKIE OF THE YEAR

SEASON STATS

• 23 WEEK PCV2 DURATION OF IMMUNITY 1 (DOI) – LONGEST PCV2 DOI IN THE CANADIAN MARKET!

• 1 BOTTLE PCV2 – M HYO COMBINATION VACCINE – NO MIXING!

• 2 DOSING OPTIONS – 2 ML GIVEN ONCE OR 1 ML GIVEN TWICE TWO WEEKS APART

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1 DOI based on 2 mL administered once
2 Market data on file

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next swine site. Some of the options for facilities/locations that the truck and trailer were last at, respectively, include a farm, assembly yard, or slaughter plant in Canada or the U.S. as each carries a different degree of risk.

Some of the options (critical control points) in the supplementary wash records include:

- The complete disassembly of the trailer decks, panels and equipment during cleaning.

- The use of fresh, non-recycled water, heated to at least 20°C.

- The removal of all visible organic debris and pooled water prior to disinfection.

- The visual inspection of the trailer by a third party prior to disinfection.

- The applications of effective disinfectant at the labelled concentration and contact time.

- The complete drying of the transport vehicles prior to arriving at the next swine site.

The disclosure document is meant to be filled out by the transporter and delivered to the client (by fax, email, etc.) prior to arriving at the site.

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**Contact Information**

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**Busy summer for AFAC**

Submitted by Alberta Farm Animal Care

At Alberta Farm Animal Care we have had a very busy summer with workshops and projects. Since we are a multi-species organization, we are always busy working on different things to increase awareness of animal care initiatives and improve on different welfare aids and handling tools within each livestock sector.

Currently, in the swine industry, we are focusing on the revision of our popular Humane Handling Guidelines. The newest edition will feature material from the updated *Code of Practice for the Care and Handling of Pigs*. The Humane Handling Guidelines are an industry-driven tool that has been created to help producers make humane decisions about whether to ship (or not ship), treat (or not treat), or euthanize based on the condition of the animal. The Guideline includes illustrations as well as written advice on how to deal with the most common injuries and ailments encountered in the swine industry.

Another one of our projects follows along the same line and is created to make the *Code of Practice* easier to read and digest. Our fact sheets entitled “Considering the Codes” break down each section of the *Code of Practice* and make them more reader friendly. We are currently working on topics such as; “section 4.1 Handling, Moving, Restraining and Treating Animals,” and “section 4.3 Mixing Pigs”.

Head to our website, afac.ab.ca to keep an eye out for our latest events and the release of the two items mentioned above!

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For more information:

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Western Hog Journal  
is January 2016

For advertising contact James Shaw at 416-231-1812 or jamesshaw@rogers.com
Why did Europe choose to ban antibiotics in animal nutrition?

Antibiotics: from discovering the miracle to understanding their limits

Discovered in the 20s, antibiotics were a major medical milestone that multiplied our possibilities to heal diseases of both human beings and animals.

After World War II, the widespread introduction of antibiotics improved the human being life expectancy by more than ten years (more than any other medical treatment) and eradicated major diseases: tuberculosis, plague, leprosy...

With respect to livestock, the use of low-dose antibiotics dates back to the 50s in Europe when they proved to be very efficient also as growth promoters, especially to increase weight gain, regulate gut flora and increase productivity.

However, the excessive use of antibiotics led to the development of antibioresistance, a serious risk for animal and human health: a bacteria is able to defend itself and offer resistance to antibiotics through mutation. Then they become more resistant to drugs and the main problem is that these resistances can be transmitted from a bacteria from many other bacteria, from an animal to another one, from an animal to a human being. The phenomenon and its implication were scientifically proven in the 80s and represent today a global public health concern.

- Drug-resistant bacteria are responsible for about 25,000 human deaths annually in the UE1

CONTINUED ON PAGE 42
- On the animal side, common bacteria causing diarrhea or respiratory infections in several animal species have become more resistant to commonly used veterinary antimicrobials

- Direct and indirect costs and productivity losses related to this phenomenon reach €1.5 billion.²

Antibioresistance is therefore a major public issue drawing attention from the health authorities, the food production and distribution chain, and the consumers. Several consumers associations, for instance, are asking for a prudential use of antibiotics, claiming their right to a healthy and safe food. Euro Coop (European Community of Consumers) have been calling since years for proper and limited use of antibiotics, for more transparency and responsibility in the food processing.³ Other influential consumers’ associations like the French “UFC – Que choisir” are monitoring the issue on a regular basis, through surveys.

Over the last year or so, numerous North American operators have made statements towards a reduction or stop of antibiotics used in livestock (Mc Donalds, April 2015; Tyson Foods, May 2015, etc…). “When we started hearing from consumers that they were becoming concerned about the amount of antibiotics used to raise chickens they were buying, we were listening” said Jim Perdue, Chairman of Perdue, in a press conference last September.⁴

Carrefour – the second largest global supermarket chain – developed as early as 2011 an offer of chickens raised without antibiotics, in partnership with 150 producers. Antibiotics were replaced by natural plant-based alternatives. In September 2013 the chain announced that their antibiotic-free chickens’ sales were four times superior to their objectives, in spite of a higher price for the consumer.⁵

**A progressive ban in the European Union**

By way of consequence, only a limited number of such feed additives were still allowed after 1999 in the European Union. In 2001, the use of AGP dropped by 50 per cent in the European continent (from 1,600 T in 1997 to 800 T in 2001⁶). The use of veterinary prescribed antibiotics increased, though, in a sort of compensation phenomenon. The total ban of antibiotics used as growth promoters for pigs and poultry has been enforced since 2006.

In 2011, the European Commission put in place a five-year action plan to fight against antibioresistance through a better monitoring, the promotion of the proper utilization of antibiotics and a more targeted distribution. This strategy intends to develop the rational use of antibiotics instead of the current mass strategy. Recourse to antibiotics must be prudential and targeted, with the prescription and administration of no more than the quantities strictly necessary to meet the therapeutic need: the objective is quantitative and qualitative.

A number of alternatives have been considered over the years, as part of a quite comprehensive review of some farming approaches, namely: organic acids, probiotics and prebiotics, enzyme, clays and minerals, trace elements, botanicals.

**KEY DATES**

1999: restriction on the use of 11 growth promoters in Europe (avilamycine, avoparcine, zinc bacitracine, flavophospholipol, monensin, tylosine, salinomycine,
spiramycine, virginiamycine, carbadox, olaquindox), only 4 antibiotics remain allowed: flavomycin, monensin, salinomycin and avilamycin.

2006: definitive ban of antibiotics used as growth promoters in Europe

The decreasing use of AGPs in the European Union

The ESVAC (European Surveillance of Veterinary Antimicrobial Consumption) project collects information on how antimicrobial medicines are used in animals across the European Union. Its fourth report published in 2014 notes a decline in sales in a large majority of countries, showed in the graphic below. The explaining causes are the development of responsible-use campaigns, changes in animal demographics, restrictions of use and increased awareness of the threat of antimicrobial resistance.

(See Table on Page 44)

Sweden: how the ban turned into an opportunity

The use of AB as GP was prohibited in Sweden in 1986, mainly for ethical reasons: enhance the breeding practices and hygiene and improve the animal conditions. The first years were difficult (higher mortality and lower productivity) especially on farms where hygiene and nutrition were not well mastered. By 1999, the antibiotics sales had dropped, representing only 30% of the amounts sold in 1986.

Today, Swedish farmers are using the smallest amount of antibiotics in the EU, according to the European Medicines Agency (see chart above). Antibiotics are only used for medical reasons and with a veterinary prescription; farmers consider that the total ban was eventually an opportunity for them to breed healthier and more productive animals.

> France: a positive tendency, to be confirmed

With 103 mg / PCU, France is within the European average (111 mg / PCU). In other terms, the exposition of animal to any kind of antibiotics (number and duration of the treatments) has decreased by 22% between 2010 and 2012, a tendency that has to be confirmed in the coming years.

To do so, the French Ecoantibio plan was launched in November 2011 by the Ministry of Agriculture, with two objectives:

- Firstly, to reduce the contribution to bacterial resistance provoked by antibiotics used in veterinary medicine

CONTINUED ON PAGE 44
And secondly, to preserve the veterinary medicine therapeutic arsenal on a sustainable basis, especially given that the prospects for development of new antibiotics are limited.

It aims to achieve a reduction of 25% in use over five years by developing alternatives capable of protecting animal health while avoiding recourse to antibiotics.

Furthermore, in 2011, French pig farmers decided to stop using cephalosporin of the third and fourth generation.

The impressive results of the Netherlands

The Netherlands reduced by 50 per cent the use of antibiotics in three years.

Prior to 2008, the Netherlands was amongst the most important consumers of antibiotics. The Ministries of Health and Agriculture defined an objective of 20 per cent reduction in 2011 vs. 2009, then 50 per cent in 2013 and 70 per cent in 2015. The results were particularly good in pigs and poultry and were facilitated by the efforts of the major production sectors and veterinarians, who collaborated with the government to set these reduction targets for the use of antimicrobial agents in animal production.

The main key to success proved to be the strict monitoring of the veterinary antibiotics consumption that was set up in the farms: farmers and veterinarians have to declare their use of antibiotics and if an overflow is found, an improvement plan is set up together with the veterinarian.

Critical antibiotics use is thus well framed in the Netherlands. A report from the Ministry of Economic Affairs, Agriculture and Innovation’ pointed out the

Sales of Veterinary antimicrobial agents for food-producing species, including horses, in mg/PCU, during 2010 to 2012, for 26 EU/EEA countries

<table>
<thead>
<tr>
<th>Country</th>
<th>2010</th>
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<th>2012</th>
<th>% change 2010-2012</th>
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<tr>
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Fourth ESVAC Report, European Medicines Agency, 2014
responsible antibiotics use of the industry: the pig production quality system, for instance, has voluntarily ceased the use of cephalosporins of the third and fourth generation and fluoroquinolones in 2012. The milk industry also stopped the use of cephalosporins and this treatment has now almost disappeared from the Dutch farms.

**The need for a GLOBAL FIELD approach**

Faced with the increase of antibioresistance, responsible for 25,000 deaths in Europe each year, the European Union has banned the use of antibiotics as growth factors between 1999 and 2006. The issue is still relevant today, and besides legal considerations, it brings the whole industry to reconsider its global livestock management.

**A global awareness**

Europe rapidly reacted to this media-friendly important issue by restricting the curative use of antibiotics in cattle farms. On the other hand, the pressure from better informed consumers pushed the retailers to start offer antibiotic-free farm products.

**Reconsidering the animals’ disease**

When animals are sick, they should be examined and treated accordingly with the more appropriate effective treatment. However, the animal production sector should not consider antibiotic therapy as the only solution and apply three principles:

1. Develop prevention strategies;
2. Prefer alternative and symptomatic treatments (anti-inflammatory, rehydrating, expectorants); some effective solutions can be found in plants;
3. Use antibiotics as a last resort and in a rational way: use of antibiogram and respect of the therapeutic programs (dose, time).

Reconsidering the illness approach. The disease prevention means maintaining the balance between immunity and infection pressure. The first goal is therefore to prevent pathological pressure (by protecting the farm against foreign pathogens, implementing building decontamination protocols, cleaning the food and water circuits, etc.) Moreover, high immunity levels should be fostered (vaccination quality and colostral intake, stress reduction).

The quality of feed and the building comfort are also factors that can influence the animal’s digestive flora and nutritional balance. The approach is therefore global as it includes veterinarians, farmers as well as infrastructure technicians and nutritionists.

**Plant extracts: a long-term alternative to AGPs**

Confronted with these regulatory adjustments and the food chain pressure, the animal production sector has no choice but to improve their health and nutrition approaches. Part of the answer may be found in the vegetal kingdom, with the several benefits of plants in animal feed. Feed

---

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CONTINUED ON PAGE 46
additives based on plant extracts aim at improving the animal health and the qualities of its feed: added in small quantities to the raw materials, they preserve the animal health, improve the rations efficiency, reduce the production costs, enhance the product features and reduce the environmental footprint.

Today, several scientific researches highlight precisely the plants and plant extracts benefits. Their compounds are now well characterized and their ROI measurable. Here are a few examples....

Prebiotic effect & gut flora control

Certain citrus extracts develop a prebiotic effect by promoting the growth of lactic flora (such as Lactobacillus acidophilus). On the other hand, they enable a better flora control by inhibiting bacteria and pathogens, especially in monogastric species.

The following trial was conducted with a citrus extract feed additive registered in the E.U:

The many properties of plants rich in saponins

Saponins are secondary metabolites, with numerous properties described in the literature: antibacterial, antifungal, anti-inflammatory, antiviral, ammonia management, optimization of zootechnical performances, odour control, stimulation of the immune system, etc.

Saponins' mechanism of action

The following scheme describes the positive activity of saponins on micro-organisms containing sterols into the membrane, such as rumen protozoa and Eimeria sp, leading to citric acid and limonene.

CITRUS EXTRACTS VS. ANTIBIOTICS

Certain citrus extracts have shown interesting results when compared to positive controls as Olaquindox, Avilamycin and an association of Penicillin and Aureomycin, with an improvement of the Average Daily Gain in several species (between 3 and 15%) and the Feed Conversion Ratio (-7% to -11%).

More than 10 000 saponins have been identified in 2000 species of plants, with specific activities.
to the disruption of eukaryotic cell membranes.

**Saponins based feed additives play a key role:**

- As a palatability enhancer for all animal species
- To improve water quality and mitigate environmental impacts (aquaculture)
- To reduce stillborns and increase weight gain at weaning
- To stabilize physiological digestion (coccidiosis risk): the following trial was conducted with a feed additive based on saponins plants.

**Other sources:**

- INRA Productions Animales, Juillet 2006
- Réduire les antibiotiques pour un élevage durable, INRA, septembre 2014

**SPECIFIC SAPONINS VS. COCCIDIOSTATS**

A comparative study made in France on broilers highlighted the efficiency of saponins vs. coccidiostats (narasine, nicarbazine and salinomycine) to improve the animal performance parameters. The results were slightly better in the saponins' group:

CONTINUED ON PAGE 48
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**Press articles**


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2. Idem

3. *Interdiction des antibiotiques dans la production alimentaire*, Council of Europe, Parliamentary Assembly, Doc. 8591, 1st December 1999


5. *Les ventes des poulets Carrefour sans antibiotiques s’envolent*, Le Figaro, September 12, 2013


9. Nor-Spice AB In vitro trial, Nor-Feed Sud (2012)

10. Boku Symposium, Tierernährung, April 2014

11. Augustin et al. 2011

12. Source : Nor-Feed Sud, 2002

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What if a pathogen gets past your farm’s biosecurity goalie? 
By Dr. Kurt Preugschas DVM, Innovative Veterinary Services

Porcine Epidemic Diarrhea virus (PED) and Swine Delta Coronavirus (SDCv) have forced us to bulk up our farms’ biosecurity goalies to a level that most of us have never needed before. But what if a pathogen like PED still gets past your farm’s biosecurity goalie despite all your best efforts? Keep reading to find out...

The Good news
Alberta, British Columbia and Saskatchewan continue to be PED/SDCv free (no confirmed cases on a farm up to this point) and Manitoba has only had a handful of cases that have been well controlled. Well-done Western Canadian swine industry!

The bad news
There continues to be an ongoing threat of PED to Western Canada primarily from positive farms and high traffic sites in the USA. Also, there is always the potential risk for another highly contagious pathogen that can impact trade to enter our Canadian farms (eg. African Swine Fever).

What can we do to ensure that we will continue to enjoy a healthy Western Canadian swine industry? Ensure all three pillars of biosecurity are maximized on your farm all the time.

The three pillars of biosecurity for disease control and prevention:

1) External biosecurity (Bio-Exclusion) – Keeping the diseases out of the barn!
2) Internal biosecurity (Bio-Management) – Preventing/reducing the spread of a disease between different pigs inside the barn.
3) Bio-Containment – Preventing the spread of a disease that is already on your farm to other farms.

We have focused a great deal on number one – external biosecurity – over the last years because keeping the diseases out of the farm is obviously the most critical step for every individual producer. As an industry we have done an excellent job making biosecurity a priority.

CONTINUED ON PAGE 50

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Danisco Animal Nutrition
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What we have spent less time discussing is number three – bio-containment – which is critical for the overall health of the industry. If we can limit the number of farms affected by a disease through excellent bio-containment protocols, this will ensure the long-term viability of the industry.

**What do we need to do to ensure bio-containment is maximized on your farm? Be prepared! Make a bio-containment plan!**

Work with your veterinarian to develop a detailed Bio-Containment plan PRIOR to a disease outbreak on your farm.

1) **Contact your veterinarian immediately when you suspect a disease on your farm.** An early diagnosis will give the best possible chance to minimize the spread of the disease and maximize Bio-Containment.

2) **Once there is a positive diagnosis, schedule a veterinary visit to review all the potential biosecurity risks (epidemiology investigation) and to develop a detailed farm-specific control plan.** At this point of time the ultimate result will be to stop all pig movement (at least temporarily, depending on the disease).

3) **Contact the processing plant to reschedule deliveries and delay pig shipments as long as possible.**

4) **Contact all potential service providers/suppliers/tradespeople that could be in contact with your pigs or may visit the site.**
   a. Open communication and collaboration with neighbours and the industry about the health status of your farm is vital to the success of the Bio-Containment plan.
   b. You need to know a contact name and a phone number for all companies that provide service to your farm.
   c. Reduce the list of people coming to the site to those who are only absolutely necessary.
   d. Ensure everyone entering the site follows diligent washing/disinfecting protocols for all equipment and vehicles before and after visiting the farm.

5) **Reroute pig deliveries away from negative farms and high traffic sites.**

6) **Ensure strict Danish entry protocols for all staff entering and exiting the site.**

7) **Wash your truck and trailer away from high traffic sites and assembly yards.**

8) **Develop a list of potential sites that could raise your pigs to facilitate eradication of the disease from your farm or to reduce the spread of disease to other farms.**

9) **Make a plan for a mass mortality situation or if mass euthanasia is required.**

10) **Make a manure hauling strategy to have a custom hauler do your farm last or use your own manure hauling equipment.** Avoid spreading manure near other farms.

The key is to know what you are going to do BEFORE you are in an emergency situation.

**Here are several key aspects to make a bio-containment plan successful:**

- **Contact your veterinarian immediately when you suspect a disease on your farm.** An early diagnosis will give the best possible chance to minimize the spread of the disease and maximize Bio-Containment.

- **Once there is a positive diagnosis, schedule a veterinary visit to review all the potential biosecurity risks (epidemiology investigation) and to develop a detailed farm-specific control plan.** At this point of time the ultimate result will be to stop all pig movement (at least temporarily, depending on the disease).

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Contact your herd veterinarian to maximize biosecurity and be prepared for bio-containment.

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New B.C. bio-containment plan: the right approach when things go wrong

By Geoff Geddes

Back in the 50s, people thought building a bomb shelter was the best way to prepare for the worst. But then, they also thought a “vacuum cap” could cure baldness, so their judgment was clearly in question.

For pork producers today, the “bomb” equivalent is disease that endangers their animals. Fortunately, we’ve come a long way in readying ourselves for a worst case scenario. Canadian pig farms boast some of the highest biosecurity standards in the world, a testament to our knowledge of disease detection and prevention.

What happens, though, when those standards fail? If we’re unable to keep disease out, how do we at least minimize its impact on the bottom line?

Contain yourself

Those were two of the questions that BC Pork, along with other provincial pork associations, grappled with after the PED panic hit North America in 2012. With funding from Growing Forward 2 and a multi-pronged approach by government, producers, processing plants and other provincial organizations like Alberta Pork, B.C.’s PED Project found some answers.

In addition to implementing measures that would prevent PED from entering the province, the project also created a plan to rapidly respond to and contain disease if prevention failed. As co-author and project lead for BC Pork’s Biocontainment Plan, Heather Carriere focused on the latter.

“We already had plans in place in the event that disease hit a plant or truck wash,” said Carriere, “but nothing to help the producer if it reached their farm.”

Working with B.C. producers, Carriere set out to fill that void. In spite of the short time frame, with just 12 months allotted for completion, the project was long on results.

The long and short of it

“The plan is a combination of general and specific information. Our intent was that farms could refer to it in case of emergency, and even if the owner or manager was away, it would be a common document that anyone could access.”

The main component is a numbered list with clear steps to be taken if needed. In all, there are 15 points included, and while each one is important, Carriere targeted a few for emphasis:

1. Contact information for the parties that need to be advised if a farm tests positive for disease. This includes BC Pork, the producer’s herd veterinarian and the processing plant they deal with, if applicable. To expedite the process, it even lists the specific contact at the plant so someone using the plan can bypass the front desk and go straight to the person they need.

2. Contact list of all suppliers, tradespeople and service workers who may visit the site, as a producer may want to limit the traffic going in and out until the issue is resolved.

“We prepared a chart for every site with all potential site partners and suppliers and had the producer fill in names, numbers and how often they visit the farm,” said Carriere.

While some may be obvious, others, like recycling trucks, BC Hydro and liquid feed trucks, are easier to overlook, especially in the heat of the moment.
“One producer took about 10 minutes to find a number, so by having all the information in one document, it saves them time and stress when they need to act quickly.”

3. Things to be aware of for limiting disease spread.
   These include such points as following Danish entry procedures, using a pig delivery route that avoids negative farms and not washing your truck out at an assembly yard.

4. Granting of permission by the farm owner or manager that allows BC Pork to identify the farm when informing all necessary industry partners.

This is easily the most contentious point, not to mention the most critical.

A leading Alberta swine veterinarian echoes that position.

Rubber, meet road

“Of the three pillars of biosecurity – the other two being exclusion and management – bio-containment is by far the most challenging,” said Dr. Egan Brockhoff. “To do it properly requires a high degree of transparency and good communication.”

Though liking the B.C. plan on paper, Brockhoff said the real test is what happens “when the rubber meets the road”.

“What will people do in the real world? What if someone doesn’t want to disclose their health status? It’s very difficult to contain disease unless everyone along the chain is willing to buy in and share their worst secrets with the rest of the industry.”

It’s that reluctance to be transparent that had Carriere concerned about including point number four, but the reaction of producers was a relief.

“Every one of them willingly agreed to it and signed it,” said Carriere. “They understand that timely communication is vital when dealing with a disease outbreak.”

In fact, Carriere was quick to applaud producers on a number of fronts.

“It was very gratifying to see them step up and respond to an issue that wasn’t even on their doorstep at the time, being confined initially to Ontario and Quebec. They could have taken a ‘wait and see’ attitude, but they went out of their way to make this plan happen, often spending their own time and money in the process.”

To Carriere, it showed a sense of pride and a willingness to take responsibility for the well-being of the industry, giving her hope for the future.

“From government to producers to BC Pork, everyone embraced the process and understood the importance. It was a great group of people to work with.”

As pleased as she was with the final product, Carriere stressed that it’s not a stand alone document.

“This plan is part of a larger biosecurity response effort that includes traceability, surveillance and continued on-site measures. We’re only as strong as our weakest link.”

Okay, maybe it’s not as dramatic as a bomb shelter. But it’s cheaper, more effective and won’t have the neighbours questioning your sanity. What more can you ask for?
Second Ag Labour Summit to be held in Red Deer
This year, the summit will be held the day before the Red Deer Swine Technology Workshop
By Sheri Monk

The second Agriculture Labour Summit is being held in Red Deer again this year, but this time it’s being held the day before the Red Deer Swine Technology Workshop to make attendance more convenient. The 2015 summit will be held at the Sheraton Red Deer on October 20.

“I don’t know if it’s an annual thing now, but we’re on the second one,” explained Marvin Salomons, one of the committee organizers and an industry consultant. “We held the first last year, and it was put together as a result of a lot of issues that were happening in the foreign worker program and the labour situation in primary agriculture and agri-food processing, and so then we decided to pull together a labour conference. It was really organized by the agriculture industry and labour council of Alberta. It started a few years ago and there’s probably about 30 different organizations involved – all the different commodity groups are members.”

A lot can change in a year – and in Alberta, the economic and political landscape is vastly different when compared to just one year ago. The Conservative government has been replaced by the NDP, and the oil sector is experiencing a serious slump. Although many predicted a downturn in the oil economy might make more labour available for agriculture, Salomons says that’s not quite the case.

“The unemployment rate is high in Alberta now with all these people laid off out of the oil patch, but a lot of them still don’t view agriculture or agri-food processing as a place to work. In fact, we have had some take jobs on farms and not stay,” he said. “The wage rate of course is not what they were getting – our producers can’t pay the kind of wages workers were receiving in the oil patch.”

The concept of the summit is the same as last year – gather a group of stakeholders together to address the chronic labour shortage in agriculture and agri-food processing.

“This year’s program is the next phase of what we did last year because things have happened in the foreign worker program and in the labour,” said Salomons, who said the industry is still reeling from new changes to the Temporary Foreign Workers Program. Although primary farm production was largely exempt from the most damaging changes, the agri-food processing sector was not protected under the primary production umbrella. That change has culminated in what many industry experts agree is the single largest threat to the agricultural industry in Canada –throughout the value chain in each sector.

“The rules have been very stringent, forcing them to come down from 30 per cent foreign workers, and I think that by next July they have to be down to only 10 per cent of their workforce, and they have already struggled over the years to get people. If you’re looking at the beef sector, if you can’t process the meat, what’s the point of producing it?” Salomons said.

The summit will offer a few new features this year, including trade booths, more time for networking, farm safety, and an open forum at the end of the program.

For more information or to register, please visit www.laboursummit.albertamilk.com.
Have you ever left a seminar angry at yourself for missing the key points, only to realize that there were none? Oftentimes, these “educational sessions” are more sizzle than (pork) steak, so when one comes along that satisfies our hunger for knowledge, it’s worth considering.

Such is the case with this year’s Red Deer Swine Technology Workshop, running Wednesday, October 21 at the Sheraton Hotel. While the event is known for its practical advice that makes an immediate impact on-farm, organizers say the 2015 version will really “pop”, with short bursts of information on a number of timely topics.

“The day has always been about passing on knowledge that can be used by anyone who attends and shared with co-workers when they return to the farm,” said Alastair Bratton, chair of the organizing committee. And he really means “anyone”. Presentations are targeted at barn staff and managers rather than researchers and academics, so you don’t need a doctoral degree to understand them. That’s a good thing, because according to Bratton, the program covers a lot of important ground.

Pick a Topic, Any Topic

“We’ll be addressing all areas of the barns, including sows, nursery and finishing, as well as HR and staffing. We’ll also look at upcoming changes to the code of practice, how to handle these on farm and changes in the health and safety codes that will be affecting ALL farms in the near future.”

In addition, the workshop will cover such critical aspects as antibiotic benchmarking, animal welfare and the new Western Canadian Truck Wash Audit Program.

Given the quantity and quality of content, event specialist Kate Cheney with ConventionALL Management is not surprised by the great response thus far.

“Registration has only been open for a month and there are only seven booth spaces left out of 22, so uptake has been excellent,” said Cheney. “We had inquiries from returning vendors ages ago to make sure they secured their booth.”

There were 190 attendees in 2014 and organizers are aiming for the same number this year.

Some Wrinkles are Good

To go along with the new topics, the workshop is planning a new wrinkle or two.

“We’ve added a ‘text your question’ feature to encourage audience participation,” said Cheney. “People may have something important to ask following a session but be
too shy to raise their hand, so this will allow them to get involved while retaining their anonymity.”

Of course, the involvement of sponsors is another key element of a successful event.

Gordon Cove, President and CEO of the Alberta Livestock and Meat Agency (ALMA), believes the workshop provides information that will boost industry productivity. “Best practices and expectations for things like animal welfare, on-farm management and pain mitigation are constantly changing,” he said. “This workshop delivers information on these topics in a way that ensures greater awareness in the producer community. That contributes towards a stronger, more competitive Alberta pork industry.”

Best practices and expectations for things like animal welfare, on-farm management and pain mitigation are constantly changing. ~ Gordon Cove, ALMA

Alberta Pork, another prominent funder, is pleased to be involved again this year.

“As an organization, we’re all about supporting producers,” said executive director Darcy Fitzgerald. “We continue to commit funds and other resources to this event because at the end of the day, it helps make pork operations in Alberta more productive and efficient.”

Like the rest of the planning committee, Bratton appreciates the support of sponsors and what it says about the workshop.

“We couldn’t do it without them, and their participation demonstrates the importance of this event to the Alberta pork industry.”

Apart from being committee chair, Bratton is also a producer, so he knows of what he speaks.

“I would urge all farms to send their employees as a way of improving knowledge, meeting new people and catching up with old friends.”

For anyone who has been disappointed with other workshops and is seeking more steak with their sizzle, that’s something they can really sink their teeth into.

To register for this year’s workshop, you can go online or contact Kimberly Nield for further information ((403) 244-7821 or kimberly@conventionall.com). Please note that the early bird registration deadline has been extended to October 15.
Producers and ranchers wanting to improve their management skills for their operation should register for the Canadian Total Excellence in Agricultural Management (CTEAM) course offered by Agri-Food Management Excellence (AME). Registration is open until October 30, 2015.

CTEAM is Canada’s only national farm management training program and the only course in which participants use their own farm data to create a strategy and develop a plan specifically for their operation. Coaching is provided as participants implement their plan.

“CTEAM has changed me and my farm operation forever. My classmates and the instructors gave me more motivation and drive than I ever thought possible,” says CTEAM alumnus Colin Brown of Dykeview Farms in Nova Scotia. “This is a course that every farm operator, owner or manager should be enrolled in. Guaranteed success.”

The course is taught by world renowned instructors in four modules held across Canada over two years. The new CTEAM 2015-2017 module dates and locations are:

Module 1 - November 30 – December 4, 2015, Abbotsford, BC
Module 2 – March 14-18, 2016, Calgary, AB
Module 3 – December 5-9, 2016, Niagara Falls, ON
Module 4 – March 6-10, 2017, Ottawa, ON

The content CTEAM covers is operation management, understanding finance on the participants' farm, planning for succession, human resource management and risk management. CTEAM graduates can earn credit towards an MBA at the University of Guelph and continue life-long learning as alumni.

“At AME, we’re inspired by empowering people to realize their vision. The CTEAM program provides learning focused on the participants and their farms allowing them to become top managers,” says Larry Martin, principal at Agri-Food Management Excellence.

Participants are encouraged to check with their provincial or territorial Ministry of Agriculture as CTEAM can qualify for up to 75 per cent funding under Growing Forward 2.

Complete details about the program can be found at www.agrifoodtraining.com.
Pork industry hygiene reduces MRSA contamination

Submitted by the Alberta Livestock and Meat Agency

Through resiliency and a true passion for the business, Alberta’s pork industry remains one of Canada’s top meat exporting commodities. Research, in particular, is a means to gather knowledge and continually advance industry’s commitment to animal health and food safety, which are important to maintain and expand industry’s competitiveness globally.

Any sort of food contamination can seriously jeopardize market access. One such food contaminant is the bacterium methicillin-resistant Staphylococcus aureus (MRSA). MRSA, if transferred to humans, can cause severe illness. Pigs have the highest prevalence of MRSA colonization among livestock.

Dr. Mueen Aslam, from Agriculture and Agri-Food Canada, conducted research at three Alberta processing plants. His goal was to determine the MRSA prevalence at various points during the swine slaughter process and then again, on retail shelves. Through a total of 2,640 samples collected at four points during slaughter and processing, Dr. Aslam’s research showed a high percentage of incoming pigs carrying MRSA (61.9 per cent), but only 1.2 per cent of retail pork products were contaminated. Once purchased, proper cooking and food handling should reduce or completely eliminate the risk of transmitting MRSA.

“The research suggests that sanitation procedures applied in Alberta commercial pork processing plants are effective in reducing MRSA contamination,” shares Dr. Aslam. “The hog industry appears to be doing a good job in mitigating this bacterium.”

“These are positive results for Alberta’s pork industry,” says Clinton Dobson, ALMA Senior Manager, Research and Policy. “Promoting the low risk of MRSA contamination of Alberta pork products could open the doors to new markets, leading to increased competitiveness and profitability of the industry.”

For more information on this project, contact Dr. Aslam at mueen.aslam@agr.gc.ca.
RESEARCH AND INNOVATION

Genomics research improving disease resilience and sustainability in pork production

Submitted by the Alberta Livestock and Meat Agency

Alberta’s pork industry remains one of Canada’s top meat exporting commodities. In fact, Canadian pork is exported to more than 100 countries and is consumed throughout the world more than any other source of animal protein. Genomics research of diseases affecting the hog sector will help sustain, and possibly improve, our pork exports and is a leading factor in the sustainability of the industry.

Partnering with the Alberta Livestock and Meat Agency (ALMA) and Genome Alberta, Dr. Michael Dyck of the University of Alberta, Dr. John Harding of the University of Saskatchewan, and Dr. Bob Kemp of PigGen Canada Inc. are leading a team that has received almost $10 million to develop genomics tools to help producers manage disease, reduce costs, and increase product quality.

These genomics tools can be used to select pigs that are more genetically resilient due to increased tolerance of, and or resistance to, multiple diseases as opposed to resistance to one particular disease. The tools will also permit producers to manage the nutritional content of pig feed to ensure that pigs stay healthier, grow more efficiently, have more successful litters, and reduce the need for antibiotic use in pig production.

The research is important at home and abroad notes Genome Alberta’s President and CEO, Dr. David Bailey, “Canadians and our international clients want access to quality pork that has been raised in a healthy, sustainable, environment while still being an affordable source of nutrition for a high protein diet”.

“We appreciate the commitment of our industry partners to help advance the productivity and competitiveness of our pork industry,” says Gordon Cove, ALMA President and CEO. “It’s through a unified commitment that industry is better able to address challenges and opportunities related to food safety and sustainable production.”

The involvement of industry partners in this project means that within five years of its completion, the rate of genetic improvement and productivity will have an impact on pig production of more than $137 million, increasing the competitive of Alberta and Canada’s pork industry.

Funding genomics research is a continued focal point for both industry and ALMA, and in a joint effort, will continue to advance the pork sector’s commitment to animal health and food safety, and maintain and expand its competitiveness globally.

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Can sow diets enriched with extruded flaxseed replace antibiotics in starter feeds for piglets?

Submitted by L. Eastwood, D. A. Gillis, M. R. Deibert and A. D. Beaulieu, Prairie Swine Centre

When piglets are raised in a clean, high health status facility, there is no need to include antibiotics into the phase 1 diets post-weaning. Additionally, weaning piglets at three weeks of age may be more beneficial to the producer if they are able to produce piglets with the same nursery exit weights relative to pigs weaned at four weeks. Results from work at Prairie Swine Centre have shown that in a high health situation, the use of in-feed antibiotics post-weaning had no benefit, regardless of weaning age.

Weaning is a stressful time in a piglets’ life. During this time, they are exposed to three major stressors (nutritional, environmental, and social). Combined, these can activate the immune response in the piglet, which in turn can have negative impacts on animal performance immediately post-weaning (low or no feed intake, reduced or negative growth rates).

In order to help combat the stress/immune response at the time of weaning, piglets are often fed a diet containing a low level of antibiotics (Ab). This helps the piglets cope with any potential secondary infections which may be contracted while their immune system is vulnerable. In April 2015, Health Canada announced that the use of in-feed antibiotics will be phased out over the next three years. Finding alternate strategies to help piglets cope at the time of weaning is important, and nutritional modulation for this purpose is a growing area of interest.

Flaxseed is a rich source of omega-3 \((n-3)\) fatty acids \((FA)\), which are known to have many different health benefits, including anti-inflammatory properties. Omega-3’s can be easily transferred to piglets via the milk when sows are fed diets containing a good quality source (Eastwood, 2014). Additionally, changing the FA profile of sow diets by adding n-3’s can impact the inflammatory responses of their offspring (Eastwood et al., 2012). It is possible that by improving the health of piglets prior to weaning, through nutritional modulation of the sow, we can remove antibiotics in the nursery diets.

Can sow diets enriched with extruded flaxseed replace antibiotics in starter feeds for piglets?

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In order to help combat the stress/immune response at the time of weaning, piglets are often fed a diet containing a low level of antibiotics \((Ab)\). This helps the piglets cope with any potential secondary infections which may be contracted while their immune system is vulnerable. In April 2015, Health Canada announced that the use of in-feed antibiotics will be phased out over the next three years. Finding alternate strategies to help piglets cope at the time of weaning is important, and nutritional modulation for this purpose is a growing area of interest.

Flaxseed is a rich source of omega-3 \((n-3)\) fatty acids \((FA)\), which are known to have many different health benefits, including anti-inflammatory properties. Omega-3’s can be easily transferred to piglets via the milk when sows are fed diets containing a good quality source (Eastwood, 2014). Additionally, changing the FA profile of sow diets by adding n-3’s can impact the inflammatory responses of their offspring (Eastwood et al., 2012). It is possible that by improving the health of piglets prior to weaning, through nutritional modulation of the sow, we can remove antibiotics in the nursery diets.

Can sow diets enriched with extruded flaxseed replace antibiotics in starter feeds for piglets?

Submitted by L. Eastwood, D. A. Gillis, M. R. Deibert and A. D. Beaulieu, Prairie Swine Centre

When piglets are raised in a clean, high health status facility, there is no need to include antibiotics into the phase 1 diets post-weaning. Additionally, weaning piglets at three weeks of age may be more beneficial to the producer if they are able to produce piglets with the same nursery exit weights relative to pigs weaned at four weeks. Results from work at Prairie Swine Centre have shown that in a high health situation, the use of in-feed antibiotics post-weaning had no benefit, regardless of weaning age.

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**Materials and Methods**

A total of 103 sows were used for this trial, 52 weaned at four weeks of age and 51 at three weeks of age. Within each weaning group, sows were fed one of two diets (control or n-3) throughout lactation. At the time of weaning, 10 piglets from each litter were selected, moved to the nursery and housed in two groups of five piglets each (two nursery pens per litter). One half of the litter (one pen) was fed a starter diet containing antibiotics (LS20), and the other half received the same diet without antibiotics. After one week, all piglets were switched to a common phase two diet for the remainder of the study. Prior to weaning, nurseries skipped a single wash cycle, to ensure that each weaning cohort was immunologically challenged. Regardless of weaning age, all piglets completed the trial at 56 days of age.

Piglet performance was determined in both the farrowing

**CONTINUED ON PAGE 62**
### RESEARCH AND INNOVATION

**Advantages by using LISA 2 System**

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- Reduce the energy consumption by min. 50%
- Reduce labor and eliminate the human factor
- Pays back the investment very fast.

<table>
<thead>
<tr>
<th>Sow Lactation Diets</th>
<th>Statistics</th>
<th>SEM</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (- n-3)</td>
<td>Omega (+ n-3)</td>
<td>SEM</td>
<td>P Value</td>
</tr>
<tr>
<td>3 Week Wean1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td>2.50</td>
<td>2.20</td>
<td>0.394</td>
</tr>
<tr>
<td>Lactation length, d</td>
<td>19.35</td>
<td>19.36</td>
<td>0.368</td>
</tr>
<tr>
<td>ADFI, kg/d</td>
<td>6.01</td>
<td>5.81</td>
<td>0.262</td>
</tr>
<tr>
<td>Born alive, n</td>
<td>14.81</td>
<td>14.72</td>
<td>0.662</td>
</tr>
<tr>
<td>Born total, n</td>
<td>15.62</td>
<td>15.92</td>
<td>0.666</td>
</tr>
<tr>
<td>Weaned, n</td>
<td>11.15</td>
<td>11.24</td>
<td>0.310</td>
</tr>
<tr>
<td>Total litter gain, kg</td>
<td>54.17</td>
<td>52.89</td>
<td>2.255</td>
</tr>
<tr>
<td>Piglet ADG, kg/d0.25</td>
<td>0.24</td>
<td>0.007</td>
<td>0.468</td>
</tr>
</tbody>
</table>

**4 Week Wean1**

| Parity              | 2.11       | 2.12 | 0.279   | 0.982   |
| Lactation length, d | 26.22      | 26.56| 0.393   | 0.538   |
| ADFI, kg/d          | 7.55       | 7.66 | 0.249   | 0.747   |
| Born alive, n       | 14.70      | 14.64| 0.576   | 0.937   |
| Born total, n       | 15.96      | 16.12| 0.670   | 0.867   |
| Weaned, n           | 11.56      | 11.88| 0.267   | 0.386   |
| Total litter gain, kg| 77.21     | 77.94| 2.151   | 0.795   |
| Piglet ADG, kg/d0.26| 0.25       | 0.006| 0.402   |

1Litters were standardized to ~12 pigs each within the first 24 hr post-farrowing and nursery rooms. Sow milk was collected during mid-lactation to determine the FA profile consumed by piglets. Piglet health was monitored by collecting blood for complete blood cell count (CBC) and chemistry blood panels two days post-weaning. A total of 1,181 piglets completed the lactation portion of the trial. Of those, 1,021 piglets were used for the nursery portion.

**Results and Discussion**

There were no dietary effects (+ n-3 FA’s) on sow feed intake, numbers of piglets born, piglet growth or on the number of piglets weaned per litter ($P > 0.10$). As expected, sows fed a diet with added n-3 FA’s had significantly more n-3’s in their milk relative to control sows (5:1 vs. 8:1 n-6:n-3 ratio).

In the nursery, there was no impact of sow diet on ADG, ADFI, G:F or final body weight for piglets weaned at three or four weeks of age ($P > 0.10$). For piglets weaned at three weeks of age, ADFI was 20 g/d higher during the fourth week in the nursery for piglets who received no antibiotics in their phase 1 diet ($P = 0.028$); however, ADG and G:F were not affected ($P > 0.10$). Feed intake was not affected during any of the other weeks on trial for these

---

**Continued on page 64**
Strength in Numbers

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Symposium celebrates 38 years of presenting timely and relevant information and advances in pork production. We’ve included a stronger stockperson’s component on Day 1 bringing together expert speakers who “get back to the basics” of raising pigs. Day 2 focuses on swine health and biosecurity, economics and the state of the pork industry plus dealing with aging production facilities.

**Day 1 – November 17, 2015**

**Dr. Jennifer Brown, Prairie Swine Centre** discusses novel management strategies for the farrowing sow and her piglets.

**Dr. Shawn Davidson, Davidson Swine Health,** shares the challenges and options available to producers with raised without antibiotics (RWA) pork operations.

**Dr. Denise Beaulieu, Prairie Swine Centre** addresses dealing with mycotoxins in the grow finish barn (where to feed and where not to).

**Dr. Yolande Seddon, Prairie Swine Centre** has practical information on enrichment and exercising swine.

**Dr. Madonna Gemus Benjamin, Michigan State University** offers perspectives on the stockperson.

**Jennifer Woods, J. Woods Livestock Services** examines a difficult component of animal production in the why, when and how of Euthanasia.

**Dave Van Wallegehm, Vetoquinol Canada** gets back to basics with cleaning of barn/facilities and disinfection for enhancing biosecurity.

**Concurrent Sessions - Afternoon**

1. **Jean Poulin – PIC North America**  
   *Batch Farrowing – Making it Work*

2. **Dr. Denise Beaulieu, Prairie Swine Centre**  
   *Nutrition and Nursery Pigs – Are My Pigs Eating?*

**Day 2 – November 18, 2015**

**Drs. Terry Fonstad, University of Saskatchewan** and **Hubert Landry, PAMI,** update delegates on the status of the Transportation Biosecurity Project.

**Murray Elliott, FGC Limited** reviews methods for assessing the state of your production facilities and whether to renovate or rebuild.

**Eric Spell, President, AgCareers.com** focusses on human resources challenges and what it takes to build a great farm team!

**Steve Meyer, Ph.D., Express Markets Inc. Analytics** returns this year with economics and challenges for the North American pork industry.

**Gregory Simpson, Hypor, A Hendrix Genetics Company** determines the value of main production traits (mortalities, feed efficiency, etc.) and total system profitability.

**Dr. Candido Pomar, Agriculture and Agrio Food Canada** discusses adapting new technology in your swine operation.

**Mark Ferguson, Sask Pork** helps assess our industry’s competitive advantages.

**Ben Woolley, Sunterra Farms** will offer a practical approach to hog barn construction.

**Sask Pork’s Annual General Meeting** will be held at the conclusion of Symposium on November 18th.

The Saskatoon Inn and Conference Centre  
2002 Airport Drive, Saskatoon, SK is holding a block of rooms until October 16th. For reservations call 306-244-1440 or toll free 1-800-667-8789.

For more information contact Sask Pork  
Symposium Coordinator - Kim Browne  
Tel: 306-244-7752 or email kbrowne@saskpork.com  
www.saskpork.com
piglets. For piglets weaned at four weeks of age, ADG tended to be greater in piglets fed diets with antibiotics for week one of the trial \((P = 0.053)\), which also lead to improved G:F ratios during that week \((P = 0.042)\). Growth and G:F were unaffected by the inclusion of antibiotics from weeks two to 4 in the nursery. Feed intake tended to be higher in antibiotic-fed piglets during week 3 \((P = 0.079)\), and was significantly higher in week 4 \((P = 0.025)\) relative to piglets who received no Ab’s in the first week post-weaning \((930 \text{ g/d vs. } 900 \text{ g/d})\); however this did not impact G:F. We observed no dietary effects (sow diet or nursery diet) on the final body weight of piglets at nursery exit; however, regardless of dietary treatment, piglets weaned at three weeks of age were \(\sim 1.5 \text{ kg} \) heavier than those weaned at four weeks \((P < 0.05)\).

No effects were found in sow on the phase one diet on any of the blood measures taken when piglets were weaned at three weeks of age. When piglets were weaned at four weeks of age, piglets weaned from sows fed diets containing n-3 FA’s had lower white blood cell counts relative to those weaned from sows fed the control diet \((P < 0.05)\). White cell counts were unaffected by phase one diet, and neither sow nor phase one diet affected any of the other blood parameters measured.

Regardless of diet, piglets weaned at three weeks of age had lower creatine kinase (CK), aspartate aminotransferase (AST) and white blood cell (WBC) counts relative to those weaned at four weeks. CK and AST are enzymes involved in muscle catabolism, which may be a factor in why pigs weaned at three weeks of age were heavier at the end of the trial.

Conclusion

Results from this trial have clearly shown that in a high health situation, the use of in-feed antibiotics post-weaning had no benefit, regardless of weaning age. This experiment has also shown that, at nursery exit (eight weeks old), piglets weaned at three weeks of age had heavier body weights than those weaned at four weeks of age, which in part may be due to the fact that piglets weaned at three weeks had lower WBC, CK and AST counts relative to those weaned at four weeks. ■
Feeding wheat millrun to starter pigs

H. Garcia1, 2, L.F. Wang1, J.L. Landero1, E. Beltranena1, 3, M. Cervantes2, A. Morales2, R.T. Zijlstra1,*

1University of Alberta, Edmonton, AB; 2Instituto de Ciencias Agrícolas, Universidad Autónoma de Baja California, Mexicali, México; 3Alberta Agriculture and Rural Development, Edmonton, AB *E-mail address: ruurd.zijlstra@ualberta.ca

Take Home Message

Wheat millrun could be a cost-effective feedstuff for sustainable pork production. The effects of substitution of soybean meal (SBM) and wheat with increasing inclusion of wheat millrun on diet nutrient digestibility and growth performance of young pigs were evaluated. In total, 160 weaned pigs were fed five pelleted wheat-based diets containing 0, 5, 10, 15 or 20 per cent wheat millrun in substitution for up to 15 % SBM and 5 per cent wheat for three weeks starting two weeks after weaning at 21 days of age (Initial BW = 9.8 kg). Diets were balanced for net energy (NE) using canola oil and for digestible amino acids using crystalline amino acids. Increasing dietary inclusion of wheat millrun did not affect average daily feed intake and average daily gain, and improved feed conversion (feed:gain). In conclusion, 20 per cent wheat millrun can replace 15 per cent SBM and 5 per cent wheat in diets formulated to equal dietary NE value and standardized ileal digestible lysine content and fed to nursery pigs starting two weeks after weaning without detrimental effects on growth performance.

Why wheat millrun?

Alternative ingredients such as wheat co-products from flour milling of wheat such as wheat millrun or wheat middlings are increasingly included in swine diets to reduce feed cost. Annually, 700,000 MT of milling co-products from processing 3.1 million MT of wheat in Canadian flour mills could be destined for animal feeding. Feeding alternative feedstuffs provides challenges to achieve predictable growth performance. Compared with wheat grain, wheat millrun contains more crude protein (CP), lipids and fibre, and consequently has a lower net energy (NE) value. As an omnivorous species, swine has the potential to convert high fibre diets into pork products. However, concerns about high inclusion of wheat millrun in swine diet exist because dietary fibre of wheat millrun is difficult to digest.

Wheat millrun may provide an economic advantage by replacing part of soybean meal (SBM) in swine diets, because it is much cheaper. However, wheat millrun contains much less CP than SBM. Thus, it is a challenge for weaned pigs to replace dietary SBM with wheat millrun. Previously, an upper dietary inclusion of 15% wheat millrun was suggested for finishing pigs. However, little information exists on

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the upper limit of dietary inclusion of wheat millrun in substitution for SBM and wheat for weaned pigs without affecting growth performance while reducing feed cost.

**Nutrient profile of wheat millrun**

The wheat millrun sample was sourced from Masterfeeds (Edmonton, AB, Canada). The sample contained 12.1 per cent ADF, 37.0 per cent NDF, 16.8 per cent CP, 15.2 per cent starch, 0.74 per cent lysine and 0.72 per cent available lysine, 0.23 per cent methionine, 0.52 per cent threonine, and one per cent phosphorus on as fed basis.

**The weaned pig trial**

The animal trial was conducted at the Swine Research and Technology Centre, University of Alberta (Edmonton, AB, Canada).

Experimental diets were formulated to contain 0, 5, 10, 15 or 20% wheat millrun in substitution of up to 15 per cent SBM and 5 per cent wheat grain. Diets were formulated to provide 2.41 Mcal NE/kg, 4.39 g standardized ileal digestible (SID) lysine/Mcal NE and other amino acids as ideal ratios to lysine. Diets were balanced for NE using canola oil and for digestible amino acids using crystalline amino acids. Diets contained 5 per cent canola protein concentrate and 5 per cent herring meal as specialty ingredients. Diets did not contain antimicrobials or growth promoters. Diets were steam pelleted at 70°C.

In total, 160 pigs (Duroc × Large White/Landrace F1; Hypor, Regina, SK, Canada) were weaned at 21 days of age (Initial BW = 9.8 kg) and housed in 40 pens with 4 pigs in each pen. After weaning, pigs were fed sequentially commercial phase one and phase two diets (Hi-Pro Feeds, Sherwood Park, AB, Canada) for two and 12 days, respectively. Pigs in each pen were then fed a randomly allocated one of the five test diets for three weeks. Pigs had free access to water and the assigned diets. Individual pig body weight and pen feed disappearance were measured weekly.

**Trial results**

For the entire 21-day trial, increasing dietary inclusion of wheat millrun from 0 to 20 per cent did not affect feed intake or growth, and improved feed conversion (feed:gain; Figure 1). Final BW was 20.5, 19.9, 20.4, 20.6 and 20.6 kg for pigs fed 0, 5, 10, 15 and 20% wheat millrun, respectively, and was not affected by wheat millrun inclusion.

Increasing dietary inclusion of wheat millrun reduced the apparent total tract digestibility (ATTD) of gross energy of diets from 83.3 per cent to 79.3 per cent, but did not affect the ATTD of CP at about 80.3 per cent. Diet digestible

CONTINUED ON PAGE 68
Banff Pork Seminar

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energy values were maintained at about 3.35 Mcal/kg with increasing inclusion of wheat millrun and the predicted NE values of diets were increased from 2.36 to 2.38 Mcal/kg with increasing inclusion of canola oil.

**Cost vs. benefit**

Assuming prices per MT for wheat $240, wheat millrun $195, soybean meal $590, canola oil $1,165, L-lysine-HCl $2,020, L-threonine $4,600, and DL-methionine $8,000, increasing dietary inclusion of wheat millrun from 0 to 5, 10, 15 and 20%, reduced feed cost by $11.0, 20.0, 28.4 and 36.6 per MT, respectively; and reduced feed cost per unit of body weight gain by 3.3, 7.6, 10.3 and 11.6 cents/kg, respectively.

**Recommendation**

Wheat millrun is an alternative ingredient to be considered for weaned pigs. Once pigs are eating well at two weeks after weaning, up to 20 per cent wheat millrun can be included in diets for nursery pigs to replace up to 15 per cent SBM and five per cent wheat. Diets should be formulated based on NE and SID lysine content, so that growth performance of nursery pigs fed wheat millrun could be maintained.

**Acknowledgements**

Funding from the Alberta Crop Industry Development Fund, Alberta Pork, Danisco Animal Nutrition and Canola Council of Canada is acknowledged.
Good gracious, it’s the Fall issue again already? Where did the time go, it seems like summer had just begun. I’m not sure where the rest of the summer disappeared to so quickly, but I DO know where the first two weeks of July went. They were spent by your intrepid bacon aficionado visiting Canada! It was a thrilling adventure, and seeing and sampling the pork of Canada was not the least of it. I have to admit that the claims of Canadian pork quality are not hyperbole, the bacon and sausage I had the pleasure of trying were indeed of very high quality. Rest assured, I’m not just saying that as a visitor and a writer of a column that sings the praises of bacon. I had hoped to try a bacon recipe with Sheri, my host and editor of WHJ, but in my somewhat disorganized preparations for my trip, I forgot to copy and pack the recipe. Oh well, Sheri packed so many activities into the trip that cooking was a bit of a luxury anyway. We were nearly always on the go!

I also got to see more agriculture than I’ve seen in my entire life as I traversed Canada from Manitoba to Alberta. I live in a semi-rural area, but not an agricultural hotspot. In my area, there are mainly small herds of cattle, and I am not sure if the only hog farm that I was aware of is still in operation. I unfortunately did not get the opportunity to actually visit any farms, but of course saw many crops and much livestock of the bovine nature as I rode along with Sheri. And I learned a lot, as well.

Just as an example, while it is of course also grown to some degree here in the states, I had never seen canola before and was transfixed by the seas of yellow that were so widespread...
in many areas we travelled through. I have to confess that apart from reading articles here in WHJ about its use as feed and of course seeing the bottles of cooking oil on grocery store shelves, I had no idea what canola looked like or any idea what to expect. But I never would have guessed it would be so attractive! I took a lot of pictures of the fields as we passed them, as well as from the air as I rather sadly returned home when my stay had come to an end.

My introduction to a crop is just one small example. My journey was a wonderful experience, and the people of Canada equaled the experience! I hope to return someday. But until I do, I’ll continue providing our readers with amusing memes. This time though, I’ll include a photo I took. Check ‘em out!

Okay, maybe there is ONE impractical use of bacon!

Don’t leave home without one!

Canola Pac-Man bade me a fond farewell.

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3. In the past, the Western Hog Journal has presented very strong coverage in the research category. However, in the past two years, coverage of other industry issues such as economics, policy and topical issues has increased. Please select the types of stories that interest you the most.
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   - Articles and photo coverage of industry events.
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   If you have any topics not listed here, please share your ideas with us.
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