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## Volume 36 | Number 5 <br> Spring 2015

Date of Issue: May 2015

Published quarterly by Alberta Pork with cooperation from the British Columbia Hog Marketing Commission, Sask Pork and Manitoba Pork Council

## Subscriptions

For new subscriptions, change of address or other subscription queries, please contact Alberta Pork
Phone: 780-474-8288
Fax: 780-479-5128
Email: info@albertapork.com

Publications Mail Agreement
No. 40062769
Return Undeliverable
Canadian Addresses to:
Circulation Department
4828-89 Street
Edmonton, Alberta T6E 5K1

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Western Hog ${ }^{\text {jounal }}$ Message
from the
editor

Yes! Finally spring has arrived! It might not have been a winter for the record books, but it seemed awfully long to me.

I'm pretty excited about this year's spring edition of Western Hog Journal. Two of our feature stories aren't just exceptionally well written and engaging, the authors happen to be two people I'm very fond of as well!

Our cover story on antibiotics was written by Jennifer McFee, a journalist living in Winnipeg with whom I went to high school! In fact, we were both accepted into the same writing course in Grade 11, and we used to travel in some of the same circles. Many years went by, and we got back in touch thanks to Facebook. Jennifer really enjoyed doing this story, and I am hopeful we will continue to see her in future editions of the WHJ!

Our other cover story on the Quality Assurance Program was written by someone many of you may already know - Alberta Pork's Geoff Geddes. I discovered Geoff's talent when I first started as editor and I asked him to write an update on the activities of Alberta Pork. His unique style and natural writing ability simply shined, and I knew I just had to have him as a regular freelancer!

As always, I am really grateful for of all of the wonderful people that contribute to making this magazine an ongoing success. The board of Alberta Pork, Darcy Fitzgerald, our publisher and the big boss at Alberta Pork, James Shaw, our advertising specialist, and all of our contributors and partners. I'm really proud of the stellar research our industry continually comes up with, and I love giving our scientists the opportunity to showcase their work in these pages. Everyone has been a dream to work with, but the Prairie Swine Centre and the University of Manitoba's National Centre for Livestock and the Environment have been especially delightful and helpful.

Of course, there wouldn't be a magazine without our loyal readers! Over the past two years, I have come to know a few of you, and I continue to get excited every time I hear from someone new, so please don't be shy. And if you don't mind, please take the time to fill out the survey on page 32. You can mail it in, or you can visit the link to fill it out online. In either case, you'll be entered into a draw for a prize. The winner and the prize will be announced in our fall edition.

As always, please send in your story ideas, or even your cool industry-related photos. Until next time..
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${ }^{1}$ Fairbrother, J., Nadeau, E. and Gyles, C. 2005. Escherichia coli in postweaning diarrhea in pigs: an update on bacterial types, pathogenesis, and prevention strategies. Anim. Health Res. Rev. 6(1): 17-39.
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## Elanco

# Western <br> 官0, joURNAs <br> Neus and Views from Far and Near 

## Lallemand Animal Nutrition adds three to North American Team

Lallemand Animal Nutrition recently announced the addition of three new members to the Lallemand Animal Nutrition team - Steve Stephenson, territory business manager, Peter Sook, internal sales trainer and Lauren Kasten, marketing communications assistant.
"We are excited to have Steve, Peter and Lauren on board to strengthen Lallemand's commitment to providing our partners with profitable solutions to the animal agriculture industry," says Jeff Ast, commercial director, Lallemand Animal Nutrition, North America. "With their unique
experience in animal agriculture, they are all valuable additions to our team."

Stephenson brings 13 years of feed industry experience to this role, where he will be supporting the Lallemand Animal Nutrition silage inoculant portfolio in the Southwest. He graduated from West Texas A\&tM University in 2000 with a B.S. in Ag Business and Economics. Stephenson was previously the Beef and Dairy Focus Territory Manager for Alltech in Texas and New Mexico. Stephenson resides in Canyon, Texas.

Sook brings with him more than 31 years of experience from the feed business, working at Land O'Lakes for more than 22 years, and then joining ViCOR in 2006 working in various roles, including National Sales Manager and Eastern Business Manager. Sook resides in Spicer, Minn., and will serve as an Internal Sales Trainer for the Lallemand Animal Nutrition North American team.

Kasten is a December 2014 graduate of the University of Wisconsin-Whitewater with a B.S. in Communications, and more than 10 years of experience in the beef cattle showing industry. She will support the marketing functions for all portions of the Lallemand Animal Nutrition North American business. Kasten resides
in Milwaukee and will work out of the North American headquarters there.

Lallemand Animal Nutrition is committed to optimizing animal performance and wellbeing with specific natural microbial product and service solutions. Using sound science, proven results and knowledge, Lallemand Animal Nutrition develops, manufactures and markets high value yeast and bacteria products - including probiotics, silage inoculants and yeast derivatives - and offers a higher level of expertise, leadership and industry commitment to move our partners forward. For more information, please visit www. lallemandanimalnutrition.com.

## H.J. Heinz Co. and Kraft Foods to merge

For kids who grew up on KD smothered in ketchup, the recent merger announced by Heinz and Kraft is a match made in heaven. The two companies made international news in late March with the bombshell, which will result in Heinz shareholders with 51 per cent of the new entity - The Kraft Heinz Co. On their end, Kraft Foods shareholders will reportedly receive stock in the new company and a special cash dividend.


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## Western

News and Views

## Canarm introduces new group sow housing access stall

Canarm AgSystems has added a new group sow housing access stall to its sow products lineup that is made to last, but elegantly simple in design, with one pivot point.

The Easy-Choice is a strong and simple feeding access stall for sows in loose housing. Sows in such systems are free to move around until feeding at which point they enter a stall that closes behind them, and protects them from other sows while feeding.

The Easy-Choice gives the sow a safe place to eat, but its easy release means she can move about as she wants.

The Easy-Choice stall was designed by Canarm Ag


Systems to be simple and easy to maintain. A fluid balance actuator is all that runs the stall gate, with a single pivot point. The sow moves into the stall and her head changes the balance point, which closes a gate behind her. When she is finished eating, she moves backwards and her hindquarters change the balance point and moves the gate up, so she is free to leave. The gate remains open until the next sow enters the stall.
"We designed the Easy-Choice to stand up for years and to be dead simple to maintain,"
says Curtiss Littlejohn, Swine Products Manager with Canarm AgSystems. "It's another alternative for hog farmers moving to group sow housing."

Canarm AgSystems is proud to manufacture products in North America, specifically designed and built for North American conditions and backed by Canarm support and service. Canarm AgSystems is committed to being an industry leader in the evolution of sow housing and feeding systems over the next decade, through its

SowChoice Systems line of products.

Canarm Ltd. is a Canadianbased global manufacturer of agricultural, HVAC, commercial and residential ventilation and lighting equipment, with 275 employees and facilities in Canada, the United States and China. Canarm was named one of Canada's 50 Best Managed Companies in 2012 and re-qualified for this distinction in 2013. Find out more at www.canarm.com.

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## Western

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News and Views

## New faces at Genesus Genetics

Larry Bertrand has joined Genesus Genetics, as a Sales and Technical Representative in the Eastern Cornbelt.


Larry Bertrand
Larry's thirty-year career in pork procurement has led to many producer and industry relationships throughout the Midwest and Southern United States.

A native and graduate of Kankakee Illinois, he has worked with Tyson Foods,

Triumph Foods, and most recently with JBS USA in Illinois and surrounding states.

From his home in Monee, Illinois, Larry will use his accumulated skills and experience to help Genesus' current and future customers maximize the advantages that come from being associated with the leader in global swine genetics.
"Larry brings a wealth of swine experience and knowledge to the Genesus team. Genesus' goal is to continue to maximize genetic progress and profitability for our customers," said Jim Long, President and CEO of Genesus Inc.

Genesus would like to welcome Todd Thurman as Global Strategic Account Manager. Todd joins Genesus from Cargill where he had been since 1999. At Cargill Todd served as:

- Sow Genetic Multiplication Field Manager 1999-2001


Todd Thurman

- Sow Business Manager 45,000 sows on 75 farms in Arkansas, Oklahoma and Missouri 2001-2006
- Consulting General Manager Belgorod, Russia - new 25,000 sow farrow to finish 2007-2008
- Strategic Project Manager Cargill Animal Nutrition - USA, Brazil, China, Mexico, Russia and Philippines 2008 to 2014.

Todd is located near Dallas, Texas and will be responsible for leading Genesus efforts in large production systems in USA and other targeted countries. Todd is a graduate
of Texas Tech in Animal Science. He has production and sales experience domestically and globally.

Genesus also recently appointed Paul Anderson to the role of International Sales Manager. Paul will be primarily responsible for the further development of the Asian Market and the future growth in the European countries.

Paul joins Genesus after 27 years in genetic sales having first joined Newsham in January 1988, looking after the Midlands, Shropshire and the home counties of the UK.


Paul Anderson


Following the merger with JSR in the year 2000, Paul saw his responsibilities expand to become International Sales Director for JSR.

Understanding how the pig industry operates globally whilst developing and maintaining successful partnerships with local producers, is crucial to success.
"Relationships take a lot of time and effort to develop and have to be nurtured. With a strong product line-up, access to high health status high prolific animals from the largest registered purebred population in the world is what I have been waiting for. I am confident that with these easy to manage hyper prolific females we have what the pig producer wants and we can continue to build the reputation of Genesus Genetics across the globe," Paul said.

Jim Long, President and CEO of Genesus, said, "Paul's lifetime of working in the pig industry, 27 years of sales experience and working internationally within different cultures and known by so many in the industry is unrivalled and equips him with the contacts, skills and knowledge to grow the Genesus business."

## Osborne receives international certification for Stanfield Pig Heating Pad

Osborne Industries, Inc., a leading manufacturer and distributor of pig production equipment, has been awarded international electrical safety certifications on the Stanfield ${ }^{\circledR}$ Heat Pad, the company's electric heating pad for baby pigs.

In the CB Report, CA/16933/CSA, issued November 11, 2014, the Osborne Stanfield Pig Heating Pad was shown to be tested and compliant
with IEC Standards 60335-2-71 and 60335-1. The declaration was made by the CSA Group for Certification and Testing, Toronto, Ontario. Additionally, Osborne has received PSE Certification for conformity of its piglet heat mats in Japan and CE Certification for conformity in Europe. The company has maintained CSA Certification on the heating pads since 1983.

George Eakin, President and CEO of Osborne Industries, noted that, "The recent acquisition of these international electrical certifications further supports the safety and integrity

CONTINUED ON PAGE 12


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Western
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News and Views
of Stanfield Heating Pads, and proves their superiority over other electrical animal heaters."

The heating mat is manufactured with flameretardant and water-resistant fiberglass-reinforced plastic. The strong composition easily withstands the harsh environments on pig farms.

This year marks 42 years since Osborne introduced its signature Stanfield Heat Pad. At the time, it was the first product of its kind - an electric heating pad to help newly born piglets grow in a warm, safe, and healthy environment. Since then, Osborne has manufactured and distributed hundreds of thousands of heat pads worldwide and continues to deliver safe, reliable, and economical heat for baby pigs, due to the company's strong emphasis on quality. Osborne maintains an ISO 9001 certified quality management system.

For more information on Osborne Industries, Inc., or the Stanfield Heat Pad, please call 1-800-255-0316 or visit www. osbornelivestockequipment. com.

## Danish invention helps cover slats in pig areas

A Danish invention could help pig producers to increase the area of solid flooring without having to replace a fully slatted floored area.

Brian Johannsen, a Danish injection moulder in southwest Denmark, came up with the idea to convert slatted floors into solid areas by using gap covers. This incorporates a locking mechanism shaped like an arrowhead. The plastic covers (patent pending) are easily inserted between the slats by using a rubber mallet or by stamping on them, and once in place are practically impossible to remove.

The innovation is timely, as due to welfare considerations, many EU countries have

introduced legislation increasing the area of solid flooring in pens. Replacing flooring, however, can be an expensive exercise.

In Denmark, legislation relating to piggery flooring is very detailed. Fully slatted floors are banned and new regulations, which came into being in January 2013, mean
that producers will have to increase the proportion of solid flooring in pens.

The cover was initially produced for use in slatted areas with 1822 mm gaps. However Johannsen's company, Brian Johannsen Design (BJD) also manufactures one to fit $15-17 \mathrm{~mm}$ gaps, with both

widths generally being sold in 4 metre lengths for ease of transportation.

As well as being used to reduce slatted areas the covers can be used in high traffic areas such as in front of feeders to protect the edges of the slats plus they stop feed dropping into the slurry pits.

Danish veterinary specialist Pia Conradsen recommends fitting the covers under nipple drinkers as drinking water containing weak acid can over time start to erode the slats, especially the slat edges. She said, "Liquid feed often contains whey - this is acidic and again the covers can protect slats fitted next to the troughs from erosion."

By filling the gaps between the slats, drafts are reduced, thereby improving pig welfare. Filling the gaps also increases the solid area available for pigs to lie on.

Enquiries are coming in from Germany, Netherlands and Belgium. For more information, contact Julian Smith at slatgapcover @gmail.com.

## Topigs Norsvin introduces online Sow Feed Monitor

Topigs Norsvin recently introduced "a first of its kind" online Sow Feed Monitor. The Topigs Norsvin Sow Feed Monitor is an online tool that offers nutritionists and farmers the possibility to make a comparison between the average sow herd condition and Topigs

Norsvin's sow condition recommendations. The comparisons are made on the basis of sow bodyweight, backfat thickness, and body condition score (BCS) at farrowing and weaning. The aim of the Sow Feed Monitor is to improve sow herd uniformity by first measuring the existing condition variation and then to reduce this variation by adopting the most appropriate feed curves and nutritional strategies.

The Topigs Norsvin Sow Feed Monitor helps producers to identify the variation in sow herds and then to divide sows into body condition groups. The target is to get 85 per cent of all sows in the ideal body condition group at both farrowing and weaning. A high percentage of sows out of the ideal condition range increases sow feed cost, and impairs future reproduction performance. Therefore striving to get more sows in the ideal condition group will increase production and financial results and improve overall total herd feed efficiency.

The Topigs Norsvin Sow Feed Monitor is available for all its producers. Topigs Norsvin also provides its producers with additional support to explain and interpret the results and outcomes. A team of world-class nutritionists is available to help producers increase sow herd uniformity and productivity. For more information, please contact a local Topigs Norsvin distributor.


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## OPINION The View from Grier

## Get the lowdown on inventory, slaughter and demand

## Inventory Update

Statistics Canada now only releases two hog inventory reports each year as opposed to the four it used to release a


By Kevin Grier few years ago. As such while the January report was released a couple of months ago now, it is still worthwhile taking a look at what the report says.

The January livestock inventory data from Statistics Canada shows that Canada's sow herd increased

by about half a percentage point January 1 this year compared to last year. The sow herd declined by a small amount in eastern Canada and increased by more than one percent in western Canada. The sow herd increased by less than 6,000 head in Canada as a whole with an increase of 6,500 sows in the west.

More specifically in the east, the Ontario herd was largely unchanged while Quebec increased by less than 1,000 sows. In the meantime, the Maritime hog industry continues to erode with New Brunswick declining by over 1,000 sows. In the west the Manitoba herd declined a tiny amount while the Alberta herd increased by a tiny amount. The most interesting development in Canada is the big 6,600 head increase in the Saskatchewan herd. Clearly Saskatchewan is gaining with the ongoing Manitoba government squeeze on the Manitoba industry.

Of course the change in the sow herd leads to a change in the number of market hogs. In Saskatchewan, the people at StatsCan counted an additional14,000-15,000 weaner and feeder pigs while the Manitoba numbers were mostly unchanged. In Ontario the w/f supply is down by

## The Next

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nearly 20,000 head this year compared to last. With that noted however, the province is still going to be struggling to find hook space for an additional 34,000 head of market ready hogs this spring compared to last.

The bottom line is that the only real bright spot geographically is Saskatchewan.

Behind the numbers is the fact that some of the barns that went out of operation with the federal program are coming back on stream. One or two others that went out due to financial stress are also being put back into operation. With that said, it is not as if the increases, or decreases for that matter are particularly large. The smaller herd means small changes appear significant.

On another point, with regard to market hog numbers, the challenge is one of finishing capacity. While Saskatchewan saw modest increases in sows, the Prairies, particularly the eastern Prairies face a shortage of finishing spaces. Those looking for finishing space can't find it and those that have finishing space are in far better position than those that might have sow barns.

## Slaughter Trends

As of the first quarter of this year, Canadian hog slaughter has been running about $1.5 \%$ or more over the same period last year. Interestingly slaughter in the east and west are both up compared to last year. That is interesting because last year included Quality in the eastern slaughter mix. Agriculture Canada's publically available slaughter data does not break out provincial kill anymore due to confidentiality. The fact that eastern

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## OPINION The View from Grier

slaughter is up despite Quality gives an indication of just how much Quebec packers are able to up their kill with Ontario hogs.

Within the west, the publically available data breakout the provinces into BC and Alberta and then Manitoba and Sask. It appears that Alberta slaughter, and in particular Olymel Red Deer, is up by more than $4 \%$. Red Deer is likely slaughtering about 40,000 head per week, which would be a gain of about 2-3,000 compared to last year. Again, that shows how the plant is benefiting from the repatriation of the Big Sky weaners that previously went south.

Further east in Moose Jaw, Thunder Creek is also reportedly slaughtering more this year than last. Slaughter this year is probably over 5,000 head compared to well under 5,000 last year. That brings the discussion to the situation at Brandon. As noted in this report previously, HyLife in Neepawa is on a double shift and likely working through upwards of well over 30,000 weekly. That means Brandon is still struggling along at about 70,000 hogs each week. Maple Leaf lists that plant as having a capacity of 90,000. I estimate it was slaughtering about 74,000 last January and around 7580,000 in January 2013. For further reference numbers in the 85-90,000 head range would have been common in early 2012. Not only is the plant underutilized but the trend-line is disturbing.

## 2014 Pork Demand

Once StatsCan finalizes the consumption data for 2014, per capita pork consumption is likely to have declined by $2 \%$. That follows a 4\% decline in 2013 and a 4\% increase in 2012. The decline in 2014 was due in large measure to the $13 \%$ increase in pork prices during 2014.
When the prices and consumption are combined it leads to the conclusion that deflated Canadian pork expenditures were up by about $10 \%$ last year. Given the increase in pork
prices last year, based on previous year's demand patterns, it is surprising that pork consumption declined as little as it did. In other words, it appears that Canadian pork demand improved or increased in 2014. The overall demand pattern of the last five years indicates that pork demand might finally be stabilizing after several years of decline in Canada.
When it is all said and done, 2014 was a good year for pork demand. In fact it was a good year after several years of relatively poor demand. It might go without saying but poor demand is bad news for an industry. Weaker demand leads to lower pricing and declining revenues. An industry struggling with poor demand cannot afford mistakes or weaknesses in areas such as costs, supply or pricing. On the other hand an industry enjoying strong demand can get away with a multitude of failures.
One or two good years on the demand front does not necessarily mean that pork has turned the corner. One or two good years does not mean that a rising demand tide will float pork's boat from now on. With that said, for an industry that has had its share of struggles for the last several years, producers and packers will take good news whenever they can.
Kevin Grier is the senior market analyst at the George Morris Centre. He provides industry market reports and analysis, as well as consulting services. You can reach him at kevin@ georgemorris.org to comment or to request a free two-month trial of the Canadian Pork Market Review.

Story Ideas? Press release? Comments?

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## OPINION

## Canada and the U.S. - what's the difference, eh?

I recently finished a rather intense writing project for the federal government on Canada's efforts toward traceability. I had to learn and write about what every sector has done so far, and I was bursting with pride about our pork industry. It's impressive and inspiring to see how our producers, processors and industry partners have come together under the PigTrace Canada banner to safeguard our industry.
Canada's other sectors are making progress as well, but some are only at the animal identification stage of traceability. Others are well into premises identification, but most are still a long ways off from movement reporting. However, all sectors are committed to traceability and between BSE, PEDv and Avian Influenza, it's not tough these days to sell producers on the idea.

It's easy to see how trading partners like the U.S. and Canada will continue to harmonize policy and share resources. However, that can make it pretty tough to differentiate our product from theirs when it comes to the international markets, and traceability is definitely in our corner. The U.S. has a lot going for it in terms of capacity and reputation, but their political climate makes it difficult to unify producers under any one cause or action. Canada definitely has a story to tell not only about our quality and safety, but about our willingness to adapt to change and work together to keep our industry, our consumers and our animals safe.

After that government project was complete, I took a much-needed vacation to a couple of my favourite rattlesnake states - Arizona and Nevada.

Being early April, it was a little early for snakes, but it shouldn't have been too soon for spring calves, but I saw precious few. I have made many trips to the Southwest over the years, and seeing the horned cattle is one of my favourite parts. But I saw so few beef animals this time through that it was downright disturbing. And I have pretty secluded spots - I always drive down, and I go through a lot of backcountry getting to different locales for different rattler species, and I know a lot of the ranches. And a lot of those ranches looked pretty empty. In fact, if I had to guess, I would say cattle volume in
the Southwest appears to be down by about half compared to 10 years ago.

Of course, unlike our grasslands in Alberta and Saskatchewan, a lot of that ground probably isn't well suited for grazing to begin with, but it's still sad because I wonder what's become of those producers. Of course, the same exodus has happened in the pork industry, but it's a lot less visible from the road. Things are looking better for us now, but at what cost? How many people were forced out that

CONTINUED ON PAGE 18


## The evolution of electronic sow feeding

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## OPINION

will never be able to get back in? How many retirements were lost? How many are heartbroken because they've lost their way of life and they're now working a job they hate in the city? I know economists merely call these huge changes "corrections" but I find that callously clinical. (So, other than my terrible mathematics skills, we now know why I'm an editor instead of an economist...)


The other thing I noticed several times when I was away was how visible the price increases in beef were at the food service level. Several restaurants had notes taped to their menus or placards on their tables apologizing for having to raise the price of their beef dishes, but none of them explained why prices were so high. They would say things like, "Due to the unprecedented cost of beef, we have had to raise menu prices." I don't recall seeing anything like this anywhere in Canada, but please let me know if you've run into it here.


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Every time I shop for bacon in Canada, I marvel at how expensive it is now. But moreover, I am not sure how many consumers realize the packages actually contain less bacon now too! Before bacon became incredibly popular and prices started to rise, the packages were 500 grams. Today, most are 375 grams. I get that times change, and so does consumer demand and therefore price, but I also believe that it makes good business sense to keep consumers in the loop by being accountable and transparent. Loyalty can be a fickle beast, whether we're talking about spouses or food buyers. It's a lot easier to be loyal to a brand or a partner when they are consistent and upfront.
One aspect of the livestock business in the U.S. that I love is how frank and open the restaurant industry is about the reality of a good steak or rack of ribs - it means we eat an animal that was once alive. Of course, to us this is a nobrainer, but we all know how detached consumers have become from meat and meat production over the years. Take, for example, the newspaper letter to the editor that chastises hunters for killing animals when they could have bought meat from the grocery store where no animals were harmed. Whether that's a legit letter to the editor or just an Internet spoof, I have no idea, but as a lot of us in the industry know, it certainly could be real.
My mother, who has lived in the city her entire life, came to live with us for a year, (which was a challenge in itself, believe me!) but she has real issues with my hunting.
 The funniest part is that she loves a good steak, but the idea of eating something "wild" literally turned her stomach. However, when I would point out the beef cattle all around us, she would quickly forget how much she liked steak, and refuse to acknowledge the fact that the animals she was looking at would one day be food. It's a classic example of what psychologists call "cognitive dissonance" - the mental stress or discomfort experienced by individuals who hold contradictory beliefs or ideas at the same time.
But in the U.S., the food service industry has left a little less space for this to occur. There are restaurants there named after stockyards, beef breeds and other obvious direct animal linkages. And many steakhouses will literally have a giant statue of a big bull on the roof or a boar beside a Texas barbecue. Sure, maybe an uppity French food reviewer might find that a little garish, but I think it's an incredibly healthy trait both for producers as well as consumers. After all, how can we understand how something is raised if we don't acknowledge it was once alive?
sherimonk@gmail.com

## Resisting resistance - antibiotic use in agriculture

## Change is coming and according to some, not a second too soon

By Jennifer McFee
Consider it a case of survival of the fittest.
Bacteria are adept at adapting to survive in ever-changing conditions. As a result, they can quickly develop a resistance to the drugs designed to fight them.

When hogs or other animals develop a resistance to antimicrobial drugs, stronger alternative drugs may be used to treat the problem. In turn, humans and animals are both at risk of being exposed to increasingly resistant bacteria. The danger is that treatable illnesses could become more difficult or even impossible to cure.
To combat the threat of antimicrobial resistance, the Canadian government is phasing out growth promotion and growth production claims for all medically important antimicrobial drugs administered in feed or in drinking water to food-producing animals.

This is about protecting the antimicrobials that we have today so that they'll continue to work tomorrow in food-producing animals.

## ~ Dr. Egan Brockhoff

However, these products will still be available to farmers under the direction of a veterinarian if they are needed to tackle disease-related challenges.
This topic is drawing attention from Canadian experts, who gathered in Ottawa in March to discuss the use of antimicrobials in food animal production.

Jean Szkotnicki, president of the Canadian Animal Health Institute (CAHI), outlined the importance of the issue.
"This is happening on a global basis," Szkotnicki says.
"Canada is aligning with other countries of the world but CONTINUED ON PAGE 20


## Categorization of antimicrobial drugs based on importance in human medicine

(Taken from Health Canada website)

## 1. Gategory I: Very High Importance

These antimicrobials are considered of very high importance in human medicine as they meet the criteria of being essential for the treatment of serious bacterial infections and limited or no availability of alternative antimicrobials for effective treatment in case of emergence of resistance to these agents. Examples include:

- Carbapenems
- Cephalosporins - the third and fourth generations
- Fluoroquinolones
- Glycopeptides
- Glycylcyclines
- Ketolides
- Lipopeptides
- Monobactams
- Nitroimidazoles (metronidazole)
- Oxazolidinones
- Penicillin- $\beta$-lactamase inhibitor combinations
- Polymyxins (colistin)
- Therapeutic agents for tuberculosis (e.g., ethambutol, isoniazid, pyrazinamide and rifampin)


## 2. Gategory II: High Importance

Antimicrobials in this category consist of those that can be used to treat a variety of infections including serious infections and for which alternatives are generally available. Bacteria resistant to drugs of this category are generally susceptible to Category I drugs which could be used as the alternatives. Examples include:

- Aminoglycosides (except topical agents)
- Cephalosporins - the first and second generations (including cephamycins)
particularly the U.S., which has an effort going on right now to remove the growth promotion or production claims and to have veterinary oversight of the products."

Following suit, efforts are already underway in Canada to phase in changes. Last spring, CAHI agreed to work with the Veterinary Drug Directorate and Health Canada to align with American policies. As a result, companies that manufacture animal health products will need to change their labels to meet new regulations.
Canada currently has three types of label claims for feed medication: growth promotion, disease prevention and therapeutic treatment. Since growth promotion claims will be eliminated, labels will be limited to contain only prevention and treatment information.
"Many companies will just drop the growth promotion claim and change the label to keep the therapeutic claims," Szkotnicki says. "Other companies might look to either add therapeutic claims or update therapeutic claims on labels while removing the growth promotion claims."

Medically important antimicrobial drugs fall under the first three categories of Health Canada's four-tiered categorization system. In Canada, about 61 antimicrobial drugs have growth promotion or production claims, all belonging to either the Category II or Category III class.
The affected drug families include penicillins, aminoglycosides and tetracyclines, which are commonly used in the hog industry, as well as bacitracins, macrolides, streptogramins and sulfonamides.


Egan Brockhoff is the national animal health coordinator for the Canadian Pork Council. Photo courtesy Alberta Pork

The Canadian government is also looking to increase oversight for imported active pharmaceutical ingredients for veterinary or own-use purposes. The goal is to minimize antimicrobial resistance while protecting public health and food safety.
Dr. Egan Brockhoff, national animal health co-ordinator for the Canadian Pork Council, says the regulatory changes for own-use import won't impact the pork industry.

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"The type of products that they allow to come in aren't being brought in for pork production," Brockhoff says.

In addition, appropriate labels are already in place for most products used for swine, cattle and poultry, he says. But when it comes to smaller species, such as sheep and goats, companies might need more time to comply. The framework policies won't come into effect for at least 18 months, allowing time to adapt.
"This new movement to increase oversight is certainly the first step towards moving forward in this whole antimicrobial resistance and antimicrobial use discussion. It's a health threat for the planet in a huge way," Brockhoff says.
"Right now, the estimated economic cost of antimicrobial resistance in Canada is at least $\$ 1$ billion a year. It's huge. The United Kingdom made an estimate that antimicrobial resistance could lead to nearly 100 million deaths by 2050 if no action is taken. These are speculative numbers, but health and medical officials around the world are extremely conscious that this is a problem that we cannot ignore."


The Canadian government is phasing out growth promotion and growth production claims for medically important antimicrobial drugs administered in feed or in drinking water. Photo courtesy Alberta Pork

That said, the new regulations will not eliminate access to antimicrobials, he adds.
"Farmers will still have access to them in times of need, but there will be increased veterinary oversight. There has to be a

CONTINUED ON PAGE 22


- Fusidic acid
- Lincosamides
- Macrolides
- Penicillins
- Quinolones (except fluoroquinolones)
- Streptogramins
- Trimethoprim/sulfamethoxazole


## 3. Gategory III: Medium Importance

Antimicrobials in this category are used for treatment of bacterial infections for which alternatives are generally available. Infections caused by bacteria resistant to these drugs can, in general, be treated by Category II or I antimicrobials. Examples include:

- Aminocyclitols
- Aminoglycosides (topical agents)
- Bacitracins
- Fosfomycin
- Nitrofurans
- Phenicols
- Sulphonamides
- Tetracyclines
- Trimethoprim

4. Gategory IV: Low Importance

Antimicrobials in this category are currently not used in human medicine. Examples include:

- Flavophospholipols
- Ionophores
purpose for the medication," Brockhoff says. "A medical record has to be established by a veterinarian working with the farmer to understand what diseases are present and how they want to manage them. A farmer will only be allowed to use antimicrobials for prevention or disease treatment, not growth promotion."

For Brockhoff, the crux of the concern hinges on antimicrobial stewardship.
"This is about protecting the antimicrobials that we have today so that they'll continue to work tomorrow in food-producing animals. Foodproducing animals are like every other animal on the planet, including humans - from time to time, they get sick and they need to have access to an antimicrobial for disease treatment. The absence of antimicrobials for animals is a huge animal welfare issue," he says.
"We've seen from the European Union's experience that they've been able to decrease their total usage, but they've clearly shown to us that we still need access because there's no such thing as zero usage. Animals in a disease situation need access to antimicrobials at certain times - not very often, but when it happens, it's medically important."

Food safety is another key consideration in the use of antimicrobials. The Canadian Food Inspection Agency supports the prudent use of antimicrobial drugs in relation to animal health and welfare, livestock feeds and food safety.
"Unhealthy animals don't produce healthy food, so essentially that makes it a public health issue," says Brockhoff, who also stresses the importance of proper vaccination protocols. "A healthy ecosystem, a healthy public and a healthy population of animals makes a healthier planet. So removing antimicrobials from food-producing animals or animals in general is a public health risk."
One of the challenges, he adds, is a lack of data about antimicrobial use in North America. In Canada, the Canadian Integrated Program for Antimicrobial Resistance Surveillance is studying a set of 80 pig herds across the country, zeroing in on a subset of animals within the barns.



Antimicrobial resistance is a health threat for humans and animals, including hogs. Photo courtesy Alberta Pork
"There are only a handful of countries in the world that closely monitor their antimicrobial use," Brockhoff says. "We don't have good data yet, but hopefully that changes and there's increased interest in it."
In Quebec, the hog industry is actively working to increase its data collection on antimicrobial use. Throughout the province, prescriptions are already required for infeed veterinary drugs, and producers are not allowed to use antibiotics bought online.

Research is underway to better understand the use of antibiotics on Quebec's farms and to inform producers about adequate use, says Dora Rodriguez, health quality and R\&D director for Les Éleveurs de porcs du Québec.
"During the next three years, we will be monitoring the use on farms of antibiotics using mobile devices such as the iPad to facilitate the data collection. We're collecting data not only on the prescription but also on the real use," Rodriguez says.
"As an organization, we take the antibiotic resistance issue very seriously because
antibiotics are invaluable drugs for the health and welfare of animals, and antibiotic resistance could limit the treatment options. This is why we're actively working to generate the best information and training for our members to help them to work in collaboration with veterinarians to adequately use antibiotics."

The main focus remains on biosecurity as a fundamental measure to maintain healthy animals on the farm.
"There are other factors that need to be taken into account when producing pigs without antibiotics such as genetics, environment, the staff's capability of managing the herd... the health status," Rodriguez says. "It's like human health. You have to take into account many things, but for now we are really focusing on biosecurity."

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## Antimicrobial resistance 101

So what exactly IS antimicrobial resistance?
The term refers to the inability to use a drug clinically, explains Joe Rubin, assistant professor of veterinary microbiology at the Western College of Veterinary Medicine.
"If an organism is resistant to a drug, it means that if we have a patient or an animal who has an infection with that organism, we will have a low likelihood of success using that treatment," he says.

In the current discussions on the topic, the terms
"antibiotic" and "antimicrobial" are often used interchangeably. Antibiotics are compounds produced by microbes that can be used to treat bacterial infections. Antimicrobials include naturally produced compounds as well as synthetic or semi-synthetic compounds made in labs. Antibiotics fall under the antimicrobial umbrella, along with antivirals, antifungals and antiparasitics.

In any case, resistance is an entirely natural phenomenon.
"Many of the antimicrobials or antibiotics that we currently use are natural products produced by organisms that you find in nature. Microbial communities have been exposed to them for a really long time, so they've built up natural resistance to those compounds," Rubin says.
"When it becomes a problem clinically is when we encourage it to be more common through the use of antimicrobials."

In the over-arching discussion on which antimicrobial drugs are considered medically important to humans, Rubin says more attention should be focused on the biology of resistance.

If you have two resistant genes on a bacterial
chromosome, each chromosome might provide the
organism with resistance to a different drug. However, if you use either one of those drugs, you co-select resistance to both of them.

Continued on Page 26


Biosecurity is a key component to ensure animal health in the hog industry and beyond. Photo courtesy Alberta Pork

Compared to other provinces, Quebec maintains a proactive approach to the matter, she adds.
"We are very active in the implementation of the Quebec strategy on animal health and welfare, which includes antibiotic resistance prevention and proper use of antibiotics. We work in close collaboration with our stakeholders, such as the feed producers association, the veterinary associations, the ministry of agriculture, professors, packers and the universities," Rodriguez says.
"Quebec is reviewing a new regulation to prohibit the use of some Category I antibiotics used as prevention treatments, not the therapeutic use. This is also being discussed."
Looking to the future, Quebec's data collection also aims to find alternatives to antibiotic use.

And other options are available, notes Miles Beaudin, manager of quality assurance and labour programs for Manitoba Pork Council.
"There are ways around it to keep your animals healthy. Instead of using low grades of antibiotics all the time, farmers will be challenged to move away from antibiotics and rethink alternative choices," Beaudin says.


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#### Abstract

"Co-selection is a really important phenomenon that goes unrecognized in a lot of discussions," Rubin says. "I think that's missing a really important part of the story."

In order to identify solutions, it's essential to understand the magnitude of the problem, he adds. "I think antimicrobials are a very important tool in production medicine. They're required for animal welfare and to maintain a healthy population of animals for the food supply. We certainly don't want to have diseased animals providing the meat that goes into retail environments," Rubin says. "But they're only one part of the toolkit that veterinarians and producers have. Good biosecurity will reduce the incidences of disease overall, which will indirectly help to reduce the use of antimicrobials. It's in everybody's best interest to preserve antimicrobials, so we need to work together."


One alternative might be to add essential oils such as oregano or cinnamon to feed, he says. As well, organic acid from oranges or lemons can help the pig's stomach to acidify the feed.
"If you use prebiotics and probiotics, those are all natural things to put in the feed. There's a whole industry being developed right now to replace antibiotics. But the alternatives to antibiotics, like using organic acids or essential oils, always tend to be more expensive than using antibiotics," he says.

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"These alternative products are definitely a tool and they have been proven to help out, but I would say antibiotics are more effective if you use the right amount at the right dosage. Using antibiotics helps prevent mortality and it prevents animal distress and pain. It's an important tool to improve animal welfare."

To address the issue, it's imperative to gain a better understanding of the pig, from its external environment to its internal systems.
"We need to improve the environment a pig is in - the air quality, the number of pigs in a barn, ventilation. We're also trying to understand the stomach of the pig better. Sometimes a feed inflames the stomach of the pig. When you have stomach inflammation, you bring more blood to the stomach and the walls of the stomach thin out. You have the same amount of tissue, but now the surface area doubles or triples," Beaudin says.
"When the surface area becomes expanded, the gut becomes thinner and then the microbes get in there more. With the use of essential oils and modified diet, you don't agitate the stomach as much. Then the walls become thicker and more impermeable to bacteria, and the pigs stay healthier. So it's a combination of different factors in how we're going to move away from antibiotics."

The regulatory changes will also result in a closer relationship between farmers and veterinarians with a focus on herdhealth programs.
"It's going to be a better integration of discussion. I think medications are going to be used more effectively. Overall, we want the veterinarian and the farmer to create an environment where that pig uses less medication overall," Beaudin says.

## Overall, we want the veterinarian and the farmer to create an environment where that pig uses less medication overall. ~ Miles Beaudin

"As a precursor, they're going to have discussions outside of medication, like how do we set up our barn so we have less reliance on medication. I think that's probably the most important thing that farmers can do."

Thinking outside the barn, responsibility for antibiotic resistance extends beyond the animal realm. Alberta Pork's quality assurance co-ordinator Javier Bahamon says humans also need to ensure they follow doctors' directions when taking their own antibiotics.
"In my eyes, the biggest concern is that we need to regulate humans as well if we want to make resistance go away," Bahamon says. "So if your physician is giving you medicine, make sure that you follow the instructions so that you are finishing it."

If people don't finish taking the entire course of their prescription, problems can arise from unwanted bacteria lingering in the body. The weaker bacteria will be killed, but the resistant bacteria can survive and continue to spread.
"The point is we need to make sure that we are doing things correctly with human health as well," Bahamon says.
With the pending regulatory changes, Bahamon hopes to see increased oversight of antimicrobials without flat-out restrictions.
"This is a big issue for a lot of industries. I agree that we
need to take out the growth promotion and that we need to find another way to cover that part of care. But we don't want medication taken out of our industry entirely. That's the part that we are scared of," he says.
"We are doing our part by reviewing our protocols. Those growth promotion claims are going to be taken out, and there will be more oversights from veterinarians on prescriptions for everyone. That oversight needs to be happening in all the communities, not just for the pigs. I think it's a good thing that will happen to the industry."

## Fast food leader making big changes

McDonald's aims to rule the roost in the fight against antimicrobial resistance, one McNugget at a time.

Over the next two years, the American fastfood restaurants plan to work with poultry suppliers to stop using medically important antibiotics in chicken production.

Meanwhile in Canada, the fast food company hasn't hatched any decision to follow suit.

In a media statement, McDonald's Restaurants of Canada says the corporation will continue to be engaged with suppliers, experts, regulators and industry across the country.
"We remain committed to the safety and quality of the food we serve in our restaurants. Given Canada's sourcing practices and supply chain are different to those in the U.S., we will be evaluating the implications of only sourcing chicken raised without antibiotics that are important to human medicine," it states.
"As a leader in the Canadian food service industry, we will actively work with all our key stakeholders to identify the best path forward, while continuing to follow Health Canada regulations and working within the Canadian supply management system."

According to the statement, McDonald's Canada recognizes the leadership of its U.S. counterparts but has made no decision to change its current procedures.

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## How does the pork industry spell "Hot Topic"? C-Q-A


#### Abstract

As the Canadian Pork Council (CPC) looks to revise the Canadian Quality Assurance (CQA) Program, people are weighing in from every corner of the pork business on what the program, and proposed changes, mean to them and the industry as a whole. Take a look at what representatives from CPC, Alberta Pork and the veterinary community, as well as producers, have to say on the subject, then decide where you stand.


By Geoff Geddes

Canadian. Quality. Assurance. Taken separately, they're about as contentious as motherhood, maple syrup and the flag.

Put them together, though, and they can stir up some strong feelings and pointed discussions, especially now that change is in the air. Why is that?
"Producers have a lot on their plates," said Audrey Cameron, the National CQA Coordinator for the Canadian Pork Council. "It is understandable that the very mention of change to an existing program will raise concerns. But the driving force of the change is to make the program better for producers."

As with any issue, to fully appreciate where we're at and where we're headed, it helps to understand where we started.

## How CQA Got Underway

The CQA program is a national on-farm food safety and animal care program. Originally launched in 1998 to address food safety, the program was expanded in 2012 to include requirements for animal care.
"CQA was developed to set national standards for on-farm production," said Catherine Scovil, Associate Executive Director of the Canadian Pork Council.
"The objective was to develop a program for hog producers, by hog producers, rather than see provincial and federal
governments, processors or retailers create their own, which was seriously being considered at the time."

Producers on the program must keep accurate on-farm records and protocols, and have these reviewed by a program validator once a year. The farm facilities are examined by the validator on the initial visit, and every third year thereafter to ensure that program requirements are being met. Once the farm has met all the program standards, it can become CQA-recognized.

## Taking in the Views

So what do those who are directly impacted by the program have to say?
"Any program that helps identify chemical and physical hazards to safe pork production is a positive one," said Dr. Egan Brockhoff, a leading swine veterinarian and owner of Prairie Swine Health Services in Red Deer, Alberta.
"20 years ago, producers were not as focused on feed risks, water risks and meeting drug withdrawal requirements.
Today, we rarely find someone not in compliance with CQA, and when we do, it's a great opportunity for education to ensure best practices going forward."

Technically, CQA may stand for Canadian Quality Assurance; but these days, it means a lot more.

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## Change

Currently, CQA is undergoing a major renovation. In response to a comprehensive survey of producers, program validators and processors, the CPC will be launching a revised On-Farm Programs Platform in 2016 with a new look and structure. The intent is to achieve four main objectives:

1. Update existing programs to better meet producer needs.
2. Revise programs to be more objective and easier to use.
3. Make on-farm audits (assessment) easier, more consistent and transparent.
4. Provide producer benefits.

According to Scovil, "we are developing a more streamlined CQA program which includes both food safety and animal welfare, a program that is beneficial to producers and valuable to customers. The program is our commitment to the fundamental principles of taking excellent care of the animals in our charge, and producing safe, high quality products. Strong and credible, CQA helps our industry gain and maintain access to markets, both at home and around the globe. "

As Cameron sees it, "CQA is a solid program needing a few adjustments to meet producer needs and to emphasize transparency and credibility. Our main goal is to give producers a sense of ownership with the program, so that when it comes out they can say 'I'm proud of this program and proud of what I do: Providing food for the world."

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## Committed Committees

To ensure that the revised program achieves its goals and attains producer buy－in，the process is being handled by a set of committees．One will address overall management and delivery of the program while two others take on the technical content of the program for food safety and animal care．Each committee is made up of producers from across Canada，veterinarians，technical experts and CQA provincial coordinators．

Draft documents are currently being prepared and pilot testing of the materials is planned for this fall．The objective is for a new program to be rolled out in early 2016.

In his role on the food safety technical committee，Javier Bahamon－Animal Care \＆t Quality Assurance Coordinator for Alberta Pork－likes what he sees so far．
＂As an industry，we need to look at new tools for new challenges in regard to disease，market access，trade and animal welfare．It＇s so important to take a proactive approach to these issues instead of always being caught in reactive mode．＂

Dr．Brockhoff，who serves on both the food safety and management committees，echoes those sentiments．
＂The global meat market expects nothing less than a HAACP （Hazard Analysis \＆t Critical Control Points）program．We’re seeing more and more demand for increased scrutiny and oversight，and we＇re far better off meeting that demand through a producer－driven program than having something forced upon us．＂

## Questions

While few would question the importance of food safety and animal care，a few more have asked if CQA is the optimal way to address those issues．
＂As a hog producer，and I＇m sure other producers feel the same，I sometimes find it hard to understand the value of such a program，＂said Martin Bowman，production director for Verus Swine Management Services in Calgary and a participant in the CQA review process．
＂But I＇m a firm believer that if you＇re not evolving and trying to be better than you were yesterday，you are truly going backwards．＂

So if it＇s a question of how best to advance the industry，is CQA the answer？It all depends on who you ask．
＂When CQA first started 20 years ago，it was a producer driven initiative，＂said Andy Vanessen，a hog farmer in Picture Butte，Alberta since 1978.
＂These changes，though，are being driven from the top down， not the bottom up．People who don＇t own pigs are saying＇we know what＇s best for you；it＇s for your own good．＂

While Vanessen himself is CQA certified，mostly so that he can speak from experience on the subject，he questions its relevance．
＂Packers look at you like you＇re a second－class citizen if you＇re not on CQA，but if they aren＇t demanding it，why should you have to do it？It hasn＇t increased consumption， we don＇t get paid more to be on it and I don＇t hear any producers asking for it．So who＇s driving the bus here？＂

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Never one to shy away from controversy, Vanessen bristles at what he calls the "herd mentality" of some producers surrounding CQA.
"It's like 'The Emperor's New Clothes'. His subjects were told that if they couldn't see his new attire, it meant they were stupid or incompetent, so no one dared say anything until a child cried out "but he isn't wearing anything at all!"

For his part, Bowman agrees with the need for a critical eye, saying that "we owe it to ourselves to review and pick apart the current program to make sure it's solid."

But at the end of the day, he believes CQA will withstand the scrutiny.
"It (CQA) is a standard that is recognized worldwide, not only by buyers of Canadian pork but by other producers in other countries who have mimicked what we're doing or gone even further to create a marketing edge for their product."

Bowman sees other benefits as well.
"In an improved format that focuses strongly on the value to the producer, I believe CQA could serve as a great training aid for barn staff and new employees, and the biosecurity
portion played a key role in keeping PEDv off our farms. The program also kept markets open for us when Ractopamine became an issue, allowing us to confirm and verify what we do. For example, Russia would have rejected our products if we just said 'we're Ractopamine-free; trust us.' I can't see Putin buying that one."

As far as receiving extra revenue for participating in CQA, Bowman is not optimistic.
"Unfortunately, I don't think we can use the program to demand extra revenue for our pigs, but I am also pretty certain that without CQA, Canadian pigs will eventually be discounted for not having a food safety program."

## Value Judgments

As Executive Director of Alberta Pork, Darcy Fitzgerald has a unique vantage point to assess CQA and the sentiments around it. Like other issues he has encountered, this one is not clear cut, with a generous helping of grey to go with the black and white viewpoints of some.
"In the marketplace today, it's all about saying what you do and doing what you say. You must be able to prove that

CONTINUED ON PAGE 32

you're keeping your promise to the public, and CQA is a wellaccepted producer tool that allows you to do that."

While he's sold on the program itself, he's taking a wait-andsee approach before buying into the impending changes.
"We must ensure that any revisions are of value to producers and that we have a firm grasp on who is asking for the changes and why. CQA is a producer program, CPC is a producer organization and any potential changes should be reviewed by the provincial pork boards to garner appropriate producer feedback before changes are made."

## Accountability

It's one of those buzzwords that is frequently spoken yet rarely seen. But many feel it lies at the heart of the CQA program and the current debate.
"If we're doing a good job, and we are, we should stand up as an industry and wear that CQA badge with pride," said Bowman.

Others, like Vanessen, see it a bit differently.
"Having a sticker on my barn that says 'CQA certified' doesn't make me a better producer. I've been raising hogs for 35 years and somehow managing to keep my pigs healthy and comfortable and my pork safe. I don't need a sticker for that."

From where he stands, Fitzgerald can see both sides of the issue and tries to take a big picture view.
"From cars to coffee, every product has a CQA equivalent that represents accountability to consumers. Their expectations are very high when it comes to the food they put in their bodies and the demands they place on everyone in the food chain. The use of CQA helps create that assurance for the industry."

One thing that's critical, he said, is to never forget the importance of producers in the equation.
"We just need to make sure that in the process, we aren't unnecessarily burdening producers to the point that they can no longer make a living. I love what I do, but if I lost money every time I came to work, I'd stop coming. Let's make sure there is value for the producer for his efforts."
Clearly, there is a lot to iron out before the latest version of CQA goes from theory to reality. Even Scovil concedes there are challenges.
"The groups responsible for program revision include producers and their voices have been clear. A new program must be easy to use, transparent and provide useful tools that can be applied on farm. For producers to get on board, they must see value in the changes, and it's up to us to demonstrate that."

From her perspective, Cameron appreciates the daunting task of being all things to all people.
"Our country is vast with countless types and sizes of hog farming operations. Revision of the program must take that into account so that the new version will work for everyone, everywhere."

Before taking effect, the revised program must be reviewed by the management group, approved by the CPC board and pilot tested on farm.

Ultimately, both supporters and detractors of the Canadian Quality Assurance program and impending changes hope that "C" is for collaboration, as every sector of the industry works together to ensure fairness and sustainability. And what could be more Canadian than that?


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# Faces and Places natam 

## Ontario Pork Congress to deliver engaging events, education and tasty eats

## The Ontario Pork Congress is pleased to announce the launch of its 42nd show, slated to take place June 17 and 18 at the Stratford Rotary Complex in Stratford, Ontario.

Bringing together all segments of the pork industry under one roof, the Ontario Pork Congress is an annual celebration that aims to educate, showcase the latest technologies and highlight innovation within a healthy Ontario pork sector.

The 2014 Pork Congress boasted some 2,000 attendees, along with nearly 200 international exhibitors representing many different branches of the pork industry, from feed and health products, to sow housing and digital tools.

Christine Schoonderwoerd, president and promotions chair of the 2015 Pork Congress and long-time committee member, says that organizers expect to have roughly the

same number of attendees and exhibitors turn out for this year's congress.

As far as this year's flagship events are concerned, Schoonderwoerd and the organizing committee are optimistic that they will be able to host live hogs at the perennially popular Bacon Maker Classic barrow show event.
"The decision whether to allow live hogs or not at this year's event will really be dependent on the level of Porcine Epidemic Diarrhea (PED) activity in Ontario," she explains. "In the weeks and months leading up to the event, we will be working closely with our veterinarian advisors to ensure that we're making the most safe and informed decision possible."

Making a return after its well-received debut last year, the OSI (Ontario Swine Improvement) Bacon Maker Classic Educational Pavilion will take attendees through a series of interactive stations that provide a behind-the-scenes glimpse into the entire pork production process.

Attendees wanting to expand their pork palate can also look forward to Taste the Best, a "swine and wine"-themed event that features tastings of local pork products prepared in creative ways by a small selection of local chefs, accompanied by wine samples. A barbecue pork lunch will again be included with admission, making for a delicious day of networking and education.

To work off all of the tasty food fare, Pork Congress attendees can sign up for the Hog Jog, a 3.5 kilometer run and walk, as well as a 10 kilometer run that draws hundreds of participants and brings much-needed awareness and donations to a local charity.
"This year's Pork Congress organizing committee is as committed as always to making this year's event another success that educates, engages and excites industry veterans and the public about the strong pork sector we have here in Ontario," says Schoonderwoerd.

## Take our survey and WIN世世

The Western Hog Journal has always been committed to serving the western Canadian swine industry, and part of that commitment is staying in touch with the desires and preferences of our readers. Please take the time to fill out this survey so that we can serve you better. You can either fill it out right here and mail it in, or you can visit www.surveymonkey.com/r/HogJournal and save a trip to the post office.
The winner and the prize will be announced in the fall 2015 edition of the Western Hog Journal.

## Western Hog Journal Readership Survey

1. Do you currently subscribe to the Western Hog Journal?
O Yes O No
If you would like to receive the Western Hog Journal, please provide your name, your role in the industry, and your mailing address.
$\qquad$
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2. How well do you think the Western Hog Journal covers the Canadian swine industry? $\qquad$
$\qquad$
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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.
O Articles about the economics of the pork industry, such as retail pricing, trade agreements, processor pricing.
O Articles about the politics of the pork industry, such as country of origin labeling, trade disputes, provincial issues such as the moratorium in Manitoba.
O Articles about controversial issues such as animal rights organizations, and labour shortages.
O Articles about the latest research in the industry such as scientific papers and reports.
O Articles about new production techniques and new products in the industry.
O Articles and photo coverage of industry events.
O Articles about consumer and retail trends.

If you have any topics not listed here, please share your ideas with us.
4. Is Western Hog Journal your pork industry magazine of choice?
O Yes O No
What other industry publications do you read?
5. If Western Hog Journal was to develop a website, would you visit the site to read articles and receive timely information about developments in the swine industry?
O Yes
O No
O Unsure

Which industry-related websites do you currently visit? $\qquad$
$\qquad$

CONTINUED ON PAGE 36


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6. Do you usually read most of the publication, only parts, or just scan the material?
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O I only read parts of the magazine.
O l just scan the magazine.
7. Western Hog Journal publishes five editions annually. Please mark the editions you typically read.
O Winter
O Summer edition
O Special Banff
O Fall edition
O Spring edition
If you have a favourite edition, please let us know what it is, and why. $\qquad$
$\qquad$
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8. People often share magazines, and a single copy may be read by several household members or employees. In your estimation, how many other people read the copy of Western Hog Journal that you receive?
O One person
O Four people
O Two people
O Five or more people

O Three people
If you would like to receive additional copies of the Western Hog Journal for your employees, please tell us how many extra copies you would like each time the magazine is published, and please provide your name and address.
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9. The strong support the Western Hog Journal receives from our advertisers is what enables us to continue to provide such indepth industry coverage. When you read the Western Hog Journal, do you notice and act on the advertisements?
O I frequently notice the advertisements and will act on them if the product/ service is of interest to me.

O I occasionally notice the advertisements and will act on them if the product/ service is of interest to me.
O I don't often notice the advertisements or act on them.

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10. What is your involvement in the pork industry?

| O Producer | O Industry organization |
| :--- | :--- |
| O Supplier | O Government |
| O Researcher | O Processing |
| O Animal health | O Wholesale/retail |
| O Other |  |

11. If you are a producer, how many hogs does your operation sell annually?
O 2,000-2,999
O 5,000-9,000
O 3,000-4,999
O More than 10,000
O Other $\qquad$
12. How optimistic do you feel about the future of the hog industry in Canada?

O Very optimistic
O Somewhat optimistic
O Not optimistic
Please share any additional thoughts you may have about the future of the Canadian hog industry here.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
13. Would you like to be entered into a draw for completing this survey? If you select "yes" please be sure to provide your email address on the line provided. Thank you for taking the time to complete this survey!
O Yes O No

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## Industry News

## Alberta Pork springs forward as winter falls back

By Geoff Geddes, Alberta Pork

While some were still adjusting to moving their clocks forward, Alberta Pork was plowing ahead with a number of initiatives to support producers.

Even after 4 years, I continue to be impressed with the commitment of our board and executive director to "doing what's right" for "those who pay the bills". As we sat planning our meetings and events for the coming months, it struck me how every decision is based on one guiding principle: Whether the benefit to producers will justify the cost. If it doesn't bring value to them, we don't do it; simple as that.


Coming from the PR guy, it may sound like puffery or much ado about nothing. But in an age where governments, businesses and non-profits alike have been admonished for overspending, I think it's really something.
(Brief intermission as I carefully dismount the soap box)

## Telephone Town Hall Rings in a New Era

Whoever said talk is cheap has never paid 100 bucks for 10 minutes with a lawyer. Fortunately, our calls bear a lot more fruit for a fraction of the cost. Since launching in January of 2014 after PED arrived in Canada, we've held 15 telephone town halls focused on that disease, with almost 3000 participants.
So it seemed a natural progression to start including other issues of interest to producers and industry. For our February call, in addition to our regular PED update, we hosted a discussion of pain mitigation in the revised code of practice. We followed
that up by posting a summary of the key points on our website, and we've received a lot of positive feedback since then. How many lawyers can say that?

## And the Survey Says...

Maybe you're too young to remember Richard Dawson on Family Feud, and that's probably a good thing. But the man knew the importance of surveys. So does Alberta Pork, and as a lot has changed in the industry since our last producer survey four years ago, the time has come for a sequel.
We always have mixed feelings with such an undertaking. While we love talking to producers and hearing their concerns, we also know how busy they are. Ultimately though, we need them to help us help them (or something like that). To do the best possible job for those we serve, it's critical that we have up-to-date information on the industry and current facts and figures on pork production in Alberta.

That way, we can ensure that the programs we're working on meet
producer needs while effectively advocating for them with government. It also helps us tell their story to media and consumers. And let's face it; with outdated figures and fuzzy details, even the most compelling story will fall flat. So when your phone rings and the display says "Alberta Pork", remember: This call is for you.

## Meat and Greet

In May, the newest version of our regional meetings is coming to town; four towns, in fact. In light of the impact of PED and other diseases on our industry of late, we have some timely talks from experts on pressing issues such as the use of blood plasma in feed, antibiotics, the Code of Practice and PED/SDCV updates. We'll also have the latest on Alberta Pork programs and progress from Chairman Frank Novak and Executive Director Darcy Fitzgerald.

Talking with producers face-to-face is always a highlight, but this year is especially noteworthy with five board positions up for election. Given their busy schedules, it can be a challenge to find producers willing to throw their hat in the ring. That's understandable, but at the same time, they're missing a prime opportunity to help shape their industry for years to come, one that many of us would love to have. So while I'll never begrudge the producers who don't seize the chance, my hat's off to those who do.

## Pork Congress Packs a Punch

The annual trade show in Red Deer may not draw participants from around the globe like the Banff Pork Seminar, but it's still an "out of this world" experience. I say that partly because it attracts people from every corner of the industry and celebrates the best of the best at its renowned banquet. It goes deeper than that, however.
What I really value is the chance to shake hands with more producers over a two day period than at any other time of the year. It reminds me why I love what I do and admire the people I do it for. Year after year, through upswings and downturns, they come out with heads held high and a ready smile for old friends.

Sure, there are similar events in other, less tumultuous industries that boast better attendance. But it's easy to be buoyant when you always have smooth sailing. Show me someone who can absorb the worst and still give his best, and then give me three guesses as to his occupation. On second thought, don't bother; I'll only need one.
Whew! Between town halls, survey calls and a multitude of meetings, it adds up to a lot of talking with producers, and I can't ask for more than that; unless, of course, I was paid by the word. Hmmmm...


## Ask a Vet $\oplus \odot \odot$

What does the new Code mean for elective
surgical procedures?
By Dawn Magrath, Innovative Veterinary Services, Lethbridge, Alberta


While there currently is much discussion about possible options for pain management for elective surgical procedures on piglets, I have found that many producers are still walking away from meetings and after reading articles, with much confusion about the real message of why analgesia is required. Not only that, they still

struggle to fathom how they are actually going to put these guidelines into action.

First of all, let's bear in mind the very reason we castrate and tail dock in the first place - both of which are elective procedures performed on neonatal piglets, typically in the first week of life.

1. Castration is performed to prevent the development of "Boar taint" that would normally develop in the meat of intact mature male pigs. It is caused by the production of androstenone from the testes, which gets absorbed into fat tissue and also skatole, a metabolite of tryptophan (formed in the hindgut), which also concentrates in fat tissue. The trend in North America is to continue to increase market weight, rather than decrease it, so surgical castration, or alternatives to surgical castration being required, is inevitable for the industry.
2. Tail docking is performed to prevent cannibalism of the tails in growing pigs, which itself can be a welfare issue. "Tail biting" can be a common vice seen in semi-intensive and intensive swine operations and tail docking has been proven to significantly reduce this issue.

Secondly, let's think about the reasons that we are discussing and recommending analgesia (pain relief) and in some cases local anesthesia ("numbing" of the local tissue where surgery is performed). Surgical procedures are painful, from the initial incision through the skin, which is a highly sensitive organ, to removal of the testes, which puts tension on nerves supplying the reproductive organs.
We also know that the younger tail docking is performed, the better, due to the fact that as the pig ages, the nerve and blood supply gets stronger and hence the procedure is much more invasive with each day increase in age.

However, what none of the recommended practices within the new code do, is address the actual act of these procedures. The pig is still going to feel the pain of castration. Even if I administer a non-steroidal antiinflammatory drug (NSAID), prior to castration, the piglets will still feel the surgery. Not only that, the visual of the act of castration could be described as somewhat barbaric to the untrained eye. If you were to infiltrate local anethestic into the area surgery will be performed, that process itself is also very painful and could cause more tissue damage if done incorrectly.

## Let's get practical!

So how can we satisfy the code, in practical terms?

1. My first suggestion is always to perform these surgical procedures as young as possible.
2. Find an alternative to surgical castration - such as Improvest ${ }^{\mathrm{TM}}$.

Due to the fact that analgesia must be administered for both tail docking AND castration, my recommendation is to perform both of these procedures at the same time. With
both Anafen and Metacam, we would want to reduce the treatment frequency in neonatal animals.

For SURGICAL CASTRATION, the following protocol could be utilized:
a) If teeth clipping is deemed essential, perform in the first 24 hours.
b) If tail docking is recommended, perform in the first 24 hours. Do NOT leave tails to when other processing is performed for convenience of the staff. I believe if tails are docked in the first 24 hours, that no pain relief is required and this is the case when puppies are tail docked. Giving analgesics to animals that young is simply not safe to do.
c) I recommend that castration should be performed in the first 7 days of life. Administer medication as prescribed by your herd veterinarian. Hold piglet safely and perform castration by trained personnel.
d) Place piglet back to the farrowing pen.

I believe that alternatives to surgical castration require much more discussion.

CONTINUED ON PAGE 42


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1) Improvest works by manipulating the pig's own immune system, to produce antibodies against one of the hormones responsible for the development of the testes. This results in suppressing the most common cause of boar taint.

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2) Pigs are injected by trained personnel with two doses of Improvest subcutaneously, directly behind the ear. Each dose is 2 ml .
3) The first dose can be administered after 9 weeks of age.
4) Then after a minimum interval of 4 weeks, but longer is also fine, the second dose can be administered.
5) The second dose can be given from as far as 10 weeks from slaughter and as little as 3 weeks from slaughter.
6) Timing of second dose may be dictated by the amount of backfat desired.
7) 2 weeks after the second dose, a compliance inspection
is performed by trained personnel and if there are any pigs displaying boar behaviour, they can be re-injected.

What we do know, is that this product is effective $100 \%$ of the time, when 2 doses are administered correctly.
After performing a trial with this product on an integrated farm, I was extremely happy with the results. We had no concerns with boar taint. There were no carcass, or meat quality concerns.

The producers really liked not having to castrate and we were able to capitalize on the $1-2$ per cent of ridglings that most farms are not able to.

Mortality pre-wean and post weaning was already low, so we didn't see any significance there, however I would expect that some farms that battle with swollen joints and umbilical hernias after castrating, may also see some benefits there.
We are now moving forward with another trial, slightly altering timing of the second dose to get a leaner carcass. I look forward to sharing those results.
In the meantime, I'd suggest that all producers take a look at this option and begin discussions with your packers. To me, this is the only real welfare-friendly alternative to surgical castration.

## Are you reading someone else's copy of the Western Hog Journal?

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## What's New at Alberta Farm Animal Care?

Submitted by Alberta Farm Animal Care

## Humane handling guidelines

Alberta Farm Animal Care recently received funding through the Growing Forward 2 Livestock Welfare Delivery Agent program to review, update, and create a series of Humane Handling Guidelines. These booklets were previously developed in collaboration with our industry partners and include Guidelines for beef cattle, dairy cattle, equine, sheep, and swine. As the national Codes of Practice for all of these species have been recently updated, there is a need to ensure that these industry Guidelines are up to snuff and useful for farmers. The first Guideline to be updated (Humane Handling of Sheep - Standards for the Care of Unfit Animals) is already complete! We are now working hard, in collaboration with Alberta Pork and other industry groups, on the Swine Guideline.

The updated version of these booklets will help farmers, handlers, and other industry personnel by identifying injuries and disease conditions, providing options for treatment or euthanasia, and explicitly laying out the relevant legislation and regulations that pertain to the health and welfare of animals in Alberta. The updated Guidelines will include illustrations or photos of each condition as well as information and pictures on identifying lameness and proper body condition scoring.

## Exploring consumer perceptions around animal welfare

In order to improve the connection with the general public, Alberta Farm Animal Care has completed market research around exploring the perceptions of Albertan consumers regarding animal health and welfare.


After many in-depth interviews across Alberta, seven animal health and welfare "consumer perceptions" were found:

1) Some consumers felt natural space in Alberta helped animal welfare
2) Many consumers expressed concerns around animal confinement
3) Many consumers expressed concerns around "superfarms"
4) Many consumers expressed concerns around hormones and antibiotics
5) Some consumers expressed concerns around the slaughter process
6) Some consumers expressed concerns around physical handling
7) Consumers look for government and industry to take responsibility
As well, our research partner, Intensions, has created a model based on the theory of morphological psychology, which systematically represents fundamental human motivations through psychological needs and tensions. By understanding how these psychological needs and tensions occur in different contexts, we are able to better explain the motivations that influence human experience and behaviour. For our purposes, this model helps us to understand how consumers approach the topic of animal health and welfare in Alberta.

In this model there are 4 distinct groups that were found: instinctive carnivore, pragmatic suppressors, selective idealists, and conscious rejecters. These distinctions were used when conducting a representative survey of Albertans. This survey linked motivations and thoughts with actual purchasing behaviour. Sign up for our e-newsletter to find out the results of the survey here: http://ow.ly/KKjKy

## Connecting with the community

Lastly, we've had the opportunity to speak at Lethbridge College, Olds College, Lakeland College, and the 4-H Beef and Sheep Leaders' Update. AFAC is currently establishing/ re-establishing connections with all agricultural education institutions, and these groups have been our first stops on this new outreach initiative. We spoke on topics such as animal welfare, AFAC programs, and examined some case studies (i.e. recent dairy "abuse" video, WHE video, etc.). Let us know if you're interested in having someone from AFAC come and speak to your group!

## Upcoming events

## Canadian Livestock Transport Conference

It's been a decade since the inaugural livestock transportation conference here in Calgary and it's coming back! Canadian Livestock Transport (CLT) is hosting this highly successful conference on May 6, 2015 along with the Animal Transportation Association's (ATA) International Conference.
World renowned animal welfare expert, Dr. Temple Grandin, will hold the place of keynote speaker, addressing the relevant topic of animal welfare during transportation. The full agenda can be viewed at www.livestocktransport.ca.
Alberta Farm Animal Care first created CLT before the program was transferred to a national group, the Canadian Animal Health Coalition (CAHC), in 2013. The CAHC is a non-profit organization that serves Canada's farm animal industry and was formed from a partnership of organizations recognizing a shared responsibility for an effective Canadian animal health system. Hope to see you all there!

## Building web cred - online brand strategy in a noisy world

Interested in maximizing your visibility and reach using social media? We're here to help! Alberta Farm Animal Care,
in partnership with the Farm0n Foundation, has created a hands-on experience designed to help you build and market your brand while engaging with the public in open dialogue. The gurus at Farm0n will empower you to use social media in your business and will provide you with the tools for successful marketing!

New to social media, consider taking the basic-level course, with topics like: The Rules Of Engagement - How To Engage On Social Media Effectively, Context is Key - What Content To Use For Each Site, Content Creation - How To Save Time and Effectively Create Content That Works, and more.
More advanced on your social media journey, we can help you take the next step with the advanced-level course, including topics covering: Creating Your Customer Avatar, Market/Content Research- Creating Your Brand, Marketing With Limited Cash Resources, and more.

These courses will be held May 20 (basic) and 21 (advanced) at Olds College. You can register for the basic level here: https://www.eventbrite.com/e/building-your-web-cred-online-brand-strategy-in-a-noisy-world-basic-tickets-12622186299
And the advanced level here: https://www.eventbrite.com/e/ building-your-web-cred-online-brand-strategy-in-a-noisy-world-advanced-tickets-16001435725


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## U of Guelph researchers find larger pigs need more iron

Story and photos by Myron Love

Recent research conducted by veterinarians and their students at the Ontario Veterinary College (OVC) at the University of Guelph has demonstrated that larger and faster-growing pigs require higher iron supplement levels.


Terry O'Sullivan "What remains unanswered," noted Dr. Terri O’Sullivan, speaking to producers attending the 2015 annual Manitoba Swine Seminar on February 4 in Winnipeg, "is how practical or beneficial will a different supplementation program be with respect to the potential weight gains achieved as a result of additional supplementation."
The OVC assistant professor in Swine Health management noted that routine iron supplementation of piglets has been performed on commercial farms for decades. "We know that piglets are born with low stores of iron and sow milk is a poor source for iron," she said. "In order to maintain optimum piglet health and growth, iron supplements are given to piglets within three days of birth, usually with an injection of 200 mg of iron dextran."

She noted that the practice has become so routine that it is seldom questioned and the iron status of piglets at weaning is rarely evaluated.

She suggested that perhaps some farms may unknowingly (or knowingly) be giving the piglets less than the 200 mg -



There was a good turnout for the annual Manitoba Swine Seminar
or giving the injections later than a week (with a resulting potential increase in disease or decrease in growth rate) or that standard iron supplementation that was the norm, 20 to

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30 years ago, may no longer be sufficient to meet the needs of piglets today.
She noted that the average Canadian litter size has increased dramatically with an accompanying increase in lean growth rates, which would require more iron.
O'Sullivan reported on a recent OVC study aimed at evaluating current iron supplementation protocols on commercial swine farms in Ontario to determine the extent of anemia (or iron deficiency) in piglets at weaning.
"We surveyed 20 commercial swine farms throughout Ontario," she said. "We asked producers to fill out one-page questionnaires about iron supplementation, antimicrobial use, general herd demographics and to provide information such as weaning age and sow herd distribution."

CONTINUED ON PAGE 48



Innotech - just one of three suppliers with booths at annual Manitoba Swine Seminar

At each farm, 20 litters were selected for the study. From each of the litters, three piglets were selected a couple of days prior to weaning. Each of
the sample pigs was weighed and had a blood sample taken to assess iron levels. Three weeks later, researchers came back and reweighed the piglets
and took more blood samples.
In the study, 0'Sullivan reported, 1,095 piglets were sampled. About 33\% were iron deficient and 5 per cent were anemic. "Most producers provided iron supplements between two and four days of birth," she said. "One important finding was that large pigs at weaning were more likely to be anemic, probably because they used up their iron faster than slower growing pigs.
"We also found that where two pigs are weaned at the same size, the anemic pig will weigh one kg less than the healthier pig after three weeks in the nursery.
"Our research," she said, "highlights the importance of ensuring that all piglets receive their iron supplements as anemic pigs will experience lower weight gains post weaning. We also hope that our report will create awareness among producers about routine iron supplements and the importance of taking the time to examine and evaluate the practice on their own farms."



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## Swine Seminar speaker provides overview of ventilation

By Myron Love

In hog operations, proper ventilation is essential for providing good air quality to the benefit of both the pigs and humans who work with them in the barns. Speaking to producers attending the annual Manitoba Swine Seminar February 4, Armco Solutions founder and President Mark Armstrong presented an overview of the components of proper barn ventilation.
"The goals of a ventilation system for good air quality," he noted, "are to provide fresh air, uniformly and draft free, while exhausting stale, moistureladen air in winter - and provide and direct enough air to flush out hot air in summer to provide cooling."
He pointed out that industry losses from airborne diseases due to poor air quality include slower growth and expenses incurred in fighting respiratory infection. "Air quality improvements can reduce this loss by up to 80 per cent," he said.
He pointed out that all pigs perform best within a limited temperature range - also taking into consideration factors such as the type of flooring, heating and penning systems and pig density.

Also important, he added, is controlling humidity. "The best range of humidity for killing airborne pathogens is $40-60$
per cent," he reported. "Normally, a target of 50-70 per cent is sufficient, when adjusting cold weather ventilation fans, to ensure proper control of air borne contaminants and provide optimum energy efficiency."
He notes, too, that relative humidity is not an issue in warm or hot weather because the high ventilation rates required to keep air temperature under control dilute out a great majority of airborne disease organisms. Even in warm weather though, he cautions, newly-born piglets cannot handle any drafts.
"Proper management and placement of inlets is essential for providing optimum air velocity and placement for the pigs," he observed.
Armstrong modeled several items he said are essential in gauging the air quality level in ventilation systems. These included an inexpensive handheld digital temperature gauge, a relative humidity gauge, a static pressure gauge (there should be one in every room, he said, to monitor fan and inlet operations), smoke pencils, infrared and air velocity meters and gas detection equipment.
"General observations are also invaluable," he noted. "Are piglets

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# Feeding lower energy diets to hogs 

Miranda Smit ${ }^{1}$, Jose Landero ${ }^{2}$, Malachy Young ${ }^{2}$, and Eduardo Beltranena ${ }^{1 *}$<br>${ }^{1}$ Alberta Agriculture and Rural Development, and ${ }^{2}$ Gowans Feed Consulting *Email: eduardo.beltranena@gov.ab.ca

## Take Home Message

Hogs can be fed diets with reduced ( $\leq 2.2 \mathrm{Mcal} / \mathrm{kg}$ ) net energy ( NE ) instead of traditionally-fed higher energy levels ( $\geq 2.4$ Mcal NE /kg) as long as pigs sustain high feed intake. Allowing pigs to maximize feed intake is of great importance. The most economical dietary NE level was $2.1 \mathrm{Mcal} / \mathrm{kg}$, which is much lower than corn-soybean feed energy suggestions for growing-finishing pigs. Profitability feeding lower energy diets also depends on the cost per calorie of low energy cereal grains like oats and barley and co-products relative to wheat and corn.

## Why feed energy level?

Feed is the single largest cost of pork production (65-75\%). In a farrow-to-finish operation, more than 80\% of feed is consumed by hogs. Energy yielding feedstuffs account for $85-90 \%$ of feed cost. Therefore, nothing impacts the profitability of pork production more than the dietary energy level of feed for hogs.

There is surprisingly little information on the responses of hogs to feed energy density. The newly revised NRC 2012, a book that summarizes the nutrient requirements of pigs, has no 'Table’ for feed energy requirements according to pig age or stage of production. Instead, tables show a 'standard' 2,475 $\mathrm{kcal} / \mathrm{kg}$ of net energy (NE), and are footnoted 'dietary energy content relates to corn-soybean meal based diets'. So what about our lower energy Prairie diets based on barley and now including high levels of co-products like DDGS, canola meal, etc.? Are we underfeeding feed energy and limiting our hogs from growing faster? Are we causing more tailenders that are delayed leaving the barn?

We designed a trial to evaluate feeding lower than conventional, constant NE levels throughout to market weight with the aim of comparing our small grain-based diets to diets that would provide similar energy levels to corn-soybean diets for hogs. We compared growth performance, dressing, and carcass traits of barrows and gilts fed one of four feed energy regimens that provided a constant NE level to market weight.

## Setup of the trial

We conducted the trial at a commercial contract pig grower farm in Lougheed, AB that has been set up as a test facility. In total, 504 barrows and 504 gilts initially of 30 kg BW were housed in 48 pens, 21 pigs/pen by sex. Pigs were fed one of four feed energy regimens (2.4, 2.3, 2.2, or 2.1 Mcal $\mathrm{NE} / \mathrm{kg}$ and equal standardized ileal digestible [SID] lysine/ Mcal NE) over 5 growth phases to market weight.

Diets included wheat DDGS decreasing from 25\% in Phase 1 diets to $16.5 \%$ in Phase 5 diets. High energy diets (2.4

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Mcal NE/kg) were based on wheat grain and field pea with decreasing canola oil inclusion by growth phase. Low energy diets (2.1 Mcal NE/kg) were based on barley and oats. Diets with 2.2 and $2.3 \mathrm{Mcal} \mathrm{NE} / \mathrm{kg}$ were 0.67:0.33 and 0.33:0.67 blends of the 2.1 and $2.4 \mathrm{Mcal} / \mathrm{kg}$ NE diets, respectively.

Pig body weight (BW) and feed disappearance (ADFI) were measured on a pen group basis at d $0,21,42,56,70$, weekly thereafter as hogs approached market weight, and at shipping for slaughter ( $\sim 120 \mathrm{~kg}$ ) to calculate dressing. Pigs were shipped for slaughter at Maple Leaf (Brandon, MB). Individual warm carcasses were weighed and graded (Destron).

## What we observed

## Growth performance

For the entire trial (Figure 1), daily weight gain (ADG) was not affected by feed energy level. But hogs ate (ADFI) linearly more of the lower energy diets. Yet the total amount of calories consumed per hog each day linearly decreased. Therefore, weight gain per kilo of feed consumed (FE) was also reduced.

The proportion of pigs remaining in pens after the start of shipping for slaughter (first pull at d70) was greatest ( $\mathrm{P}<0.05$ ) for pigs fed the low energy diet. But this was
in part due to a slightly greater body weight ( $\sim 2 \mathrm{~kg}$ ) at slaughter for pigs fed the 2.1 Mcal NE/kg compared with pigs fed higher energy diets.

## Carcass traits

Hogs fed lower energy diets had linearly reduced dressing \%, but carcass weight was not affected by feed energy level (Figure 2). Lower dressing \% is explained by more fibrous feed retained in the gut at slaughter feeding the high oatsbarley low energy diets.

Carcass backfat, loin depth, lean yield, and index were not affected by feed NE level. Carcass lean gain, which is similar to live weight gain but regards only the daily gain in carcass lean content, was also not affected by feed energy level. An interesting finding was that both caloric efficiency and lysinic efficiency linearly improved by decreasing feed energy. What this means is that pigs fed lower energy diets were more effective at utilizing both calories and lysine from feed to put on lean tissue in carcass.

## Dollars and cents

As expected, decreasing feed energy level linearly reduced cost per tonne of feed (Table 1). Feed cost per kg of gain, and feed cost per hog were also greatly reduced. The large feed



Figure 1. Effect of feed NE value on overall growth performance ${ }^{\text {a }}$
${ }^{\text {a }}$ If the P-value is less than 0.05 , it means that there was a straight linear increase or decrease with every $0.1 \mathrm{Mcal} / \mathrm{kg}$ decrease in net energy value.


Figure 2. Effect of feed NE value on dressing \% and carcass characteristics ${ }^{a}$
${ }^{\text {a }}$ If the P-value is less than 0.05 , it means that there was a straight linear increase or decrease with every $0.1 \mathrm{Mcal} / \mathrm{kg}$ decrease in net energy value.

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| Table 1. Effect of dietary feed energy value on feed cost |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Net energy (Mcal/kg) |  |  |  |  |  |
|  | 2.4 | 2.3 | 2.2 | 2.1 | SEM | Linear |
| Feed cost / tonne | 249.51 | 233.13 | 216.22 | 198.81 | 0.35 | $\mathrm{P}<0.001$ |
| Feed cost /kg of BW gain | 0.67 | 0.63 | 0.60 | 0.57 | 0.01 | $\mathrm{P}<0.001$ |
| Feed cost/ pig | 62.50 | 59.58 | 56.72 | 54.66 | 0.53 | $\mathrm{P}<0.001$ |
| IOFC/pig | 61.02 | 63.50 | 65.93 | 71.43 | 0.85 | $\mathrm{P}<0.001$ |

cost reduction meant a whopping $\$ 10$ per pig increase in profit after subtracting feed cost (IOFC). The lower dressing percentage observed required an increase in live ship weight by 1 to 2 kg to achieve target carcass weights. This extra


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live weight meant a few days extra in the barn. However, the lower feed cost per hog made up for the extra cost of keeping hogs on farm for a few days more.

## Conclusion and implications

From our results we concluded that hogs can be fed diets with reduced feed energy ( $\leq 2.2 \mathrm{Mcal} \mathrm{NE} / \mathrm{kg}$ ) instead of traditionally fed energy levels ( $\geq 2.4 \mathrm{Mcal} \mathrm{NE} / \mathrm{kg}$ ) as long as pigs can sustain feed intake. It would be like us humans eating more salad than hamburger and fries. We can only eat so much hamburger and fries because their high energy soon triggers satiety. That is harder on the wallet than consuming a lot more of cheaper, low-energy salad. But we would get to a point that we cannot eat enough green salad without losing weight. We have to feed our hogs almost to that point to be most profitable. That point is when they can almost not consume more of the low energy density feed before reducing lean gain.

This experiment was not conducted in the summer, when feeding diets with greater energy may alleviate drops in feed intake. It can get too hot in July and August even in the Prairies that hogs reduce feed intake. Only during these hot days, feeding denser energy diets may prevent both weight and lean gain loss. Our experiment did not include diseased pigs that may also have reduced feed intake. We did not look at crowding and feeder access either that may also limit feed intake.

Our trial showed that the most economically optimal feed energy level was 2.1 Mcal NE/kg, which is much lower than current existing feed energy suggestions for hogs (2.4 Mcal NE.kg). Keep in mind also that feed commodities and pork prices vary. Therefore, the profitability shown here is repeatable, but its consistency will vary.

## Acknowledgments

This research was funded by Alberta Agriculture and Rural Development.

Story Ideas? Press release? Comments?

Email the editor! sherimonk@gmail.com

# Effects of mixed and uniform parity groups on feeding behaviour, welfare and productivity of sows in ESF housing 

Authors: Y.M. Seddon, F.C. Rioja-Lang and J.A. Brown

## Background

While group housing can provide benefits to the sow related to increased fitness and freedom of movement, sows can also experience increased aggression and limited access to feed if the groups are improperly managed. ESF systems have the benefit of controlling individual feed portions and generally have low aggression due to limited feed competition; however, young or subordinate sows may experience competition for access to the feeder throughout gestation. Low-ranking sows in ESF systems receive more aggression and injuries, have reduced production, gain access to the ESF later in the daily feeding cycle, and are displaced from feeding more often. In static groups, high-ranking sows eat earlier in the feeding cycle and for longer. Because the use of ESF systems is becoming more common in North America, information on how to manage low-ranking sows in these systems is needed, and will benefit sow welfare and productivity.

The study objectives were:

1) To determine if younger sows (parity 1 or 2) will receive less aggression and injury during gestation when managed in uniform groups than in mixed groups, and what effects this may have on production.
2) To determine the effect of mixed and uniform grouping treatments on sow feeding behavior, measures of welfare and productivity.

By examining different grouping strategies, this study explores the range of management practises that can be used in ESF systems.

## Materials and Methods

Uniform low, medium and high parity groups were formed during gestation, and compared to control groups of mixed parity. The groups consisted of 60 sows each, with one ESF feeder per group. The low parity treatment groups were comprised of parity 2 sows, medium groups included parities 3-4, and high parity included sows over parity 5. The control group consisted of parities 2-8. Sows were mixed at 5 weeks gestation. They were placed in a mixing pen for 1 week, and then moved to gestation pens until farrowing. The ESF system (Nedap Velos, NL) recorded daily feeding behaviours and feed amounts throughout gestation. Body condition scores, sow weights, skin lesion and gait scores were taken periodically throughout gestation. As well, sow backfat thickness was measured on a sub-sample of 20\% of sows, equally distributed across parity and treatment. Standard production measures at farrowing were collected, as were piglet weights from a sub-sample ( $27 \%$ ) of litters. Sows with lameness score $\geq 2$ were removed from the study and placed in relief pens and provided care based on the farm's procedures. All sow removals due to lameness or other health considerations were recorded.

## Results and Discussion

## Feeding behaviour

The average daily meal length per sow ranged from 15 to 20 minutes. No significant difference was found in feeding duration among the treatments, however the uniform low

CONTINUED ON PAGE 56
parity group initially took longer to eat ( 20 min ). After two weeks in ESF, feeding times for the low parity group had reduced to 17 minutes. The longer initial feeding times for young sows may reflect their lack of familiarity with the system, or greater time spent exploring the feeder.
Correlations between feeding time and sow weight and parity showed that sows with higher bodyweight ( $\mathrm{r}=0.13, \mathrm{P}<0.01$ ) and parity $(\mathrm{r}=0.07$, $\mathrm{P}<0.01$ ) fed later in the daily feeding cycle. Previous studies found the opposite, with younger sows eating significantly later in the daily feeding cycle than old or intermediate sows. The reasons behind this difference are unclear, and further analysis is planned.

Backfat was used as a performance indicator in this study. It was found that sows with a greater backfat thickness entered the ESF earlier in the feeding cycle ( $\mathrm{rs}=-0.14, \mathrm{P}<0.05$ ) and had a longer feeding duration ( $\mathrm{rs}=0.15, \mathrm{P}<0.05$ ). These

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Figure 1. Timeline of experimental procedures used for data collection.

results indicate that the more successful sows eat earlier in the feeding cycle, and have a longer feeding duration.

## Effects of grouping on sow production

Among the treatments, there were no significant differences in the total number of piglets born, the number born alive, or mummified piglets, but differences were found in the number of stillborn piglets, pre-weaning mortality up to 5 days of age and the number of piglets weaned ( $\mathrm{P}<0.05$ ). Uniform high parity sows had fewer total piglets born, higher piglet mortality and fewer piglets weaned. This is likely due to differences in productivity due to sow age, rather than a result of the treatment. Ongoing analysis will examine differences in the number of sows removed per treatment over the course of gestation due to low BCS, injury and lameness.

## Backfat

There were significant interactions between treatment and parity score on changes in backfat recorded between 5 and 15 weeks gestation (Table 1). Young sows (parity 2) lost 4.12 mm of backfat on average when in mixed groups, while in the uniform treatment these sows had an average gain of 0.22 mm . Although parity 3 and 4 sows did not fare significantly better in uniform groups, these sows did show positive gains in backfat instead of loss when in uniform groups. High parity sows were the only ones to gain backfat in the mixed group, which indicates that high parity sows may be dominating access to the ESF system, reducing the ability of younger parity sows to feed at regular intervals, or at preferred times of day in mixed groups.

## Effects of group type (mixed vs uniform) on sow welfare

## Sow lameness

Sows in the mixed parity group had a significantly greater increase in lameness between the pre-mixing assessment and day 3 after mixing ( $\mathrm{P}<0.01$ ), and also during the period

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| Parity Score* |  |  |  |  |  |  |  |  | $P$-value |
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| 1 |  | 2 |  |  |  | 3 |  |  |  |
| Treatment |  | Treatment |  |  |  | Treatment |  |  |  |
| Mixed | Low | Mixed | Low | Medium | High | Mixed | Medium | High |  |
| $-4.12^{\text {a }}$ | $0.22^{\text {bc }}$ | $-0.45{ }^{\text {bc }}$ | $0.99{ }^{\text {c }}$ | $0.87{ }^{\circ}$ | $0.50{ }^{\text {bc }}$ | $0.17{ }^{\text {bc }}$ | $1.99^{\text {bc }}$ | $-0.64^{\text {b }}$ | <0.05 |

*Within a parity score, where superscripts differ, $\mathrm{P}<0.05$
from premixing to seven days after final grouping ( $\mathrm{P}<0.05$ ), compared to the uniform treatment groups. This indicates that there was a greater risk of lameness following mixing when sows were housed in mixed parity groups, and that housing sows in uniform groups helped to reduce the severity of lameness that developed as a result of mixing.

## Lesion scores

In all groups, lesion scores increased from premixing to five days post-

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## See page 4

mixing, and then decreased. This indicates that there was little ongoing aggression or injury due to competition for ESF entry once the group hierarchy was established.

The lesion score data suggests that injuries from aggression were largely related to sow age, with younger sows receiving more injuries. Sows in the uniform low parity group had the highest injury scores. Medium and mixed parity groups had intermediate lesion scores, and groups of uniform high parity sows had the lowest level of injuries at day 5 following mixing ( $\mathrm{P}<0.001$ ).

## The Bottom Line

In this study, housing sows in uniform groups helped to reduce the severity of lameness developing as a result of mixing. The increases in backfat over gestation also suggest that the well-being of younger sows may be better in uniform groups, and that competition may be less in uniform groups. The practice of managing gilts separately is already a common
practice, and the results of this study indicate that parity 1 and 2 sows may also benefit from this practice. While the productivity of sows in uniform groups was equivalent to that of mixed groups, the study followed sows through one gestation, and so there may be longer term effects on sow longevity. Additional research would be needed to confirm this. The higher injury scores found in low parity sows appear to be related to the social ability of younger pigs, rather than grouping, and thus management practices that improve sociability of gilts (e.g. increased socialisation by repeated mixing before breeding) may be a further area of research to be examined.

In conclusion, the results from this study suggest that housing sows in uniform groups in ESF systems may be a positive strategy for the management of group housed sows. The large herd ( $\geq 6,000$ sows) sizes found in North America make it possible to consider grouping sows by parity in these systems.

## Acknowledgements

The authors gratefully acknowledge specific project funding for this study provided by the National Pork Board. Strategic program funding to the Prairie Swine Centre was provided by Sask Pork, Alberta Pork, Manitoba Pork Council, and the Saskatchewan Agricultural Development Fund.

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# Prairie Swine Centre testing nanotechnology applications in pig industry 

Submitted by the Prairie Swine Centre

Nanotechnology - it's a word most people come across while watching science fiction movies, but it's become a modern reality. But what exactly is it? And how can it help push the pork industry forward into a new future? That's precisely what the Prairie Swine Centre wanted to discover with a recent research project.

But first, what is nanotechnology? Nano basically means small... really, really small. A nanometer is one millionth of a millimetre. To illustrate just how small, consider that a normal, healthy fingernail is just one millimetre thick. Nanotechnology is all about harnessing the power of individual atoms and molecules at a very small scale to make a really big difference. For example, zinc oxide nanoparticles, (which are between one and 100 nanometres in size) are used in transparent sunscreens to block out the damaging rays of the sun.
So, what does all that have to do with raising pigs? As it turns out, potentially quite a bit.
"We wanted to see if we could control the growth and transmission of disease-causing microorganisms in swine barns through the use of nanotechnology," said Dr. Bernardo Predicala, Engineering Research Scientist at the Prairie Swine Centre, and the project's lead.

Disease spread during swine production is usually controlled through two distinct methods - biosecurity and sanitation. Biosecurity involves protocol, policies and procedures that reduce the risk of initial contamination and subsequent spread of a pathogen within an operation. This can include practices such as showering in and out, Danish entries, and ensuring staff, guests and visitors don't pose a health risk to the herd.

Battling disease on the sanitation front means treating the environment to reduce the level of possible pathogens that could make animals or people sick. This can include the proper cleaning and drying of barns and trucks, and applying the correct disinfectants in the correct volumes to reduce the risk of illness. In other words, biosecurity is

CONTINUED ON PAGE 60

about preventing infectious agents from entering the barn, and sanitation is about controlling and reducing infectious agents that may already be present in the barn.

While biosecurity and sanitation efforts are always improving and evolving, so are the pathogens they seek to contain. The industry has changed too, and sometimes, with greater efficiency comes greater risk.
"The swine industry has shifted toward production systems where more animals are raised in larger facilities. These changes have increased efficiency, productivity and profitability, but it's also increased the risk and prevalence of animal diseases," said Predicala.
That's why scientists are constantly looking for new ways to manage and mitigate health risks. Not only is a healthier herd better for productivity and profitability, but it's much better for the pig - and animal welfare is an increasing priority to the public and to producers alike.
"Nanoparticles are known to have antimicrobial properties," said Predicala. "They've been used in water treatment and purification, as well as in air filtration systems in hospitals to provide a clean environment for patients, especially during surgery."
Predicala, along with Prairie Swine Centre engineering research assistant Alvin Alvarado, wanted to investigate
how nanoparticles could supplement the safeguards already provided by biosecurity and sanitation measures. But that's not all - the research could also determine whether the novel nanotechnology application could also help manage gas emissions - an inevitable byproduct of swine production.
"If proven effective, with a single treatment application, we could simultaneously address concerns with hazardous gas emissions as well as the spread of disease - both which greatly affect the profitability and sustainability of livestock operations," explained Predicala.
Predicala and Alvarado designed a research project conducted right on site at the Prairie Swine Centre. But first, the effectiveness of a variety of commercially available nanoparticles in controlling the growth of certain pathogens had to be selected. In order to do that, laboratory scale experiments were conducted at the University of Saskatchewan to determine which nanoparticle would be most effective. The results showed that zinc oxide ( ZnO ) was the clear winner.

The next step was to bring the ZnO nanoparticles to the Prairie Swine Centre facility to assess whether the nanoparticles could really pack the punch the researchers were looking for. Two identical controlled-environment chambers, each $4.2 \mathrm{~m} \times 3.6 \mathrm{~m} \times 2.7 \mathrm{~m}$, were used to conduct

the first portion of the research. Each chamber was fully instrumented and had identical environmental conditions, and each housed a pen of the same size. The chambers were operated with a negative pressure ventilation system.

Next, a filter was installed into each of the chambers' ventilation air recirculation systems - one loaded with nanoparticles and the other without. The trials were 15 days long, and the scientists monitored microbial loads both in the air and on surfaces, as well as greenhouse gases, manure characteristics and pig performance.
To measure whether the nanoparticles could help with sanitation, two levels of ZnO nanoparticles were sprayed on concrete surfaces and compared to the control, which was treated with the standard chemical treatment ordinarily applied.
The results from both phases of the experiment were encouraging.
"Partial filtration of the air in the chamber with the ZnO nanoparticles did achieve a reduction in bioaerosol levels in both the human and the animal-occupied zones," said Predicala, adding it was important to note that the nanoparticles didn't appear to negatively affect any other measured aspects of swine production. "There was no significant impact on carbon dioxide and methane emissions, manure characteristics, or pig productivity."

The ZnO particles were shown to be effective in controlling the growth of certain commonly encountered pathogens such as Salmonella and S. suis. Also, the filtration system could be improved, further reducing bioaerosol pathogens with better air capture, and forcing more air to pass through the treated filter.

The sanitation experiment showed that the nanoparticles can indeed make a big difference by inhibiting the growth of microorganisms and in fact, could be a better option than conventional disinfectants. Of course, new technologies not only have to work, they have to be reasonably priced in order for any potential implementation to make sense. In that regard, the sanitation nanotechnology was ahead of the filter application.
"Currently, the use of the nanoparticle solution during sanitation was only about 12 cents higher than the use of conventional
disinfectant," explained Predicala. "The cost of filtration treatment with ZnO nanoparticles has to come down significantly before it can be a practical barn application, and recent advances in nanotechnology resulting in recent large reductions in cost of nanomaterials support that trend."
Predicala and Alvarado recommend pilot-scale testing in other parts of the barn such as the nursery, breeding, gestation, and farrowing areas to further determine the feasibility of both the sanitation and the filter nanoparticle applications.
"It would also be useful to conduct trials at higher recirculation rates, which would likely have a better impact on reducing bioaerosol levels," said Alvarado.

## The full version of the study report can be found at prairieswine.com.



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## Manitoba's PEDv research supports local industry

## Survivability and infectivity of PEDv in infected manure storage lagoons

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Manitoba's hog producers are not alone when it comes to addressing the potential challenges of the PED virus. An ongoing study, led by the University of Manitoba's Department of Animal Science and funded by the Manitoba Livestock Manure Management Initiative and Manitoba Pork, is looking specifically at how the virus survives and remains infective in manure storage lagoons. While research in the northern U.S. has already confirmed that PEDv can survive in minus degree temperatures, little is known about how PEDv survives in open lagoons over extended periods of time. By ascertaining how the virus fares in typically cold and damp Manitoba conditions, local producers with infected lagoons will gain valuable information. The research will also add to the growing body of knowledge to assist producers in other Western provinces and in the northern U.S. where climates are similar.

Beginning in mid-September and continuing to midNovember 2014, and in collaboration with Prairie Agricultural Machinery Institute (PAMI), manure samples were collected from two lagoons from different sites known to be PEDv positive. Lagoon one had been infected five months prior to the beginning of the study while lagoon two was identified as PEDv positive in mid-September. A sample collection system was developed which included a grid layout of twelve locations at three depths in lagoon one, and sixteen locations at two depths in lagoon two. Temperature and pH of both lagoons were monitored continuously at three depths in three locations during the study period. Manure samples were analysed for total solids and examined for PEDv survivability and infectivity. Fresh feces and pit manure samples were collected from each positive barn to test the status of PEDv shedding before sites were completely emptied of pigs.
Strict biosecurity procedures were followed in planning, working on site, transporting samples off-site, leaving the site, and during de-commissioning. Samples were taken to the "Gut Microbiome Laboratory" at the University of Manitoba's Department of Animal Science where Dr. Ehsan


PAMI staff shown collecting manure samples

Khafıpour, Assistant Professor, and his team including Dr. Hein Min Tun, Post-doctoral Fellow, and Ms. Jacqueline Donogh, Technician, tested samples for the survivability and infectivity of PEDv.
For clarification purposes, the survivability of a virus refers to its presence or absence within an environment. Infectivity refers to the ability for the virus to enter and replicate within a host. The survivability of PEDv was examined and resulted in $99.5 \%$ of lagoon samples showing high copy numbers of


Manure samples from upper and lower lagoon depths contain different percentages of solids
the virus. Pit samples showed varying levels of the virus. Only a single type of virus, the virulent PEDv strain, was present in both lagoons and pit samples. The amount of viral load increased over time, with the highest amount of the virus present in the top layer in early weeks transitioning to the bottom layer in later weeks. This trend was consistent at both lagoons. Due to the unequal distribution of viral particulate, it is likely that other external environmental factors may have played a role in the survivability of the virus.

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Testing for PEDv survivability would conclude that the virus is capable of survival within the lagoon environment for an extended period of time under Manitoba weather conditions. This conclusion is based on sampling occurring at multiple locations and time points over a period of seven weeks in the first lagoon and four weeks in the second. Sampling was halted in mid-November due to lagoon freeze-up. Therefore, little is known about how the virus will over-winter.

The infectivity of PEDv within the lagoons was also examined in laboratory cell lines, with preliminary results generated from a limited number of sites and samples to date. Within lagoon two, the PED virus was still infective four weeks after the last shedding pigs left the barn, at which point sample collection was terminated due to winter freezeup. Therefore, the period of infectivity may be much longer.
The percentage of infective samples and the infectivity potential of PEDv in the top layer of the lagoons were lower than those in the bottom layer, which was also where higher viral survivability occurred. Among the limited number of samples tested so far, less than $10 \%$ of top layer positive samples were infective while the percentage of infective samples in the bottom layers was closer to $20 \%$. This may be attributed to the direct exposure of the viral particles in the

top layer to environmental influences, especially sunlight.
"This project not only improves our understanding of the risks posed by viable PEDv manure in lagoons, but also starts to answer our questions about whether the virus' infectivity diminishes with time. Hopefully we get to the point where we are confident in saying that it no longer poses a threat to healthy animals," said Mark Fynn, Animal Care Specialist with the Manitoba Pork Council. Fynn cautioned, "Hog producers also need to be diligent in ensuring their on-farm biosecurity procedures are in place". All manure should be washed off manure-handling machinery and equipment after usage, and disinfectants should be used as well. Whenever possible, they should also be thoroughly dried afterwards. Producers should establish clear lines of separation at their sites and communicate these with the manure applicators so that they are never crossed.
Communication is vital in limiting the spread of PEDv. Producers should communicate with neighbouring farms, especially if they are spreading PEDv positive manure nearby. This will allow for alternative pumping arrangements to be made as required.
Manure applicators should follow a specific pumping sequence beginning with clean sites (PEDv negative), followed by sites with the longest time period after a PEDv outbreak, and lastly sites where PEDv was most recently reported. Since PEDv survival diminishes in warm temperatures, the optimum time to spread PEDv positive manure is likely during warm and dry days.


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## Pork Culture and Trends

## YOUR DAILY BACON

Hello again! Welcome back!
This issue, we are pleased to offer the first ever "interactive" Your Daily Bacon. Yep, for this edition, you can enjoy the usual memes and then grab your \#2 pencil, -or a pen, if you are really confident, and search for words that have appeared in the pages of your Western Hog Journals. We'll warn you, though; it's trickier than finding a pig-in-a-poke! We inserted the words forward,
backwards, horizontally and vertically. Just about any direction you can think of, you might find a hidden word. C'mon, you've done these before, so you know what to do! We decided to not include the solution because we have so much faith in your abilities! But if you find it too difficult, we are sure you will be able to spot our offering of memes much more easily. They are kind of hard to miss, otherwise they wouldn't be very good memes!


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Truck Mounts


## Pork Culture and Trends

## Psst! Pork piques passion - pass it on

## Passion for Pork connecting with consumers

Submitted by Alberta Pork

For years, producers in Western Canada have provided us with some of the finest pork on the planet. But as is the Canadian way, they were too modest to brag about it. In effect, they were like the budding opera star who only performs in the shower until someone pulls back the curtain (figuratively, that is) and shares their talent with the world. About three years ago, the Passion for Pork campaign did just that.

In collaboration with B.C. Pork and funded in part by the Alberta Livestock \&t Meat Agency, Alberta Pork launched an ambitious marketing initiative to sing the praises of locally grown pork. Through television and print ads, blogs, a website and numerous events, Passion for Pork began to educate consumers about the exceptional taste, texture and quality of Western Canadian pork. The result has been a marked increase in pork sales and a greater appreciation for a world-class product. We didn't even need a globe or an atlas to find it, just an awareness that it was here, in our own backyard, the whole time.

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Now that the secret is out, it's like the floodgates have opened, bringing a steady stream of events to tantalize your taste buds and celebrate the wonders of pork. Here are a few to mark on your calendar.

## A Pork Dish a Day Keeps the Munchies Away

Fortunately, they decided to just call it "June is Pork Month". Throughout the month of June, 15 restaurants in Calgary and 13 in Edmonton will be highlighting "June is Pork Month" by offering one or more pork dishes as a special menu item. The restaurants will each receive recipe cards for that specific dish that they can provide to patrons who want to enjoy some of those yummy pork dishes at home.
As well, all Sunterra markets in Calgary and Edmonton will celebrate "June is Pork Month" with pork-centric samplings, demos and workshops, while all 24 Calgary Co-op stores feature pork samplings sponsored by Alberta Pork.
"We want to highlight the great taste and versatility of pork to Alberta consumers, and 'June is Pork Month' is one way to do that," said Karen Gurba, Marketing Manager for Alberta Pork.
"There are a variety of restaurant promos, grocery store samplings, festivals and events happening this month with pork as the star. We hope that highlighting pork and educating the consumer about its unique qualities will translate to a more knowledgeable public and in the process, increased sales."

## Pork, Meet Pinot

It's the most potent combination since "wining and dining", so it seemed only natural to make it an event. On June 18 at the Hotel Arts in Calgary, the fifth annual Pig 'n' Pinot soiree takes center stage. An impressive 350 patrons will witness 15 talented Calgary chef teams compete for the coveted "Divine Swine" trophy - sponsored by Alberta Pork - as they create delicious and original pork dishes with Berkshire pork from The Farm with Good Food.

Of course, nothing pairs better with the perfect porcine than the perfect pinot, so seven boutique wine stores will pour an amazing selection of pinot wines from around the world. The evening will raise funds for Meals on Wheels, and with the event sold out, tickets will be harder to find than a conceited Canadian.

## A Grill a Minute

Usually, it takes a few years for a new Edmonton festival to develop a following. But if crowds of 25,000 in its first year are any indication, Porkapalooza is no ordinary festival. This home-grown event organized by Alberta Pork immerses Edmontonians in the art and culture of barbeque as teams from across Western Canada compete for prize money and bragging rights. Last year, 29 teams took part, and with a prize purse of $\$ 15,000$, the Porkapalooza BBQ Festival is hoping for 40 teams this time around.

In addition to the main event sanctioned by the Kansas City BBQ Society, local food vendors will conjure up their own barbeque magic for patrons over the Father's Day weekend, June 19-21 at Borden Park in Edmonton. Given that Porkapalooza is truly a family event, the timing couldn't be better.

While the children have a blast in the Kid Zone, mom and dad can do the same in the adult zone, also known as the "beer garden". There'll be entertainment, a brand new Friday night Rib Fest and a food demonstration stage featuring commodity groups, Alberta chefs and Porkapalooza's very own BBQ celebrities, Diva Q and Brian Misko. Those two characters are worth the price of admission all by themselves. Okay, there is no admission charge, but you get the idea.

Finally, in honor of dads everywhere, visitors can enjoy a Father's Day marketplace and a Sunday morning brunch, a perfect end to the ultimate family affair.

For more details, check www.porkapalooza.com. You won't want to miss what is already being touted as one of Edmonton's leading summertime events in only its second year of existence. That may sound like a bold statement on the part of the organizers, but considering how much the Porkapalooza BBQ Festival has to offer, they're not just blowing smoke.

Hard to believe that all of that takes place in June! To learn about other events, find amazing pork recipes and see cooking videos from leading chefs, go to www. passionforpork.com.

While summer is a busy time for everyone, these events are worth clearing your calendar for. Now that the cat is out of the bag regarding the unparalleled quality of Western Canadian pork, make sure you tell your friends about the world's best protein and the world class plans to honor it. And don't worry about seeming un-Canadian when you do. After all, it's not bragging if you can back it up.


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