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Volume 39 | Number 5

Spring 2018

Date of Issue: May 2018

Published five times annually by Alberta Pork with cooperation from the British Columbia Hog Marketing Commission, Sask Pork and Manitoba Pork Council.

Circulation

This publication is distributed to qualified pork producers and industry stakeholders across Canada in BC, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Atlantic Canada.

Subscriptions

For new subscriptions, change of address or other subscription queries, please contact: Charlotte Shipp, c/o Alberta Pork
4828 - 89 Street NW
Edmonton, Alberta T6E 5K1
Phone: (780) 491-3528
Fax: (780) 479-5128
charlotte.shipp@albertapork.com

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

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Cover Photo

The three little pigs, plus one! Congratulations again to Jackie Thiessen of Peers, Alberta, for her winning photo features on our front page! Front page photo contests are held every second issue, when our readers become our star photographers. Our next photo contest will be for our fall edition, so get snapping and send your submissions to sherimonk@gmail.com. The winner receives a plaque of the front page that features their work.



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Canadian Hog JOURNAL

Message from the editor

Welcome spring! (Finally...)

This winter has been the longest and snowiest I've experienced since moving west from Manitoba, and from what I've heard, we've all suffered.

Thanks to everyone who sent photos for our front cover contest, and congratulations to our winner, Jackie Thiessen. This is the second time Jackie has won our contest, this time for a photo of her adorable Yorkshire/Berkshire cross Duroc piglets born February 20.

Send us your photos anytime, whether it's of the progress of your new barn build, a cute piglet, or a new innovation, we want to see it!

We are finally working hard on our website development, and once it is up and running, our social media presence will increase as we seed the Internet with our content. Please don't forget to find and follow us on Facebook – just search for @cdnhogjournal.

You will note that we have one article in French in this issue. This is the first time we have done this, and I'm pretty excited – even if I can't read it. We have the same article, entitled "Is it possible to increase the amount of colostrum available to newborn piglets?" in English, thanks to the talented Chantal Farmer with Agriculture and Agri-Food Canada.

Treena Hein tackles CRISPR, the gene editing technology that is already changing the world, and we have a very heartwarming story about new Canadians settling in Neepawa, Manitoba, thanks to the swine industry.

As you read this, we are already working hard on our summer issue, which features not just the latest and greatest research in the business, but the researchers and institutions behind it all. I'd also like to use this issue to talk about how 4-H prepares kids for a life in agriculture, so if you have 4-H memories you'd like to share, please send them to me – and don't forget the photos!

See you in summer! ■

sherimonk@gmail.com

Sheri Monk
Editor, business manager

First Quarter Slaughter Down

It has been noted by many in the industry that Canada's first quarter slaughter is down this year versus last. The question then becomes why this is the case when the herd is growing, albeit slowly. Another question is whether Canada can expect to see increased production in 2018 given the down start.



By Kevin Grier

AgCanada data shows Q1 kills down by two per cent. AgCanada divides the data by east and west and further divides the west into Alberta/BC and Sask/Man. Eastern Canada kill is up by half a per cent. Western kill is down by nearly six per cent. That is comprised of a decrease of nearly eight per cent in Sask/Man and a decrease of two per cent in Alberta/BC. The data shows that total western kill is down by 127,000 head.

Based on my estimates, about 100,000 of that difference was in Manitoba alone. As a starting point, Good Friday was in the first quarter this year compared to the second quarter last year. There were 62 work days this year compared to 64 last year. In addition, both Maple Leaf Brandon and HyLife lost one or 1.5 kill days each due to weather. In a province that kills 20,000 a day, the lost kill days could explain some of the decrease. Of course, the lost kill days would be mostly made up in bigger kills the following days or weeks. Nevertheless, the lost days, particularly Good Friday which fell on the last week day of the quarter, would clearly push more kill into the second quarter.

PEDv is Key Factor

I expect the main factor in driving down Manitoba's Q1 kill was last spring and summer's PED outbreak. The PED outbreak started in April last year. The main impact on pig mortality would have been at the sow barn stage of the industry. There were 25 premises with sow barns that were impacted last year. There were about 77,000 sows on those farms. It has been estimated that those premises would have lost at least 144,000 pigs due to PEDv.

The peak incidence period for sow barns was between the beginning of June and the beginning of July. There were about 60,000 sows that were impacted during that peak period. That implies that most of the lost pigs should have been marketed early in the first quarter of 2018. In other words, at least in the case of Manitoba, the loss in Q1 kills was largely due to PEDv.

In grow-finish barns, PEDv is not nearly as severe in terms of mortality, however the pigs will get sick and that will have the effect of slowing growth. This effect could delay marketings that would have normally happened in late 2017 into the first quarter of 2018. In that regard, there would be some offsetting impacts of PEDv pertaining to the first quarter kill.

Production Should Bounce Back

With regard to total production in 2018, it is still very reasonable to expect that Canada will see increased production of about one per cent in 2018. The January 1 sow herd is up by one per cent in Canada. It is interesting that those sow barns that get PEDv often bounce back from an outbreak with increased productivity.

Inventory Report

The Statistics Canada January 1 inventory report showed that Canada's sow herd increased by one per cent January 1, 2018

CONTINUED ON PAGE 8

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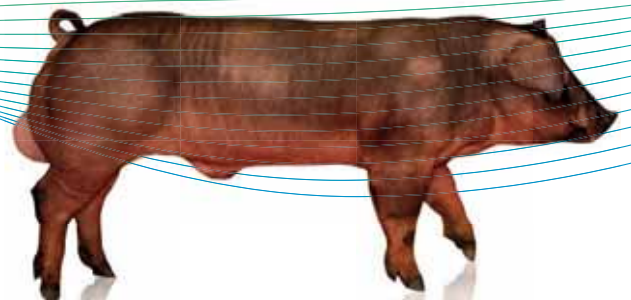


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compared to the same time in 2017. The herd grew by two per cent and three per cent the previous two years. The report listed gains of two per cent in Quebec, one per cent in Manitoba, three per cent in Sask and six per cent in BC. Ontario and Alberta sow numbers were unchanged year over year. The gain in the sow herd in Canada of one per cent coincides with the growth in the U.S. breeding herd last December which was also at one per cent year-over-year.

The growth in the Saskatchewan herd is particularly impressive and interesting as it follows previous January increases of three per cent, seven per cent and two per cent the previous three years. In fact, from January 2014 through January 2018, the Sask herd has grown by 16 per cent or 14,500 sows. That is the highest in Canada on a percentage basis and compares to the Canadian growth rate from 2014 to 2018 of six per cent or 74,600 sows. The next highest growth rate in Canada after Saskatchewan was Quebec at nine per cent or nearly 26,000 sows.

Given the lucrative subsidies to hog producers in Quebec, any growth rate is always going to be misleading in terms of the actual state of the industry. For its part, Manitoba is only beginning to climb out of its expansion moratorium. The modest one per cent gain in 2017 follows a one per cent decline in 2016. The point is that for opposite reasons from Quebec, the rate of growth in Manitoba is also not reflective of the state of the industry, but rather the whims of government.

Saskatchewan, on the other hand might be the most reflective of where the industry would be if the market were the guide as opposed to government. While Saskatchewan has tight environmental rules, they are not designed to halt the industry as the Manitoba rules were intended to do.

The point is that if Sask is a good guide of what growth rate is possible, the West could have had nearly 90,000 more sows between 2014 and 2018 instead of the 34,000 that it did increase. The additional 55,000 sows should have generated another 26,000 or so hogs and pigs per week. That would have

gone a long way to address supply concerns at both Brandon and Red Deer. Even if the West only grew by half the Saskatchewan rate between 2018 and 2014, there would be an additional 10,000 sows. That could have meant another 5,000 hogs or pigs per week.

Alberta Consolidation

Based on the latest StatsCan inventory report, the Alberta sow herd was unchanged as of January 1 compared to last year. That compares to total western growth of one per cent and three per cent growth in Saskatchewan. The Alberta herd is at 129,400 head. That is up by 5.6 per cent from a longtime January low of 122,500 in 2015. Ten years ago in 2008 it was at nearly 180,000 head. Alberta's share of the western sow herd is at 22 per cent in 2018. That compares to 22 per cent in 2015 and 26 per cent ten years ago in 2008.

StatsCan estimates the 2017 Alberta pig crop at just under 3.1 million head. That is down slightly compared to 2016, but up from the ten-year low of 2.9 million in 2014. The ten-year high was 3.5 million in 2008.

I estimate Alberta's federally inspected slaughter to have been just under 2.5 million head last year. That was down slightly from 2016 and 2015, but up compared to roughly 2.4 million in 2014 and less than 2.3 million in 2013. Ten years ago in 2008 the federal kill was about 2.6 million head. Ten years ago Alberta represented 34 per cent of western slaughter. As of 2017 Alberta held a 29 per cent share of western hog slaughter.

There are three federally inspected plants in Alberta. The Olymel Red Deer plant has a listed capacity of 9,000 per day on a single shift or 18,000 on a double. That plant has not gone on a double shift since the mid-2000s and then only briefly for about six months. Maple Leaf operates a specialized plant dedicated largely to the Japanese market, in Lethbridge with a 1,500 -1,600 head daily capacity. The other federal plant in Alberta is Sunterra in Trochu.

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The StatsCan data shows that Alberta exported 708,000 head last year. Those exports would include cull breeding animals and some off-sort market hogs but likely 90-95 per cent would be weaners and feeders by my estimate. Alberta exports represented about 23 per cent of its pig crop in 2016 and 2017. The last two years were ten year highs and compare to a low of just 17 per cent of the pig crop in 2009.

With that said, while Alberta sows represent about 22 per cent of western sows, the exports only represent 16 per cent of western exports. In 2008 Alberta had 26 per cent of western sows, but only eight per cent of the exports. The message is that Alberta is an aggressive exporter of its available supplies, but not as aggressive as its prairie neighbors.

As of the end of 2017 there were about 660 registered hog farmers in Alberta. Of that total about half were considered hobby farmers with less than 100 finished pigs per year. While they make up half the farms, they comprise about one per cent of production. The Hutterite colonies represent about 20 per cent of producers and about 40 per cent of the sows. Independent producers and/or large producer groups are about 30 per cent of total producers and about 60 per cent of sows.

Of course, the biggest hog producer is Olymel. Press reports have them at 60,000 but it is likely a little less as they work on their sow housing changes to make room. The majority of the Olymel prairie sows are in Saskatchewan, but there are about 20,000 in Alberta. After that the other large scale producers in Alberta are Sunterra, Sunhaven and Paragon which have a total of approximately 35-38,000 sows. As such, between those four entities, there is about 40-45 per cent of the sows in the province.

The Lethbridge Maple Leaf plant is supplied about 90 per cent by the Hutterite colonies. The Trochu plant of course is largely supplied by its own hogs and Sunhaven. The Olymel plant is roughly 60 per cent supplied by its own hogs.

During 2017, I estimate that about 330,000 Alberta hogs went into BC for slaughter at either Britco or one of two or three provincially inspected plants. A couple thousand hogs went to Thunder Creek from Alberta while another 150-200,000 went to Maple Leaf in Brandon.

Between slaughter in Alberta and other provinces, total kill of Alberta hogs amounted to about 2.1 to 2.3 million head. When that is added to the 708,000 head that are exported to the United States, that means that Alberta finishes and processes about 55-60 per cent of the pigs produced in the province. ■

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

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Ignoring cognitive dissonance doesn't save the planet

By Sheri Monk

Cognitive dissonance is a psychological term used to describe the mental discomfort that results from holding two contradicting beliefs, or when a currently held idea is challenged by another that discredits the first. It's not a fun place to be. One of the earliest examples people experience is when they learn that their parents haven't been telling them the truth about something – let's say Santa Claus, as an example.

The child learns from someone at school that Santa isn't real and all day, she considers that possibility. She thinks about the unlikelihood that Santa could travel to households all around the world in one night, and the reality that many kids don't even have enough food to eat, so if magic like that is possible, why are kids still starving? The child spends the afternoon contemplating what she thought she knew with what she might know now, and as soon as she walks in the door, she bursts into tears and says, "Mom, is it true that Santa isn't real?"

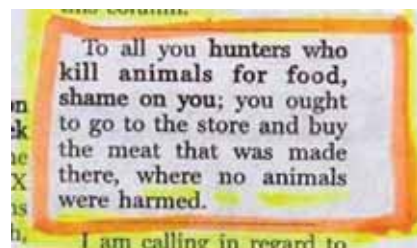
Mom takes the child up into her arms and soothingly says, "Of course Santa is real! Who went and told you something like that?"

The conflicting ideas – one that Santa is real, and the other that he is not – cause cognitive dissonance, but now there is another element adding even more discomfort. Now she must decide whether her mother is ignorant and simply doesn't know, or that she – and every other adult – is lying to her, or that she's correct and Santa is real. To make the cognitive dissonance go away, she must either suspend the new idea that Santa isn't real and choose to still believe, or she must accept the truth and grieve the loss of a belief system, and overcome the pain of the loss of trust with the adults in her world. Most kids will choose to keep believing, for obvious reasons.

I see this over and over again in adults when it comes to food production, hunting and animal welfare. People, as a general rule, don't like to see anything suffer. They certainly don't want to believe that they are the direct cause of suffering. Some people, in response to that concept, become vegetarian or vegan. Others, like the mystery writer begging people to buy their meat from a grocery store instead of killing it, insulate themselves in a false reality, and sometimes that false reality is completely ridiculous.

Sustainable food production is a complicated issue. And the more I've looked into every aspect of food production – land use, livestock production, crop farming – the more I realized there is no right answer. And what is the concept of "right" other than a moving target of subjectivity in a soup of changing contexts? Some cultures don't eat pork, others believe cows are sacred. Some people make a living by raising animals for slaughter, and others make a living healing them. Some people provide for their family by removing habitat for wild animals and replacing it with one crop for humans to consume.

The reality is that there are 7.5 billion of us and counting – and we all need to eat. We have dominated the planet, and now we are doing damage control. We are in the middle of what many scientists call the sixth extinction. The last (and fifth) was the Cretaceous-Paleogene extinction when 75 per cent of species on the planet became extinct. That was 66 million years ago. The current extinction, known as the Ho-



I don't know if this was ever actually sent into a newspaper, or if it was made up to outrage people like you and me on the Internet, but this is the epitome of cognitive dissonance.

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locene extinction, began during the ice age with the loss of charismatic megafauna such as the dire wolf and woolly mammoth. Science has been able to establish what is called a background rate of extinction, which can be thought of as the normal rate of extinction as species diverge, evolve and disappear. The current rate of extinction of species is estimated to be 100 – 1,000 times greater than the background rate. And this extinction appears to be mostly man-made, and largely attributable to habitat loss and to a lesser degree, over-hunting of apex predators around the globe.

Depressing? Sure. But it IS reality, and if we want to try and conserve diversity, we are going to have to conserve habitat – which is hard to do with a growing population.

A few months ago, the Denver Zoo posted a photo of a couple of their employees eating a bison burger from the zoo's restaurant. The photo caption



Animal rights activists tend to believe that crop farming is harmless, but that belief doesn't take habitat loss into consideration.

briefly talked about how bison were re-introduced the prairie in Colorado – an undeniably good move for the environment. But people did deny it – vehemently. The zoo was raked over very vegan coals for promoting wholesale murder. There were hundreds of comments from people who truly believe that right now, the best thing for the Earth would be to turn every domestic animal loose onto the landscape. These

ideas are so childlike in their naiveté that they'd be cute if they weren't utterly frightening. We know, of course, that domesticated animals have no place roaming free, and that feral and invasive animal species contribute incredibly to habitat loss and species extinctions. If these activists managed to get their way and put a halt to all animal production and farming, they'd have to slaughter every domesticated pig, cow, goat, sheep, cat, dog and chicken on the planet.

So let's pretend that happened and traverse to the idea that the morally right thing to do is to solely crop farm so that every human has only a plant-based diet. I'm not sure that most people know that in order to plant a crop, you have to clear the land, which is the plains equivalent of clearcutting a forest. The ecosystem and habitat is changed forever, and can no longer support the diversity it once did. It would directly cause the deaths of countless wild critters and this would happen on an even larger scale if animal production was eliminated. Soil loss and erosion would then become the next big threat to food production, and we would have no manure (from pasture or confined operations) with which to rebuild the nutrient profile and organic volume of soil.

So, what does sustainability really look like? For starters, I think it means embracing the cognitive dissonance and being honest with ourselves about the reality of food production, resource allocation, and what a growing population means for the planet. And then it means doing the best we can to produce as much as we can with as little impact to the environment as possible. When I look at our industry, and at Canadian agriculture overall, this is what I see. But most importantly, I see a willingness to do more and to be better – and that's something to truly be proud of. Let's take that pride and use it as fuel to keep sharing our story with the world.

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Canadian Hog JOURNAL

HOT ISSUES

Spotlight on Neepawa - Success stories of Filipinos united by hope

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By Ian Froese

NEEPAWA, MANITOBA — On Monday, February 26, 22 Filipinos arrived at the HyLife Foods hog processing plant in Neepawa for their first day of work.

Those who came before them have a similar story. They settled here, too, for the opportunity Canada would bring them — but more importantly, for their children who came with them and the family members who stayed in the Philippines.

Robert Galvin, a longtime resident of the Neepawa area, knows the Filipinos well.

He works for one of them, employed by Rostito Managuit, better known as Rusty, at an Asian grocer. He knows many, through the customers he jokes around with every day. And he's dating one, a Filipino woman he met online who he's trying to bring to Canada.

Galvin appreciates how Filipinos prioritize family. On payday, it's not uncommon to see 150 Filipinos at the store sending money to poorer family members in the Philippines, he said.

“Even the ones that are there and want to come here to work, the reason they're doing that is for their family so that they can send money home,” he said.

“There, the family is very important, and I admire that.”


On the same day 22 newcomers arrived for work in Canada, The Brandon Sun visited with a few of the hundreds who also started with HyLife in the last decade.

Since the company arrived in 2008, it has sparked a tremendous growth spurt in the community, almost singlehandedly. It has transformed the town of 3,200 to more than 4,600 people today. Officials at the Neepawa and Area Settlement Services believe one-quarter of the community's population today is Filipino.

For those newcomers from the Philippines now firmly entrenched in Canadian life, their paths have since diverged in the succeeding years, but they remain united by the hope that brought them here in the first place.

CONTINUED ON PAGE 14

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Eleazer and Analyn Resolis

Neepawa was “quiet” when Eleazer Resolis arrived.

It was 2008. He was part of the first group of Filipinos, seven in all, who went to work at HyLife.

There are now at least a thousand Filipinos living in Neepawa. The town is a bustling place. “Too much” Filipinos, his wife Analyn jokes.

Eleazer is still at the plant. He works the night shift and is lead hand of the ham line, in charge of some 50 people.



Eleazer Resolis and his wife Analyn on the couch at their Neepawa home. The couple says they will never leave Manitoba, their way of thanking the province that welcomed them and their family from the Philippines. Photo by Ian Froese, Brandon Sun

“Myself, I am always thinking about the kind of gratitude,” he said. “I said to myself and my wife, ‘I will stay in Manitoba.’”

Others who obtained their permanent resident status moved elsewhere, but he will remain in Manitoba. He’s grateful the government took a chance on them.

His wife, who arrived in Canada in 2010 with the couple’s children, happily sums up the last decade.

“He came here as a worker first, then applied as a provincial nominee, then he applied as an immigrant and now we are Canadian citizens,” Analyn said, dancing in her seat to emphasize the last point.

She’s proud to be in this country, where the opportunities for their three sons, ages 29, 19 and 17, are plenty. While the two youngest finish high school, their eldest, Adrian, works in maintenance at HyLife, after studying instrumentation at Red River College.

She is employed with Touchwood Park Association, Inc., supporting individuals with developmental disabilities.

We’re “so blessed,” said Eleazer, who left a buy and sell business the couple owned to come to Canada.

“The other reason I decided to move?” Analyn said. “The health is free.”

The couple was floored, she said, when they discovered a single health card covered her operation.



A smile is never far from the face of Rostito Managuit, the owner of RDM Mini-Mart, an Asian grocery store in Neepawa. Photo by Ian Froese, Brandon Sun

Rostito Managuit

To know Rostito Managuit is to know his laugh. Within a few minutes, you’ll hear it. When he chuckles, he grins wide.

“Some people like me because I just laugh,” Managuit said.

He smiles often, too. He thinks of Japan, a country where he once lived, where workers are actually trained to smile. That friendliness helps his interactions with others, he reasons.

“If you have a good relationship with your customers, they will stay with you.”

Managuit is the owner of RDM Mini-Mart, an Asian grocer running since 2016. He has made a point of stocking his shelves with Filipino cuisine.

He works 12-hour days, sometimes longer. He also drops in on weekends during the busiest hours.

Monday was the nine-year anniversary of the day he arrived in Canada to work for HyLife as a meat cutter.

He had experience with a similar job in Japan before returning to the Philippines. He was trained as a healthcare aide, but couldn’t find work due to a lack of opportunities.

CONTINUED ON PAGE 16

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He moved to Canada in the hopes of more favourable circumstances, in work and life.

After a nearly four-year stint with HyLife, he worked for the previous owners of the grocer and a health store.

When they left in 2016, they sold the business to Managuit.

“I decided there’s nothing wrong to try it.”

Without formal business training, he has endured headaches but said he loves it.

Non-Filipinos, puzzled by all the choices in his 1,600-sq.-ft. store, are among his customers.

“They’re excited to see what I’m selling here and then they’re buying a lot of stuff and asking me, ‘Oh, how to cook this one,’” he said, as he bursts into laughter.

Mike Malli

Mike Malli recently left HyLife, but you wouldn’t know it when you see him walk into the local bakery in Gladstone. His jacket and sweater don the logo of the hog processing plant, where he worked from 2009 to 2017.

“I still love them, I still promote,” he said.

After climbing the ranks at HyLife to become maintenance planner, he took on a role with Southern Health, where he oversees maintenance, housekeeping and laundry for two facilities in Gladstone and one in MacGregor.

He appreciates interacting with patients in his new role.

“Working with them gives me a joy of serving,” he said.

This job is sometimes minutes from the home he shares with his wife Terencia and their daughter, now in Grade 5.

“Here in Gladstone, especially, we have quiet and peace.”

Before moving, he knew of the community, nearly 40 kilometres east of Neepawa. He stayed at the Gladstone motel for a month after arriving from the Philippines in 2009.

After his wife and his daughter showed up in 2011, he took them to Gladstone, where homes are cheaper and the community isn’t as crowded. Today, his wife works for the health authority in food services.




Mike Malli, a former HyLife employee pictured at the Gladstone Bakery and Eatery, now works as the manager for physical and environment services for Southern Health’s facilities in Gladstone and MacGregor. Photo by Ian Froese, Brandon Sun


He thought of his daughter, then a newborn, when he was contemplating a move overseas. His salary as an engineer supervisor in the Philippines was “sufficient,” in comparison to many others, but a chance at a good job would be limiting for his new daughter. “It will be a greener pasture,” he thought of Canada. He still does.

“You can probably count the blessings, it would be multiplied 700-folds.”

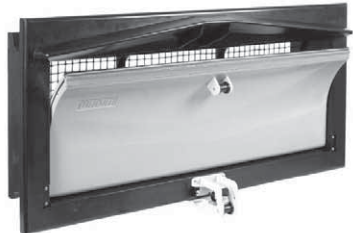
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Lyane Cypres shares a box of muffins with her daughter Princess at the dinner table of their Neepawa home. Cypres has progressed through the ranks to become a cutfloor manager at the HyLife processing plant in Neepawa. Photo by Ian Froese, Brandon Sun

Lyane Cypres

Only days ago Lyane Cypres celebrated nine years in Canada. It was a simple occasion.

“I just had a wine, had a pizza,” she said.

She started at HyLife the same day as Malli, one of 14 Filipinos employed at the plant beginning in February 2009.

Lyane is now a cut-floor manager at HyLife, in charge of eight departments. It’s a plum post.

“It makes you feel proud,” Cypres said. “Who would have thought that you would get this position?”

She didn’t come to Canada blind. She was already employed with a Filipino meat processor when a recruiting agency approached her.

Career advancement in the Philippines is challenging. Due to meagre pay, workers who obtained higher-paying jobs stuck with what they had.

In Canada, job promotion is common in a plant like theirs, which is expanding.

The hardest part of moving away has been separation from her family. In 2016, though, her daughter was able to come with. They live together in a house, where extra rooms are rented out to other Filipinos.

Cypres loves to travel whenever she can, but says cities like Toronto or Montreal don’t appeal to her when she thinks of putting down roots.

It isn’t like Neepawa, where she feels involved in the greater good.

“Because it’s too small a community, you kind of know you’re a part of it,” she said.

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Gene editing 101

A close look at CRISPR technology, its applications and future potential

By Treena Hein

Gene editing is the name for a group of techniques that allows precise changes to be made in the genome of an organism without introducing genetic material from another organism. The latter – for example, Roundup Ready crops that contain an enzyme isolated from a soil bacterium – are referred to as GMOs (genetically-modified organisms). There does not appear to be a common term for gene edited organisms at this point.

Gene editing has been around for a few years and although its widespread use is yet to come, acceptance is growing. In late March, the U.S. Department of Agriculture (USDA) clarified that crops created using gene editing techniques will not be subject to the many regulations it imposes on GMO foods.

“USDA does not regulate or have any plans to regulate plants that could otherwise have been developed through traditional breeding techniques...This includes a set of new techniques that are increasingly being used by plant breeders...such as genome editing [which] expand traditional plant breeding tools because they can introduce new plant traits more quickly and precisely, potentially saving years or even decades in

bringing needed new varieties to farmers.” In the same press release, U.S. Secretary of Agriculture Sonny Perdue stated that, “with this approach, USDA seeks to allow innovation when there is no risk present.”

Dr. Peter W.B. Phillips, professor of public policy at the University of Saskatchewan, says that new research suggests that Canadians view gene edited foods as only marginally less of a concern than GMO foods or foods produced using mutagenesis, which is the deliberate causation of genetic mutation through a variety of means. Despite that, he reports that gene-edited mushrooms and non-browning apples have recently received regulatory approvals and are entering the market without much consumer pushback.

“At one level there is some receptivity for the technology in our food system,” Phillips said.

Gene editing has the potential to create crops and livestock breeding lines with all types of useful traits, from improved productivity and hardiness to thrive in challenging conditions, to those that allow for better animal welfare and disease resistance. In 2015, animal genetics firm Genus-PIC announced the development of the first pigs resistant to Porcine Reproductive and Respiratory Syndrome Virus (PRRSv) through a long-standing collaboration with the University of Missouri.

“The production of PRRSv resistant pigs is a significant breakthrough,” the firm stated in a press release at the time. “Using precise gene editing, the University of Missouri was able to breed pigs that do not produce a specific protein necessary for the virus to spread in the animals. The early stage studies conducted by the University demonstrate these PRRSv resistant pigs, when exposed to the virus, do not get sick and continue to gain weight normally. Genus will continue to develop this technology, and we expect it will be several years until PRRS resistant animals are available to farmers.”

Unpacking the method

In simple terms, gene editing allows genetic material to be added, removed or changed at specific locations in the genome. One method that’s causing great excitement is CRISPR, as it’s considered more precise, predictable, less costly and faster than other methods. It’s actively being examined as a method to treat human diseases that have a single-gene malfunction, such as hemophilia and Huntington disease, and experts say it may also be possible to use it to treat or even prevent multi-gene diseases such as cancer.

CRISPRs (Clustered Regularly Interspaced Short Palindromic Repeats) were first discovered a few years ago in bacteria by a Spanish scientist named Francisco Mojica. He theorized that these repeating gene sequences, which were bookended by short spacer sequences, were a filing system of sorts – the bacteria take DNA snippets from viruses that had attacked them and file them away for use in the future if the same virus attacks again. Mojica’s theory was confirmed in 2007, and by January 2013, the first method to engineer CRISPR to edit genomes in mammal cells (mouse and human) was published.

CONTINUED ON PAGE 20

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^aCanadian Veterinary Medical Association guidance on the prudent use of antimicrobial drugs, 2014.
^bData on file.

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The usefulness of CRISPR lies in the spacer sequences. Geneticists can transcribe these DNA sequences (genes) into RNA snippets and then use the RNA elsewhere to find a matching gene. As explained on the Broad Institute website (a genetics initiative created by Harvard and MIT), when the target gene is found, an enzyme produced by the CRISPR system called Cas9 then binds to the gene and cuts it, thereby shutting it off. However, modified versions of Cas9 can be used to study a gene's function instead of shutting it down. Over 40,000 CRISPR RNA sequences have already been created and made available by geneticists to their peers around the world.

The Broad Institute notes that, "CRISPR-Cas9 can also be used to target multiple genes simultaneously, which is another advantage that sets it apart from other gene-editing tools." The CRISPR/Cas9 system has so far been successfully used to target genes in many cell lines and organisms, including bacteria, fish, plants, yeast, flies, monkeys, rabbits,

pigs, rats, mice and humans. The tool also allows the quick creation of cell and animal system models, which can help accelerate the pace of genetic research beyond anything that's come before. In addition, it's being developed as a rapid diagnostic tool for disease.

Gene editing in pigs

Phillips notes that many of the gene editing applications related to animals are being pursued to address either productivity issues (PRRSv) or even animal welfare. For example, work has already been undertaken by Dr. Alison Van Eenennaam at the University of California, Davis, to edit cattle genes so that no horns are grown.

"In this context, the use of the technology generates conflicting responses," she said. "Many are concerned about the health and welfare of our husbanded animals – gene editing offers one approach to addressing those endemic concerns. Others prefer different approaches, including consumers individually and collectively avoiding the problematic foods altogether (through) vegetarianism, governments regulating undesirable practices through federal or provincial statutes, or industry incentivizing alternate practices, through such processes as Code of Practice for the Care and Handling of Pigs."

PIC's director of strategy Ernst van Orsouw says, "based on the science, we anticipate that the food derived from gene-edited animals will be proven safe to eat. A key part of our development program and work with regulators is to validate that the pork derived from gene edited pigs is safe and that there are no unintended consequences for the pigs. The product would need to be accepted across multiple global markets since pork is traded. This requires international regulatory approval and consumer acceptance. The regulatory frameworks for new breeding technologies such as gene editing are being refined. Genus-PIC works closely with regulators and other food chain stakeholders and consumer groups to identify a responsible approach."


He adds that, "It is exciting to be pioneering this technology. We believe that if we do this responsibly and in collaboration with all stakeholders, this technology brings the potential to benefit animals, farmers and consumers. A long road remains to optimize and validate this technology, but we're excited by the opportunities."

Phillips notes that breeders tend to be more flexible about approaches to improving productivity or animal welfare (such as gene editing, consumer choice, laws and industry guidelines) "as they are well-aware that those husbanded animals targeted by new genetic technologies are already significantly changed from their natural state. The same is true for most of our food crops. Most of our foods we eat are significantly altered from what was originally found in nature. This is not a moral judgment, just a practical observation."

Phillips concludes that different supply chains, with different core competencies and different orientations, will choose different strategies, but says that "barring a large-scale pushback by regulators or consumers, I would expect we will see a greater array of ways we produce the foods we eat."

For more on CRISPR's early history, visit the Broad Institute at www.broadinstitute.org. ■

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Industry News

Canada-West Swine Health Intelligence Network welcomes new manager

Submitted by CWSHIN

The chair of the Canada-West Swine Health Intelligence Network (CWSHIN) and executive director of Alberta Pork, Darcy Fitzgerald, are pleased to announce that Dr. Jette Christensen, DVM, PhD, has accepted the position of manager for the organization, taking over the helm from Dr. Chris Byra, who is retiring at the end of April.

On behalf of the CWSHIN board and the western Canadian hog sector, Fitzgerald expressed his gratitude to Dr. Byra for his pioneering role in launching CWSHIN.

“Dr. Byra has been key in helping CWSHIN make significant progress toward our goals for swine health and disease surveillance in western Canada,” Fitzgerald said. “We thank him for his commitment and contribution, and wish him all the best in his retirement.”

Dr. Christensen is a veterinary epidemiologist with more than 30 years of experience in all phases of national animal health monitoring, surveillance and disease control programs in Denmark and Canada. She brings with her extensive skills in swine practice and epidemiological surveillance, along with a thorough understanding of the role of animal health in international trade.



“I look forward to continuing Dr. Byra’s extensive work at CWSHIN, and providing veterinarians and hog farmers with readily useful and valid information on the health of their swine herds,” said Dr. Christensen.

Dr. Glen Duizer, animal health surveillance veterinarian with Manitoba’s Chief Veterinary Office, noted that surveillance is all about communications.

Dr. Glen Duizer, animal health surveillance veterinarian with Manitoba’s Chief Veterinary Office, noted that surveillance is all about communications.

“CWSHIN’s team approach to swine health and disease surveillance in Western Canada, drawing together local and regional information and flowing it into the larger national framework, is excellent,” he said. “It was a pleasure working

with Dr. Byra and we look forward to continued collaboration with Dr. Christensen.” ■

CWSHIN is a partnership between Manitoba Pork, Sask Pork, Alberta Pork and BC Pork, with technical and financial support from Manitoba Agriculture, Saskatchewan Agriculture, Alberta Agriculture, BC Agriculture and the Western Canadian Association of Swine Veterinarians. CWSHIN serves western Canadian veterinarians and pork producers through detecting emerging swine health issues early; integrating information for response to regional health issues; providing evidence of the absence of disease to support trade; and providing western Canadian producers and veterinarians with information about endemic diseases.

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E-manifests close to reality in Alberta

By Sheri Monk

It's been three years in the making, but Alberta Pork is very close to launching a digital e-manifest system that will save money and headaches.

"When full movement reporting came into effect July 2014, meaning all types of swine movements were recorded, we had a paper-based manifest system. To help streamline the process for participants, we developed custom manifests for federal plants so they could meet their additional export requirements. This way they had only one manifest to fill out instead of two – one for us and for the processor," explained Christina Carley, traceability coordinator for Alberta Pork.

Like Quebec, Alberta has its own provincial traceability regulations, and the requirements are more robust than the national requirements. That means, just like Quebec, Alberta had to develop its own e-manifest system instead of using the national version through PigTrace.

"What we tell people in Alberta is to follow the provincial regulation, and we'll submit what is required nationally on your behalf so you're not doing it twice," explained Carley. "Our e-manifest has been developed so we can do all of this online, and will include all movement types."

Some of the details are still being worked out, but Carley says she's worked hard to ensure the digital manifest will feel and look much like the paper version.

"I developed the e-manifest to feel and look like the paper copy so that when we transition, it's not very different for the producer and the guys on the ground," said Carley.

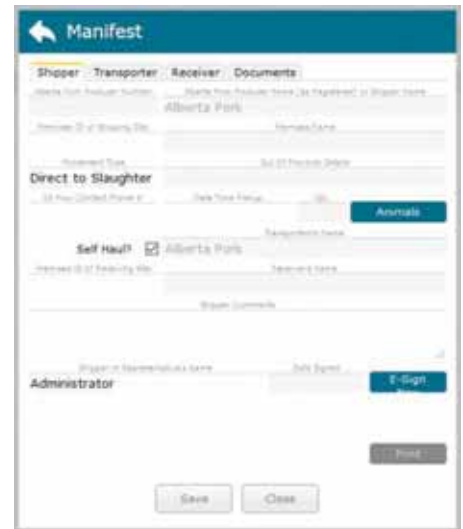
The e-manifest is conceptually similar to the paper system in an important way.

"I wanted the power to be with the producer to start the process, just like how it was with the paper manifest. It's a bit of a cascade effect where the producer or shipper starts the e-manifest, and the transporter and receiver would see it the respective parties have been tagged," explained Carley.

While she is hoping to have the full system functional something this summer, Carley says farm-to-farm e-manifests will be available sooner. Working out the details with the federal plants is a little trickier, and in some cases, the plant may have to be the party that initiates the e-manifest. But not to fear, producers will receive easy-to-follow instructions on how the e-manifest will work with each and every processor they may do business with.

"The most overwhelming benefit of the e-manifest system is faster reporting. One of our biggest enemies when it comes to disease response is time – the time to collect data and information," Carley said. "This will significantly impact that in terms of allowing us to collect that information in a real-time basis, which is huge because even a 48-hour delay, which is what the provincial regulation for reporting is, is already too late."

While e-manifests could be critical to doing disease trace work, the system has po-



A screenshot capture of the e-manifest expected to be released this summer.

tential for preventing spread before it has the chance to happen.

"For example, if a federal plant knows what's coming and what's on the road, that helps them in a response too because they have time to divert it," she said.

The system will save money too, reducing the need for paper manifests, which is also eco-friendly. But paper will always be available as a back-up because in rural Alberta, dead spots happen.

"A paper copy will always be accepted and the e-manifest allows you to finish on paper if need be," said Carley.

The e-manifest is a web application that is mobile friendly and easy to operate from a smart phone or tablet. Users will simply have to add the url of the e-manifest website to their home screen, or save it as a favourite in their browsers.

"Any handheld is going to be able to use it," said Carley, adding that a separate app wasn't developed because of the cost.

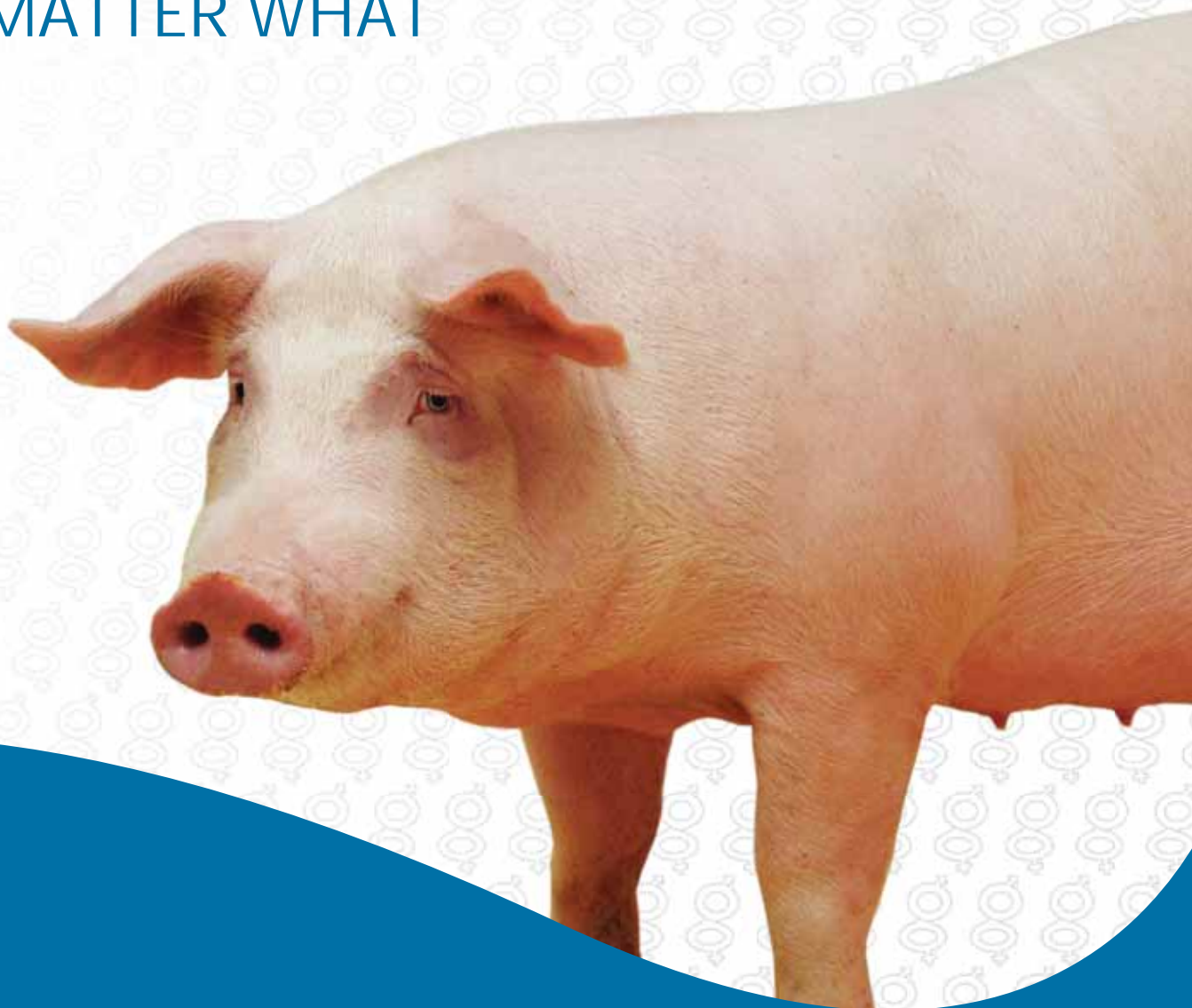
Funding for the innovative system was provided through Growing Forward.

"In terms of a direct cost to producers, there wasn't one, other than the time it takes to complete the manifest and submit it. But ultimately, this should save the industry time, while better protecting it from disease threats." ■

An advertisement for ROTECA, a company specializing in pig farming equipment. The logo at the top features a stylized pig head and the text "ROTECA N°1 IN PIG INNOVATION". Below the logo, several pieces of equipment are displayed and labeled: "Panels", "N1-2 Canopy", "Easy Pan", "Maxipan", "Swing R3 Feeder", "VRH-3 Valve", and "Slats". At the bottom, the text reads "Contact us for your nearest dealer! 800-568-4205 americanrl@wctat.net".



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At AGM 2018, Manitoba hog farmers partner with Brandon's Samaritan House

Submitted by Manitoba Pork

Hog farmers and sector partners gathered at The Fairmont Winnipeg on April 5, 2018, to celebrate the 53rd Annual General Meeting (AGM) of Manitoba Pork. Highlights of the Annual Banquet were the presentation of one tonne of pork sausage to Samaritan House Ministries in Brandon and two Pork Industry Awards.

Thea Dennis, Executive Director of Samaritan House, expressed her gratitude to Manitoba hog farmers for the donation, and noted that over the next six weeks this pork will support the unsupported, providing warm meals and filling young bellies.

“It is not an easy road for farmers, but your word is your bond and the values that you live by, such as a firm handshake and caring for your neighbours, means that there is now more room at the Samaritan House table,” said Thea.

“While it's the hog sector's job to provide high-quality, affordable protein to the world, it is our passion and commitment to help ensure food security here at home. We are proud to partner with this remarkable organization and connect with

communities in western Manitoba by offering a hand up to those in need,” noted Manitoba Pork Chair George Matheson.

Matheson presented the following Pork Industry Awards:

Tom Dooley, Partner, MLT Aikins LLP, received a 2018 Pork Industry Award in recognition of his outstanding contributions to the hog sector in Manitoba as legal counsel to Manitoba Pork for over 19 years, at all times with passion and integrity. Tom has represented numerous agricultural marketing boards, non-profit organizations, cooperatives and charities over the past 48 years, and the Manitoba hog sector was fortunate to have had his commitment and service.

The Manitoba Livestock Manure Management Initiative (MLMMI) received a 2018 Pork Industry Award in recognition of outstanding work researching issues related to livestock manure. Over nearly two decades, the initiative managed and coordinated more than 90 research projects, amounting to an almost \$9 million investment. The Initiative has now been folded into a broadly scoped research unit within the provincial government. ■

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Prairie Swine Centre appoints new CEO

Submitted by Prairie Swine Centre



Meet Dr. Murray Pettitt, Prairie Swine Centre's new CEO.

The Board of the Prairie Swine Centre has announced the appointment of Dr. Murray Pettitt as their new CEO. Murray will assume responsibilities on July 1 and will succeed Lee Whittington, who is retiring after 26 years, the last 10 years as president/CEO.

Dr. Pettitt has been part of the swine research community for the past 21 years, and was previously employed at Prairie Swine Centre (PSC) for 10 years, managing contract research from 2003-2009. During that time, he grew the program's size and capabilities, while being responsible for the business development as well as the design and implementation of customer-driven research.

"It is like coming home – to be able to return to the centre after nine years pursuing my research interests in my area of specialization," notes Murray. "The position of CEO will allow me to further my interests in bringing science to agriculture, and adding to the long, successful history of Prairie Swine Centre's service to the pork industry."

Background

Murray is from rural Manitoba and received his BSA in 1986 and his M.Sc. in animal reproduction in 1991 from the University of Manitoba. After three years at the Winnipeg Health Sciences Centre, he returned to agriculture to pursue research in boar sperm cryopreservation at the University of Guelph, receiving his Ph.D. in 1997. Murray accepted a post-doctoral fellowship at the Ontario Veterinary College where he helped develop practical embryo transfer techniques in swine.

In 1999, he assumed the position of assistant manager – external research services (also known as contract research) at Prairie Swine Centre. Subsequently he became the research scientist – external research services from 2003 – 2009 where he was responsible for leading this program.

Since leaving Prairie Swine Centre, Murray has been at the Department of Animal and Poultry Science at the University of Saskatchewan where he was responsible for managing a research program

investigating markers of sperm function to identify the fertility potential of boars and bulls.

About Prairie Swine Centre

Prairie Swine Centre Inc., located near Saskatoon, is a non-profit research corporation affiliated with the University of Saskatchewan, and is recognized globally for its contributions to practical, applied science, training and knowledge transfer in pork production with emphasis in the disciplines of nutrition, engineering, and applied animal behavior. ■

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Incorporating health and safety in the decision-making process

How do you decide whether to adopt new technology?

Submitted by *Prairie Swine Centre*

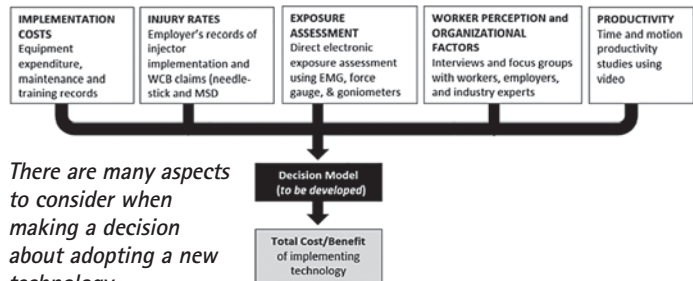
Canadian pork production has made a tremendous transition from smaller family farms into large-scale high-production barns. This transition has spurred several process changes and technological advancements throughout the pork value chain. So let's say you are presented with a new technology, tool, or method to help production. How do you decide if it is



Research study team, from left: Catherine Trask, Lee Whittington, Olugbenga Adebayo, Xiaoke Zeng, Bernardo Predicala

going to have a net benefit to your business?

There are a lot of things to consider – implementation and maintenance costs, productivity impacts, worker and manager preferences, and food safety and animal handling regulations. Worker health and safety is another consideration



There are many aspects to consider when making a decision about adopting a new technology

that can impact the bottom line. For example, if a new tool increases risk factors for injury, injury and work loss may require overtime or recruiting and training replacement workers to make up for absenteeism. Although technological innovations may have an impact on worker health and safety, these impacts – whether positive or negative – can be difficult to quantify and integrate with business decisions.

To address this, the Prairie Swine Centre is collaborating with the Canadian Centre for Health and Safety in Agriculture at the University of Saskatchewan to evaluate the health and safety effects of new technologies. This will help producers decide if they want to adopt a new technology. The goal of this project is to develop a suite of performance measures through a 'toolkit' that can be applied to decision-making about new technologies.

The specific technology we are investigating in this study is needle-less injectors, and we are comparing them with conventional needle injectors in a comprehensive evaluation that attempts to incorporate all the decision-making factors.

We conducted ergonomic evaluations at the Prairie Swine Centre during nursery pig injections and piglet processing. More than 650 injections were assessed using electromyography (EMG) to measure muscle activation and forces in the hand and wrist, as well as a posture sensor glove which records finger, hand, and wrist position during injection tasks. Processing is currently underway to determine muscle force and hand/wrist posture for each injection method. The study is still ongoing. This year we will conduct interviews on worker preferences, compare injury rates before and after the adoption of the needle-less injector, and evaluate the cost of each method.

For more information on this and other ergonomics studies, check out the Ergonomics Lab section of the Canadian Centre for Health and Safety in Agriculture site at <http://research-groups.usask.ca/ergolab/index.php>. ■

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Alberta Pork's new display will reach untold thousands at Stampede

By Sheri Monk

After much planning and hard work, Alberta Pork's public engagement display has a new look. Like the former version, the new display harnesses the powers of cute and interactivity, featuring a live sow with her piglets and a weaner pen. However, it now also includes an informational slideshow and video that provides an inside look at a barn and the pork industry from a practical standpoint.

One of the venues the display will be featured at is the Calgary Stampede, which attracted 1.2 million people in 2017. In addition to dedicated Alberta Pork staff, the display will also be manned by dedicated members of the Calgary Stampede's Swine Committee who producers volunteering their time to engage the public and answer questions.

"I can't say enough about our producers and swine committee members who continue to prioritize this kind of work – it's invaluable," says Darcy Fitzgeraldpatrick, executive director of



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Alberta Pork. "The visibility and exposure our industry receives through one-on-one contact at events like the Calgary Stampede helps us not just in Alberta, but right across the country."

"The first showing was at Aggie days in April, and it was a big hit," said Cassandra Harvey, community engagement co-ordinator for Alberta Pork. "The colour, warmth and representation of the industry was well-received by all of the visitors. We are very excited to show the new displays at coming events."

This year, the Calgary Stampede runs from July 6 – 15. In addition, Alberta Pork will unveil two additional displays, one at industry and producer events such as The display will also be featured at events such as the Alberta Pork Congress June 13 and 14, and an outdoor public display at Canada's biggest BBQ competition the annual barbecue party the Porkapoolza BBQ Festival in Edmonton June 16 and 17, among others. ■

Spring photo contest attracts cute kids and their pigs

We are now accepting photo contest submissions for our fall edition of Canadian Hog Journal. While fall-themed photos are fun, we want to see all of your on-farm photos. New construction? New equipment innovation? Cute kids with cute pigs? Industry event? Send them all to sherimonk@gmail.com. Winners receive a plaque featuring the winning front cover. Hang it on your living room wall or in your barn and impress your pigs AND any visitors!

Just remember to send the largest file size you can, otherwise the photo won't be digitally large enough to look good on our glossy front cover. Good luck!



The three little pigs, plus one! Congratulations again to Jackie Thiessen of Peers, Alberta, for her winning photo featured on our front page this issue!



This adorableness was sent in from Kori Ashley and comes all the way from Progress, BC.



What a pretty pile of peaceful piglets! "We have 10 Berkshire sows and produce weaners, small numbers of Berkshire replacement gilts and boars. We also finish some pigs each year for the artisan meat market. We market our meat out of a mobile food vendor trailer licensed by Alberta Health," says Edith Tabler, of TME Farms out of Rosalind, Alberta.



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"This was Spot the pig, and my daughter Sarah. Sarah had three pigs to accompany her gaggle of animals that include chickens, ducks, and her own cows," said Jessica McClelland who farms near Pincher Creek, Alberta.

Tammy Wallace of Westlock, Alberta sent these photos of her daughter Sam and her son with their purebred Hampshire sow. Thanks Tammy!

A photograph of a pig barn showing a large pink sow in a stall. A blue electronic feeder is mounted above the stall. The text "ELECTRONIC SOW FEEDER" is overlaid in large white letters. A red maple leaf logo with "Made in Canada" is also present. The background shows rows of stalls and other pigs in the distance.

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High fibre diets for swine

Submitted by Atta K. Agyekum, Prairie Swine Centre



Introduction

Feed cost represents more than 60 per cent of the variable cost of swine production and a major part of the feed cost is to ensure that pigs have adequate energy and protein supply to reach their optimum potential in terms of the production goals. Corn, wheat, barley, and soybean meal have been the most widely used feedstuffs to meet the energy and protein requirements of pigs. However, the prices of these conventional feedstuffs continue to rise and have been unpredictable in recent years. Therefore, swine producers must find alternative feed resources to ensure economic sustainability of their business.

Currently, canola meal and cereal grain co-products from the biofuel and milling industry are commonly used for pig feed in Western Canada because of their availability, low-cost and nutrient content. However, these alternative feed resources are typically fibrous in nature and when fibrous ingredients are incorporated into pig diets, the carbohydrate composition inevitably changes from a high starch diet toward a diet containing less starch and more non-starch polysaccharides, which are the major component of dietary fibre.

Starch and dietary fibre, however, differ in several aspects apart from their chemical structures. For instance, whereas starch is mostly digested and absorbed in the small intestine, fibre is not digested in the small intestine of pigs because monogastric do not produce the digestive enzymes that break down fibre. However, some fibre types can be fermented by the microbes in the pig's intestinal tract. Further, dietary fibre has the potential to reduce energy and nutrient digestibility and consequently depress pig growth performance. However, the reports have been rather contradictory and the negative effects of fibre-rich diets on nutrient utilization and pig growth are influenced by the fibre source, type, and inclusion level. On the other hand, dietary fibre has received a lot of attention in swine nutrition in recent years because some fibre components have beneficial effects on pig gut health when fermented in the intestine, and can positively affect gestating sow welfare

Fibre on pig performance

Replacing conventional feedstuffs with fibrous co-products reduces the DE content of the diet. This can lead to a reduction in the pig's ability to gain body weight with increasing dietary fibre

CONTINUED ON PAGE 32



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level. For example, increasing the dietary levels of distillers dried grains with solubles (DDGS) up to 20 per cent in nursery diets and up to 30 per cent in grower diets linearly decreased pig body weight (Avelar et al., 2010; Agyekum et al., 2014). However, in some studies, diets containing high fibre co-products had no adverse effect on pig growth performance. The reduction in growth performance reported in some studies can be due to using inaccurate nutrient loading values and/or not formulating diets containing a substantial amount of fibrous co-products using NE and digestible nutrients values (Wu et al., 2016). Therefore, swine diets containing fibrous co-products should be formulated based on NE, SID AA, and available P to ensure an accurate estimate of the amount of energy and nutrients that will be available for use pigs (Zijlstra and Beltranena, 2013).

However, increasing the level of co-products up to 50 per cent in diets for grow-finish pigs may reduce growth rate and feed intake even if such diets are balanced

for NE and SID AA (Jha et al., 2013). Nonetheless, high fibre diets depress pig growth rate and feed intake in the nursery and growing phases more than in the finishing phase (review by Agyekum and Nyachoti, 2017). This is because older pigs have a more developed and bigger gastrointestinal tract and can, therefore, increase their daily feed intake to get the energy and nutrients required for their maintenance and growth.

Additionally, adult pigs have a greater ability to ferment fibre than younger pigs. However, in weaned pigs, high-fibre diets reduce voluntary feed intake due to limited gut capacity, which reduces DE intake and thus growth rate. Increasing dietary levels of fibrous co-products have been consistently shown to decrease carcass weight in several studies even when slaughter weights are similar, especially when these co-products are included at 30 per cent or more of the diet. This is because pigs must increase their feed intake in order to compensate for the low energy value of high fibre diets, which results in adaptive changes in the gastrointestinal tract to accommodate high fibre diets. Therefore, the visceral organs increase in size and weight, which leads to an increase in energy and nutrients for maintenance and thereby decrease energy and nutrient retained for protein deposition. As a result, more than 30 per cent of fi-

brous co-products should not be included in diets for finishing pigs. Including some amount of fibre in grow-finish diets may also be useful in reducing back fat thickness, if pigs are fed low-crude protein, amino acid supplemented diets.


Fibre on fermentation and intestinal health

Although pigs cannot digest dietary fibre, the microbes in their gastrointestinal tract can ferment some fibre types to produce an array of metabolites that can influence nutrient metabolism and promote intestinal development and gut health in pigs. The level and type of fibre along with their physiological properties like solubility and fermentability affect fibre fermentation in the pig's gut. In this context, fibrous ingredients (e.g. sugar beet pulp, resistant starch, and fructo-oligosaccharides) that are soluble and highly fermentable have been reported to produce greater fermentation products than insoluble fibre ingredients (e.g. wheat bran and DDGS).

Soluble and fermentable fibres are fermented in the proximal end of the hindgut, whereas insoluble fibres are fermented gradually and the fermentation can be sustained until the end of the colon. Further, information in the literature suggests that high levels of insoluble fibre in pig diets may hamper or lead to lower microbial fermentation in the hindgut. Nonetheless, fibre fermentation in sows is greater than in growing pigs because sows have a well-developed gut capacity, high microbial activity, while digesta retention time in the sow's gut is longer for fermentation to occur.

Fibre fermentation products include volatile fatty acids (VFA; mainly acetic, propionic and butyric acids), CO₂, H₂, and methane gases. The VFA has been widely reported to be beneficial to intestinal development and gut health in pigs. For example, butyrate is used as an energy source by the colon cells to grow. Propionate and a certain amount of butyrate are used to produce glucose through the process of gluconeogenesis, whereas nearly two-thirds of acetate is metabolized in the muscle cells as fat (Slavin, 2013). Including soluble-fermentable fi-

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brous ingredients like resistant starch and fructooligosaccharides in pig diets can stimulate the growth of beneficial bacteria (e.g. *Bifidobacteria* and *Lactobacilli*) and increase VFA production thereby lowering gut pH. The low gut pH has been reported to have a negative effect on the growth of pathogenic bacteria such as *E. coli* and *Clostridium perfringens* (Jha and Berrocoso, 2015), which cause enteric infections in pigs. Wheat bran and oat hulls, which are rich sources of insoluble fibre have also been reported to reduce the growth of pathogenic bacteria and the severity of intestinal infections in weaning pigs (Kim et al., 2008; Molist et al., 2011). For example, the addition of four per cent wheat bran to a weaner diet, based on corn, wheat, barley, and soybean meal, reduced *E. coli* population and the incidences of diarrhea in weaned pigs experimentally infected with *E. coli* K88+ (Molist et al., 2010). However, combining soluble and insoluble fibre in pig diets produces a superior response on intestinal development and health (Pieper et al., 2008; Molist et al., 2009). Therefore, fibrous feed ingredients can be incorporated into nursery and grower pig diets, as a strategy to reduce the incidences of enteric infections and thereby promote gut health. Currently, however, there are no recommended dietary levels of fibre for pigs to confer health benefits because this is difficult to establish and depends on the feed ingredients used for diet formulation. Additionally, it should be noted that a high dietary fibre inclusion rate can hamper nutrient utilization and pig growth performance.

Fibre in gestation diets

Restricting the feed allowance of gestating sows is commonly practiced to prevent excessive body weight gain and the associated negative consequences on locomotion and reproductive functions. Sows still receive sufficient nutrients to meet their maintenance and reproductive needs; however, their daily feed allowance is not enough for the sows to achieve satiety. The lack of satiety due to restricted feeding has been reported to result in aggression and stereotypies (Lawrence et al., 1993), which are of great welfare and production concern in individual or group-housed gestating sows. Incorporating fibrous ingredients into pregnant sows diets have been reported to reduce hunger sensation and to ameliorate the aggression and behavioral problems associated with restricted feeding (de Leeuw et al., 2008). The beneficial effects of feeding high-fibre diets to gestating sows have been ascribed to their


ability to delay gastric emptying and increase swelling of the stomach content and fermentation products (Jørgensen et al., 2010). Further, based on data from 24 studies published between 1975 to 2007, it was observed that sows that were fed high fibre diets during gestation had improved lactation feed intake and weaned more pigs/litter on average than sows fed low fibre diets (Reese et al., 2008). Fibrous ingredients that are soluble and highly fermentable should be used because they have greater effects on satiety and sow lactation performance than insoluble fibrous ingredients.

The Nutrition Group at the Prairie Swine Centre are currently running series of experiments utilizing hydrothermal treatment as a processing technique to improve the solubility of straws for group-housed gestating sows. The overriding objective is to evaluate the effect of processed or unprocessed straws on

CONTINUED ON PAGE 34


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indicators of satiety and lactation performance of sows.

References

Agyekum AK, Nyachoti CM. 2017. Nutritional and metabolic consequences of feeding high-fibre diets to swine: A review. *Engineering*. doi:10.1016/J.ENG.2017.03.010

Agyekum AK, Woyengo TA, Slominski BA, Yin YL, Nyachoti CM. 2014. Effects of formulating growing pig diet with increasing levels of wheat-corn distillers dried grains with solubles on digestible nutrient basis on growth performance and nutrient digestibility. *J. Anim. Physiol. Anim. Nutr. (Berl)* 98:651-8.

Avelar E, Jha R, Beltranena E, Cervantes M, Morales A, Zijlstra RT. 2010. The effect of feeding wheat distillers dried grain with solubles on growth performance and nutrient digestibility in weaned pigs. *Anim. Feed. Sci. Tech.* 160:73-7.

Jha R, Berrococo JD. Review: Dietary fibre utilization and its effects on physiological functions and gut health of swine. 2015. *Animal*. 9:1441-52.

Jha R, Htoo JK, Young MG, Beltranena E, Zijlstra RT. 2013. Effects of increasing co-product inclusion and reducing dietary protein on growth performance, carcass characteristics, and jowl fatty acid profile of growing-finish pigs. *J. Anim. Sci.* 91:2178-2191.

Jørgensen H, Theil PK, Bach Knudsen KE. 2010. Satiating properties of diets rich in dietary fibre fed to sows as evaluated by physico-chemical properties, gastric emptying rate and physical activity. *Livest. Sci.* 134:37-40.

Kim JC, Mullan BP, Hampson DJ, Pluske JR. 2008. Addition of oat hulls to an extruded rice-based diet for weaner pigs ameliorates the incidence of diarrhoea and reduces indices of protein fermentation in the gastrointestinal tract. *Br. J. Nutr.* 99:1217-25.

Lawrence AB, Terlouw EM. 1993. A review of behavioral factors involved in the development and continued performance of stereotypic be-

haviors in pigs. *J. Anim. Sci.* 71:2815-25.

de Leeuw JA, Bolhuis JE, Bosch G, Gerrits WJJ. 2008. Effects of dietary fibre on behaviour and satiety in pigs. *Proc. Nutr. Soc.* 67:334-342.

Molist F, Hermes RG, de Segura AG, Martín-Orúe SM, Gasa J, Manzanilla EG, et al. 2011. Effect and interaction between wheat bran and zinc oxide on productive performance and intestinal health in post-weaning piglets. *Br. J. Nutr.* 105:1592-600.

Molist F, Gómez de Segura A, Pérez JF, Bhandari SK, Krause DO, Nyachoti CM. 2010. Effect of wheat bran on the health and performance of weaned pigs challenged with *Escherichia coli* K88+. *Livest. Sci.* 133:214-7.

Molist F, Gómez de Segura A, Gasa J, Hermes RG, Manzanilla EG, Anguita M, et al. 2009. Effects of the insoluble and soluble dietary fibre on the physicochemical properties of digesta and the microbial activity in early weaned piglets. *Anim. Feed. Sci. Tech.* 149:346-53.

Pieper R, Jha R, Rossnagel B, Van Kessel AG, Souffrant WB, Leterme P. 2008. Effect of barley and oat cultivars with different carbohydrate compositions on the intestinal bacterial communities in weaned piglets. *FEMS Microbiol. Ecol.* 66:556-66.

Reese D, Prosch A, Travnicsek DA and Eskridge KM. 2008. Dietary fibre in sow gestation diets - an updated review. *Nebraska Swine Report* 2008, 14-18.

Slavin J. Fibre and prebiotics: Mechanisms and health benefits. 2013. *Nutrients*. 5:1417-1435.

Wu F, Johnston LJ, Urriola PE, Hilbrands AM, Shurson GC. 2016. Evaluation of NE predictions and the impact of feeding maize distillers dried grains with solubles (DDGS) with variable NE content on growth performance and carcass characteristics of growing-finish pigs. *Anim Feed Sci Tech* 215:105-16.

Zijlstra RT, Beltranena, E. 2013. Swine convert co-products from food and biofuel industries into animal protein for food. *Anim. Front.* 3:48-53. ■

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Optimizing dietary electrolyte balance to improve sow performance

By Pieter van Wijck, Nutrition Partners Inc.

Dietary electrolyte balance (dEB) manipulation has been used for over 20 years to enhance lactation and reproductive performance in dairy cattle. Dietary electrolyte balance also plays an important role in optimizing sow performance. Improvements in genetics has resulted in larger litters being born and in turn, a larger litter is being raised by the sow, which puts additional strain on the sow's metabolism and body. Optimizing the sow's electrolyte balance in gestation and lactation is a tool we can use to help the sow cope with these larger demands.

What is dietary electrolyte balance?

Dietary electrolyte balance is the difference between the anions (negatively charged ions) and cations (positively charged

ions) in the feed. It is expressed in milli-equivalents per kg feed (mEq/kg). The pig's body tries to keep the electrolyte concentration in balance. A feed with a high electrolyte balance will cause the pig to excrete sodium and potassium into the urine. A feed with a low electrolyte balance will cause the pig to excrete chloride into their urine. These two processes influence the pH of the blood. However, the sow's blood pH is very closely regulated and must stay close to a pH of 7.4. Pigs will mobilize or store calcium in their bone tissue to help regulate the pH in the blood. Mobilizing or storing calcium at certain stages in production can benefit production.

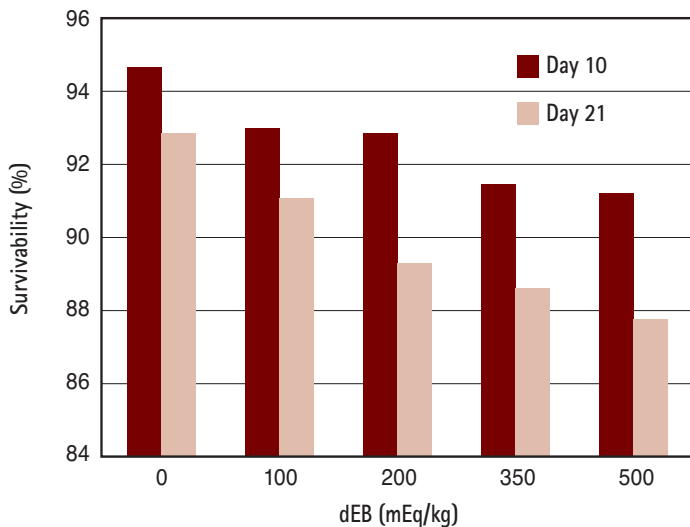
Gestation

A higher electrolyte balance in gestation feed will cause the sow to store more calcium in her bones. Feeding a diet with a low electrolyte balance for longer periods of time can cause poor bone mineralization and in the long run can lead to leg problems, and possibly increased sow culling rates.

Farrowing

A lower electrolyte balance around farrowing will cause the sow to mobilize calcium from her bone tissues. Sows have a high demand for calcium around farrowing because it is needed for muscle contractions and to start milk production. Not enough calcium can delay the farrowing process and result in a lower milk production. The same problem is well known in the dairy industry as milk fever. For sows this can result in slower births, which can result in more stillbirths, udder edema and hard feces. De Rouche et al. (2003) reported a higher survivability and more pigs weaned from sows fed a lower electrolyte balance ration around farrowing as seen in Figure 1. Similarly, a trial on four sow farms (1,667 sows) in Germany reported that optimizing a sow's dietary electrolyte

Figure 1. Effect of dietary electrolyte balance on survival of piglets at day 10 and 21.



Source: De Rouche et al. 2003. J. Anim. Sci 81:3067-3074

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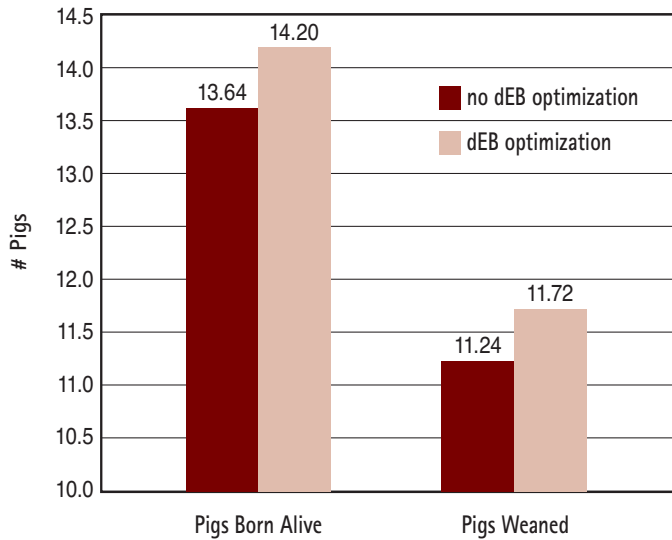
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Figure 2. Effects of optimizing dEB on number of pigs born alive and weaned.



balance resulted in an improvement in piglets born alive and weaned, and reduced pre-weaning mortality (Figure 2.).

Lactation

A lower electrolyte balance around farrowing is beneficial, but for optimal milk production a higher electrolyte balance during lactation is recommended. A higher dEB in lactation can improve milk production resulting in heavier weaning weights.

Bottom line

At Nutrition Partners we have been using the dEB concept successfully for the last couple of years improving reproductive performance. For example, improving the number of piglets weaned has a significant impact on the farm’s bottom line. Table 1, calculated using Nutrition Partner’s “NPI Farrow-to-Finish Analyzer” demonstrates the financial impact of a one per cent reduction in stillborn pigs and preweaning mortality at three different market prices on a farrow-to-finish farm;

- A one per cent reduction in stillborn pigs per litter is worth \$10.61 to \$21.73 per sow per year in \$1.20 to \$1.60 markets, respectively.
- Reducing preweaning mortality by one per cent has a value of \$10.93 to \$22.39 per sow per year in \$1.20 to \$1.60 markets, respectively.

Table 1. Financial impact of a one per cent reduction in stillborn and pre-weaning mortality at three market prices

\$ value/sow/yr	Reduction	Market Price		
		\$ 1.20	\$ 1.45	\$ 1.60
% Still born/litter	1.0%	\$ 10.61	\$ 17.56	\$ 21.73
% Pre-weaning mortality	1.0%	\$ 10.93	\$ 18.09	\$ 22.39

Conclusion

It is important to know the electrolyte balance of gestation and lactation diets for pigs. Feeding the right electrolyte balance at the different stages of production will improve bone mineralisation and sow performance which in turn improves the farm’s bottom line. ■

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Is it possible to increase the amount of colostrum available to newborn piglets?

Submitted by Chantal Farmer, Ph.D., research scientist, Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada and H el ene Quesnel, Ph.D. research scientist, PEGASE, INRA, Saint-Gilles, France

Results from a recent study suggest that with only one injection of a high dose of oxytocin in the 12 to 20 hours following the end of farrowing one can prolong the colostrum phase, thereby improving the quality of milk ingested by piglets in early lactation. Indeed, the high concentrations of proteins, immunoglobulins and growth factor IGF-1 that are present in colostrum are maintained for a longer period of time following treatment. This is due to the fact that oxytocin delays tightening of the junctions between mammary epithelial cells, therefore making



Figure 1. Newborn piglet

it possible for large molecules to pass directly from the circulation into milk.

Colostrum is essential for the survival and growth of newborn piglets because it is their sole source of energy and it also provides

passive immunity from the mother via the transfer of immunoglobulins. Furthermore, colostrum contains hormones, growth factors, enzymes, vitamins and minerals that are all required for proper development of the piglets. Lacteal secretions are considered as colostrum for approximately 24 hours following parturition, they then become transition milk until 72 hours postpartum, to finally become milk (Table 1). This difference is

due to the drastic changes in composition of lacteal secretions that take place in early lactation. There are marked decreases in concentrations of protein, immunoglobulins and growth factors and increases in fat, lactose and energy contents.

Currently, most sows do not produce enough colostrum to ensure optimal growth of their piglets. A piglet weighing 1.4 kg at birth should ingest a minimum of 250 g of colostrum in order to gain weight. The amount of colostrum produced is very variable from one sow to the next and is affected by circulating concentrations of various hormones. Oxytocin is a hormone that is frequently used in farrowing houses to help speed up the farrowing process, but it also plays an important role on milk quality in early lactation. Indeed, oxytocin affects the amount of space (tight junctions) between mammary cells. During the colostrum phase these junctions are open allowing large molecules such as immunoglobulins to pass directly from the sow blood to the colostrum. After parturition, these junctions gradually become tighter to eventually be impermeable, thereby altering the composition of lacteal secretions and ending the colostrum phase.

A trial was recently carried out at the Sherbrooke Research and Development Centre of Agriculture and Agri-Food Canada to study the potential role of oxytocin to prolong the colostrum phase in sows. Twenty Yorkshire X Landrace sows of second parity were divided into two treatment groups. They either received saline injections (controls) or a very high dose (75 IU) of oxytocin 4 times in early lactation. The first injection was



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given 12 to 20 hours (average of 16 hours) after birth of the last piglet, and injections were then given twice a day at 08h00 and 16h30 totalling 4 injections. Litters were standardized to 11 ± 1 piglets on day 2 (day 1 was the day of farrowing) and piglets were weighed twice on day 2 (at a fixed 8-hour interval) and once on days 7, 14, 21 (weaning on day 22) and 35 post-partum. Suckling piglets had no access to solid feed. Four milk samples were collected, two on day 2 of lactation (morning and afternoon), and one on days 4 and 5 of lactation. Composition in terms of dry matter, energy, fat, protein, immunoglobulins G and A, lactose, sodium, potassium as well as concentrations of the growth factor IGF-1 was determined.

Table 1. Composition of colostrum, transition milk and milk in the hours and days after farrowing.

Composition	Colostrum			Transition		Milk
	0 h	12 h	24 h	36 h	72 h	17 d
Protein (%)	17.7	12.2	8.6	7.3	6.1	4.7
Fat (%)	5.1	5.3	6.9	9.1	9.8	8.2
Lactose (%)	3.5	4.0	4.4	4.6	4.8	5.1
Dry matter (%)	27.3	22.4	20.6	21.4	21.2	18.9
Energy (kJ/100g)	260	276	346	435	468	409
Immuno-globulin G (mg/mL)	64.4	34.7	10.3	--	3.1	1.0

As soon as 8 h after the first injection of oxytocin, there were great differences in milk composition due to treatment. Milk from treated sows contained more proteins, immunoglobulins G and A, IGF-1 and energy compared to that of control sows. The sodium/potassium ratio was also much higher, indicating a greater opening (i.e. permeability) between mammary tight junctions. These differences were transitory because they were no longer present on day 4 of lactation. The weight gain of piglets did not differ between treatment groups but there was a tendency for a lower incidence of pre-weaning mortality in litters from sows receiving oxytocin. It is important to mention that the number of litters used was not large enough to be able to draw any conclusions as to the effect of treatment on animal performance.

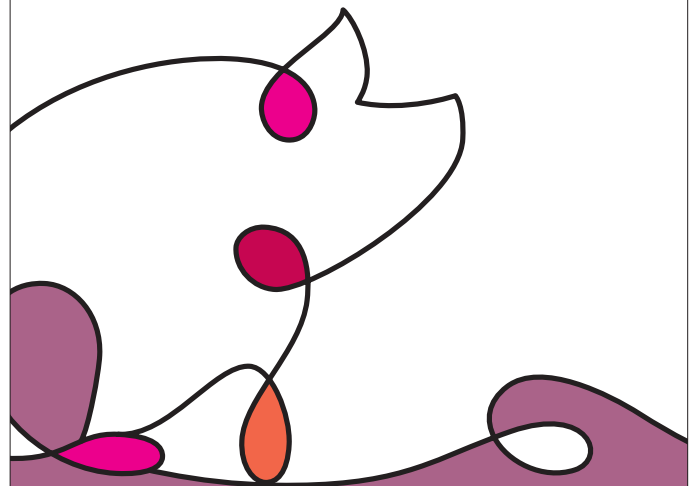
We can conclude from this study that a single injection of a high dose of oxytocin given in the 16 h following the end of farrowing prolongs the colostrum phase. This leads to an improvement in the quality of milk in early lactation. Increases in concentrations of immunoglobulins and growth factor IGF-1 in milk are particularly important because they have beneficial effects on immune status and development of the digestive system in newborn piglets. This is a novel finding in swine and the minimal dose of oxytocin required to elicit such positive effects remains to be established, as well as the impact of this treatment on performance and health of sows and their piglets. ■

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Effects of including hybrid rye in diets for gestating and lactating sows

By G. Sørensen and J. Krogsdahl, SEGES Swine Production, Copenhagen, Denmark

The purpose of this feeding trial was to evaluate the effect on total born pigs per litter, farrowing rate, and litter weight gain when sows were fed a diet containing 60 per cent rye during gestation and 35 per cent rye during the lactation phase. The control diet based on barley and wheat. The study was conducted over a period of 24 months at two practical swine farms that used dry feeding with commercially produced compound feed.

Farm A had 950 sows that were fed via an electronic sow feeding system in the gestation barn. Farm B had 1,250 sows and used floor feeding. The sows were divided in two groups such that the age of sows was the same in each group. The control and treatment diet were provided according to body conditions during gestation and lactation, and sows were allowed to consume their respective diets on a semi ad libitum basis. The control and treatment diets were continually formulated for similar nutrient content for gestating and lactating sows, respectively. There were variations in the type of raw materials over time, but

Table 1. Overall production results from Farm A and B (non-weighted averages)

Farm	A		B	
	Control	Treatment	Control	Treatment
Number of bred sows	1,455	1,477	1,361	1,310
Number of farrowings	1,376	1,398	1,309	1,239
Parity, avg.	3.2	3.2	2.8	2.7
Farrowing assistance, %	5	7	25	29
Treatment for MMA, %	17	22	23	27
Farrowing rate, %	92	92	92	91
Total born pigs per litter	17.8	17.8	18.7	18.7
Live born pigs per litter	16.5	16.4	17.1	17.1
Stillborn pigs per litter	1.4	1.5	1.6	1.6
Back fat thickness at farrowing, mm.	17.1	16.6	15.1	16.1


the content of rye was unchanged, and the same grain and protein sources were used in the control and treatment diets. All provided diets were formulated according to Danish standards for nutrients in sow diets. Phytase were added to the single diets as well.

On Farm A, 1,455 and 1,477 control and treatment sows, respectively, were bred and 1,376 and 1,398 sows farrowed. On Farm B, 1,361 and 1,310 control and treatment sows, respectively, were bred, and 1,309 and 1,239 sows farrowed. However, only 232 control sows and 233


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Table 2. Total born pigs per litter and farrowing rate for Farm A and B (LSmeans values)

Farm	A				B			
	Control	Treatment	P value	Difference	Control	Treatment	P value	Difference
Farrowing rate, %	92.2 [90.6;93.5]	91.8 [90.2;93.2]	0.70	0.4	92.5 [90.6;94.0]	91.9 [89.9;93.5]	0.63	0.6
Total born pigs per litter	17.89	17.89	0.95	0.01 [-0.26;0.28]	19.08	19.03	0.75	0.05 [-0.25;0.35]

treatment sows from Farm A and 195 control and 185 treatment sows from Farm B were followed through lactation. Results indicated that litter size and farrowing rate were not affected by feeding of rye (Table 1). Back fat thickness at farrowing was also not different (17.1 and 16.6 mm on Farm A and 15.1 and 16.1 mm on farm B for control sows and treatment sows, respectively).

There were no significant differences between the primary parameters “total born pigs per litter” or “farrowing rate” between the groups at Farm A and Farm B (Table 2).

Milk yield was not affected by treatment, there were no differences in litter weight gain or litter weaning weights between control, and treatment sows (Table 3).

During the study period, approximately the same number of sows were culled in the two groups; there was also no difference in the number of dead sows between control and treatment groups (Table 4).

CONTINUED ON PAGE 42

Table 3. Litter results from standardized litters in the farrowing barn at Farm A and B, respectively (non-weighted averages).

Farm	A		B	
	Control	Treatment	Control	Treatment
Number of sows	232	233	195	185
Parity, avg.	3.47	3.41	3.05	3.09
Number of lactation days	25.2	25.1	28.3	28.4
At farrowing				
Total born pigs per litter	18.2	18.3	19.6	20.1
Live born pigs per litter	16.6	16.8	17.9	18.4
Stillborn pigs per litter	1.6	1.5	1.7	1.7
Litter weight at farrowing, kg	24.2	22.6	24.8	24.7
Weight per pig at farrowing, kg	1.29	1.23	1.26	1.23
At litter standardization				
Litter size, number of pigs	14.2	14.2	14.1	14.1
Litter weight, kg	19.7	19.0	19.4	19.2
Weight per pig, kg	1.39	1.34	1.38	1.36
At weaning				
Litter size, number of pigs	12.5	12.6	12.5	12.2
Litter weight, kg	85.6	85.6	100.0	98.6
Weight per pig, kg	6.89	6.80	8.05	8.15
Litter weight gain, kg	65.9	66.7	80.6	79.4
Daily weight gain from standardization to weaning, kg/day	2.63	2.67	2.87	2.83

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Table 4. Culling reasons for sows at Farm A and B (non-weighted averages)

Farm	A		B	
Group	Control	Treatment	Control	Treatment
Number of slaughtered	280	293	327	359
Number of dead	81	96	39	45
Dead, % of culled	22	25	11	11

Conclusion

Overall, the experiment resulted in the following conclusions about use of feed with 60 per cent rye in gestation and 35 per cent rye in lactation:

- Litter size and farrowing rate are not affected.
- Density of feed with large amounts of rye is higher; this requires attention to correct adjustment of feeders.
- The sows' milk yield is not affected. Litter weight gain and litter weaning weight were not different.
- Over a period of 24 months, the sows' durability – measured by culled sows – was not affected.

Diets were not analyzed for ergot, because all diets were delivered as complete feed.

However, producers who mix their own feed and use their own rye should evaluate occurrence of ergot, which can lead to decreased milk yield in sows. Ergot can also cause prolonged contractions of the uterus, which can lead to abortions or stillbirths.

Study Participants:

Technicians: Linda Sandberg Pedersen and Erik Bach, SEGES HusdyrInnovation
Statistician: Julie Krogsdahl, SEGES HusdyrInnovation

Trial nr. 1359

Activity nr. 094-300450

Published May 24, 2017 ■

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Feed preference of weaned pigs for soybean meal, *Brassica napus* canola meal, or *Brassica juncea* canola meal

Jose L. Landero^{1,2}, Lifang Wang¹, Eduardo Beltranena^{1,3}, Clover J. Bench, and Ruurd T. Zijlstra^{1*}

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Take Home Message

When given a choice, weaned pigs prefer soybean meal (SBM) over canola meal (CM). But preference differs among canola meal types. *Brassica (B.) juncea* CM contains more glucosinolates especially bitter gluconapin, and therefore, weaned pigs prefer regular *B. napus* CM over *B. juncea* CM. However, feed preference may not hamper feed intake or growth. Weaned pigs offered free choice of two feeds (*B. juncea* CM or *B. napus* CM) in two separate feeders in the same pen did not reduce feed intake, weight gain, and feed conversion compared to pigs similarly offered free choice of two feeds that include SBM, specifically the pair (SBM or *B. napus* CM) or (SBM or *B. juncea* CM). Our study indicates that lower preference of weaned pigs for CM over SBM does not result in poor growth performance. Canola meal can be a valuable alternative to SBM for weaned pigs as feedstuff in western Canada.

Feed preference matters

Feed intake and thus energy intake is the key driving force for pigs to grow, but feed intake is affected by many factors including feed palatability. Canola meal can be included in pig feed to replace SBM thereby reducing feed cost. The CM may contain glucosinolates that may produce off-flavors that reduce palatability. In Canada, 95 per cent of CM originates from *B. napus* and the balance is from *B. juncea* and *B. rapa*. These CM types differ in nutrient profile and glucosinolates content and composition. Sensory systems (olfaction and taste) of young pigs are sensitive, as demonstrated previously by starter pigs persistently reducing selection of diets containing five to 20 per cent CM over SBM. Whether gluco-

sinolates in CM from western Canada affect feed palatability and further affect feed intake in weaned pigs needs to be answered. Previously, we showed that feeding 20 per cent modern *B. napus* CM containing 3.8 µmol glucosinolates/g did not reduce feed intake in weaned pigs but feeding 24 per cent *B. juncea* CM containing 10.8 µmol glucosinolates/g did reduce feed intake. To further quantify feed preference of weaned pigs for CM, we arranged double-choice preference tests by providing free choice of two feeds offered in the same pen. We then measured feed intake and growth of weaned pigs fed one of the three combinations of three diets containing 20 per cent SBM, *B. napus* CM, or *B. juncea* CM.

CONTINUED ON PAGE 44

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Chemical profile of soybean meal, canola meal and the diets fed

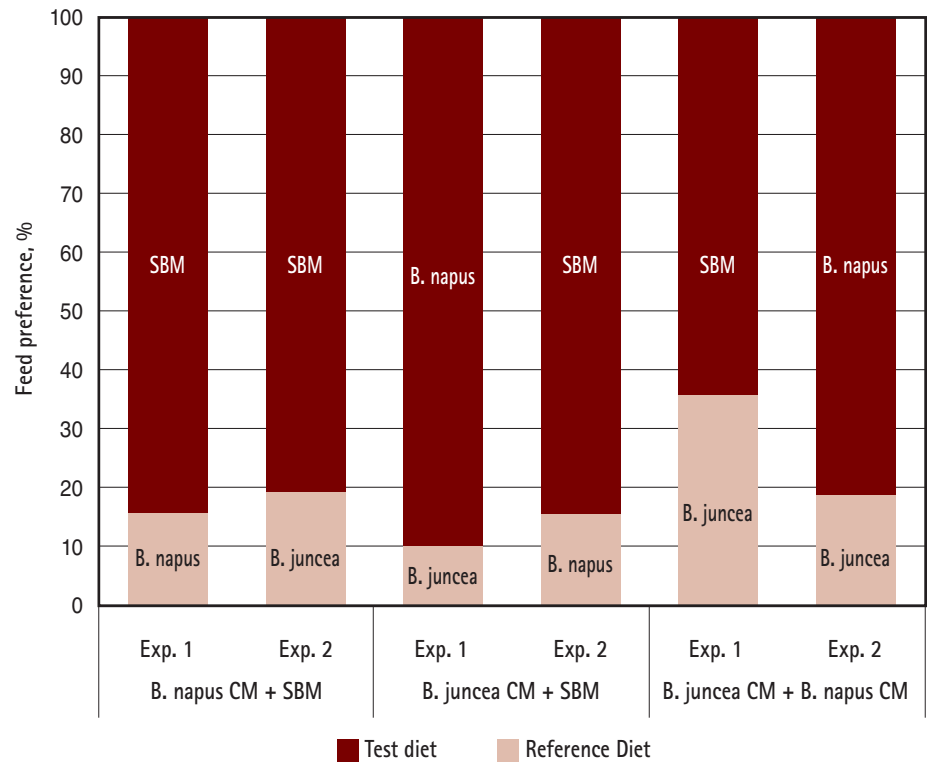
The *B. napus* and *B. juncea* CM contained less CP (~39 per cent), but more acid detergent fibre (14–18%) than the SBM. The *B. juncea* CM contained double glucosinolates than *B. napus* CM (10.8 vs. 4.91 $\mu\text{mol/g}$). The dominant glucosinolate in *B. juncea* CM was 3-butenyl (gluconapin), whereas the major glucosinolate in *B. napus* CM was 2-OH-3-butenyl (progoitrin) followed by gluconapin. Diets were wheat-based and formulated to contain 20 per cent of one of the three test feedstuffs. Diets were formulated to provide 2.36 Mcal net energy (NE)/kg and 4.49 g standardised ileal digestible lysine/Mcal NE (as-fed) with other AA as an ideal ratio to lysine. Premixes were added to meet or exceed trace mineral and vitamin requirements. Diets were fed as mash in Exp. 1 and were cold-pelleted in Exp. 2.

Weaned pig trial set up

We conducted two studies at the Swine Research and Technology Centre, University of Alberta (Edmonton, AB) with a total of 360 pigs (Large White \times Duroc; Hypor, Regina, SK, Canada).

There were three double-choice dietary treatments: 1) *B. napus* CM with SBM as reference, 2) *B. juncea* CM with SBM as reference, and 3) *B. juncea* CM with *B. napus* CM as reference. Both Exp. 1

Figure 1. Preference of weaned pigs fed paired diets containing 20% soybean meal, *Brassica napus* canola meal, or *Brassica juncea* canola meal in Experiment 1 and 2



and 2 were replicated 3 \times 3 Latin squares for three periods starting two weeks after weaning at 19 \pm 2 days of age. The use of Latin squares may help to reduce the early exposure effect, so each paired treatment was assigned equally as first exposure and applied to a pen once in the entire trial. Periods included four days of double-choice feed preference test followed by three days with a common non-test diet. Pigs had free access to two diets in two adjacent feeders in

each pen and feeders were switched daily from their original pen to adjacent pens with the same diet pair. Each feeder provided four feeding spaces.

In Exp. 1, 216 weaned pigs (initial body weight, 9.4 kg) were housed in pens of eight pigs in three nursery rooms. Feeder position (right or left) was not switched daily. In Exp. 2, 144 weaned pigs (initial body weight, 8.9 kg) were housed in pens of four pigs in four nurs-

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ery rooms. Feeder position (right or left) in each pen was switched daily.

For both experiments, pigs had free access to feed and water throughout. Pigs were weighed on day 0, 4, and seven of each seven day period. Feed added and remaining was weighed daily to calculate feed disappearance per pen. Feed availability was monitored three times per day to ensure adequate feed flow in the trough of each feeder. Feed preference

was calculated as a percentage of feed intake of a test diet out of total feed intake of a test diet and its paired reference diet.

What we found

For both studies, pigs preferred the SBM diet over the *B. napus* and *B. juncea* CM diets (Figure 1). Canola meal contains anti-nutritional factors, for example, glucosinolates and tannins that contribute to bitter flavor. Pigs may avoid

subsequent consumption of feed with an unpleasant flavor. Pigs preferred the *B. napus* CM diet over the *B. juncea* CM diet, likely because *B. juncea* contained 7 times more bitter gluconapin than *B. napus* CM. Strong avoidance of the *B. juncea* CM diet in weaned pigs indicated that canola breeding should reduce bitter gluconapin-type glucosinolates in *B. juncea* canola to prevent reduced feed intake in weaned pigs.

Interestingly for both Exp.1 and 2, overall ADG, ADFI and feed conversion did not differ among pigs fed the 3 paired diets (Figure 2). These data indicate that feed preference is not a good indicator of feed intake that the pigs actually achieve when there is not a choice.

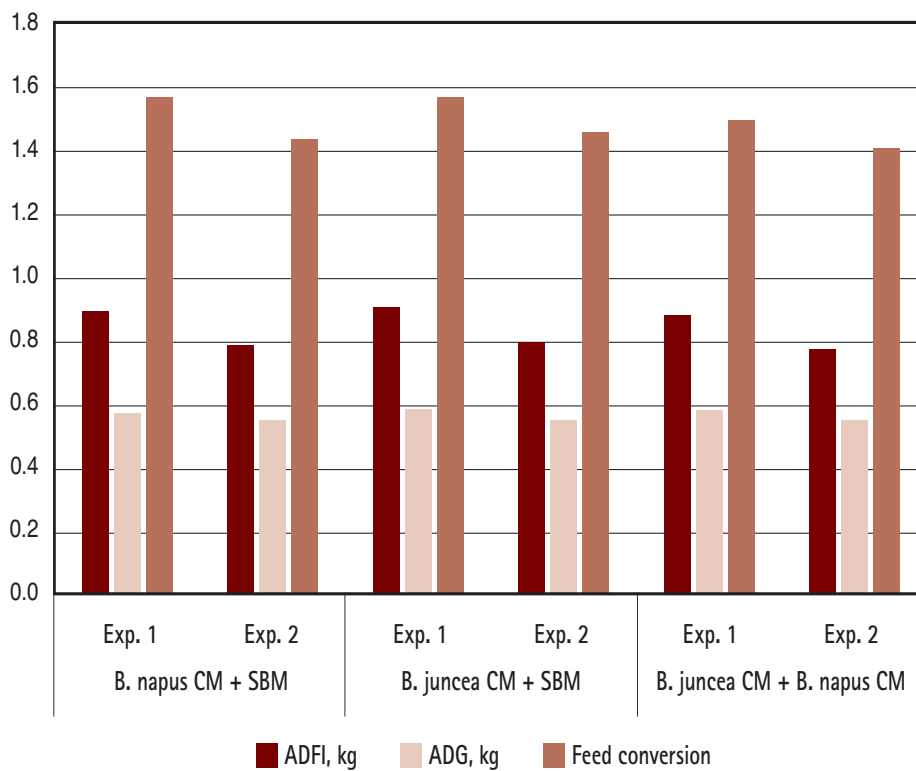
Conclusions

Weaned pigs strongly preferred the SBM diet over *B. napus* CM or *B. juncea* CM diets. Weaned pigs preferred *B. napus* CM diet over *B. juncea* CM diet indicating that gluconapin in *B. juncea* CM was a major concern affecting CM preference. However, lower feed preference of a diet does not equate to poorer feed intake.

Acknowledgements

We appreciate funding for this research from Agriculture and Agri-Food Canada and the Canola Council of Canada through the Growing Forward program. ■

Figure 2. Growth performance of weaned pigs fed paired diets containing 20% soybean meal, *Brassica napus* canola meal, or *Brassica juncea* canola meal in Experiment 1 and 2



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Addressing influenza a shot in the arm for industry

Submitted by Swine Innovation Porc



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If you think caring for a sick child is a challenge, try dealing with a feverish, fully grown hog. In any battle, understanding the enemy is the first step to success, so as the influenza virus continues to have a major impact on Canadian swine production, researchers analyzed the diversity and circulation of influenza A viruses in pig populations.

“A couple of things converged to prompt this study (*Dynamics of influenza infection in swine populations*),” said Dr. Zvonimir Poljak, Veterinary Epidemiologist at the University of Guelph.

“First, there has been a growing focus in the veterinary community on handling infection in different parts of the swine barn. Also, we had a number of ongoing projects in this area looking at both the big picture and specific production systems.”

Big picture thinking

To grasp the larger picture, Dr. Poljak said you must first understand what’s happening in these individual systems.



Courtesy University of Guelph

That can help bridge the gap between results in experimental settings and in the field where not everything is controlled.

“The other motivator was a desire to examine particular infections through different lenses including observational, virological and through simulation modelling.”

Researchers thus conducted a comprehensive genomic analysis of 16 influenza A virus samples from different clinical outbreaks within swine herds in Alberta, Manitoba, Ontario and Saskatchewan. In addition, by intensively following individual animals over a pe-

riod of time, they could track how often animals were infected and with which viruses while observing the results when producers implement large-scale treatment strategies.

“We found that once one virus was cornered, another one that was circulating at a low prevalence would often emerge to start a new epidemic.”

The sickening truth about viruses

What really stood out for Dr. Poljak and his colleagues was the great diversity of viruses that exist in Canada, and the fact that infection with one virus does not guarantee protection from others in the same sub-lineage. As well, even in production systems that appeared to be relatively closed (low replacement rates, smaller herd sizes), it wasn’t unusual to find nursery pigs with multiple positives for the same virus.

“When we filtered the data we collected through mathematical models, we found that even with very good vaccination programs, you won’t completely eliminate influenza viruses from your farm but rather change the timing of major outbreaks.”

The new normal

The take-home message for researchers was that we're living in a world where the influenza situation has changed dramatically in the last 10 years. Pools of genes are now circulating in swine populations and combining in unexpected ways.

“Our conclusion is that the successful infection control stage for influenza depends greatly on what’s happening in the sow herd, but every farm will be different. The best way to start dealing with disease is discussing it with your veterinarian and understanding the pool of genes that circulate in your production system.”

Part of this research also focused on processing and summarizing the laboratory swine influenza information in a user-friendly report for producers, swine veterinarians and regulatory experts.

Though more work must be done to analyze the impact of influenza virus on production and health, this study was an eye-opener in revealing how massive some viral outbreaks can be and how long viruses will circulate in certain nursery barns. And like any progress, it was a team effort.

“I would like to acknowledge the late Dr. Helena Grgić, who worked as a research associate at the University of Guelph. Helena’s expertise in classical and molecular virology and



Courtesy University of Guelph

next generation sequencing, her enthusiasm and leadership were the driving force for the success of this project.”

Clearly, the challenge posed by the influenza virus is an area that demands further study as researchers combat what Dr. Poljak calls “one of the top three viral pathogens of importance to the North American swine industry”. Letting influenza get the upper hand in the long term would be like a 200-kg sow with the sniffles: not a pleasant sight. ■



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EGF helps piglets get growing

Submitted by Swine Innovation Porc



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While the fable about the tortoise and the hare proved that a fast start isn't everything, it sure helps. That's especially true in the pork industry, as margins are razor thin and any edge is a welcome one. With that in mind, research on epidermal growth factor (EGF) is looking at where piglets are falling short in the early stages and what industry can do about it.

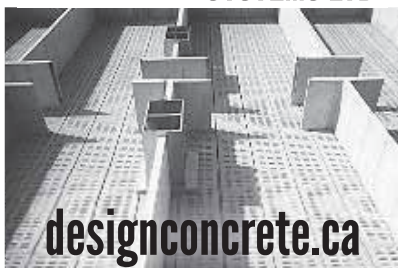
"EGF is produced naturally in the sow's milk and supports development of the piglet's intestine," said Dr. Juang Li, professor of animal biosciences at the University of Guelph. "Due to changes in nursery practices today based on business decisions and concerns about the spread of disease, we are weaning piglets early now, around 21 days."

Missing milk

The earlier weaning means that piglets don't get enough milk and EGF, slowing their growth and development. Unfortunately, the chemical approach to making EGF commercially available is too expensive to be a practical option for producers. Given that reality, Dr. Li's group collaborated with the late Dr. Kees de Lange to create more cost-effective EGF.



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“In collaboration with Dr. de Lange’s group, we did some initial testing in pigs. Now that we have financial support from the swine cluster, in addition to industries and NSERC, we are conducting further animal trials, producing EGF in feed grade material or yeast and feeding it to piglets.”

Based on a three-week trial, researchers have concluded that EGF supplementation can improve the intestinal development of piglets and enhance their growth, body weight gain and gain-to-feed ratio. The impact increased according to the dose received as per dosage amounts tested in this trial, and the added EGF seems to be especially effective where feed quality is lower.

Preferred protein

As an added benefit, EGF can alleviate some concerns around blood plasma.

“Blood plasma is often used as a protein source, but there is concern about the risk of pathogens in plasma. It appears that piglets receiving EGF do well without blood plasma.”

Additional testing is underway - in collaboration with Dr. Martin Nyachoti’s group - to determine the effect of EGF on E. coli infection, so this may be one supplement that can multi-task. Perhaps that explains why industry is quick to embrace it.

EGF causing a stir, naturally

“I’ve been talking to many people at conferences who think this is a great idea. We’re making EGF naturally and at a reasonable cost, using food-grade yeast to avoid any safety issues. We’re also pre-empting any concerns around genetically modified organisms by using only what is secreted by the yeast, which are enzymes that have been widely used in feed supplementation for many years.”

With the weaning stage representing one of the biggest bottlenecks in the pork industry, Dr. Li is hopeful that the regulatory hurdles can be overcome as soon as possible for the benefit of all.

“We now have the ability to boost the growth of early weaned pigs and decrease the chance of infection while reducing the use of antibiotics and blood plasma. That’s significant for our industry, and all that remains is securing government approval. In theory, the fact that EGF is a well-known, natural component of milk rather than a drug should help in getting it registered.”

Even if that approval process proves to be lengthy, researchers may be heartened by another maxim from the “tortoise and hare” tale – slow but steady wins the race. ■

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Cooling systems for pigs a hot topic

Submitted by Swine Innovation Porc



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Like opposable thumbs, working sweat glands are something pigs can only dream about. But for pigs during transportation, the lack of functional sweat glands can be a nightmare and is often fatal in the absence of proper ventilation. That was the impetus for research evaluating the impact of ventilation in warm conditions on the behaviour, physiology, and carcass and meat quality of pigs waiting to be unloaded at the slaughterhouse.

“In Canada, most pig transport vehicles are only passively ventilated, so while air flows in the trailer during movement, there is no cool-ing system in place to relieve pigs from the heat when stationary,” said Dr. Luigi Faucitano, Researcher at Agriculture and Agri-Food Canada.

Feeling the heat

Because the temperature inside the trailer in-creases rapidly with no motion, pigs can suffer discomfort, damage and even death. The process to address the problem has been long and winding, but is starting to show results.

“In 2011 we did a study where we equipped pig transport trailers with a water sprinkling system,” said Dr. Faucitano.

Although the application of these systems for 5 minutes after loading at the farm and 5 minutes before unloading at the slaughter plant was effective in reducing body temperature of the animals, the additional moisture increased humidity, something that affects pigs even more than high temperatures.

What goes up, must come down

“Those results prompted us to submit a proposal looking at



Combined water sprinkling and ventilation system. Source: Sherbrooke Research and Development Centre, AAFC

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Ventilation system. Source: Sherbrooke Research and Development Centre, AAFC

the benefits of combining water misting systems to reduce the body temperature of pigs with mechanical ventilation to remove humidity and increase evaporative losses in pigs.”

Using two identical pot-belly trailers, twelve loads of 191 pigs each (six loads per trailer) were transported over a two-hour period to the slaughter plant during the summer. On arrival at the plant, the trailers remained stationary for 30 minutes before unloading. During this period, one trailer was exposed to external forced ventilation for 20 minutes and forced ventilation and misting for 10 minutes using external fan-mister banks located near the unloading dock. The other trailer (the control) was not exposed to any cooling procedure at all over that 30-minute wait.

“The novel part of this study was adding water misting to the existing fan bank system. We then assessed pig comfort based on body temperature monitors, internal truck climate conditions and behavior during the wait before unloading, at unloading and in lairage.”

Cool customers

Overall, the findings were promising. Compared to the control truck, there was a drop in temperature and humidity in the trailer receiving ventilation and misting, less need to release excessive body heat and reduced dehydration conditions in the animals at slaughter.

At the same time, researchers noted that the effects were not consistent throughout the trailer, as compartments that were poorly designed or divided by solid gates sometimes received less air flow. As well, the punch-type pattern of the side openings

may have prevented a smooth air flow through the vehicle.

The positive impact of the mister/ventilation approach could allow producers to cool their animals without burning up their bank account, enhancing animal welfare while reducing pig losses.

Bad vibrations?

This project also looked at vibration rates in trailers. Researchers wanted to know if those rates varied between compartments and what effect they had on pig behavior and condition; however, results are not yet available. Given that Dr. Faucitano’s group is the first in North America to study the issue, they need time to analyze and interpret the data with help from their European colleagues.

In 2018, Dr. Faucitano and his partners will release more details about the impact of cooling systems and vibration on pigs. Their results will aid in knowledge-building around vehicle design features to limit animal losses during transport and improve pork quality.

So maybe they can’t give pigs working sweat glands or opposable thumbs. But if their findings save money and improve profits, they should get two thumbs up from producers and industry. ■

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Peut-on augmenter la quantité de colostrum disponible pour les porcelets naissants?

Chantal Farmer, Ph.D., chercheur scientifique, Centre de Recherche et de Développement de Sherbrooke, Agriculture et Agroalimentaire Canada

Hélène Quesnel, Ph.D. chercheur scientifique, PEGASE, INRA, Saint-Gilles, France

Les résultats d'un tout récent projet suggèrent qu'une seule injection d'une forte dose d'ocytocine dans les 12 à 20 heures suivant la fin de la mise-bas prolonge la phase colostrale améliorant ainsi la qualité du lait consommé par les porcelets en tout début de lactation. En effet, la teneur plus élevée en protéine, immunoglobulines et facteur de croissance IGF-1 du colostrum est maintenue plus longtemps suite à ce traitement. Ceci est dû à un délai du serrement des jonctions entre les cellules épithéliales mammaires.

Le colostrum est essentiel à la survie et à la croissance des porcelets car il est leur seule source d'énergie après la naissance et leur procure aussi une immunité passive venant de la mère, notamment via les anticorps de type immunoglobuline G et A. De plus le colostrum contient des hormones, facteurs de croissances, enzymes, vitamines et minéraux qui sont tous nécessaires pour le développement des porcelets nouveau-nés. Les sécrétions lactées sont considérées comme étant

du colostrum pour approximativement 24 heures suivant la mise-bas, ensuite elles deviennent du lait de transition jusqu'à environ 72 heures postpartum pour finalement être du lait (Tableau 1). Cette distinction est due au changement drastique dans la composition des sécrétions lactées en début de lactation. Il y a une diminution marquée dans la concentration en protéines, immunoglobulines et facteurs de croissance ainsi qu'une augmentation en gras, lactose et énergie.



Figure 1. Porcelet naissant



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Tableau 1. Composition du colostrum, lait de transition et lait dans les heures et jours suivant la mise-bas.

Composition	colostrum			transition		lait
	0 h	12 h	24 h	36 h	72 h	17 j
Protéines (%)	17.7	12.2	8.6	7.3	6.1	4.7
Gras (%)	5.1	5.3	6.9	9.1	9.8	8.2
Lactose (%)	3.5	4.0	4.4	4.6	4.8	5.1
Matière sèche (%)	27.3	22.4	20.6	21.4	21.2	18.9
Énergie (kJ/100g)	260	276	346	435	468	409
Immuno-globuline G (mg/mL)	64.4	34.7	10.3	--	3.1	1.0

À l'heure actuelle les truies ne produisent généralement pas assez de colostrum pour assurer la croissance optimale de leurs porcelets. Un porcelet pesant 1.4 kg à la naissance se doit d'ingérer un minimum de 250 g de colostrum afin de gagner du poids. La production de colostrum varie énormément d'une truie à l'autre et est influencée par les concentrations de certaines hormones. L'ocytocine est une hormone qui est utilisée assez fréquemment en maternité pour accélérer le processus de mise-bas mais cette hormone a aussi un rôle sur la qualité du lait en début de lactation. En effet, l'ocytocine affecte l'espace entre les cellules mammaires (jonctions serrées). Pendant la phase colostrale cet espace est ouvert permettant aux grosses molécules, telles les immunoglobulines, de passer directement du sang de la mère vers le colostrum. Suite à la mise-bas, ces jonctions se resserrent changeant ainsi la composition des sécrétions lactées et terminant la production de colostrum.

Un projet a récemment été mené au Centre de Recherche et de Développement d'Agriculture et Agroalimentaire Canada à Sherbrooke afin d'étudier le rôle possible de l'ocytocine sur la durée de la production de colostrum chez la truie. Vingt truies Yorkshire X Landrace de deuxième parité ont été divisées entre deux traitements, soit recevant des injections de saline (témoins) ou d'une très forte dose d'ocytocine (75 UI) à 4 reprises en début de lactation. La première injection était donnée de 12 à 20 heures (moyenne de 16 h) suivant la naissance du dernier porcelet et ensuite 2 fois par jour (08h00 et 16h30) pour totaliser 4 injections. Les portées étaient uniformisées à 11 ± 1 porcelets au jour 2 (le jour 1 étant considéré comme le jour de la mise-bas) et les porcelets ont été pesés deux fois au jour 2 (à intervalle fixe de 8 h) ainsi qu'aux jours 7, 14, 21 (sevrage au jour 22) et 35 postpartum. Les porcelets à la mamelle ne recevaient aucune nourriture sèche. Quatre échantillons de lait ont été obtenus, soit 2 au jour 2 de lactation (matin et après-midi), 1 au jour 4, et 1 au jour 5 de lactation. Le contenu en matière sèche, gras, protéine, immunoglobulines G et A, lactose, sodium, potassium ainsi que les concentrations du facteur de croissance IGF-1 ont été déterminés.

Le traitement a engendré de très grandes différences au niveau de la composition des sécrétions lactées dès 8 h suivant la

première injection d'ocytocine. Il y avait plus de protéines, d'immunoglobulines G et A, d'IGF-1 et d'énergie dans le lait des truies ayant reçu de l'ocytocine comparativement au lait provenant de truies témoins. Le ratio sodium/potassium était aussi beaucoup plus élevé indiquant une plus grande perméabilité des jonctions entre les cellules mammaires. Ces différences n'étaient pas maintenues jusqu'au jour 4 de lactation ce qui démontre un effet transitoire. Il n'y a eu aucune différence dans le gain de poids des porcelets mais il y avait une tendance pour une moins grande incidence de mortalité pré-sevrage chez les porcelets des truies recevant de l'ocytocine. Il est cependant important de noter que le nombre de portées utilisées n'était pas assez grand pour être capable de statuer sur l'effet du traitement sur les performances animales.

On peut conclure que grâce à une seule injection d'une forte dose d'ocytocine donnée dans les 16 h suivant la fin de la mise-bas il est possible de prolonger la phase colostrale, donc d'améliorer la qualité du lait, en début de lactation. L'augmentation des immunoglobulines et du facteur de croissance IGF-1 dans le lait sont particulièrement importantes pour le statut immunitaire et le développement du système digestif du porcelet naissant. Ceci est une première chez le porc et il reste encore à établir la dose minimale pouvant avoir un effet bénéfique sur les porcelets ainsi que les effets au niveau performances et santé de la truie et des porcelets. ■



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YOUR DAILY BACON

BY BUDDY SIMMONS

Well, here we are again, it's time for yet another look at pigs in pop-culture!

This time we are going to go back to the well. As I recall, one of the earliest editions of *Your Daily Bacon* examined pig phrases or 'sayings'. But we are going to get fancy and call what is being offered up this time around as "pig idioms". An "idiom" of course, is just a high-falootin' word for... well, pig sayings.

Since that first coverage, I learned that there are many more idioms (gee, I feel more intelligent already just using that word)

and that I had just scratched the surface. When I discovered that, I was as happy as a pig in mud! See what I did there? An idiom before I am even getting started! Call that one a freebie.

Mind you, in general, pig idioms are not exactly flattering to the nature of pigs. They really need better representation, which is what Canadian Hog Journal is here for, at least in part. Pigs need good press and we are here to provide it to them.

Another thing, keep in mind that I'm a fan of pop-culture and an avid consumer of pork products, but am really woefully un-



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informed on the actual nature of the beasts, so if I'm off the mark with any of my musings contained herein, bear that in mind.

That said, here we go!

First, has anybody ever actually tried putting lipstick on a pig? Probably so, but that's content for another article and probably not one to be found in this publication. But, the idiom that states,



Not bad. maybe a little heavy on the greens, though.

“You can put lipstick on a pig, but it's still a pig,” simply means that as much as you try to dress something up beneath it all, it is still what it is before you made the attempt. Insulting, because I'm sure pigs are perfectly

happy with their appearance and feel no need for a makeover. Also, this implies that no matter how many times I use the word “idiom,” I'm not actually fooling anyone.

“On a pig's back” suggests that somebody is living in the lap of luxury. This was a new one for me, but then I recalled another similar phrase I had heard my parents use when I was a kid, “living high on the hog,” and usually when I expressed a desire for something that they considered to be extravagant.

“In a pig's eye!” suggests that something is an untruth. I had to go digging for the story behind this one, and the origin was not really clear. The source I examined mentions that the phrase originated in the U.S. in the 19th century and that it is used in Australia, but is not commonly used in the UK. It went on to explain that the first time it was seen in print was in Jacob Oswaldel's *Notes on the Mexican War 1846-1848*, in which he used the phrase no less than five times. An example of one goes as follows: “*The Publicanos de Mexicanos were all anxious to see the new arrivals, they having been informed that our regiment was a whole division of about eight thousand men (in a pig's eye).*”



Why should the experience end after the bacon is gone?

It seems like he was saying “Eight-thousand men? Yeah, right.”

It occurred to me that another way of using this has been to say, “My eye!” For example, somebody might make a dubious claim such as *Your Daily Bacon* being the epitome of high-class literature, to which the response might be, “High-class literature, my eye!” (Really though, it IS high-class literature. Full of idioms. Trust me.

CONTINUED ON PAGE 56

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Consumer Trends

Surely, everyone has heard someone say they are “sweating like a pig”. This one is kind of counter-intuitive. Pigs have sweat glands, but they apparently they don’t have the most efficient of cooling systems, which is why pigs enjoy soaking in mud or water. They don’t even appear to be high on the list of sweaty animals. I imagine horses have them beat in that category, so why not “sweating like a horse”?



Not recommended for use in shark-infested waters.

As a likely obscure and definitely irrelevant side observation, there was a popular 70s American sitcom, “Welcome back Kotter” in which a group of underachieving Brooklyn high-school students were known collectively as the “Sweat-Hogs”.

Here is a group of four other idioms, only half of which make much sense and all are equally bizarre.

“It’s plain as a pig on a sofa”

“Clumsy as a hog on ice”

“Content as a dead pig in the sunshine”

“Wild as a peach-orchard hog”

Okay, obviously, a pig on a sofa would be pretty apparent under most circumstances, and many animals have the same difficulty on icy surfaces as humans do. So the first makes sense, in an abstract way.

But “content as a dead pig in the sunshine”? Even saying “peaceful” would be a stretch, but I don’t know if “content” would be the right word at all. And depending how LONG that pig had been laying in the sunshine, “revolting” might be a better descriptor.



Sheer genius!

I’m not sure how a hog would be any wilder in a peach-orchard than it would be in any other fruit orchard, though. Unless maybe peaches ferment more readily, resulting in an intoxicated pig. Which really doesn’t sound like that bad of a rationalization for the meaning to me. Also, I wonder if there are any peach orchards nearby.



In the unlikely event you’ve forgotten how to make them.

I ran across another puzzling one, “As independent as a hog on ice”. As I mentioned above, a hog on ice would be clumsy indeed. But independent? If you ask me, a pig would have a hard time finding itself in many situations where it would need more aid than when it is traversing an icy place. So

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I'd think they'd be about as dependent on assistance as they could ever be. But I just report this stuff, I don't create it, so I'll move onward now.

Here's one of Finnish origin that is rather interesting – to “wait like a pig for Christmas”. Ham is a common Christmas dinner in Finland, like it is many other places, so it stands to reason that a pig would look forward to the holiday in the same manner a turkey would look forward to Thanksgiving.



We are unsure if it could be the same, but probably handy if you don't mind missing the "crisp factor".

The Finns also have the saying, “to behave like a pig in a raspberry orchard.” This no doubt is related to our earlier peach-orchard pig, though in this case, it is a description of somebody who is greedy and irresponsible, and probably has a messy mouth.

Finally, there is “sucking hind teat”. That one would have sailed clean over my head had I not read the explanation, but I'm guessing that many of our readers will understand it immediately. But for the benefit of those who may be as clueless as I am, I'll explain.

The phrase refers to someone being in an unfavourable position and alludes to the piglet who receives the hindmost feeding station on a sow, and is more easily jostled from its position. I'd be rather amused to hear the term used in a sports broadcast in reference to the team who was trailing behind or maybe in regard to the race-car driver in last place during the final laps.

And now, if I can be indulged while I step outside of the pigpen for a moment, I'd like to make an announcement of sorts. In addition to scouring the internet for pig and bacon-related amusements to share, I have a day-job.

I have a wonderful boss, Katie Di Fede, and I'm dedicating this issue's column to her and her father. Katie has been exceptionally kind to me and has shown me a lot of compassion when I have had occasional difficulties on the job. Therefore, the gratuity I receive for the column is going to help on her dad's medical bills.

You see, he unfortunately developed esophageal cancer and as many of our readers are probably aware, medical bills south of the Canadian border can be ruinous. Katie has set up a Gofundme drive to help with her dad's medical expenses, and I am going to share the link in the event anyone else wants to chip in, and to raise awareness of this cancer. Thanks for reading this!

www.gofundme.com/please-help-joe-fight-cancer

Naturally, I managed to uncover a few interesting memes to include along with the idioms. But I can't come up with a high-falootin' term for them, so they will remain memes for the purposes of “Your Daily Bacon”. ■

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