

Canadian Hog JOURNAL

Canada's national
hog magazine

**Getting a fair share of
the pie for producers,
packers and retailers**

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Fever out of Canada**

**Pro-trucker rallies steer
toward change**

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Canadian pork and beef tourtière



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The Fall 2020 edition of the Canadian Hog Journal is here! I was first introduced as the incoming editor of the Journal in the Fall 2019 edition, so this makes it my official first anniversary.

While every new edition is an exciting accomplishment for me personally and

professionally, more importantly, it is an opportunity to advocate for this industry that supports tens of thousands of jobs, millions of Canadians and billions of global consumers.

We should all take time to appreciate the good things in our lives, but I feel compelled to digress a bit. The 2020 calendar year certainly has felt like an eternity for all the wrong reasons, no thanks to where we find ourselves as a sector, and producers are still facing a long-term negative pricing situation. Being so close to this issue myself, from an investigative point-of-view, it can be mentally draining. Still, that feeling pales in comparison to the ongoing stress producers must manage on a daily basis.

It is my sincere hope that all industry representatives, including magazine editors, are doing the right things to help you navigate this storm with as little hardship as possible. That is our goal and duty. Our collective success or failure has wide-reaching implications for many people.

In the Summer 2020 edition, we continued to provide coverage of shared value concerns across the entire Canadian pork supply chain. And while it would appear there are some positive outcomes to certain discussions, lingering issues and adversarial relationships can be difficult to overcome. Drilling down on shared value, this edition considers the balance of marketing power between producers, processors and retailers, and how that has changed over time. Despite the discomfort, producers must keep fighting for fairness.

Processing plant protests continue to be a platform for animal activists, but now, support for farmers and truckers is starting to receive attention, as

shown in this edition's coverage of recent rallies. In Ontario, new initiatives have been undertaken to help provide balanced, accurate information about legislation designed to protect the industry and allow protesters to carry out their activities while respecting others.

On the disease management side, we provide an overview of activities taking place on the national level to combat African Swine Fever (ASF). While value-sharing and other contentious issues can divide stakeholders, ASF represents a universally respected threat, and we all have to be on guard.

On the food side, consider an expert's opinion on COVID-19's impact on meat retail. While grocer profits are up, so are consumer prices, thanks to more Canadians eating at home.

Research in this edition covers a study of genetic disease resilience in grow-finish pigs, how science is taking a bite out of feed costs and the cost of sow exercise.

Readers are always encouraged to drop me a line at andrew.heck@albertapork.com. I want to share your views in our 'Letters to the editor' section. Dialogue and understanding are the only way we can move forward, and we need a stronger chorus of voices to speak up if we wish to be heard. As it stands, it would seem our messages are getting lost somewhat in a world with so many competing interests, whether those represent 'priorities' or not. When push comes to shove, many may soon find out the hard way that food is not only a priority but likely the top one. ■

Andrew Heck
Editor

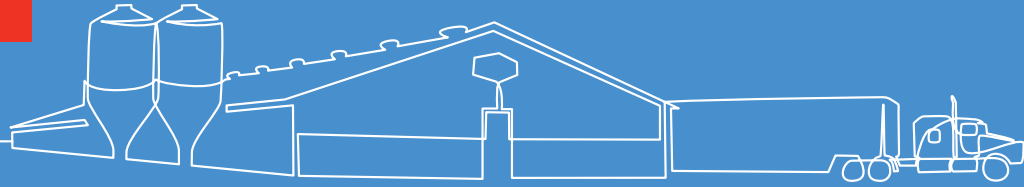
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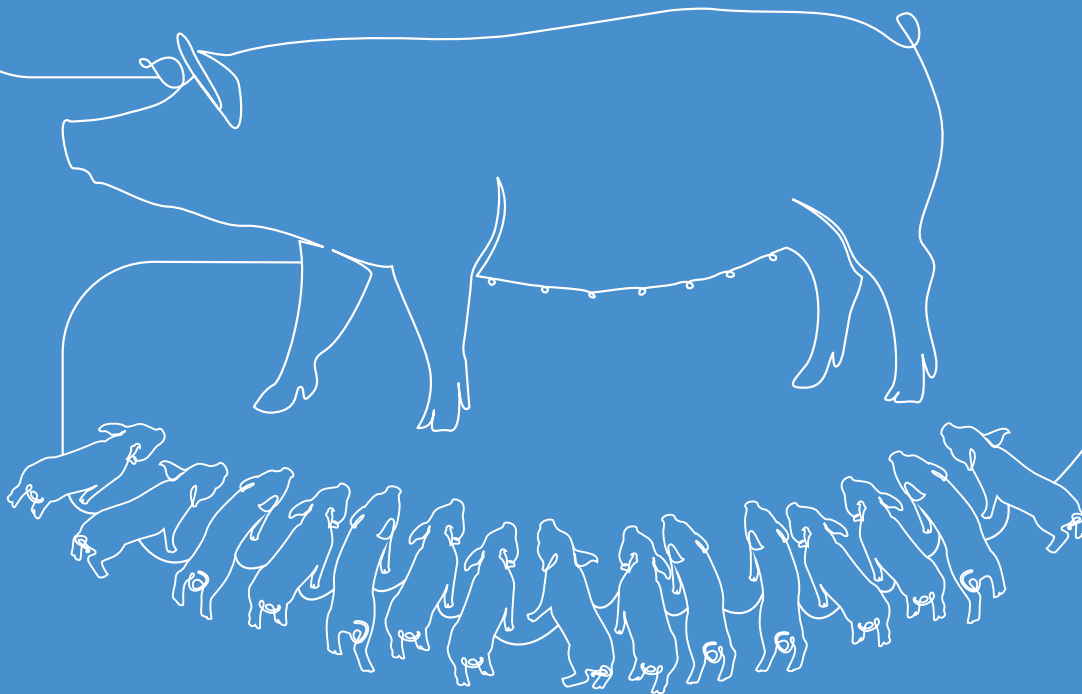
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In reply to “Producer-packer tensions threaten viability” (Summer 2020)

“Why aren’t Canadian pig farmers seeing any benefit from the record-high pork export prices and volumes processors are benefiting from? The prices we receive for our animals are at a decade low. The pricing system is broken and needs to be fixed ASAP, or there will be no pig farmers left in Canada outside of Quebec.” – *Mick O’Toole, Neerlandia, Alberta*

In reply to “Producer-packer tensions threaten viability” (Summer 2020)

“Western Canadian producers could perhaps benefit from a pricing system like Conestoga has in Ontario, where their producers were being paid more than \$2 per kilogram in mid-July, while others across the province were being paid \$1.20, which is roughly \$0.60 below cost of production. I have also heard about multiple producers sending their financial statements to packers like Sofina to try and get better prices, since the packers are making money like crazy right now.” – *Jeremy Van Dorp, Woodstock, Ontario*

In reply to “Producer-packer tensions threaten viability” (Summer 2020)

“This really looks like the end of the western Canadian independent producer as a previously viable part of our agricultural output. The circumstances are what make this almost unbelievable – that a commodity with increasing worldwide demand cannot be produced economically because of local pricing structure, rather than logistics, climate or other more obvious variables.

“This is a very western Canadian problem, and it saddens me to see independent producers choosing to downsize or exit the industry. Clearly there must be a space for all viable production. With the loss of one part of the sector, we lose production in the short term and the value of agri-business diversity overall. Not everyone can be, or desires to be, a global megaproducer, but both indeed have merit for different reasons. And there should be room for both, if both can find ways to access fair value in their product.” – *Brent Taylor, Drumheller, Alberta* ■

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Canadian Hog JOURNAL

HOT ISSUES

In pursuit of producer-packer shared value

Andrew Heck

Shared value, or lack thereof, has been on the minds of many producers these days.

In the Summer 2020 edition of the Canadian Hog Journal, we introduced the work taking place behind the scenes between western Canadian provincial pork producer groups and processors: “Producer-packer tensions threaten viability.”

In mid-May, the pork producer organizations in B.C., Alberta, Saskatchewan and Manitoba issued a joint invitation to executives from Donald’s Fine Foods, Maple Leaf Foods and Olymel to have an open and frank discussion on the state of the industry, and to work for solutions that create shared value for producers and processors.

“We appreciate the opportunity to engage in these conversations, as well as the time committed to the discussions,” said Darcy Fitzgerald, Executive Director, Alberta Pork. “We look forward to seeing tangible outcomes, and we will keep producers updated as the process continues.”

Initial meetings with all three packers took place virtually in mid-July and early August, with further commitments made to conduct additional meetings in the future. Following the meetings with Donald’s and Maple Leaf, the producer groups released a summary of their discussions and findings, which received a great deal of attention from across the supply chain. The initial meeting with Olymel was conducted following the release of that summary, approximately one month after the provinces had met with Donald’s and Maple Leaf.

Olymel demands CPE, rejects Quebec-style pricing

Notably absent from the meeting between the western producer groups and Olymel was Réjean Nadeau, President & CEO. However, Casey Smit, Vice President, Swine Produc-

tion, Western Canada and Ian Moon, Manager, Hog Procurement, Western Canada were available to provide an overview of the company’s 2021 contract.

In late June, Olymel introduced its new contract, which includes a split between 50 per cent of the HM-LM201 price plus 45 per cent of the PK0602 cut-out value. A wider grid index and premiums are also offered on top of the calculated price. The contract addresses producer desires for cut-out value inclusion and helps reduce the negative pricing valleys, but the use of an index factor, common to most packers, takes away some of the price peaks, as does using only 90 per cent of cut-out in the formula.

A large caveat, however, is that the Olymel 2021 contract requires producers to be certified under the Canadian Pork Excellence (CPE) program. In western Canada, especially Alberta, CPE adherence remains very low following two years of deliberation between producers and packers, as highlight-



The Quebec pricing model has been looked upon favourably by many in the hog industry across Canada, but processors have been reluctant to adopt it.

ed in the Winter 2020 edition of the Canadian Hog Journal: “Quality assurance brings value, but who pays?” Training on CPE has not yet been delivered at all in Alberta, and it is being slowly introduced in Saskatchewan and Manitoba. The process takes months for producers to become fully certified, which could jeopardize their eligibility for the contract in the immediate future.

On a positive note, the new formula would only require a small change to create large gains and improve the industry outlook. For Olymel’s 2020 contract, also reflected in the 2021 contract, the company introduced bonuses for carcass weight, loin depth and proximity to the Red Deer plant. The proximity bonus has no official distance cap; however, it was suggested that anywhere farther than approximately 600 kilometres from the plant (about as far east as Swift Current, Saskatchewan) would not receive full compensation on distance. The 2021 contract increases the five-year average price over the 2020 contract price by \$0.07 per pig.

Further to the contract discussion, the producer groups were disappointed to learn that Olymel had effectively shut the door to any consideration of supporting a ‘Quebec-style’ pricing system in western Canada, which could help alleviate some of pricing woes producers are experiencing.

The Quebec model uses an average value between a whole carcass value and the USDA cut-out value, taking a percentage of each to arrive at a final price. In Quebec’s 2019 to 2022 marketing agreement, that amount is a 50 per cent of each the whole carcass and cut-out. However, since the start of the COVID-19 pandemic, an ongoing dispute between Olymel and *Les Éleveurs de porcs du Québec* (Quebec Pork) has resulted in an adjustment, which currently uses 65 per cent of the whole carcass and 35 per cent of the cut-out. The decision to make the adjustment was the result of processor pressure.

Maple Leaf arrives prepared for serious discussion

Prior to Maple Leaf’s meeting with the western producer groups, the company issued a letter to its producers offering \$20 per pig for 13 weeks if an extension of one year was added to their current contracts. This interim help is appreciated but will not address the systemic pricing problem for producers in western Canada nor the large pending financial shortfall projected until May 2021.

During the meeting, some attention was paid to the western provinces’ cost of production figures. Because there are nuances between Alberta, Saskatchewan and Manitoba, a round number of \$185 per pig was chosen as a benchmark to demonstrate producer losses across the three jurisdictions.



Cost of production acts as a benchmark for determining profitability. Even at a generous \$185 per pig, the picture is not pretty for producers.

Maple Leaf officials questioned why the benchmark was set that high, but for the provinces the number was an appropriate median between a rare, low-end cost of production at \$165 per pig versus a more common, high-end \$200 or more per pig. Anecdotal evidence from Manitoba suggests some highly efficient producers fall within that low-end range, whereas data recently collected in Alberta shows many producers sit closer to the high-end range.

The initial meeting with Maple Leaf proved to be an important extension of an olive branch between the two sides. Much discussion centred around competitiveness challenges for both producers and processors relative to their U.S. counterparts.

For processors, the Canadian producer’s disadvantaged spot also puts hog buyers in a tougher situation compared to U.S. processors. A main difference, however, is capacity: in the U.S., prior to temporary plant shutdowns due to COVID-19, processors were nearing 100 per cent capacity, with slaughter and export volumes at record highs. In Canada, the same cannot be said for capacity, despite a similar trend among U.S. and Canadian pork exports.

Due to increased supply in the U.S. this year, prices have been depressed. While that reality conforms to the laws of supply and demand, we have seen the reverse effect in Canada, where supplies have been lower than packer demand, but pricing is telling producers to reduce supply or even exit the industry, in some cases. For producers, in addition to negative pricing signals, an added difficulty surrounds the Canadian federal government’s lack of financial support relative to what U.S. producers have received in the past three years.

While shared challenges were discussed, so was market potential. Maple Leaf believes its corporate initiatives – such as ‘raised without antibiotics’ status and ‘carbon neutrality’

CONTINUED ON PAGE 10

– have benefited the brand in the eyes of consumers. Producers, likewise, take care to adhere to quality assurance measures, though it is often unclear how those efforts translate into value back to the producer. Many producers would say the value is absent without any tangible strides to reward the production behaviours that brands are built upon.

Donald's willing to work toward producer equity

During Donald's Fine Foods' meeting with the western producers groups, the company announced that it would operate a floor price of \$1.40 per kilogram per pig over a four-week period to help address the current pricing situation while further options are considered for the future. An additional four-week period was announced thereafter, for a total of eight weeks. While this extra cash infusion is welcomed, unfortunately, the losses for producers continue to accumulate at a significant rate with little long-term support on the horizon.

Donald's offerings amount to an extra \$20 to \$25 per pig in the short term, but there is no change to the current formula going forward. Donald's formula is based on the Maple Leaf Signature 4, with the additional benefit of having transport costs fully covered. This helps ensure Donald's maintains its largely out-of-province hog supply.

HyLife leads when it comes to producer support

When it came to extending the shared value meeting invitation to packers, HyLife was excluded, albeit not out of disrespect. From the perspective of many producers, especially those who sell their pigs to HyLife, there is a lot of promise on the horizon for cooperation.

In April, HyLife met with the company's independent producers to discuss the creation of a new hog pricing formula – one which utilizes the existing Chicago Mercantile Exchange (CME) whole car-



HyLife was not included in the recent shared value discussions, given the company's proactive steps to working with producers. While all western Canadian processors are looking to expand, HyLife is taking a balanced approach.

cass price, along with a new index factor, premium structure and weight-based grid, as well as incorporating a window price using USDA cut-out prices.

Concerned with the springtime shutdowns of pork processing plants in the U.S. due to COVID-19, HyLife decided to cushion volatility in the CME and cut-out price by implementing the new formula in a phased approach: If the CME price is between 90 and 100 per cent of the cut-out, then CME is the default, but if the CME price is greater than 100 per cent of the cut-out, the default is 100 per cent of the cut-out.

HyLife's transition to favouring cut-out pricing is a clear demonstration that some processors in western Canada are willing to adapt in a way that is profitable for all. By implementing its new formula, HyLife is also demonstrating its willingness to address producer pricing concerns and strengthen relationships with producers who supply the company's hogs. All things considered, HyLife's new formula amounts to an estimated \$20 per pig increase, indefinitely, over the previous formula.

Producers push for greater transparency

One of the major stumbling blocks in the pursuit of shared value so far has

been transparency – between producers, processors and retailers.

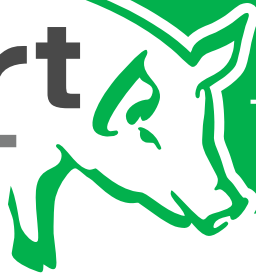
In early March, Alberta Pork introduced the concept of a pricing calculator for producers in attendance at the organization's semi-annual meetings across the province, with much encouragement expressed for the initiative. Not long after, work was undertaken to develop the tool, which is now allowing producers to compare their existing contracts with hypothetical conditions offered by other processors.

In mid-July, an eagerly anticipated hog pricing calculator was made freely available on the Canadian Pork Council's (CPC) website. The calculator uses pricing formula data compiled in-house by Alberta Pork, based on U.S. Department of Agriculture (USDA) mandatory reporting, which is also the basis for Canadian prices. Further work is currently taking place to refine the accuracy of some metrics. In only the first three weeks following its launch, the calculator had been used more than 1,000 times by website visitors from across North America.

Based on data from Agriculture and Agri-Food Canada (AAFC), comparing 2019 and 2020, processors' export profits were up 25 per cent, collectively earning those companies more than \$440 million or \$28 per pig extra over the pre-

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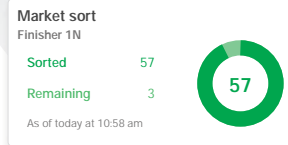


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While red meat costs have surged, poultry and plant-based protein costs have decreased. At this Real Canadian Superstore in Edmonton, in mid-July, President's Choice brand frozen 'chickenless breasts' were similar in price to boneless, skinless real chicken breasts, albeit seemingly less popular.

vious year. Meanwhile, for retailers like Loblaws, both profits and costs grew as a result of COVID-19. In the first quarter of 2020, Loblaws generated \$240 million of revenue, compared to \$198 million during the same period in 2019.

Going forward, the CPC and its provincial members hope to continue working to develop new initiatives to highlight issues not only for industry stakeholders but the general public as well. Suffice to say, the processing and grocery businesses have been very lucrative in recent months.

Typical summer pricing bump non-existent this year

In most years, summer pig prices experience a boost due to increased domestic consumer demand, among other reasons. This year, while the increase in demand was palpable both domestically and internationally, prices for producers did not respond nearly as positively as they did for other supply chain partners.

In China, lingering issues like African Swine Fever (ASF) resulted in sky-rocketing meat prices for Chinese consum-



In July 2020, China imported more than double the amount of pork as in July 2019, which itself was double the amount of pork imported in July 2018. Producers have not benefited from this incredible growth.

ers – a phenomenon that was exploited to its full potential by all global pork players in the race to fill the enormous and growing Chinese protein gap.

Domestically, as locked-down Canadians started cooking at home more frequently compared to pre-COVID times, grocers raked in the profits, while restaurants and other food service providers generally suffered due to forced closures and public hesitation.

Various factors including North American meat plant temporary shutdowns helped drive up retail prices for pork and beef, to the tune of 30 per cent higher than this same period in 2019. To make matters worse, in August, Walmart and United Grocers – a national food procurement organization representing many major retailers – imposed new ‘supplier fees’ that are designed to breed competition and exclusivity when it comes to stocking products. As a result, the Canadian Federation of Agriculture (CFA), Food & Consumer Products of Canada (FCPC) and other organizations joined forces to raise concerns about the potential impact of the fees, which are considered arbitrary and unreasonable, threatening the affordability and security of Canada’s food supply.

In September, Walmart also eliminated its price-matching program, a long-time hallmark of the company’s commitment to keeping prices low for consumers. The move comes at a time when unemployment is at a decade high across Canada and has more than doubled in some provinces.

Government support still desired, albeit cynically

For most producers, consumer pricing surges either internationally or domestically were merely a slap in the face as margins remained submerged in a sea of red ink. These pricing woes have been met with a substantial non-response from the Government of Canada.

While the feds continue to insist that producer support is being effectively delivered, no meaningful publicly available data has demonstrated just how much money has actually reached producers’ pockets, and the government has given no indication that further comprehensive support is forthcoming any time soon, despite renewed calls from the Canadian Pork Council (CPC) to make adjustments to AgriStability’s payout levels. Given the long-term depressed pricing situation, it has come to a point where many producers have lost so much equity that any further losses are incapable of triggering an AgriStability payout.

On separate occasions earlier this year, the CPC had asked for the AgriStability reference margin to be increased from 70 to 85 per cent, along with a request for an ad hoc payment to producers at \$20 per head – both of which were summarily rejected. As such, outgoing federal ag critic John Barlow did not mince words in expressing his disappointment with the efforts of Marie-Claude Bibeau, Minister, Agriculture and Agri-Food Canada:

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“Minister Bibeau has to pound her fist on that cabinet table saying, ‘You know, enough is enough! Canadian agriculture needs attention – needs should be a priority, and we need to step up.’ That’s her job. Right now, I don’t think she has the clout at the cabinet table. If she did, we would see an assistance package already announced.”

Progress is slow and overdue but welcomed

“If something doesn’t change dramatically, and soon, we’re going to see the coming year look like the last five,” said Andrew Dickson, General Manager, Manitoba Pork. “The industry is going to continue to integrate, which will result in independent producers becoming landlords – unable to afford their own operations and instead leasing barns to packers.”

As shared value discussions move forward, involving a greater number of producer and packer representatives, working collaboratively, the pricing situation will not be solved overnight. It will take a constant, concerted effort on the part of all stakeholders to drive meaningful change for the entire industry.

As we take a closer look at ourselves and where we want to be, consumers too are noticing us, often for unfortunate reasons. Especially since COVID-19, our less-glamorous side has been ripped open wide for all to see, while the positive work we do to secure Canada’s food supply has often been ignored.

For processors and retailers, it is likely easy to get wrapped up in playing public relations defense in these situations, and for producers, it is equally easy to get wrapped up in financially charged offense against value chain partners.

We all have a role to play in keeping this industry viable. For some, that objective may still seem very attainable, but for others, it is looking less so. Realistically, if any part of the value chain weakens to the point of breaking beyond repair, we are all going to be in trouble. ■



In August, Alberta Pork publicly reported that a number of prominent commercial hog producers were actively undergoing a reduction in breeding stock at a minimum of 25 per cent of their herds, and, in some cases, as high as 50 per cent.

An advertisement for Carlo Genetics. The background is a dark blue field filled with numerous sperm cells, some of which are larger and more prominent than others. A white rectangular box with the text "Number One in Technology" is positioned in the upper right quadrant. Below this, the text "Carlo Genetics is a leader in TECHNOLOGY. Our detailed semen evaluation processes and extensive quality control program allow the ability to further dilute and to fertilize in practice." is displayed. Further down, it says "Top Genetics. High Health. Superior Technology." and "Carlo Genetics - We're your Number One." The word "Technology" is written in a large, light blue font at the bottom of the ad.

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Keeping African Swine Fever out of Canada

Treena Hein

As all those in the Canadian pork sector know very well, African Swine Fever (ASF) is not found in Canada – nor anywhere in North or South America for that matter – and a huge amount of activity is occurring to keep it that way. This serious pig disease, endemic to Africa, is already found in many locations so far in the Asia-Pacific region, the Caucasus region, eastern Europe and Russia. It was present in wild boar in Belgium until April 2020, and it was first discovered in wild boar in Germany in September 2020.

In April 2019, the Canadian Food Inspection Agency (CFIA) hosted a seminal international forum on ASF entry prevention, and ever since, CFIA, Canada Border Services Agency (CBSA), Swine Innovation Porc (SIP), the Canadian Pork Council (CPC), Canada Pork, provincial agencies and governments and other stakeholders have been working hard on various prevention initiatives.

Canada's Chief Veterinary Officer, Dr. Jaspinder Komal, explained that, after the forum, a risk assessment was conducted. The biggest potential ASF entry threats were found to be meat products brought into Canada by individual airline travellers, illegal imported shipments of pork from infected countries, imported feed ingredients (especially illegal ones) and insufficient on-farm biosecurity protocols.

"It's important that people realize that not only can the virus travel in meat products or feed ingredients, but it can survive on clothes and shoes," said Komal. "This makes it very important that no international visitor who has recently visited a farm in another country visits a farm for two weeks after they arrive back in Canada."

CFIA is working with CBSA and the travel industry both here and around the world to reach air travellers in a variety



Canada's Chief Veterinary Officer, Dr. Jaspinder Komal (centre), met with his counterparts from Mexico and the U.S. in April 2019 as part of an international ASF prevention forum.

of ways about ASF entry prevention (the 'Don't Pack Pork' campaign) and the importance of declaring all food, plant and animal items. These include signage that is seen on airport screens and airlines providing in-flight announcements to passengers upon landing in Canada. CFIA and CBSA have also placed posters at 18 Canadian airports in 16 languages and asked international airlines to post them as well. CBSA provides an ASF pamphlet to travellers who indicate that they have recently visited a farm.

"We also had a very focused campaign for the winter holiday season, from December 2019 to February 2020, and it worked very well," Komal added.

Online outreach through the CBSA and CFIA websites, along with social media, is ongoing. Relevant ASF operational updates are communicated internally to appropriate staff both in Canada and overseas at airport authorities and airlines. Fed-

CONTINUED ON PAGE 19

An advertisement for LONGARM hog handling equipment. It features a photograph of a person in a striped shirt and light-colored pants standing next to a large, grey, portable equipment unit. The unit has the LONGARM logo and the tagline "the only way to go". A black oval callout contains the text "Now Available 30' for \$485". Below the image, the text reads "Move hogs faster, easier & safer by yourself with the light-weight and portable solution – the LONGARM." and "Sales: 519-546-8697". At the bottom left, the contact information "Email: sales@thelongarm.ca" and "www.thelongarm.ca" is provided.

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¹ Bautista E, Schlesinger K, Gassel M. Boehringer Ingelheim Animal Health USA Inc. Data on file, Study No. 2017044.

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The 'Don't Pack Pork' campaign features multilingual signage and information at airports across the country as a way to deter international travelers from bringing potentially ASF-infected pork into Canada.

eral funding provided in 2019 is also enabling CBSA to implement 24 more 'Detector Dog Service' teams, which will bring the total to 39 teams focused on agricultural imports by 2024.

Other governments of ASF-free countries are doing similar things. In December 2019, for example, the Australian government announced \$66.6 million in funding for more biosecurity officers, six new detector dog teams, new scanning equipment, development of mobile technology to issue infringement fines on the spot and more.

With all this in place, it would have been easy to see if the message was getting through to airline passengers, but the emergence of COVID-19 resulted in the severe curtailment of international travel. However, CBSA notes, from January to August this year, 285 travellers entering Canada failed to declare pork products. Of those, 197 received a \$1,300 penalty. Meanwhile, there were no reported cases of product importers who failed to follow the proper protocols. In all of 2019, almost 600 travellers failed to declare pork products (506 received a \$1,300 penalty) and another 167 failed to properly import pork products (132 received a \$800 penalty).

An ounce of prevention is worth a pound of cure

A Standing Group of Experts on ASF was formed in 2019 to help ensure collaboration, coordination and capacity in the region to prevent the entry of ASF. Komal chairs the group and says that its formation was a key recommendation from the ASF Forum hosted in Canada in April 2019. The standing group helps to ensure key areas for action are advanced, as defined in the framework developed during the forum. Komal also holds multiple ASF-relevant positions at the World Organisation for Animal Health (OIE) and is president of the Regional Steering Committee for the Global Framework for Transboundary Animal Diseases.

Here in Canada, there is the ASF Executive Management Board, a collaboration formed last year between government

and industry. It spearheads the pan-Canadian Action Plan on ASF and has allowed, said Komal, "us in the government to work closely with industry members to make collective decisions. We meet every two weeks to continue developing and implementing the Action Plan. This includes preparing frontline workers to do testing for ASF if it appears a pig has the disease. At the CFIA lab in Winnipeg, we are working in collaboration with scientists in Vietnam and with funding from the Swine Health Information Centre in the U.S. to develop a non-invasive rapid diagnostic tool involving saliva."

So far in the development of this tool, testing of saliva taken from a rope hung in a pen with ASF-positive pigs has provided good accuracy, but evaluation needs to be done in commercial conditions to see if this accuracy holds. The work on the pen-side test kit, Komal explained, has involved things like ensuring reagents would store at ambient temperatures. There is now an agreement with a company to mass-produce the kit, and they are expected to be ready sometime in 2021.

To improve Canada's ability to detect ASF should it enter our borders, a program called 'CanSpotASF' has been launched to enhance surveillance activities. Risk-based early detection testing at approved laboratories is the first new surveillance tool to be implemented as part of CanSpotASF.

Development of rapid ASF testing is also part of SIP's current research priorities, announced in May 2020. After the 2019 forum, SIP had invited various Canadian and U.S. swine health experts to form the Coordinated ASF Research Working Group, which includes Dr. Egan Brockhoff, a swine veterinarian in Alberta who is also the CPC's veterinary lead. Other working group research priorities include biosecurity (including control of wild pigs, which could potentially spread the disease over large areas of Canada), and in the event of an outbreak, the destruction and disposal of infected pigs and the ensuing economic impact and recovery phase.

Brockhoff noted that there is no evidence to suggest ASF is present in Canada's wild pig population, but a working group that is developing ASF surveillance options for Canada may include wild pigs.

The CFIA has also formed the ASF National Emergency Operations Centre, which can create scalable regional command structures and holds national simulation exercises to ensure that the response to an ASF outbreak in Canada would be smoothly coordinated. Some of these simulations are done in partnership with U.S. authorities.

"We recently went over roles and responsibilities in terms of who makes what decisions," said Komal. "And we are planning a simulation involving movement of pigs."

CONTINUED ON PAGE 20



'CanSpot ASF' is Canada's new ASF surveillance program.

Vaccines and antivirals for ASF are also being tested and developed, as announced in January 2020, at the University of Saskatchewan's Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac).

ASF brings major trade implications

On the export front, Canada has re-confirmed established reciprocal 'zoning arrangements' for trade of pork with the U.S. and the European Union. This means that, should there be an ASF outbreak in Canada, export of pork can continue from non-infected zones once zones are established in Canada and the importing countries accept the zoning decisions made by Canada. Trade zone arrangements are also being sought with Japan and some other Asian countries.

Brockhoff explains that, in addition, 'compartmentalization' guidelines are being worked out by the OIE, and various countries, including Canada, are working on the development of compartment standards.

"It's management-focused and not geography-focused," Brockhoff explained. "That is, a group of vertically integrated producers working under the same biosecurity, traceability and surveillance management system would still be able to export pork even though their 'compartment' is located within an ASF-infected geographical zone."

Komal noted, however, that if the international guidelines for this concept that are currently being developed are not accepted by trading partners, the pork from a compartment within an infected zone in Canada could only be consumed domestically.

"I think we're getting there with the U.S. and Europe at least," Komal said. "But zoning is the primary tool to ensure trade continues."

Producers should pay attention to feed risks

It was back in early 2014, when porcine epidemic diarrhea (PED) first arrived in Canada, that it was determined the virus that causes the disease had been transmitted through imported feed. Studies were later done in the U.S. on many other pathogens, including ASF, and it was confirmed that the ASF can easily be transmitted through feed. In response, the CPC has listed pig feed ingredients according to risk of ASF and provided feed storage time and temperature recommendations for producers. Komal has recommended that producers should look for feed made at mills that belong to the FeedAssure Program. By April 2019, CFIA had placed additional import controls on plant-based feed ingredients from countries of ASF transmission concern.

A big development on the feed front came this year in July, when U.S. scientists published results showing that 14 commercial feed additives can mitigate the presence of Senecavirus A, PED and Porcine Reproductive and Respiratory Syndrome (PRRS) in contaminated feed. The products include essential oils, organic acids, fatty acid blends and formaldehyde-based products. Pigs on supplemented diets had significantly greater average daily gain, significantly lower clinical signs and infection levels, and numerically lower mortality rates compared to non-supplemented controls. Tests of these products on mitigating ASF are being conducted now.

CONTINUED ON PAGE 21

ASF prevention going forward

Looking ahead at the future of ASF prevention in Canada, Komal, Brockhoff and many others believe the unprecedented measures to keep Canada ASF-free must continue.

“Given the seriousness of this disease, I think it will remain in the forefront of transboundary animal disease prevention efforts,” said Komal. ■



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Pro-trucker rallies steer toward change

Andrew Heck



Members of the farming and trucking communities, along with public supporters, showed up to oppose animal activists at recent protests in Ontario.

‘Canadian’ and ‘choice’ go hand-in-hand. When it comes to consumer goods – especially food – choice has been expanding rapidly in recent years for Canadians. This includes, among other things, a wider variety of fresh produce, specialty imported goods and an increasingly diverse selection of protein options.

Canadian food security depends on having safe, reliable, accessible goods. Meat is still the protein of choice for the overwhelming majority of Canadians. But for years, farms, processing facilities, food festivals, grocery stores and other related venues have served as the proverbial battleground for animal activists in their quest to remove meat as a choice.

Now, certain provincial governments and other organizations are standing up for meat eaters and those who help create and deliver the products they enjoy. The mounting pressure for positive change is also being met with loud opposition, which is unfairly targeting farmers and truckers.

Ontario government says ‘enough is enough’

In the Summer 2020 edition of the Canadian Hog Journal, we covered the growth of agriculture-inspired anti-trespassing

legislation across Canada: “Governments work to curb farm trespassing.”

Ontario Bill 156, the *Security From Trespass and Protecting Food Safety Act*, was passed in provincial legislature in mid-June and became partially enforceable in early September. The new law is designed to protect farmers from security threats posed by trespassers and to protect truckers from those who interfere with transport vehicles. Moreover, the legislation upholds the importance of animal welfare and biosecurity for livestock, and even hypothetically keeps protesters out of harm’s way, assuming they abide by the conditions.

Critics allege that the *Security From Trespass and Protecting Food Safety Act* is an ‘ag gag’ law, designed to silence reports of animal abuse. However, at its simplest, the legislation strictly addresses who is authorized to enter livestock barns and creates protection zones for livestock trucks. The legislation does not challenge any individual liberties found within the *Canadian Charter of Rights and Freedoms*. However, ‘ag gag’ accusations persist, thanks to having been repeated many times on social media by influential activists, further endorsed by certain major media personalities and other celebrities.

CONTINUED ON PAGE 24



ICYMI: Ontario is taking action to enhance public safety and to better protect our food supply. Starting today, it will be an offence to stop, obstruct, hinder or otherwise interfere with a motor vehicle transporting farm animals. #OntAg

bit.ly/3bgOqL3



The Government of Ontario has undertaken the invaluable work of defending safe food for Canadians.

CONTINUED ON PAGE 26

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The 'ag gag' claim comes despite the recent passage of Ontario's *Provincial Animal Welfare Service (PAWS) Act*, which carries with it the toughest animal abuse penalties in Canada. PAWS became fully enforceable in January 2020 and references basic standards of care for all animals in the province, including livestock. All livestock commodities in Canada are subject to national animal care guidelines under the National Farm Animal Care Council (NFACC), including the *Code of Practice for the Care and Handling of Pigs*. Whether in Ontario or elsewhere in Canada, cases of suspected animal abuse can be openly, anonymously reported to authorities by phoning or emailing the province in question's animal care hotline.

Not only provincially, but also federally, animal welfare continues to see

changes when it comes to transportation. In February 2020, the Canadian Food Inspection Agency's (CFIA) *Health of Animals Regulations* were updated to decrease the length of time allowed for livestock to be without feed, water or rest. The updated regulations were developed with the cooperation of veterinarians, animal care organizations (like SPCAs), industry groups and other relevant stakeholders.

Despite the processes and procedures that are in place to develop animal welfare legislation and enforcement, for those whose stated goal is the complete dismantling of animal agriculture, no amount of consultation, adaptation or rationalization can satisfy their desire to take away the livelihoods of farmers and truckers who are simply doing their jobs within the confines of the law.

An accident waiting to happen

Shortly after Bill 156 was passed, in late June, activist protests became more vigorous and began to swell in size. Even before the bill, crowds had been congregating multiple times each month outside of the Fearman's (Sofina Fine Foods) slaughterhouse in Burlington, just outside of Hamilton, often unopposed.

What would have otherwise been a typical gathering on a certain Friday morning was marred with tragedy as a long-time 65-year-old activist was killed after coming into the path of a truck that was delivering pigs to the facility. Almost immediately, the deceased became a martyr-like figure for the activist community in Canada, as news of her unfortunate death quickly spread. Rather amazingly, considering the frequency of protests, this is the

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first time in Canada anyone has died while attempting to obstruct a live-stock hauler.

The entrance to Fearman's is located at a T-intersection controlled by traffic lights, making it difficult to safely navigate when pedestrians swarm vehicles on the road. Local police officers, while attempting to control the scene, previously allowed an onslaught of protester harassment to take place for two whole minutes before intervening to clear a safe path for an affected driver. A lot can happen in two minutes. Harsh words are exchanged, as protesters attempt to interact with animals and fail to respect drivers' privacy or property, which results in an unshakeable impact on mental health.

More recently, since parts of Bill 156 became enforceable, police have issued tickets to protesters who failed to

maintain their distance from trucks, but time will tell whether the efforts are successful in upholding the safety of everyone involved.

Standing up for truckers

As a result of the fatal June incident, the truck driver was charged with careless driving causing death. If he is convicted, the driver could face fines anywhere from \$2,000 to \$50,000 and a jail term up to two years, just for showing up to work, being attacked and receiving little to no assistance from authorities to do his job in a safe environment.

Shortly after charges were laid, a GoFundMe webpage was created by Tyler Jutzi, Vice President, Brussels Transport to assist with the driver's legal defense and to support him during his time of need. The GoFundMe cause has

since surpassed \$100,000 in donations from many people involved in the industry but also Canadians who are concerned for drivers' rights.

"What activists have been doing has been illegal all along, but this new law should give authorities more tools to deal with the problem," said Jutzi. "It's incredible what drivers have to put up with. In one of the recent protests, an activist ripped open the passenger door of a truck. What if the driver had his kid with him that day?"

In a show of solidarity with the Brussels driver and others, concerned citizens like Kristy Perrin have joined forces to peacefully meet protesters head-on. During the pro-trucker group's first appearance in front of Fearman's, they even brought a grill,

CONTINUED ON PAGE 26



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Help the Brussels Transport Driver!!



More than \$100,000 has been collected to support the driver facing traffic violation charges for attempting to pull his truck into the Fearman's plant entrance in June 2020.

along with hot dogs (including veggie options), for those who wanted a bite to eat and a conversation. Instead, the group was met with hostility.

"It's scary," said Perrin. "They can get away with anything, yet we have to be iron-clad in our behaviour. They don't care about the law, and they admit it."

Perrin's husband, Chris Terpstra, a former trucker, passed away in November 2019. She honours his legacy by continuing to support the transport sector at their home and farm near Drumbo, about an hour away from Fearman's.

"If he was here to see what they're doing now, he wouldn't believe it," she added.

Debunking myths using evidence

In response to the blowback from Bill 156, industry groups in Ontario banded together in August to launch *AboutBill156.com* – a website dedicated to providing factual information about the legislation and making known the struggles that the industry faces when it comes to keeping activists at bay.

Various videos posted on social media following the clashes show activists engaging in all manner of dangerous behaviour that creates unnecessary stress for both drivers and animals. Some of these clips appear spliced with video testimony from drivers, including Mike Koch, a driver with Brussels Transport.

"Death threats against us are not uncommon," said Koch. "It's incredibly disheartening to have to hear it when we show up to deliver a load. Every Canadian has a right to a harassment-free workplace, and truck drivers are performing an essential service, but we're being treated very poorly with no consequences for protesters' actions. They need to be held accountable for attacking us, our families, our neighbours and all of the people who rely on the work we do."

Activists claim to support freedom of expression. That expression, when it is intrusive and targeted, often violates the fundamental rights of the farmers and truckers they single out – the same farmers and truckers, in many cases, who also produce and deliver the foods that non-meat-eaters consume. The abuse, therefore, is not only aimed at animal agriculture but agriculture altogether.

In Canada, beliefs from one person to another can be very divergent; that ideological push-and-pull has been foundational to strengthening our society since day one. And we live with the relative peace and comfort to be able to freely practice our beliefs – even protesting on their behalf. But when protest becomes assault, action must be taken to defend the integrity of the food and agriculture industry that Canadians rely on. ■

WHO NEEDS BILL 156?

Hear from farmers and livestock truckers about why they need Bill 156 to protect their families, food supply, and animals.



How to Share Video

Take Action

New resources like *AboutBill156.com* are helping to balance out the prevailing misinformation that is fuelling the campaign against the bill.

Price negotiating power balance hurts producers

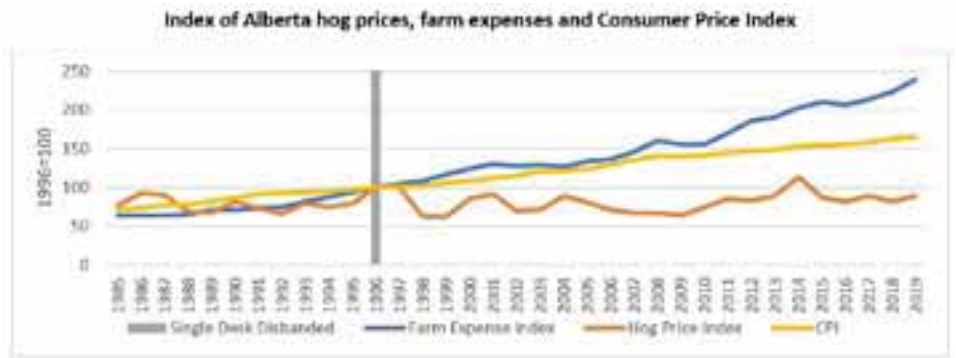
Bijon Brown

Editor's note: Bijon Brown is the Production Economist for Alberta Pork. He is currently collecting and analyzing cost and pricing data to improve producer success. He can be contacted at bijon.brown@albertapork.com.

All business relationships contain a balance of power. In the western Canadian hog industry, over time, the power has swung from an equitable place for both producers and packers, to favouring packers and retailers.

Most will likely agree that a united front for producers is now more important than ever before to address the hog pricing situation. Concepts such as single-desk selling have largely gone by the wayside, as ambitious farmers more than two decades ago sought to outpace others around them, putting collective action aside in favour of high-octane capitalism. It was a good time to be in hogs, if you could compete, but since then, much has changed.

When the single desk was disbanded in Alberta, as an example, individual pro-



Source: Statistics Canada

Lower hog prices, higher farm expenses and general inflation have all contributed to financial difficulty in the industry.

ducers were now left to negotiate with a few packers, which became even more disproportionately skewed as the years went by. The tables have turned, and the negotiating power now resides with the packer. With very little government oversight on economic practices, packers have used this power to their advantage.

Packer power suppresses price

Cost of production is on the rise, along with overall inflation, but hog prices paid to producers have not increased. With the removal of the single desk, packers' market power has driven down the 'real price' of hogs, which is the price that accounts for changes to the general cost of living. This has resulted in a considerably worse financial situation for producers.

In Alberta, the hog price index closely tracked the farm expense index until 1996, the year single-desk marketing ended. Since then, there has been a

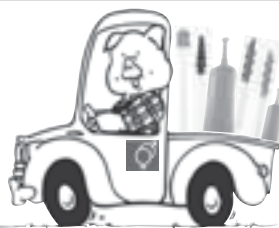
clear and growing divergence between the price and expense indices. Expenses in 2019 were more than twice what they were in 1996, while on the revenue side, the hog price in 2019 was lower than what it was in 1996. The same relative trend can be observed across the prairies.

With so few packers in western Canada, they can dictate the price in the contracts offered. Packers influence price through their ability to segment producers by individualizing agreements. This may be done by giving some producers more favourable rates or premiums than others based on volume, proximity or on any other desired basis. The inclusion of confidentiality clauses in contracts is also a component of market power. Market price uncertainty is generated because true prices are kept hidden. If producers cannot determine the true market price, how can they adequately negotiate better prices?

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Improving prices requires greater unity

Negotiating power stems from producers' ability to come together. The more producers are divided, the more power they give to packers, and the less control they have over prices.

How can producers unite? The notable and most effective option is to pursue the establishment of a single desk. Instead of being able to play hundreds of producers against each other, packers would need to deal with only one marketer that has producers' best interests in mind, first and foremost.

The adoption of a single desk could shift the balance of power back to producers, resulting in a hog price that is more consistently favourable, though government support for this concept may be long gone. As an alternative to using the single desk, producers could consider coming together and forming marketing groups, some of which already exist.

A marketing group could sell and coordinate the distribution of hogs to the plants. For example, Hutterite colonies in Alberta currently make up more than 40 per cent of the industry's core producers and own nearly half of all sows

on-farm. If colonies were to form a marketing cooperative, then this could increase their bargaining power. Consolidated producer marketing means that a few packers would now be forced to compete on price for a larger volume from one source.

Packers' economic model is driven by the number of hogs they can process in a day. Because they are still operating under-capacity in western Canada, the more hogs they can process in a day, the greater their profitability. If producers returned to collectively marketing their hogs, volumes would be more important to packers, and they would need to be competitive in their pricing to maintain their volumes.

Quebec pricing model shows promise

The Quebec pricing model is perhaps the best example we have in Canada of successful consolidated marketing power.

Hog price discovery in Quebec has been governed since the early 1980s by the Quebec Hog Producers' collective marketing plan, where producers collectively negotiate a sales agreement with packers. The *Régie des marchés*

agricoles et agroalimentaires du Québec, which regulates marketing plans in Quebec, recently upheld the previous cut-out formula in which the cash price can vary within 90 to 100 per cent of the cut-out price.

Two things have contributed to better prices in Quebec: single-desk marketing and an objective arbitrator to mediate the situation when there is no agreement between both sides. Provinces outside Quebec have neither a single desk nor an arbitrator. Having a single desk makes it possible for an arbitrator to review proposals from both producers and packers. When producers come together with one voice, they can create a better pricing environment.

Producer unity creates a platform for change

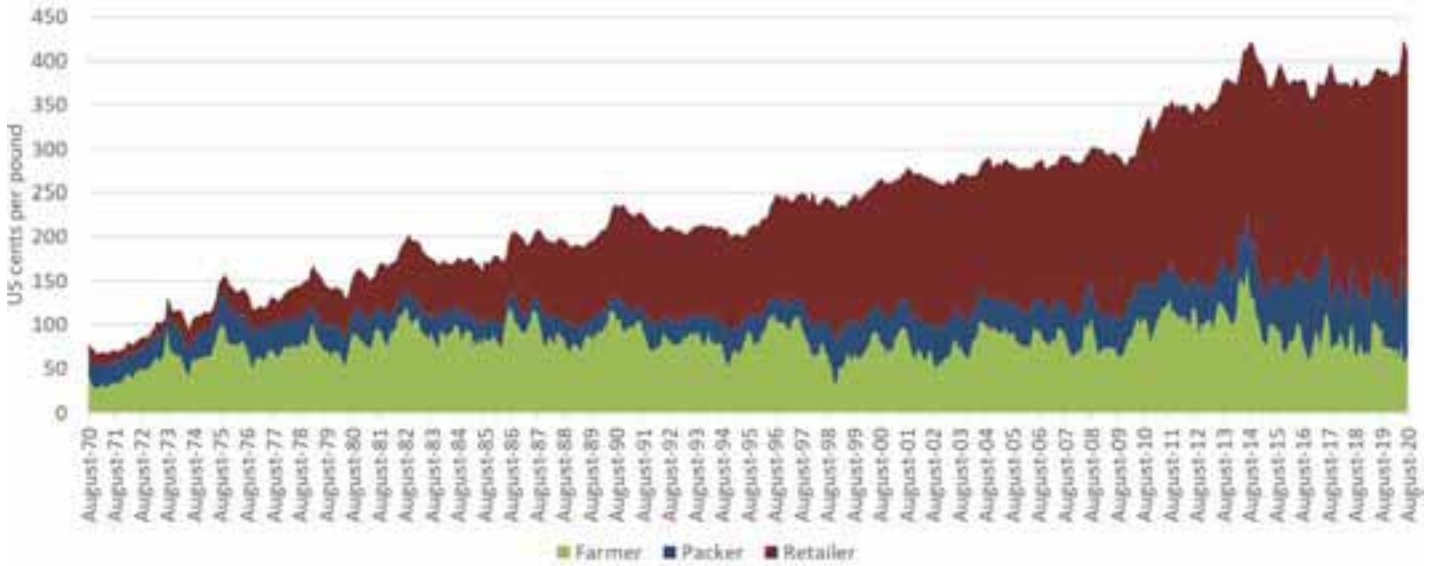
Greater producer power can lead to a more equitable share of value in the supply chain. With more power, producers can negotiate changes to contracts.

The main consideration in contract pricing is the source of base prices. Currently, hogs in Canada are priced based on U.S. hog prices, which U.S. packers are required to report to the U.S. Department of Agriculture (USDA). While



Producer unity generates a more sustainable pricing model for Quebec producers.

USDA Data on Pork Value



Since 1970, pork retail margins have risen much faster than producer margins and even processor margins.

the hog industries in Canada and the U.S. are integrated to a degree, pricing suffers due to this unnatural linkage, especially when political gamesmanship and trade disputes are considered.

U.S.-influenced hog pricing can be a detriment to the western Canadian producer if the numbers are manipulated. The main argument in favour of U.S. pricing is that Canada competes with the U.S. in the global market, so it makes sense to measure ourselves against this large competitor. The method works, but only if fair pricing and cut-out value are considered on an even playing field.

The North American pricing model is broken. U.S. price signals have been impacted by politics, government subsidies and continued structural change. A made-in-Canada pricing solution that incorporates our export differences may be the only sustainable way forward if U.S. signals continue to distort the picture.

Producer-packer unity strengthens the entire industry

While much attention is paid to the relationship between the producer and packer, a third player, the retailer,

should not be forgotten when it comes to understanding price disparity.

USDA data going back to 1970 shows how, despite predictable market fluctuations for producers and packers, on the retail side, value for pork has shot up nearly 500 per cent, which is not consistent with the price for pigs or wholesale pork. While the U.S. system is fundamentally different from how we should measure ourselves in Canada, it is the best existing benchmark we currently have.

In 2019, most American farmers received less than \$1 per pound for their pigs, while processors received nearly \$1.50 per pound of wholesale pork. Meanwhile, retailers received close to \$4 per pound for packaged pork sold in-store, and consumers have been paying upwards of \$8 per pound, in some cases, to take that product home. The situation in Canada is very similar in that regard.

Nearly six per cent of product found in retail meat cases is wasted at the store level. This means, of the \$4 retail price, approximately \$0.24 is discarded. It may not seem like much, but if we could eradicate the waste and spread

this benefit across the value chain, producers could receive almost \$12 more per hundred kilograms of meat produced if just \$0.04 of that \$0.24 was passed back to producers with the remaining savings benefitting other stakeholders.

What would drive such an incentive for change? One such impetus comes from producers and packers working together to lobby for consumer buy-in, as eliminating waste is known to be a consumer concern. Consumers should consider where their meat originates and whether their dollar is going to the right place – to pay hard-working Canadian farmers for the end-product that is possible only because of a longer-term commitment to raising pigs.

Taking the next steps toward fair pricing

When it comes to generating positive change across the value chain, greater producer action and packer collaboration are needed.

Producers need to ask: *What steps do I need to take to shift the power back to an equitable place for both producers and packers?* ■

Old becomes new in Quebec

It is hard to properly imagine Quebec's Porc Show without standing next to the old city walls on the doorstep of the province's National Assembly – a location befitting a strong, proud provincial pork industry. But, alas, COVID-19 has pushed many of the Canadian pork sector's recently held and upcoming events to go virtual.

"After much deliberation, earlier in summer, we made the decision to host the Porc Show online this year," said Sébastien Lacroix, CEO, Quebec Association of Animal and Cereal Feed Industries (AQI-NAC). "Despite the new format, we will be looking to attract the same base of participants from across the pork value

Pork sector events go virtual

Andrew Heck

chain to engage in our high-quality presentations and discussion, and we will also aim toward an even wider market, to be more international."

Typically, the Porc Show runs for two consecutive days in the first week of December. The annual conference, now in its seventh year, is the largest pork-specific conference in Canada and will feature events hosted on three consecutive weeks: Wed., Nov. 25, Thurs., Dec. 3 & Wed., Dec. 9, 2020. Registration, free-of-charge, is now open on LePorcShow.com.

Presentation topics range from managing African Swine Fever (ASF) during COVID-19 to the importance of biosecurity and livestock's impact on climate. On the final day, the Porc Show will host a discussion with experts from around the world, speaking about the impacts of COVID-19 on global market forecasts.

The Canadian Hog Journal will feature coverage of the Porc Show in our Winter 2021 edition, to be published in January 2021.

More valleys than peaks in Banff

In Alberta, the majestic Rockies usually play an important role in bringing guests to the Banff Pork Seminar, but not this year. The seminar should be celebrating its 50th anniversary with a bang, but that enthusiasm may have to be put aside for another year, as the virtual format will reign supreme.

"Our decision to move virtual to help keep our delegates safe was clear," said Ashley Steeple, BPS Coordinator. "In keeping with the history of our seminar, we have very strong speakers and related activities planned for the virtual event, and we are confident this will be a rewarding experience for our delegates."

Typically, the seminar runs for two consecutive days in the second full week of January. The 2021 Banff Pork Seminar will be held on Tues., Jan. 5 & Thurs., Jan. 7, 2021. Registration, free-of-charge, opens soon on BanffPork.ca.

Presentation topics range from ASF vaccine development to farmer mental health, consumer food trends and more. The deadline to submit nominations for the F.X. Aherne Prize and to submit research posters and abstracts is Sat., Oct. 31, 2020.

The Canadian Hog Journal will feature coverage of the Banff Pork Seminar in our Banff 2021 edition, to be published in March 2021.



Attending the Porc Show in Quebec City is usually a special trip unto itself, given the beautiful, historic location.

Story idea?
Press release?
Comments?

Email the editor:
andrew.heck@albertapork.com



In recent years, the Banff Pork Seminar was held in-person at the legendary Fairmont Banff Springs hotel.

Less intimate but easier-accessed producer meetings

For producer groups, plans for meetings to proceed as normal have gone by the wayside as organizations adapt to a new reality.

Les éleveurs de porcs du Québec (Quebec Pork) will host its annual general meeting (AGM) with staff and delegates on Thurs., Nov. 5, 2020, live from the Hôtel Château Laurier in Quebec City, broadcasted for participants using Zoom. The organization is hopeful that Marie-Claude Bibeau, Minister, Agriculture and Agri-Food Canada, and André Lamontagne, Min-

ister, Quebec Agriculture, Fisheries and Food, will also be in attendance.

Alberta Pork's upcoming annual general meeting (AGM) will take place on Thurs., Nov. 26, 2020. Alberta Pork's board of directors and staff will conduct the meeting live, broadcasted using Zoom, from

the organization's office in Edmonton. A recording will be captured for those who are unable to join in. Voting on resolutions will also take place in real-time, virtually, for eligible registered producers.

"Despite the technical challenges, we still have a lot of important issues to discuss," said Darcy Fitzgerald, Executive Director, Alberta Pork. "We seem to be saying it every year, but this year is as important as ever for us to work toward greater producer success. We still expect a strong turnout, as always, though the process will be a learning experience for everyone."

Sask Pork is pleased to present its 43rd annual Saskatchewan Pork Industry Symposium being held virtually on consecutive Thursdays: Nov. 5, 12, 19, 26 & Dec. 3, 2020. The full speaker's program and registration information are available online at SaskPork.com.

Look for further coverage of producer meetings and other industry events in upcoming editions of the Canadian Hog Journal.

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The Saskatchewan Pork Industry Symposium, typically held in-person in Saskatoon, will be virtual in 2020.

Alexandre Cusson joins Quebec Pork as GM



Alexandre Cusson

Alexandre Cusson has been named as General Manager of *Les Éleveurs de porcs du Québec* (Quebec Pork). Cusson is the former mayor of Drummondville, Quebec and past president of the Union of Quebec Municipalities (UMQ).

Cusson brings extensive experience in the public sphere. Throughout his career, he has worked for the economic development capacities for the province of Quebec, in addition to establishing effective relationships with various industry players.

“We are very happy to welcome Alexandre,” said David Duval, President, Quebec Pork. “It goes without saying that his experience in the municipal sector, his dynamism and his ability to lead very complex files will be major assets for our organization.”

“I am extremely honoured to join a high-quality team that contributes to advancing Quebec and its agricultural community,” said Cusson. “For many years, pig farmers have been a leading economic player in our region. In the difficult context of the COVID-19 pandemic, their role is more essential than ever.”

Western Canadian plant employees test COVID-positive

In early and mid-August, multiple employees from the Maple Leaf Foods pork processing facility in Brandon, Manitoba, along with the Olymel facility in Red Deer, Alberta, tested positive for COVID-19.

As with other high-profile meatpacking cases of the virus that have affected various pork, beef and chicken processors in Canada, Maple Leaf and Olymel collaborated with union representatives, provincial occupational health and safety officials and the Canadian Food Inspection Agency (CFIA) to ensure plant conditions were fit for maintaining operations.

As the case numbers continued to grow for Maple Leaf, in response to the Chinese government’s new import protocols, the company voluntarily, temporarily suspended meat exports to China.

Nadia Theodore joins Maple Leaf as VP



Nadia Theodore

Maple Leaf Foods has named Nadia Theodore as the company’s new Senior Vice President of Global Industry and Government Relations. Theodore will succeed Rory McAlpine, who is retiring after 15 years with Maple Leaf.

Theodore joins the company from the Government of Canada, where she has filled a variety of roles for two decades. Since 2004, her work has focused on

global affairs and trade policy through progressively responsible diplomatic roles in Canada and abroad.

“Nadia’s deep experience in global issues, her understanding of government and her diplomatic skills will be of tremendous value to Maple Leaf Foods,” said Michael McCain, President & CEO. “We are grateful for Rory McAlpine’s long-standing leadership of industry and government relations, and we know that Nadia will be an outstanding successor.”

Consumer-direct protein e-commerce growing

A new digital application, dubbed ‘Meatocracy,’ has emerged in the wake of COVID-19 as a new way to connect livestock producers with nearby consumers. The app’s creators are based in Regina, and the tool is growing its database of producers across Saskatchewan and Alberta.

“Today’s meat industry operates much the same way it did before the invention of the internet. Local livestock producers end up earning a small fraction of the high price you pay for meat at your local grocery store,” Meatocracy’s website reads. “Our goal is to shorten the meat supply chain by allowing you a hassle-free way to purchase meat online, directly from farmers in your community.”

While red meat sales have declined slightly over the course of COVID-19, plant-based alternatives are on the rise. California-based Beyond Meat has seen an increase in sales volume while reporting some financial losses in food service.

Beyond Meat has launched an online store for buyers to order from a selection of product packages that can be delivered directly to private consumers. As an example, a package of six one-pound units of Beyond Beef ground costs \$71.99 USD plus tax and shipping. While Beyond Meat products are available in grocery stores across Canada, the online delivery service does not yet serve Canadian customers.

CONTINUED ON PAGE 34

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Lightlife campaign draws negative attention

In late August, plant-based food brand Lightlife, owned by Maple Leaf's U.S. subsidiary, Greenleaf Foods, launched a new marketing campaign to position its products as more natural compared to its main competitors, Beyond Meat and Impossible Foods.

Vegan enthusiasts, animal activists and even some chefs took to social media to criticize the campaign as being dishonest and damaging to the plant-based

movement. It was also observed, with much skepticism, that Lightlife is a brand owned by a major meat processor.

While the products made by Lightlife, Beyond Meat and Impossible Foods are subtly different in variety and ingredient composition, companies invested in the emerging plant-based protein space appear to be struggling amongst themselves and alienating some customers.

FoodRescue.ca receives \$22-million grant

In mid-August, Second Harvest and the Canadian Produce Marketing Association (CPMA) were granted \$22 million

through Agriculture and Agri-Food Canada's \$50-million Surplus Food Rescue Program to redistribute food, including meat, to support food security for Canadians.

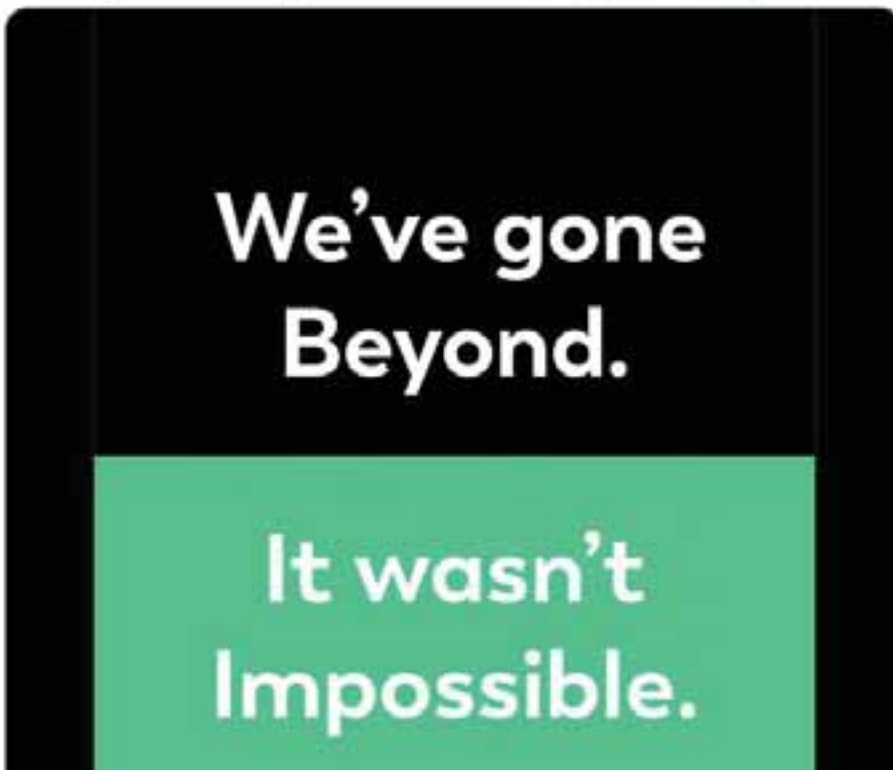
"Canadian farmers, ranchers and fishers don't produce some of the best food in the world to let it go to waste," said Ron Lemaire, President, CPMA. "We know many communities are facing a change in demand for food services due to the COVID-19 pandemic. When so many people are worrying about feeding and supporting their families, we can't afford to let good, healthy food produced by Canadians go to landfills."

CPMA is a not-for-profit organization that represents a diverse membership made up of every segment of the produce industry supply chain, responsible for 90 per cent of the fresh fruit and vegetable sales in Canada.

The Surplus Food Rescue Program was originally announced in May, launched in June, and accepted applications until the end of July.



We've made a #CleanBreak from "food tech" companies who mimic meat at any cost. We're on a mission to clean up plant-based protein by using the simplest process and cleanest ingredients possible. In fact, we're already on our way. Learn more: bit.ly/3hFWR5j.



Plant-based food brand Lightlife, owned by Maple Leaf, came under fire for directly attacking competition.

Governments help Ontario processors

The Governments of Canada and Ontario are providing more than \$5.4 million through the Canadian Agricultural Partnership (CAP) to help food processing businesses increase labour productivity and enable better access to markets. These strategic investments will support more than 75 projects across Ontario and strengthen the province's agri-food supply chain.

CAP is also investing in programs this year at provincially inspected meat processors to support food safety enhancement projects. This is in addition to new programming launched earlier this year, like the Agri-food Workplace Protection Program, to assist the sector in protecting its workers from COVID-19.

Since June 2018, both the federal and provincial governments have committed cost-share support to more than 2,500 projects through CAP to help eligible

CONTINUED ON PAGE 36



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Sobeys parent company looks to expand

In late July, Empire Company Ltd., owner of Sobeys and Safeway grocery stores across Canada, announced 'Project Horizon': a three-year, \$500-million initiative to bolster business from coast-to-coast.

The two main characteristics of the project strategy include "growth in market share" and "building on cost and margin discipline," noting that, "Empire has significantly improved its efficiency and cost competitiveness over the past three years... However, opportunity still remains to remove non-value-added costs, ensure cost containment as the top-line grows and optimize margins."

In successfully implementing the project, Empire believes it can continue to grow faster than its key competitors, improving EBITDA margin by another 100 basis points on a much higher sales base, which is expected to generate a compound aver-

age growth rate of at least 15 per cent, even after factoring the costs of implementing a new online grocery delivery service.

Official Opposition names shadow cabinet

Following the Conservative Party of Canada leadership election of Erin O'Toole, Member of Parliament (MP) for Durham

Lianne Rood, MP for Lambton-Kent-Middlesex (Ontario), has been named Shadow Minister for Agriculture and Agri-Food, the ministry headed by Marie-Claude Bibeau, MP for Compton-Stanstead (Quebec), since 2019. Rood replaces John Barlow, MP for Foothills (Alberta), who also held his shadow cabinet position since 2019, during which time Rood served as Deputy Shadow Minister for this same portfolio.



Lianne Rood

(Ontario), a new shadow cabinet was named in early September. The role of the shadow cabinet is to act as a parliamentary counterbalance against the ruling government's cabinet.

Germany reports first-ever case of ASF

Germany's Ministry of Food and Agriculture reported in mid-September that a confirmed case of African Swine Fever (ASF) had been discovered in a female wild boar carcass in the eastern state of Brandenburg. Germany had successfully remained free of ASF for months after positive cases were found just 10 kilometres away on the Polish side of the Oder River, which forms the border between the countries.

Shortly after the initial ASF confirmation, several additional cases were announced, and China, Japan, South Korea and the Philippines banned pork imports from Germany. Germany exported 158,000 tonnes of pork worth more than \$650 million to China between January and April 2020, double the volume over the same time period in 2019.

China regularly imposes import bans on pork from ASF-positive regions, causing



Canadian grocers have grown and adapted dramatically in the last decade as consumers demand greater convenience.

major turmoil for export nations. The German pork industry has also recently suffered from processing shutdowns and public backlash due to COVID-19 worker infections.

New NAFTA goes into force

The Canada-U.S.-Mexico (CUSMA) trade agreement, also known as the U.S.-Canada-Mexico (USMCA) agreement, went into force in July, replacing the North American Free Trade Agreement (NAFTA), originally established in January 1994.

CUSMA/USMCA was proposed by U.S. President Donald Trump in November 2018. A revised version was signed in December 2019, fully ratified by all three countries in March 2020, immediately before the Parliament of Canada adjourned due to COVID-19.

The agreement comes after two years of negotiations and another year of securing federal lawmakers' support for the trade pact. Robert Lighthizer, U.S. Trade Representative, heralded the start "of a new and better chapter for trade

between the United States, Mexico and Canada."

The Canadian Pork Council (CPC) had previously voiced its support for an enhanced agreement, but concerns were raised regarding upholding country of origin labelling (COOL) retaliation rights and dispute settlement mechanisms – important tools to maintain Canadian competitiveness, and the result of lengthy and costly battles in the mid-2010s.

British red meat exports to Canada on the rise

In early September, the U.K.'s Agriculture and Horticulture Development Board (AHDB) reported that exports of beef, pork and lamb to Canada had grown substantially in the first half of 2020.

Beef shipments to Canada were up to 968 tonnes from a modest 26 tonnes during the same period last year. Exports of total pork, including offal, have increased by more than 400 per cent to just over 500 tonnes, and lamb export volumes are up by 1,800 percent. Despite the volumes still being low compared to other mar-

kets, experts at AHDB say the latest figures show the potential to grow red meat exports into the region.

"While we know that Canada is a small volume market at present, we are seeing shipments increasing," said Susana Morris, Senior Export Manager, AHDB. "Canada represents a strong potential market for our red meat exports."

For British consumers, red meat prices at the retail level have remained steady and have even dropped since the start of the COVID-19. As a result, pork and beef consumption are reported to be up by more than a quarter over the previous year. Meanwhile in Canada, pork and beef prices have increased by more than a quarter in that same span of time, prompting some consumers to choose alternative proteins, as reflected in sales data.

PIC grows elite farm system in Ireland

Earlier this year, 1,000 gilts and boars traveled by air from the U.S. to Ireland, where they have since joined Hermitage Genetics' flagship farm in to

CONTINUED ON PAGE 38



Mexican, U.S. and Canadian heads of state signed the original CUSMA agreement at the G20 Summit in 2018.

Freneystown, about 100 kilometres south of Dublin. Elite farms have a special place with PIC. The first elite farm was established in 1962 in England. Since then, over 15 elite farms have been added in Europe, North America and Brazil.

“The attractiveness of Ireland for global export, the quality of the farm and the operational excellence of the Hermitage staff made the decision easy,” said Nick McCulley, Global Supply Chain Director, PIC. “Along with that, we deeply value the partnership we have had with the Hermitage Genetics team over the last three years.”

Freneystown is the latest addition to PIC’s elite farms lineup and provides a new source for high-value maternal and terminal genetics. The addition of Freneystown enables PIC to enhance product competitiveness and provides producers in Europe and across the globe more access to the best genetics in the PIC system.

Costco Japan features ‘Canada Fair’ online

In mid-August, Costco featured an online ‘Canada Fair’ to highlight products of Canadian origin for its millions of Japanese members. The webpage prominently included images of vacuum-packed spare ribs and ‘Katarosu’-style pork shoulder cuts from Olymel.

In 2017, Costco introduced Canadian chilled pork, replacing U.S. chilled pork. At that time, Costco was selling less than 300 tonnes of U.S. pork per month. Since switching to Canadian pork, their imported pork sales volume has almost doubled over the last three years.

In 2018, Canada’s pork exports to Japan totalled \$1.3 billion, making it our second-most valuable market, just behind the U.S. Costco is now selling six Canadian chilled pork products at 27 Japanese warehouses. They plan to open three more warehouses by 2022, which should result in increased sales volume.



Costco Japan's online 'Canada Fair' product offerings

Canada-Japan agreement benefits organic producers

Announced in mid-July, Canadian organic livestock producers and processors will benefit from new trade opportunities following an expanded arrangement between the Canadian and Japanese governments.

The expanded Canada-Japan Organic Equivalency Arrangement will allow for Canadian certified organic livestock products, including processed meats, to be exported to Japan. The arrangement recognizes Canadian and Japanese organic livestock standards as being equivalent.

The agreement is likely to benefit producers in Quebec who sell pigs to processor



Certified organic Canadian meat products can now be sold in Japan.

Viandes du Breton, located in Rivière-du-Loup, Quebec, which began certified organic pork processing in 2000. In 2015, the company committed to producing an additional 300,000 pigs according to Certified Humane Raised and Handled standards.

Chinese meat production and consumption trajectory

According to Chinese customs data, domestic pork production will continue to decrease by 21 per cent in 2020. Domestic pork supply, however, is projected to increase in the fourth quarter of 2020. Imported pork plays an important supplementary role in the country's domestic supply. By 2030, it is estimated that an average Chinese consumer will consume 80 kilograms of meat and fish annually. The total meat and fish consumption in 2018 was just over 60 kilograms.

Despite the predictions, in mid-August, the Chinese government announced plans to halve meat consumption in the next decade in an effort to control carbon emissions and reduce obesity. Surveys have shown that Chinese consumers are open to 'flexitarian' or vegetarian diets, while consumption habits appear to be very pragmatic, rising or falling with the price and availability of meat.

Asian webinars promote Canadian red meat safety

In mid-August and mid-September, Canada Pork and Canada Beef collaborated to present separate webinars for Chinese and Japanese in-market importers, distributors, purveyors and end-user customers to highlight measures taken by the Canadian red meat industry to address COVID-19. The theme of the webinars was, 'Quality with Confidence – Safeguarding Canada's Red Meat Supply.'

The webinars included presentations by Trevor Sears, President & CEO, Canada Pork, along with Michael Young, President, Canada Beef, in addition to other Canadian delegates. Given the enthusiastic participation in these events and the positive feedback from industry, Canada

Pork is working to deliver similar online events in other priority markets for the Canadian pork industry.

Interest growing in exports to Vietnam

With a population of nearly 100 million, Vietnam is being considered as a potential alternate export market for Ca-

nadian pork. In 2019, the country's per capita pork consumption was more than 30 kilograms and growing, rivalling consumption levels in the U.S. African Swine Fever (ASF) resulted in the loss of 30,000 pigs in the first five months of 2020, while around six million pigs were lost in 2019, shrinking the country's total herd by nearly one-quarter.

More than 11,000 tonnes of pork were shipped to Vietnam between January

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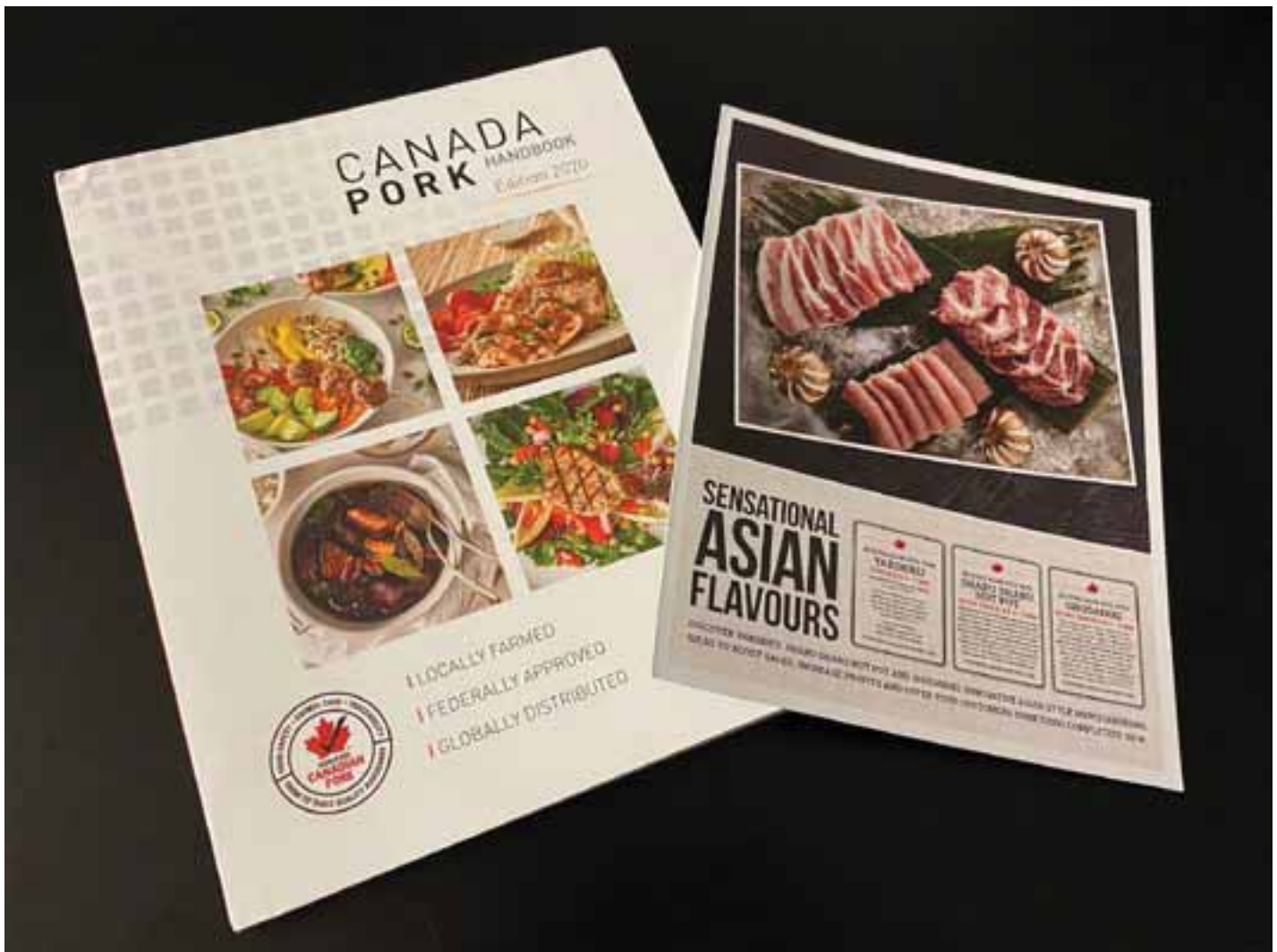
and May 2020. This puts Vietnam as Canada's seventh-largest buyer year-to-date. ASF has driven up prices for live pigs in Vietnam to over \$4.32 per kilogram from around \$1.52 earlier this year.

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is offering fair conditions for Canadian pork exporters, as tariffs of up to 31 per cent on fresh, chilled, frozen and prepared pork products will be eliminated within nine years.

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On-farm quality assurance, processing protocols and food safety are all prominently included in Canada Pork's 2020 handbook.

Tan Long Group to sell Genesis in Vietnam

Genesis has announced that Tan Long Group, as part of the Vietnam Agricultural Joint Stock Company (BaF), will represent its products in Vietnam. BaF is known for its high-quality swine breeding and pork products.

BaF's decision to partner with Genesis was based on the company's standout global performance. Genesis has the largest independent registered purebred swine herd in the world and consistently registers more than 80 per cent of purebreds in Canada.

BaF believes that the cooperation will be foundational to the Vietnamese industry's success by significantly improving productivity and increasing the size of the country's domestic pig herd. The company's target is to have 100,000 parent stock sows and 10,000 grandparent stock herds by 2030.

Quebec producers earn swine breeders award

In early July, Jacques Poulin and Céline Bolduc were awarded the Swine Breeders' Merit Award during the annual general meeting for the Canadian Centre for Swine Improvement (CCSI). The award is given to producers who have made a significant contribution to the Canadian Swine Improvement Program through their leadership,

achievements and participation in performance testing.

Poulin and Bolduc run a purebred swine breeding operation, *Ferme Porcine de Beauce*, located south of Quebec City. The

operation began in 1975 and includes a herd of 400 purebred sows (Landrace, Yorkshire and Duroc). Poulin is confident the upcoming generations of his family will be interested in taking over the operation in time. ■



Jacques Poulin (left) & Céline Bolduc (right)

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Pork Culture and Trends

Meat counter economics amid COVID-19

Sylvain Charlebois

Editor's note: Dr. Sylvain Charlebois is a professor in food distribution and policy at Dalhousie University. He has authored five books on global food systems and has published more than 500 peer-reviewed academic journal articles.

Unlike what many analysts have said in the past, the food sector has never been recession-proof. COVID-19, however, may show us that it is in fact immune to deflationary pressures. And meat counter economics will matter more than ever.

Despite a negative inflation rate, recent StatsCan numbers are telling us that we are in for a wild ride at the grocery store. The numbers are also telling. While the general inflation rate sits below zero per cent, the food inflation rate is close to four per cent. In December 2019, Canada's Food Price Report forecasted a food inflation rate of about four per cent for 2020, and this is very much where this year is heading toward. But COVID-19's economic shock will likely be long-lasting and will affect grocery shoppers' pocketbooks for quite some time.

In Canada, inflation has not been an issue for the past decade. It came close to four per cent in 2011, and that is about it. Not much excitement there. We have seen some decoupling between the general rate and food inflation before, but nothing like this. Over the course of this past summer, food prices increased almost four times more rapidly than the price of any other durable goods in the economy. Now, the Consumer Price Index is not reflecting the actual costs households are facing due to lockdowns. We are all consuming differently. Still, the difference between the two is huge.

COVID creates initial meat shortages

In March 2020, the initial COVID-19 shockwave was real rather than financial, and it impacted industry and the rest of the economy directly. Food service, a sector which generates more than \$90 billion of revenues a year in Canada, essentially disappeared almost overnight. Lockdowns forced the entire food industry to adjust quickly to a change in our economy. That shock was swiftly transmitted to the demand side, as households were hit by layoffs and lower incomes.

Financial markets were then hit hard by the uncertainty, not knowing when the pandemic and lockdowns would end – unlike other recessions where a slowdown is triggered by a shift in demand, which leads to subsequent market pressures to cut supply. That is what our textbooks tell us. COVID-19 is essentially a one-two punch to the system, whereas both sides of the economy, supply and demand, were hit hard. There is no textbook for that. The recovery's sequence is hard to predict, with more than eight million Canadians who have applied for the Canadian Emergency Response Benefit (CERB).

Once confinement measures loosened up and Canadians could go out, shop, visit restaurants and do other normal activities to

support the economy, the question was whether Canadians would show up. If lingering fears of contagion and of a possible second wave and uncertainty about household incomes prevail, the likely outcome is deflation or at least a price drop for most things. 'Deflation' is likely the scariest word for any economist. It is like cancer to an economy. Hard to end deflation and grow an economy when consumers know that what they want to buy today will be cheaper tomorrow. That could impact clothing, cars, houses – you name it. Taxes will go up, putting more pressure on consumer demand.

Food differs from other products

Food will likely buck the deflationary trend for an extended period. Unlike what many analysts have often said, the food sector is not recession-proof, as consumers will either trade down or will not go out as much. But with COVID-19, nobody has been going out to restaurants, and consumers have not really celebrated their lockdowns over caviar either. Most of us went back to basics: cooking, baking and making bread. Consumer demand now has a COVID-19 benchmark. Deflation or not, we need to eat.

Yet, on the supply side, COVID-19 is making everything more expensive to produce, process, distribute and retail. New cleaning protocols, higher salaries and building infrastructure for e-commerce will all cost more. Plant shutdowns and food safety issues are the last things the food industry needs. With online shopping becoming more popular, delivery costs will also need to be covered by consumers, whether we like it or not. Food has always been a high-volume, low-margin business, and that is not going to change. For industry, covering the cost to produce and distribute food, and asking consumers to pay more, will not change either. COVID-19 is impacting the entire planet, so we cannot import our way out of this scenario either.

As a result, we could see the average Canadian family devote a much greater percentage of their budget to food. Pre-COVID, roughly nine per cent of our budget was devoted to food. It is one of the lowest percentages in the world. That could rise to 11 or 12 per cent by 2022. In fact, given lockdowns, that per-



Meat supply chain disruptions in March and April 2020 caused temporary product shortages in certain parts of the country, such as this Costco in Lethbridge, Alberta.

Pork Culture and Trends

Products	Canada (meat)				
	March 2020	April 2020	May 2020	June 2020	July 2020
	Dollars				
Round steak, 1 kilogram	13.33	17.26	18.32	21.93	18.39
Sirloin steak, 1 kilogram	21.89	22.51	23.77	26.88	24.45
Prioste rib roast, 1 kilogram	31.24	33.23	36.43	38.74	37.88
Blade roast, 1 kilogram	16.34	16.34	17.34	22.14	18.46
Stewing beef, 1 kilogram	16.44	16.36	17.54	19.29	18.31
Ground beef, 1 kilogram	11.77	11.90	12.68	13.30	13.50
Pork chops, 1 kilogram	14.54	12.10	11.38	12.58	12.30
Chicken, 1 kilogram	3.60	3.21	3.06	4.87	3.41
Bacon, 500 grams	6.86	7.21	6.92	7.41	7.25
Wenters, 470 grams	5.04	5.13	4.35	4.89	4.47

The latest StatsCan data shows how retail meat prices quickly climbed between March and June 2020, with a slight decline starting in July.

centage is likely much higher right now. In comparison, Americans are at six or seven per cent, whereas Europeans will spend about 15 per cent. Their percentage will likely change as well. In 1970, Canadian households were spending 21 per cent of their budgets on food. So, in a sense, we are going back in time.

COVID helps dictate buying trends

As for meat counter economics, things may get interesting. Early signs suggest consumers are not giving up on meat. In fact, 91 per cent of Canadians still eat meat regularly, based on recent polling data released by the Agri-Food Analytics Lab at Dalhousie University. With the regular trifecta of meat products, which includes pork, chicken and beef, consumers will continue to visit the meat counter, but with much tighter purse strings. With beef prices going up since January, we are expecting Canadians to consider chicken and pork as budget-friendly options. Chicken has been a stable option for years,

but pork could also become the product of choice for the next little while. Beef will likely remain popular, but price will be an issue for families financially challenged by the economic downturn.

Simply put, current food economics are overwhelmingly forcing us to revisit the social contract we have with food, perhaps for the betterment of society. Valuing food, especially meat products, has only positive socio-economic implications.



While meat on the retail level has been a roller coaster for consumers in the past few months, Canadians still want meat, and home cooking is driving families to become more frugal in their habits, such as freezing meat.

Current food economics are making us more attuned to what is happening around us food-wise. It is also making us more food-literate. Such a shift in food prices is relative to what else is going on in the economy and will leave many behind as food insecurity levels in many parts of our country will soar.

Single parents, children and underprivileged demographic groups will require more attention as we embark into a new food era. Animal proteins, one of the most significant misunderstandings in modern agriculture, could get a boost by renewing its relationship with consumers. Our rural/urban divide has generated significant disconnects around major issues like GMOs, processed foods and, yes, animal production. The market could open up to a more traditional case, which suggest that animal production is very much part of sustainable agricultural systems.

However, there is a silver lining: since the beginning of COVID, even if food prices have been rising, most households are spending less on food. Each household in Canada is saving approximately \$5 a day by just cooking at home and avoiding restaurants. That is more than \$1,000 since the beginning of the pandemic, which far exceeds price hikes shoppers needed to absorb during the same period.

Any way we look at it, COVID-19 will have a long-lasting impact on our relationship with food, and no-one is immune to that. ■

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Science taking a bite out of feed costs

Geoff Geddes

Editor's note: The following piece was written for Swine Innovation Porc. For more information, contact Leslie Walsh at lwalsh@swineinnovationporc.ca.

As your pigs will attest, feeding them is pretty important. Yet, with ever-rising feed costs, keeping your animals well-nourished without starving your bank account can be a challenge. This was the scenario addressed by two recent studies that, between them, sought to reduce feed costs while benefitting health and society in the process.

Development of innovative strategies to reduce feed costs in the post-weaning period while maintaining optimal performance and health

“We know that the post-weaning period is a crucial time in a pig’s development,” said Dr. Daniel Columbus, research scientist and adjunct professor at the Prairie Swine Centre, University of Saskatchewan. Columbus is co-lead of the project with Dr. Martin Nyachoti, professor, Department of Animal Science at the University of Manitoba.

“In talking with industry, we have identified limiting issues like the removal of antibiotics and the existence of multiple stressors post-weaning. With the removal of animal-based proteins from diets, it is a real challenge to maintain pig performance while ensuring the profitability and sustainability of pork production.”

Against that backdrop, the project’s main goal is to develop effective feeding strategies for weaned pigs that will maximize profits, reduce reliance on in-feed antibiotics and improve pig robustness.

As part of that effort, researchers will gauge the value of providing functional amino acids to preserve health, robustness and growth performance post-weaning, all while reducing feed costs. They also hope to craft cutting-edge chemical and bio-

logical strategies for detoxifying vomitoxin, a mycotoxin that occurs predominantly in grains such as wheat, barley, oats, rye and corn. In addition to benefits for post-weaning growth and profitability, this objective could greatly enhance food safety.

Finally, the team is seeking ways to lower feed costs and enhance gut health by maximizing the pulse grain content in diets for weaned pigs.

Of all the notable goals in this project, the one that could resonate most with industry and consumers is reduction of antibiotics. Scientists hope to promote the pig’s own robustness and performance via their diet and, in doing so, limit the occasions when antibiotics are required to preserve pig health.

“If you have a negative impact on the animal’s gut early on, it can reduce their performance later in life,” said Columbus. “If all goes as planned, we will reduce both diet costs and antibiotic use while enhancing social acceptance of pork production.”

Development of novel feed additives to replace antibiotics and promote pig gut health

“Weaning is a critical time for piglets, as they are undergoing a number of stressful changes,” said Dr. Joshua Gong, research



Dr. Dan Columbus (left) & Dr. Martin Nyachoti (right)

Story idea?

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scientist with Agriculture and Agri-Food Canada (AAFC) at the Guelph Research and Development Centre in Guelph, Ontario. Gong is co-lead of the project with Dr. Chengbo Yang, assistant professor at the University of Manitoba.

Piglets at this stage must endure separation from the mother, a change from milk to solid feed and the introduction of a new housing environment. All of this is occurring at a time when their digestive and immune systems are far from fully developed. The result can often be decreased feed intake, impaired digestion and increased susceptibility to disease.

During this period, pigs are more susceptible to enteric diseases, so supplementation with antibiotics or high levels of zinc oxide are used to prevent such conditions.

This is where the problem arises. Global consumption of antimicrobials in food animal production was estimated at 63,151 tonnes in 2010, and the annual consumption of antimicrobials per kilogram of animal produced is currently 172 mg/kg for pigs.

“This practice has been linked to the spread of antimicrobial-resistant pathogens in both livestock and humans, posing a significant public health threat,” said Yang.

As a result, both the E.U. and Canada have banned the use of antibiotic growth promoters in animal food production.

“In light of the growing issue of antibiotic resistance, the public is expressing an urgent need for industry to find options that would replace in-feed antibiotics,” said Gong.

With that in mind, the overall aim of this project is to develop and test several novel alternatives to antibiotics that will improve pig performance and health in the post weaning diet.

Some substances that have widely been considered as alternatives are probiotics, enzymes, antimicrobial peptides and phytochemicals (non-nutritive plant chemicals that have protective or disease-preventive properties). However, there is a need for improvement in the efficacy, consistency and cost-effectiveness of these options, as well as in our understanding of their biological mechanisms.



Dr. Joshua Gong (left) & Dr. Chengbo Yang (right)

“A viable alternative to in-feed antibiotics is expected to be safe to the public, cost-effective in production and friendly to the environment,” said Gong.

While there has been no single ‘magic bullet’ proven to replace in-feed antibiotics, this study will explore a variety of enzymes and probiotics that could fit the purpose.

On a number of fronts, the timing is perfect for such a project.

“The Canadian government has introduced legislation to restrict the use of antibiotics in livestock, including pigs,” said Yang. “There is also considerable pressure from the public for animals to be raised without antibiotics or at least with responsible use of antibiotics. Industry needs a way to deal with the situation and maintain biosecurity to protect animals from outside pathogens.”

From a management standpoint, there is a desire to reduce stress on the animals and use high-quality, digestible ingredients to balance their diet. Lowering antibiotic use could also enhance Canada’s reputation in the international marketplace while gaining public trust.

Between them, these two feed studies have the potential to benefit producers, consumers and, of course, the pigs themselves. Now that is something you can sink your teeth into! ■

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Selection of pigs that are more disease-resilient

Jian “Mark” Cheng

Editor’s note: Mark Cheng is a PhD student of Dr. Jack Dekkers in the Animal Breeding and Genetics Department at Iowa State University. For more information, contact Mark Cheng at cheng312@iastate.edu.

Pork is the most consumed animal protein in the world, and the demand for animal protein keeps growing. However, the pork industry faces unprecedented challenges from diseases such as Porcine Reproductive and Respiratory Syndrome (PRRS), Porcine Epidemic Diarrhea (PED), African Swine Fever (ASF) and more.

Exposure to disease reduces production efficiency and carcass quality, increasing cost of production, with increased use of antibiotics, and reducing animal welfare. Vaccines and biosecurity procedures are the main measures used for disease control, but they are not always effective, and vaccines are disease-specific. An alternative is to improve the overall resilience of pigs to a broad array of common diseases through genetic selection. Disease resilience is defined as the ability of an animal to maintain performance in the face of disease exposure. Disease resilience is, however, difficult to incorporate in breeding programs, because nucleus breeding stock must be raised under high biosecurity, preventing collection of disease resilience data.

To collect data on disease resilience and study the genetic basis of pigs’ response to multiple diseases, a natural polymicrobial disease challenge model has been established in the Deschambault research facility of the *Centre de développement du porc du Québec*. Led by the University of Alberta, this project has been funded by Genome Canada, Genome Alberta, the U.S. Department of Agriculture’s (USDA) National Institute of Food and Agriculture, Alberta Agriculture and Forestry, Alberta Pork, Swine Innovation Porc (SIP) and members of the PigGen Canada consortium.



Feeding and drinking system using RFID tags

The disease challenge was established by moving naturally infected animals (seeder pigs) into the facility, targeting various common viral and bacterial diseases. Subsequently, the challenge was maintained by entering batches of 60 or 75 healthy nursery pigs every three weeks in a continuous flow system, allowing sustained natural transmission between the newly arrived and resident pigs. The challenge consists of three phases: (1) a healthy quarantine nursery phase for ~19 days following weaning; (2) a challenge nursery phase, where pigs are first exposed to disease for ~4 weeks; and (3) a finishing phase where pigs recover for the remainder of the growing period (69 to 181 days of age, on average). The objective of this natural disease challenge model is to mimic a commercial farm with high disease pressure to maximize expression of genetic differences in resilience.

To evaluate resilience, we initially analyzed data on clinical traits that reflect disease resilience, including medical treatment rate, mortality and subjective health scores on 3,285



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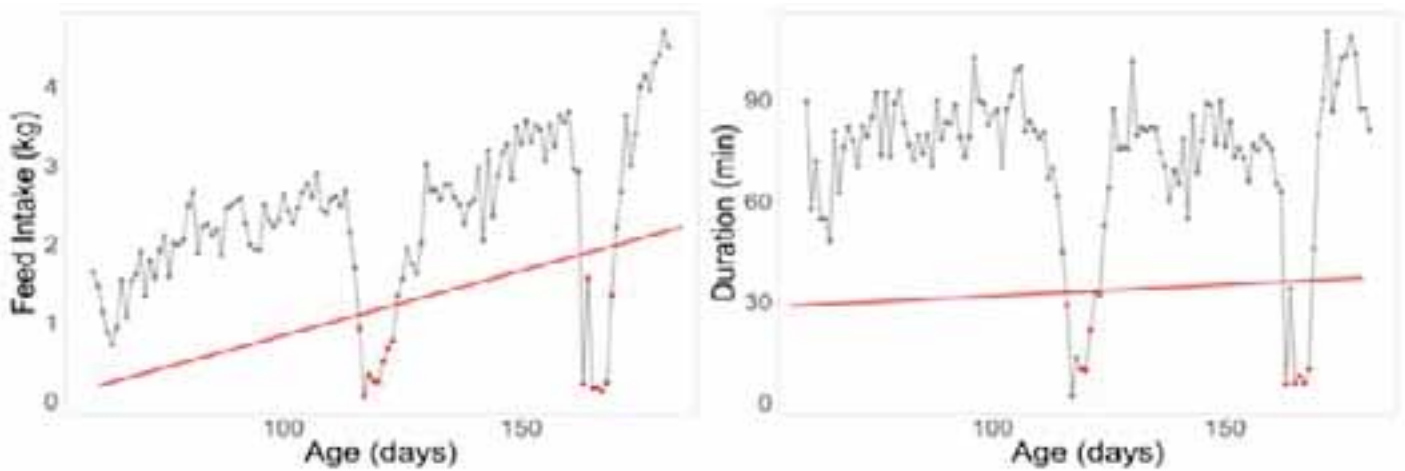


Figure 1: Day-to-day variation and proportion of off-feed days based on intake or duration for animal A (Putz et al., 2019)

Large White by Landrace barrows that were exposed to the natural disease challenges. As expected, all of these traits were lowly heritable and, thus, difficult to improve by selection. However, instead of directly selecting on disease resilience, an important aim of this project is to find indicator traits of disease resilience that can be selected on instead. To be a useful indicator trait for indirect selection for disease resilience, it must be moderately to highly heritable and have a high genetic correlation with disease resilience.

Ideally, the indicator trait should also be cost-effective, easy to measure and accurate. To investigate potential indicator traits, individual body weights and individual daily water and feed intake data were also collected in the finisher on the 3,285 pigs. All pigs were also genotyped for over 600,000 genetic markers across the genome using the Affymetrix Axiom Porcine Genotyping Array by Delta Genomics of Edmonton. Initial results from this project were published by Putz et al. (2019) and more recent results are in Cheng et al. (2020).

Figure 1 shows the day to day feed intake and duration of animal A in the finisher. The data shows two big drops in feed intake or duration that are very likely due to disease. Based on this, two indirect measures of disease resilience

were developed: the proportion of off-feed days and day-to-day variation in feed intake. These same measures were also derived based on feed intake duration. Figure 1 also shows the proportion of off-feed days based on feed intake or duration. The red highlighted dots indicate off-feed days, which means that animal A ate much less than expected (lower than the red threshold line) on that day. The off-feed events are also likely due to disease challenge. An animal that has a greater proportion of off-feed days is expected to be less-resilient to disease.

In the genetic analyses of these traits, we found that day-to-day variation in feed intake had moderate heritabilities and, in general, strong genetic correlations with treatment and mortality rates. This suggests that they could be used as indicator traits for selection of disease resilience. Especially promising is day-to-day variation in feed intake duration, which had higher heritability and genetic correlation with mortality than other resilience indicator traits investigated. Furthermore, these resilience indicator traits derived from feed intake patterns can capture not only resilience to disease but also other stressors such as heat. In other words, the drops in feed intake and duration at the feeder observed in our data are not only due to disease but also other stressors.

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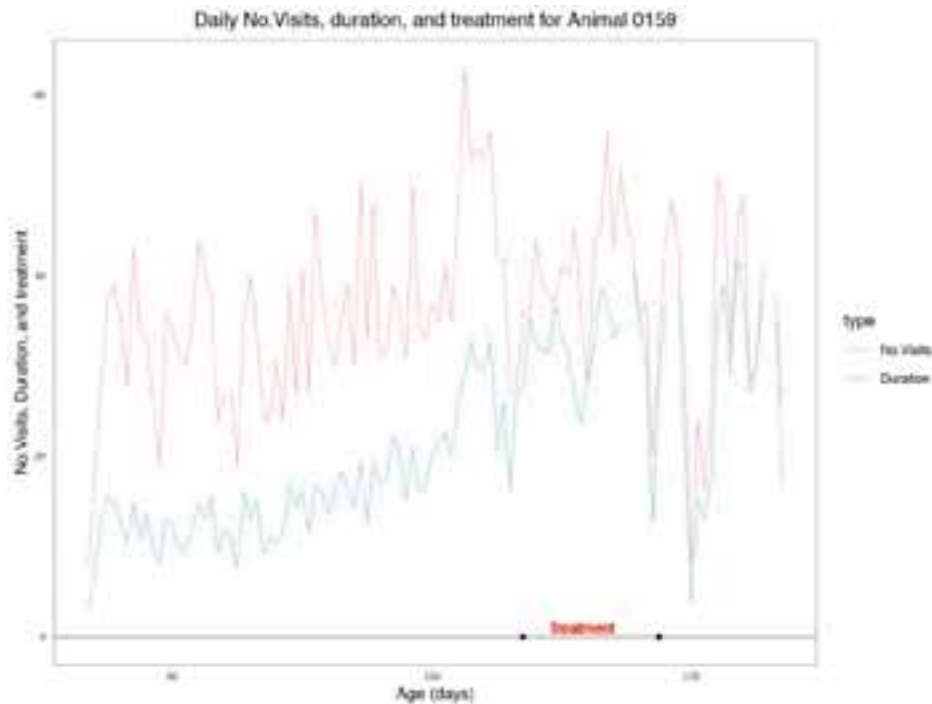


Figure 2: Daily number of water intake visits and duration for animal B

In addition to individual feed intake, we also investigated the individual water intake data and found potential indicator traits there as well. Most promising are the average number of water intake visits per day and the average time spent at the drinker per day. These two traits were highly heritable and moderate to highly genetically correlated with treatment rate and mortality rate.

Figure 2 shows the daily number of water intake visits and duration for animal

B. This animal had major drops in both water intake visits and duration at day 145 and day 165, coupled with medical treatments on each of these days. It is likely that disease was responsible for both the drop in average daily number of water intake visits and duration. Hence, pigs that have greater average daily number of water intake visits and greater average water intake duration over the finisher period likely have higher resilience.


In summary, feed and water intake patterns reflect resilience and are potential heritable indicator traits for selection of more-resilient pigs. Electronic feeders are already implemented in most nucleus breeding programs and could provide the data needed to implement these indicator traits. With the availability of new technologies such as 3D cameras, thermal imaging and sensors, extracting the feeding and drinking behavior traits on commercial farms could become a reality. Incorporation of these indicator traits into breeding programs could result in genetic improvement of resilience to disease and other stressors. To achieve this goal, a specialized disease challenge facility or a commercial farm with severe disease issues could be used for collection of resilience phenotype data.

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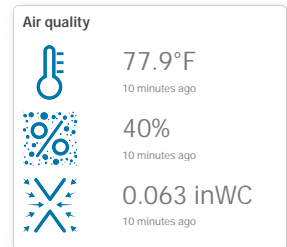
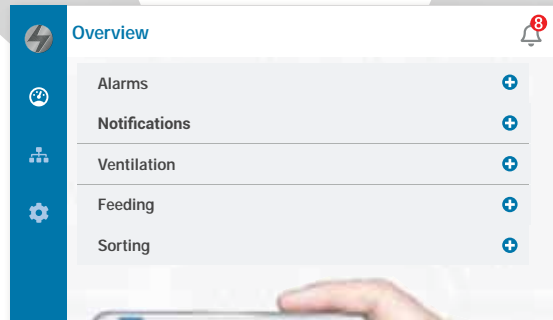
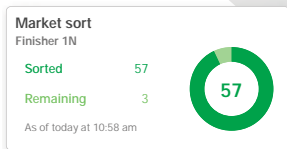
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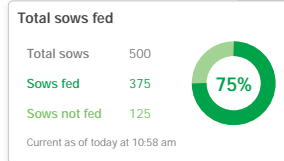


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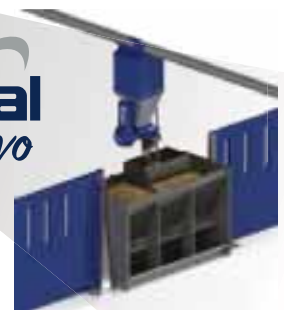


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What is the cost of sow exercise?

Mariia Tokareva, Yolande Seddon & Ken Engele

Editor's note: The following piece was written for Prairie Swine Centre. For more information, contact Ken Engele at kme131@mail.usask.ca.

Preliminary sow performance measures suggest exercising stall-housed gestating sows for 10 minutes once per week has minimal effects on the productivity of younger sows but may have a positive effect on older parity sows, increasing the number of live born and reducing stillborns. With productivity effects limited to a portion of the sow herd, exercising sows will result in increased costs of production by approximately \$2 per hog, mainly due to the additional labour required.

Results also indicate sows and gilts have a moderate level of motivation to obtain time out of their stall; sows and gilts trained to associate pressing a button with receiving a reward will work moderately hard to obtain time out of their stall, as measured by their highest price paid (HPP), which represents the total number of button presses to obtain a reward. However, sows show a greater level of motivation to access a feed reward, and providing high-fibre feed to sows reduces their motivation to exit the stall.

Despite the provision of ad-libitum high-fibre feed, a level of motivation to exit the stall remains, with sows continuing to interact with the operant panel. This suggests there can remain an intrinsic level of motivation for time out of their stall or control over their environment. Results of sow behaviour when outside of the stall and physiological measures collected over gestation need to be included to draw full understanding on the motivation of sows to exit their stall and the influence on sow welfare.

The National Farm Animal Care Council's (NFACC) *Code of Practice for the Care and Handling of Pigs* was first established in 2014 and is reviewed every five years. Last year, the first five-year review of the code was conducted by a technical working group that included representation from NFACC stakeholders across Canada. Out of that review, eight recommended changes were outlined – most notably for producers, an extension of the group sow housing deadline from 2024 to 2029, along with the removal of the requirement for periodic exercise for mated gilts and sows.

Currently, there is a lack of scientific evidence on which to base a recommendation on what constitutes an acceptable greater freedom of movement for stall-housed sows. Additionally, whether periodically providing stall-housed sows with opportunities for a greater freedom of movement will benefit sow welfare and productivity is unknown. This research project aimed to address specific knowledge gaps to support

informed decision-making. Research questions focused on understanding:

1. How motivated are sows to receive time out of their stalls?
2. How is the motivation of restricted fed sows to exit the stall influenced by diets that will influence hunger?
3. Does providing a low level of exercise (10 minutes once per week) benefit the welfare and productivity of stall-housed gestating sows?

Results

The motivation of sows and gilts to exit their stall

Stall-housed sows were trained to associate pushing one of two buttons on an operant panel (*Figure 1*) to request access to rewards: a) time out of their stall (movement) or b) a small feed reward (food).

Results found that both sows and gilts show a level of motivation to exit the stall, as indicated by how hard the animals 'worked' – the HPP (*Figure 2*). However, sows displayed a greater motivation to access a feed reward than to exit the stall. This greater motivation for feed may result from sows recovering from lactation at the time of testing. The motivation of gilts to access feed was significantly lower than sows, with the level of motivation to exit the stall between sows and gilts being no different (*Figure 2*). Gilts showed an equal level of motivation to receive feed as to exit the stall, which may indicate that gilts who were stall-naïve at the start of the trial value opportunities for each reward equally.

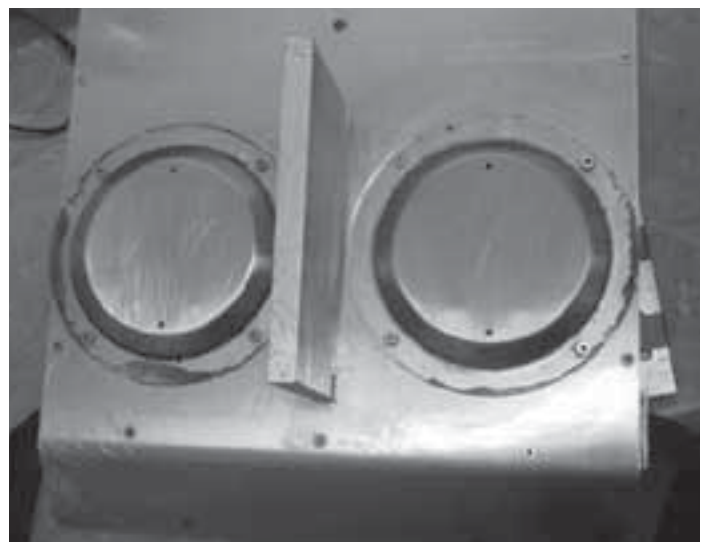


Figure 1: A) The operant panel containing two identical buttons, a central divider, and a light (central dot above divider) to indicate to the sow when the panel is active.



Figure 1: B) Sow pressing the active button (results in a reward) of the operant panel, hung over her stall gate.

The influence of high-fibre feed on the motivation of sows to exit their stall

Sows were trained to use the operant panel to work for time out of their stalls when fed one of three diets designed to influence hunger levels.

Results suggest that providing ad-libitum high-fibre feed in addition to the standard gestation ration reduces the motivation of sows to exit their stalls (Figure 3). This implies that a desire to seek additional feed may be an influence on the motivation of sows to exit their stalls. However, whether fed a high-fibre feed at 50 per cent of their ad-libitum or full ad-libitum intake level, sows still showed a level of interaction with the operant panel, which may suggest that the provision of the

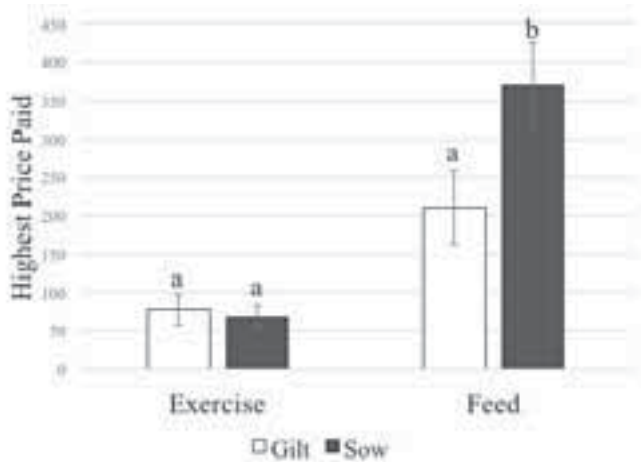
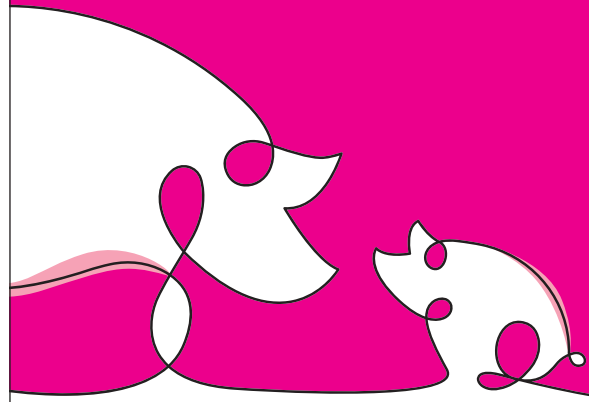


Figure 2: The highest price paid (mean ± SEM) for sows (n =12) or gilts (n = 12) to access time out of the stall, or a feed reward. Where superscripts differ, P<0.05.

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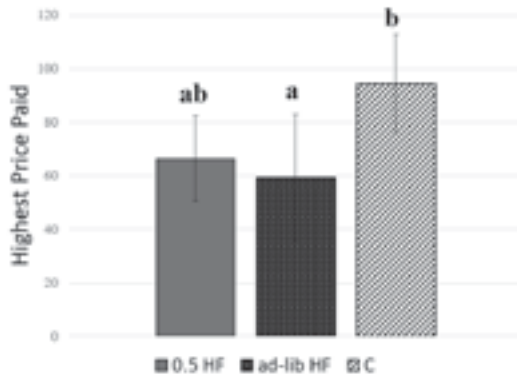


Figure 3: Highest price paid (HPP) for sows tested for their motivation to exit the stall for exercise when provided their standard gestation ration (Control, C, n = 14), provided with half of their ad-libitum daily high-fibre feed intake in addition to their gestation ration (0.5 HF, n = 14) and provided ad-libitum access to a high-fibre feed in addition to their gestation ration (ad-lib, n = 14), (mean ± SEM). Where superscripts differ, P<0.05.

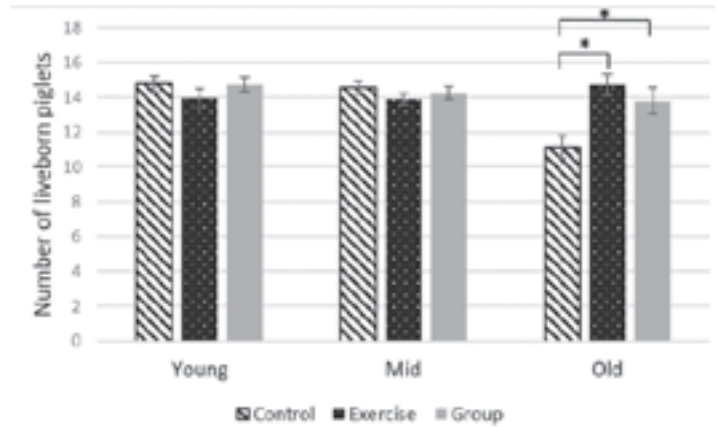


Figure 4: Number of liveborn piglets (mean ± SEM) for sows belonging to young (parity 0–1, n = 49), mid (parity 2–4, n = 95), and old (parity 5–7, n = 24) parity groups from control, exercise, and group treatments. Brackets connect treatments with significant differences, * P < 0.05.

panel also provides an enrichment for exploration when presented in the stall. That sows fed additional high-fibre feed worked to a moderate HPP to exit the stall may also suggest there remains an intrinsic level of motivation for sows to access time out of the stall. Analysis of sow behaviour when outside of the stall still needs to be completed. This will provide useful information that will support a better understanding on what may be motivating sows to exit the stall.

Low-level exercise on the productivity of stall-housed gestating sows

Results from the third experiment indicate that providing stall-housed gestating sows with 10 minutes of exercise once per week benefitted only the performance of older parity sows, indicating they may benefit from increased movement. However, we did not see measurable benefits from exercise in younger sows, as they tend to be in better physiological condition. Old parity sows that were group-housed, or stall-housed with weekly exercise had a greater number of live born piglets compared to sows housed in stalls throughout gestation (Figure 4). Additionally, stall-housed old parity sows had a greater number of stillborns than sows that were stall-housed and received weekly exercise, or group-housed over the course of gestation (Figure 5).

Still to be analyzed include measures of sow behaviour, physiology and gestational stress of the sow and her piglets. Considered together, the results will provide a comprehensive information on how periodic exercise influences sow welfare and productivity.

Economic assessment

If producers decide to exercise their sows and keep the stall-based system, at what point in time does it pay to make

the conversion to group sow housing? This decision is farm-dependant and determined by a number of factors including the availability and cost of labour and expected renovation cost to make the transition to group sow housing. Results indicate if sows were given 10 minutes of exercise, once per week, we will also see an increase in performance (two pigs per litter) in older parity sows. Taking these factors into account, we can estimate a payback in making the conversion to group sow housing.

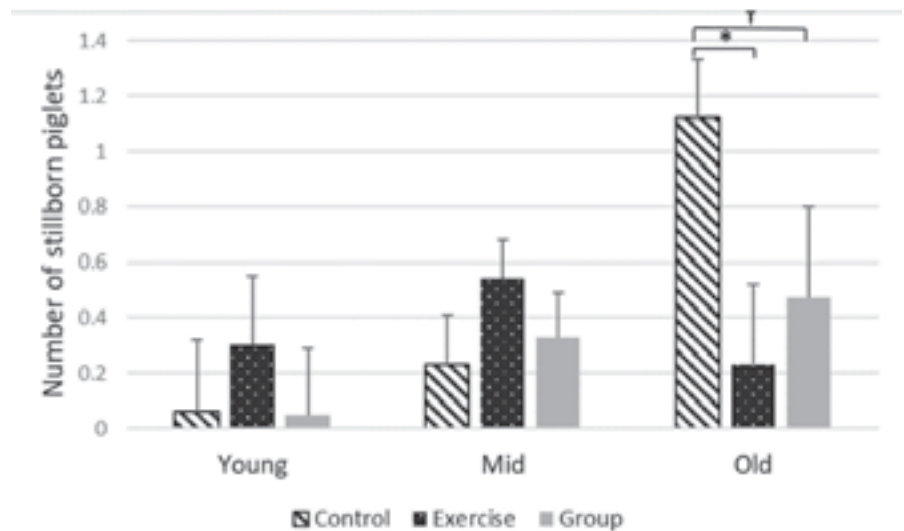


Figure 5: Number of stillborn piglets (mean ± SEM) for sows belonging to young (parity 0–1, n = 49), mid (parity 2–4, n = 95), and old (parity 5–7, n = 24) parity groups from control, exercise, and group treatments. Brackets connect treatments with significant differences. * P < 0.05; T: Tendency, P = 0.08.

Table 1 estimates the increase in total productivity, additional labour requirement and the cost associated with exercising sows in a 1,200-sow operation. Assuming parity 5+ sows have greater productivity with exercise (two pigs per litter) and represent 26.5 per cent of the herd, this operation would produce an additional 1,282 pigs annually. However, this needs to be offset by the additional labour required for sow exercise. Based on a labour requirement of 10 minutes per sow per week, this facility would require an additional four people to ensure all gestating sows would receive the appropriate amount of exercise on a weekly basis. Assuming an hourly labour rate of \$15 per hour, we would need to spend an additional \$2,450 per week or \$127,400 annually on sow exercise. The overall impact to the operation would be an increase in the cost of production of \$2 per hog marketed, where the additional labour for sow exercise adds \$2.94 per hog in cost, but the increase in production reduces fixed costs by \$0.94 per hog.

Figure 6 examines the impact of costs associated with sow exercise and the impact on spending that money to make the conversion to group housing. By looking at different costs of conversion and labour rates, we can identify specific trends. Overall, there is direct relationship between the cost of conver-

Table 1

Parity 5+ (%)	26.5%	of sow herd
Parity Impacted (5+)	318	sows
Pigs Sold/Sow	4.03	per year
Total Pigs Sold	1,282	per year
<hr/>		
Farrowing Crates Required	55	per week
Sows requiring exercise	980	per week
Total time required	163.3	hours/week
Additional Staff Required	4.1	
<hr/>		
Labour Cost	\$ 15	per hour
Total Labour Cost for Exercising	\$ 2,450	per week
Total Labour Cost for Exercising	\$ 127,400	per year

sion to group sow housing and payback, regardless of labour rate. In another words, producers would be encouraged to make the transition to groups sooner than later. This way, the conversion process becomes cheaper, as the payback to investment is better. The lower (better) the payback, the more incentive producers have to spend money on their facilities rather than additional labour.

An inverse relationship exists between payback (in years) to group sow housing and the cost of labour. As the labour rate increases, producers will need to spend more money on labour in order to accomplish the same task (sow exercise) in a stall-based system. Based on informa-

tion in Table 1, if we increased the labour rate from \$15 to \$30 per hour, our total labour expense for the year would double, increasing by an additional \$127,400. Looking at a specific example (Figure 5), if we assume the cost of conversion to group sow housing is \$500 per sow place, payback improves from 7.5 years to 2.5 years when labour rates increase from \$15 per hour to \$30 per hour, respectively. This is a three-fold increase to payback when labour rates double.

Overall, as labour rates increase and renovation costs decrease, producers should seriously consider re-investing in their operations. At some point, money spent on additional labour may be better re-invested in your facility. While each situation is unique, producers must calculate their own individual payback and consider where to spend their next dollar.

Acknowledgements

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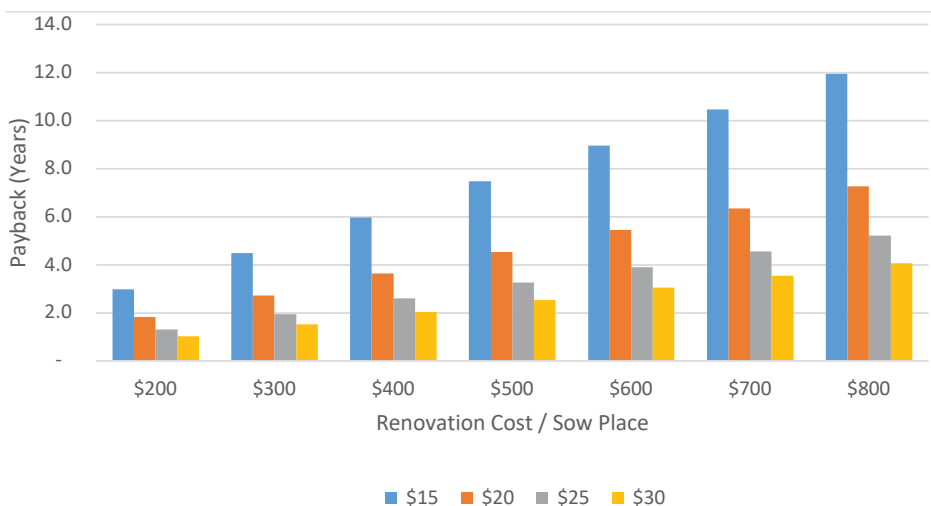


Figure 6: Impact of labour rate and renovation on payback (time) required in making the conversion to group sow housing.

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