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'Kovbasa' (Ukrainian sausage) smoking in Mundare, Alberta



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Message from the editor

The Summer 2022 edition of the Canadian Hog Journal is here!

Last month, I attended Alberta Pork Congress in Red Deer. It was a blast seeing so many people from across the western Canadian industry back in-person. As we head into the remainder of the year, I am itching to get out to other parts of Alberta and Canada to learn more about where our sector is headed.

Much has been published so far in this magazine about rising feed costs, but what about fertilizer? Your fields can benefit from manure applied with some simple strategies in mind and the right support. Alberta Pork's Bijon Brown spoke with an agronomist to learn more.

Small-scale producers are an underserved demographic in the hog industry.

While these farms represent only a fraction of all hogs on-farm, these producers matter. Find out how they are being increasingly engaged to promote awareness and understanding of key issues that affect the industry.

Antimicrobial use is a hot topic. Both within and outside of agriculture, experts worldwide are becoming concerned that farmers are causing antimicrobial resistance, which has implications for animal and human health. For the past half-decade, Alberta Pork and Precision Veterinary Services have been benchmarking usage in the province, and the results are in!

A novel study by Prairie Swine Centre is providing insight into the welfare of weaners in transport. Like antimicrobial use, animal handling subjects are being met with closer public scrutiny, over time. Veterinarian Lexie Reed provides her report.

The Canadian Meat Council (CMC) is celebrating its centennial! Representing the red meat processing sector, CMC advocates for improved domestic and global access to Canadian product. Just as packers need producers, the entire value chain needs consumers, and buyer confidence is a big part of that.

Growing up in Edmonton, 'Mundare Sausage' was practically a household name. With Ukrainian-Canadian roots, the Stawnichy family has been producing deli products in Alberta for six decades. As Russia's war in Ukraine continues unabated, I wanted to celebrate this respected business, which, to me, embodies the resilient Ukrainian spirit within a Canadian context, and it further demonstrates how the hog industry has a much bigger impact than you might expect.

My older daughter (and first child) just turned four-years-old. She was born mere days after I started working with Alberta Pork, in 2018, so her birthday will forever be a reminder of that work anniversary for me. The photo on this page was taken during her party in our backyard, in suburban Edmonton. Like her dad, she's a big fan of tacos. Pulled pork 'carnitas' were served for the crowd, of course!

Want to see your words on our pages? Give me a shout at andrew.heck@albertapork.com or find the Canadian Hog Journal on Facebook and Twitter (@HogJournal) to like, share and comment on our digital content. The more you engage with our posts, the farther our messages go! The ongoing support of our readers and advertisers means everything, and visibility is the key to that success. ■



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Engaging small-scale producers pays dividends

Andrew Heck

In the last two decades or longer, a predictable phenomenon has swept almost all regions where commercial pork production exists on a significant level: a trend toward larger, fewer farms with increased herd sizes. In most provinces, that means fewer than half of all producers – commercial operations – raise nearly all of the hogs accounted for, while the balance of producers run small-scale farms, not to be overlooked.

There is room in the Canadian pork industry for both commercial and small-scale production, as they typically serve dif-

ferent end-users. Many small-scale producers are responsible for supplying hogs to local provincially inspected abattoirs, while some perform on-farm slaughter for farmgate sales or personal consumption. In any case, the presence of small-scale producers represents an increasingly greater and more important challenge as time goes on: effective communication.

Regardless of size, all producers have a role to play in responsible pig stewardship, which helps protect our \$24-billion annual industry when it comes to animal care,

health and traceability. And it is incumbent upon producer organizations and the broader industry to invest more heavily in this area, as foreign animal diseases and public trust concerns continue to emerge.

Surveying small-scale producers across Canada

Last year, Prairie Swine Centre launched a survey of small-scale producers across Canada's main pork-producing regions.

The survey sought information in four main areas: operational features, herd composition, pig health and disease awareness. The survey was completed by nearly 600 producers, of whom, nearly nine of 10 own fewer than 25 pigs total. A similar number of those producers reside in Alberta, Saskatchewan, Manitoba, Ontario and Quebec, with the occasional British Columbian or Maritime producer included for good measure. More than half of all surveyed own pigs for only part of the year, with fewer than one-fifth housing pigs entirely inside a barn, favouring mixed indoor-outdoor production.

"It confirmed what we thought in certain areas," said Murray Pettitt, CEO, Prairie Swine Centre. "While most of the results weren't too surprising, it is a bit concerning how many respon-

| REGISTERED ALBERTA PORK PRODUCERS BY YEAR AND TYPE | | | |
|--|-------------------|-------------------|-------------------|
| | 2019 | 2020 | 2021 |
| Non-commercial | 473 (58%) | 567 (65%) | 630 (68%) |
| Hutterite colonies | 133 (16%) | 121 (14%) | 121 (13%) |
| Producer groups | 94 (12%) | 96 (11%) | 90 (10%) |
| Independents | 111 (14%) | 91 (10%) | 79 (9%) |
| Total | 811 (100%) | 875 (100%) | 920 (100%) |

| SOWS ON ALBERTA FARMS BY YEAR AND PRODUCER TYPE | | | |
|---|-----------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| Non-commercial | 866 (7%) | 1,245 (7%) | 1,359 (7%) |
| Hutterite colonies | 52,353 (41%) | 51,363 (40%) | 49,811 (40%) |
| Producer groups | 52,170 (41%) | 53,965 (42%) | 57,813 (46%) |
| Independents | 22,537 (17%) | 20,919 (17%) | 15,753 (13%) |
| Total | 127,926 (100%) | 127,162 (100%) | 124,736 (100%) |

Compared to commercial hog producers, small-scale farmers raise just a fraction of pigs in Canada, but their need and desire for industry information continues to increase.

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Most small-scale producers raise pigs outdoors, with optional shelter provided.

dents indicated that they feed food scraps to their pigs and were unaware of certain diseases, like African Swine Fever.”

As a follow-up to the survey, Prairie Swine Centre is looking at options to improve small-scale producer engagement, including the potential development of fact sheets and videos as resources. Recently, a new website (*www.smallscalepig-farming.com*) was launched to support knowledge transfer.

As Pettitt sees it, part of the challenge could be the widespread availability of misinformation on social media, especially for someone new to raising pigs.

“Many farmers prefer to get their information from diverse sources, such as other producers, veterinarians, websites and social media,” said Pettitt. “This new website will be identified as a source of accurate information, allowing small-scale farms to have confidence in the content they choose to seek out.”

Recognizing the challenge at hand, Pettitt has posed some pointed questions.

“Are the knowledge gaps related to new people coming into pigs, or is it something else?” asked Pettitt. “Can we communicate most effectively by understanding farmers’ goals and objectives, which can be different from the needs of large-scale production? What resonates with them?”

At least one possible answer could be the use of interactive sessions to strike down some of the myths around small-scale farming, to bring those individuals into the circle of trust that the commercial industry is hoping to widen.

“The whole effort is really about education,” said Pettitt. “It can be difficult for small farms to find useful, factual information applicable to the way they raise their pigs. Key information on topics like feed and biosecurity are important to all producers in Canada, no matter the size. By making this information easier to access, collectively, we will better protect the health and welfare of Canadian pigs.”

Webinars link small-scale producers to experts

Alberta Pork supported a three-part webinar series last year with Alberta Farm Animal Care (AFAC) and Prairie Livestock Veterinarians. The series invited dozens of small-scale producers to attend hour-long broadcasts, free-of-charge, for anyone who owns a small number of pigs or may wish to do so in the future, covering everything from legislative concerns around pig ownership to proper handling. Funding from Alberta Pork made the webinars possible.

“Producers can often be set in their ways,” said Charlotte Shipp, Industry Programs Manager, Alberta Pork. “You would be hard-pressed to find a producer who does not take raising pigs seriously, but the ‘right way’ of doing things can mean something different to everyone.”

Certain production practices that are more prevalent with small herds include things like raising pigs on pasture, which increases the animals’ risk of stress due to weather, interactions with wild-life and potential disease incursions. While these practices harken back to the traditional way of doing things, the industry has evolved considerably in recent decades. For small-scale producers who are not as up-to-speed with the modern industry, there is still progress to be made when it comes to registering their farms with provincial pork organizations and entering their pig movements into Canada’s national traceability database, PigTrace.

Producer registration captures important information

Few small-scale pig producers rely on their hog operations as a sole source of income, and some of those producers are caught off-guard when it comes to registering with provincial organizations, which is legislated for anyone who owns even a single pig.

This is most easily observed in late summer, when, every year, requests come into the provinces for last-minute registrations. What often happens is that a producer arrives at his or her intended abattoir with a hog and is then informed by the processor of the registration requirement. Because abattoirs are responsible

CONTINUED ON PAGE 8



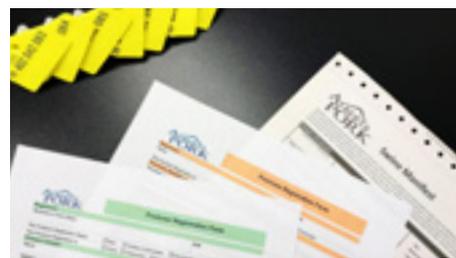
Kelsey Gray of Prairie Livestock Veterinarians led a series of Alberta-based webinars for small-scale producers last year.

ble for collecting and submitting producer levies to the appropriate provincial organizations, to collect that levy, producers must be registered in advance. This process can sometimes be expedited on-the-spot, assuming traceability officials are available to assist at any given time, but the situation is not ideal for anyone.

“We get panicked calls from producers who are waiting at the abattoir with a pig, but they can’t get it in, because they haven’t

gone through the registration process yet,” said Christina Quinn, Traceability Coordinator, Alberta Pork. “It’s a pain for them, and while we’re happy to help producers in a bind, it is easiest for everyone if initiative is taken prior to the moment when these things need to be in place.”

The situation described by Quinn is evidence of why communication is vital to the process. If we can actively campaign to register new and prospective producers,



Producer and premise registration through the appropriate provincial pork organization is a legally required first step to moving pigs, which are tracked in PigTrace.

it makes the job of traceability much more thorough. In the unfortunate instance of a disease outbreak, which could affect anything from product recalls at retail to the industry’s ability to conduct international trade, traceability is a crucial component of incident investigation. Lessons learned help the industry prepare for the future and improve upon any mistakes.

Strengthening relationships equals better business

Every pig owner – from the pet lover and conservation breeder to the on-farm consumer or commercial farrow-to-finish operator – factors into the bigger picture. As the global marketplace for pork continues to expand, the commercial industry will certainly need to focus more often on small-scale production, not just because these producers outnumber commercial producers, but more specifically because they have the potential to make or break certain promises the industry has worked hard to keep with its many respected, valued overseas partners. ■



Education matters. Feeding food scraps to pigs is not recommended, but some small-scale producers are simply unaware of the risks.



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Canadian packers celebrate centennial

Andrew Heck



Marie-Claude Bibeau, Minister, Agriculture and Agri-Food Canada and Kerry Towle, Chair, Canadian Meat Council (CMC) together at CMC's 2022 annual general meeting (AGM) and 100th anniversary banquet.

The Canadian Meat Council (CMC) held its annual general meeting (AGM) in Ottawa in mid-June, along with a banquet to mark 100 years since the organization's founding.

"Our centennial celebration is testament to the longstanding efforts of the Canadian meat industry to grow and prosper," said Chris White, President & CEO, CMC. "Canadian meat packers have proven time and time again that we are here to defy expectations for a country our size compared to some of our international contemporaries."

CMC represents about 90 to 95 per cent of all pork and beef processed in Canada, in addition to other red meats. These fresh and processed products originate from more than 200 facilities across the country, shipping product to more than 120 countries worldwide. CMC works with its processor members and associate members – such as food ingredient suppliers, packaging material suppliers, equipment manufacturers and service providers – to advocate for international trade and regulatory policy frameworks that protect food safety and market access, while also helping the industry stay collectively competitive domestically and globally.

When it comes to political decisions and livestock disease challenges at home or

abroad, producers and packers alike can be deeply impacted. For the hog industry, the continued, uninhibited flow of pork from the abattoir to end-users is fundamental to the financial success of the sector. While the composition of the industry has changed over time, what has remained unchanged is its devo-

tion to expanding business opportunities and focusing on providing safe and wholesome meat for consumers.

Canadian meat goes global

In the aftermath of the First World War, more than a dozen meatpacking firms gathered in Toronto, in 1919, to discuss the formation of a voluntary trade asso-



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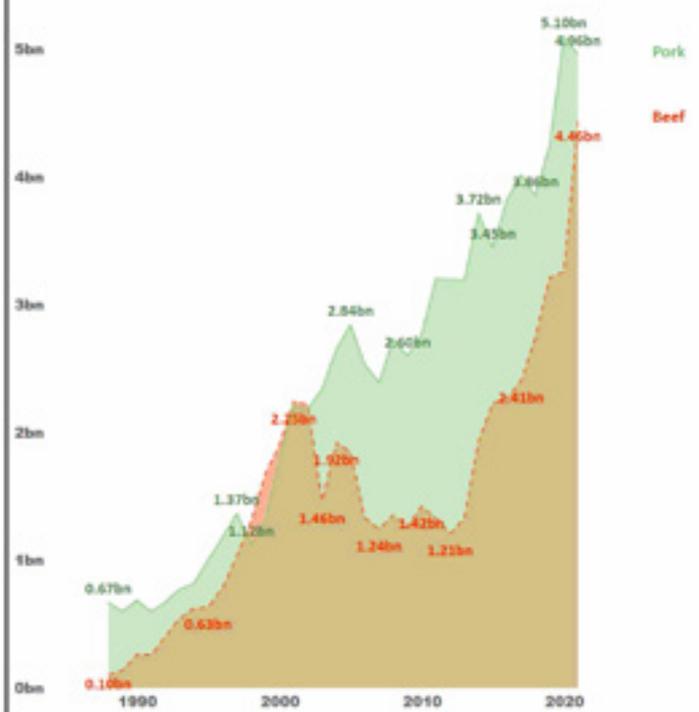
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Canada's Red Meat Export Quantity (kg), 1988 - 2021



Canada's Red Meat Export in Canadian Dollars, 1988 - 2021



Exports of Canadian pork and beef increased five-fold in terms of volume and value between 1988 and 2021.

ciation, which would eventually become the 'Industrial and Development Council of Canadian Meat Packers,' in 1922, officially changing to the 'Meat Packers' Council of Canada,' in 1952.

The organization was renamed the 'Canadian Meat Council,' in 1980, at which time major changes were afoot in the industry, with a focus on diversifying from mostly domestic markets to international ones. Domestic red meat consumption per capita had begun to fall, as a result of increasing food consumer choice and a shift to proteins like chicken. As a result, packers began to seek new markets for their goods. It was around this time that the integration of hog production and pork processing became a smart business decision for packers who were eager to secure hog supply for reliable volumes of pork.

In 1991, the Canadian Pork Council (CPC) and CMC came together to form Canada Pork International (now known simply as 'Canada Pork') – the definitive link in the value chain that brought together producers and packers.

"The value proposition for Verified Canadian Pork hinges on collaboration between those who raise hogs and those who process them," said Trevor Sears, President & CEO, Canada Pork. "Whether we market pork to Canadians or our overseas partners, strength across the value chain is what makes quality assurance guarantees possible."

Today, about half of hogs on-farm in Canada belong to producer-packer integrated systems, while independent producers continue

to play an important role for all federal plants. In 2020, Canada exported more than 70 per cent of all pork produced in the country, primarily to China, Japan, the U.S. and Mexico, with large emerging markets in Vietnam and the Philippines. Considering all global pork traders, Canada ranks first among export-dependent jurisdictions in the world, followed by Chile, which ships

CONTINUED ON PAGE 12



Canada Pork's handbook covers a wide range of topics related to the federal pork processing system, responsible for all exports. Canadian pork processing standards are recognized as the best in the world, in line with jurisdictions like Europe, the U.S., Australia and New Zealand.

away just over 60 per cent of its pork. The U.S., meanwhile, moves approximately 30 per cent of its pork out-of-country.

Looking forward at issues affecting trade and regulatory policy frameworks, the global rise of African Swine Fever (ASF) has characterized the pork industry narrative in recent years, which intimately affects hog producers as much as packers and others in the value chain.

Continued trade requires disease control

CMC consults with the Government of Canada closely on international trade agreements to ensure meat remains front-and-centre in negotiations. Better access for Canadian meat abroad demands consistency in standards at home. This includes mandatory preventive control programs and enforced outcome-based regulations in meat plants, all the way back to on-farm programs. When Canadian production standards align with international expectations, trade barriers are much easier to overcome.

Starting in 2018, with the spread of ASF in China, the establishment of zoning agreements became a priority for the industry, and today, agreements are in place with the U.S., U.K., European Union (E.U.), Singapore and Vietnam. An agreement with Japan remains a high priority, as Japanese officials prepare to visit Canadian farms, plants and labs in the coming months to perform audits. Should an agreement be struck with Japan, taking into account the other existing agreements, more than 40 per cent of Canadian pork exports would be theoretically secure, if ASF were to strike.

“Zoning is Canada’s best chance at ensuring business continuity in the event of ASF,” said Rick Bergmann, Chair, CPC. “The importance of these political decisions cannot be overstated, even as producers focus on day-to-day farm operations.”

In alignment with other national stakeholders, CMC is concentrating on supporting ASF mitigation efforts, such as enhancing surveillance to avoid the

entry of pork products from infected countries through various ports of entry, enhanced biosecurity at the farm and plant level, wild boar eradication, passive surveillance sampling at key sites, small-scale producer awareness and by examining cross-border transport vehicle traffic on industry biosecurity. As such, CMC is an active partner on Canada’s ASF Executive Management Board (EMB), which includes representation from industry stakeholders and government officials working to implement the Pan-Canadian Action Plan on ASF. To reinforce the organization’s commitment in this area, CMC has joined CPC and the Government of Canada to study how an ASF outbreak would impact the Canadian industry from an economic perspective.

In the event trade comes to a halt due to ASF, pork supplies already in cold storage, awaiting export, will need to stay put, with additional back-filled pork arriving until the supply of market hogs on-farm and in transport is finally siphoned off. This would quickly become a complicated situation, as the Canadian public is not equipped to absorb (consume) the surplus pork that will be left in the lurch. For the countries with which Canada has agreed on zoning, a necessary first step would be to wait until CFIA has successfully established primary control zones (areas

where the virus is known to exist) before declaring the rest of the country free of ASF. At that point, trade may resume in areas outside of the primary control zones with partners who are confident in our industry’s efforts to stop the spread.

As CMC furthers its advocacy on cultivating new trade relationships and strengthening existing ones, it would seem to be the unanimous opinion that ASF prevention, rather than response, is the preferred course. But it does stand to reason that, the more zoning agreements we have with our valued trading partners, the less the damage might be if the inevitable occurs.

Labour shortage has a ripple effect

When COVID-19 struck Canada’s meat-packing plants, the beef and pork value chains were in for a shock. Several federally inspected pork and beef facilities experienced voluntary or mandatory shutdowns, due to COVID-19 cases among employees. CMC played a pivotal role – working with provincial and federal government officials and other stakeholders – to ensure plants were able to be up-and-running as soon as possible, with worker safety in mind.

On the whole, labour availability remains a major challenge for packers



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In 2020, three beef facilities in Alberta, representing more than three-quarters of Canadian beef slaughter capacity, were closed simultaneously due to COVID-19 outbreaks.

and producers. Last year, CMC reported more than 9,000 vacancies within Canadian packing plants, ultimately affecting livestock slaughter volume. Vacancies also reduce capacity for further processing, which limits packers' ability to create value-added products, prompting them to sell primal cuts at a lower price than what more detailed cuts could fetch on the market. This is why CMC advocates very strongly for an enhanced Temporary Foreign Worker Program, in addition to extended opportunities for workers to become Canadian permanent residents or citizens, as newcomers are much likelier to stick with their jobs when opportunities for long-term employment are available.

As labour challenges continue to hamper all aspects of the industry, this reality affects domestic and global food security, which depend on stable food supply.

An industry hungry for excellence

More than nine out of 10 Canadians still eat meat, and a growing affluent population in the developing world is seeking out meat more frequently as a dietary staple. This is great news for both producers and packers, so long as the industry can continue working toward the common goal of sustainability and progress.



Verified Canadian Pork 'katarosu' shoulder roast, specially made with the Japanese consumer in mind. When Costco Japan switched from U.S. to Canadian pork, in 2017, sales improved.

Canada's hog producers and pork packers, bolstered by the work of CMC, continue to prove to buyers that the Canadian red meat industry is poised to serve their needs for years to come, as it has done for the past century and even longer. The COVID-19 pandemic, political regime changes, economically protectionist ideologies and industry hurdles aside, much opportunity exists for Canadian red meat to thrive in spite of challenges. ■



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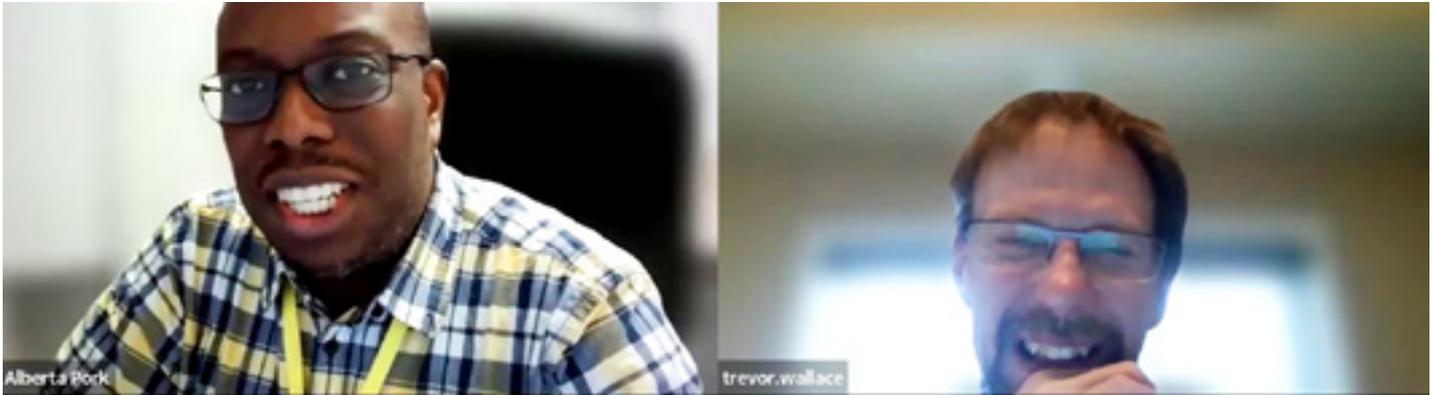
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Finding value for manure as fertilizer

Editor's note: Bijon Brown, Production Economist, Alberta Pork recently interviewed Trevor Wallace, Nutrient Management Specialist, Alberta Agriculture, Forestry and Rural Economic Development. Brown can be contacted at bijon.brown@albertapork.com. Wallace can be contacted at trevor.wallace@gov.ab.ca.



High fertilizer prices have created a renewed sense of interest in using hog manure to nourish crops. Knowledge is the key to putting manure to best use.

Brown: Since mid-2020, we've seen a significant rise in fertilizer prices. More recently, we've seen how transportation bottlenecks and China's restriction of fertilizer exports have caused prices to soar. Do you think there is value in using hog manure as fertilizer for crops?

Wallace: Yes, definitely. Basically, all the nutrients that a crop needs can be found in manure to varying degrees. It's not a perfect fertilizer, and there's going to be shortfalls of nitrogen within the manure, but as a nutrient source, it's a very good option for producers – especially the operations that have manure there. They've got to put it on the land somewhere, so it can be really targeted both on the landscape and towards the crop, to provide a very good value for that cost of application.

Brown: Is it expensive to test or sample manure?

Wallace: No. The sampling is relatively easy, and sometimes manure applicators can do it for you, but this can sometimes be a pain. Manure composition is variable, so that's always a problem. On a drag line system with a pump, there's often a spigot that we can open and take some manure out or

use the transfer hose that we're pumping. We take several samples and then try to keep it cool and get it to the lab, so that's the bigger challenge than the cost.

Brown: What's the best way to start this, and how can we value this manure? Is there a tool that can estimate the value of the manure?

Wallace: Yes. There are a couple of different ways to do it, and we do have the 'manure transportation calculator.' The calculator allows you to put in the crops you want to grow, and it's going to give you book values automatically, but you can put in your own values if you've had the analysis done.

When you put in your numbers, it spits out the economic benefit and the cost of using it. The calculator evaluates the cost over five years, so over that rotation, we're going to account for nutrients that are released with time. Value comes in two ways: one of them is from the nutrients in the manure, and the other one's from the nutrient needs in the crop.

Brown: What's the best approach for getting consistent nutrient application?

Wallace: The traditional way is really good agitation – starting two to four hours before application. It costs money, but we've improved agitation with either multiple agitation pads in the lagoon or new technology, like a remote-controlled agitator that moves around and sucks up the content at the bottom. That's one approach.

Another way is to take multiple samples from the lagoon at different times. The early material is mostly water, and the later material is going to be a higher percentage of solids. Another way yet uses a newer technology to sample the nitrogen content as the manure's flowing from the tanker.

Brown: What are the benefits of applying the manure via direct injection versus surface application?

Wallace: Surface application is fast. You can do a large area quickly to reduce soil compaction, but the problem with surface application is the loss of that available nitrogen with solid manure, which has a lot more of the organic nitrogen and a smaller amount of the available nitrogen. With liquid manure, it's fine. There's a lot of nitrogen that can be lost depending how we handle it.

Application Method

Solid Manure

Select Application Method
Solid Manure Spreader

Select Incorporation
None

Select Incorporation Lag
[]

66% N loss on incorporation

Liquid Manure

Select Application Method
Liquid Manure Injection

Select Incorporation
[]

Select Incorporation Lag
[]

5% N loss on incorporation

Select Manure Supply Location
Source in Yard - Travel to Source

Solid Manure Equipment Variables:

| | User Values | Default Values | |
|----------------------|-------------|----------------|---------|
| Spreader Hopper Size | 250 | 250 | cu. ft. |
| Hopper Fill Time | 5 | 5 | minutes |
| Road Speed | 15.0 | 15.0 | mph |
| Field Speed | 4.0 | 4.0 | mph |
| Equip/Labour Rate | \$50.77 | \$50.77 | per hr |

Liquid Manure Equipment Variables - Injection:

| | User Values | Default Values | |
|-------------------|-------------|----------------|-----------|
| Tank Size | 3,300 | 3,300 | imp. gal. |
| Tank Fill Time | 6 | 6 | minutes |
| Road Speed | 15.0 | 15.0 | mph |
| Field Speed | 5.0 | 5.0 | mph |
| Equip/Labour Rate | \$54.17 | \$54.17 | per hr |

Contrary to what some might think, it is possible to put a dollar value on manure through testing and analysis.

Brown: Should application be directly to the soil, to make the best use of nitrogen?

Wallace: Yes. It can still be broadcast, but the quicker we work it in, especially the liquid, the more nutrients or nitrogen being captured. The guys that are changing their system so they can spread during the season – into growing crop – are not spreading it when there’s a risk of loss, since most of our runoff’s in the spring. If we can get it in the ground in the fall, the organic stuff will start breaking down a bit, but crops use it better. A low broadcast or a pure injection helps with odour, and maybe the most important thing, it gets some of the equipment off the road, for safety reasons.

Brown: Are there any other benefits we can get out of manure when it comes to soil quality?

Wallace: Yes. Part of it comes from that organic portion, like the manure

itself. We’re adding a food source for microbes. Solid manure can have a greater impact than the liquid. It’s adding the carbon and organic matter to the soil, which makes the ground more pliable and easier for crop growth. It granulates really nicely and helps with water infiltration, resists soil compaction and helps the plant roots.

Brown: Is there value to using manure for renewable energy?

Wallace: I’m torn on it. For this technology to work, it needs to be scalable and fit the size of the operation. The difficulty with this is that it is complex technology – it’s going to require expertise or extra labour. Many manures are not really high-energy producers. We can use the manure as a base in the mixture for something like an anaerobic digester, but the hog manure we did some research on was producing about 156 megajoules of energy per tonne. In

the same quantity, poultry manure produces 3,200 megajoules, and coal is 22 to 32 gigajoules [22,000 to 32,000 megajoules].

Brown: Are there benefits to having knowledge in terms of how manure affects the environment?

Wallace: Yes. When we often talk about manure, we look at it as an economic benefit for the crop. It is a cost to get it out there, but whatever we can do to maximize the use of the nutrients that are in it helps offset that cost. When we start talking about losses due to gases in the air or runoff, the loss of value is either a loss in yield or just a pure loss of cost, because you paid to put it there, but now it’s gone.

Those nutrients do the exact same thing in water as they do on land. A very small amount of them have a huge impact in water, so when we start to lose nutrients because of runoff, we’re not capturing them in

CONTINUED ON PAGE 16

Direct Injection Leads to Minimal Nitrogen Loss

Table 6.3 Expected Ammonium Nitrogen Loss in Relation to Application Method, Timing and Weather Conditions

| Application and Incorporation Strategy | Weather Conditions During Application | | | | |
|---|---------------------------------------|------------|----------|------------|----------|
| | Average | Cool-moist | Cool-dry | Warm-moist | Warm-dry |
| Surface-applied, incorporated within 1 day ¹ | 25% | 10% | 15% | 25% | 50% |
| Surface-applied, incorporated within 2 days | 30% | 13% | 19% | 31% | 57% |
| Surface-applied, incorporated within 3 days | 35% | 15% | 22% | 38% | 65% |
| Surface-applied, incorporated within 4 days | 40% | 17% | 26% | 44% | 72% |
| Surface-applied, incorporated within 5 days | 45% | 20% | 30% | 50% | 80% |
| Not incorporated | 66% | 40% | 50% | 75% | 100% |
| Injected | 0% | 0% | 0% | 0% | 0% |
| Cover crop ² | 35% | 25% | 25% | 40% | 50% |

¹ These percentages would also apply to liquid manure broadcast (without incorporation) on bare soils.

² These percentages would also apply to liquid manure broadcast (without incorporation) on land with residue, such as direct-seeded fields or forages. Adapted from ARD 2004.

Injecting manure, rather than surface application, remains the preferred method. Among other reasons, less nitrogen is lost.

the field. That nitrogen or phosphorus can have a significant effect on the growth of algae, for example, which has a negative impact on water quality.

Brown: Do you have any best management tips that can help a farmer manage his use of manure?

Wallace: Knowing what's in the manure is a great first step. It doesn't matter if you start with book values,

but knowing what you're applying is important.

I've worked with a lot of producers who have figured out their application rate not because they know what's in it, but they've done it so long and they've come up with a number that produces the crop they're targeting, so they've figured it out that way, but getting to know the nutrient content through soil sampling is fundamental.

Knowing that nutrient profile really helps with taking advantage of all the nutrients that you're applying or the nutrients that are in the field, because if they're accumulating there, you're not getting value from them.

Producers in Alberta are encouraged to contact Wallace if they are interested in learning more about how to best use their manure. Producers outside of Alberta are encouraged to contact their local agronomist. ■

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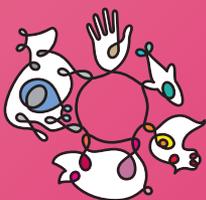
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Responsible antimicrobial use reinforces public trust

Kurt Preugschas

Editor's note: Kurt Preugschas is a swine veterinarian and owner of Precision Veterinary Services. He can be contacted at kurt@precisionvet.ca. The work featured in this article was initiated by Javier Bahamon, Quality Assurance and Production Manager, Alberta Pork. He can be contacted at javier.bahamon@albertapork.com.



Antimicrobials are sometimes necessary in hog production, but their use has come under the microscope in recent years, on account of limiting antimicrobial resistance.

Antimicrobials are natural or synthetic substances that can kill or block the growth of micro-organisms, including bacteria that can make livestock sick. Antimicrobials are a valuable tool for veterinarians and hog producers to support animal health, control diseases and ensure animal welfare is maintained.

While the positive effects of responsible antimicrobial use are known, the potentially harmful impacts to human health and the environment are being more closely considered these days by global authorities and stakeholders within the Canadian livestock industry. The ultimate concern with using antimicrobials in hog production is the development of antimicrobial resistance.

Starting in late 2017, Alberta Pork recruited Precision Veterinary Services to work with 20 Alberta hog producers – mostly farrow-to-finish operations – from all regions of the province on benchmarking their antimicrobial use. This project did not directly measure

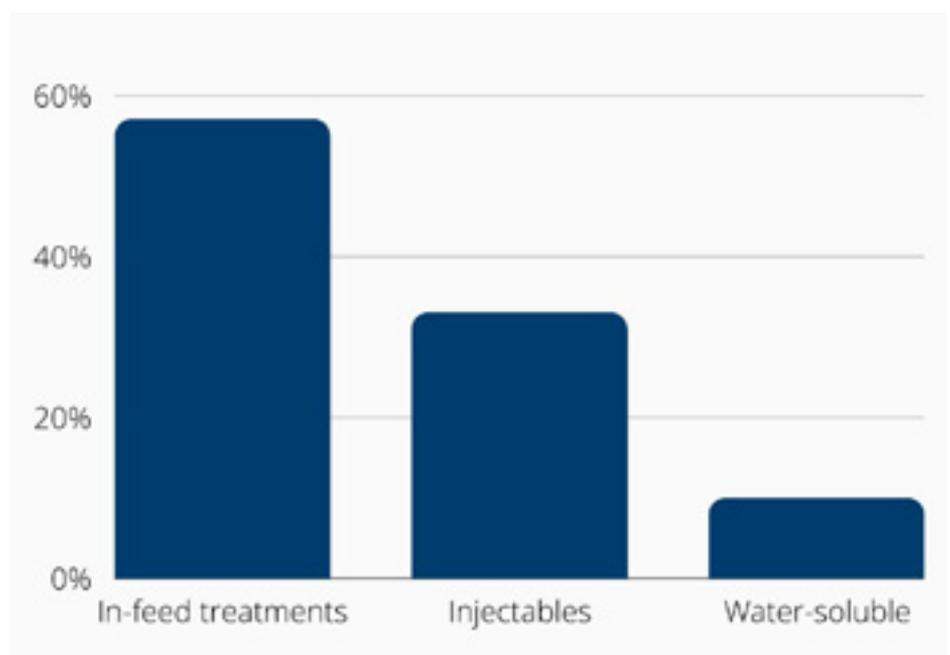
antimicrobial resistance, but it may be possible to extrapolate the notion that, the more antimicrobials are used, the more risk there is of developing antimicrobial resistance. While this relation-

ship is not entirely straightforward in nature, measuring antimicrobial use can be a fairly simple way of monitoring and understanding the relative risks while making improvements.

Antimicrobial use trending downward

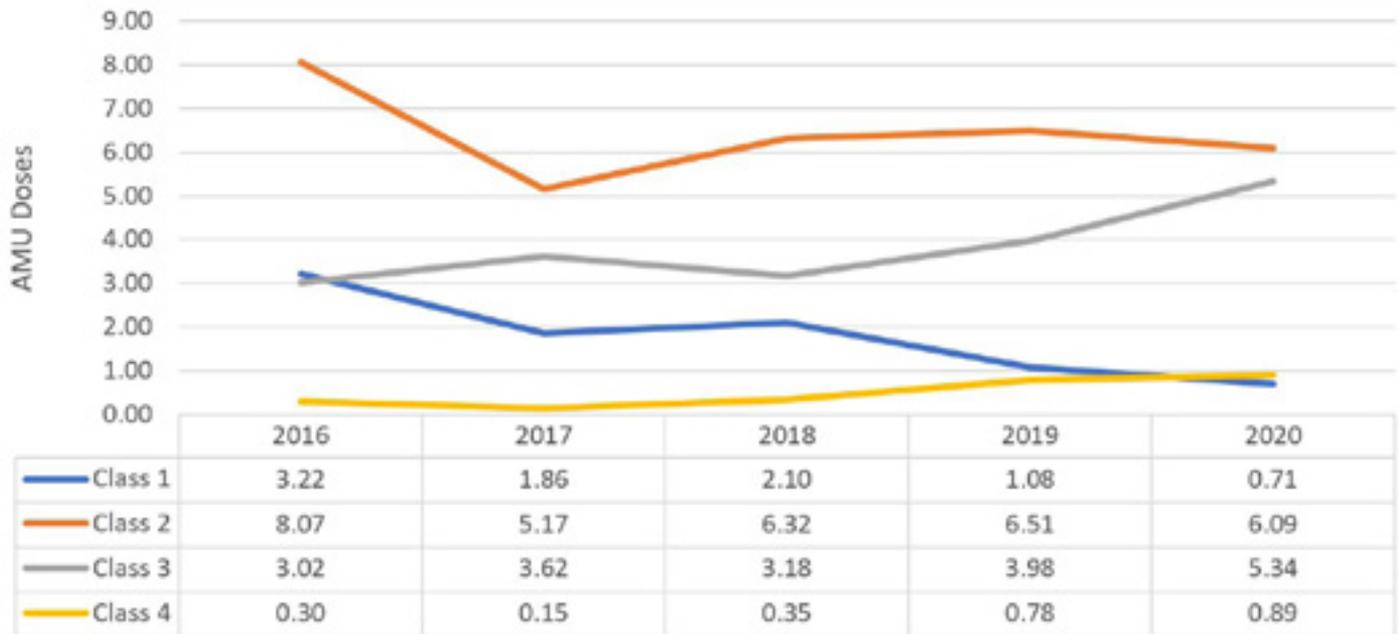
Prior to conducting the study, we suspected that antimicrobial use varied greatly from one farm to the next. Following the completion of the study, that was confirmed. However, the underlying positive reality is that antimicrobial use has been trending mostly downward. Over the five years assessed, there was a 43 per cent decrease of antimicrobials administered via injection, an 18 per cent decrease of antimicrobials administered through water, but an 11 per cent increase in antimicrobials administered in-feed. Overall, that represents a 13 per cent total decrease, moving lower as time goes on.

Heath Canada considers Class 1 antimicrobials as having 'very high



In-feed antimicrobials are most-common.

Antimicrobial usage "Doses" by Drug Class per Calendar Year



Use of Class 1 and 2 drugs decreased over the five-year study, while use of Class 3 and 4 drugs increased slightly.

importance' for human health. The 78 per cent drop in their use over only a handful of years is encouraging. The results suggest that Class 1 drugs are primarily being replaced by Class 3 alternatives, which are much less important for human medicine.

In 2018, Health Canada mandated that all Class 1, 2 and 3 drugs for any use would have prescription status, available only from veterinarians and

pharmacies. An example of a Class 1 drug used in the swine industry is ceftiofur – a pharmaceutical that treats infections in pigs, including bacterial pneumonia caused by *Streptococcus suis*. Examples like these have raised the level of concern over causing antimicrobial resistance and antimicrobial pollution in the environment.

This downward trend of antimicrobial use in Alberta hog production

aligns with the goals of the Global Leaders Group on Antimicrobial Resistance, which was formed two years ago to tackle the problem. The group includes politicians, researchers and private sector representation from across the world, meeting quarterly to advise on prioritized actions to address the matter. Alberta hog producers, it seems, are on the right track in this regard.

CONTINUED ON PAGE 20

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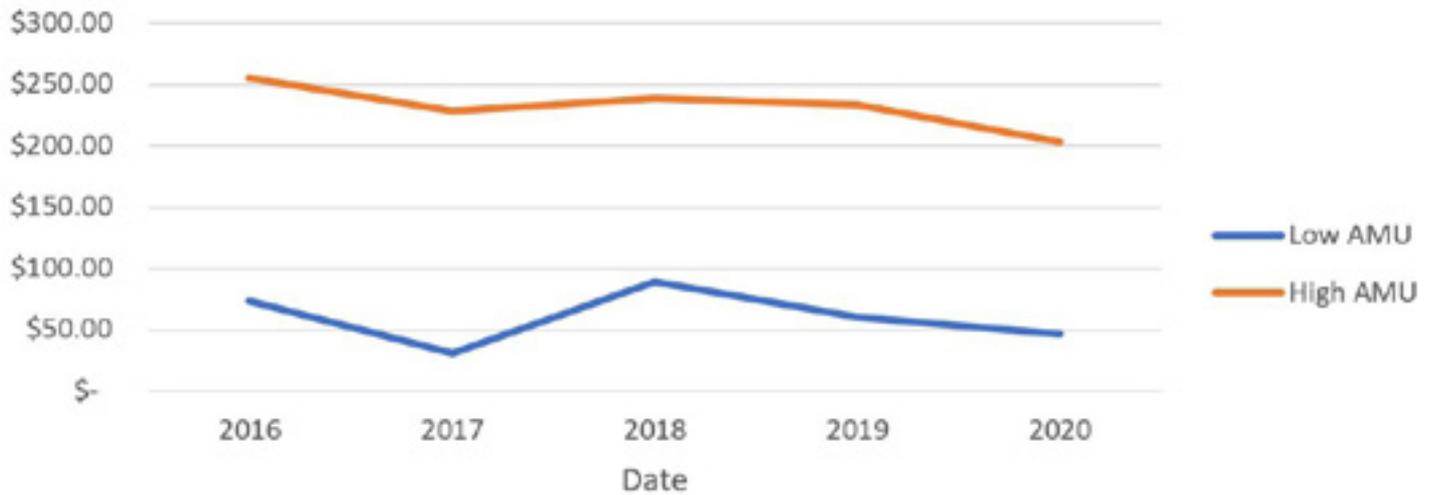
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Average annual Cost per Sow of antimicrobials comparing High vs Low AMU farms by calendar year



In many cases, the antimicrobial cost per sow was three times greater for high-use farms compared to low-use farms.

Antimicrobials add potentially avoidable costs

In today's costly farming environment, anywhere money can be saved is a good thing for producers' bottom lines. While proactive, up-front investments into herd management – such as the use of vaccines – cost more in the beginning, they can certainly pay off in the end. Antimicrobial use, on the other hand, is usually a reactive response to a problem that could ultimately be avoided or lessened.

Costing data collected as part of the study showed a considerable amount of savings for farms with low antimicrobial use. Given the assumption that 27 pigs are weaned per sow per year, a high-use farm with a 500-sow farrow-to-finish operation, as an example,

could end up paying \$80,000 more than a low-use farm of comparable size.

While hog prices are reaching their predictable summer peak, cost of production, likewise, is at an all-time high. Any advantage a producer can get is worth taking.

Biosecurity reduces the need for drugs

Improving animal and human health, cleaning up the planet and saving money are all great, but how can antimicrobial use decline even more, from a practical perspective?

Biosecurity is fundamental to preventing livestock illness and disease in the first place. Internal biosecurity assess-

ments were performed as part of this study to evaluate any correlation between the internal biosecurity practices of individual farms versus those farms' levels of antimicrobial use.

In general, having a higher health status – less disease on-farm – is positive and reduces the need for antimicrobials to prevent negative animal welfare outcomes, but even lower health status farms – more disease on-farm – can still have low use rates. Interestingly, this study established no correlation between health status and the amount of antimicrobial use, meaning that management – not disease status – is a much larger factor in the equation.

When it comes to barn hygiene, most farms are doing a good job in the nursery and farrowing areas, but improved hygiene in the grower section was identified as the area with the most opportunity for reducing antimicrobial use. Ensuring ventilation curves are in place for all areas of the barn can help. Automated ventilation on its own is not enough, and, in fact, ventilation curves were observed as the difference between farms with high and low antimicrobial use.

Stabilizing a farm's overall health is most critical for reducing the need for

| COST PER PIG | | | | |
|-----------------|----------------|----------------|----------------|--|
| YEAR | HIGH AMU FARMS | LOW AMU FARMS | DIFFERENCE | |
| 2016 | \$ 9.46 | \$ 2.73 | \$ 6.73 | |
| 2017 | \$ 8.44 | \$ 1.15 | \$ 7.29 | |
| 2018 | \$ 8.85 | \$ 3.31 | \$ 5.54 | |
| 2019 | \$ 8.66 | \$ 2.25 | \$ 6.41 | |
| 2020 | \$ 7.54 | \$ 1.72 | \$ 5.82 | |
| AVERAGE: | \$ 8.59 | \$ 2.23 | \$ 6.36 | |

The average difference in antimicrobial cost per pig was more than \$6 greater for high-use farms compared to low-use farms.



Automatic ventilation systems with ventilation curves can optimize the barn environment and reduce the need for antimicrobials.

antimicrobials. Limiting the number of live animal entries into the barn and making simple changes such as not giving iron or antibiotics to piglets less than 24-hours-old can help further. This reinforces the value of producers working closely with their veterinarians to optimize disease prevention, control and treatment protocols.

Alberta hog producers continue to improve

Thanks to the cooperation of Alberta's hog producers, the entire industry is

benefitting from paying more attention to the judicious use of antimicrobials. Going forward, Alberta Pork is looking to secure additional funding to advance this research, with the hope of including even more producers and veterinarians. Similar studies from other parts of Canada are contributing to an even wider understanding of the issue, providing additional opportunities to collaborate and share knowledge.

From understanding how and how much antimicrobials are used on-farm, and

by auditing internal biosecurity, farmers can not only operate their businesses cost-consciously but also work toward the noble goal of improving public trust in the industry, which supports everyone across the value chain, all the way down to domestic and international pork consumers.

An even better future for livestock health is within reach, as the industry commits to continual improvement in management practices for all aspects of production, including antimicrobial use. ■

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Remembering Bernie Peet

Former Western Hog Journal editor, Bernie Peet, passed away in late April. Peet had been living in Alberta until recently, when he returned to his native U.K., after retiring as editor and finishing his career, in 2013.

After graduating from university, in 1974, Peet held several prominent positions within the U.K. hog industry, including managing a swine research barn, a commercial hog operation and starting a hog business consultancy. In 1986, he helped develop one of the industry's first electronic feeding systems – a crowning achievement that helped him gain recognition around the world.

In 2001, he was lured to Canada with a sense of optimism surrounding our hog industry. He was quickly recognized for his expansive knowledge and skillful technical communication abilities. Through various positions in Canada, he eventually transitioned to agriculture journalism, leveraging more than three



Bernie Peet

decades of experience. Following retirement, he was given a lifetime achievement award at Alberta Pork Congress.

Peet has left a permanent mark on the hog industry in Canada, the U.K. and globally. His contributions to this magazine will forever be invaluable to its success.

Remembering Bruce Campbell



Bruce Campbell

Pork industry legend, Bruce Campbell, passed away in mid-May, leaving behind a long legacy of commitment to growing the Canadian hog industry.

Campbell grew up on a farm near Chater, Manitoba – just outside of Brandon – and graduated from the University of Manitoba, in 1958. Soon after, he became a livestock feed salesman with Feed Rite Mills and purchased a stake in Landmark Feeds Inc., in 1968. He would eventually become the Landmark's sole owner and would remain with the company until 1999, when the company was sold to Maple Leaf Foods.

Starting in 1982, Campbell founded Landmark's hog production unit, then known as Elite Swine. At the time of Landmark's sale to Maple Leaf, Elite Swine was Canada's largest swine management company, with upwards of 150,000 sows on-farm in western Canada.

Throughout his career, Campbell received many awards within the agriculture industry, his community, province and

country. The University of Manitoba's Farm and Food Discovery Centre currently bears his name, given his ongoing commitment to agricultural education.

University of Calgary vet school receives support

The Government of Alberta announced in early May an investment of more than \$8 million to expand capacity for the University of Calgary's Faculty of Veterinary Medicine. The funding will be delivered over three years.

"Veterinarians and veterinary technologists are pillars, not only of the agriculture industry, but also in the rural communities they serve," said Nate Horner, Minister, Alberta Agriculture, Forestry and Rural Economic Development. "Veterinary medicine is a key sector in our rural economy, and more Alberta-trained vets is a big win for our livestock sector."

Labour forecasts show there is an emerging need for veterinary specialists in the coming years, especially when it comes to livestock and large animals. This investment is expected to increase the existing number of seats in the program by up to 50.

Saskatchewan project tests biosecurity tech

Ontario-based Farm Health Guardian and Sask Pork announced a pilot project in late May to test new technologies that will help producers improve biosecurity and protect their herds from disease. The organizations are collaborating to trial truck movement recording technologies at more than 20 hog farms in the province.

"Pork producers in Saskatchewan, and the entire pork industry, will benefit from the evaluation of the data and results of this pilot," said Mark Ferguson, General Manager, Sask Pork. "The project will include testing 'local area network technology,' which is a specific opportunity for Saskatchewan due to differences in the telecommunications network in the province. It will provide participating producers with information at their fingertips to easily improve biosecurity."



Transportation provides a significant biosecurity risk to hog farms.

Participating farms have been strategically selected for the pilot based on the frequency of vehicle movements.

“We’re pleased to collaborate with Sask Pork on this project, and the response from producers willing to participate has been very positive,” said Rob Hannam, CEO, Farm Health Guardian. “It’s great to see this, because, after all, everyone shares a responsibility to protect our industry, and biosecurity is our best defence.”

Founded in 2013, Farm Health Guardian strives to protect the health and sustainability of the livestock industry and those who work within it, through real-time disease monitoring and response technology platforms.

ASF on the move in Europe

African Swine Fever (ASF) first arrived in Germany in late 2020 and in Italy in early 2022. Since that time, the virus has been spreading in both countries between wild boar and domestic hog farms. A different strain of ASF has been endemic to the Italian island of Sardinia for many years.

More recently in Italy, the virus jumped from the Piedmont region in the north to the Lazio region on the outskirts of Rome in early May, about 700 kilometres away, after being detected in wild boar carcasses. In early June, Italian authorities

confirmed ASF had been discovered at a small farm in Lazio.

In Germany, the virus migrated from the northeastern state of Brandenburg to the southwestern state of Baden-Württemberg in late May, about 700 kilometres away, where it was detected at a small outdoor operation very close to the border with France. In early July, the virus was detected at a medium-sized operation in the northwestern state of Lower Saxony, about 500 kilometres equidistant from Brandenburg and Baden-Württemberg, near the border with the Netherlands. The area is home to a high concentration of farms, including other commercial hog operations.

Meanwhile in Poland, which had been free of any new cases for the first half of this year, in late June, the virus was discovered on three small farms and one commercial operation, all in regions not far from Germany. Native Eurasian wild boar crossing the Oder River from Poland into Germany are considered responsible for the virus’ westerly spread.

ASF risk assessment performed for the Americas

In early June, the United Nations’ Food and Agriculture Organization (UNFAO) released its summary of findings from an investigation into the risk of African Swine Fever (ASF) transmission to the Americas, including North, Central and South America, plus the Caribbean, where ASF was detected in Haiti and the Dominican Republic last year.

The report concludes that the likeliest form of entry for the virus remains

CONTINUED ON PAGE 24

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Qualitative risk assessment for African swine fever virus introduction

Caribbean, South, Central and North Americas

FAO ANIMAL PRODUCTION AND HEALTH / PAPERS 106



This UNFAO report outlines many of the ASF risk factors for the Americas, including Canada.

the movement of illicit pork products (brought to the Americas without proper labelling or testing) or legally imported farm implements like feed from ASF source countries, in addition to human traffic. The import of live pigs, properly handled pork products and livestock feed from non-ASF countries are considered secondary pathways for virus introduction.

Using 2019 data, the report also evaluated the estimated losses of pigs and pork

for selected countries where the hog industry has a significant presence. Using the figure of 14.4 million pigs on-farm in Canada, it is estimated that 4.2 million individuals would be lost, or around 29.2 per cent of the total. For comparison, with 78.6 million pigs on-farm in the U.S., it is estimated that 22.7 million individuals would be lost, or around 28.9 per cent of the total. All countries studied have a similar proportion of estimated losses, regardless of hog herd size.

In terms of prevention efforts, the report reinforces the importance of biosecurity when it comes to protecting farms from exposure to wild boar, in addition to tighter international border security measures when it comes to monitoring for illicit pork.

Most strikingly, the report summarizes the economic impact of ASF on the U.S. this way: “Trade bans on U.S. pork would generate losses to the pork industry of up to USD 15 billion in the case where disease is controlled and bans are lifted after two years, and up to USD 50 billion over ten years in the case where disease becomes endemic.”

Carbon tax exemption could be coming

Bill C-234, an Act to amend the *Greenhouse Gas Pollution Pricing Act*, was tabled in Parliament earlier this year by Ben Lobb, [Conservative] Member of Parliament (MP) for Huron-Bruce (Ontario). The proposed amendment would “expand the definition of eligible farming machinery and extend the exemption to include natural gas and propane for specific uses.”

“A pork farmer in my riding sent me his December usage of natural gas. The natural gas bill for his hog barn was \$11,391 in total,” said Lobb. “The carbon tax was \$2,918, which is 25 per cent of the base bill.”

In mid-May, the bill passed second reading in the House of Commons, with 170 MPs voting ‘yea’ and 143 MPs voting ‘nay.’ Conservative, New Democrat, Bloc Québécois and Green MPs supported the bill, while Liberal MPs did not.

If the bill becomes law, producers across the country will be eligible for a carbon tax exemption on the fuels used to heat barns and dry grain. Based on a study conducted last year, producers in Alberta and Saskatchewan are expected to pay upwards of \$1.65 in carbon tax per hog this year, growing to more than \$5 per hog in 2030, if no exemption is offered. Prior to the second reading of Bill C-234, Alberta Pork asked producers to provide advocacy in the form sending emails and making phone calls to their own MPs.

Biosecurity laws protect animals, farmers and activists

Bill C-275, an Act to amend the *Health of Animals Act*, was tabled in Parliament in late May by John Barlow, [Conservative] Member of Parliament (MP) for Foothills (Alberta) & opposition critic for agriculture. The proposed amendment would make it an offense to “enter a building or other enclosed place in which animals are kept... knowing that or being reckless as to whether entering such a place or taking in the animal or thing could result in the exposure of the animals to a disease...”

“I think this is very fitting with what we’ve seen across Canada with the spread of avian influenza, the possibility of diseases like African Swine Fever,” said Barlow. “It shows us how important it is to protect the biosecurity on our farms and ensure those who endanger our farms and our farm families are held accountable for those actions.”

An earlier bill, Bill C-205, passed with the support of Conservative, New Democrat and Bloc Québécois MPs in the House of Commons last year but was unable to continue on its path to becoming law, as a result of the most recent federal election.

Barlow’s bill was drafted in response to various instances of farm trespassing and transport interference experienced in recent years, including the animal activist invasion of a turkey farm in Barlow’s

own constituency, in southern Alberta, in September 2019. Other notable examples include hidden cameras installed in hog barns in B.C., Ontario and Quebec, along with a fatal incident outside of the Sofina Foods hog slaughter facility in Burlington, Ontario – just outside of Hamilton – in June 2020. Legislation on the provincial level has been introduced in Alberta, Saskatchewan and Ontario for similar reasons.

Ground pork package labelling defeated

Jean-Yves Duclos, Minister, Health Canada announced in late June changes to the *Food and Drug Regulations* under the *Food and Drugs Act*, including the introduction of front-of-package labelling for certain foods high in sodium, sugar and saturated fat.

Leading up to the announcement, some industry groups, including the Canadian Pork Council (CPC), Canadian Cattlemen’s Association, National Cattle Feeders Association and Canadian Meat Council (CMC) speculated that ground meats would be subjected to this labelling, despite an exemption for whole cuts of meat.

In addition to national partners, provincial pork producer organizations sent letters in late May to elected officials urging their support.

“Ground meat, like other whole, unprocessed foods, is an affordable staple in the diet of many Canadians,” wrote Brent

Moen, Chair, Alberta Pork. “In addition, this labelling will create great concern among our export customers who do not label whole foods in this manner.”

In early June, John Barlow, [Conservative] Member of Parliament (MP) for Foothills (Alberta) & opposition critic for agriculture, expressed his concern over the matter in an open letter to the Government of Canada, citing competitiveness issues for producers.

“The United States has already identified this policy as a trade irritant,” wrote Barlow. “With the price of groceries up 10 per cent year-over-year and high inflation compounding production costs for Canadian farmers, now is not the time to add onerous red tape to our agri-food supply chains.”

Nate Horner, [United Conservative] Minister of Alberta Agriculture, Forestry and Rural Economic Development and David Marit, [Saskatchewan Party] Minister of Saskatchewan Agriculture, pledged their support for an exemption. In a show of solidarity, New Democratic provincial agriculture critics, including Heather Sweet, Member of Legislative Assembly (MLA) for Edmonton-Manning (Alberta); Trent Wotherspoon, MLA for Regina-Rosemont (Saskatchewan); and Diljeet Brar, MLA for Burrows (Manitoba), also pledged their support for an exemption.

Grocer profits, inflation rise to record levels

Canada’s Food Price Report for 2022, released in December 2021, predicted a seven per cent annual food price increase for Canadian consumers this year. In mid-June, Statistics Canada reported food price inflation in May, compared to the previous year, was upwards of 9.7 per cent, outpacing general inflation by two per cent. Food inflation was led by cooking oils and fresh produce, followed by meat.

The overall increase represents the greatest single-year jump in nearly four decades. When Statistics Canada surveyed Canadians in April, more than 40 per cent of respondents indicated that food prices had created the most dramatic impact on their personal finances in the past six months – even more than transportation and housing.

CONTINUED ON PAGE 26

C-275
An Act to amend the Health of Animals Act (biosecurity on farms)

Sponsor
John Barlow (Foothills)

Conservative

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Farm trespasses and transport interference in the name of animal activism continue to pose a threat to livestock health; the security of farm families, truckers and plant workers; and protesters’ personal safety.



Among all grocery categories, cooking oil has increased the most in price in the past year. Ukraine and Russia account for more than half of the world's sunflower oil production. War and other supply chain issues have had a measurable impact, even as other oils, like canola, seek to partially fill the global void.

Canada's highest-earning grocer, Loblaw – parent company of Real Canadian Superstore, Zehrs, Provigo and other retail brands – reported a gross profit of \$3.9

billion in its latest quarterly financials, an increase of \$230 million over the same period in 2021, which was an increase of more than \$50 million compared to the

same period in 2020, when the COVID-19 pandemic had just begun.

Canada's second highest-earning grocer, Empire – parent company of Sobeys, Safeway, Longo's and other retail brands – reported a gross profit of \$1.9 billion in its latest quarterly financials, an increase of \$100 million over the same period in 2021, which was an increase of nearly \$250 million over the same period in 2020.

Canada's third highest-earning grocer, Metro, reported a gross profit of nearly \$860 million in its latest quarterly financials, an increase of more than \$10 million over the same period in 2021, which was an increase of nearly \$60 million over the same period in 2020.

Cellular meat grows as plant-based withers

In late May, Ontario-based biotechnology company Evolved Meats announced it would receive \$2 million in financial support from Maple Leaf Foods to develop its laboratory-created, cellular meat technology. Evolved grows whole 'cuts' of

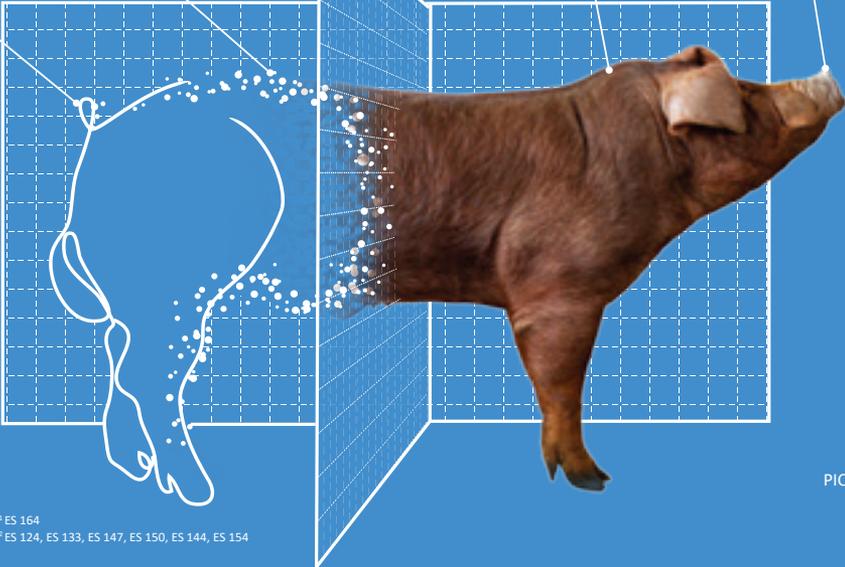


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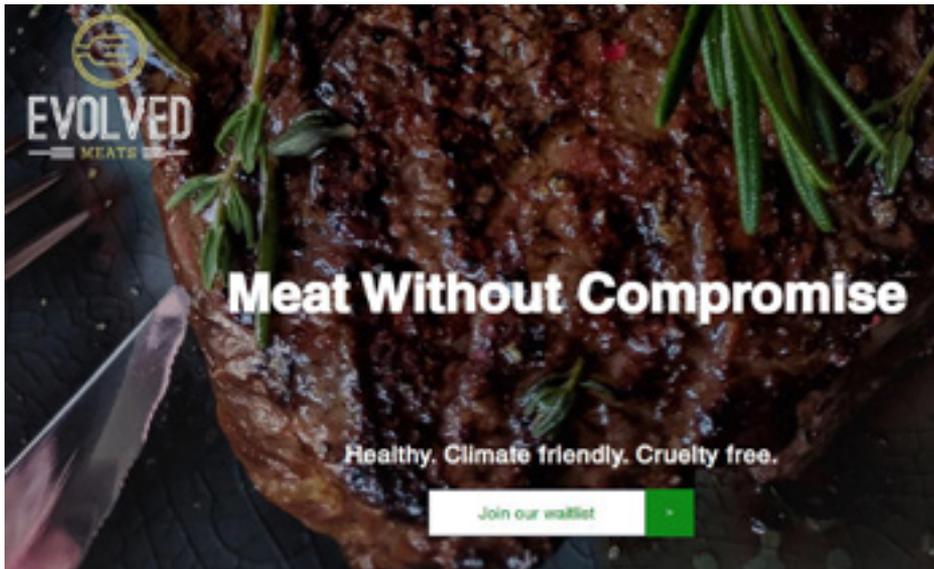


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¹ ES 164

² ES 124, ES 133, ES 147, ES 150, ES 144, ES 154



Evolved Meats, formerly known as 'CaroMeats,' does not offer much information on its website except a 'waitlist.'

meat that mimic conventional cuts from animals. The company's goal is to create a unique production system that gives it the opportunity to become a low-cost operator in the alternative meat market.

"We have a once-in-a-generation opportunity to reimagine our relationship with natural food, and we owe it to ourselves, the planet and nature," said John Cappuccitti, co-founder & Chief Operating Officer, Evolved. "By creating whole cuts of meat directly from cells, we are enabling consumers to enjoy meat without compromise."

Evolved's approach is enabled by provisionally patented innovations in tissue engineering.

"We are committed to supporting promising new technologies with the potential to nourish people and protect the planet," said Michael McCain, President & CEO, Maple Leaf Foods. "We are excited to invest in Evolved, as they pursue their vision to produce cultivated meat."

As companies like Maple Leaf consider investment in cellular meat alternatives, plant-based products have continued on a downward financial trajectory. Earlier this year, Maple Leaf vowed to review its plant-based investments amid growing concerns.

California-based Beyond Meat's stock in mid-June had plummeted to just over \$20 per share, a ten-fold decrease from its

peak in July 2019, when it was worth more than \$200 per share. Similarly, Swedish plant-based milk manufacturer, Oatly, has experienced a decline in the value of its shares from nearly \$30 in June 2021 to under \$5 since March 2022.

Maple Leaf purchased Massachusetts-based plant-based protein manufacturer Lightlife in 2017 for \$140 million plus related costs. Today, Lightlife products are widely available in Canadian grocery stores and carried by major restaurants chains in Canada, such as KFC, Harvey's, Pizza Pizza and Boston Pizza. In the first three months of this year, Maple Leaf reported a \$130 million gross profit from its Meat Protein Group and a \$6 million gross loss from its Plant Protein Group. Last year, the company stated its goal of making Lightlife profitable by 2024.

Feds approve Brazilian pork imports

The Canadian Food Inspection Agency (CFIA) approved imports of Brazilian meat in mid-March, following the removal of restrictions that were originally put in place due to health concerns. Since mid-June, licences under this agreement have been granted to at least eight Brazilian meatpacking plants located in the state of Santa Catarina.

The World Organisation for Animal Health (WOAH) declared all of Brazil free of Foot-and-Mouth disease, with vaccination, in

2018. Santa Catarina is reportedly free of the disease altogether, regardless of vaccination. The state is responsible for more than half of all Brazilian pork exports.

"The activation of these first plants comes at an important moment for the productive sector, given the difficulties faced with the rise in production costs and the need to increase international sales of pork," said Ricardo Santin, President, Brazilian Association of Animal Protein (ABPA). "It is a result of the excellent work performed by the Ministry of Agriculture. It is expected that, soon, new plants will be enabled."

In 2021, Brazil exported a record-breaking 1.1 million tonnes of pork – an 11 per cent increase over 2020, which was the previous highest-recorded year, at just over 1 million tonnes. Top destinations for Brazilian pork last year included China, Chile, Vietnam, Argentina and the Philippines. Brazil is also the world's largest exporter of beef. ■

Exploring the Ukrainian roots of prairie pork

Andrew Heck

When Russia invaded Ukraine earlier this year, many people around the world were appalled at the violence and atrocities. In Canada, the prevalence of Ukrainian identity differs from one region of the country to the next, but on some parts of the prairies, it is inescapable – a fundamental part of the cultural fabric.

Mundare is a town of nearly 1,000 people, located about 100 kilometres east of Edmonton – in the heart of ‘Kalyna Country’ – representing a collection of settlements and other heritage sites demonstrating the Ukrainian presence in east-central Alberta.

Among the most recognizable institutions of the area is Stawnichy’s Mundare Sausage – formerly known as ‘Stawnichy’s Meat Processing’ for many years. The company is recognized for offering many delicious meat products and Ukrainian heritage foods, with probably none more famous than the original smoked sausage ring. Served hot or cold, customers can find it at Stawnichy’s deli in Mundare, at their dual deli-and-restaurant space – Uncle Ed’s Restaurant and Mundare Sausage House – in Edmonton and at many grocery locations across the province. You might even come across it being sold for a minor hockey team fundraiser!

Small-town butcher shops are often held in high esteem by those who frequent them – family, friends and neighbours of those business owners. Stawnichy’s takes that a step farther, penetrating urban markets that have little to no association with Mundare, the town. Thanks to years of hard work and dedication to high quality, Stawnichy’s reputation today precedes it.

A little company with a big reach

Ed Stawnichy began processing meat products on the family farm, starting in 1959. Since then, four generations of his family have been involved in the op-

CONTINUED ON PAGE 30



The Ukrainian Culture Heritage Village is an open-air museum in east-central Alberta, featuring historical buildings and education opportunities in celebration of the area’s Ukrainian character. Image © Ukrainian Cultural Heritage Village



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Like many farm-based families, the Stawnichys have a large family tree, including company founder Ed Stawnichy. This has allowed the company to remain in the family's hands and original location, while also expanding across the province.

eration, including Ed's grandson, Kyler Zeleny, who plays a key role in directing the business.

"My *gido* [grandfather] always had core values for our company," said Zeleny. "My *baba* [grandmother] still works in the shop six days a week, not because she needs the paycheque, but because she loves it."

Zeleny grew up on a farm outside of Mundare and spent plenty of time at the shop over the years. Eventually, he left to pursue higher education, including a PhD, but has since returned to his rural roots.

"I started working in the shop as a teenager, but even when I was younger, it was a bit like the local daycare for us. At one point or another, we've had probably two dozen family members working in this company."

For Zeleny, the success of Stawnichy's is closely tied to Ukrainian identity and mentality.

"Early on, everyone here was Ukrainian. Those pioneers had the same instincts as 'hustle culture' today: you keep moving, you never put all your eggs in one basket, and you remain grateful."

Diversification has always been an important strategy for Stawnichy's to maintain its business.

"We keep our food simple and authentic, but we're always trying to modernize where it makes sense. In the end, it's still

hearty, filling, homemade, family-style food. We're looking at adding additional Ukrainian products to our lineup in addition to new non-Ukrainian products."

Still, the sausage reigns supreme! Over six decades, millions of sausage rings have been smoked. If straightened, each ring measures about two feet in length, which means Stawnichy's has smoked enough sausage to stretch all the way between Mundare and Kyiv, and then halfway back again. That would seem true-to-form for Ukrainians, whose idea of hospitality typically includes very generous portions of food.

"We're privileged to have what we have. We're truly fortunate."

Modern times, timeless products

Stawnichy's does not have its own hog slaughter capacity, but the company does try to source its pork as locally as possible. Often, that means from abattoirs within Alberta but also from other parts of western Canada, when necessary.

"It's difficult, because there aren't as many suppliers out there as we would like," said Zeleny. "I think we need better funding and opportunities for small-



Stawnichy's products are shown here at a grocery store in downtown Edmonton, prominently positioned in a meat department cooler.

er facilities. That provides more options for producers and provides better food security for consumers.”

Stawnichy’s facility in Mundare is the site where virtually all of the company’s products are processed. The facility is part of the provincially inspected system, which means the company is unable to market products outside of Alberta; however, entering the federal system has crossed Zeleny’s mind.

“It’s possible within five or 10 years we would consider it. But I wonder, are we happy with our size? Do we need to get bigger? Growth upon growth isn’t something I believe in. It’s just not who we are.”

As time goes on, Stawnichy’s proliferation of the retail market continues to expand, with more than 190 stores in the province carrying their products. They recently underwent a rebranding of all their packaging, and they are considering the possibility of opening a new deli and restaurant in south Edmonton, to complement their northside location.

“COVID-19 changed things for sure. We had to close our restaurant in accordance with public health restrictions, and our fundraising efforts for local sports teams took a major hit. Like all businesses, we faced higher costs and reduced supplies, which has made it difficult.”

Unmotivated by the prospect of exponential growth and wealth for the family, Stawnichy’s makes a point of hiring local workers, but recently, two refugees from Ukraine were brought on board to work in meat cutting.

“We like to think we’re an integral part of our community and for those who choose to live here. We think small-town life is important. When two Ukrainians approached us not long ago, however, we hired them on the spot. It was a no-brainer.”

In addition to hiring Ukrainians, Stawnichy’s has pledged more than \$10,000 directly in support of Ukraine, while also supporting the local community on an ongoing basis through the Edward E. Stawnichy Foundation, which provides

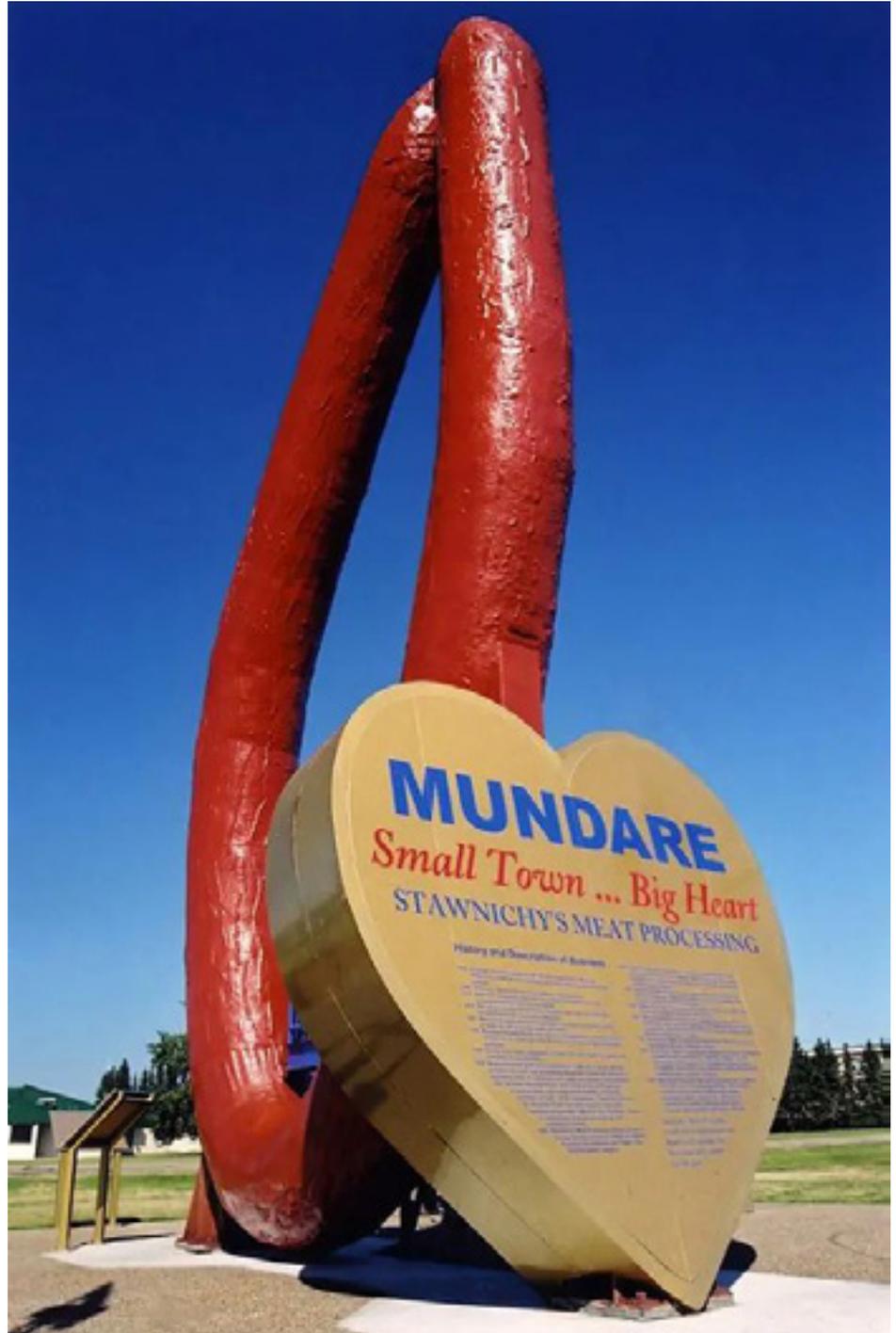
scholarships to area high school students, along with funding other charitable initiatives for local residents.

“We’re happy to feed people and offer a product that has a lot of quality. We’ve been doing the same thing for more than 60 years, and we’re not cutting any corners.”

Mundare is monumental

Just down the road from Mundare is Vegreville – a considerably larger town known for being home to the world’s largest ‘pysanka’ (Ukrainian Easter egg), made from aluminum tiles, constructed in 1975. You may recall seeing it on the front cover of the Spring 2022 edition

CONTINUED ON PAGE 32



Alberta is sometimes called ‘Canada’s Texas,’ affectionately or otherwise. In the case of monuments, the province certainly lives up to the creed of ‘everything is bigger.’



Whether eating in or taking out, Uncle Ed's in Edmonton is home to some of the city's best Ukrainian fare. Good food is central to many things Ukrainian and Canadian.

of the Canadian Hog Journal, published this past May.

Not to be outdone, in 2001, Mundare erected an oversized fibreglass ring of 'kovbasa' (the cold-smoked sausage that made Stawnichyn's a household name). A third addition to the visible Ukrainian presence in the region includes a giant fibreglass perogy in the nearby town of Glendon, built in 1993. While these roadside attractions may seem like gimmicks, they are casual reminders that those communities still feel a loving connection to Ukraine.

"This is the mecca of Ukrainian culture outside of Ukraine," said Zeleny. "The culture is still represented in the local arts, institutions, street signs, businesses, you name it. The cultural complexion has changed somewhat over the years, but the community still remains very Ukrainian."

On the grounds of the Alberta Legislature in Edmonton, a copper statue commemorates the arrival of Ukrainian settlers in the province, in 1891, and on the grounds of the Saskatchewan Legislature in Regina, another statue serves as a reminder of the Holodomor: the intentional starvation of more than three million Ukrainians in the Soviet Union, between 1932 and 1933.

Clearly, in good times and bad, feast and famine are inevitable defining features of being Ukrainian, and the connection extends from all over Canada all the way back to the homeland.

Food unites us all

In a 2010 interview with *Slate* magazine, Anthony Bourdain – the late chef, travel writer and TV host – said, "Food is everything we are. It's an extension of

nationalist feeling, ethnic feeling, your personal history, your province, your region, your tribe, your grandma. It's inseparable from those from the get-go."

Companies like Stawnichyn's are more than just businesses – they are deeply embedded within their communities and cherished by those they serve. For Ukrainian-Canadians, 'traditional' fare like sausage, perogies, cabbage rolls and other staple items not only fill bellies but also cause hearts to swell with pride. When the invasion of Ukraine took place, those hearts – whether in Ukraine or in Canada – began burning with passion.

"With everything that's happened in our world in the past two years, another catastrophe is not what anyone needs," said Zeleny. "We just want to help be a part of the solution." ■



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Driving closer to understanding transport distance impacts

Lexie Reed

Editor's note: Lexie Reed is a food animal veterinarian based in Lethbridge, Alberta. She can be contacted at lexiereedvm@gmail.com.

The impact of transportation on animal health and welfare remains a hot-button issue for the livestock industry. All livestock systems require live animal transport at some point in the system. Further, transportation is the event in which the public is most likely to see and interact with animals in the food system.

The health and welfare effects of this commonplace event are not well understood in many food animal systems, including the practice of transporting weaner pigs. Federal transport regulations in Canada limit the transport time

of pigs to 28 hours. These regulations are based mainly on research on market hogs, not weaner pigs, which differ physiologically.

New research, led by animal behaviour expert Jennifer Brown of Prairie Swine Centre, supported by Swine Innovation Porc, aims to assess the response of weaner pigs under Canadian commercial transport conditions. Brown, in collaboration with animal scientists at the University of Saskatchewan and University of Guelph, investigated physical and behavioural responses of weaners after short- and long-distance transportation.

Brown found that weaners subjected to long-distance transportation lost more of their body weight, experienced more dehydration and spent more time feeding, drinking and sitting after the journey than weaners transported short distances. However, weaners transported shorter distances had more muscle injuries and higher indicators of physiological stress, as evidenced by blood cortisol- and blood neutrophil-to-lymphocyte ratios.

Prairie Swine Centre's research report states: "In conclusion, this study represents the first research in Canada on

CONTINUED ON PAGE 36



Animal transport is one of the most prominent public-facing aspects of the livestock industry. Ensuring welfare has many benefits. But how much of a difference does distance make when it comes to weaner pigs?

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| BioForce® Piglet 32 | Bal. | Bal. | Bal. | Bal. |
| Start Weight (kg) | 5.98 | 8.07 | 7.96 | 7.69 |
| End Weight (kg) | 35.84 | 32.6 | 36.56 | 30.23 |
| Number of Days | 46 | 43 | 46 | 42 |
| Overall ADG (g/d) | 646 | 570 | 622 | 536 |
| FCR | 1.59 | 1.43 | 1.57 | 1.47 |

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|------------------|-------------------------|----------------|--------------------------|----------------|
| | On arrival | 72 hours later | On arrival | 72 hours later |
| Body weight (kg) | 5.7 | 6.4 | 6.1 | 6.5 |

Immediately upon arrival, long-distance piglets weighed less than those travelling short distances, but three days later, the weight gap had narrowed.

the effects of transport on weaner pig health and welfare. Differences in long-distance and short-distance transport were found, but neither treatment was identified as being better than the other.”

Better adaptation takes longer

In this study, short-distance transportation was defined as less than three hours of duration. The piglets transported short distance were weaned at the same time they were shipped. Long-distance transportation was defined as being greater than 30 hours of duration, and in contrast, the piglets in this group were weaned several days before transportation occurred.

While it might at first seem counter-intuitive that the weaners transported a shorter distance had higher indicators of physiological stress and muscle injury, Brown believes that the weaning time, as well as adaptation to transport, contributed to this difference.

“Short-distance piglets were weaned and transported at the same time, so their response post-transportation reflects acute stress,” said Brown. “Because long-distance weaners had a much greater transport time, they habituated to transport conditions and showed reduced levels of stress biomarkers on arrival compared to short-distance weaners. It appears that the

long-distance weaners adapted reasonably well to transport, as they did not clearly show signs of chronic stress.”

While it is difficult to pinpoint exactly where acute stress turns into chronic stress, or where habituation occurs, Brown’s findings suggest that weaners may be adapting to transportation conditions during the added time in long-distance transport.

All pig transportation in Canada is mandated by the *Health of Animals Regulations* under the *Health of Animals Act*. Transporters and producers are held legally responsible under this legislation. Pig transportation is also regulated by the National Farm Animal Care Council’s (NFACC) *Code of Practice for the Care and Handling of Pigs*. While the pig code is not law, on-farm and transport quality assurance programs closely align with this standard. For more than 99 per cent of pigs raised in Canada, entering into abattoirs inspected by



Greater allowances for weaning time and space, and trailer improvements, can all contribute to better welfare.

the Canadian Food Inspection Agency (CFIA), quality assurance guarantees are required.

To pass the Animal Care Assessment (ACA) section of the Canadian Quality Assurance (CQA) program or the Pig-CARE component of the Canadian Pork Excellence (CPE) program, producers must meet the requirements within the code. As such, updates to the code are introduced only following consultation with animal welfare experts. Research such as this project by Brown is designed to eventually find its way into industry standards, which are adopted with public trust and the confidence of international trading partners in mind.

Pre-weaning prior to shipping may have positive effects

While still in the early stages of weaner transport research, Brown thinks this work could impact the industry in three

ways. The first potential impact could be the separation of weaning and transportation events at the farm level.

“Especially for long transport, so that pigs are recovered to some extent from weaning and consuming feed before they are transported,” said Brown. “This would require that sow barns have nursery space to wean into.”

The other impacts concern trailers.

“These results could influence the use climate-controlled trailers, with forced ventilation or insulation, especially in extreme hot or cold temperatures,” said Brown. “The provision of feed, water and rest on trailers is another consideration.”

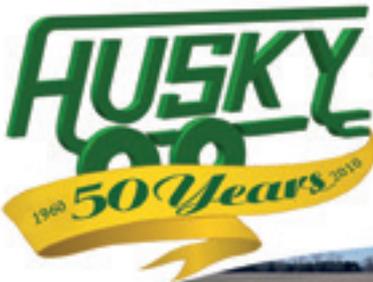
However, Brown cautions that more research would be required in this area before any of those changes could be applied. By further enhancing the in-

dustry’s understanding of weaner transportation, changes to these practices are almost inevitable, thanks to the support of scientists, veterinarians, government and other stakeholders. ■

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