



**FAMILY CONTINUES TRADITION**

24

## SEASONAL INFERTILITY

Management Tools

6

## SUMMER VENTILATION

Preparing Systems

54

## INDUSTRY RESEARCH

Moving Ahead

16

## INFLUENZA CHALLENGES

Control Options

48

Publications Mail Agreement No. 40037298

# Prevention **STARTS HERE**



## Save money and protect your operation

REGISTER FOR THE PRODUCTION **INNER CIRCLE SWINE**  
REWARDS PROGRAM AND GET:

- \$0.20/dose\* on Circumvent<sup>®</sup> PCV-M G2  
and Circumvent<sup>®</sup> PCV G2
- \$0.05/dose\* on Circumvent<sup>®</sup> PCV

REGISTER NOW AT  
[www.innercircularrewards.ca](http://www.innercircularrewards.ca)



\*1 dose = 2 mL

MERCK<sup>®</sup> is a registered trademark of Merck Canada Inc. CIRCUMVENT<sup>®</sup> is a registered trademark of Intervet International B.V. Used under license.  
© 2020 Intervet Canada Corp. All rights reserved.  
CA-CRV-200200001



**1-888-248-4893**

**PUBLISHER & EDITORIAL DIRECTOR**

**PAUL NOLAN** ext 202

Paul.Nolan@BetterFarming.com

**MANAGING EDITOR**

**ANDREA M. GAL, PhD** ext 201

Andrea.Gal@Farms.com

**OFFICE ADDRESS**

52 Royal Rd., Unit A,  
Guelph, Ontario  
N1H 1G3

**EDITORIAL TEAM**

**ASSOCIATE EDITOR**

**JAN KERTESZ**

**CONTRIBUTING EDITOR**

**FRANKLIN CARTER**

**STAFF WRITERS**

**KATE AYERS**

**JACKIE CLARK**

**DIEGO FLAMMINI**

**CONTRIBUTORS TO THIS EDITION**

**MOE AGOSTINO**

**HOLLYN MALONEY**

**ABHINESH GOPAL**

**RICHARD SMELSKI**

**ADVERTISING TEAM**

**GLENN RUEGG**

**JENNY LONGSTREET**

**DESIGN & PRODUCTION TEAM**

**TANYA MYERS**

**SHAUN CLARK**

**GREG MARLOW**

**ANDREA WILLIAMS**

**COVER**

Jodie Aldred photo; Janus de Bekker photo

Better Pork is published six times a year by AgMedia Inc.

**1-888-248-4893 ext 281**

**Subscriptions@BetterFarming.com**

Canadian one-year subscriptions: \$22 (six issues; includes \$2.53 HST). Two-year: \$40 (12 issues; includes \$4.60 HST). Single-copy back issues are \$12 (including \$1.38 HST). U.S. subscriptions: \$39.30 annually. International: \$66.

GST Registration #868959347RT0001

POSTMASTER: Send address changes to AgMedia Inc. 52 Royal Rd., Unit A, Guelph, Ontario N1H 1G3

Publications Mail Registration No. 1156  
Publications Mail Agreement No. 40037298

Copyright © 2020 by AgMedia Inc. All rights reserved. Reproduction of any content without written permission of the publisher is strictly forbidden.

Acceptance of advertising does not constitute endorsement of the advertiser, its products or services, nor do Better Pork, AgMedia or Farms.com endorse any advertiser claims.

The publisher shall have no liability for the omission of any scheduled advertising.

[www.BetterFarming.com](http://www.BetterFarming.com)

A **Farms.com** Company



## LETTERS FROM A FAMILY FARM RESEARCH FUELS AG EXCELLENCE

Across Canada, we're fortunate to be supported by a robust agricultural research community.

This research takes many forms. Companies throughout the industry, including the swine sector, invest significant sums and efforts in research and development.

Some of us participate in research trials on our farms, working in partnership, for example, with a crop protection company or seed dealer to try new or experimental products in local conditions. Other individuals in the community may have a particularly strong drive for innovation and they always seem to be trying something different in their fields or their barns.

The work in academic and research-centred facilities fuels and facilitates the work in commercial operations. And these scientists are dedicated to sharing their findings at the industry level.

At Better Pork, we're fortunate to regularly receive submissions from or interviews with individuals at such institutions as the Prairie

Swine Centre (PSC) and the University of Guelph. This month, for example, Ken Engele and Dr. Jennifer Brown of PSC provide an update on the economic value of enrichment in pig barns.

Given scientists' rigorous methodologies and the high biosecurity standards across the industry, we generally hear about outcomes of the studies at research-centred facilities, rather than the intricacies of the process. After all, we're often – and rightly – focused on our operational goals, whether they be achieving new findings from our research project or producing premium pork.

This month, however, writer Jackie Clark shines a spotlight on this behind-the-scenes research work. She connects with stakeholders to learn how scientists set their research priorities and how these individuals carry out their projects.

We hope you find this article, as well as the rest of this edition's content, informative and engaging. By working together, across all parts of the industry and value chain, we can continue to produce excellent Canadian food and other agricultural commodities.

*Andrea*



The de Bekker family gathers for a group shot in front of the barn, while also respecting physical distancing. From left to right: Brad, Larissa, Janus, Diana, Greg and Sam. See "The love of farming and feeding others" on page 24.

Janus de Bekker photo

yongkiet/Stock/Getty Images Plus photo



## SCIENTISTS AIM TO BOOST PIGLET PERFORMANCE

Scientists at **Agriculture and Agri-Food Canada (AAFC)** in Sherbrooke, Que. are investigating options for micronutrient supplementation in sows and piglets to improve piglet growth and development.

The dramatic improvement in sow productivity in recent years has contributed to a decrease in average piglet birth weight and in the uniformity of birth weight, said **Dr. Jacques Matte**. He is the lead on the project.

Piglet weight has implications for survivability and “the first week of life is determinant for the overall performance of the animal,” he said.

The researchers compared the concentration of micronutrients in sows, newborn piglets, and three-day-old piglets to assess uterine and colostrum transfer of nutrients. Vitamin D, vitamin A and copper don’t transfer well from the sow to the piglets.

So, AAFC researchers tested supplementation methods, Matte said.

“We succeeded to improve the status of the piglets with both (sow and piglet oral supplementation) treatments,” he said. Oral supplements to the sow during gestation and lactation changed the microbiome of the piglet, the researchers found.

Though micronutrient status improved, “we didn’t find differences between treatments” in growth performance, Matte said. The supplementation period was too short to have a long-term effect on animal performance, he hypothesized. **BP**

## RISK MANAGEMENT PILOT UNDERWAY

Hog producers may soon have increased protection and peace of mind, thanks to the work of industry stakeholders and support from government funding.

**Manitoba Pork** is developing a pilot risk management tool to help producers recover from unforeseen circumstances, such as a swine disease outbreak, a February **Agriculture and Agri-Food Canada** release said.

“More and more viruses seem to affect our pigs and the industry,” **George Matheson**, the chair of Manitoba Pork, said to *Better Pork*.

“We have biosecurity programs, but some slip-ups occur now and then. So, it is important to offer producers an insurance policy that might mitigate losses they may have due to disease.

“Major insurers are assessing the risk and assessing the pool of producers who may be interested in participating,” he explained. The insurers are “calculating a premium that will be affordable (while) also providing a significant amount of coverage.”

Researchers are focusing on Manitoba farms, but the project’s results will be applicable to all Canadian pork producers, the release said.

“If it’s successful, the tool (could) be used voluntarily by producers across the country,” Matheson added. **BP**



Tschmister/Stock/Getty Images Plus photo

## PREPARING PORK THIS BBQ SEASON

As the summer arrives, we look forward to local pork grilled on a backyard barbecue.

To help ensure your cookout is the best it can be, *Better Pork* contacted chef **Mike Callaghan** about the trends he’s noticing in pork preparation. He’s the lead pitmaster for **Team Canada BBQ**, which represents the country at international cooking competitions. He is also the chef at **The Chef’s Estate** in Strathroy, Ont.

“We’re seeing a resurgence in people going for a butterflied pork chop or a pork steak. ... (Pork) is really becoming the star of the show,” he said.

Callaghan and his team have won Canadian barbecue competitions and, in 2010, placed third in the ribs category during the **Jack Daniel’s World Championship Invitational Barbecue**.

Callaghan gracious-

ly shared a recipe for a rub based on the one that placed during the international competition.

You will need:

- 2 cups (500 ml) brown sugar
- 1/2 cup (125 ml) kosher salt
- 1/4 cup (50 ml) paprika
- 1 tbsp (15 ml) garlic powder
- 1 tbsp (15 ml) onion powder
- 1 tbsp (15 ml) cumin
- 1 tbsp (15 ml) chili powder
- 1 tsp (5 ml) cayenne pepper (adjust for taste)

You should lightly coat the pork the night before and cook it at 250 F (121 C) for between four and five hours, Callaghan said. **BP**



MarkCillow/Stock/Getty Images Plus photo



**TEAMING UP  
FROM BREEDING  
TO MARKET**

**TAKE ADVANTAGE  
OF ALPHA-SCAN**

A scientific approach  
unique to AlphaGene.

**ALPHA**GENEOLYMEL.com

**Mijanou Bonnier, agr.  
418.569.8210**

# HOW TO REDUCE SEASONAL EFFECTS ON SOWS' FERTILITY



Martin Schwalbe photo

As summer's hot temperatures take hold, here are some preventive measures to take.

Many people happily welcome the summer sun and heat because they think of time spent outdoors swimming, playing and lounging. While farmers also embrace the sun and heat to support field crop and forage development, the summer also brings some livestock management challenges. For hog farmers, seasonal infertility can be a costly consequence of higher temperatures outside and inside barns.

"Temperature is not only impor-

tant in breeding and gestation areas, but also in the farrowing house," says Dr. Glen Almond. He's a professor of swine health and production management at North Carolina State University (NCSU).

"In other words, temperature is important throughout the entire production cycle," he says.

Farmers cannot control the weather or ambient air temperatures. Producers can, however, manage barn settings and feed composition to en-



by KATE AYERS

temperatures approach, farmers should enact measures to maintain sow performance.

sure, for example, that their animals remain as productive as possible during the hotter months of the year.

Hogs with less exposure to stressful environments will perform better than uncomfortable animals, says Dr. Robert Friendship. He's a professor in the population medicine department at the University of Guelph's Ontario Veterinary College.

*Better Pork* speaks with professors, reproduction and management specialists, and veterinarians to learn

about the onset of seasonal infertility in sows and its effect on herd efficiency and business profitability. These experts highlight how producers can reduce the incidence of sow infertility on their farms during the summer.

#### **Causes**

Producers most often experience seasonal infertility in their herds throughout the summer and in the early fall. During this time of the year, farmers might observe such re-

productive problems as anestrus, extended weaning-to-estrus intervals, poor conception rates, increased embryo mortality rates and low farrowing rates, says an NCSU fact sheet, "Management Practices to Reduce the Impact of Seasonal Infertility on Sow Herd Productivity."

The underlying causes of seasonal infertility fall into two camps. Some reproductive specialists attribute the issue to higher temperatures and humidity. Other experts think seasonal

## SEASONAL INFERTILITY

infertility occurs because pigs are inherently seasonal breeders and day length plays a role.

In wild pigs, photoperiod is a key determinant of seasonality in breeding, studies show. Many species of animals use the change in daylight length to determine the time of year when offspring survival is most favourable, says “Effects of Season and Regulated Photoperiod on the Reproductive Performance of Sows.” Researchers published this South African paper in 2009.

While both phenomena can cause infertility, most Canadian farmers house their pigs indoors where producers can manipulate lighting and photoperiod.

Heat stress in hogs can occur when the animals’ internal temperatures rise above their thermoneutral zone, which falls between 4.4 C (40 F) and 21.1 C (70 F), the NCSU fact sheet says. Generally, heat begins to affect sows’ reproduction at temperatures above 26.7 C (80 F), studies show.

Farmers can use rectal thermometers on sows to identify heat-stressed animals, “but this job is labour-intensive and time-consuming for producers and sows may not cooperate,” Almond says.

Alternatively, farmers can “use the respiration rate of sows to determine if they are susceptible to infer-



National Pork Board and the Pork Checkoff, Des Moines, Iowa photo

Year round and especially in the summer, “water consumption is important,” Dr. Glen Almond says.

tility. Generally, the respiration rate of sows is around 20 to 25 breaths per minute. But during the summer, it is not unusual to see rates around 100,” he says.

“The respiration rate of sows indicates if they have increased body temperatures. It’s easier to count respiration rates than to take body temperatures,” he says.

Farmers should watch for pigs that may have elevated temperatures during “late June, July, August and maybe early September,” Almond adds.

Genetics, parity level and body condition all contribute to a sow’s

ability to cope with heat stress. These factors influence the duration of the animal’s recovery.

As a result, farmers might need to provide individual care for animals, but the care depends on the sows’ reproductive resiliency. The effectiveness of management strategies to reduce seasonal infertility varies from farm to farm, depending on operation size and production approaches, the NCSU fact sheet says.

### Susceptible sows

Some females are inherently at a higher risk for infertility, which is augmented during the summer

**HUSKY** 60 Years 1960-2020  
**Husky Farm Equipment Ltd**  
Committed To Quality You Can Depend On!

Also Available  
Lagoon Pumps  
10-12" Pipe Carts  
Truck Mounted Tanks  
Wireless Remote Controls

8-10" Pipe Carts

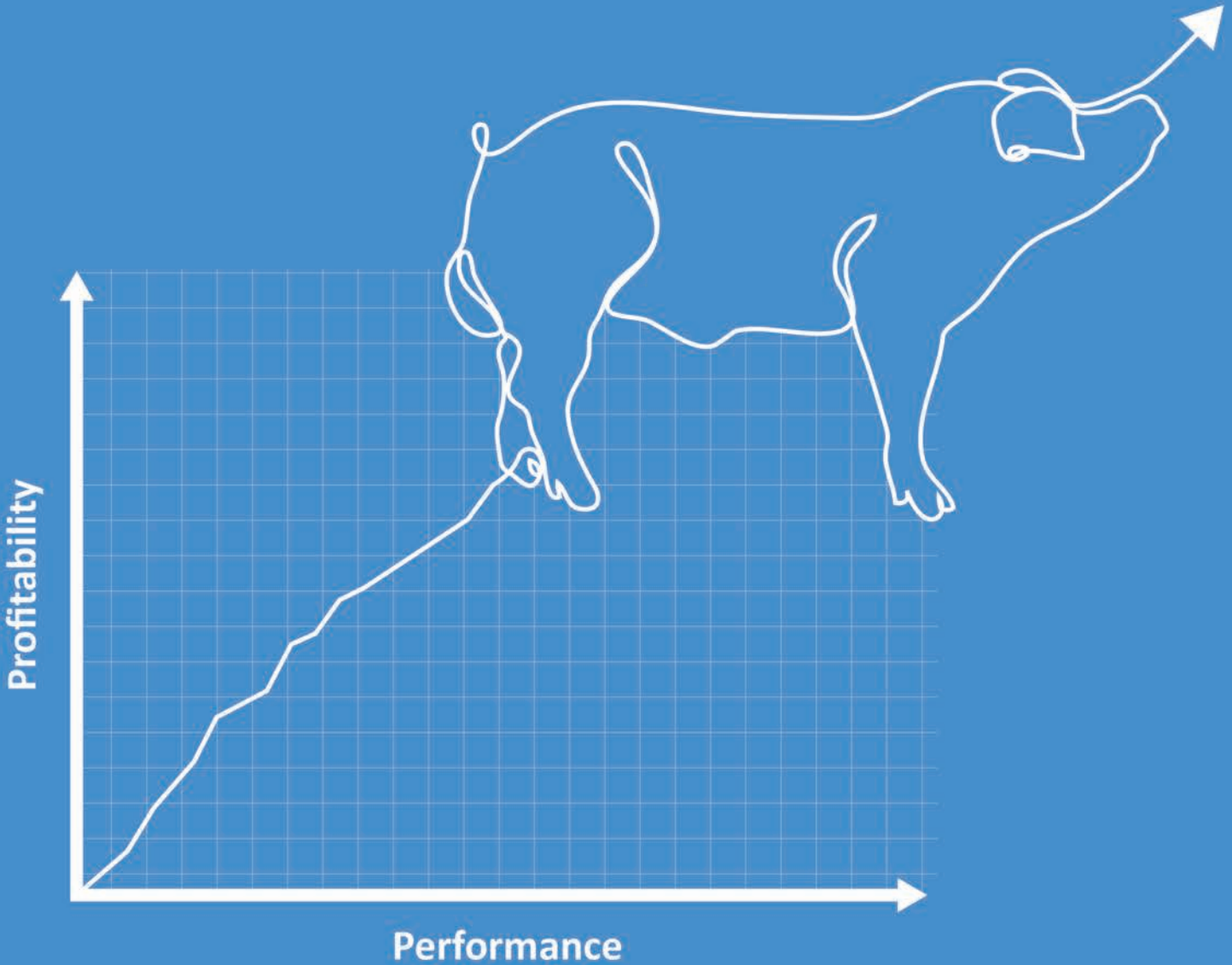
A Complete Line Of Liquid Manure Handling Equipment

husky@huskyfarm.ca 519-846-5329 www.huskyfarm.ca

Twitter



# Reaching uncharted gains.



Never  
Stop  
Improving  
*Performance.*

Off the charts. That's how we describe the most advanced terminal sire genetics. Comprehensive trial data and field results show PIC<sup>®</sup> sires have an average \$2.50 per pig advantage over competitive sire products. Uncharted gains are only a mating away. Contact your PIC representative today.



Lower-quality follicles on the ovaries have “direct effects on production, litter size in the next parity and the quality of the piglets born,” Arno Joosten says.

months of the year.

First-parity sows are generally more susceptible than mature sows to reduced fertility rates, says Dr. Aileen Keating. She’s an associate professor in the department of animal science at Iowa State University.

“If environmental conditions change rapidly – for example, it gets hot and humid suddenly – those animals experience heat stress, which has negative effects on fertility.” First-parity sows often experience “reduced conception rates and loss of the litter early in pregnancy,” she says.

Friendship agrees.

“First-parity sows are still growing and are sensitive to nutritional imbalances,” he says. As a result, some of these animals may be in a poor nutritional state after weaning, and they may take longer to get back into heat.

“So, they don’t fit back into their farrowing group. Even then, they are more likely to have smaller litters or poor farrowing rates,” which can cause production and management challenges, Friendship says.

In addition, gilts may experience delayed puberty in the summer.

These animals “usually come into first estrus from 180 to 185 days of age, but this time frame gets delayed. And the number of gilts that never show estrus will increase too,” Almond says.

“Older sows that are kept beyond parity six or seven” could be less resilient to increases in temperature, says Friendship.

Sows that are too heavy or too thin could be more susceptible to reproductive complications because of heat stress than animals that have healthy weights.

“If the farrowing house is too hot, the sows are not going to consume sufficient feed and they’ll come out in bad body condition. And then you will have post-weaning issues,” Almond says.

Underconditioned sows “may come into heat and get re-bred, or they may not show heat at all for 10, 14 or 21 days instead of after the first week post-weaning,” he adds.

However, “it is difficult to know in advance if a sow will have fertility issues as there are no tests to predict that,” Keating says.

So, “maintaining a good body condition score and good health, in general, is important for good fertility,” she says.

### Economic effects

Sows that are more susceptible to seasonal infertility or poor performance during the warmer months will affect operations’ bottom lines.

“The premise of profitability is driven by the number of females successfully bred per week,” says Dr. Frank

Marshall. He’s a veterinarian and owner of Marshall Swine and Poultry Health Services in Camrose, Alta. Marshall is also a sessional instructor in the University of Calgary’s faculty of veterinary medicine.

Farmers need to hit their breeding targets since these numbers drive net income, he adds.

“Sows are bred, farrowed and then piglets are weaned ... Then the animals are sent to market,” he says. “Running into surprises and experiencing more non-productive sow days can be costly.”

“Infertility in sows impacts overall herd efficiency” in many ways, Keating says.

Some of farmers’ direct and indirect expenses include “feed, vaccinations, labour, barn space, power, heat, etc. If a sow does not get pregnant or even has delays in conception rates, costs add up.”

Producers incur these costs even if a sow does not produce marketable piglets, and infertile pigs can result in a negative return on investment.

For sows that do conceive in the summer, warmer barn temperatures could result in lower weaning weights. In turn, these weights “will affect growth rate and performance in the nursery and finishing barns,” Almond says.

Farmers won’t see the effects of seasonal infertility until November or

# High water absorption capacity increases the time feed remains in the stomach, thereby increasing protein digestibility

The protein in piglet feed is primarily digested in a piglet's stomach. Therefore, the longer the feed remains in the stomach, the greater the potential for nutrient absorption.

"How long the feed remains in the stomach is largely determined by the viscosity of the feed, which depends on the balance between the solid particles and water content of the feed in the stomach. The viscosity is a direct result of the water absorption capacity of the feed. Thus, increased water absorption capacity has a positive impact on how long the feed remains in the stomach," says research director Francisc Molist of Dutch-based Schothorst Feed Research.

An extensive study conducted at Schothorst found that feed with AX3 contains 77% solid particles in the stomach, compared to 58.2% for HP soybean meal and 61.8% for FF LT fishmeal (fig. 1).

The study also found that feed containing AX3 has a viscosity in the stomach of 267 cP, compared to 160 cP for HP soybean meal and 113 cP for FF LT fishmeal (fig. 2). The higher the viscosity of the feed the longer it remains in the stomach.

Increased viscosity slows the emptying of feed in the stomach. A slower flow from the stomach to the small intestine provides the optimum conditions for absorption of dissolved nutrients in the small intestine, reducing the risk of diarrhea.

"More time in the stomach means more time in contact with the enzyme pepsin, which breaks down proteins in the feed and increases their digestibility," says Molist.

Increased protein digestibility improves conditions for the absorption of amino acids, including glutamine, in the small intestine.



## AX3 is far more digestible than soybean meal and fishmeal

AX3 is 15.6% more digestible than HP soybean meal and 20.4% more digestible than FF LT fishmeal. These findings come from studies of piglets 21 days after weaning conducted by Schothorst Feed Research in the Netherlands.

### Protein digestibility (%) in piglets 21 days after weaning

HP soybean meal	71,7
AX3	82,9
FF LT fishmeal	68,6

(Source: Schothorst, Netherlands)

"AX3 has a high water absorption capacity, which extends how long feed remains in the stomach, providing more time to break down protein in the feed," says research director Francisc Molist of Schothorst Feed Research.

Molist suggests that the higher water absorption capacity of AX3 may explain why piglets fed with AX3 have a significantly heavier stomach (140 g) compared with HP soybean meal (125 g) and FF LT fishmeal (110 g) (fig. 3). The comparison was performed by weighing the empty stomachs of piglets 21 days after weaning.

## Glutamine increases piglet health and immunity

The amino acid glutamine plays a major role in the intestinal development of piglets during the critical transition period in connection with weaning.

"Glutamine has a number of important functions. For example, it helps to develop the surface area and weight of the intestinal wall," says Molist.

In the study conducted at Schothorst Feed Research, AX3 showed a content of 114 mg digestible glutamine per kg of AX3 (protein) in the small intestine, compared to 77.8 mg per kg for HP soybean meal and 73.8 mg per kg for FF LT fishmeal.

"As one of the key building blocks of proteins, glutamine is important for the growth of muscle tissue, the maintenance of correct pH balance in the kidneys, and the production of urea," says consulting engineer Gilles Langeoire.

Langeoire explains that glutamine is an important source of energy for immune cells and lymphocytes, as well as macrophages, the white blood cells formed by stem cells in bone marrow that can locate and "eat" bacteria, viruses, fungi and parasites.

## 2:5 Increased growth without zinc

It is important to focus on what happens in the piglet's stomach during the critical weaning period. This fact has been overlooked as the industry made huge advances in productivity over the past decades.

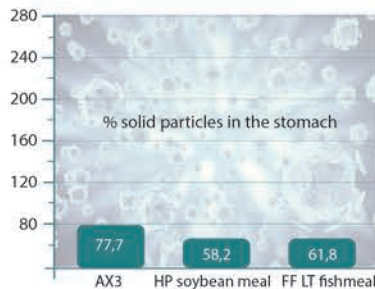
In the next three issues of Better Pork magazine, we explain how a low acid binding capacity in feed can eliminate the need for zinc, prevent diarrhea, and even provide higher growth when combined with high protein

Glutamine also plays a role in the formation of enterocytes – cells that absorb nutrients – and thus an important part in the formation of microvilli, which increase the surface area of the intestine.

"It should also be noted that glutamine is a precursor to nucleotide synthesis, which is the building block of DNA and RNA, and which has a function in the formation of proteins. Glutamine is also a precursor to the production of glutathione, an antioxidant enzyme in cells that neutralizes a number of toxins by bonding to them, after which they are excreted with urine or in the bile," says Langeoire.

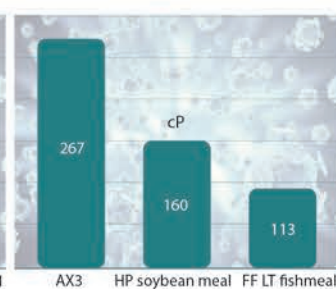
A high glutamine content contributes to increasing the piglet's health and immunity.

**Figure 1**  
Water absorption capacity

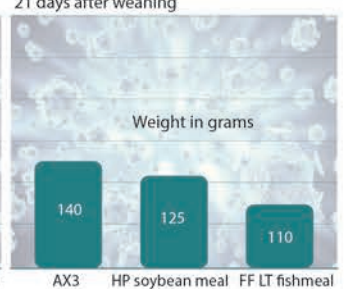


(Source: Schothorst Feed Research, Netherlands, 2019)

**Figure 2**  
Viscosity



**Figure 3**  
Weight of empty stomach of piglets, 21 days after weaning



## AX3 Digest®

- AX3 is a refined protein with a low acid binding capacity, pH 4.1.
- AX3 increases the health, growth and well-being of piglets and poultry.
- AX3 is produced by TripleA according to a refinement process patented by the University of Copenhagen.
- For more information: Contact Protekta Inc. by calling 1-888-822-3135.

*In the next issue, we review the results of a study conducted by Schothorst Feed Research in the Netherlands that compared the digestibility of AX3 with other protein feed substances*



## SEASONAL INFERTILITY

December, he adds. By then, it is too late to mitigate losses. So, producers must be diligent in the spring to manage the issue.

Arno Joosten, a reproduction specialist at Topigs Norsvin in the Netherlands, emphasizes the link that exists between a sow's body condition and her offspring's productivity.

Animals can experience "weight loss during lactation because feed intake during this time is lower," he says.

"When the sows lose too much body weight, the follicles on the ovaries are not of great quality." Lower-quality follicles have "direct effects on production, litter size in the next parity and the quality of the piglets born," Joosten adds.

"Piglets have lower body weights, which could lead to higher mortality," he says.



Arno Joosten

lity," he says. "There is a correlation between piglet body weight and the efficiency of the finisher pig."

In addition, "your stillborn rate may rise from 7 per cent to 9 or 10 per cent. It's hot and harder on the sows to give birth," Almond says. A rise in this rate causes a reduction in the number of pigs weaned per sow per year. The relationship influences farm economics.

### Preventive measures

Fortunately, producers can use management strategies to keep animals comfortable and decrease the number of unproductive sow days.

"Farmers can bring losses under control with good management and supervised farrowing. It just takes more work," Almond says.

"Cleanliness, attention to the body condition of sows and animal illness, and being cognizant of when environmental conditions change are all important," says Keating.

Water systems play an important role in keeping sows cool and healthy

in the warmer months.

Farmers can install drippers in farrowing houses, Almond says. Water lines run "above the sows. When the barn reaches a critical temperature, typically 29 C (84 F), water will drip onto lactating sows, and fans will blow over top of them to facilitate evaporative cooling," he says.

"But these systems can cause a damp environment, which can cause problems with the piglets."

Some producers may decide to use either cooling cells or portable air-conditioning units.

Farmers should check to ensure ventilation systems function optimally to keep air moving and could turn off heat lamps to keep barn temperatures down.

Year round and especially in the summer, "water consumption is important. I encourage producers to check drinkers before sows go into the farrowing house," Almond says.

Farmers should also observe flow rates.

"I prefer a rate of one litre (0.22 gallons) per minute. If drinkers are restricted, then sows' feed intakes will drop, which affects milk production," he adds.

And "you have to make sure that the water is cool," Almond says.

Since sows might not eat as much in the heat, they must consume high-quality food. Feed specialists can help farmers fine-tune rations to meet the animals' needs.

"Nutritionists will want to look at the diets' ileal digestibility values and have amino acid sources balanced," Marshall says. Amino acids should come from a variety of sources including peas, soybeans and canola.

Before a young hog enters the farrowing stage, farmers should "increase gilt gut capacity so that she can consume what she needs," Marshall adds.

Ideally, "we have a big, robust gilt in the farrowing crate and are adding 27 grams (0.95 ounces) of lysine to sow rations ... for every kilogram (2.2 pounds) of gain on the litter," Marshall says.

"She will be able to convert this diet to milk for the piglets (and pro-



**Want to  
reduce antibiotics  
and maintain gain?**

**Feed BSC  
Starter A premix**



**1-800-268-7769**

**LEAN | EFFICIENT | PROVEN**



# CUT THE CRAP.

## ONE DOSE OF BAYCOX® PREVENTS COCCIDIOSIS

A coccidiosis outbreak can permanently damage your piglets' health and earning potential. A single dose of Baycox® (toltrazuril) Oral Suspension is all it takes to protect your pigs – and investment.

- A single dose of Baycox® effectively treats preclinical coccidiosis, preventing scours.
- Baycox® kills the parasites at all intracellular stages, prevents gut damage and reduces environmental contamination.
- Baycox® improves weight gain so piglets can become productive members of the herd.

Ask your veterinarian. Learn more at [Baycox.ca](http://Baycox.ca).



**Baycox®**

## SEASONAL INFERTILITY

duce) four kilograms (8.8 pounds) of milk for every kilogram of litter,” he says.

“We need to take every opportunity to maximize feed intake without backing her off feed.”

During the sow’s lactation, “we might go to three feedings per day, especially for gilts. Or do a larger feeding at night.”

Almond agrees.

At this stage, “producers can do ad lib feeding. Feed early in the day and late at night when the temperature is cool,” he says. This strategy will help set up the sow to recover and return to heat for the next breeding cycle.

Precision feeding can also be an effective mitigation strategy.

“Farmers need to know how much a sow eats every day,” Joosten says.

This information can help producers “feed animals according to their body conditions and make sure sows are getting what they need during lactation.

“RFID (radio-frequency identification) tags can allow farmers to provide exactly what the sows need,” he says. “Feeding stations provide the best results, but the feeders require proper training of the gilts.”

Farmers should also carefully consider when to breed gilts.

To help mitigate a gilt’s typically lower farrowing rate, producers should not breed the animal “too



National Pork Board and the Pork Checkoff, Des Moines, Iowa photo

Water lines run “above the sows. When the barn reaches a critical temperature, typically 29 C (84 F), water will drip onto lactating sows, and fans will blow over top of them to facilitate evaporative cooling,” Dr. Glen Almond says.

young; that is, not during her first heat cycle,” Friendship says.

Marshall agrees.

Operation productivity “goes right back to gilt development,” he says.

“The recommendation is to breed gilts that are at least 136 kilograms (299 pounds) and (are in) their second or third estrus. This (approach) builds the foundation for (animal) longevity and ability to tolerate lactation,” he says.

And if producers want to achieve a 90 per cent farrowing rate, they should divide the number of far-

rowing crates that they want to fill by 0.9 to determine the number of sows that should be bred at a time, Marshall adds. Breeding a few extra sows can help prevent a deficit created by seasonal infertility at the farrowing stage.

Overall, keeping sows comfortable and making pre-emptive management decisions can help you to protect your operation’s bottom line. Consider the effects of seasonal infertility in yearly planning to help keep your animals cool during the summer heat. **BP**

# Stalosan® F



**The powder with the  
POWER TO PROTECT**

Stalosan F shields the entire barn from pathogens that generate disease and ammonia. It attacks bacteria, fungi, viruses and insect larvae – without antibiotics.

[stalosan.com](http://stalosan.com)  **PROTEKTA**  
A VILOFOS PARTNER

# THE POWERFUL, PROVEN PATHOGEN SHIELD.



Expect More



# Hypor Libra<sup>★</sup>

The world's most 'prolific' sow



- Mothering ability
- Heavy birthweight
- Colostrum quality and quantity
- Cross-fostering and milk replacers



More time  
and money for  
you to run your  
business



Contact: Darren Bates (AB, BC, MB, SK 204-799-8888)  
Dom Rowan (AB, MT 403-915-4657)  
Kane Meszaros (SK, AB, MT 306-221-4865)  
Chris Tokaruk (SK, AB, MT, BC 204-509-4941)  
Emmanuel Rabanera (MB 204-381-6709)  
[hypor.com](http://hypor.com)



# THE LOGISTICS SWINE RESEA

curtoicurto/istock/Getty Images Plus photo





# AND ETHICS OF

by JACKIE CLARK

# RCH

Scientists work closely with pork producers, truck drivers and processing plant staff to identify research priorities and fill knowledge gaps.

Swine producers across Canada do the hard, daily work of raising pigs. Farmers care for sows throughout gestation and farrowing, monitor the health of piglets, and feed hogs until they are ready to ship to market. Farm families teach the next generation how to care for pigs, and producers also learn through academic and industry institutions. But where did that knowledge come from?

Many of the animal husbandry practices we apply in the swine industry – from routine vaccinations to feed mixing strategies to loading pigs onto trucks – are developed through years of dedicated research.

Improvements in “biological systems usually are small pieces of information and new findings that are added together to get results,” Stewart Cressman, the chair of Swine Innovation Porc, tells *Better Pork*. Swine Innovation Porc is a national organization that has aided research in the Canadian swine sector since 2010.

*Better Pork* connects with scientists, animal ethics specialists and research coordinators to learn about sector priorities, experiment logistics and the care of pigs used in research to advance the swine industry’s prospects.

## Swine research in Canada

Before 2010, provinces mostly conducted swine research independently, Cressman says.

However, leading up to that year, the provinces started to collaborate on a transportation study, and swine experts had formed the Canadian Swine Health Board to address Circovirus. This disease had inflicted significant losses on the industry since the mid-2000s.

In 2010, “the federal government saw it important that the commodities determine priorities for research significant to the industry. The real impetus came from the provinces seeing the benefit of working collaboratively, and the federal government came to the table,” Cressman says.

So, Swine Innovation Porc organized the federal cluster program. The Canadian Pork Council and provinci-

al pork organizations are members of Swine Innovation Porc.

The organization identifies research priorities for five-year clusters and gets input from industry stakeholders, Cressman says.

Swine Innovation Porc “works with the research community requesting letters of intent. (Then, the organization) narrows (those submissions) down to (requests for) full proposals, and then narrows those proposals down to high, medium and low priorities,” he says. Swine Innovation Porc submits its research plan to the federal government, and officials assess proposals and allocate funding.

Agriculture and Agri-Food Canada (AAFC) and universities across the country also conduct and aid research.

“Universities and AAFC manage a variety of research farms. (These facilities) are designed quite differently from a commercial herd, because they permit (treatment) replication,” Dr. Andrew Van Kessel tells *Better Pork*. He’s a professor in the department of animal and poultry science at the University of Saskatchewan.

Important design components include smaller pen sizes, surgery rooms and metabolism crates which allow for individual nutrition assessments, Van Kessel says. Certain experiments, such as challenge studies in which pigs are exposed to pathogens, require biocontainment facilities. This setup ensures that pigs outside the experiment aren’t exposed to the bacteria or virus in the study.

## Scientific merit and welfare

Before researchers can begin a study, they must prove it has scientific merit and their consideration of animal welfare in their experimental design.

As Canadian research expanded in the 1950s and 1960s, more public concern emerged about animals in research. The Canadian Council on Animal Care (CCAC) formed in 1968 as part of the solution.

“We’re a certification agency. We’ve developed animal ethics and care standards, and then we certify instituti-

ons,” Pierre Verreault tells *Better Pork* in an interview. He’s the CCAC’s executive director.

CCAC officials don’t differentiate the certification process by the type of research. Institutions need the same certification to conduct research on pigs for human health studies as for research on animal husbandry, he explains.

“Every institution that is certified has a local animal care committee,” Verreault adds. These committees review information that researchers submit before the committee approves animal use.

First, researchers need to demonstrate a scientific merit or, if the project is about teaching, they must demonstrate a methodological merit, Verreault says. The merit must justify the use of animals.

Typically, “scientific merit is achieved through the granting process,” Van Kessel says. Because studies are funded through peer-review competition, experiments that would not add knowledge to the pork industry



dusanpetkovic/stock/Getty Images Plus photo

**Before researchers can begin a study, they must prove its scientific merit and their consideration of animal welfare in their experimental design.**

are unlikely to be funded.

After merit is established, researchers “need to submit an animal use protocol (AUP) in which they describe how many animals they will use and what kind of treatment they will apply to these animals,” Dr. Renée Bergeron tells *Better Pork*. She’s an

associate professor in the animal biosciences department at the University of Guelph.

Researchers “need to describe very precisely all the steps of the experiment,” she explains.

Institutional animal care committees evaluate the AUPs using three

## BIOSAFETY OF PLASMA PROTEINS

The biosafety of plasma products is extremely important to APC and to the swine industry. As a company, we make continuous investments in the latest technologies – sometimes they are even exclusive to us – to ensure we are providing the swine industry with a safe product 100% of the time. In fact, we closely follow and mirror the same standards put forth by the World Health Organization for the safety of human blood plasma products.

APC meets or exceeds the WHO standards for each critical step. Specifically, APC:

1. Collects only from healthy animals at federally inspected abattoirs, including the step of pooling plasma for the effect of neutralizing antibodies
2. Conducts testing on every lot of plasma with PCR analysis with an accompanying Certificate of Analysis

3. Ensures product is free of viruses, bacteria and protozoa by processing plasma through:
  - a. UVC light / photopurification treatment\* (the same as used for juices, etc.)
  - b. Spray-drying to 80°C throughout the product
  - c. Holding product in post-drying heat treatment at 20°C for at least 14 days

Each individual step (pooling, photopurification, spray-drying, temperature-controlled storage) reduces any pathogens that may be present by 99.99%. When these four processes are performed one after the other as we do, they virtually eliminate all potentially harmful microorganisms, ensuring the safety and efficacy of APC’s spray-dried products.

For more information about our biosafety process, visit [APCproteins.com](http://APCproteins.com).

\*Denison, IA Porcine and Sublette, KS Bovine facilities

WATCH THEM *thrive*

SWINE | POULTRY | AQUA | COMPANION | RUMINANT | PLANT HEALTH





**We want “to ensure that the research facilities at the universities and federal institutions (aren’t) drastically different from the farm environment,” Stewart Cressman says.**

R principles: replacement, reduction and refinement.

First, the committee considers replacement. “Is there a way you could replace this animal? Do we need to use this kind of animal?” Verreault asks.

Then the committee considers reduction. The committee reviews “the experimental design and statistics (to ask): Is it the right number of animals? Could we use fewer?” he says.

It might be important at this stage to consider using more animals. If the proposed study does not involve

enough animals to get enough statistical power, the experiment can’t achieve the desired knowledge or merit. As a result, researchers might have to repeat their work and use even more animals, Verreault says.

The refinement principle focuses on management protocol. The animal care committee will ask the researcher about the methodology to ensure that every effort is made to reduce pain and suffering, Verreault adds.

Having an AUP approved by the animal care committee “is a condition of funding ... The university will

not open your research account unless you have gone through the hoops, completed your AUP and had those protocols approved,” Bergeron says.

Non-compliance with standards of care for animals kept for research occurs sporadically, but the CCAC is “not a regulatory body, so we cannot fine people,” Verreault says. Anybody with concerns “can either complain at the institutional level” or directly to CCAC staff, who might launch an inquiry.

“It can lead to losing your certifi-



**FERTILE SEMEN DOSES WARRANT CONSISTENCY.**

**This is one of our core operating principles. Here are some of the ways we make this happen:**

- Consistent early adoption of new leading assessment technology
- Disciplined use of globally leading extenders
- Stringent external 3rd party quality control program
- Internal routine bacteriology monitoring of environment and end product
- Actual fertility monitoring of significant subset of Kaslo Bay semen users
- A continued commitment to strengthen and improve current protocols

**Each year more and more sows receive the benefit of a Kaslo Bay dose - should yours too?**



**Kaslo Bay**  
artificial breeders

@KasloAB

Toll Free: 1.866.285.9405

Email: info@kaslobay.ca

cation,” or a CCAC official may visit the institution to provide immediate, short-term or longer-term recommendations, he adds.

### Care of pigs

The CCAC outlines standards for the care and use of farm animals in research, teaching and testing. Dr. Gilly Griffin tells *Better Pork*. She’s the CCAC’s director of standards.

The standards specify require-

ments for facilities, management, transportation, husbandry and safety as well as procedural considerations. The organization also has 19 species-specific guidelines for pigs, including ventilation, flooring, social and enrichment standards.

“We expect the highest standards for animals kept in research institutions, because the public expects a higher standard when animals are being used for research rather than

for food production,” Griffin says. When teaching, “we want students to have the opportunity to see the best practices.”

But there is a challenge. We want “to ensure that the research facilities at the universities and federal institutions (aren’t) drastically different from the farm environment,” Cressman says.

“Our research facilities are very clean and perhaps don’t reflect the commercial situation,” Van Kessel agrees.

Sometimes research must be more directly translatable to commercial operations or conducted at commercial facilities, which are not designed and managed with the CCAC’s standards in mind.

“It is recognized that deviation from these guidelines may be necessary when animals are involved in particular scientific protocols,” says the CCAC’s frequently asked questions document for the care and use of farm animals in research, teaching and testing.

“When research is to be conducted at a site where the conditions under which the animals are held do not meet the CCAC guidelines, the investigator will need to provide scientific justification based on the research goals,” the document says.

So, researchers can also collaborate with pork producers to conduct experiments at commercial operations to advance industry knowledge.

### Working with farmers

Cressman, who operates a finishing barn in Ontario with his sons, has worked with scientists on two swine research projects on his farm. One study compared complex and simple nursery diets, and the other project considered the effects of transport trailer type and transport distance on meat quality, he says.

When conducting research at commercial operations, scientists must be mindful of working in partnership with farmers. This process involves “meeting with the owners and managers and sharing our objectives – what we’re trying to accomplish,” Van Kessel says.



**CANARM**  
AgSystems™

PUTTING INNOVATION TO WORK



CANADA BEST  
MANAGED  
COMPANIES

Platinum member

# CANARM BOOT WASH

## Improve bio-security in your barn with fast, effective boot cleaning





**NEW**

*See it in action at [canarm.com/bootwash](http://canarm.com/bootwash)*

- Durable all stainless steel construction.
- 4 high pressure stainless jet nozzles.
- Easy installation.
- Self cleaning - doesn't hold any foreign materials.
- Open bottom to allow waste water to flow away.
- Fits all boot sizes.

*For safe, happy,  
healthy pigs!*



Visit [canarm.com/agriculture](http://canarm.com/agriculture) or call 1-800-260-5314 for more information.






“We are getting the support of the producers and, of course, entering their facilities with biosecurity in mind.”

Adhering to biosecurity standards and non-exposure times can slow data collection, especially if several sites are involved in a study, but researchers respect the safety of the herds, he explains.

“It’s about trust,” Van Kessel adds. “Folks working in commercial barns are extremely busy and they don’t have time for an additional job.”

“So, we need to be sure the way we’re interacting with producers has minimal or no impact on their normal operations.”

### Types of research

The landscape of swine health and pork production research in Canada is vast.

Some researchers are studying “ways to select pigs that are less susceptible to stress,” Bergeron says. “If we select for pigs that do not react to stressors as much, their overall welfare will be improved.”

She is also researching ways to genetically reduce boar taint to decrease the need for castration.

Other priorities include finding ways to reduce the use of antibiotics, using nutrition to promote health, breeding for disease resistance and improving the well-being of pigs du-



National Pork Board and the Pork Checkoff, Des Moines, Iowa photo

Adhering to biosecurity standards and non-exposure times can slow data collection, especially if several sites are involved, but researchers respect the safety of the herds, Dr. Andrew Van Kessel says.

ring transportation, Cressman says.

Many researchers are investigating the pig gut microbiome and the implications for health and performance. The microbiome is challenging to study because it is complex, vast, dynamic and varies by genetics, environment and nutrition, Van Kessel explains.

So, scientists must approach the topic using various methods. Some researchers are coordinating a national project.

“We are collecting fecal material from sows and their piglets and, in the case of the piglets, at regular intervals from birth to slaughter. We’re

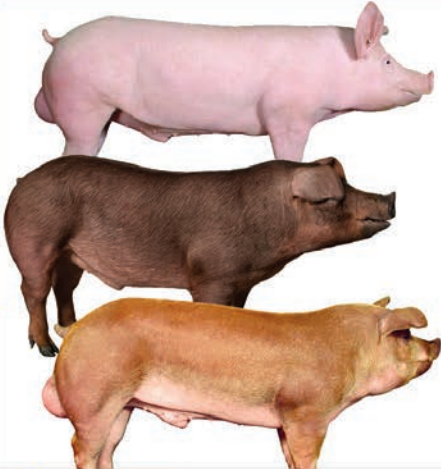
doing that in a number of herds across the country,” Van Kessel says.

“At the same time, (we are) collecting metadata with respect to animal performance and health characteristics,” he adds.

He has also studied the microbiome using a very different method: gnotobiology.

These experiments start with a caesarian section on sows. Researchers remove the piglets immediately from the uterus, give them an iodine bath and put them into a sterile high-efficiency particulate air (HEPA) filtered bubble, Van Kessel explains.

The piglets are given sterile colos-




## Superior Genetics Are Not Developed Overnight


Kaslo Bay is proud to work with a company that:

- Has been improving its portfolio for over 50 years
- Has the ability to gene edit and breed directly for disease resistance
- Directly selects animals for primal cuts, meat pH, marbling, colour, and tenderness
- Remains focused on pressured selection for **economically relevant** traits, while using a multi-faceted approach to drive genetic gain within these traits

*Kaslo Bay’s customers are seeing the gains of this improvement. Call us today to find out how you can realize these benefits on your farm, and in your bank account.*



Never Stop Improving



# Kaslo Bay

## artificial breeders

@KasloAB

Toll Free: 1.866.285.9405

Email: info@kaslobay.ca

## LOGISTICS OF SWINE RESEARCH

trum and feed to allow the researchers to try to study animals without the influence of foreign microbiology.

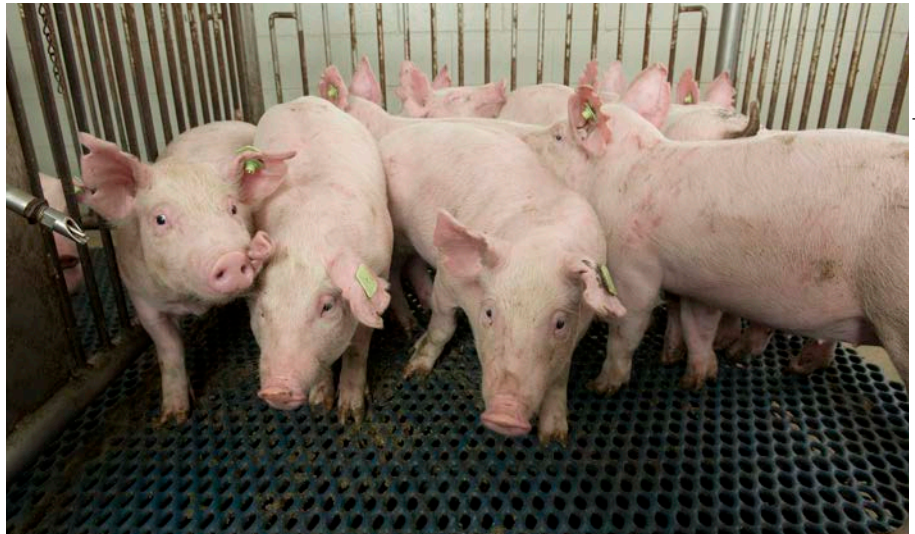
“They’re very difficult experiments,” Van Kessel says. “It’s extremely difficult to ensure that the piglets are germ-free. Bacteria are everywhere.”

Microbiome research is just one example of how studying one component of the swine industry can employ a drastically different methodology. The accumulation of insights from many studies leads to industry improvements, says Cressman.

### Needs and next steps

Swine research continually advances.

“In July, Minister Ernie Hardeman announced a partnership with Ontario Pork to construct an advanced swine research facility with a total investment of \$15 million. (Of this funding,) \$3 million is from Ontario Pork and \$12 million is from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) through the Agricultural Research



Martin Schwalbe photo

“If we select for pigs that do not react to stressors as much, their overall welfare will be improved,” Dr. Renée Bergeron says.

Institute of Ontario,” says Christa Roettele, an OMAFRA spokesperson.

“The Ontario Swine Research Centre will support research in areas such as nutrition, genetics, animal health and welfare, technology demonstration and verification, and food safety.”

Swine Innovation Porc is in the middle of its third cluster program and is beginning to plan for the next one. Research “priorities should be updated on a continuing basis,” Cressman says.

Sometimes, issues arise partway through a five-year cycle, and the or-



## The COVID-19 pandemic is unparalleled and is having a significant impact on swine farmers.

To help the industry, PigCHAMP would like to offer new or current **PigCHAMP Online** users one free year of the **PigCHAMP Mobile** application per online seat. Get the knowledge of your herd and the ability of data entry in the palm of your hand.

\* Offer expires December 31, 2020.



PigCHAMP  
Online

The power of knowledge **from the cloud.**



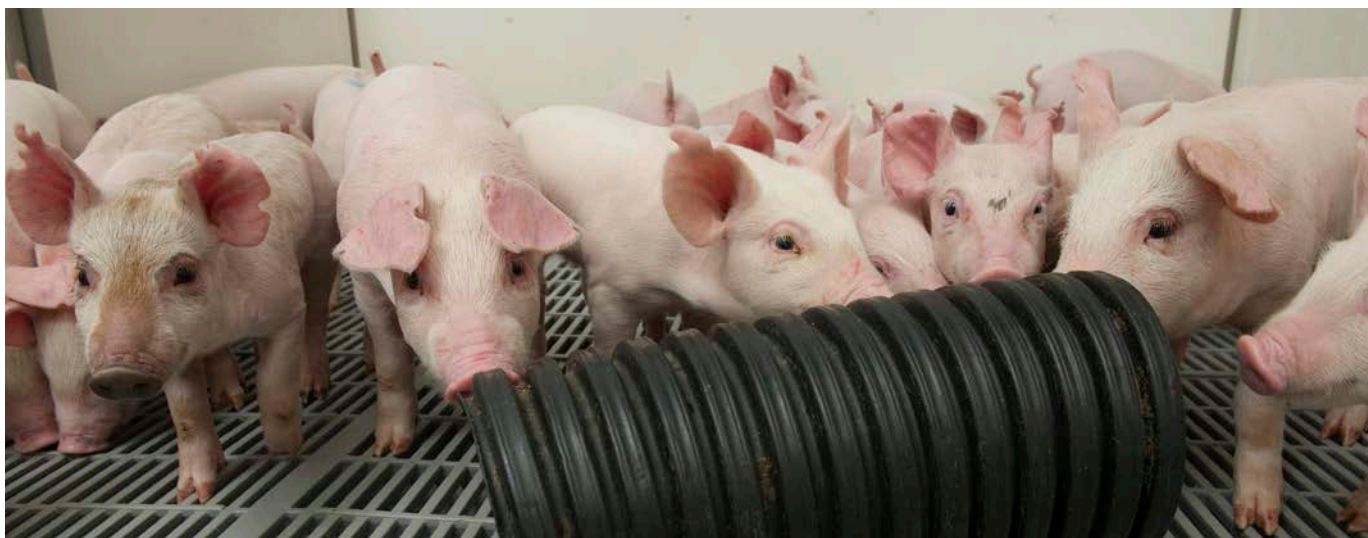
PigCHAMP  
Mobile

For **Android™** and **iPhone®** / **iPad®**

1.866.774.4242

[www.pigchamp.com](http://www.pigchamp.com)





**“The Ontario Swine Research Centre will support research in areas such as nutrition, genetics, animal health and welfare, technology demonstration and verification, and food safety,” says Christa Roettele.**

ganization cannot respond quickly, he explains.

“We hope, similar to the beef industry, to have a national checkoff on imported meat. That would give us funds annually to address issues that come in,” he says.

The organization also hopes to strengthen international connections to ensure that Canadian researchers work with their global counterparts and remain up to date on research underway elsewhere, Cressman says.

“You don’t want to be blindsided by the results (of) somebody else’s research that makes the research you’ve just agreed to fund, or are partway

through funding, of limited value,” he says.

Similarly, the CCAC strives to address timely concerns.

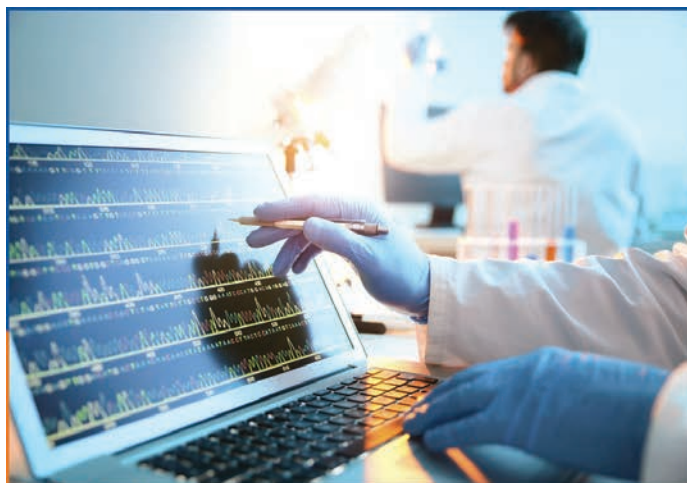
“We have a process for maintaining our standards. Periodically, we evaluate them in house,” Griffin explains. The “standards committee decides whether they need to be fully redeveloped or whether they need to go out for expert review.”

The organization continues to protect and improve the welfare of the animals used in research.

“Using animals in science is a privilege; it’s not something you’re entitled to,” Verreault says.

Dedicated staff maintain and care for research herds, but industry stakeholders can’t expect facilities to be self-funding, Van Kessel says.

“Researchers pay access fees for access to animals and the (staff) sell some pigs. But the facilities are just not designed for high throughput commercial operations, and they could never be financially sustainable on their own without the support of universities and governments,” he explains. “Those facilities are expensive to operate and absolutely critical to continuing research and to supporting the Canadian swine industry in remaining competitive.” **BP**



### Cornerstones of the Kaslo Bay health program:

- The only single-sourced boar stud in Ontario
- Overseen by 3rd party veterinarian
- Biosecure location in low pig density area
- Stringent routine diagnostic monitoring program
- Hands-on day to day management by ownership
- Robust track record since beginning operations in 2003



**Kaslo Bay**  
artificial breeders

@KasloAB

Toll Free: 1.866.285.9405

Email: info@kaslobay.ca



by  
**KATE  
AYERS**

# THE LOVE OF FARMING AND FEEDING OTHERS

Two generations work together closely to keep the family farm running smoothly.



Janus de Bekker photo

Janus (left), Greg and Brad de Bekker (right) stop for a quick group shot.

Farming is a family affair at Yorkland Farms Ltd. in Elgin County, Ont. and the de Bekkers strive to continue the tradition. Janus and Diana de Bekker proudly work alongside their sons Greg and Brad in the family's cash crop and pork operation.

However, Janus had to work hard for many years to get his family's operation to this point. As a child, he had dreamed of owning and operating a farm. But, due to urban sprawl, he had limited opportunities in the Netherlands.

Janus grew up in a rural village, helping in his uncles' dairy and hog operations and Janus attended an agricultural college. The only piece missing in transforming his dream of farming into reality was available

property in the area.

In 1981, Janus visited Canada as a 19-year-old exchange student. He got a job milking cows, met his wife Diana and settled near St. Thomas, Ont. The pair married in 1986 and they began farming together a few years later.

The de Bekkers farm a property purchased by Diana's grandparents Peter and Antonia Vanderwyst in 1958 after this first generation emigrated from the Netherlands.

In 1962, Diana's parents Peter and Ria Vandebroek took over the farm.

Janus and Diana began managing the operation in 1989 with Diana's brother Brian and his wife Patti Vandebroek. These business partners ran the family farm together for

about 25 years.

In 2017, Greg and Brad returned to the family operation. "So, Brian stepped out to make room for the next generation," Janus says.

Greg and Brad "are now partners in the business."

Greg studied landscape design and horticultural management in college. Upon completion of his degree, he worked for a large landscaping company.

Brad has a degree in health informatics and data management. He worked in Toronto for an Internet health company.

After working off the farm for a few years, both sons decided their passions lay in farming.

Now, the de Bekkers run a 330-sow



farrow-to-finish operation and grow 1,250 acres of crops. The family produce most of the feed for the pigs through the farm's corn-soybean-wheat rotation.

"We use all the corn and quite a bit of the wheat to feed the pigs," Janus says. The family sell their soybeans and buy roasted soybeans for feed, he says.

While Janus is still heavily involved in daily operations, he looks forward to Brad and Greg learning and taking on some of his roles. The family are in the midst of a slow and steady transition process to ensure they've checked all the boxes, and Janus is not done with farming yet! He enjoys the lifestyle that farming provides and is fulfilled by the fact his family helps feed the world safe, nutritious food.

### How many people does your farm employ?

Three full-time family members and three part-time workers.

We have a student who helps with some of the chores. My brother-in-

law Brian helps on the farm during planting and harvesting. And we have another part-time employee.

### What are your roles on your farm?

I am the go-to guy and the dad.

I am involved in the barns and the fields. I still do most of the financial paperwork but I am trying to involve the rest of the family as well.

### Hours you work per week?

During a normal week, I would say between 50 and 60 hours.

When it's cropping time, I work until the work is done. So, I could work up to 100 hours.

### Hours in the office per day?

I tend to work in blocks, so one whole morning or afternoon.

### What are some items that are on top of your desk?

A quote for a new feed mill, a cheque book, a computer, and some bills and paperwork.

### Email or text?

I usually check my emails at the end of the day.

I just got a smartphone about a year and a half ago.

Before that, I had an old flip phone, but the new generation said I had to modernize.

Texting is OK. I have to text because that is all my boys do.

So, I'd rather text than email but I'm one of those people who prefers to pick up the phone and make calls to connect with people.

### Any favourite apps?

I use WhatsApp to communicate with my family in Europe.

And I check the Weather Network app quite regularly.

### What role does social media play in your daily life?

On my phone, none. I don't have Twitter, Instagram or Facebook.

At home in the evening, I use my tablet to check social media. But I don't spend much time looking at it.

**DEMETER**  
Veterinary Services Inc.

With **Demeter**, you benefit from the expertise, innovation and strength of nearly twenty veterinarians covering Canada from coast to coast. Our team shares their experience and knowledge in order to optimize our on-farm recommendations and actions. Offering quality service for almost 15 years in other provinces, we are pleased to be working with Ontario producers for over 6 years now. **Our Ontario vet team is looking forward to meeting you!**

**MYHEALTHFILE**  
Online orders, lab results, vet reports, and more, filed and accessible anytime!

**R & D**  
Our team works on many projects to improve health, management and animal nutrition.

**LABORATORY**  
Our customers benefit from a complete range of analyses meeting the needs of swine production.

**PHARMACY SERVICE**  
Wide selection of medications and essentials shipped to your farm the next day.

*The Demeter team, at your service*  
**YOUR HERD HEALTH IS OUR BUSINESS !**

Call us at **1-877-847-5477** or visit **demetersv.com**

Dr. Martin Bonneau   Dr. Sylvain Messier   Dr. Ryan Tenbergen   Dr. Allister Scorgie

Janus de Bekker photo



The de Bekkers run a 330-sow farrow-to-finish operation and grow 1,250 acres of crops.

**What do you like best about farming?**

You're self-employed. You always have challenges to face.

I love working with nature, animals and crops.

And of course, you are feeding the world. You're providing a service for the public.

**What do you like least?**

The uncertainty.

During the last year and a half to two years, we've had to deal with different climates. Not just global warming but different political and economic climates that we have no control over.

When the boys came home, we knew we had to invest in the operation, so we have been investing heavily in field equipment and the barns to modernize the facilities.

We tried to set out a budget and five-year plan, but we had to reconfigure those plans due to China refusing Canadian pork last year. This year, the railroads are affecting hog and grain prices. These are all outside factors that we have no control of, which is really frustrating.

**What does your family think of farming?**

My direct family are all in it.

My family in Europe is also a farming family, so everyone knows what farming is all about.

**What's your top tip about farm transition planning?**

The key is communication.

You have to communicate. Take

time to meet and to throw ideas around about how you are going to set up the process. You have to talk about all the options.

You need to get the right professionals involved. When we started, we worked with a great group of local people. Transition planning is not cheap but these professionals set it up right and make sure all the I's are dotted and the T's are crossed.

And the older generation has to be very open to ideas that the younger generation wants to bring to the table. You need to give them some free range and accept that they'll make mistakes. That is how they learn.

**What's the most important lesson you've learned?**

You need to listen.

Sometimes I have a tough time accepting that. (Laughs.)

And, especially in farming, you need to accept challenges.

**What's your guiding management principle?**

Even though a lot of things can be out of your control, you always have to try to make improvements.

Whatever task you do, it should be as good or better than the previous task you did.

**What's your top goal?**

To be happy and healthy and do the best that I can.

**How do you define success?**

You have your family, your health, a roof over your head and food on the table. What else can you ask for?

**What are the biggest challenges you face in the industry and how have you addressed them?**

Environmental climates are hard to adjust to, but you can make some adjustments to how you produce crops.

You may need to change your crop rotation when you have to deal with weather challenges.

On the economic side, all you can do is try your best.

Make sure that your animals are looked after so they can look after you. Make good cropping decisions so you can get decent yields, and you can maybe forward contract some crops if you see an opportunity.

**Are you involved in any committees, associations or volunteer efforts?**

I was involved in the local soccer club, but I stepped away from that two years ago. I was president and did some coaching.

Presently, I am involved with our local church. I am a member of our parish board.

I was also recently asked to serve as an alternate for our local pork association.

**If you could send a message to non-farmers, what would you say about the industry?**

In large parts of the world, farmers are producing very healthy food for people to consume.

Farmers are trying their best to produce a healthy crop or animal. We are only 2 per cent of the total population.

It is not easy to continue to farm

and prosper but many non-farming people don't realize the challenges that farmers face.

### If you weren't a farmer, what do you think you'd do for a living?

That thought never came to me.

Ever since I was a child, I have always wanted to farm.

I want to farm with my boys for quite a while yet.

### How do you support your mental health during the busy times of the year?

Our farm is busy at all times of the year with livestock – 24 hours a day and seven days a week.

My family and faith are big support systems. I fall back on both of them when dealing with stressful times.

### What are your hobbies or recreational activities?

I love to curl during the winter.

And I like to read.

In the summertime, my wife and I like to take walks on different trails or beaches.

### What was the last book you read?

I am reading *My Life* by Bill Clinton. It is his autobiography.

I picked it up because Bill Clinton was impeached and, since Donald Trump was involved in an impeachment recently, I wanted to read what Clinton's take of the situation he faced was.

### How often do you travel?

The last year I travelled quite a bit.

Now that the boys are home farming, I like to travel at least three weeks of the year.

### Where did you last travel to?

My wife and I went to Mexico for a week.

### Is your farm vehicle messy or neat?

We have a couple of farm vehicles in our family.

One truck is usually fairly neat and one truck gets pretty messy. It goes back and forth between farms.

### What was the last piece of equipment you bought for your shop?

We bought a new power washer for our shop.

### What's the best time of day?

I like the morning, evening and lunchtime.

I don't really have a particular time of day that I love.

They're all good.

### What were your most memorable production years? Why?

I would say the years 2018 and 2019.

In the spring of 2018, we had a terrible wheat crop due to winter kill and we had vomitoxin in the corn that fall. We had to destroy our entire corn crop and purchase all our feed. But it was also the first year that our boys were full partners in the farm.

In 2019, we had some of our highest soybean and corn yields. **BP**



## BABY PIG PELLETS

### Specialty pellets with your pigs, and your bottom line in mind!

#### Quality

Very few fines, and piglets love them!

*Mini Pellets*



*Regular Pellets*



#### Performance Targets (6-25 kg)

Feed Conversion - 1.40

Average Daily Gain - 450+

#### Price

Give us a call, we have the right feed budget to meet your needs

### CONTACT KENPAL TODAY!

Kenpal Farm Products Inc., 69819 London Rd, RR #1 Centralia, ON, N0M 1K0  
Tel: 519-228-6444 • Toll Free: 1-800-265-2904 • Fax: 519-228-6560  
kpalen@kenpal.on.ca • www.kenpal.on.ca



by  
**DR. HOLLYN  
MALONEY**

# PIGLET PROCESSING TECHNIQUE AND HYGIENE

Employ good processing techniques for the short- and longer-term benefits for your herd.

Dr. Jessica Law photo



This piglet has severely swollen joints. Bacteria from infected processing sites can travel through the blood to joints and cause swelling.

Producers, in consultation with their veterinarians, need to complete many procedures in the first few days of a piglet's life.

Piglet processing can include umbilical care, injections, castration and tail docking. Each procedure produces a site where infection may occur. Therefore, proper technique, equipment maintenance, and hygiene are essential to improve piglet survivability and performance later in life.

## Umbilical care

We trim a piglet's umbilical cord to reduce the risk of trauma and infection. Once the cord is completely dried, trim it to a length of two to five centimetres (0.8 to 2.0 inches). The drying process closes the vessels in the cord and prevents bacteria from travelling up the cord and causing an infection.

If the cord is too short, then bacteria can enter the animal's body and cause an infection. If the cord is too long, then the piglet may step on it

and cause trauma.

Clip the cord with clean, sharp side cutters. During processing, dip your side cutters in disinfectant between each piglet. Discard these tools as soon as they become dull. Then, spray the area with iodine.

Umbilical infections reduce the ability of the tissue around the cord to heal, which makes the pig more likely to develop an umbilical hernia later in life.

## Injection and medication administration

Give piglets iron injections within 72 hours of birth to prevent iron deficiency. Use a 20-gauge, 0.5-inch needle to inject the iron into the muscle of the neck.

Please refer to your veterinarian's protocol for the correct dose based on the product you use.

Prior to injecting, use your thumb to stretch the skin over the muscle just behind the piglet's ear and in front of the shoulder blade. Then, insert the needle and inject.

After injecting, release the skin. It will move back into place so that the hole in the skin does not line up with the hole in the muscle. This action will reduce the leakage of iron from the injection site.

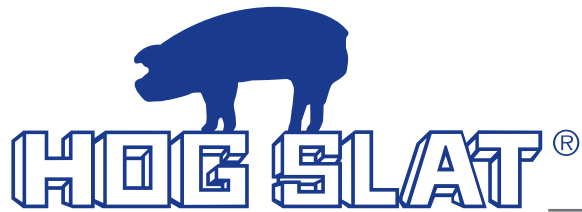
Some leakage may still occur. If the leaked iron creates a dime-sized stain on the piglet's skin, then give the animal a second dose. Piglets that are iron deficient will grow slowly and become pale and weak.

Change your needle between each litter, or if the needle becomes dull or barbed, to prevent abscess formation.

You will also need to administer pain control prior to tail docking and castrating piglets. Your veterinarian will assist in selecting a product for your farm.

If you use an oral drug, monitor how much the piglet spits out. If the animal only swallows half the dose, then administer a second full dose.

Disinfect oral applicator tips with the rest of the processing tools and change these tips at the end of every week.



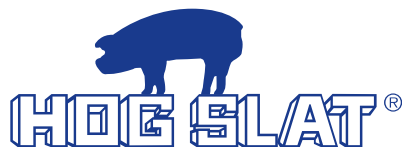
*Get More.*

---



## *Answers*


You can rely on us for answers to your toughest questions. The Hog Slat team of employees is knowledgeable about every aspect of poultry and hog production. For 50 years, we've built our business on this knowledge and on our continuing commitment to provide our customers with the best production equipment for their farms.



5458 Line 34 | Mitchell Ontario, N0K1N0 (Formerly Newtech Ag)

**Stop in or give us a call**  
519.348.8483

©2020 Hog Slat, Inc. All rights reserved.



Keeping it **Real**

We are grateful to our customers, our partners, and our front line staff during this COVID-19 Pandemic.

Loyalty and trust is more important now than ever, and we know it goes both ways. As we navigate this ever-evolving reality, we continue to focus on maintaining the quality and service that you have come to know and trust.

Top Genetics. High Health. Superior Technology.

**Carlo Genetics**

Leaders in Science *for Swine Genetics*

www.carlogenetics.com  
Toll-free: 1-866-355-4012



This tail is cut too short and is infected. The redness, swelling, and failure to heal all indicate infection, which is more likely to occur when the tail is too short.

### Castration

Ideally, you should castrate a piglet before it is seven days of age. If you castrate a piglet after 10 days of age, then you must administer an anesthetic.

Prior to castrating a piglet, ensure that both testicles are present. Mark ridglings and recheck them a few days later. If both testicles are still not present, then you should euthanize the piglet immediately.

Once you have identified both testicles on a piglet, you can isolate them between the thumb and forefinger. Then, cut the scrotum over the testicles with two small vertical incisions. Next, remove the testicles individually with a swift, steady tug. If you pull the testicle too hard, you may cause a scrotal hernia.

Cut away any cord that hangs out of the incision to prevent bacteria from entering and causing an infection. Gently press the edges of the incision together to promote healing, then spray the incision with iodine.

Change the scalpel blade every five litters or sooner if it feels dull. During processing, dip your scalpel in disinfectant between each piglet. If the scrotum is contaminated with feces, wipe the area with clean paper towel prior to cutting.

### Tail docking

The goal of tail docking is to cut each tail to the same length to reduce tail biting later in life. A good target is 11 millimetres (0.4 inches).

You can use a sharp pair of side cutters or an electric tail docker. If you use electric cautery, ensure the blade is red hot prior to docking each tail. It takes about five seconds for the blade to return to the correct temperature after each piglet. Brush the blade of the docker between ev-



----- LICE  
(*BOVICOLA BOVIS*)



----- DARKLING BEETLE  
(*ALPHITOBIVS DIAPERINUS*)



----- STABLE FLY  
(*STOMOXYS CALCITRANS*)



----- SHEEP KED  
(*MELOPHAGUS OVINUS*)



----- HOUSE FLY  
(*MUSCA DOMESTICA*)

**FACT: PARASITES DON'T JUST  
ANNOY LIVESTOCK – THEY AFFECT  
YOUR BOTTOM LINE.**

Uncontrolled parasites and flies can dramatically reduce your herd's feed efficiency, growth and productivity. Bayer's Integrated Pest Management Solutions can help in the rotation of chemical groups, to keep your animals healthy and your operation profitable for the long term.

- **NEW Annihilator POLYZONE®** insecticide
- **Credo® SC** insecticide
- **CyLence®** Pour-on insecticide
- **Debantic® 50 WP** insecticide
- **QuickBayt®** granular fly bait
- **Tempo® 20 WP** insecticide



Ask your veterinarian or ask for Bayer's IPM solutions at your farm supply retailer. For more information call 1-888-663-5326.



## HERD HEALTH

ery five litters or earlier if it is dirty.

Try to avoid putting tension on the tail when you are holding it to cut. If you stretch the tail when cutting, less skin will remain on it which will reduce healing. After cutting, spray the tail with iodine.

### General hygiene and sanitation

Process healthy litters first. Note litters that are scouring and return to them after you have processed the healthy ones.

You can delay processing fallbacks to reduce stress. Make a record of these piglets and either process or euthanize them by seven days of age.

After processing, clean and disinfect all your tools. Disassemble syringes and injectors prior to cleaning. Scrub all tools in warm, soapy water to remove blood and debris.

Then, rinse the tools with warm water and soak in disinfectant for at least ten minutes. After soaking, rinse and place the tools on a clean towel to dry. Once dry, store your processing tools in airtight containers designated



Dr. Jessica Law photo

**This type of airtight container is appropriate for storing processing tools after you have cleaned, disinfected and dried them.**

for this purpose.

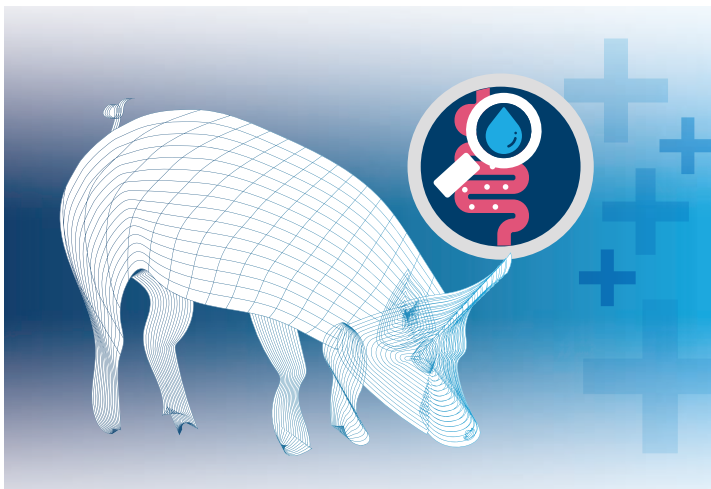
Two days after processing, check the tail, castration site, and umbilical cord for signs of infection. The area may appear swollen or red and not heal properly if an infection is present. Please refer to your veterinarian's treatment protocol if infection occurs.

Taking the time to perform good processing techniques and hygiene will reduce pre-weaning mortality and improve performance. **BP**

*Dr. Hollyn Maloney is a veterinarian with Prairie Swine Health Services in Red Deer, Alta.*



## Reducing water pH, increasing benefits



Selko® ProHydro is a part of Trouw Nutrition's Swine Gut Health program, focusing on microbial control, reducing antibiotic use and enhancing animal performance.

**Ask your sales representative how Selko ProHydro can protect pig performance and your profitability.**



[www.trouwnutrition.ca](http://www.trouwnutrition.ca)

**trouw nutrition**  
a Nutreco company



2000  2020

# CANADA'S PORK MAGAZINE TURNS



The trusted source for pork producers, since 2000.

*Better Pork* readers rely on the insight and analysis inside every magazine.

And we still believe we must earn that trust, with every issue we publish.

It's our assurance and pledge to pork producers across Canada. Since 2000.

**Better  
pork**

BetterFarming.com Farms.com



Ontario Pork Congress

**is going virtual!**

[www.porkcongress.on.ca](http://www.porkcongress.on.ca)

**Virtual Trade Show**  
**International Workers Webinar**  
**Interactive Educational Content**  
**Bacon Maker Classic**  
**Pork Quality**  
**Taste the Best**  
**Pig Art**



**@ontporkcongress**



Typically, around this time of year we are gearing up for the June show; the Bacon Maker participants eagerly awaiting to show their pigs, producers excited to gather with one another, and exhibitors ready to showcase their newest products and technologies! COVID-19 has presented extremely challenging times within our personal lives and the agricultural industry as a whole. To say I am honoured to work with such dedicated volunteers, producers and industry partners would be an understatement. We have all shown extreme leadership to work together for the betterment of the swine industry, for our customers and for our families to remain positive and optimistic as we navigate through this together.

Before COVID-19 we had approximately 130 exhibitors registered, 92 per cent full for this year's show. Bacon Maker Classic had 66 participants registered (which is up slightly from last year) – continuously having new kids joining the show for the past five years! The crowd favourite “Taste the Best” was coming back by popular demand with new ideas and a theme of “The Roaring 20s!” Events like veterinary speaker panels, fire safety presentations, face painting (to name a few) were all scheduled for the two-day event in June. With all of that being said, we don't have to miss out completely on all the fun things OPC has to offer!

I am excited to share that we are going live with a virtual pork congress starting June 2020! A lot of businesses and farms have had to implement new ways of doing business, so we (the Ontario Pork Congress Board of Directors) decided we should too! The executive committee is coming up with some fun ways to interact online with exhibitors and industry partners. Taste the Best, Bacon Maker Classic, Pork Quality, and others are organizing virtual events to participate in ... and oh ... did I mention ... a virtual beer tent?! Stay tuned for more information as we move forward in the planning of this year's show!



Finally, a small note on a topic that is not always easy to mention – mental health. Your mental health is just as much, if not more important than your physical health. These unprecedented times have added more stress and anxiety to our lives than ever before. May 4-10 was mental health week, highlighting a theme of "Getting Real." Encouraging people to step out of their comfort zones and



start talking loud about mental health by speaking to their own experiences. I suffer from anxiety and depression and I know that COVID-19 has presented new challenges personally in dealing with my own mental illness. There are a lot of resources available if you need support or just someone to talk to ([www.ontario.ca/page/find-mental-health-support](http://www.ontario.ca/page/find-mental-health-support)).


Reach out to others, check in with your friends and family. We may not all be in the same boat, but we are all battling the same storm. Stay safe, stay healthy, and we look forward to seeing you online!

Meghan Kirkpatrick 2020 OPC President

**BOOTH G66**



**Which Would You Prefer?**

**Natural & Dual Ventilation**

Tel: (519) 527-2470  
sunnorth.com



**Ontario Pork Congress would like to thank producers, employees, processors, industry partners, and consumers for their support of the Ontario swine industry during these unprecedented times.**

**Although we aren't able to gather in person, we hope this virtual event will help the industry connect in a new way.**



**1974**  
Don McLean

**1986**  
Bruce Bergsma

**1998**  
Craig Hebert

**2010**  
Ray Black

**1975**  
Gerry Knechtel

**1987**  
John Thomson

**1999**  
Betty Crowley

**2011**  
Linda Weitzel

**1976**  
Lloyd Smit

**1988**  
Ross Shantz

**2000**  
John Otten

**2012**  
Adam Rae

**1977**  
Doug McLeod

**1989**  
Jan VanVliet

**2001**  
Frank Palen

**2013**  
Steve Thomas

**1978**  
Bill Baxter

**1990**  
Doug Wheeler

**2002**  
John Bancroft

**2014**  
Frank Hogervorst

**1979**  
Richard Stein

**1991**  
Sharon Heldmann

**2003**  
Ellen Olechowski

**2015**  
Christine Schoonderwoerd

**1980**  
Don Henry

**1992**  
John Bowman

**2004**  
Kim Louwagie

**2016**  
Blair Cressman

**1981**  
Ken Thomson

**1993**  
Ivan Roobroeck

**2005**  
John Crowley

**2017**  
Joe Dwyer

**1982**  
Bill Nahrgang

**1994**  
Richard Smelski

**2006**  
Fred deMartines

**2018**  
Chris Crump

**1983**  
Lorna Small-Dobben

**1995**  
John Perrin

**2007**  
Jim DeBlock

**2019**  
Kirk McLean

**1984**  
Dave Ireland

**1996**  
George Charbonneau

**2008**  
Brad Mohr

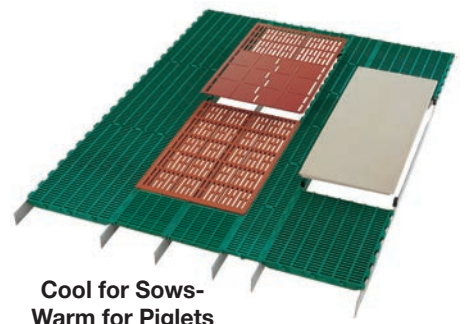
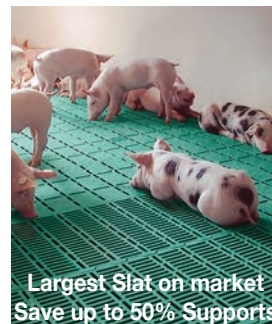
**2020**  
Meghan Kirkpatrick

Cast-Iron  
for sows

CozyCreep  
For Piglets

Plastic-Slats  
for Weaners

**Stall-Ring**  
FLOORING SYSTEMS FOR PIGS



BOOTH E10

**AGRONOMA International**

Woodstock ON • (866) 469-3438 • info@agnonoma.com • www.stallring.com

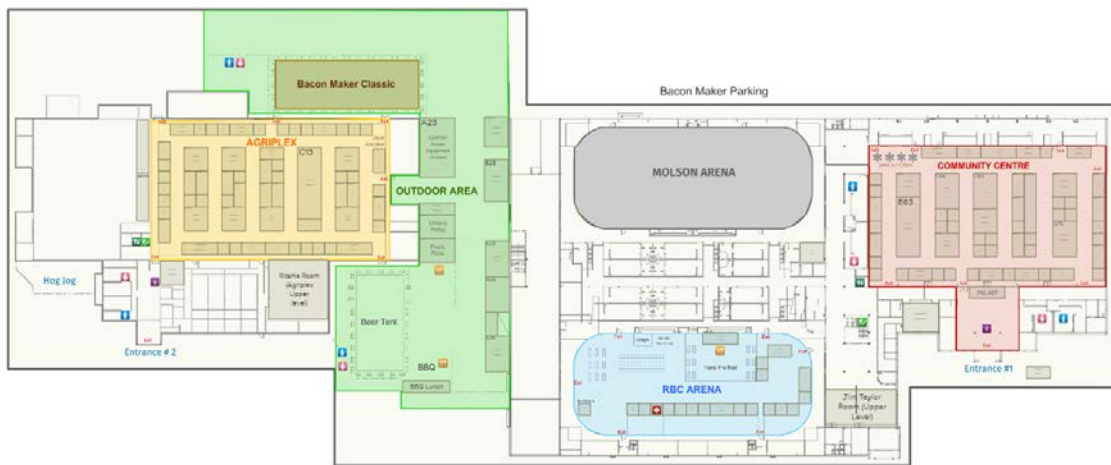
# Ontario Pork Congress Virtual Event

## Beginning June 2020...

Content will be uploaded to the www.porkcongress.on.ca website beginning late spring. Various items will be released throughout this period related to all aspects of the traditional Ontario Pork Congress in-person event.

## Virtual Trade Show

Access exhibitor websites, OPC special promotions, view the tradeshow floor as it would be in person. Navigate to your favourite suppliers, nutritionists or industry groups.



Check out new products, services or technology. View technical documents, informational videos, scheduled exhibitor events, and exhibitor contact information.



Events



Exhibitors



Sponsors

# Ontario Pork Congress Virtual Event

## Beginning June 2020...

Content will be uploaded to the [www.porkcongress.on.ca](http://www.porkcongress.on.ca) website beginning late spring. Various items will be released throughout this period related to all aspects of the traditional Ontario Pork Congress in-person event.

### Educational Information

For the young (and young at heart) pig producers, a variety of educational material will be posted online. Although we can't participate in person, items related to the two popular youth shows will take centre stage. With additional resources related to general pig production supplied by industry partners including Ontario Pork, Farm and Food Care Ontario, and Ag in the Classroom.



### Bacon Maker Classic & Pork Quality

The Bacon Maker Classic committee has put together how-to videos of showing pigs, including the dos and don'ts. The most frequently asked BMC questions will be answered, as well as information about how your pig is assessed through weights and back fat and loin depth measurements. Learn tips to impress in the show ring in 2021!

Get to know your pork! Watch a butcher prepare an entire pig and explain each cut of pork. Learn how an Ontario packing plant assesses meat quality and the characteristics they look for. Lastly, review some tips to be sure you're barbecuing and cooking your pork properly to maintain the quality.

### Pig Art Competition

In 2020 the Pig Art Competition is going virtual! Head onto the [www.porkcongress.on.ca](http://www.porkcongress.on.ca) website or social media pages to download the contest colouring sheet. Details are available on the website with age/entry categories and online voting details.





## International Workers

Webinars will be held during lunch hours as a substitute for the training and tour normally scheduled during Ontario Pork Congress. Using the Zoom meeting platform, a roundtable discussion will be held on topics including COVID-19 on pig farms, African swine fever in Canada and biosecurity on pig farms. All presentations will be offered in Spanish.



## Presentations & Webinars

Panel discussions on topics that may include veterinarian panel on animal health topics, information regarding mental health resources available to industry, farm gate sales as well as company-sponsored presentations.



## Taste the BEST

Local Pork prepared by Local Chefs



## Taste the Best Videos

Local restaurants will upload videos each week showing quick, easy videos of meals to make with ingredients you have readily available! Recipes will be supplied so you can make them yourself at home. At the end of the series, voting will take place to determine the most popular recipe and video!



Head online to:

[www.porkcongress.on.ca](http://www.porkcongress.on.ca)



@ontporkcongress



Ontario Pork Congress

Check out these participating companies plus many more.

**Virtual Trade Show Starting June 2020**

@ontporkcongress

www.porkcongress.on.ca



**DWYER MANUFACTURING LTD.**  
Creating Products & Solutions for the Agricultural, Industrial & Residential area for Over 20 Years.

**Proud to be a Distributor for:**

**AGBUILT**  
SST Hammer Mills, SST Augers & Unloaders. SST Hoppers, Live bottom Bins & Hardware.

**DAI/TEC**  
Portion Feeding, Phase feeding, Bio Dosing of minerals, pellets & mash, with a reliable Friction cable drive system.

**MIK INTERNATIONAL AG**  
Plastic & Cast Slats: Electric and Water Heating Panels & Support Systems For: Hogs, Goats, Sheep, Dairy & Chicken.

**360° FREEDOM FARROWER**  
The 360° Freedom Farrower™ is the perfect solution for pig producers who care about animal welfare.

**SLAT GAP COVERS**  
Slat Gap Covers are a plastic "CLICK IN" product which offer a quick and inexpensive way to convert slatted floor space easily without having to rebuild.

**Big Dutchman**  
Electronic Sow feeding. Liquid & Dry Feeding Equipment. NEW! "Call In" cost efficient ESF.

**KINGWOOD BINS**  
Customizable 3 to 45 tonne bins, built with 25% thicker steel.

**BIOvator®**  
In-Vessel Composting with  
Composting Bins. Put mortality back in your hands.

**Dublin Ontario NOK 1E0 (519) 527-2285**

BOOTH F69, C69

**imv TECHNOLOGIES CANADA**  
Innovative solutions ... profitable results!  
A division of EastGen

**Best support.**  
Our extender makes more pigs.  
Highest level of biosecurity in industry.

*Your Canadian IMV Distributor since 1972*

**Biosecurity Traceability R&D**  
**Sustainable Development Quality**  
**Innovation Reproductive Technologies**

Please contact us for more information! www.eastgen.ca 1-888-821-2150 imv@eastgen.ca

BOOTH F66

**ULCH TRAILER SALES LTD.**

The Wilson Foreman Gooseneck Livestock Trailer allows you to gear the trailer just how you need it. The completely "Built-to-Specifications" trailer has all of Wilson's available options to choose from. Of course, the Foreman has great standard features, and when combined with your specifications, the trailer becomes a very functional trailer designed to your needs and is a "pleasure to pull".

**Look for the Wilson brand of quality trailer**

**THE BRAND OF EXCELLENCE**

519-229-6827 Kirkton, Ontario  
www.ulchtrailersales.com  
steven.coward@ulchtrailersales.com

BOOTH H23



Available in Ontario  
and Western Canada  
See online for details.

ORDER  
&  
PICK-UP  
POINT

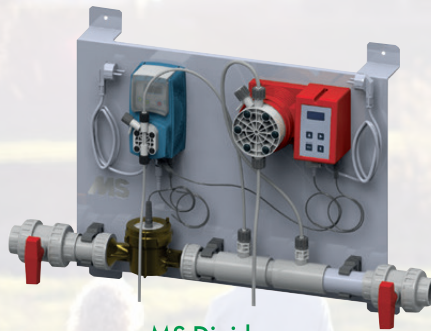
# MS Schippers WIN A YETI® COOLER



**DURING THE MONTH OF JUNE,**  
for every \$100 spent on the  
purchase of any MS Schippers  
**TOTAL WATER CARE** products,  
receive an entry to win one of  
two Yeti® Tundra 65 coolers.



MS Di-O-Clean



MS Digidoser



MS Goldmix pH

Customers in ON, MB, SK, and Eastern Canada can order through Farmers Farmacy  
**farmersfarmacy.com | 1-866-527-6229**

Customers in AB, BC, SK, and QC can order through MS Schippers Canada  
**schippers.ca | 1-866-995-7771**



Your animal health & equipment specialists.



BOOTH F16, F17

BOOTH G73

# DEWETERING AGRI



70016 Hern Line Woodham, Ontario N0K 2A0

PH 519-229-6882 • FAX 519-229-6883

Email: info@deweteringagri.com

Proudly representing these quality suppliers



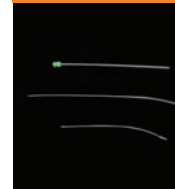
[www.deweteringagri.com](http://www.deweteringagri.com)



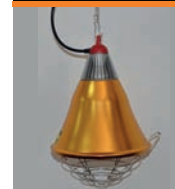
WIRELESS  
ULTRASOUND  
SU2



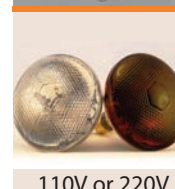
ULTRASOUND  
IMAGOS  
PREGNANCY AND  
BACK FAT



PCA I  
FOAM  
INTRAUTERINE  
EXTENSION



NEW!!  
GOLDEN  
LAMP SHADE  
110V OR 220V



HEAT BULBS  
100W OR 175W  
CLEAR OR RED

110V or 220V

BOOTH F9

# Virtual Farm Show



BOOTH H1



JOIN US ONLINE  
STARTING JUNE 2020  
Booth # H1



HDN  
D3 IDEAL  
DETECTABLE NEEDLES



NEW!!  
CIMA SCALE  
FOR PIG IN  
MOVEMENT



NEW!!  
MAXX TRACTOR  
FOR DEAD ANIMAL  
AND MORE



ZEPHYR  
PIGLETS  
BIRDS  
EUTHANASIA



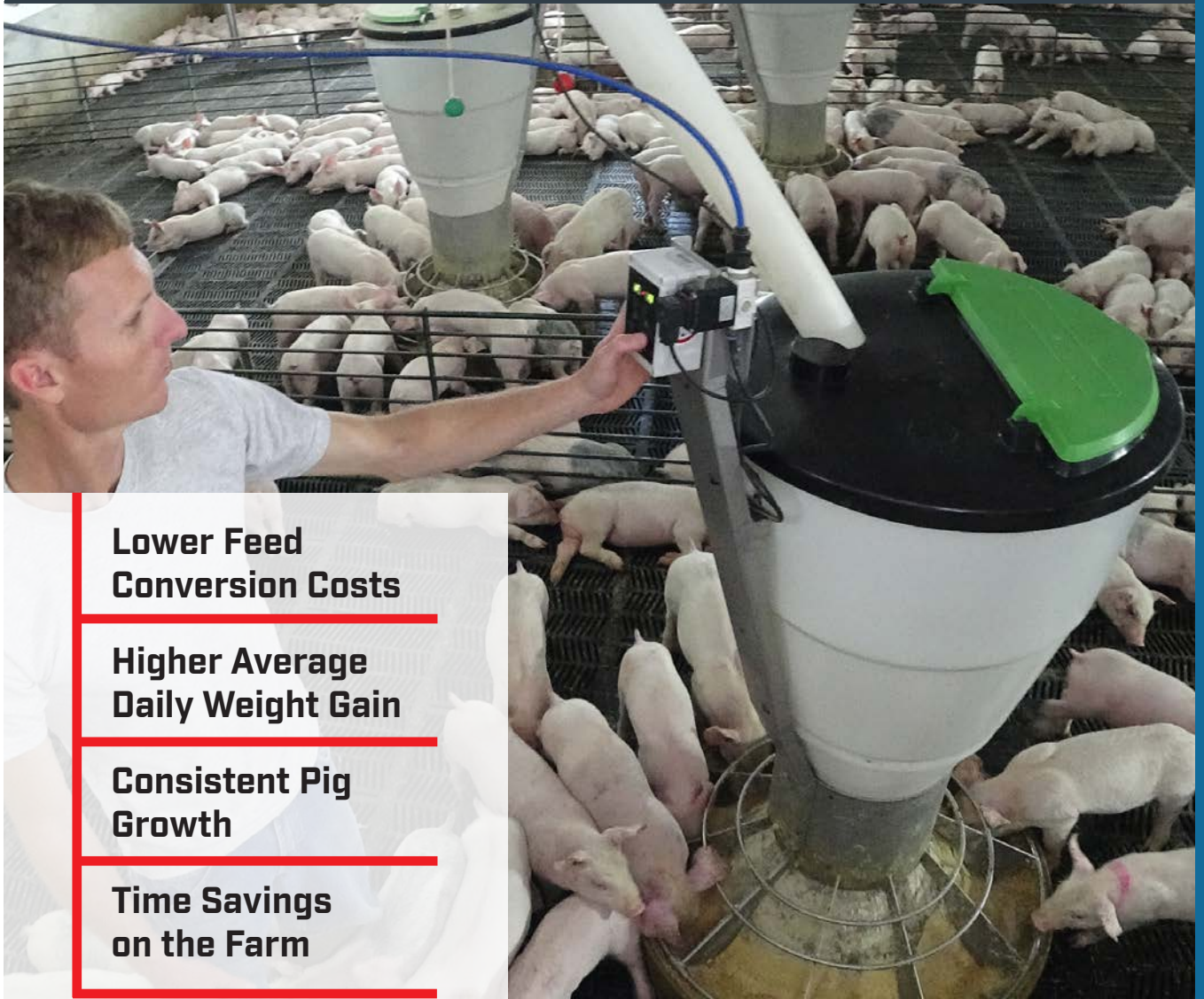
Cell.: (450) 776.0596  
SF: 1.888.446.4647  
louis@secrepro.com  
[www.secrepro.com](http://www.secrepro.com)



**Fancom**®

# RONDONMAT™

SPECIALIZED NURSERY FEEDER



**Lower Feed Conversion Costs**

**Higher Average Daily Weight Gain**

**Consistent Pig Growth**

**Time Savings on the Farm**

BOOTH G73

**“The Rondonmat™ Nursery Feeder is our hired hand 24/7.”**  
– Jeff Dale, Cinder Tail Farms, Pork Producer



**DeWetering Agri**

70016 Hern Line  
Woodham, Ontario N0K 2A0  
Ph 519-229-6882 Fax 519-229-6883  
Email info@deweteringagri.com  
www.deweteringagri.com

AUTHORIZED INDEPENDENT PIGTEK DEALER



BOOTH C69

ATTENDING THE OPC  
VIRTUAL CONFERENCE?  
VISIT BOOTH C69  
FOR ALL YOUR PIG  
EQUIPMENT NEEDS



SCAN ME TO VIEW  
OUR VIRTUAL BOOTH!



BIG DUTCHMAN'S TRUSTED ONTARIO DEALER

+1-519-527-2285 | info@dwyerimg.com | WWW.DWYERMFG.COM



BOOTH I70

# MARQUARDT FARM DRAINAGE LTD

ESTABLISHED 1968

'Being on top of what goes below'

**We provide:**

- Plastic and Concrete Tile Installations
- Land Clearing, ditch excavation
- Erosion control contractor
- Free estimates
- Competitive pricing
- Personal service
- GPS, surveying, mapping and installation
- Drainage knowledge and expertise



50 YEARS

Steve Cronsberry (Owner)  
5483 Fifth Line Minto, Palmerston | 1-888-534-0393 | 519-343-3233  
marquardtfarmdrainage.com

Of providing professionally  
designed and installed  
drainage systems.

# DISINFECTANT FLOOR MAT



Platinum member



PUTTING INNOVATION TO WORK

**For use with liquid disinfectants**

- Easy to clean
- Extremely durable
- Each mat is 24" h x 36" w x 1.5" d

**IMPROVE BARN BIO-SECURITY**

*For safe, happy, healthy pigs!*



Visit [canarm.com/agriculture](http://canarm.com/agriculture) or call 1-800-260-5314 for more information.



BOOTH G75

# A TRADITION OF EDITORIAL EXCELLENCE

Better Farming published its first magazines in November 1999, with a promise to bring farmers the best in ag journalism. As we celebrate our 20th anniversary, we are remembering some of the key stories we have covered for the farmers we are honoured to serve.



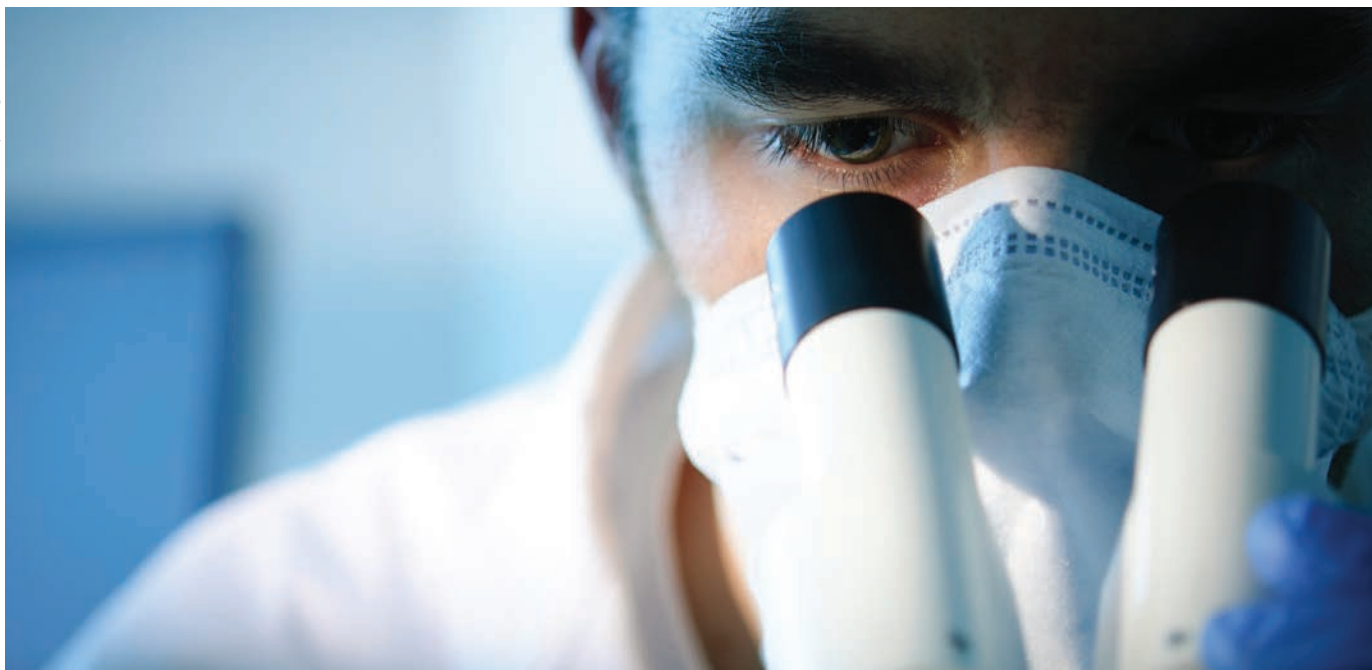
BECAUSE THE WORLD'S BEST FARMERS DESERVE THE HARDEST-WORKING FARM MAGAZINE.

BOOTH H1

# CONTROLLING INFLUENZA IN ONT. SWINE HERDS

Industry stakeholders have come together to manage the threat of more virulent flu strains.

nicolas\_/iStock/Getty Images Plus photo



**Robust surveillance data makes it possible for researchers to predict the emergence of influenza.**

Influenza has long been present in Ontario but, in recent years, increasingly more virulent strains have wreaked havoc on the province's swine herd.

Although most infected pigs recover from influenza, a percentage develop pneumonia and suffer lung damage. These conditions make the animals vulnerable to other diseases like *Streptococcus suis*, mycoplasma and porcine reproductive and respiratory syndrome.

"Pigs are dying of secondary disease, not the flu," explained Dr. Kevin Vilaca. He's a veterinarian with South West Ontario Veterinary Services, based in Stratford. "The majority of the impact is in the nursery when pigs are getting exposed to diseases for the first time, but bigger pigs can also be severely affected."

Ontario used to face one main strain of influenza: H1N1, Vilaca said. The situation began to change in 2005 when H3N2 swept across the province. H3N2 was the first of what he calls the "nastier" strains.

The H1N1 pandemic made its way around the world in 2009.

Then H1N2 was first detected in Ontario in 2016. A particularly virulent strain, H1N2 had circulated in the United States for some time before this flu made its way to Canada. Since then, cases have become more serious and more frequent.

"We are seeing recurring infections month after month in both sow herds and growing pigs," said Dr. Ryan Tenbergen, a veterinarian with Demeter Veterinary Services. He is based in Tavistock, Ont.

"We are also more commonly seeing mixed infections with more than one influenza strain. This has really shifted our focus to preventative rather than reactionary medicine when it comes to influenza."

Greg Jantzi has fought a stubborn influenza in his herd since 2017. He's a part owner of a Purina/Cargill feed dealership in Wellesley, Ont. and A-L Pork, a wean-to-part-finish enterprise.

The influenza "haunted us from farrow to finish. The sows would get

it, gilts would re-bring it into the herd, we would have it in the nursery and then start all over again as pigs moved into finishing," he said.

He tried customized vaccines for the flu strains in the barn. Although the vaccines would see success for six months to a year, the results were never permanent. Even an eventual depopulation of the sow herd, due to other health challenges, wasn't enough to keep influenza away.

Influenza is especially challenging because of its ability to change quickly, resulting in new outbreaks or increased disease challenge, Tenbergen said.

"That's what makes surveillance so important because we are able to monitor the emergence of new influenza strains in a pig population and adapt our preventative approach," he said.

Surveillance is a cornerstone of influenza management, which includes testing. Veterinarians are collaborating with the Ontario Ministry of Agriculture, Food and Rural



Affairs and the Animal Health Laboratory at the University of Guelph to develop databases of “fingerprints” of the virus to further surveillance efforts in the province. Robust surveillance data makes it possible for researchers to predict the emergence of influenza.

In looking at human influenza control through the seasonal flu vaccine, Vilaca began consulting with Dr. Susan Detmer, an influenza expert at the University of Saskatchewan, and Dr. Davor Ojkic, a virologist at the University of Guelph.

Vilaca discovered that Ontario’s viruses were not always the same as the ones appearing in other regions of North America. Due to the high cost of updating commercial vaccines to keep up with the evolving viruses, the solution became clear: a regional vaccine for the province.

With help from Gallant Custom Laboratories in Cambridge, Ont., South West Ontario Veterinary Services received an exception from the Canadian Food Inspection Agency (CFIA) to proceed with vaccine development. After extensive testing, on-farm trials and presentation of results, CFIA granted final approval for a regional vaccine in the spring of 2019. The vaccine became available for use later in the year.

Both Vilaca and Tenbergen appreciate the support and co-operation the sector has received from CFIA and the positive effects it has had on managing influenza.

“It’s been a very good collaboration with CFIA. They worked with us and were creative in coming up with solutions. They’ve really helped the industry with this,” Vilaca said.

For Jantzi, the new vaccine has helped get the persistent influenza under control. He vaccinated the entire sow herd and re-vaccinates before each farrowing to encourage transmission of immunity to the piglets.

“We estimate we had 1 to 3 per cent mortality in finishing, if not more, because of the flu. Even our nursery mortality has dropped now. You can’t successfully medicate your way out of the flu so, if you can vaccinate to get

around it, you’re ahead,” he added.

The key to managing influenza is a preventative approach that combines vaccination with strategic medication programs and disease surveillance, said Tenbergen.

“Today, I think influenza is just as important as any other disease and should always be discussed,” he said. For example, producers should discuss the issue with replacement animal suppliers.

He encourages all producers struggling with influenza to talk to their veterinarians about testing and surveillance in their herds in order to develop a preventative approach that works for their farms. **BP**

*Swine Health Ontario is a leadership team focused on improving and coordinating the industry’s ability to prevent, prepare for and respond to serious swine health threats in Ontario.*



***Supporting each other goes way beyond Masterfeeds and our respective corners of the country throughout this COVID-19 crisis.***

*Farmers always rise to the challenge, it’s what they do day-in and day-out. As do Masterfeeds employees. Keeping our mills operating and animals fed is a vital link in Canada’s food chain – and particularly today. Keeping Canadians fed is our primary task at hand.*

*I would like to personally thank our farming communities, plant and office staff, our dealers and retail locations, and the many truck drivers who are getting the job done. Your overwhelming efforts in keeping our business operating effectively during this challenging time is very much recognized and appreciated. Well done.*

ROB FLACK, PRESIDENT AND CEO





by  
**KEN ENGELE &  
DR. JENNIFER  
BROWN**

# MAKING CENTS OF ENRICHMENT

Although the industry has shown some hesitance to use these tools, enrichment benefits the bottom line.

Prairie Swine Centre photo



In another Prairie Swine Centre study, hanging knotted cotton rope proved to be a popular enrichment item with pigs.

What would you think if we told you installing enrichment would improve the financial position of your swine operation?

Enrichment seems to be one of those things that can be easily overlooked on the farm.

But all pigs must have “multiple forms of enrichment that aim to improve the welfare of the animals through the enhancement of their physical and social environments,” says the National Farm Animal Care Council’s 2014 update to the Canadian Code of Practice for the Care and Handling of Pigs.

While implementing enrichment on-farm is simple in nature, the proper selection, installation and maintenance of enrichments can have a positive effect on your operation’s bottom line.

In contrast, the lack of enrichment results in more problematic behaviours such as tail-biting and belly-nosing.

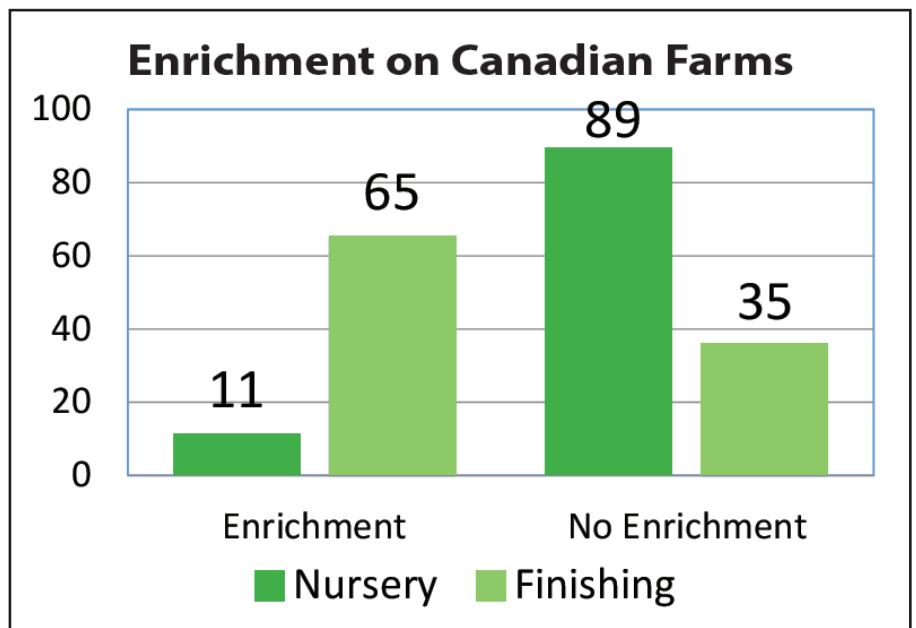
Producers need practical and cost-effective solutions to implement in their operations to reap the benefits for their herds and businesses.

### Why is enrichment important?

Overall, the purpose of enrichment is to improve the living conditions of pigs by encouraging the expression of a wider range of normal behaviours.

Enrichment involves providing

objects or materials for proper investigation and manipulation in order to keep pigs occupied and prevent future harmful behaviours. Enrichment is a way of changing pigs’ environment for their benefit.



In total, 65 per cent of farms use some type of enrichment in finisher barns, while only 11 per cent of farms use some type of enrichment in nursery barns.

**Benefits of enrichment**

Why worry about enrichment? The goal of enrichment is not to make more work for producers. Rather, the goal is to improve the environment of the pig, in a manner through which producers also receive benefits.

Ideally, through the use of enrichment in their barns, producers can

- reduce the frequency of abnormal behaviour (tail-biting, biting, aggression)
- increase pigs' ability to deal with challenges in a much more normal way
- broaden the range of behaviours expressed
- improve animal performances (feed intake, average daily gain and feed conversion ratio)
- boost positive use of space
- reduce animals' stress

Piglets given enrichment before weaning showed less pen-mate manipulation (tail-biting, ear-biting, belly-nosing, etc.) and tended to fight less at weaning than other pigs, a recent study at the Prairie Swine Centre showed.

As weaning is stressful for piglets, anything that can help to reduce this stress could benefit their health, welfare, and productivity throughout the nursery and beyond.

Similarly, piglets provided enrichment only in the nursery had fewer head and shoulder lesions at four weeks post-weaning than other groups in the study. Piglets given enrichment fought less towards the end of the nursery phase, this research indicates.

Additionally, pigs given enrichment spent more time exploring their pens at three weeks post-weaning, suggesting that the animals were more engaged with their surroundings. Pigs enriched post-weaning also showed reduced fear of humans, which has implications for both welfare and ease of handling.

**How well are we doing?**

A project funded by Swine Innovation Porc (2018) examined the auditing of best management practices on Canadian farms. Enrichment was one of the parameters measured.



Your

**"You can count on AGC to deliver"**



Dave Vandenbroek  
519-673-9574  
Brent DeVries  
519-498-0598  
info@alliancegenetics.com

Live animals are available from:

Vista Villa Genetics/Brent Robinson  
519-276-8539

Clarion Swine Genetics/Kent Martin  
519-572-1050

Bodmin Genetics/Phil Smith  
519-661-8814

Sand Ridge Genetics/Ken Hamoen  
780-674-7498



All semen (terminal & maternal, pooled & identified) is available at Ontario Swine Improvement  
1-800-493-BOAR (2627)



AGC Duroc semen is available at Total Swine Genetics  
1-800-844-9913



All semen types are available at Magnum Swine Genetics  
1-888-553-4844

**Contact us today**

**Trusted genetics. Count on us.**  
**www.alliancegenetics.com 1-877-462-1177**

Pork producers should devote more attention to providing enrichment in the nursery and finishing facilities, audit data suggests.

As seen in the graph on page 50, only 11 per cent of audited farms incorporated enrichment into nursery facilities. Chains were the most common form of enrichment.

When looking at finishing facilities, the adoption of enrichment was higher than in the nursery. In total, 65 per cent of farms use some type of enrichment in finisher barns. Again, chains were the most common form of enrichment (70 per cent) followed by wood (30 per cent).

The incorporation of enrichment into individual facilities is unique to each operation. Support tools regarding enrichment materials are available in Appendix H of the code, which is transcribed in the sidebar at the bottom of the page.

Producers should consider six criteria when choosing enrichment for their operations. These criteria are: simple, safe, sanitary, site, soft and suspended.



University of Manitoba photo

**Wood on a chain can be used as an enrichment material, provided the wood is untreated.**

**Cost of enrichment**

Producers have several options to enrich the environment of pigs.

Of course, some options are more expensive than others. However, reusing materials or objects already available on the farm can help to

keep costs in check and maintain their effectiveness.

It is important to hold pigs' interest, so producers must change the enrichment items regularly.

Let's take the example of installing a chain, with cotton rope attached, in

## THE SIX Ss: SIMPLE CRITERIA FOR CHOOSING ENRICHMENT FOR PIGS

**Safe**

- No sharp edges
- No tires
- No poisonous wood or wood that may have been preserved, or any other toxic material
- No staples or fixings in wood
- No materials that may be toxic to pigs
- Limbs and/or other body parts cannot become trapped
- If the enrichment can be broken or dismantled by the animals, the fragments must not pose a safety risk
- The enrichment should not be able to be used to injure pen-mates or damage the enclosure

**Sanitary**

- Materials should not be fouled
- Materials should be easily

cleaned or sterilized to prevent disease transmission

**Soft**

- For the pigs to slowly destroy the object, it must be malleable (adds to the novelty factor)

**Simple**

- Anything too complex can cause frustration and could actually lead to vice
- A number of simple items are better than one complex item, and allow more pigs to gain access at one time

**Site**

- Do not site toys over lying, drinking or feeding areas
- Dunging areas prove the optimum position
- Switch sites regularly to help

maintain novelty

**Suspended**

- Provides extended novelty factor
- Avoids fouling
- Allows more pigs to gain access to the toy if it is suspended in a central location

All enrichment objects must meet requirements contained in *National Swine Farm-Level Biosecurity Standard*, and the section on *Biosecurity in CQA® for Canadian Hog Producers*. Refer to Appendix O – Resources for Further Information.

Source: National Farm Animal Care Council, "Appendix H – The Six Ss: Simple Criteria for Choosing Enrichment for Pigs," Code of Practice for the Care and Handling of Pigs. **BP**

a finishing room containing 12 pens, 260 pigs, and a 16-week finishing period. Based on the assumptions listed below, producers would have a one-time annualized cost of \$0.65/hog marketed.

**Installation cost**

- Chain, mounting hardware: \$40/pen
- Labour (3 hours, \$25/hour, 12 pens): \$6.25/pen
- Total: \$46.25/pen or \$555/room

**Room throughput**

- 260 pigs/room
  - 3.25 turns/year (based on 16-week finishing)
  - 845 pigs/year
- One-time annualized cost = \$0.65/pig

**Economic value**

What happens if we take another approach to assessing the economic value of enrichment?

Assume that a market hog is worth \$170. To achieve payback on our

investment of \$0.65/pig would represent 3.26 pigs (\$555/\$170) or 0.4 per cent (3.26/845) of the hogs marketed through that room annually. In other words, we would need to find this value in order to make the installation of enrichment economically worthwhile.

The benefits could be seen in several ways. Perhaps we have less tail-biting in our facilities and, as a result, we see a reduction in the number of mortalities, condemnations, or even the amount of trim deducted at the packing plant. It takes only a very small change in these figures to see a positive economic benefit.

If we assume that the benefits accrue over a four-year period rather than in a single year, installing enrichment looks even more economically viable. (We're assuming the lifespan of the enrichment materials to be four years.) We only need to find full value for one pig per year, which seems easy given the wealth of research showing the benefits of enrichment.

**Conclusion**

Enrichment for pigs has been slow to catch on with producers.

Besides the cost of materials and the time needed to install, clean or repair enrichments, producers may ask, "What's the big deal about pig toys?"

However, an impressive amount of research shows that providing enrichment to pigs creates benefits. These outcomes include reduced aggression, fewer damaging behaviours, and increased growth. We can also see that installing enrichment is an economically viable strategy for pork operations. **BP**

*Ken Engele is the manager of knowledge transfer at the Prairie Swine Centre (PSC). Dr. Jennifer Brown is a research scientist of ethology at PSC and an adjunct professor in the college of agriculture and bioresources at the University of Saskatchewan.*

*The Prairie Swine Centre conducts near-market research that can be applied by the pork industry within a one- to seven-year time frame.*

**YOUR TRUSTED SOURCE**

Information is plentiful in today's modern world. But as a pork producer, your valuable time is more limited than ever.

As much as you might need new information, **Better Pork** also gives you insight and understanding. We put the information into context, give it theoretical framing and suggest ways to act on it.

**A trusted source. To help you farm better.**

**Better Pork** is the discerning farmer's trusted source for insight, analysis and investigative reporting about Canada's pork industry.

We believe we need to earn your trust, with every magazine. It's our solemn vow to Canada's pork producers and ag community.





by  
**RICK  
McBAY**

# SUMMER PREP FOR NATURAL VENTILATION

**Proper ventilation systems, including both natural and power options, will help keep your pigs cool.**

Rick McBAY photo



**As temperatures start to rise, be sure to check your ventilation systems.**

As the hot weather approaches, it is a good idea to assess your natural ventilation system to ensure you are prepared to handle the heat.

The principles of natural ventilation call for adequate sidewall openings to allow the proper amount of air, propelled by the natural winds, to move through the building. The design rule of thumb is one foot (0.3 metres) of wall opening on each side of the barn for every 10 ft. (3 m) of barn width. With a little help from the wind, this arrangement will move a surprising amount of air through your barn.

For example, a 200-foot-long (60-metre-long) building with a 5-ft. (1.5-m) opening and a 16-kilometre-per-hour (10-mile-per-hour) wind will move 880,000 cfm (actual cubic feet per minute) of air. This figure is the approximate equivalent of 35 x 50-inch (127-centimetre) exhaust fans running at full speed. Even with a slower 2 km/hr (1.2 m.p.h.) wind, the air moved is equivalent to 13 x 24-inch (61-cm) exhaust fans.

However, problems can arise on days with high temperatures, high humidity and calm winds. In these situations, we need to give Mother

Nature a helping hand.

If no natural wind is present to move the air, we must create a mechanical wind to provide what is referred to as “velocity cooling.” This feeling is created by high-speed air moving over the pigs’ skin.

Velocity cooling is the same sensation we experience when we put our faces in front of a fan on a warm, humid day. Even though the temperature of the air that the fan is moving is hot, it still feels cool because of the speed (velocity).

In a barn, this velocity air is created by mounting circulating fans inside the building to move the air around at speeds ranging from 250 to 500 ft. (75 to 150 m) per minute. These fans can be positioned to blow air from one side of the structure to the other through the pens, or in a racetrack design.

In the latter configuration, two rows of fans run the length of the barn. One row blows air in one direction and the other row blows air in the opposite direction. This setup creates an air pattern like a racetrack.

The layout of the fans will be determined by the pen layout and whether the stall walls are solid or

made with spindle penning. If the pens have solid walls, then directing the air from side to side is preferable to avoid blockage of air movement. With spindle penning, end-to-end air movement can be achieved.

For year-round ventilation, using a variable-speed circulating fan enables you to circulate heat at slow speeds during the winter, eliminating hot spots near heaters.

The other cooling option available for hot environments is a sprinkler system, which creates an evaporative cooling effect. This system uses larger droplets of water instead of a high-pressure mist of water. The system first sprays water onto the pigs’ skin. The air movement created by the circulating fans evaporates the water droplets, which creates a cooling sensation.

Essentially, this process is like what happens when humans perspire. When we sweat in hot temperatures and a breeze evaporates these sweat droplets, it creates the perception of cooling.

In hot, humid climates, heavier droplets of water work better than a mist. A light mist can hang in the air and add to the humidity levels in the

IT'S ALWAYS THERE  
RAIN OR SHINE, INDOORS OR OUT  
GUARDING ITS TURF  
MOSQUITOES, TICKS, FLIES AND BEETLES  
STEP INTO ITS KILL ZONE AND MEET YOUR WORST NIGHTMARE



T H E  
A N N I H I L A T O R

A BAYER PRODUCTION IN ASSOCIATION WITH DEFENCE POINT STARRING POLYZONE® TECHNOLOGY

MOST PREMISE SPRAYS DON'T STAND UP TO ADVERSE WEATHER AND WASHING – LEAVING LIVESTOCK EXPOSED TO PAINFUL, ANNOYING PESTS. NEW ANNIHILATOR POLYZONE® INSECTICIDE OFFERS 12 WEEKS<sup>1</sup> OF RESIDUAL CONTROL, EVEN WHEN EXPOSED TO WATER. WITH PROPRIETARY POLYZONE® TECHNOLOGY, THE ACTIVE INGREDIENT, DELTAMETHRIN, REMAINS ADHERED TO SURFACES, RESULTING IN A CONTROLLED, SLOW RELEASE “KILL ZONE” THAT STANDS UP TO THE ELEMENTS. THAT MEANS FEWER APPLICATIONS, LESS WORK AND MORE SAVINGS.

ASK YOUR VETERINARIAN OR ASK FOR ANNIHILATOR POLYZONE® AT YOUR FARM SUPPLY RETAILER.

FOR MORE INFORMATION CALL 1-888-663-5326.



barn, which may lead to respiratory issues in pigs.

The sprinkler system also has the benefit of wetting the barn down thoroughly prior to cleaning and disinfecting.

As with all ventilation designs, this type of system requires a controller that can integrate the operation of both your natural and power summer ventilation. Some days, you will need circulating fans and/or the sprinkler system running during the daytime but not overnight. You must have a controller that will make these changes for you based on the interior temperature of your building.

If you already have these systems in place, now is an ideal time to dust off your fan motors and blades. Check the water filters and nozzles on your sprinkler system. Make sure everything is operating at peak efficiency.

By completing this maintenance, you will ensure that your pigs remain cool, comfortable and healthy during the next heat wave. **BP**



Rick McBay photo

**The principles of natural ventilation call for adequate sidewall openings to allow the proper amount of air, propelled by the natural winds, to move through the building.**

*Rick McBay is the natural ventilation specialist for Faromor – a Canarm company.*

*For 40 years, he has worked with livestock producers to provide them*

*with equipment and ventilation solutions. During the last 25 years, Rick has contributed to the design and development of natural ventilation systems used worldwide.*

# ERYSENS<sup>®</sup> PARVO

With **HIPRAMUNE<sup>®</sup> G<sup>d</sup>**

The **NEW** vaccine against Swine Erysipelas and Porcine Parvovirus infection

---

## A powerful immunity you can rely on

---

**ERYSENS<sup>®</sup> PARVO** One dose (2 ml) contains: **Active substances:** Inactivated porcine parvovirus, strain NADL-2, RP > 1.15'. Inactivated *Erysipelothrix rhusiopathiae*, strain R32E11, ELISA > 3.34 log<sub>10</sub> IE<sub>50%</sub>; RP – relative potency (ELISA). <sup>†</sup>IE<sub>50%</sub> – Inhibition ELISA 50%. **Adjuvant:** Aluminium hydroxide 5.29 mg (aluminum), DEAE-Dextran, Ginseng. Contains ampicillin, gentamicin and nystatin as preservatives. **Indications:** For the active immunisation of female pigs for the protection of progeny against transplacental infection caused by porcine parvovirus. For the active immunisation of male and female pigs to reduce clinical signs (skin lesions and fever) of swine erysipelas caused by *Erysipelothrix rhusiopathiae*, serotype 1 and serotype 2. **Onset of immunity:** Porcine parvovirus: from the beginning of the gestation period. *E. rhusiopathiae*: three weeks after completion of the basic vaccination scheme. **Duration of immunity:** Porcine parvovirus: vaccination provides foetal protection for the duration of gestation. *E. rhusiopathiae*: vaccination protects against swine erysipelas until the time of the recommended revaccination (approximately six months after the basic vaccination scheme). **Dosage and administration route:** administer one dose of 2 ml by intramuscular injection in the neck muscles according to the following schedule: **Basic vaccination:** Pigs from 6 months of age which have not been previously vaccinated with the product should be given two injections with an interval of 3–4 weeks. The second injection should be administered 3–4 weeks before mating. **Revaccination:** A single injection should be given 2–3 weeks prior to each subsequent mating (approximately every 6 months). It is advisable to administer the vaccine at a temperature between +15°C and +25°C. Shake well before use. **Withdrawal period:** 21 days. **Storage:** Store and transport refrigerated (2 - 8 °C). Do not freeze. Protect from light. **Packaging:** 1 vial of 10 ds, 1 vial of 25 ds, 1 vial of 50 ds, 1 vial of 125 ds. Not all pack sizes may be marketed. **Distributed in Canada by:** HIPRA ANIMAL HEALTH CANADA INC., 11 Holland Avenue, suite 605- Ottawa, Ontario K1Y 4S1. Est. Lic. No.: 4.242.E.

The Reference  
in Prevention  
for Animal Health

**HIPRA CANADA**  
11 Holland Ave., Suite 605 K1Y 4S1 Ottawa, Ontario, Canada  
Tel.: 613-422-7610 · Fax: 613-422-7612 · canada@hipra.com · www.hipra.com



### Information Resources for Pork Producers

OMAFRA's website at [www.ontario.ca/swine](http://www.ontario.ca/swine) provides links to information from OMAFRA and other sources relevant to normal production but currently also the significant challenges created by the precautions being encouraged in order to slow the spread of COVID-19. The information below is a sample of the information available. The blog at [www.onswine.wordpress.com](http://www.onswine.wordpress.com) is also a good source of information. For example, we have a link to a recorded webinar on Managing Stress in Times of Uncertainty.

#### COVID-19 Information

Ontario Pork is providing up-to-date information for producers and links to relevant websites.

- COVID19 Updates
- COVID19 Farm Information

#### Tools for Assessing Your Farm Finances

- Financial Programs Summary Ontario Federation of Agriculture
- Analyzing and Managing Your

#### Cash Flow

- Farm Business Decision Calculators Online programs for evaluating the profitability of your livestock production practice.
- Managing Commodity Price Risk provides a basic overview of the commodity price risk management tools and terminology.
- OMAFRA Monthly Swine Budgets

#### Housing and Management

- Feeding and Nutrition
- Manure and Nutrient Management
- Fencing for Outdoor Pig Production (FactSheet)
- Small Scale Pig Farming in Ontario (by Ontario Pork)
- Pig Production and Management
- Organic Production
- Health Management and Biosecurity
- Deadstock Disposal

#### Newsletters and Market Reports

- Pork News and Views
- Weekly Hog Market Facts -A weekly two-page report

circulated every week containing current market information and data that impacts the Ontario pork industry. To receive the weekly please email, contact [OMAFRA.Livestock@ontario.ca](mailto:OMAFRA.Livestock@ontario.ca)

- Livestock and Poultry Statistics

#### Conferences and Networks

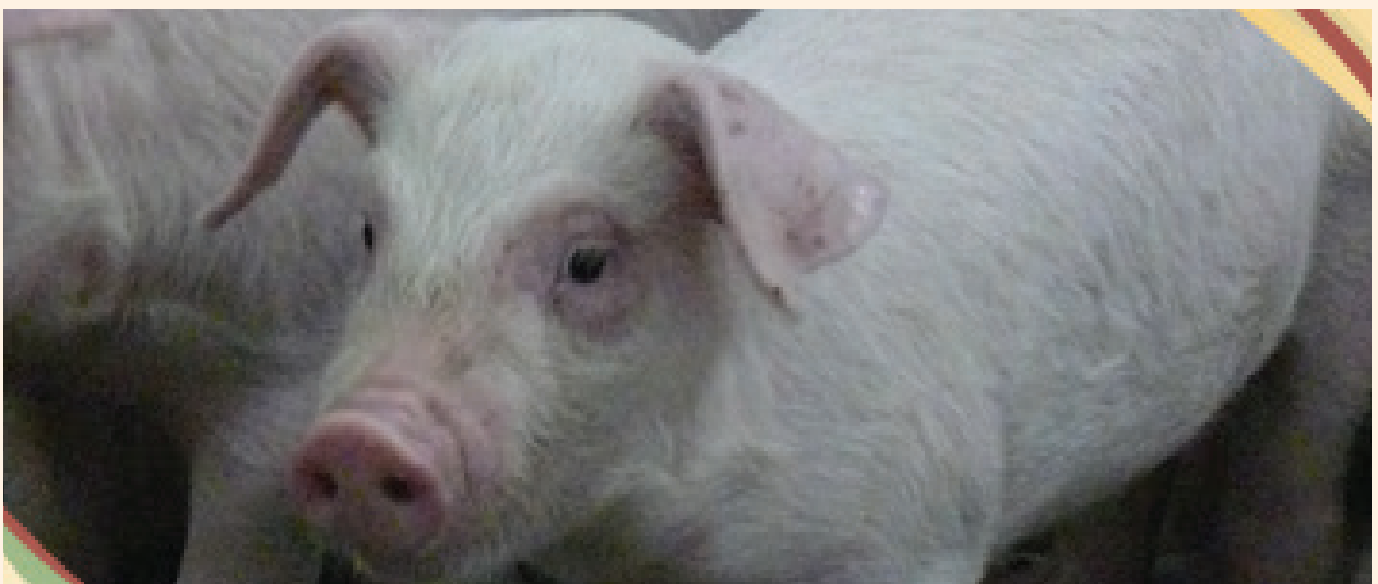
- London Swine Conference (cancelled 2020, includes past proceedings and links to presentation videos)
- University of Guelph Swine Research Network and Swine Research Day (cancelled 2020, includes research updates, webinars, and interviews)

#### Mental Health Support

OMAFRA recognizes that farmers are under a lot of stress. If you are struggling, reach out to a friend, family or other emotional support.

- Identifying and Managing Stress: A Business Owner's Guide
- Mental Health for Farmers

Jaydee Smith,  
OMAFRA Swine Specialist  
[jaydee.smith@ontario.ca](mailto:jaydee.smith@ontario.ca)  
519-358-5829



## A Resilient Pork Farm is a Sustainable Pork Farm

The experiences of the last few weeks and months should have all in the pork supply chain thinking hard about adapting to volatile times. This clearly includes farmers, their families and their livestock farming operations. During this period of uncertainty hopefully everyone has prioritized the health and safety of family, their employees and community and are now moving on to business sustainability.

Apart from recent disruptions in the supply chain due to health-related closures of industry partners, it does not take much to imagine demand for our livestock products might go down a few percent and remain lumpy over time. Whether that impact is due to direct disruptions (you can't sell bacon that does not make it to the shelf) or because customers may have tighter budgets for some time due to the impacts of a slowed economy due to the many disrupted sectors domestically and abroad. We need to think about how a 2nd or 3rd 'wave' of health issues in our society and others might disrupt the supply chain or reduce demand.

The truth is we have been 'here' before, in terms of how this might feel in the livestock economy, even if the societal cause right now is a new one. Tremendous resources were prepared by industry and governments in previous challenges; we need to dust off these resources and be in control. Don't be reactionary.

The agricultural economist Dr. Al Mussel prefers resiliency as an alternative perspective to Sustainability, the area of my work and thinking. While resiliency is the capacity to recover quickly and Sustainability is the capacity to sustain performance without detriment to social, economic or environmental resources,

there is intersection of ideas here. A few years ago (2014 to 2015) Dr. Mussel wrote several articles in a series including this overlap that I think are worth digging out for their own merits.

Well then; how resilient is your livestock nutrition and production plan? When first studying animal science, I learned about livestock in a historical context. Livestock were viewed as food storage on the hoof, as an asset, the forerunner of the stock markets of Bay and Wall Streets. How is it that we became SO good at producing 'like clock-work' and just-in-time delivery that livestock inventory has now become a liability and not an asset in times of uncertainty? Have we lost the ability to modulate production; to slow it down, or speed it up to increase margins and the value of those stocks? Coming out of this crisis hopefully some innovation or old-fashioned determination can be brought to bear on topics such as sub-maximal growth rates and housing surge-capacity for near-ready market animals that don't have the biosecurity and production risks of breeding or young stock. In other words, considering concepts like optimization and redundancy in farm systems.

In terms of management decisions, farms should evaluate their current business plan and consider what spending can be deferred a few months as protein supply chains work themselves through this volatile period, or another one? Have you tended to your business relationships with suppliers and customers to make sure they understand industry dynamics should you need more flexibility from them in the future? I hope this time of distancing allowed you to renew your relationships with your veterinarian, your nutritionist, your banker, your landlords, your seed-

stock providers and other advisors to make any changes and achieve allowances in your business relationships.

There is an expression about adversity making one 'bitter or better'; perhaps the pork sector and all of Canada can come out of this period of challenge more 'sustainable', more 'resilient' and just plain better for your farm and family.

*Christoph Wand,  
Livestock Sustainability Specialist,  
OMAFRA  
christoph.wand@ontario.ca  
(519) 820-3150*

## Thinking Outside the Strip – One-Pass Manure Incorporation and Seedbed Prep with Strip Till

*The following article is reprinted from the Field Crop News blog at [fieldcroppnews.com](http://fieldcroppnews.com).*

*With some out of the box thinking, Ken Hartemink, hog and cash crop producer from St. Thomas, Ontario has mounted a strip tiller to the back of his manure tanker for one-pass manure incorporation and seedbed prep for next year's corn crop.*



Ken Hartemink is a hog and cash crop producer just outside St. Thomas, Ontario. Ken wanted to shift away from moldboard plowing his mostly clay-loam ground and move towards strip till for corn production. Given he was already broadcasting manure with a tanker pass after harvest, he decided to mount a strip tiller to his manure tanker to simultaneously inject manure and prep a seedbed for next year's corn crop.



Figure 1: 3-pt quick hitch attached to manure injector lift.



Figure 2: Manure injection with strip tiller on wheat residue



Figure 3: Fall manure injection with strip tiller after corn harvest.

### Equipment Setup

In 2019, Ken started with his existing 7,000 gallon Nuhn manure tanker, and after attending some strip till demos, purchased a 6-row Kuhn Gladiator strip tiller. For mounting the bar on the tanker, a 3-pt quick hitch was purchased and with assistance from Nuhn was mounted to a traditional manure injector lift mounted to the rear of the tanker (Fig. 1). Ken fabricated manure injection outlets from 3" tube which

mount to the rear of the Gladiator shanks using the existing dry fertilizer tube mounts. He also mentions "because it is impossible to watch the strip tiller behind the manure tanker, I mounted a camera on the strip tiller to watch for residue plugging or other issues from the cab". Ken took advantage of environmental cost share programs for both the strip tiller and injector lift hitch.

### Manure and Strip Till Operation

Running shanks 6" deep, Ken says the strip tiller does a good job incorporating 4,500 gal/ac of liquid hog manure with little manure visible outside the strip (Fig. 2). With 280 horsepower upfront, he can run 5-6 mph which still provides proper strip till action, although power requirements can be noticeable going up hills. Ken does concede "one challenge with this setup is that at 60' from the front of the tractor to the rear of the strip tiller, it can be a challenge to turn and line up square on 60' headlands". While GPS guides the tractor, Ken does not run implement guidance. Despite being 50' behind the tractor, he says strip till passes appear to line up well.

For feed requirements, Ken grows some corn on corn, so some fall strips are made in corn residue (Fig. 3). "When residue is damp in mornings or evenings, residue plugging can be an issue, but it flows OK when dry... this makes timely corn harvest very important" he mentions. Shimming row cleaners closer to the front slicing coulters and adding additional weight to the cleaners has reduced issues.

When asked about emptying tank loads, Ken mentions "the manure tank is equipped with a flowmeter – which allows me to view current application rates, create 'as applied' maps, and also lets me know when the tank is empty. When spreading, I usually try to adjust field applica-

tion rates so that I am empty at the end of rows, but if not, I do not have a problem with lifting the strip tiller out of ground and finishing off the swath with a later load".

### Road Travel

Ken says the addition of the strip tiller adds significant weight to the rear of the manure tanker, resulting in negative tongue weight when empty. For road safety, he has added additional rear wheel weights to the tractor and has converted the tanker to a ball-style hitch to reduce hitch play. In addition to the strip tiller, he also runs an Agribrink air inflation-deflation system for the tanker tires, running 40 PSI on the road, 24 PSI on headlands, and 18 PSI once on straight runs. Compared to always running 30 PSI, Ken says not only does this allow him to increase his tire footprint and reduce surface compaction in the field, running 40 PSI on the road has significantly reduced tire wear.

### Spring Planting

Just getting the strip tiller last year, Ken is yet to plant his first corn crop into the strips. His plan is to remove residue and lightly refresh the strips in the spring with coulters inserts he has built to swap in place of the shanks on the Gladiator. He has also built flat bar inserts in place of the chains in the rolling harrows in hopes of firming and sizing the strips with the bar edges, avoiding an airy berm that could dry out or negatively impact seed to soil contact. He won't be running GPS on the planter tractor but given both the strip tiller and planter are 6-row, he hopes the planter will track the strips OK. We'll have to follow up for additional gleanings after his first season in his manure strip system.

Ben Rosser,  
OMAFRA Corn Specialist  
ben.rosser@ontario.ca  
519-400-2522

## OAHN Swine Small Scale Herd Postmortem Project

The Ontario Animal Health Network (OAHN) is beginning a new study to identify disease issues in small scale swine herds in Ontario. Through this work, we hope to also establish and expand connections with small scale producers in the province. The study will build on previous OAHN projects for disease surveillance in poultry small flocks and small ruminant herds, which provided a wealth of practical information for producers and veterinarians.

Half of the world's pig population is raised in small scale herd settings (Dietze et al, 2011) and similar herds also exist in Canada and Ontario. Small scale swine production has been researched in other countries but to date there are no known studies of this subset of swine herds in Ontario.

The goals of the project are:

- identify disease problems in Ontario small scale swine herds
- establish and maintain communications between small scale producers, veterinarians and OAHN
- increase awareness of zoonotic and foreign animal diseases among small scale swine producers.

Enrollment in the project and sample submission for testing must be done through the herd veterinarian. Disease surveillance will be accomplished through subsidized postmortem examinations on pigs from small scale herds. Laboratory tests on samples from postmortem exam will also be subsidized. For individual cases, postmortems may be conducted either at the Animal Health Laboratory (AHL) or by the herd veterinarian. Animals will be tested for a variety of diseases

depending on the presenting complaint and the age of the animal. Test results will be reported to the herd veterinarian, who will communicate these findings to the producer.

For this project, a small scale herd is defined as having 50 or fewer sows, OR marketing 1000 or fewer hogs per year. Completion by the producer of a short, user-friendly survey on herd management will be required in order to qualify for subsidized testing. A premises identification number (PID) is also required to participate. Findings from the project will be made available to industry stakeholders in the winter of 2020-2021.

*For more information on the project, please contact your veterinarian or Dr. Josepha DeLay at the AHL ([jdelay@uoguelph.ca](mailto:jdelay@uoguelph.ca) or 519-824-4120 ext 54576).*

## Biosecurity and Deadstock Management

In recent weeks, Ontario Pork has been notified of multiple complaints about overflowing deadstock bins visible to the general public.

Good biosecurity is critical to reduce the spread of swine-related disease. Proper handling of deadstock can reduce your risk of disease transmission, and will also help protect the reputation of your farm and industry.

### A threat to biosecurity

Deadstock bins can impact the biosecurity of your barn. Assume all disposal containers and compost piles contain swine pathogens. Infectious material can be moved by rendering trucks, equipment, people or animals that visit these sites. Talk to your veterinarian about the safest location for a compost pile

or deadstock bin. Contact your veterinarian if mortality is higher than normal.

### General concepts to consider:

- Place compost piles and deadstock bins away from livestock areas.
- Ensure deadstock bin is in an area that allows for good drainage and prevents pooling, and is fully sealed to prevent leaking.
- Make sure the lid is close tightly to limit access by wildlife and flies, which can be vectors on the farm.
- Maintain separate traffic flows for access to livestock and deadstock areas. Ensure these are clearly signed and easy to follow.
- Follow biosecurity practices and use separate boots and clothing when working with mortalities.
- The transportation of dead animals should be the last task of the day.
- Ensure any vehicles used for mortalities are adequately cleaned. Best practice suggests using hot water and soap from a high-pressure sprayer.
- In the immediate area around the deadstock bin, apply dry lime liberally and often to the ground. Disinfect bins periodically with an appropriate disinfectant.

### In the public eye

In some cases, photos of overflowing deadstock bins are used by activist groups to allege mistreatment of animals or poor practices by farmers. When raising livestock, mortalities happen, but how they're handled can have a big impact on how people perceive pig farming.

- Ensure bin lids are closed tightly
- Plan ahead for regular pickups

## ■ Don't overfill bins

Handle deadstock smartly to keep your herd safe and the industry's reputation strong.

For more information, please contact Frank Wood, industry and member services, at 519-767-4600 ext. 1612 or frank.wood@ontaripork.on.ca.

## Information for small producers

Whether you have two, 20, or 200 pigs in Ontario, it is important to be aware of the management and welfare requirements of the swine industry. Also of the traceability requirements for movement of animals between farms and to slaughter.

Even if this is not your first time raising pigs, you may still have questions about their feeding, management, health, government regulations or mandatory requirements for raising pigs in Ontario.

Ontario Pork has compiled a how-to-guide to help small scale producers or hobby farmers rearing pigs in Ontario. This guide is intended for those raising weaned pigs through growing and finishing to slaughter weight, but does not contain information on the management of sows, breeding or farrowing.

Find it online at [ontariopork.on.ca/producers/small](http://ontariopork.on.ca/producers/small) or contact Ontario Pork to receive a print or emailed copy.

## Biosecurity: Preventing the Spread of Disease on Small Pig Farms in Ontario

Biosecurity is any action that serves to protect people, animals and the environment from infectious disease, pests, and other

biological threats.

It includes the proactive steps taken to keep a disease out of a farm (e.g. having visitors wear plastic boots over their shoes before entering your farm), and the actions taken to prevent the spread of pathogens between groups of animals on the same farm (e.g. feeding and caring for healthy animals first then handling animals in the sick pen).

Larger swine farms include a shower-through facility in order to reduce the chance of disease entering their herd. The key principles of a biosecurity plan are segregation and cleaning.

Segregation is the application of barriers to limit the risk of exposing healthy animals to disease. For example, you should keep newly purchased livestock in a different barn, away from the rest of the established herd, until you are sure they are healthy and acclimatized to your farm.

For cleaning to be effective in preventing the spread of disease, organic matter must be removed (e.g. scrape and wash manure off boots or equipment prior to disinfecting), washed, disinfected and dried. Specific actions for **good biosecurity for small scale pig production** are listed below.

### Work Flow:

- Farm owners and workers should have separate clothing and foot wear for working around pigs or in the barn. These should be kept at the barn entrance.
- Use hand sanitizer or wash your hands with soap and warm water before entering and after leaving livestock areas.
- Work with the youngest animals first as they are more susceptible to diseases, then move to work-

ing with older animals that have a stronger immune system.

### Introducing New Stock:

- Avoid purchasing stock from markets and auctions. The best practice is to buy animals from a single source with a known health status.
- Before purchasing new animals, if possible have your veterinarian speak to the seller's veterinarian regarding herd health.
- Have a quarantine area available for animals new to the farm. A quarantine is a restriction on the movement of animals and is intended to help prevent the spread of illness or disease. The area should be a separate area or building to prevent any opportunity for recently purchased animals to spread disease to the existing herd.
- Keep new livestock in quarantine for three to four weeks. This will allow time for a proper assessment of health and recuperation from transport or illness.
- While animals should be monitored closely from day one of arrival and keeping in mind that you may want to run tests closer to the start, at the end of the quarantine period, observe animals for any abnormal behaviour and signs of disease before introducing these animals to the herd. Your veterinarian may test your new pigs for certain diseases at the beginning of the quarantine period or before mixing into the existing herd. Animals should be monitored closely while they are in the quarantine period. They should be observed for any changes in behavior or signs of illness.

### Water and Feed:

- At least annually, water should be tested where pigs drink to ensure its suitability for livestock

production.

- Design and position water bowls, troughs and waterers to reduce fecal contamination.
- Feed or feed ingredients should be purchased from reputable sources.
- Keep feed pest-free and dry, cover feed bins and feed systems to reduce the chance of contamination from wildlife or rodents.

## Housing, Equipment and Yard Maintenance:

- Pens should be completely emptied, cleaned and disinfected at least annually.
- All equipment that comes into direct contact with pigs should be cleaned and disinfected periodically, including feeders and waterers. Check that feeders and waterers are functioning properly on a daily basis.
- It is best to have dedicated equipment for use with your pigs only. If sharing equipment with other farms, be sure to clean, disinfect and dry the equipment before using on your farm.
- Insects, rodents, birds and pets can carry disease to pigs on their feet, fur or feathers and contaminate feed with their feces. Reduce the risk by:
  - Keeping feed in tightly closed containers and clean up spilled feed
  - Keeping area around pens free of debris
  - Cutting the grass regularly around pens, pens and enclosures
  - Use traps and bait as necessary for pests and rodents and keep pets out of the barn. If using bait, ensure both the blocks that are out in the barn and those stored for future use are not accessible to pigs, pets or children.

## Fences/Gates:

- Inspect boundary fences regu-

larly and repair as needed. Wild animals can introduce new diseases to your farm. Escaped pigs can spread disease to neighbouring herds or be attacked by predators. Gates on laneways prevent unwanted visitors to your barn.

## Herd Health:

- Contact your herd health veterinarian when livestock appear sick or are growing poorly. Pigs that die should be examined by a veterinarian to determine cause of death and decide if further control measures are needed.
- Vaccinate as recommended by your veterinarian (keeping the necessary records).
- Pigs on pasture can be affected by internal parasites (worms), predators, sunburn, or heat stroke. Speak to your veterinarian about a plan for the control of parasites. A plan for the control of parasites and predators as well as shelter to provide shade and adverse weather protection is required for outdoor pigs under the Codes of Practice.
- Keep records of treatments and veterinary care.

## Deadstock/Mortalities:

- Work with your veterinarian to create a plan for deadstock disposal either on or off the farm.
- Ensure that during handling or storage for deadstock pick-up that there is minimal exposure of the dead animals to other livestock or contamination of water sources or the environment with potential pathogens.
- Clean and disinfect all equipment used to move deadstock from the barn or pens.
- Dispose of all deadstock within 48 hours of its death or immediately if it begins to decompose before 48 hours have passed. Deadstock may also be

stored in cold storage for up to 14 days and in frozen storage for up to 240 days before disposal.

## Manure:

- Manure should be removed from the production area regularly.
- Farms should have a manure management plan that includes collection, storage, moving and spreading of manure to minimize chance of spreading disease and contaminating the water sources\*
- Tools and equipment used for manure handling should not be used for feed or bedding.

## Visitors/Contractors:

- Post signs on entrance doors and at the laneway regarding your biosecurity protocols for visitors. For example, 'Stop-restricted access zone-no unauthorized visitors-Contact: Ontario Pork or many feed companies will provide these signs free of charge.
- Create a visitor biosecurity protocol with your veterinarian.
- All visitors must follow the farm's biosecurity protocol. Including parking in a designated area, signing into a visitors log and wearing clean or farm provided boots and coveralls.



Report to Office located at: \_\_\_\_\_  
Or call \_\_\_\_\_ at phone number: \_\_\_\_\_



## Ontario Monthly Hog Market Facts

Compiled by Jaydee Smith, OMAFRA

[jaydee.smith@ontario.ca](mailto:jaydee.smith@ontario.ca)

Month	2019 1st 6 mo.	2019 Year Average	Jan '20	Feb '20	Mar '20	Apr '20
-------	-------------------	----------------------	---------	---------	---------	---------

100% Formula Price (\$/ckg, 100 index)	\$165.85	\$161.00	\$141.78	\$137.59	\$151.67	\$131.83
<b>* Same Month - Previous year</b>	<b>\$156.78</b>	<b>\$152.21</b>	<b>\$135.65</b>	<b>\$133.45</b>	<b>\$139.01</b>	<b>\$193.73</b>
Average price (\$/ckg, DW total value)	\$200.97	\$195.70	\$186.44	\$173.73	\$182.58	\$171.69
Low price (\$/ckg, DW total value)	\$178.97	\$173.86	\$154.00	\$152.23	\$161.53	\$148.36
High price (\$/ckg, DW total value)	\$239.23	\$235.11	\$241.63	\$219.71	\$222.44	\$214.87
Ontario Market Hog Sales	2,661,881	5,315,869	503,532	403,451	429,436	376,059
<b>*% Change Same Weeks - Previous Year</b>	<b>5.2%</b>	<b>2.7%</b>	<b>-6.0%</b>	<b>-0.3%</b>	<b>3.1%</b>	<b>-4.1%</b>
Average Carcass Weight (kg)	103.80	\$103.63	106.96	105.87	105.44	104.50

Weaned Pigs ( \$/pig, 5 kg)**Formula	\$43.12	\$42.01	\$36.86	\$35.78	\$39.44	\$34.28
Feeder Pigs ( \$/pig, 25 kg)**Formula	\$68.42	\$66.66	\$58.48	\$56.76	\$62.57	\$54.38
Value of Canadian Dollar (US\$)	\$0.7498	\$0.7534	\$0.7646	\$0.7526	\$0.7178	\$0.7100
<b>* Same Month - Previous year</b>	<b>\$0.7839</b>	<b>\$0.7717</b>	<b>\$0.7490</b>	<b>\$0.7566</b>	<b>\$0.7499</b>	<b>\$0.7478</b>
Prime Interest Rate at End of Month	3.95%	3.95%	3.95%	3.95%	2.95%	2.45%

Corn (farm price) - \$/tonne	\$204.71	\$211.93	\$210.98	\$212.03	\$206.17	\$181.73
<b>* Same Month - Previous year</b>	<b>\$185.35</b>	<b>\$187.29</b>	<b>\$198.68</b>	<b>\$198.93</b>	<b>\$194.31</b>	<b>\$192.73</b>
Soybean Meal (Hamilton + \$20)-\$/tonne	\$500.96	\$501.69	\$471.25	\$460.74	\$523.00	\$531.86
<b>* Same Month - Previous year</b>	<b>\$545.40</b>	<b>\$535.17</b>	<b>\$513.56</b>	<b>\$494.96</b>	<b>\$488.39</b>	<b>\$487.55</b>
Corn - Western Ontario Feed - \$/tonne	\$218.29	\$229.02	\$225.06	\$224.95	\$225.43	\$201.55
<b>* Same Month - Previous year</b>	<b>\$199.56</b>	<b>\$203.40</b>	<b>\$215.54</b>	<b>\$212.83</b>	<b>\$208.82</b>	<b>\$204.94</b>
DDGS FOB Chatham/Sarnia/Alymer (\$/tonne)	\$191.42	\$197.66	\$218.80	\$232.50	\$261.25	N/A
<b>* Same Month - Previous year</b>	<b>242.28</b>	<b>\$215.18</b>	<b>\$177.13</b>	<b>\$174.00</b>	<b>\$187.80</b>	<b>\$205.38</b>

Value of Market Hog	\$193.08	\$187.37	\$170.48	\$163.84	\$179.67	\$155.05
Feed Cost	\$119.57	\$122.99	\$127.56	\$124.89	\$124.84	\$122.78
Other Variable Costs	\$45.06	\$45.29	\$46.13	\$46.32	\$46.36	\$45.92
Fixed Costs	\$24.55	\$24.55	\$26.19	\$26.19	\$26.19	\$26.19
Total Costs	\$189.18	\$192.83	\$199.89	\$197.40	\$197.39	\$194.88
Net Return	\$3.90	-\$5.46	-\$29.41	-\$33.56	-\$17.72	-\$39.83

To receive the Weekly/Monthly Hog Market Facts, the OMAFRA Monthly Swine Budget, or the Pork News and Views newsletter by email, send a request to: [OMAFRA.Livestock@ontario.ca](mailto:OMAFRA.Livestock@ontario.ca).



## Swine Budget – April 2020

Compiled by Jaydee Smith, Swine Specialist, OMAFRA

[jaydee.smith@ontario.ca](mailto:jaydee.smith@ontario.ca)

Income (\$/pig)	Farrow to Wean	Nursery	Grow-Finish	Farrow to Finish
Market Pig @ 101% of Base Price \$131.83/ckg, 110 index, 104.5 kg plus \$2 premium				\$155.05

Variable Costs (\$/pig)	Farrow to Wean	Nursery	Grow-Finish	Farrow to Finish
Breeding Herd Feed @ 1,100 kg/sow	\$14.93			\$16.38
Nursery Feed @ 33.5 kg/pig		\$16.69		\$17.59
Grower-Finisher Feed @ 287 kg/pig			\$88.81	\$88.81
Net Replacement Cost for Gilts	\$2.76			\$3.24
Health (Vet & Supplies)	\$2.16	\$2.10	\$0.45	\$5.03
Breeding (A.I. & Supplies)	\$1.80			\$1.98
Marketing, Grading, Trucking	\$0.95	\$1.60	\$6.01	\$8.74
Utilities (Hydro, Gas)	\$2.40	\$1.41	\$2.17	\$6.29
Miscellaneous	\$1.00	\$0.10	\$0.20	\$1.40
Repairs & Maintenance	\$1.35	\$0.61	\$2.34	\$4.46
Labour	\$6.27	\$1.85	\$4.15	\$12.98
Operating Loan Interest	\$0.34	\$0.42	\$1.20	\$2.02
<b>Total Variable Costs</b>	<b>\$33.97</b>	<b>\$24.78</b>	<b>\$105.32</b>	<b>\$168.69</b>

Fixed Costs (\$/pig)	Farrow to Wean	Nursery	Grow-Finish	Farrow to Finish
Depreciation	\$4.51	\$2.04	\$7.79	\$14.88
Interest	\$2.53	\$1.14	\$4.36	\$8.33
Taxes & Insurance	\$0.90	\$0.41	\$1.56	\$2.98
<b>Total Fixed Costs</b>	<b>\$7.94</b>	<b>\$3.59</b>	<b>\$13.70</b>	<b>\$26.19</b>

Summary of Costs (\$/pig)	Farrow to Wean	Nursery	Grow-Finish	Farrow to Finish
Feed	\$14.93	\$16.69	\$88.81	\$122.78
Other Variable	\$19.03	\$8.09	\$16.52	\$45.92
Fixed	\$7.94	\$3.59	\$13.70	\$26.19
<b>Total Variable &amp; Fixed Costs</b>	<b>\$41.90</b>	<b>\$28.37</b>	<b>\$119.03</b>	<b>\$194.88</b>

Summary	Farrow to Wean	Feeder Pig	Wean to Finish	Farrow to Finish
Total Cost (\$/pig)	\$41.90	\$71.98	\$148.92	\$194.88
Net Return Farrow to Finish (\$/pig)				-\$39.83
Farrow to Finish Breakeven Base Price (\$/ckg, 100 index) includes 101% Base Price & \$2 Premium				\$166.13
Farrow to Finish Breakeven Base Price (\$/ckg, 100 index) excludes 101% Base Price & \$2 Premium				\$169.53

This is the estimated accumulated cost for a market hog sold during the month of April 2020. The farrow to wean phase estimates the weaned pig cost for November 2019 and the nursery phase estimates the feeder pig cost for January 2020. For further details, refer to the "2020 Budget Notes" posted at: <http://www.omafra.gov.on.ca/english/livestock/swine/finmark.html>





by  
**JENNIFER  
DuCRAY**

# AN EFFICIENT WAY TO COMBAT HEAT STRESS

**Consider discussing with your swine nutritionist the addition of chromium to your pigs' summer diets.**

In modern swine production, pigs experience multiple stress factors daily which negatively affect growth performance.

The stress factors pigs face can be primarily classified into three major categories:

- social (e.g., stocking density)
- environmental (e.g., hot or cold temperatures)
- microbial (e.g., pathogens)

Exposure to multiple stress factors simultaneously has an additive effect, which further affects performance. In addition, exposure to one stress factor can make the pigs more susceptible to other stresses. For example, heat-stressed animals are more prone to immune stress.

Overall, exposure to one or more stress factors results in decreased growth, lower feed efficiency, inconsistent reproductive performance, increased days to market and, eventually, even death. While grower pigs mostly experience a decrease in production performance, nursery and finisher pigs are more vulnerable and prone to die when exposed to higher stress.<sup>1</sup>

A major form of stress pigs en-



National Pork Board and the Pork Checkoff, Des Moines, Iowa photo

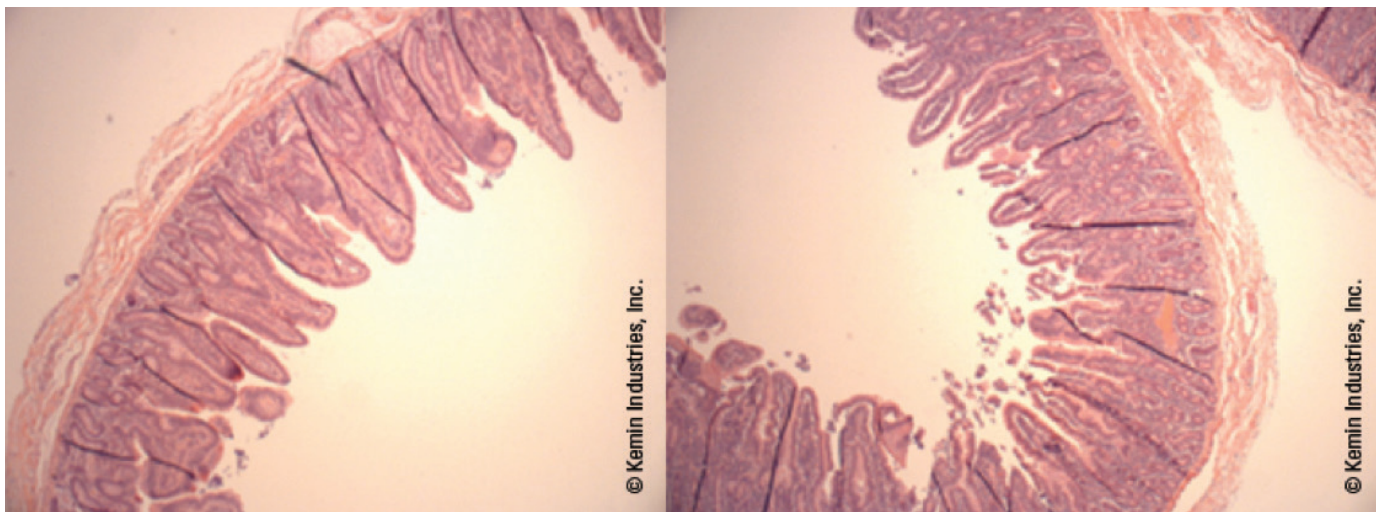
**Even though a diet formulation might show that a diet is balanced "on paper," we need to take further steps to realize the full potential.**

counter consistently each summer is heat stress. Among the various stressors pigs experience, heat stress can severely affect the animals in a short time span.

When the environmental temperature is elevated for an extended duration compared to the ambient temperature, this situation results in insufficient dissipation of heat from the body. As a result, the core body temperature becomes elevated.

Physiologically, pigs are more susceptible to heat stress. The animals poorly dissipate heat, have a highly insulated body and don't have functional sweat glands. Together, these factors exacerbate heat stress. It can cause symptoms ranging from minor discomfort all the way up to heat stroke, depending on the exposure duration and the temperature.

Because of the unpredictable and cyclical nature of heat stress, pigs



© Kemlin Industries, Inc.

© Kemlin Industries, Inc.

**These images show the intestinal lining (ileum) in pigs before (left) and after (right) eight days of heat stress. Intestinal damage caused by heat stress allows toxins and pathogens to readily enter the animal, causing additional complications within the pig and further decreasing nutrient absorption.**

don't get the opportunity to adapt most of the time.

To overcome heat stress, pigs use evaporative cooling by redistributing the blood flow to the periphery (skin). This mechanism is beneficial in the short term. If the heat stress continues for a longer duration, however, this mechanism results in reduced blood flow to vital internal organs causing decreased oxygen supply and eventually irreversible damage.

While almost all internal organs are vulnerable to the negative effects of heat stress, the intestine is one of the most vulnerable. The effect of reduced oxygen supply to the intestine could be manifold. If the intestine is damaged, the pig can't effectively absorb the limited nutrients it consumes, exacerbating the effects of the heat stress.

The damage to the intestine causes all the harmful toxins and pathogens from the intestine to enter the animal. In turn, this situation causes oxidative and inflammatory stress, which results in a further decrease in feed intake during heat stress.

Both these events, when combined with the other negative effects of heat stress, can significantly decrease muscle deposition and eventually decrease the pig's growth.

Heat stress also affects sows and decreases fertility.

Producers must properly address heat stress in order to realize pigs' full growth potential and to prevent financial losses.

While management could play a significant role in alleviating the negative effects of heat stress, nutritional interventions offer a flexible and economical option.<sup>2</sup>



National Pork Board and the Pork Checkoff, Des Moines, Iowa photo

**Overall, exposure to one or more stress factors results in decreased growth, lower feed efficiency, inconsistent reproductive performance, increased days to market and, eventually, even death.**

### Chromium

Livestock and poultry need hundreds of macro- and micronutrients every day for optimum health, growth and production.

Even though a diet formulation might show that a diet is balanced "on paper," we need to take further steps to realize the full potential. For example, we must add the enzyme phytase to the diet to make phosphorus more available to the animal.

While we can make phosphorus available by adding an enzyme, some nutrients, even though they might be present in the feed "on paper," need to be supplemented. In such cases, no enzymes are available to break these nutrients free from their attached components. One example is the trace mineral chromium.

Trivalent chromium (Cr<sup>3+</sup>) is classified as an essential trace mineral in humans. In contrast, while the benefits of chromium in production animals have been well studied, this mineral is not yet deemed essential at the time of this publication.

A common misconception exists among nutritionists and the scientific community that animals can obtain

the required chromium from feed without external supplementation. While this point is true to a certain extent, not all chromium present in feed gets released during the digestive processes because it is in a bound form. As a result, the animals do not get the benefits of the chromium.

Available data strongly indicates that chromium positively affects carbohydrate and lipid metabolism in muscle and adipose tissue across species. Chromium has also been shown to have the potential to attenuate stress caused by various factors, improve immune function and stimulate feed intake.

Emerging data indicates that supplementation of chromium during heat stress could mitigate the associated negative effects.<sup>3</sup>

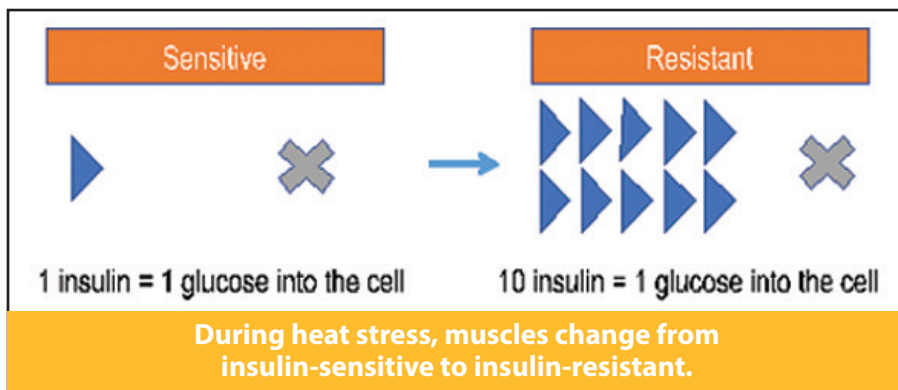
### Heat stress and chromium

Chromium helps pigs during periods of heat stress in a comprehensive manner, encompassing numerous organ systems.

During heat stress, the pig voluntarily reduces feed consumption, which would affect growth. Chromium has been consistently shown to increase feed intake not only during normal conditions, but also during stress conditions. In such situations, the chromium would help pigs increase feed intake and improve growth performance.

Further, chromium decreases the stress hormone cortisol during heat stress, which decreases the stress on the pigs and helps animals maintain their normal physiological functions.

Two important physiological events happen because of heat stress,



independent of the decreased feed intake in pigs.

First, during normal conditions, skeletal muscles are insulin-sensitive and elevated insulin in the blood helps the glucose in the bloodstream enter the muscles. During heat stress, insulin levels are elevated, but muscles have a blunted glucose absorption response to insulin. In other words, muscles change from insulin-sensitive to insulin-resistant.

Second, pigs accumulate more fat and less skeletal muscle than what is normally expected during these times because of some conserved evolutionary mechanism. During the stress period, pigs are not using the stored extra fat for energy purposes. Rather, the animals start to break down the muscles for energy use. The decreased feed intake associated with muscle breakdown severely affects growth performance.

Chromium has been consistently shown to potentiate the action of insulin. This nutrient helps the muscles become insulin-sensitive and stimu-

lates the glucose to enter the muscle so that muscle breakdown will be reduced.

Chromium also acts on the immune system. This nutrient increases the innate immune cells during heat stress which would help the pigs fight any resulting immune challenges. Chromium has also been shown to improve the animal's adaptive immune system.<sup>2,3,4</sup>

### Summary

Heat stress, depending on the nature and duration of the exposure, could be an acute or chronic stress. Pigs experience heat stress each summer, and it negatively affects health and growth.

Chromium, through its action on various organ systems, can decrease the effects of heat stress by lowering stress, improving glucose metabolism, preventing muscle breakdown and improving immune function. This nutrient offers an economical opportunity to combat heat stress in pigs and improve productivity. **BP**

### References

1. Holck, J. et al. (1998). "The influence of environment on the growth of commercial finisher pigs." *Journal of Swine Health and Production*. 6(4):141-149.
2. Mayorga, E. et al. (2019). "Effects of dietary chromium propionate on growth performance, metabolism, and immune biomarkers in heat-stressed finishing pigs." *Journal of Animal Science*. 97(3):1185-1197.
3. Lindemann, M. et al. (2019). "Chapter 3 – Use of chromium as an animal feed supplement." *The Nutritional Biochemistry of Chromium (III) (Second Edition)*. Elsevier. 79-125.
4. Liu, F. et al. (2017). "Effects of chromium supplementation on physiology, feed intake, and insulin related metabolism in growing pigs subjected to heat stress." *Translational Animal Science*. 1(1):116-125.

*Jennifer DuCray is a product manager for Kemin Animal Health and Nutrition – North America. Jennifer graduated with a bachelor of science in chemistry from Colorado State University and started working for Kemin in 2009.*

# Food is essential

Last year **821 million people** faced hunger around the world

**In 2020 that number will grow due to the coronavirus pandemic**

As we navigate these uncertain times together, Canadian Foodgrains Bank is staying committed to supporting our world's most vulnerable people.

Since 1983, Foodgrains Bank members have worked together to end world hunger by providing emergency food to refugees, training farmers to grow more food for their families, and helping mothers improve their children's nutrition.

**Your support to end global hunger is needed more than ever**

Together, we can make sure families facing hunger can access the essential food and assistance they need to get through this global emergency.



Photo: Edward Echwalu



To learn more visit [foodgrainsbank.ca](http://foodgrainsbank.ca)





by  
**MOE AGOSTINO  
& ABHINESH GOPAL**

# WILL CONSUMERS BRING HOME THE BACON?

**While the pork market experienced much volatility during the pandemic, demand should increase soon.**

Fudrio/iStock/Getty Images Plus photo



**Bacon, which normally is the darling of meat lovers and restaurants alike, has undergone a demand rollercoaster because of the pandemic.**

The pork and hog markets have been among the most volatile during the COVID-19 crisis.

Bacon, which normally is the darling of meat lovers and restaurants alike, has undergone a demand rollercoaster because of the pandemic.

Pork belly prices, which are a proxy for bacon prices, plunged to a 20-year low in March. Although consumers hoarded other meats and eggs during the COVID-19 lockdown, the demand for bacon (pork belly) took a hit due to restaurant and food service shut-

downs. This meat had become a condiment in restaurants.

Although bacon remains a breakfast favourite, the restaurant sector bought more of the product than household consumers purchased over the years. As the U.S. shutdown measures extended until at least April 30, a lot of restaurants and food service outlets remained closed or stayed open in limited capacities.

The decline in demand for bacon weighed on prices.

Besides the March low for bacon

demand, plant shutdowns and closures – on account of employees contracting COVID-19 – pummeled the U.S. pork packing sector.

As of late April, Smithfield Foods, the biggest pork packer in the United States, shut four of its facilities due to COVID-19 cases. These closures included the company's plant in Sioux Falls, S.D., which handles 5 per cent of all American annual hog processing.

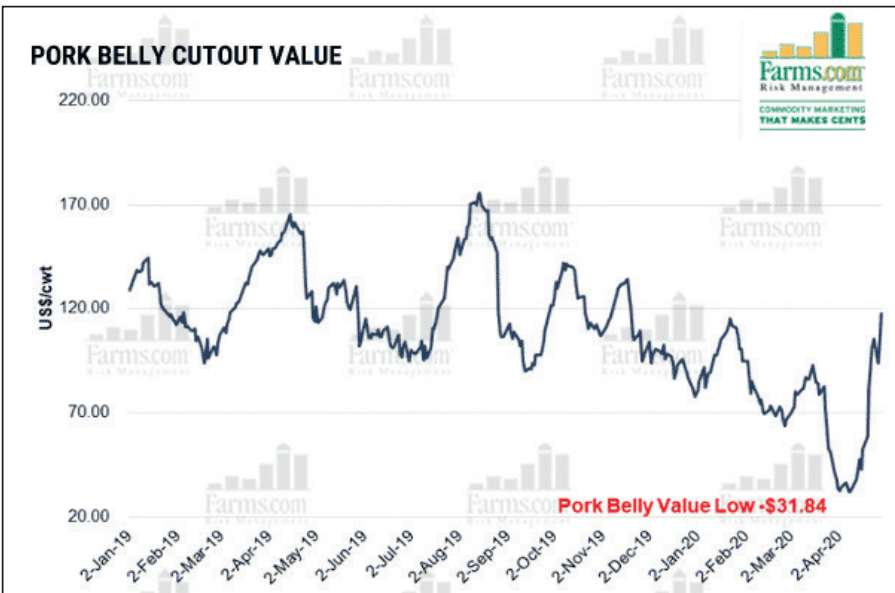
Total national pork processing capacity dropped by as much as 25 per cent as of late April. These issues will temporarily lead to a shortage of meat at the grocery level.

The pandemic could not have come at a worse time for the global pork industry. It was already reeling from the African swine fever (ASF) epidemic. ASF decimated roughly 25 per cent of the global hog herd since officials first reported the disease in the second half of 2018.

As a result of the fallout from the ASF crisis, the world was already anticipating a pork shortage this year.

The one-two punches of ASF and COVID-19 mean that American pork processors could find themselves in the middle of a tussle between the world's two biggest pork markets: China and the United States. Chinese pork prices have been high ever since ASF drastically reduced the country's hog herd.

Source: USDA



**Since bottoming in early April, pork belly cutout values put in a V-shaped recovery.**

So, it might make more economic sense for pork processors – especially Chinese-owned companies like Smithfield Foods – to sell to China.

As retail consumer demand for meat remained strong, hog prices remained volatile during March and April due to pork shortages and slaughter runs. Packers sought to increase hog slaughter to cater to the demand and obtain the strong packer margins.

Another interesting feature during the lockdown was that, like retail consumers stocking up on groceries and supplies, American livestock producers rushed to stock up on animal feed. They wanted to stay ahead of any possible disruptions to the feed supply chain and avoid any shortages. The feed stockpiling could have been massive when we consider that the United States is home to about 95 million cows, 77 million pigs, and 9 billion chickens.

Industry concerns grew that COVID-19 cases at feed mills and at slaughter facilities could shut both types of companies down. In such a situation, farmers would have to feed their livestock and poultry for longer periods. Producers also feared that trucking companies, which traditionally transported farm supplies, were now increasingly being “rerouted” to supply supermarkets. This situation also made farmers cautious and encouraged them to stock up to avoid transportation bottlenecks.

But, as of late April, we started to see some glimmers of hope for the market.

Political leaders planned for the global economy to gradually start running again in late April and May. The global economy could not withstand the continuation of the economic hit, which already was anticipated to cost US\$5 to 6 trillion (C\$7 to 8.4 trillion) over the next two years. Governments could not continue to buy themselves out of this crisis.

Officials will move ahead with the reopening cautiously and one step at a time. Society will also develop a new normal so that we minimize the chances of a surge or recurrence of the pandemic.



Lauri Patterson/Stock/Getty Images Plus photo

### The gradual re-opening of restaurants will support pork prices and hog futures.

As the economy geared for reopening post-COVID-19, the market situation changed. Pork belly prices put in a V-shaped recovery as the market started to factor in the gradual reopening of restaurants and the associated increase in bacon demand.

Pork cutout values mirrored the pork belly V-shaped recovery as consumer demand soared. The surge in pork cutout values (along with pork belly values), up almost US\$40 (C\$55.70) per hundredweight during the latter half of April, encouraged management at operational packing plants to put in more shifts. In the process, they made up for suspended packing capacity.

As of late April, we were also likely seeing the trend of American hog slaughter plant closures coming to an end. Management adjusted plant processing by slowing the speed of lines and adding safety measures like plastic shields to protect workers.

The second half of 2020 will be much better than the first. We can expect to see an increase in demand for meat as restaurants slowly start gearing up post-COVID-19.

Some market analysts estimate only 33 per cent of all American restaurants will reopen. Only a subset will be able to adhere to the new safety and operational standards or have survived the shutdown relatively unscathed. But this gradual re-opening will support pork prices and hog futures.

Bacon will be back on the menu at restaurants, but it does not look like

consumers will see the price of bacon drop at the retail level. **BP**

*Maurizio “Moe” Agostino is chief commodity strategist with Farms.com Risk Management and Abhinesh Gopal is head of commodity research. Risk Management is a Farms.com company.*

*Visit [RiskManagement.Farms.com](http://RiskManagement.Farms.com) for more information.*

The **trusted source** for swine-industry insight

**SUBSCRIBE TODAY**

...and never miss another issue

**Better Pork** readers receive the top insight on business management advice and information. We're the trusted source for Canada's pork producers.

**A \$22 ONE-YEAR SUBSCRIPTION IS A 54% DISCOUNT ON NEWSSTAND PRICES.**

CALL  
**1-888-248-4893 EXT. 255**

**Better  
pork**  
A Farms.com Company



by  
**RICHARD  
SMELSKI**

# THE IMPORTANCE OF CLEAR DEFINITIONS

In the swine industry, we often conflate some technical terms. Let's strengthen our understanding.

marchmeena29/iStock/Getty Images Plus photo



We must start with a clear understanding of the key terms in our industry.

“The beginning of wisdom is the definition of terms,” said Socrates, the great ancient Greek philosopher. This way of thinking certainly applies to the swine industry today.

Many terms are often misinterpreted and confusing, so they require definition. Let me review a few terms.

We often use the words bacteria and virus interchangeably but they have very different meanings. Bacteria are simple single-celled organisms. Less than 1 per cent of bacteria actually cause disease.

Viruses are 10 to 100 times smaller than the smallest bacteria. Viruses are made up of either DNA or RNA bordered by a capsid, which is a protein shell.

Protrusions from the virus bind only to certain receptors on a host cell. These protrusions shape the infectiousness of the virus, as well as what hosts it will attack.

Viruses are like parasites, relying on host cells to reproduce and survive. After infection, the virus “takes over” the ribosomes in the host. Ribosomes are the cell structures that make protein.

So, instead of the ribosome making protein that the host cell can use, the ribosome makes viral proteins.

Once new viruses exist, they can infect new host cells and new hosts. Antibiotics cannot be used to treat a viral infection.

Next, let's look at the differences between an antibiotic and a vaccine. In a sense, these two types of medicines work in opposite ways.

Antibiotics simply kill bacteria – regardless if it is harmful or friendly. Doctors and veterinarians prescribe this medication to treat infections caused by bacteria.

In contrast, researchers develop vaccines to prevent specific diseases.

And what about the differences between an antigen and antibodies?

A body produces an immune response to an antigen, which is a foreign substance like a toxin. For example, a body might produce antibodies. Each antigen has distinct surface features that result in specific responses. B cells of the immune system produce antibodies or immunoglobins, which are proteins, in response to exposure to antigens.

The antibody eliminates the antigen from the body.

Finally, let's discuss the difference between parasites and pests. The word pest is a general term that means an unwanted creature or an-

noying organism. In contrast, the word parasite is a specific term, meaning an organism that lives on and harms another creature.

And, of course, the list I've outlined isn't exhaustive. Key distinctions exist among a range of other terms in the swine industry, including:

- air speed and air changes
- temperature and thermocomfort
- nutrient percentage and nutrient intake
- feed consumption and feed disappearance
- average daily gain and pen days

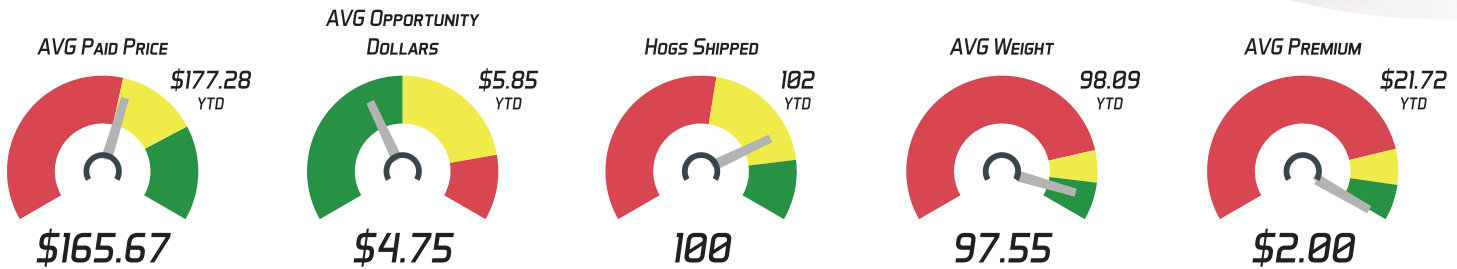
When describing definitions, perceptions might still complicate understanding. We can misinterpret meaning by adding a tone to different words. For example, repeat this sentence but try putting the emphasis on each word and notice the change in the interpretation: “I never said you didn't clean that room properly.”

Given our better awareness of these definitions, it may be appropriate to quote Socrates again: “I cannot teach anybody anything. I can only make them think.” **BP**

*Richard Smelski has over 35 years of agribusiness experience and farms in the Shakespeare, Ont. area.*



# PROFIT FINDER™



## MAXIMIZE PROFIT

### MINIMIZE SORT LOSS. MAXIMIZE PROFIT.

This unique tool, available exclusively from Grand Valley Fortifiers, will help compare weights vs. yield on your shipping grid and interpret how frequently you are hitting the mark. By better understanding your current shipping performance you can set goals to help increase the percentage of time you ship hogs in your grid's ideal weight zone. With Profit Finder™ you can minimize sort loss and maximize profit.

To learn more about Profit Finder™ and how you can use it on your farm speak with your GVF Swine Specialist today or call us at 1-877-625-4400.



1-877-625-4400  
grandvalley.com



# TN70

 Topigs Norsvin

**TN70** The best Mother in the world



Real contribution to your bottom line

Proven \$3.00 - \$5.00 gain per market hog in efficiency & grading

## TN70

---

The TN70 sow is a product of the Norsvin Landrace and the Z-Line.

TN70 combines the best of both worlds.

Topigs Norsvin Canada Inc.  
204 954-3820  
[info@topignorsvin.ca](mailto:info@topignorsvin.ca)