



SHUT-OUT DISEASE

FALL 2023

 PIPESTONE
JOURNAL



“Our *passion* to Help Farmers
has never been more alive.”

Thank you for the opportunity to serve your family
through the past and future generations.”

Hannah Walkes
President of Pipestone Services
Read more from Hannah on page 5.

RESOURCE GUIDE

Pipestone Veterinary Services

Animal Health Products | Vet Calls | VFDs -

Swine Resource Team (507) 562-PIGS (7447)

PIPESTONE Antibiotic Resistance Tracker (PART) -

Shawnie Veldhuizen (507) 825-7046

PQA Certification | Site Assessments | SPS Plans -

Pipestone.....Robin Gilbertson (507) 825-4211

Independence...Bailey Dudley (319) 332-0260

Bethany.....Cassie Felix (815) 756-3279

Rensselaer.....Daniel Van Deursen (219) 866-6465

Orange City.....Nicole Plendl (712) 737-4474

Vaccine Protocol -

Cassie Felix (815) 756-3279



Pipestone Management

Shareholder Communication/Meetings

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Transport Questions

Hal Schmidt (507) 381-1340

Brad Smidt (605) 929-7643

Sow Farm Investment

Nick Fitzgerald (319) 631-9316

Pig Re-grade

Nikki Johnson (507) 825-7154

Wean Pig Flow

Rick Jordahl (507) 828-2629

Environmental/Manure

Marty Rost (507) 215-0482

Pipestone Nutrition

Nutrition Questions

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Feed Budget

Shantel Vis (507) 215-4894

Pipestone Business

FarmBiz

Jim Marzolf (507) 381-3110

FarmBooks

Damon VanderMaten (507) 227-3275

FarmTeam

Dan Hanson (507) 215-7796

FarmStats

Kendra Burchett (507) 217-5036

Angie Homann (507) 215-5093

FarmPro

Jim Marzolf (507) 381-3110

Billing Questions

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Colette DeSchepper (507) 825-7921

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Jenna Hauglid (507) 825-7053

Kiley Klein (507) 825-7177

Customer Tax and W9 Questions

Pipestone Management

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Pipestone Veterinary Services

Lisa Poppe (507) 825-7148 - Tax

Kim Lape (507) 825-7057- W9

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YellowStone

Sean Simpson

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Wholestone

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Preparing for and Embracing **CHANGE AT PIPESTONE**

A familiar proverb states that only three things in life are certain—birth, death, and change. While change isn't always enjoyable and we often don't get to choose whether it happens, we do get to decide how to react to it, and in best cases, define it before it defines us.

Generational change has been top-of-mind for PIPESTONE since the inception of the Pipestone System and our original mission of Helping Farmers Today Create the Farms of Tomorrow in the late 1980s. We knew that if farms were going to be successful for tomorrow, they needed to plan for and (gasp) welcome change early.

Transition at PIPESTONE is no different, and we subscribe to the same advice we have given to our farmer clients all these years. It's why we aggressively work on our business transition plan and just like farm planning, it requires years to complete and constant, intentional thought to be done right. In July, we announced a significant structure change at PIPESTONE with the creation of two distinct divisions. This change aimed to better meet the needs of our company and clients for the next generation.

Pipestone Services

The Services Division focuses on the areas we serve our farm families every day through veterinary service, animal health, research, sow farm and mill management, nutrition, and business service functions.

Pipestone Partnerships

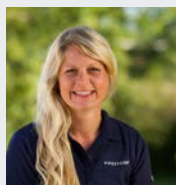
The Partnerships Division focuses on investment areas outside of our normal operations that we partner with farmers on—specifically through Wholestone, Greenstone, and Yellowstone.

The new structure lent itself to the ideal time to also transition leadership from Luke Minion to myself in the Services and Sean Simpson in the Partnerships Division. That too, came after years of planning and intentional thought to help Luke meet his personal goals.

We are grateful that in this case, our planning allowed us to craft our desired outcome, on our terms, and because change is never-ending, we are already working on what is needed for the next.

Our passion to Help Farmers has never been more alive. Thank you for the opportunity to serve your family through the past and future generations. We can't wait to see what changes are yet to come.

Hannah Walkes



Hannah Walkes
President
Pipestone Services

Hannah Walkes hails from a traditional crop and livestock farm in southwest Minnesota. A graduate of South Dakota State University, she began her career with PIPESTONE in 2007 and today, serves as President of Pipestone Services.



Sean Simpson
President
Pipestone Partnerships

A graduate of the University of Iowa and Hamline University School of Law, Sean Simpson joined PIPESTONE in 2013 as General Counsel. Today he serves as President of Pipestone Partnerships.

It's that time of year again - biosecurity solutions FOR WEAN-TO-FINISH SYSTEMS



Cameron Schmitt, DVM
Veterinarian
Pipestone Veterinary Services

Dr. Cameron Schmitt was raised in central Iowa and is a second generation large animal veterinarian. Dr. Schmitt joined PIPESTONE in 2002 after graduating from Iowa State University.

Unfortunately, summer is over and the fall season is upon us, followed soon by winter. From a disease management perspective, it is also the season when major swine pathogens get a break from the sun and heat. Typically, as barns start to close up and we enter minimum ventilation rates overnight, respiratory disease is not far away.

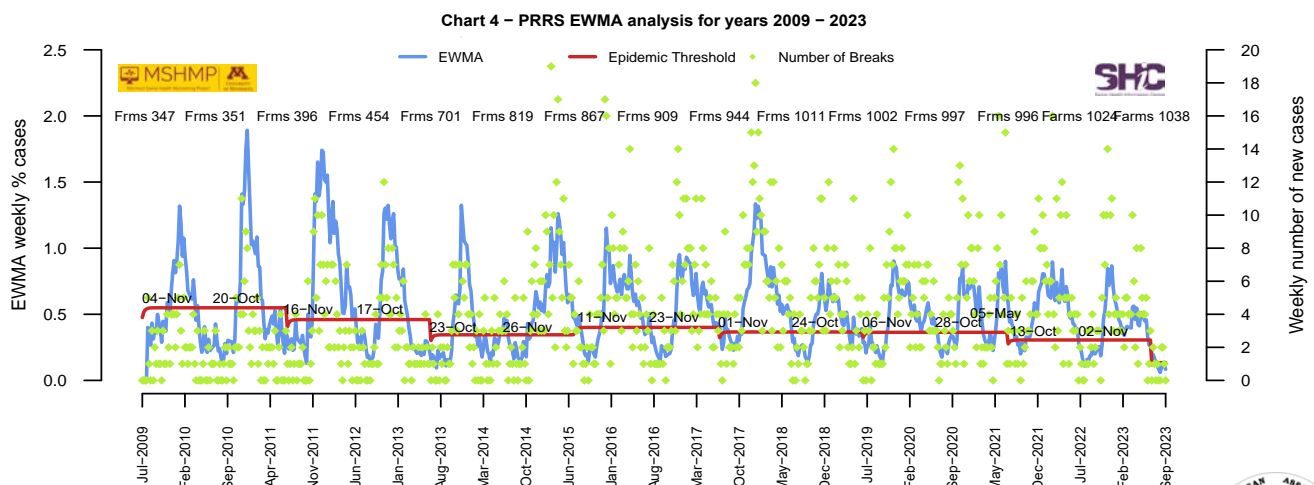
Seasonally, the industry enters the annual epidemic phase of PRRS and other diseases between mid-October and mid-November (see *PRRS EWMA analysis from SHC's MSHMP report 7/28/23*).

What can be done to reduce infectious disease movement in wean-to-finish systems?

Changing this paradigm will take a commitment by producers to make an impact – it won't be cheap, but it is costing our industry >\$1B/year with some estimates as high as \$1.5B.

At PIPESTONE we have implemented an ongoing wean-to-finish biosecurity survey for many of our clients and shareholders, delveoping a scoring system to see how they rank amongst their peers. When we analyze the results, this scorecard provides some easy-

to-implement solutions that do not cost a lot of money.



This graph highlights the seasonal increase of PRRS and other diseases.




What Can I Do?

Products and equipment moving into and out of wean-to-finish farms are an easy place to start. We know disinfection, time, and temperature kill viral pathogens. Have you thought of implementing Disinfection and Downtime (D&D) at your wean-to-finish farm?

A second, sometimes easy-to-implement, change is to shower in/shower out. A lot of sites I visit had showers built into them at the time of construction, however,

most have never been used. We wouldn't let someone into a sow farm without showering, what is keeping us from making this easy change?

On the difficult side, a consideration is barn location – it is difficult to pick up a farm and move it to a non-pig-dense area. Maybe renting a site in an area with a significant pig population isn't such a great idea, or maybe your system has an option on where geographic change is possible.

A wean-to-finish barn offers ample opportunities for the improvement of biosecurity. Please reach out to any of our team members if you'd like to discuss putting these ideas to work in your operation. 

To see recommended products based on the scorecard, visit page 20.

The importance of a HEALTHY GILT SOURCE



Rodrigo Tueber
Director of Multiplication
Pipestone Management

A veterinarian originally from Chile, Rodrigo started his career in the swine industry in 2004. He brought his knowledge and worldwide industry experience to PIPESTONE in 2021 and serves as the Director of Multiplication.

A commercial sow farm has two options when it comes to replacement gilts, the first is to raise them internally, and the second is to purchase them from another site or company. Producing replacements internally requires a very broad and intensive management style to effectively run two different populations within one farm. The other challenge is genetic improvement. If you don't have the luxury of utilizing the best females for the purpose of replacement, it is very difficult to keep up with genetic progress.

WHY DO I NEED A HEALTHY GILT SOURCE?

A multiplier is designed and focused on doing one thing well, making a top-notch replacement gilt. The objective starts with the end product - the market hog. With a healthy replacement female, farmers maximize performance by producing wean pigs that are high-performing, high-health animals, with a genetic makeup that provides for low mortality, efficient feed conversion, and fast growth. In short, a healthy gilt source ensures a wean-to-finish pig that is profitable.

A healthy gilt from a PIPESTONE managed multiplier

is free of the heavy hitters of disease - Porcine Reproductive Respiratory Syndrome (PRRS), Porcine Epidemic Diarrhea (PED), Mycoplasma hyopneumonia, and carries high potential to be free of flu. In addition, the presence of secondary bugs like Streptococcus suis and Actinobacillus suis has been vastly minimized thanks to the diligent work of our vet team.

IMPACT

On average, a single gilt will produce more than 50 wean pigs in her lifetime. Multipliers have a major impact downstream. For example, a 5,000-head multiplier will provide approximately 110,000 replacements - supplying approximately 22 5,000-head commercial sow farms. Those replacements will yield nearly 3.3 million wean pigs for our shareholders - in just ONE year. All the more reason biosecurity is of the utmost importance at our multipliers.

KEYS TO SUCCESS



Biosecurity

Multipliers follow the same biosecurity protocols as any commercial sow farm. However, in practice, these protocols are

carried out more frequently and more intensely because the downstream implications of a health challenge are so vast. At each of our multipliers vet visits, testing, biosecurity and welfare audits, and employee training are carried out at least monthly, if not bi-weekly.

Visitors, including PIPESTONE personnel, are required to have three nights away from pigs before they are allowed to shower in at a multiplier farm. All sites take note of proper D&D protocols, and each multiplier employs an office manager who provides our team with home-cooked meals to ensure no pork products are cooked on-site and ensures all areas inside the barns remain spotless.



Teamwork

If our multipliers are to be successful, the collaboration of our teams is vital. From construction and human resources to nutrition and transportation, a healthy gilt source is a direct result of our PIPESTONE family working in tandem.



Measurements

As multipliers have different roles in the supply chain, we measure success through four big areas -

production performance, genetic improvement, product quality and downstream performance.

Production performance - we analyze a number of different metrics, but one that summarizes it best is pigs out the door. Our goal is for all multipliers to be weaning more than 13 pigs/sow and farrowing 102% of target.

Genetic improvement - multipliers place heavy consideration on two metrics at breeding time: pure line boar index and pure line sow index. To generate replacements of the highest genetic value, we only take the top 10% of the genetic sow indexing gilts to produce our replacements.


Product quality - the goal is to deliver a high-quality product to our clients: size matches with age, solid conformation, no physical defects, and external reproductive organs

according to expectations (size of vulva, number of teats). Our goal is to have less than 1% of our animals rejected.

Downstream performance - final area to measure and quite honestly the most relevant is client satisfaction through analyzing product performance.

A healthy gilt source is not a new concept, in fact, it is the foundation on which Pipestone Management was built. Nearly 30 years ago, PIPESTONE built its first multiplier with the goal of providing family farmers access to healthy, replacement gilts.

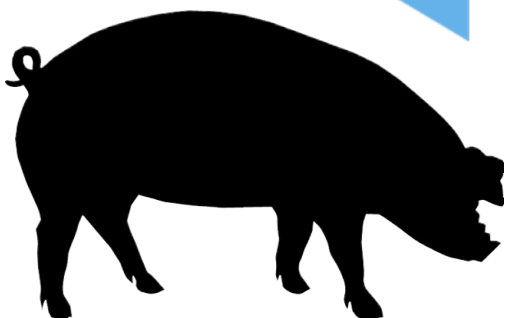
Over the years, the focus of Pipestone Management shifted to commercial sow farms.

Through research and work with commercial operations, we have proven just how much our biosecurity efforts pay off in helping to control the health of our pigs. Armed with the expertise of our team, PIPESTONE manages four multiplication farms located throughout the Midwest. If you are interested in learning more about gilt multiplication, contact Pipestone Management. 

**A single
5,000 head
Multiplier**
has the potential
to produce

**110,000
replacement
gilts,**

**which
produce
3.3
MILLION
wean pigs
annually!**



FEED MILL BIOSECURITY

Building a Program through Practicality and Science



Roger Cochrane, PhD
Feed Quality & Biosecurity
Pipestone Nutrition

Roger Cochrane hails from Indiana where he grew up on a small row crop farm. His passion for agriculture fueled an MS and PhD in Feed Mill Biosecurity from Kansas State University. Roger joined the PIPESTONE team in 2018, putting his expertise to work as a Feed Quality and Biosecurity Specialist.

Biosecurity is a word we hear often in swine production but what does it truly mean? When I think about an how to explain this topic to a feed mill, I tend to use the following: Biosecurity is a means to create **practical** and **science-based** methods to reduce the likelihood of viruses and bacteria entering our production system.

Historically, biosecurity has started at the farm level by showering in and out of facilities, danish entries, filtering facilities, disinfection protocols, and quarantine for incoming gilts. However, when thinking of the next level of biosecurity, feed rises to the top of the list as it is the next largest quantity product entering into the farm. Biosecurity continues to be a tough task at the feed mill as they are made up of complex networks of people, processes, and ingredients. Therefore, it

becomes critical for feed mills to follow the continuous cycle of understanding, identifying, implementing, and revisiting.

Understand the Risk of Feed

Since the introduction of porcine epidemic diarrhea virus (PED) to the United States, a large amount of research has been conducted around the true risk that feed carries in our production systems. This includes ingredients, process, equipment, and personnel. Each mill is very different, but the processes and risk are generally very similar. Even though feed may not be the primary route of transmission, and in general is relatively small, the magnitude of infection can be extreme and cause a large economic loss to a farm or system.



Identifying Risk Factors Using Audits & Science

The best way to identify areas of concern in either an owned mill or toll mill is to first identify any potential areas a contaminate can enter the production system. This can be completed by creating a flow diagram for the feed mill listing out each process and movements of people and trucks. In general, the major area of concern includes ingredients, trucks, and people. However, in some systems there could be additional areas of concern such as livestock close by or on-site. Our strategy to identify risk factors has been to create an audit form using the most recent scientific research that not only scores a feed mill but will also help the mill better understand where the major risk areas within a feed mill can originate. This



approach allows for conversation and brainstorming to figure out what procedures can be put in place that are not only successful but practical for the mill employees.

Implement Strategies

The number one question that gets asked regarding the implementation of a procedure or product is will it be practical? Two of the most practical and successful techniques that we have utilized in the feed industry are truck washing and the use of feed mitigants.



Prevention Strategy -Truck sanitation is one of the most vital procedures to ensure a bio-secure feed delivery. In most instances this is completed with a pump sprayer using sanitizer and only includes the tires and undercarriage. What we have learned from research over the past few years is that the cab of the truck is becoming a very vital part of the sanitation process. Using sanitizers that are used on the tires of the trucks or in foot baths can also be used in the cabs and on the floor mats of the trucks. Both methods of washing the outside of the trucks and sanitizing the cabs are very practical and can be completed at the end of the feed delivery route or after visiting a site of concern. Not only does this protect the farms but it also protects drivers from carrying a potential contaminant back to the mill. This process can also be carried out on ingredient trucks entering a facility.


Feed Mitigation -The second approach is the use of products that contain acids, alkalis,

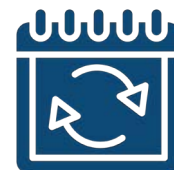
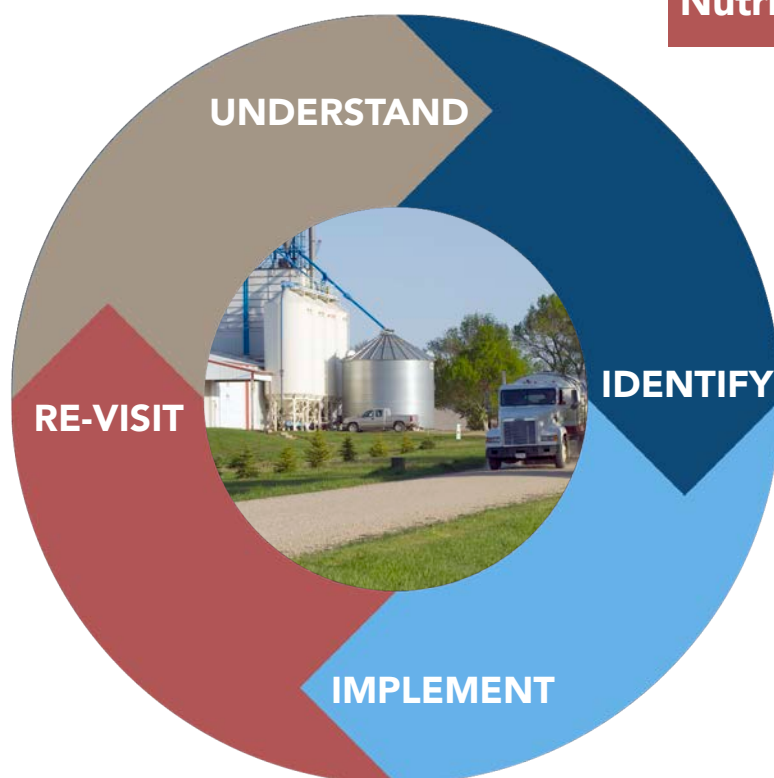
essential oils, medium chain fatty acids, and formalin are residual mitigation tools. These products can provide a lasting effect on the feed in which it can keep the product free of pathogens after the feed is treated. This reduces the risk of ingredients that could be contaminated and post processing contamination/recontamination.

Over the past few years various products have been tested among many viruses and bacteria which makes it very important and difficult to find the correct type of product that is effective against the pathogen of concern. For example a study published in 2020 evaluated 19 products against PEDV, PRRS, and SVA in feed. The outcome provides readers with various options/types of products that can be used to target 1, 2, or all 3 of the viruses. If you have any questions regarding feed mitigation products or using a feed mitigant, please reach out to a member of Pipestone Nutrition or your veterinarian.

Revisit

After implementation it is important to revisit the procedures to make sure they are effective and working properly for the system. In some cases, you will have to change or adapt the procedures or audits to work in a specific system as each mill is different. Biosecurity will always be challenging and changing as more data becomes available and new technology is introduced.

Each year we continue to use this data to strengthen not only our production system but to help other feed mills strengthen their biosecurity plans. No matter the process or pathogen of concern we always continue to use the continuous cycle of biosecurity, which is to understand, identify, implement, and revisit using a practical and scientific approach. 



How much can you invest TO PREVENT DISEASE?



Jim Marzolf
Executive Vice President
Pipestone Business

Jim Marzolf is a Minnesota native who graduated from the University of Wisconsin with a B.S. in Animal Science; followed by an Executive MBA from Purdue University. Jim brought his experience in livestock production, finance and business management to PIPESTONE in 2019 and serves as Executive Vice President of Pipestone Business.

Ben Franklin is credited with saying, "An ounce of prevention is worth a pound of cure." The proverb holds true today and is particularly relatable for pork producers.

A disease event has the potential to increase your production costs, reduce your production efficiency and

Based on these observations, the total cost of a disease challenge (like PRRS) may be as much as \$15.00/pig. Obviously, the type of disease and severity will significantly influence the financial impact.

Measuring the frequency of your disease events can help you decide how much to invest

you invest to attempt to fix the problem? You might start by calculating the payback period of your investment. The payback period is the number of years required to recover the original cash invested. In this situation, we will divide the capital invested per wean-to-finish pig space by the disease savings per space to determine the years

HIGHER PRODUCTION COSTS

- > Impact on mortality costs may be as much as \$4.00/pig.
- > Impact on animal health costs may be as much as \$3.00/pig.

LOST PRODUCTION EFFICIENCY

- > Impact on average daily gain may be as much as \$4.00/pig.
- > Impact on feed conversion may be as much as \$3.00/pig.

LOST MARKET OPPORTUNITY

- > Impact on load uniformity (% CV) may be as much as \$0.50/pig.
- > Impact on target market weights may be as much as \$0.50/pig.


increase your lost opportunity in the wean-to-finish phase of production. At Pipestone Business, we offer information systems like FarmStats and FarmBooks to help you measure and benchmark your production and financial performance respectively. Our team has studied that data and quantified the possible financial impact of disease events at the farm.

to shut out disease. If history suggests that your farm will break with disease in 1 out of 2 pig groups (50% chance), you may be more motivated to invest in solving your health issues than when the frequency is only 1 out of 5 pig groups (20% chance).

If you know a frequent disease challenge continues to cost you \$15.00 per pig, how much should

required to return the original investment. The disease savings per space is the sum of the disease cost per space multiplied by the probability of disease mitigation. In other words, you are estimating your probability of success in shutting out disease once you make the investment.

In the wean-to-finish scenarios to the right, we make an investment of \$5.00 per space to improve facilities, equipment, process and people. If we desire a one year payback period, our investment would need to yield a \$5.00 disease savings per space. If our health events are less frequent, it will take us longer to payback our initial investment. In our payback analysis, we have only changed the disease frequency to illustrate its effect on payback period.

We recommend you use the payback method to evaluate small projects or as an initial evaluation of larger projects. Major capital investments will require more sophisticated investment analyses. Your team at Pipestone Business can help to make sense of these difficult decisions. 

PAYBACK ANALYSIS

| Wean to Market Scenarios | High Frequency | Low Frequency |
|-----------------------------------|-----------------|----------------|
| Disease Cost | | |
| Pigs/Pig Space/Year | 2 | 2 |
| Disease Event Frequency | 50% | 20% |
| Cost/Disease Pig | \$ 15.00 | \$ 15.00 |
| Disease Cost/Pig Space | \$ 15.00 | \$ 6.00 |
| Investment Savings | | |
| Disease Cost/Space | \$ 15.00 | \$ 6.00 |
| Probability of Disease Mitigation | 80% | 80% |
| Disease Savings/Pig Space | \$ 12.00 | \$ 4.80 |
| Investment/Pig Space | \$ 5.00 | \$ 5.00 |
| Payback Period (Years) | 0.42 | 1.04 |



2023 INTERNS

leave their mark at PIPESTONE.

While our priority at PIPESTONE is helping farmers, our passion is the people who empower us. The growth and development of our team holds significant focus and is found in each of our core values – Integrity, Caring, Commitment, Growth, and Teamwork. An internship with PIPESTONE equips college students with hands-on experience in modern pig farming and a look into different areas of the company. It provides an opportunity to showcase people, farms, and communities to aspiring agriculture students.

This year, PIPESTONE welcomed nine interns from six states who worked in

production, nutrition, marketing, information technology, and veterinary services. For 10-12 weeks, interns were immersed in all phases of swine production, learning directly from industry professionals, exploring a multitude of farms and facilities, and interacting with the public at local events including the PIPESTONE Discovery Barn.

Production Intern, Kaydance Hinn, came to PIPESTONE to see the production side of the swine industry. But, she left with more than expected.

"This internship was awesome!"

"One of the big skills I learned was networking. I came in very quiet, but throughout the summer they really encouraged us to meet with professionals in the industry and now I'm leaving with a notebook full of contacts that will help me in the future."

PIPESTONE is committed to the next generation of agriculturalists. If you, or someone you know, is interested in an internship with PIPESTONE, talk with any of our team members or visit www.pipestone.com for more information.





SwineTime *podcast*



A monthly podcast created for the pork industry containing world-renowned resources and expertise on swine health, management, nutrition, business and more. Find the podcast on www.pipestone.com or subscribe on your favorite listening platform.

Check out the latest episodes!



CARING

in our Communities

PIPESTONE was proud to support these amazing organizations in 2023!



PROUD TO SUPPORT
CHILDRENS HOME SOCIETY OF SIOUX FALLS

PIPESTONE is proud to help support the Childrens Home Society in Sioux Falls as the main sponsor of their Caring for the Kids Fundraiser event.

The Childrens Home Society serves families, individuals, and children of all ages. Many are victims of domestic violence, abuse and neglect, or traumatic life events.

Their services include Emergency Shelter and Crisis Intervention, Forensic Interviews and Advocacy, Residential Treatment and Education, Adoption and Foster Care, Nurse-Family Visitation, and Prevention Education and Training.





PROUD TO SUPPORT
DEKALB EDUCATION FOUNDATION

"I would like to thank PIPESTONE for the generous donation to the DeKalb Education Foundation. These funds will enhance the educational opportunities for students in District 428."

Cindy Lofthouse



PROUD TO SUPPORT
MCCROSSAN BOYS RANCH RODEO

On Saturday, August 26th, PIPESTONE was proud to sponsor the McCrossan Boys Ranch Xtreme Event Challenge Rodeo. This event featured the most extreme, action-packed events of rodeo – Barrel Racing, Mutton Busting and the Northern

Bull Riding Tour. All proceeds from the event supported the quality programs for at-risk youth at McCrossan Boys Ranch.

McCrossan Boys Ranch in Sioux Falls, SD is a non-profit organization that reaches out

to troubled boys between the ages of 11 to 20, who have experienced conflict in their lives. By working on values, goals, education, and life skills they prepare boys to live a balanced life outside the ranch.

HOW'S YOUR WATER?

Activate®

The ACTIVATE® nutritional feed acid family of products contains a blend of organic acids and methionine hydroxy analogue (HMTBa), a highly bioavailable source of methionine. The combination of organic acids in ACTIVATE effectively reduces the pH of the gastrointestinal tract, promotes the establishment of a desirable and more balanced intestinal flora and aids in digestion, providing more nutrients from feed and improving performance.

Activate is a great tool used in reducing the risk of pigs breaking with an enteric disease like hemolytic E.coli during stressful periods. It is helpful to run this product to gut-challenged flows during critical periods like placement or diet transitions in the nursery.

Talk to your vet to learn more about utilizing this product in your operation.

Rachel Stika Jensen, DVM



SWINE RESOURCE TEAM

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www.pipestone.com

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507-562-PIGS (7447)

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ACTIVATE WD

ACTIVATE® US WD MAX is for use in drinking water, providing nutritional benefits (methionine activity) and drinking water acidification, making the drinking water a less favorable environment for pathogen growth (e.g., Salmonella, E. coli, Campylobacter, etc.).



Water pH Meter

Easily test and monitor pH and temperature of water with a HM Digital Pro HM pH Meter.



Citric Acid

Citric Acid is used to adjust drinking water pH for poultry, swine and other livestock. Changing the pH can increase the solubility of tetracyclines when used in a proportioner. It can also be used as a water line cleaner.


PIPESTONE
Veterinary Services

How **LOW** should the pH Go?

An E. coli challenge.



Rachel Stika Jensen, DVM
Veterinarian
Pipestone Veterinary Services

Dr. Rachel Jensen grew up near Cresco, Iowa and attended Iowa State University. In college, she discovered a passion for swine production and joined PIPESTONE in 2021.



Carly Bates
2023 Veterinary Intern
Pipestone Veterinary Services

Following her veterinary internship with PIPESTONE, Carly Bates was awarded the 2023 Morrison Swine Innovator Prize for her extraordinary work on this project. Carly will graduate from Iowa State University in May of 2025.

Hemolytic Escherichia Coli (E. coli) is a challenging pathogen due to its high morbidity and high mortality in weaned pigs. It causes severe diarrhea and sudden death. Our tools to control and reduce hemolytic E. coli are limited and unfortunately becoming less effective due to antimicrobial resistance. Acidification of drinking water for swine has been shown to be an effective tool in the prevention and control of hemolytic E. coli. However, the question remains, how low should the pH go?

This summer our veterinary intern, Carly Bates, completed a study to determine the growth of E. coli at varying pH levels. The study was completed in two phases. Phase one to reach the target pH levels of media without contamination and phase two for growing E. coli at varying pH levels.

After proper pH levels had been produced in each of the tryptic soy broth (TSB) containers (3,4,5,6 and 7pH) one colony of the E. coli isolate was obtained on an inoculating loop and

placed in each of the six TSB and swirled vigorously. TSB without lactic acid was inoculated and plated as a control. The E.coli used was an F18 strain isolated from a clinical case where pigs experienced diarrhea and sudden death. At 24 hours, the TSB containers were removed from the incubator and diluted to 1:10 - 1:100,000 dilutions. These dilutions and the original inoculum were plated using .05 mL of the solution spread evenly over the plate with an inoculation loop. Plates were then incubated and evaluated at 12 hours.



3pH

4pH

5pH

6pH

7pH

control

RESULTS

What are the results of the study? All plates at pH of 5, 6 and 7 had noticeable surface growth

of E. coli whereas plates at a pH of 3 and 4 had no visual surface growth. Providing evidence that the growth cut off point is a pH of 4!

When using acidifying products like citric acid or Activate, make sure to use a pH meter to ensure the drinking water at the pig level is 4-4.5pH.

Utilizing Products to Improve Wean-to-Finish Biosecurity

Disease does not stop at the sow farm; biosecurity protocols are beneficial in protecting our pigs when implemented in wean-to-finish sites. A helpful strategy to apply biosecurity is to

remember the 5 P's: Pigs, People, Products, Property and Pests.

Dr. Rachel Stika Jensen, Veterinarian at Pipestone Veterinary Services, recommends

the following products to enhance your wean-to-finish biosecurity strategy.

pigs

Animal Health
Vaccination Status
Animal Movement
Mortality Removal



TALK WITH YOUR VET ABOUT YOUR VACCINATION PROTOCOL

Porcine Reproductive Respiratory Syndrome, Circovirus, Mycoplasma hyopneumonia, and Ileitis vaccines. Injectable and water (oral) options available.

people

Visitors
Barn Entry
Biosecurity
Training

DO YOU SUPPLY PPE FOR PEOPLE ENTERING YOUR BARN?

Gloves, booties, tyveks, coveralls, and masks are available in a variety of sizes and styles.





SWINE RESOURCE TEAM

www.pipestone.com

507-562-PIGS (7447)

pvsorders@pipestone.com

Better wean-to-finish biosecurity standards are a must for producers to keep herds healthy and stay competitive. Work with your PIPESTONE veterinarian to access the practices in your operation, benchmark your farm, and make a commitment to raise the bar on wean-to-finish biosecurity standards.



**Feed
Supplies
Equipment**

HAVE YOU CONSIDERED FEED MITIGANTS OR DISINFECTANTS?

Our knowledgeable Swine Resource Team is happy to answer your questions - 507-562-7447.

KEEP YOUR FACILITIES WORKING FOR YOU!

Pit additives, barn supplies, disinfectants and more.

**Manure
Management
Location
Site Sanitation**



**Rodents
Flies
Other Pests**

pests

NOBODY LIKES A PEST!

Keep them out with proper use of sprays and baits.



CONNECT



SwineTime Podcast

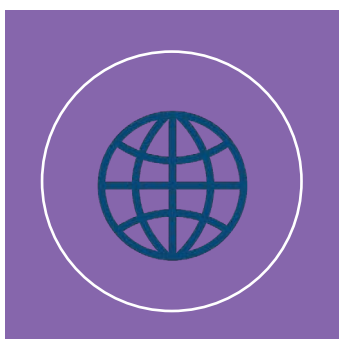
The SwineTime podcast is released monthly on the 2nd Tuesday. Find the podcast on www.pipestone.com or on your favorite podcast listening platform.



Swine Newsletter

A monthly newsletter containing timely, accurate and top-notch information directly to your inbox.

Subscribe at www.pipestone.com



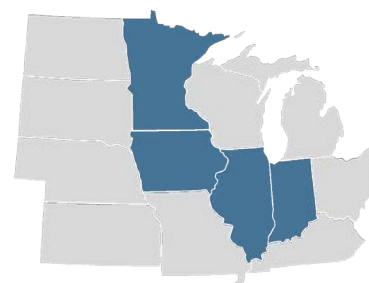
Social Media

- Pipestone_pigs
- Pipestone Discovery
- Pipestone - Helping Farmers
- pipestone.com



Office Locations

- Pipestone, Minnesota
- Independence, Iowa
- Orange City, Iowa
- Sycamore, Illinois
- Rensselaer, Indiana



PIPESTONE

DISCOVERY BARN

2023 by the numbers

days at
county
& state
fairs

55

9

 locations

Independence, IA
DeWitt, IA
Pipestone, MN
Luverne, MN

Marshall, MN
Tyler, MN
Sioux Falls, SD
Minneapolis, MN
Huron, SD

**THANK
YOU
TO OUR
AWESOME**

VOLUNTEERS!

14

SOWS

farrowed and donated
to FFA & 4-H families
for project pigs



218

piglets

born in public view –
most during the day
while people watched!



10

 iso-wean
pigs

on display and donated to FFA
& 4-H families for project pigs



1

calf
born on display

36

chicks
hatched



Another season of showcasing people and agriculture at state and county fairs has come to an end. PIPESTONE works hard to create Discovery Barn opportunities that allow us to share our passion with consumers.

By developing a personal experience, we open the door for quality conversations about where food comes from and the

farmers who are committed to animal care, sustainability, and a safe, quality product.

A big shout out to the numerous PIPESTONE staff, interns, allied industry, and farmer volunteers who helped in all of the locations!



Taylor Spronk, DVM
Pork Promotion &
Research Coordinator



Sylvia Wolters
Public Relations



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