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## Suidae Health & Production... The first 25 Years

By Dr. Matt Anderson

### Twenty five years can go by in a hurry!

We have often said that Suidae Health & Production is a direct reflection of our client producers. If you needed it, we prided ourselves on finding a way to provide it. Our mantra became “if it goes in or on a pig, and our producers need it, we’ll figure it out.” From humble beginnings 25 years ago, our commitment to your success continues to serve us well. And, we certainly hope it continues to serve you well.

A lot of things can change over a quarter century. We have continued to add passionate, creative, and dedicated team members. We have built two clinics and purchased three others. Over 25 years, Suidae Health & Production has evolved from a small start-up company in a drafty office to a dedicated team of ten swine specific veterinarians, production management team, research team, accounting staff, laboratory services staff, customer service staff, and a production records group together with a full cadre of service supporting team members. One thing that hasn’t changed, even a little, is our commitment to you! Suidae has always envisioned itself as a service company. Our business thrives by being dedicated to your success.

We all recognize that production agriculture isn’t always easy. The nature of the hog cycle means that there are peaks and valleys and we’ve just come through a pretty deep valley. It’s been said before that tough times don’t last but tough people do. No one exemplifies this more so than pork producers. An inspired, purposeful, long-term vision of the future is a prerequisite for multigenerational success.



The world’s population continues to expand. Norman Borlaug once espoused that “food is the moral right to all who are born into this world.” When we look toward the future there are some things that remain unchallenged. Agriculture will always serve as the bedrock upon which the world grows. And agricultural production businesses will continue to serve as the bedrock upon which good communities grow.

***In our next quarter century, our commitment to your success will remain. We will be there to help you assess emerging technology and new tools. We will continue to help you protect your businesses, and your animals, from health and productivity challenges. We remain committed to supporting your vision of developing and managing profitable, sustainable, productive, efficient, and fulfilling operations. In short, and as always, we remain committed to the success of the independent pork producer.***



### Algona Office

2111 100th Ave. | Algona, IA 50511  
Office: 515-295-8777  
Fax: 515-295-4954

### Morris Office

621 Pacific Ave | Morris, MN 56267  
Office: 320-589-0111  
Fax: 320-589-9096

### Lake City Office

1103 W. Main St. | Lake City, IA 51449  
Office: 712-464-8911  
Fax: 712-464-8016

### Hours

Monday–Friday 8am–5pm

### Veterinarians

Dr. Matt Anderson  
Dr. Todd Distad  
Dr. Jason Kelly  
Dr. Amber Stricker  
Dr. Trevor Schwartz  
Dr. Brandi Burton  
Dr. Chris Deegan  
Dr. Matt Finch  
Dr. Amanda Anderson Reeve  
Dr. Brent Sexton

## Our Philosophy

*To provide our clients with the highest professional service. To achieve this we invest in our employees and instill in each of them a strong sense of customer service and commitment. We believe this personal relationship allows us to work with our clients to the best of our abilities, and is the foundation of Suidae Health and Production.*

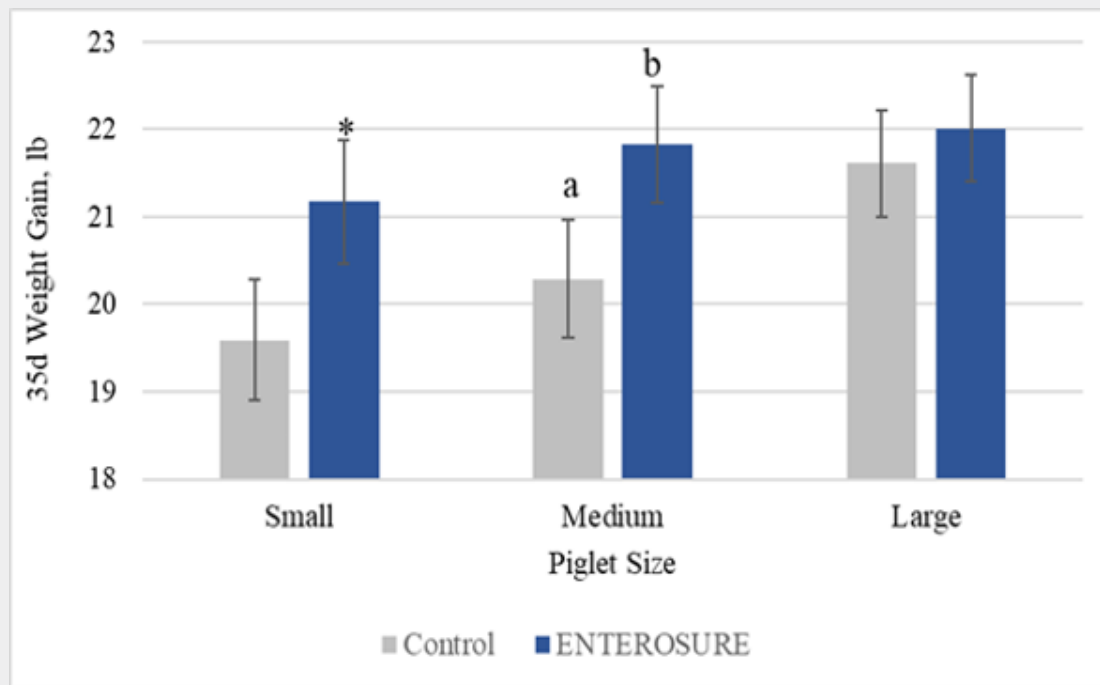
# Suidae Innovative Research



## KEMIN ENTEROSURE PROJECT

On behalf of Kemin and Suidae Innovative Research, Dr. Amanda Anderson Reeve gave a presentation at the American Association of Swine Veterinarians (AASV) Annual Meeting in Nashville, Tennessee in March 2024. The project evaluated Kemin's EnteroSure product- a novel active microbial solution that can be fed in nursery rations to pigs with expected toxigenic E. coli challenges. EnteroSure was developed to improve gut health and therefore reduce scours, improve weight gain, and increase survivability in pigs impacted by toxigenic E. coli. Over 2,000 piglets were placed on feed- half of which were fed EnteroSure while the other half received a control diet. Piglets were sorted by size to evaluate the impact of EnteroSure in different circumstances. As seen in the graph below, EnteroSure resulted in numeric advantages for all groups of pigs, while yielding significantly higher weight gain in the small and medium pigs. Although no significant mortality improvement was found in this study, EnteroSure may be a cost-effective option to consider for improving weight gain in nursery pigs with F18 E. coli. Reach out to your Suidae Veterinarian for more information!

## ENTEROSURE VS. CONTROL DIET NURSERY WEIGHT GAIN



# Summer intern projects:

Erin Larsen and Erin Russell spent the summer of 2023 with Suidae Innovative Research in collaboration the Swine Veterinary Internship Program. Both were selected to present research findings at the 2023 AASV Annual Meeting in Nashville, TN. Larsen was selected to give an oral presentation on her project comparing meloxicam doses in periparturient sows and how it aids in fever reduction and production performance. Russell was selected to present a poster on her project evaluating the diversity of sapovirus and rotavirus in pig flows using next generation sequencing.

*The proceedings papers for these projects can be found at the end of the newsletter on the supplemental material pages.*

*Great job Erin and Erin!*



*Erin Larsen*



*Erin Russell*

## Food Animal Career Camp:

Northeast Community College in Norfolk, NE hosted a food animal career camp for high school juniors and seniors interested in learning more about careers in food animal production. The event provided an opportunity for students to interact with animal agriculture representatives and get hands-on experience through model and live animal demonstrations. Dr. Matt Finch enjoyed speaking with groups of students about life as a swine veterinarian. Suidae appreciates the opportunity work with students anytime we can!



## Need to place an order?

**Jennifer Wolf, Director of Customer Service**

Life is complicated, but ordering your products at Suidae does not have to be. To make the ordering of products more convenient, the Suidae team has added 2 new ways to order products; text messaging and an orders email


*Feel free to drop us a text or email at any time day or night and as always, feel free to give us a call. Thanks for your business!*

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# Employee Spotlight | Bill Wurr



Bill Wurr is approaching 10 years of employment with Suida. He began his journey working with hogs when he was 16 years old helping a local farmer part-time. Along with other farm chores, he kept this part-time job for 32 years while working full-time - he loved being on the farm. In 1999, the grocery warehouse he worked at since age 19 closed and Bill entered the swine industry full-time.

Bill began as a technician in wean-to-finish and quickly worked his way up to manager. Without a postsecondary education, he knew he had to learn everything by simply doing everything. If a veterinarian was coming; he made sure he was there to ask questions and learn. He has enjoyed the evolution of the industry and all the progress that has been gained. When he entered the Supervisor level, he found himself with a new challenge - a computer. After his wife showed him how to turn it on, he taught himself all that he could by asking questions and watching videos.

When the company Bill worked for was bought out by a big corporation, he knew it was time to look for something else. He wanted to work for a company that focuses on a meaningful connection between pigs and people, and he saw that with Suida. He has enjoyed seeing and contributing to the progress that Suida has made over the years. He loves being part of a team that focuses on the product and being the best. He hopes to continue in his wean-to-finish Supervisor role for years to come.

Bill has been married for 38 years to his wife Julie. Together they have a son, Adam, who lives in Saint Louis. Bill and Julie often enjoy visiting to see their grandchildren (Samuel, 7, and Abigail, 5). Bill's dog, Beyer, is his faithful companion. Bill and Julie live in Laurens, IA, where Julie owns and operates a floral and décor shop.

## PORK RECIPE

For this recipe and more, visit [foodiewithfamily.com](http://foodiewithfamily.com).

# Garlic Ginger Glazed Sticky Pork

Impress your tastebuds this spring with this simple, yet flavorful pork recipe!



### Ingredients:

- 1 1/2 pounds boneless center cut pork loin (Cut into 1/4-inch thick slabs, then 1/4-inch thick strips, about 3 inches long)
- 1 teaspoon Kosher salt
- 1/2 teaspoon black pepper
- 1 tablespoon canola or peanut oil
- 5 cloves garlic peeled and minced or pressed through a garlic press
- 2- inch knob of fresh grated ginger
- 1/2 cup honey
- 2 tablespoons to 1/4 cup sriracha or chili garlic sauce
- 1 tablespoon rice wine vinegar or white wine vinegar

1. In a large measuring cup or a small mixing bowl, whisk together the honey, sriracha, and rice wine vinegar. Set it aside.
2. Pour the oil into a heavy-bottomed skillet over medium high heat and swirl to coat. Let it heat until it is shimmering. While the oil heats, sprinkle the pork strips with kosher salt and black pepper then toss with your hands to distribute it evenly. Carefully add the pork to the pan, working in batches to avoid overcrowding the pan. Let the first side brown, flip the pieces with tongs or a spatula, and brown the second side. Transfer the pork to a plate.
3. Return the pan to the heat and add in the garlic and ginger. Stir until fragrant, about 30 seconds.
4. Raise the heat to high and pour in the sauce mixture and bring to a boil, stirring frequently. When the sauce is very bubbly and thickened like warm honey, toss the pork back in and toss to coat everything and reduce the sauce to a thick, sticky glaze on the pork.
5. Serve immediately over rice or noodles with a vegetable. Or eat as finger food, served hot or cold.

# Comparison of meloxicam dosing protocols in periparturient sows and the effect on fever reduction and performance

E. Larsen<sup>1</sup>, MS; A. Anderson-Reever<sup>2</sup>, DVM, MS; B. Burton<sup>2</sup>, DVM; B. Payne<sup>3</sup>, DVM

<sup>1</sup>Lincoln Memorial University, Harrogate, Tennessee; <sup>2</sup>Suidae Health & Production, Algona, Iowa,

<sup>3</sup>Veterinary Pharmaceutical Solutions (VPS), St. Peter, Minnesota

## Introduction

The periparturient period is one of the most stressful events for sows and their piglets. Prolonged inflammation and fevers can result in negative implications for both the dam and the litter. Meloxicam is a nonsteroidal anti-inflammatory drug (NSAID) that has been shown to have analgesic, anti-inflammatory, anti-endotoxic, and antipyretic effects.<sup>1</sup> Internationally, meloxicam, in conjunction with antibiotics, has been approved for supportive therapy in the treatment of mastitis-metritis-agalactia syndrome and lameness.<sup>2-5</sup> In previous studies, a single meloxicam dosage has been shown to reduce rectal temperatures at 12- and 24-hours post-farrowing, increase litter wean weights, lower preweaning mortality rates and improve sow recovery post-farrowing.<sup>6-9</sup> Additional benefits of meloxicam dosing in sows include improved laying position of lactating sows, increases in colostrum quality and transfer of antibodies to piglets.<sup>9-11</sup> Although previous studies have indicated benefits to meloxicam administration, there is a lack of literature comparing dosing protocols. The objective of this study was to determine the effects of one versus two post farrowing doses of meloxicam on maternal fever reduction, piglet performance, and subsequent breeding metrics.

## Materials and methods

In a 5,000-head commercial sow farm, 403 mixed parity sows, and their litters were randomly assigned to one of three treatment groups. Sows were enrolled in the study after the farm staff determined farrowing was complete. All breeding females were blocked by parity group (Parity Group 1 = gilts, PG2 = P2 - P3, and PG3 = P4+) to ensure equal distribution during randomization. The one-dose treatment group received a single treatment of compounded 1.5% meloxicam suspension (90mg/6mL, VPS, St. Peter, Minnesota) post-farrowing, while the two-dose treatment group received the same treatment post-farrowing as well as a second equal dose approximately 48 hours later. The control group did not receive any NSAID. Treatment was administered in the sow feeder instead of a direct oral drench. Sows that farrowed overnight were treated with meloxicam the following morning. Any sow that completed farrowing during the day was treated with meloxicam prior to the farm staff leaving for the day. Sow rectal temperatures were recorded upon farrowing completion and every 24 hours for 3 days post-farrowing. Fever was defined as a rectal temperature of  $\geq 103^{\circ}\text{F}$  and was the primary parameter of the study. Sows that had a fever over  $104^{\circ}\text{F}$  were additionally treated following the farm's standard treatment protocol with up to three days of ampicillin and flunixin. Litter records, treatment information, and subsequent retention and breeding data were recorded. Sows were excluded from the fever and lactation phase of the study if they died or were removed from the farrowing room prior to the completion of all rectal temperature measurements but remained in the second phase when measuring overall retention

of the sows in the herd until the subsequent farrowing. Cross fostering of piglets was allowed within treatment groups but not tracked from litter to litter.

## Results and discussion

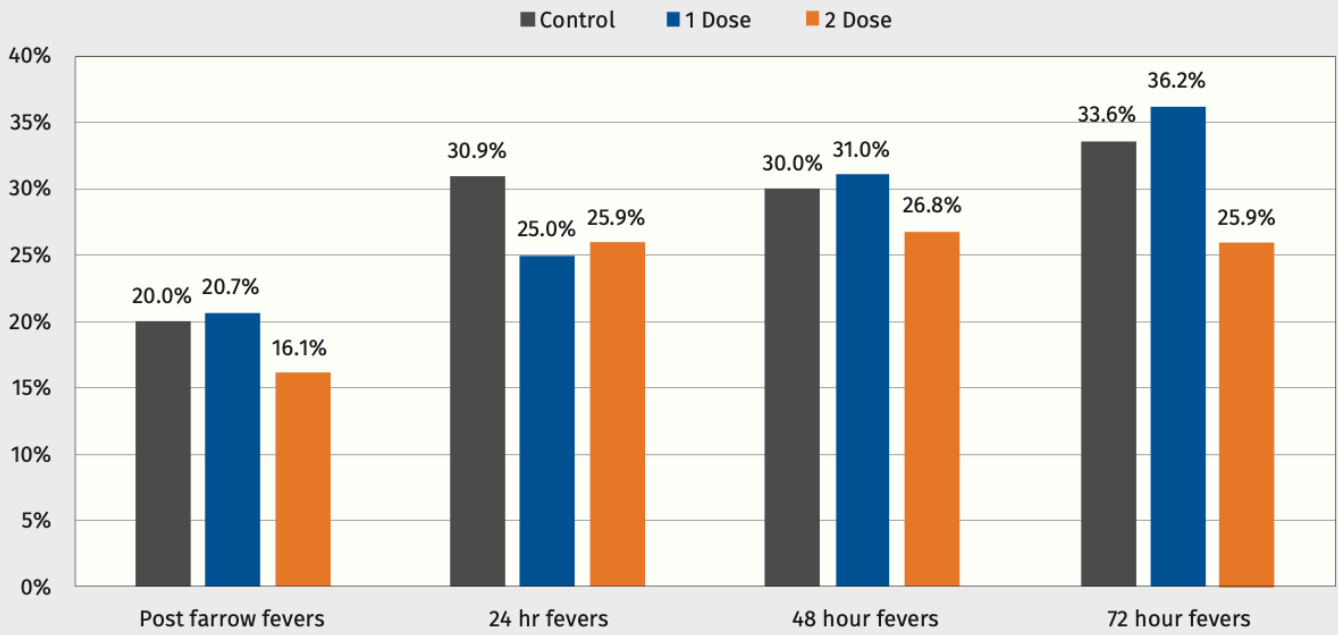
Initial power calculations using a previous study for fever reduction, the primary parameter, indicated 210 sows per treatment group were necessary to detect statistical significance.<sup>6</sup> Due to time and labor constraints, this study was unable to achieve the necessary sample size for finding statistical differences for fever in the 6-week period of enrollment. Therefore, this study served as a pilot project, and metrics were analyzed for numeric trends only. The percentage of fevers immediately post-farrowing and before any NSAID treatment was numerically similar (16 - 20%) between treatment groups (Figure 1). Across the whole study, only subtle numeric trends were noted between treatment groups for fever reduction (5 - 7%). However, a higher fever percentage and greater (14 - 23% above PG2 and PG3 averages) measured response to meloxicam administration were observed in PG1 first-litter sows (Figure 2). At the 72-hour post-farrowing timepoint, fever percentage was lowest in the two-dose group, intermediate in the one-dose group, and highest in the control group (37.1%, 42.5%, 51.4%, respectively). While feverish control group sows post-farrow rectal temperatures increased during the first 24 hours, the one and two-dose Meloxicam groups fevers reduced by  $0.47^{\circ}\text{F}$  and  $0.67^{\circ}\text{F}$ , respectively.

Recorded preweaning mortality rate was lowest and pigs weaned per sow was highest in the two-dose meloxicam group. However, the raw data is not clear due to unaccounted for pigs and results. Likely, these missing pigs are due to bump weaning and recording in the records system, rather than truly missing or dead pigs.

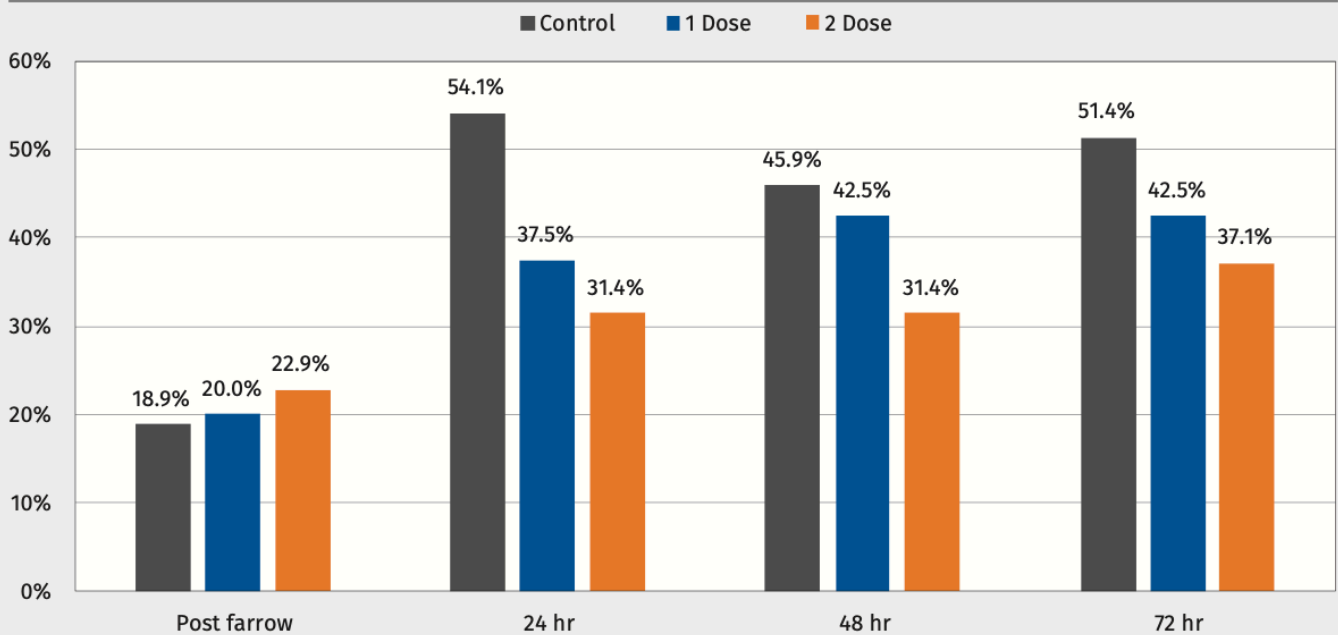
In agreement with Payne,<sup>12</sup> subsequent reproduction after weaning showed sows receiving meloxicam had 7 - 9% more sows bred within 7 days post-weaning compared to the control group (Figure 3). Similarly, the average wean-to-first-service intervals increased from greatest to least number of meloxicam administrations with standard deviations decreasing ( $4.44 \pm 1.46$ ,  $4.59 \pm 1.89$ ,  $4.69 \pm 2.56$ , respectively, Figure 4). The control group has the lowest retention rate (86.0%) from enrollment to one and a half months post-weaning compared to the one and two doses of meloxicam (both at 89.4%). Retention through subsequent farrowing will be reported fully once all sows farrow. These findings are directionally comparable to previously reported research all the way through the subsequent farrowing.<sup>12</sup>

This study was performed on a healthy sow herd. Today, periparturient compounded meloxicam administration to sows is being used in healthy and challenged herds. The results of this study support the use of this selective-COX2 inhibiting NSAID in sows going through normal inflammation and stressor events

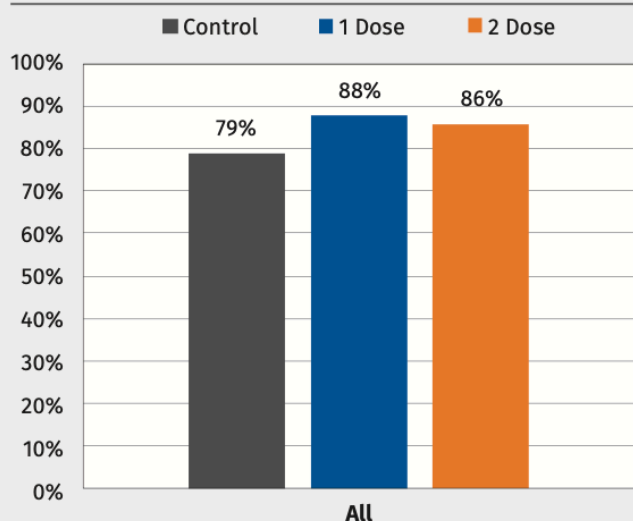
**Figure 1:** Percent of all sows with fever (rectal temperature  $\geq 103^{\circ}\text{F}$ ).



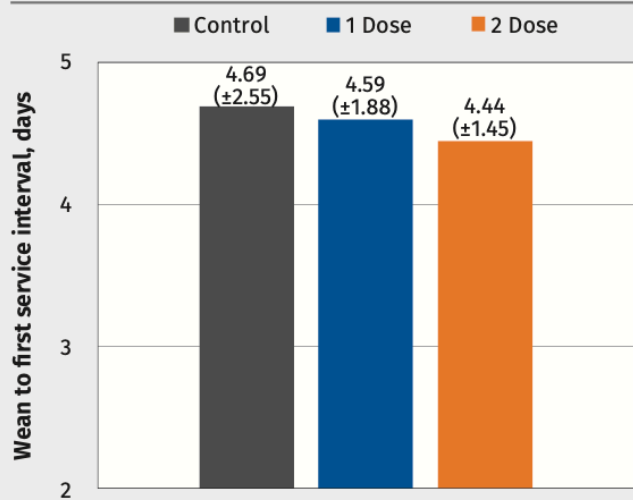
**Figure 2:** Percentage of parity group 1 gilts with fever (rectal temperature  $\geq 103^{\circ}\text{F}$ ).



**Figure 3:** Percentage of all sows bred < 7 days post-weaning.



**Figure 4:** (Mean  $\pm$  SD) Wean to first service interval, including all parities.



surrounding farrowing, uterine involution, and lactation. This study used a novel method of meloxicam administration (in the feeder vs oral drench) which required minimal labor. Through this method, meloxicam was easy to administer and was consumed readily by most sows. It is noted that the only true way to ensure the sow consumed the full intended dose of meloxicam is through oral drenching. Any sow that is not up and at the feed pan, should always have direct administration. As sow comfort and welfare are of the utmost importance to pork producers, the numeric trends identified in the study are supportive of previous studies and indicate it is likely worth exploring further benefits of a two-dose meloxicam protocol including timing (before and after farrowing).

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# Evaluation of clinical and immunization sequences of sapovirus and rotavirus in related pig flows using next generation sequencing

Erin Russell<sup>1</sup>, MS; Amanda Reeve<sup>2</sup>, MS, DVM; Brandi Burton<sup>2</sup>, DVM

<sup>1</sup>Lincoln Memorial University College of Veterinary Medicine, Harrogate, Tennessee

<sup>2</sup>Suidae Health and Production, Algona, Iowa

## Introduction

Sapovirus (SV) and rotavirus (RV) are prevalent causes of diarrhea that impact weight gain in swine. Cross-protection is limited within serogroups and immunization methods are often customized to individual flows. Frequently sequenced proteins are VP7 and VP4 for RV and VP1 for SV. Pigs immunized with homologous VP4s and VP7s have been shown to be protected from shedding and clinical disease in the face of a challenge. Further research is needed on immunization strategies and viral diversity. The objectives of this study were to investigate RV and SV diversity in related flows and to provide an example of next generation sequencing (NGS) analysis to guide immunization strategies, pig flows, sanitation, and more.

## Methods

A multiplier flow and two commercial flows (sourced by the multiplier) were enrolled. These farms vaccinate pre-farrow with one type of SV each and utilize a master seed feedback method for RV. Pooled diarrhea samples were collected from each sow farm and one recently weaned nursery in June and July. Feces and feedback were tested by polymerase chain reaction (PCR) and NGS for VP1, VP4, and VP7. Analysis was completed on Disease Bioportal.

## Results and discussion

SV VP1 analysis revealed 5 distinct clades (2 or more sequences, 97%+ homology), as shown in the lower box of Figure 1. Two clades only included sequences from one flow, while all flows were represented in the remaining three clades. The majority of sequences were from nursery samples. In this system, pigs are single-sourced but can be placed in any available nursery,

meaning that SVs could be spread vertically or through contaminated trailers and nurseries. Since anecdotal evidence suggests that pre-farrow vaccination for SV may benefit post-weaning piglets, immunization against multiple SV serotypes should be considered. Fecal and feedback sequences were included for RV analysis. The upper box of Figure 1 shows VP7 sequences for RVC. The blue clade contains two clinical and one feedback sequence. However, there are three clades (yellow, green, and blue) where sequences found on the sow farm were not present in the feedback. These viruses should be considered for future immunization pre-farrow. Numerous RVAs were found in nursery samples, but there was only a single RVA sequence found on one of the sow farms. The effect of pre-farrow vaccination on post-weaning diarrhea is unknown, therefore future research and better nursery and transport sanitation is likely needed. Limitations of this study include the duration of testing and difficulty interpreting partial sequences. Regardless, this shows that there is both a wide diversity of RVs and SVs, as well as an important overlap within related flows. Using readily available programs and increasingly affordable and efficient sequencing techniques, practitioners can make immediate advances to combat these viruses. Sharing of the additional results of this study, analysis of the number of reads of each sequence, and future sampling of these flows would be beneficial in drawing further conclusions on immunization best practices.



**Figure 1:** The upper box shows the relationship between VP7 sequences for Rotavirus C, and which farms it was present at. The lower box shows the relationship between Sapovirus sequences, and at which farms they were present at.

