



Disinfectants: *Why do we use them, and how can we use them better*

In general, there are 3 ways to inactivate or kill swine pathogens in the environment: time, temperature, and disinfectants. Many viruses and bacteria can survive for long periods of time, especially when organic matter is present. Similarly, we cannot effectively heat a barn up high enough to inactivate pathogens. This leaves us with chemical disinfectants to break the cycle of disease. **The selection of a disinfectant is based on a number of factors:**

- **Mode of Action:** The mode of action determines the types of pathogens that are inactivated by the disinfectant
- **Stability:** Some disinfectants can be inactivated by environmental factors like: hard water, presence of organic matter, or exposure to UV light
- **Additional properties:** Some disinfectants contain degreasers that can help break down organic material, or may foam better in order to achieve better coverage and increase contact time.

Getting the most out of your disinfectants starts with a thorough cleaning

When we wash our barns, we need to focus on removing as much organic matter (manure, feed, urine, blood, etc.) from the barn as possible. Washing the rooms is our most effective tool to remove organic matter. Organic matter harbors viruses and bacteria, and helps protect them from elements that may harm them like heat, uv light, and chemical disinfectants.

Here are 3 keys to optimizing the removal of organic matter from our barns:

1. **Thoroughly soak the barn** – Soaking helps lift and soften manure or other materials for more efficient cleaning
2. **Use hot water** – Hot water will drastically shorten the time needed to clean a barn, as well as clean more effectively
3. **Don't miss the cracks and crevices** – Under feeders, around gating, etc. is a great place for organic material to hide

Optimizing our disinfectants

With all the organic matter removed, we can then focus on applying the disinfectant. To optimize the efficacy of our disinfectants, follow these tips:

1. **Make sure we are using the right concentration** – Know how your powerwasher is set up to make sure it dilutes at the appropriate rate.
2. **Don't dilute the environment** – Even if the concentration coming out is correct, if we apply it to areas with standing water, we can effectively dilute the disinfectant. Be sure feed pans etc. are empty to reduce this risk.
3. **Use a foaming gun** – These applicators can create a foam which will help the disinfectant cling to vertical surfaces, increase surface coverage, and can ensure all areas get appropriately covered.
4. **Allow enough contact time** – 10 minutes is a good rule of thumb to ensure your disinfectant has had enough time to work. Do not apply rinse areas or apply whitewash until the disinfectant has had enough contact time.

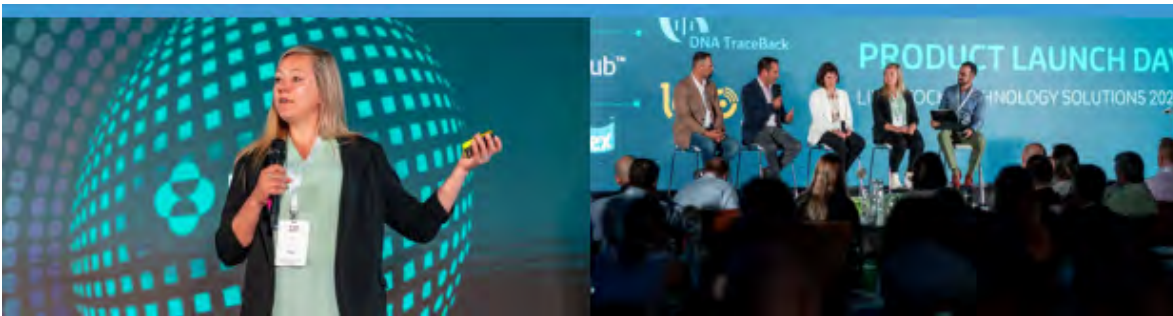
Dr. Brent





Suidae Innovative Research

Dr. Brandi Burton was invited by MSD Animal Health (Merck's global company) to Product Launch Days in Budapest, Hungary in early July. There she presented to MSD senior leadership about her experience working with LeeO, an RFID animal tracking system, for the last 5 years. Suidae was the first company to utilize this technology in a commercial herd and today, uses it extensively in all their research efforts. Dr. Burton talked about the power of big data and collecting individual animal information, but there is a lot of work to be done to automate data analysis and make the data work for producers in real time. Suidae and its research team continue to work on emerging technologies to help drive innovation in the industry!



PORK RECIPE

Pork Belly Burnt Ends

Good luck keeping your mouth from watering when you make this sweet and savory treat!

Ingredients:

- 1/2 skinless pork belly
- Your favorite sweet BBQ rub
- Your favorite sweet BBQ sauce
- Peach pepper jelly (Rib Candy brand)
- 1 sheet pan
- 1 disposable aluminum pan



Photo courtesy of meatchurch.com

For more recipes like this one, visit meatchurch.com/blogs/recipes.

Directions:

1. Pre-heat smoker to 250 degrees
2. Cut pork belly into 1x1 inch cubes
3. Season with dry rub, let rub set in for 15-20 minutes
4. Put the belly on the sheet pan fat-side down
5. Place sheet pan in smoker and smoke for around 3.5 hours
 - You want a tender feel and 195 degrees internal temperature reading
6. Transfer the belly to the aluminum pan and toss with a 2:1 mixture of your favorite BBQ and pepper jelly.
7. Place the aluminum pan back on the smoker, uncovered, and cook until caramelized (30 min – 1 hour depending on your liking)
8. Let cool and enjoy!!

Do you know your water?



Water is the number one nutrient a pig needs – and it often gets overlooked. This whole newsletter could be written about the importance of water and the water delivery system for your pigs, but this article will touch on some basics in wean-finish production.



AVAILABILITY:

A rule of thumb is to have 1 drinker per 12-15 pigs in wean-finish production. There are a variety of drinker types and styles available for pigs, but some common ones would be cups/bowls, gate mounted or swinging nipples, and pan waters. More drinkers are not always better – extra cups/bowls or pans often go unused and become a toilet. Ensure that the height of the water source is easy for pigs to access. Water waste is something to consider as well, especially if you use the water system for medication or vaccination – a cup/bowl will waste less water compared to a nipple. The water pressure in lines should typically be around 20psi, but you may need to adjust based on flow rate at the drinker. A simple test to measure flow rate can be accomplished by counting how many seconds it takes to fill the cap from a spray paint can. The cap should fill in ~6 seconds (~24oz/min) for finishing pigs and in ~12 seconds for nursery pigs. If flow isn't what you expect – investigate pinch points such as water medicators or any place the water line reduces in size. Using small hoses on your medicator, like wash machine hoses, will reduce flow rate. Keep track of water intake daily – a drop of 25% often indicates a health challenge setting in.



QUALITY:

The quality of the water in pig barns is often neglected. An understanding of the mineral content, pH, and any bacterial contamination is good to know. Excess minerals (sulfates, nitrates/nitrites, chlorides, calcium, sodium, etc.) in the water combine to create total dissolved solids, which can create water and water line issues if in excess concentrations. The pH tells you the acidity/alkalinity of your water. Too acidic water can damage your water system and too alkaline water can create scaling and may promote *E. coli* diarrhea. Bacterial contamination, measured by coliform concentrations, should be limited to 50 colony forming units per milliliter. These parameters can be measured through water quality testing, which should be done regularly. Routine water line cleaning is a good practice to keep up on as well. Using a peroxide-based treatment will help break down biofilms built up in the water system, and a chlorine-based treatment will help reduce pathogen load. If you use the water system for vaccination or medication, it is important to understand the water quality to ensure effectiveness of treatment.

If you have questions about the water your pigs are drinking, call your Suidae veterinarian today!

Dr. Finch





National Hog Farmer's 2024 New Product Tour

Dr. Brandi Burton was selected as a pork industry “shark” to judge this year’s New Product Tour – a competition for creating an innovative product that benefits pork producers and the industry. Each contestant presented a short sales pitch to the judges, and the judges questioned the representative in a “Shark Tank” style, as seen on TV.

This year's winner, announced at the 2024 World Pork Expo, was IHT cooling mats. More on this product and others can be found at: <https://www.nationalhogfarmer.com/livestock-management/2024-new-product-tour>.