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## The War Against Things We Can Not See: Keeping PRRS Virus Off Your Farms

How often is the right frequency to talk about fighting the battle against keeping tiny disease causing agents out of your farms? We would argue DAILY. You are in daily war with these agents. First, we must instill a belief the battle exists. It is difficult for some people to understand the fight when we cannot see what we are fighting. Use the following information to educate and instill a belief in all people who work on your farms. Biosecurity risk is the combination of a risky event x number of times this event happens each week. Focus on risky events that happen often.

**The Enemy:** Viruses are packages of genetic material surrounded by a skin or capsule.

- **Size:** The agents we fight are tiny. PRRS virus measures about 60 nanometers in diameter. It would take 25 million viruses lined up to each other to make an inch! The human eye can see things to about 60 micrometers so a PRRS virus is 1000 times smaller than we can see.
- **Survival:** PRRS will live at room temperature for nearly a week but will be inactivated by 100°F in 24 hours or 160°F in 15 minutes. Bad news is in cold temperatures the virus lives for months- PRRS loves winter! Disinfectants will work to inactivate the virus but recall:
  - Key is the disinfectants can touch the virus so cleaning away organic matter the virus uses for protection is critical.
  - Also the warmer the temperature the faster the disinfectants work.
- **Cost:** The PRRS virus costs the US industry \$580 million according to Dr. Holtkamp Iowa State University.

### What can we do? Ten Key Steps

#### 1. Sow farm entry:

- Keep warm and dry.
- Mop and clean daily. Kitchen cleaning tools like the Swiffer system work well. Use the bench system.
- Audit the process- talk to your veterinarian about Glow Germ a fluorescent tracking powder to help understand if the powder gets by your current processes.



#### 2. Supply entry:



- Use time and temperature to your advantage.
- Lock down materials in a safe room and keep warm and dry. (Recall the virus will die if heated to 100°F for 24 hours.)
- Use disinfectants as an additional tool.
- Use a log to track all material entering the farm. Make people accountable.
- Consider UV boxes for small items. If need small electronic items in farm this is a good method of entry.

#### 3. Animals:

- Test gilts prior to shipping. Keep the window of test to ship as small as possible.
- Isolate the animals after arrival and retest shortly after arrival to make sure the pre-ship test was correct and no contamination occurred during transportation.
- Audit the lock down process to assure no contact with farms during the isolation period.

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#### 4. Cull sow and wean pig movements:

- We open our farms multiple times per week to let these events happen. This is a key risk area
- Use layers of protection:
  - Spray off the back of truck with disinfectant prior to touching farm chute.
  - Create a zone of protection around exit chute- wash and disinfect this area after each exit event.
- Educate often and audit this process.
  - Garbage removal: also an exit event. Use the same precautions as exit of animals.



#### 5. Mortality removal:

- Try to keep this to one area like the wean pigs and cull sows.
- Use the “layers of protection” like any exit event.
- Keep rendering off site by using compost or incineration.
- If have rendering use a two sided process so the path of the rendering truck and farm vehicles never cross.



#### 6. Filtration:

- Filter farm if possible- this process works.
- Inspect farm regularly- daily by farm staff to check basic operation and equipment functional. Use an outside person to audit the system 1 -2 times per year for additional assurance system is w/o errors.

#### 7. Transportation:

- Use the time, temperature and disinfection to assure trucks are clean hauling animals to and from farm.
- After trucks are clean, inspected and disinfected; 100°F for 24 hours or 160°F for 15 minutes will inactivate virus.

#### 8. People:

- Use a biosecurity downtime process. Recall, it is usually not the length of time but rather what a person does during the downtime that matters. Vehicle cleaning, showering, changing clothing/footwear and avoiding direct contact with other pigs creates effective downtime.
- Use a sign in log and only allow people into farm that meet your requirements.

#### 9. Education:

- Never miss an opportunity to explain the process of what you are trying to do and how disease enters. Use all your resources. Regular discussion at every vet visit.

#### 10. Audits:

- Are we really doing what we say we are doing?
- The only way to know for sure is to check regularly.
- SVC has many tools to assist in this process.

