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Getting ready for PRRS season

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PRRS virus continues to be a challenge to the swine industry. Cost to the swine industry is \$1.8 million per day in losses calculated in a recent review of production numbers by Holtkamp.¹

The PRRS incidence data collected by Bob Morrison and Steve Tousignant has shown an increased incidence in 2011 PRRS outbreaks versus the previous years of 2009 and 2010 at least in this subset of farms that are volunteering to participate in the project.² Practitioners and producers have always felt that although PRRS can break in any month there was definitely a seasonal pattern to the outbreaks. Morrison uses a calculation previously used in human medicine to determine flu epidemics to determine from the incidence data when an epidemic has occurred and how long it persists. From this data set of the last 3 years the time frames appear to be repeatable,² much more than most would have guessed until the data was available. Not necessarily the same week but in a relative short time frame starting in late October and early November.

One concern, is whether or not this is a factor of getting better at control of outbreaks? Herds that break in this time frame, are stabilized, generate negative pigs 24-42 weeks later result in more negative wean to finish pigs in areas around sow farms and are more likely to break with PRRS virus. If these breaks go forward they result in potentially high concentrations of virus in the area and greater risk of area spread.

Knowing the time the epidemics have occurred farms can prepare for the time frame that PRRS is going to be occurring. By knowing the virus is coming can it be stopped from entering the herd?

What can be done?

PADRAP

If the herd and sites have not been PARAP assessed it is a good review of the risk concerns for the sites. This should be done or updated to assess any changes to the system. One of the major risk factors for virus spread is knowing the status of surrounding herds in the area by Holtkamp and Yeske.³ This has been described by PADRAP scores for the related risk factors in a surveillance study

of negative herds. There was a significant effect on the length of survival as defined as herd staying negative that were in a lower density region.

Herds in the area

One of the first things would be to talk to the local neighboring herds within at least 3 miles and up to 5 miles to understand the status of pigs on the site and what is being done for PRRS control and biosecurity program on these sites, if the neighbors are willing to share this information.

If the wean to finish herds are sourced with negative pigs vaccinating may help to reduce the length of shedding 42 weeks versus 77 weeks⁴ and volume of PRRS virus spread into the area.

There is a concern of vaccinating with the MLV products and potential spread to negative or sensitive herds in the area. Although the BI PRRS MLV has been demonstrated to shed to other pigs, the amount of virus that is shed is relatively low and for 14 days. Air samples collected found a concentration of less than 4 logs of virus⁵ 1 day out of 30 at 1 mile and outside the pit fan up till 14 days. In the barn the room right next to the vaccinated room stayed negative for the entire study with only a shower and clothes and boot change between the rooms.

Audit biosecurity procedures

The biosecurity procedures can be audited in conjunction with the PARAP. Procedures need to be observed to make sure they are being executed properly according to the protocol. This is an excellent time to see if there are gaps or changes that need to be made to improve the effectiveness. This is also a good time to retrain the existing staff and any new employees to make sure that everyone is up to speed on procedures. Areas to consider:

- People entry to the site
 - ▶ Employees
 - ▶ Visitors
 - ▶ Bench entry

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- Product entry to the site
 - ▶ Medications
 - ▶ Vaccinations
 - ▶ Others
- Isolation of breeding stock
- Sale of animals
 - ▶ Wean pigs
 - ▶ Cull sows
- Mortalities
 - ▶ Piglets and sows
- Garbage removal
- Air (if filtered site)
 - ▶ Check for leaks
 - ▶ Back drafts of fans
 - ▶ Load in load out procedures
 - ▶ Airlocks

Weather changes

PRRS breaks generally occur as temperatures get colder. There are still many unanswered questions as to whether this is a factor or not in the time frame of when herds break. This can certainly be a stress if the barn is not set up properly for colder temperatures. The colder weather and lower amounts of day light in this time of the year may account for virus being able to survive better in the environment allowing for greater herd to herd spread; either of which can be risk factors.

Action steps to review ventilation controls; set points, bandwidths and dead bands to make sure there are not additional stresses in the setup of the controller. Check curtain sided buildings or tunnel barns for leaks or holes in the curtains that could allow for cold air stress in the barn. Inlet set up in a tunnel barn can make a difference in barn temperature. There is some leakage around tunnel curtains even if working properly and in good repair. By leaving some of the ceiling inlets closed at the tunnel end of the barn helps to make sure not too much cool air is coming in on that end of the barn. Increase set points in barns this time of year to make sure that the barn doesn't get too low of a temperature resulting in cold (chilling) stress.

Manure pumping

Fall is always hectic time of year when there is a lot of manure to pump and many times only a short time to do it. It makes it difficult to have down time and do a good

job of cleaning between sites. I'm not sure other than the outside of the equipment being clean if manure handling equipment can ever get clean without a total breakdown of the equipment. There is much debate over whether it is a risk to have a neighbor pumping manure next to your farm. Since there is not a good data on this it has to be considered a risk and we know that virus can survive in manure.⁶ This has been an issue in the filtered sites because pits are being accessed during the pumping process and can be a potential source of unfiltered air entering the farm.

Having your own pumping equipment is one way to make sure that the equipment hasn't been on another pig farm. Working with your custom applicator on a specific order for herds to be pumped is also something that can be done starting with highest and going to lowest health status being the best. When pits are full and weather is bad good plans can be changed; stay in contact with them to know what's going on. Talking with neighbors before the drag hose or tanks show up about where you plan to pump can help. Discuss options on pumping their manure on your land since it is close to their buildings and you can pump on theirs are possible solutions to make sure the manure asset isn't lost.

Wind breaks

In the fall leaves are dropping from deciduous trees and allow for more air movement through groves. Epidemics often occur following the corn harvest because it is no longer standing as another potential bio-filter. There is not good data on if these are risk factors or will reduce risk but it is a concern and happens at a similar time every year.

Planting windbreaks and groves using evergreens will provide better coverage through the winter. This is a good idea on all sites for energy savings and making the sites easier to manage in the winter time.

Summary

Even with the best risk assessment, procedures and audits there will be PRRS breaks. The goal has to be to reduce the incidence and need to make sure everyone in the system understands the expectations. There is still more to learn about how the virus is moving in an area and between herds. By having a better understanding of what risk factors are contributing to epidemic outbreaks ways to mitigate their effects can be looked at. Refining the procedures and making sure there is good execution are keys in continuous improvement in the approach to PRRS control and being ready for the PRRS season.

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Getting ready for PRRS season

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