SHMP UPDATE

PEDv Incidence

Our PED incidence remains above the epidemic threshold – unfortunately, this is not going away. Working for us is warmer weather now and on the horizon. However, summer months did not prevent the virus from spreading in 2013. We also have more knowledge and experience. Re-visit your biosecurity and look for opportunities to improve.

Questions from our participants

April 10, 2015

Does the classification SHMP scheme define how shedding (or viremia) is to be determined for PRRSv?

We base our PRRS status guidelines on the SHAP paper that was a committee-led effort several years ago - attached. It's really a great piece of work and the definition of "stability" has led to similar efforts in PED, and more recently M hyo and flu. To define "stable", we define our goal for a sow herd for each pathogen and then establish a monitoring program to determine whether we are "stable" or not. In the case of PRRS, "stable" means that there is no detectable PRRSv in weaned pigs. But what does "detectable" mean? For PRRS, we encourage the definition of stability from the paper which is 4 consecutive samples of at least 30 pigs at weaning that are PCR negative on serum for PRRSv. But this is just guideline, not a requirement. And, there may be circumstances where monitoring can be applied even better with a higher level of confidence. For example, we have some that test 60 repeatedly before calling the herd stable. And if pig flow allows it, one could test in the nursery (like I believe you do) and increase the sensitivity. And then, we have some that test at processing (tail docking) - that will have lower sensitivity (because some spread occurs during lactation). And then, we have one system that calls a herd stable at 20 weeks after the break - we discourage this one.

What are the expectations of the SHMP for the following situations…

- **Once a farm experiences a PRRS outbreak thus moving to class 1, the farm is to remain class 1 until shedding ceases despite the absence of clinical signs (e.g. repro failure)?**

  Yes - the definition that we encourage for "stable" for PRRSv does not mean clinically quiet. It is defined above as PCR negative pigs at weaning. Lately, we have been discussing what "stable" means for M hyo and for this pathogen, we tend to think of it as being clinically quiet in the downstream pigs. This requires more definition.

- **Is a farm that is 2v with no clinical signs of repro failure that has a positive PRRS test at any time to be moved to class 1?**

  Great question. And this is where veterinary interpretation and some flexibility in the guidelines are called for. If the field virus was detected in pigs, it is no longer stable by definition. So it reverts to stage I. But what if it is NOT detected in pigs? We had a case about 10 days ago where the vet detected virus in an aborted sow and weaned pigs remained negative. Clearly there is field virus in the farm but pigs remained negative. I recommended we leave the farm as "stable". Remember, when we call a farm "stable", we know there are farms that are weaning a trickle of virus through but below the detection level. A stable farm is not necessarily negative. Some vets would argue that such a farm is "known infected" and therefore is stage I. We offer guidelines, and in this voluntary program, we go with the vet's decision. If a situation like this was common and jeopardizing our program, I would recommend we convene a working group of participants and develop a guideline.

  And a slight extension of that question is whether we think the farm had a new infection? In other words, the farm was testing "stable" and then had a field virus detected. Is this a new infection or a virus that was resident and going undetected? Again, veterinary interpretation is required. If it was thought to be resident, then we would NOT add it to the incidence chart that week as a new infection. If the sequence was similar to one being administered to the gilts in acclimation, then it is a new infection to the sow herd, but one where source is known. We record these as NEW infections, but they really are fundamentally different from most herd infections where source is more speculative.

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What is 2v status for PRRSv?

This week we are publishing PRRS charts with details on 2v. You recall that 2v means that there is no PRRS virus being detected in weaned pigs (≥ 4 consecutive weeks of ≥ 30 pigs are PCR negative) but live virus is being used in the herd in an ongoing program. This live virus will be one of two products; modified live PRRS virus vaccine or controlled exposure with field virus. We are losing potentially powerful information by not knowing which program a 2v farm is following. As an example, you may recall a project that Daniel Linhares conducted (2014 Linhares et al, Preventive Vet Medicine) where he measured time to stability (tts) and time to baseline production (ttbp) in 61 sow farms. In that study, he observed that herds that were 2v status at the time of the break had reduced tts and ttbp. Unfortunately, we didn't know the program that these 2v herds were using.

We have asked participants to provide details on their 2v herds and the first data are released today. You will see 2 new categories of sow herds; 2fvi (stable and field virus inoculated) and 2vx (stable and modified live virus vaccinated). The aggregate charts will be a little complex, perhaps confusing, until we receive the information from all participants and are able to eliminate the 2v herds.

See charts 2, 3 and 4 on PRRS summary page. Chart 2 is the prevalence chart and the data suggest a decrease in use of fvi and increase in live virus vaccine (the gray 2v herds are not categorized yet). Then, of our 17% overall cumulative incidence that we have thus far since July 1, 2014, chart 3 breaks this out by status at the time of infection and indicates highest incidence in 2vx (45% cumulative incidence) and then 2fvi (32% cumulative incidence). Our sample size is relatively low and there are likely confounding factors influencing the selected control programs when we compare these percentages. Participants will see your 2v herds broken out in your charts if we have the data from you. Finally, chart 4 breaks out incidence by status for the duration of the project. Here again, we see a transition from fvi to vx in our former 2v herds.

We are conducting a follow-up study to learn more about the immune status of the sow herd at infection. Production records are being collected to determine TTBP and we'll use our diagnostic data for TTS, now that we are learning what details on 2v.

Thank you for your participation and support.

Bob Morrison
