

### PRRS virus – Can we cut Time to Stable (TTS) at weaning in half?

#### Key Points

- From earlier work, median time to stable at weaning was 26 weeks in a study of 61 herds.
- Time to achieve stability at weaning is composed of time to farrow negative pigs and time to eliminate virus from farrowing area.
- You are invited to participate in a study to determine duration of infected pigs at farrowing. We'll enroll herds that are undergoing PRRSv elimination and help pay for diagnostic costs. Contact me if you are interested. Bob Morrison

You will recall from our earlier study of 61 sow farms that a median time of 26.6 weeks to achieve stability at weaning was considerably longer than expected. Another interesting observation was that the shortest time was just 12 weeks but the longest was 42 weeks and 4 herds never reached stability during the duration of the study (Linhares et al 2014). Significantly associated risk factors included (1) the virus (MLV or FVI) used for whole herd exposure, (2) a specific veterinary clinic and (3) whether herds had been infected with PRRSv in the 3 years prior to the study. So, sow herd immunity plays a key role as does management and internal biosecurity. TTS at weaning is composed of 2 time components: time to farrow negative pigs and time to eliminate virus from farrowing area.



Our observation of being stable at weaning at 12 weeks suggests that it is possible to farrow negative pigs by that time and this will be a function of:

- Time after herd is infected until all sows are infected. Whole herd exposure with the live virus would be expected to decrease this interval.
- Time for sows to eliminate virus from their bodies. It has been reported that virus can be detected in lymphoid tissues for as long as 225 days (Wills et al 1999). Although it is unknown how commonly this occurs, we did not detect an association between herd size and TTS suggesting that long term persistence may not be a practical concern.
- Few or no sows being re-infected. Several researchers have reported that immunity from infection is very good at preventing re-infection with the same virus. There may be a role for vaccine to boost immunity further.
- Time for all infected, surviving fetuses to be born. One gestation interval would be a conservative time expectation.

Then, with negative pigs being born, we need to reduce transmission during lactation. Time for all virus transmission to stop during lactation will be a function of:

- Biosecurity protocol and ability of management and staff to adhere.
- Sow herd immunity (which will influence shedding and susceptibility to infection).

Once all pigs are virus negative at farrowing, an aggressive biosecurity protocol is indicated. This may even include a wean-down to 7 days in an attempt to eliminate all virus from farrowing.

Our study – We have diagnostic support from BI. We'll request PUC / SB samples from 10 litters at birth and follow the farm for at least 10 samplings or until we are farrowing negative pigs. We'll collate all diagnostic reports and give you first access to our results as they unfold.

Bob Morrison