Season 2, Episode 4: PRRS

Dr. Paul Yeske, Swine Vet Center, and **Dr. Daniel Linhares**, Iowa State University, detail Porcine Reproductive and Respiratory Syndrome (PRRS). Discussing variants of the virus as well as monitoring and mitigation strategies producers can implement in their operations.

Industry losses

Any pig at any age can contract Porcine Reproductive and Respiratory Syndrome (PRRS), making it a very devastating virus to the swine industry. The most recent strain of PRRS is described as PRRS 1-4-4 Lineage 1C variant strain. Currently, PRRS accounts for over 650 million dollars in annual losses to the swine industry. Production losses will total 2600-3000 pigs not weaned per 1000 sows, during an outbreak. Serious production losses result in a prolonged recovery period following infection. Dr. Paul Yeske describes PRRS as acting very similarly to other viruses the swine industry has seen in the past. Consistent with the pattern of other viruses, the first wave of PRRS was the most severe with each consequent wave being less intense. Unique characteristics to PRRS are the number of mummies and higher levels of lateral breaks in the nursery phase. Dr. Linhares explains breaks occurring in grow-finish are usually not as devastating as those occurring in the nursery or sow stages of production.

Seasonality

There is a consistent uptick in PRRS cases during the Fall. The first wave of PRRS 1-4-4 Lineage 1C hit the U.S. swine industry in October-November of 2020, while the second wave occurred in April-May of 2021. Fall manure handling and weather conditions may be contributing factors to the spread of PRRS. Morrison Swine Health Monitoring Program (MSHMP) describes a very repeatable and consistent pattern to the virus. Infected tissue samples contain high viral loads with evidence showing the virus continues to change. High viral load demonstrates the virus's ability to efficiently replicate and spread. Swine Disease Detection Dashboards presented by Iowa State University Field Epidemiology provides information on PRRS detection over time.

Management and mitigation

There are several methods to manage and mitigate the risk and spread of PRRS virus. Sow herd closures are one management practice along with vaccination and barn filtration. Herd closures require a sow farm to completely fill with females and close the herd for 210-240 days. After the closure period, sows will usually be directly exposed to the virus. Vaccination is also an option in grow-finish. Biocontainment procedures are critical for mitigating the impact and spread of PRRS. Evaluation of how your operation is handling mortality, vehicle traffic and outside contractors is very important. Take time to analyze your processes, procedures and make sure all employees are consistently implementing these practices. Dr. Linhares stressed the importance of biosecurity, supported by the veterinary diagnostic lab findings. Grow-finish operations were consistently impacted first with a subsequent uptick in infected nursery and sow sites. Overall, grow-finish biosecurity is an area where the industry could improve. Lastly, work to reduce stress on your animals as much as possible going in to the Fall. For example, strive to maintain proper ventilation in your barns. PRRS can be detected through sampling of processing fluids, oral fluids and blood samples. It is important to repeatedly take samples over time, pooling samples if necessary.

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