

PEDV Rapid Response Team (RRT) Review Meeting

Executive Summary

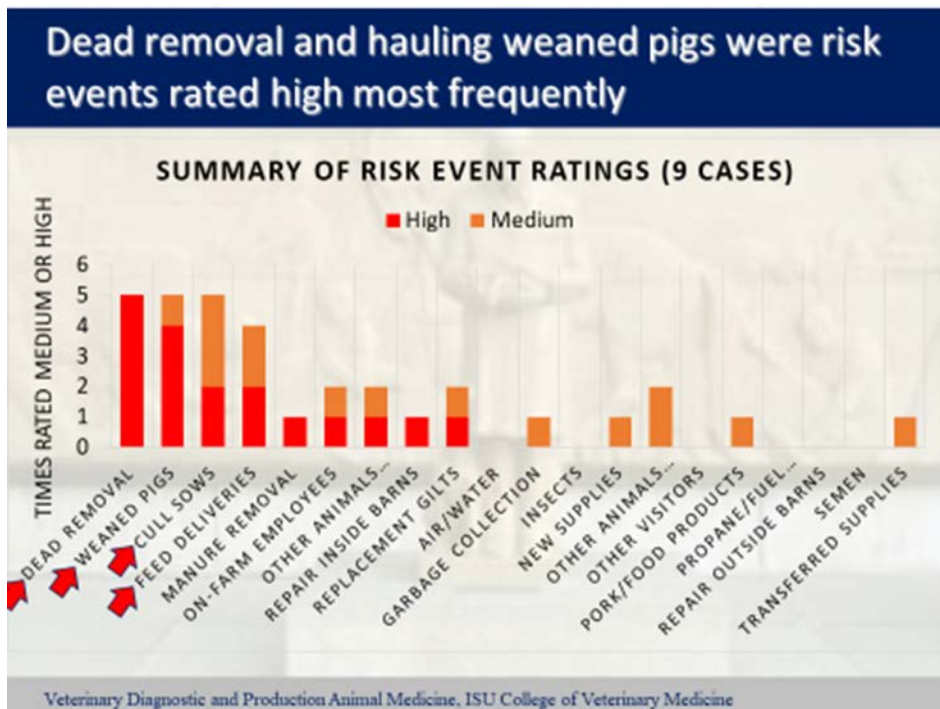
April 4, 2018

In early 2018, reports started to increase regarding PEDV outbreaks in the southwest and Midwest. The SHIC Rapid Response Team was instituted to seek to understand what was causing the breaks and if there were potential next steps that could be taken. Following the Team's investigation into the PED affected farms, the National Pork Board (NPB) organized an interactive review of the investigations with the participating veterinarians to examine outbreak reports and see what could be learned from them. During the review, participants shared their observations about results of the farms' investigations and the Rapid Response Team process. This SHIC-NPB collaboration helped to further develop the overall goal of building and maintaining industry preparedness in the event of an emerging or foreign animal disease outbreak.

A brief introduction was given into the history of and the process for the RRT. Several goals include exercising the system for any emerging disease response, learn what went well and what can be done better for the future and also what additional work needs to occur to continue to support the process. The outbreak investigation project initially started with Iowa Pork Producers Association with the goal of standardizing a mechanism to investigate PRRS outbreaks for regional elimination projects. The Rapid Response Team concept originated from the initial PEDV outbreaks to assist in identifying unique, unusual or unexpected circumstances during more recent outbreaks. SHIC worked to continue to develop and incorporate the outbreak investigation process with the RRT to provide a standardized mechanism for outbreak investigations for emerging diseases.

Investigation Results:

Since November 25, 2017, there have been 9 Rapid Response Program investigations focusing on PED outbreaks on farms. Current PED outbreaks spanned from February 9, 2018, to March 6, 2018. All of the investigations occurred in commercial sow herds. Several key areas of focus included: frequency of events; impact of manure application strategies for outbreaks; and risk ratings for farm activities. Risk events were subjectively assigned a risk level of low, medium or high likelihood for PEDV introduction by each investigation team. A summary of risk ratings from all investigations is shown in this figure. Risk events rate high most often included dead removal, weaned pig removal, cull sows and feed delivery.



Graph courtesy of Dr. Derald Holtkamp, ISU.

Farm/system-specific areas of concern:

- Lack of segregation and overlap of key resources poses a challenge
- Being able to provide justification and ROI for biosecurity investments is important
- Interviews and additional environmental sampling for PEDV can assist in “ruling out” risk areas (PCR only, no bioassay)
- The process of investigation can highlight areas of focus/challenge even if no “smoking gun” is identified
- Positive sites/equipment continue to be source of risk/infection for naive/negative sites
- Limited options for disease elimination is a significant challenge (i.e. pharmaceuticals/vaccines) for virus elimination
- Methods of land application for system farms and neighbors can pose significant risk for outbreaks

What are some immediate areas of focus?

- Dedicated fleet
- Transportation biosecurity procedures – prioritize areas of greatest risk
- Dead removal
- Segregated parking and vehicle entry to the farm
- Assist in providing data/justification to show financial impact and ROI for making biosecurity changes for systems

General observations for the RRT process:

- Standardization of data collection, auditing and reporting a biosecurity assessment is very important to minimize wide variability between investigations
- A facilitator and/or an assistant available to help record findings and to assist in the investigation can make the process more efficient and effective
- When possible, providing “pre-work” ahead of the investigation can make the process more efficient
- The presence of the herd vet and farm manager at the time of the interview is critical
- Providing weather observations section can assist to understand the potential impact of weather conditions
- Provide an electronic platform/website access for investigation forms – provide for biosecurity concerns on-farm

Outcomes & Action Items:

1. Identify one point person for communication and coordination for investigations – a centralized source of information and communication is very important
2. Potential research areas:
 - a. Downtime “rules” and supporting science behind the restrictions
 - b. Manure application strategies – can there be different strategies that reduce or eliminate risk to other adjacent farms for enteric or respiratory diseases
 - c. Non-traditional carriers/vehicles for disease
3. Create a document on sample collection for during an outbreak investigation
 - a. Include types of media for best sample collection and survivability
 - b. Environmental sampling and collection
 - c. Banking samples and test at a later date
 - d. Feed and feed mill sampling – best practices
 - e. Effluent/solid sampling – best practices
4. Continue with after action/debriefing after investigations to collectively learn about and improve the process.