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## PRRS SURVEILLANCE PROGRAM: A REGIONAL APPROACH

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### Introduction

The rate of PRRS virus (PRRSv) infection in swine herds in areas with elevated pig density is significantly high.<sup>1</sup> By approaching PRRS from a regional perspective, producers and veterinarians share infection status, genetic sequences and clinical observations in order to coordinate control interventions and biosecurity to systematically reduce the overall risk of PRRSv infection in the area.<sup>2</sup> Surveillance programs are designed to gather, organize and analyze health related data followed by the dissemination of information to interested parties in order to take actions to control disease.<sup>3</sup> The objectives of a PRRSv surveillance program are: 1) To facilitate the rapid detection of outbreaks 2) Provide information needed to implement opportune and synchronized interventions to contain outbreaks and minimize losses, and 3) Analyze the evolution of the prevalence and genetic diversity in the region.

### Structure and communication process

Local veterinarians in the working group agree upon the specifics of each surveillance program. The project coordinator manages the implementation of the program. After participating producers have signed information release agreements they share information regarding geographical location, type, size and pig flow of their farms. Herd veterinarians provide diagnostic information to classify participating herds according to infection status<sup>4</sup> to generate the baseline maps. Any change in herd status occurring during the specified period is communicated by herd veterinarians to the coordinator and included in the next bulletin. Outbreaks are immediately communicated to participants by short alert messages.

### Monitoring plan

Three information sources are collected to monitor the change in PRRSv infection status of herds in an area regional control program:

- 1.- History: information indicating interventions affecting the infection status of the population.
- 2.- Contingent surveillance: self reporting diagnostic results demonstrating the presence of PRRSv in a population following clinical signs. Diagnostics may include testing serum or oral fluids (OF) by PCR or ELISA and/or lungs or lymphoid tissues by PCR or IHC.
- 3.- Regular surveillance: periodical diagnostic testing indicating the presence or absence of PRRSv antigen or antibodies in routinely tested populations.

Negative non-vaccinated herds can be monitored by testing individual serum samples by ELISA. Vaccinated or previously infected herds need to be monitored by testing serum samples in pools of five or one OF sample per 1000 pigs or air-space by PCR. Sequencing ORF5 of PCR positive samples allows differentiating PRRSv isolates including vaccine. Sample size and testing frequency are calculated considering the prevalence of infection in the region and the cost of missing a new infection following Cannon and Roe guidelines.<sup>5</sup> In regional control projects a minimum of one test per herd every 6 months is recommended.

### References

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