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## Measuring and benchmarking disease risk with the PRRS risk assessment tool for the breeding herd

D. Holtkamp<sup>1</sup>, D. Polson<sup>2</sup>, J. Kjaer<sup>2</sup>, R. Philips<sup>2</sup>, D. Spiess<sup>2</sup>

<sup>1</sup>Iowa State University, Ames, Iowa, USA; <sup>2</sup>Boehringer Ingelheim Vetmedica, St. Joseph, MO, USA

### Introduction

What puts one site at greater risk of a clinical PRRS episode or the introduction of the virus into a previously negative or naïve herd than another? A substantial body of experimental research has been reported on in the literature but little work has been done to demonstrate how specific risk factors and circumstances affect the likelihood of clinical disease episodes in field situations. Effective risk management of PRRSv continues to elude swine producers and veterinarians.

### Objectives

As with anything that we try to manage, we must first be able to measure it. The PRRS Risk Assessment (PRA) Tool is an epidemiological tool developed specifically to *measure the risk* that a clinical episode of PRRS will occur. A companion database of completed assessments was developed for the purpose of benchmarking and analysis.

Some examples of when the PRA Tool and database of assessments are used include:

1. Deciding to initiate a PRRS elimination project for a specific site
  - a. How long can the site be expected to stay negative?
  - b. Research studies using the PRA Tool to address this question are underway.<sup>1</sup>
2. Benchmarking biosecurity and risk management of PRRS
  - a. On which areas of risk should attention be focused? Compared to other sites what areas of risk are relatively high for this site or all sites in a company?
3. Assessing risks associated with a site, or all sites in a company, as part of a due diligence process

### Discussion

Design and development of the PRA Tool was done at Boehringer Ingelheim Vetmedica (BIV). The PRA Tool was designed and developed using Microsoft Excel<sup>®</sup> and Visual Basic for Applications<sup>®</sup> (VBA). Work on version 1 began

in mid-2003. Data from 321 assessments using PRAv1 have been logged to date. Development of version 2 of the PRA Tool for the Breeding Herd began in mid-2004. Feedback generated from use of version 1 generated a long list of potential risk factors and risk factor responses. In order to separate the important from the not so important and to assign risk factor response weights a Delphi approach was utilized. The approach involved individually surveying a panel of experts, summarizing their collective wisdom and convening a workshop for the entire panel to sort out their differences and arrive at a consensus opinion. This process ultimately resulted in 269 risk factors in the “full” form and 155 in the “abbreviated” form. The abbreviated form can be completed in approximately one hour. Data from over 300 assessments using PRAv2 have been logged to date.

In March 2005 BIV offered to gift the tool to the American Association of Swine Veterinarians (AASV). With financial support from the National Pork Board, AASV accepted the gift in March 2006. A web based version of the PRA Tool is currently in development and will be available in the summer of 2007. Training sessions for veterinarians who are members of AASV are now being offered periodically. For purposes of insuring the quality and integrity of the data, access to the risk assessment is restricted to veterinarians who have completed the training. Veterinarians interested in attending a training session should contact the Executive Director of AASV, Dr. Tom Burkgren. Producers interested in using the PRA Tool are encouraged to discuss it with their veterinarian(s)

### References

1. Yeske P, et.al. 2006. Proc. 19<sup>th</sup> IPVS Congress.