

Regional Eradication of PRRS Virus: A Pilot Project

Bob Morrison, Spencer Wayne, Peter Davies and Scott Dee

College of Veterinary Medicine, University of Minnesota, 385 Animal Sci, 1988 Fitch Ave, St. Paul, MN, USA 55108; **Email:** bobm@umn.edu

■ Introduction

A little over 4 years ago, a practicing veterinarian suggested to us that producers in a particular region in southern Minnesota might be interested in attempting to act together to control PRRS virus. We visited with other local veterinarians serving the area and received a relatively warm reception. We wrote a proposal to the National Pork Board and it was funded. Funding includes paying local veterinarians to draw blood samples (one veterinarian donates his time to the project), lab fees for testing, and part of the stipend for a graduate student who coordinates the project, collates the data and develops the maps.

■ Phase I – Rice County

We selected eastern Rice County in Minnesota, USA as the region to perform our study given its natural borders and presumed low prevalence of PRRS. We first searched for farms' addresses using the MN Board of Animal Health database of pig farms in the state of Minnesota dated on 2000. Based on the information provided in that database we proceeded to confirm each location in a system of longitude-latitude coordinates in decimal degrees using a GPS device. The study involves 49 sites belonging to 35 producers.

Our objective in the first phase of this study was to determine if producers would allow their herds to be tested for PRRS and whether they would share this data with other producers. Secondly, we wanted to determine the prevalence of PRRSV in Rice County, USA and to assess the geographical distribution of PRRSV strains in the region.

Our major accomplishments have been:

- We have had 90% participation of producers, which exceeded our goal, and
- Producers have openly shared the status of their farms, positive experiences and frustrations with control of the virus.

While we have detected PRRS at many sites, we have relatively little evidence of spread between farms since the project began.

■ Phase II – Stevens County

In 2004, we expanded the project to a second county in west-central Minnesota – Stevens County. This county has a markedly different type of producer with many producing breeding stock. The sow herds tend to be larger and more recently built. We have similar objectives for our project here, but a major difference is that we have no funding to support testing. We have had similar observations in Stevens County as in Rice County.

However, our regional projects present continued challenges, some of which we expected and some of which cause one to reflect on the value of the efforts. These challenges include:

- **Identifying the local opinion leaders and determining if they will support the concept.**

In our experience, local veterinarians play a huge role and must be on-board for the project to succeed. In our case, local veterinarians were supportive and approached their key clients to enlist their support. The key clients looked in turn to the local veterinarians for guidance.

- **“Begin with the end in mind.”**

Our initial goal was “PRRS control”, defined as having no PRRS spread within the region. We wanted all sow herds to be stable with no downstream spread of virus. Longer term, we want no PRRS positive pigs entering the region. We have not accomplished this goal, although we are making slow progress.

- **Overcoming apprehensions and/or resentments that might reside at or below the surface in one or more of the regional participants.**

90% participation is pretty good, but do we need 100%? We don't know the status of the non-cooperating farms. Our observation of uncommon apparent

spread among farms suggests that we should not let less than 100% stop us from proceeding – but, lateral spread does occur and 100% is better.

- **Determining locations for all sites having pigs should be easy, but it may not be.**

Locations of large permanent sites can be identified quickly. But it is surprising how “new” sites have been continually identified when we thought we had them all. It can be especially difficult to identify sites having an exhibition pigs seasonally for farm shows. Similarly, a producer might finish 100 pigs once and then exit for a while.

- **Getting attendance at our periodic meetings**

We hold quarterly meetings where we invite all producers and veterinarians in the region. We have a structured program that lasts about an hour where we present an update on the program and have veterinarians discuss local PRRS activity. The regulars come. But the majority of eligible producers don't attend.

- **Who should pay for the program?**

Costs include diagnostic testing, sequencing virus, mailing or calling participants, getting locations and making maps, managing a web site if desired, coordinating the program, and possibly paying a room fee if meetings are held locally. Clearly, in the long run, the producers will need to pay but how do you get reluctant producers to pay for something that they are leery of? This will call for creative solutions from the leaders in the region.

- **Documenting the impact of PRRS**

Documenting the impact of PRRS at regional herds will have more credibility than research studies conducted somewhere else. Negative impacts such as the cost of an outbreak or the impact on growth performance are valuable motivators for being involved. Similarly, positive stories of local producers creating a stable sow herd or having less health problems when they are receiving PRRS negative pigs will have impact.

- **Will all producers invest?**

When the rubber hits the road, will all producers invest to attempt to stop PRRS spread at their herds? This has been our most recent challenge. “Yes, I will test my herd. Yes, I will share the data. Yes, I will attend the meetings. Yes, I think PRRS is important. No; I am not willing at this time to invest in a closure, partial depopulation, or other program to try and stop PRRS spread –

it might fail or I might get reinfected". Again, the encouragement of local veterinarians will be essential if we are to overcome this barrier. Positive stories will be critical and hopefully we have gained the confidence of the producers to nudge them onward.

■ **Is voluntary eradication really achievable?**

National eradication of PRRS virus has been proposed for North America. Pseudorabies virus was hard enough to eradicate with regulatory program and even then, we did not eliminate the virus from feral swine. Is voluntary eradication really achievable?

We believe that regional eradication of PRRS is achievable with currently available diagnostic tools, vaccines and knowledge on biosecurity and elimination methods.

Regional projects present continued challenges and if a group of producers are contemplating a control program, the region should have the following characteristics:

1. Excellent veterinary knowledge and leadership.

Knowledge includes but is not limited to:

- PRRS diagnostics and sampling strategies
- Confirming sow herd stability
- Understanding and teaching biosecurity
- Understanding herd closure

2. Few positive or variable PRRS status pigs entering the region for nursery or finishing.

3. Majority of producers willing to:

- Monitor status.
- Eliminate virus.

4. Good collaboration with people with exhibition pigs.

Challenges will include:

- Pigs purchased untested
- Pigs exposed to commercial pigs at home
- Non terminal fairs

We have been working on this project for four years and a skeptic would say that we are no further ahead in eradicating the virus from our two regions. Several of the producers who started the program with positive herds still have positive herds and show no inclination to eliminate the virus in the near future. Being an optimist, I say we have made progress, but the challenges for a voluntary program to eradicate PRRS are huge. Our producers in the two regions are more informed about PRRS, and most want us to succeed – but not all are involved. And until all are on board, we won't accomplish regional, let alone national eradication.

■ **Conclusion**

In summary, the challenges are substantial and progress will be coupled with setbacks. But, our experience in these two regions for 4 years leads us to believe that it is achievable in the “right” regions.

■ **Acknowledgement**

Local Practitioners participating in studies:

Rice County - Mike Strobel, Roger Green, Tom Lang, Denny Rossiter

Stevens County – Al Carlson, Gene Anderson, Nels Enberg, Aaron Rokey