

HOG-UPDATE

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PRRS Vaccine Update:

How should we use these valuable tools?

*Greg Wideman, DVM
South West Vets*

With PED now a relatively uncommon cause of disease in Ontario (only one new case since July 15, 2015), and winter upon us, our attention has turned back to our old enemy: PRRS virus.

Although we have come a long way in our ability to rapidly and accurately diagnose PRRS outbreaks, sequence and understand the source of virus exposure and eliminate PRRS virus from herds, we still have a long ways to go to reduce the number of new cases of PRRS virus every winter in Ontario!

As a vet, I often get asked to explain the benefits and risks of PRRS vaccination using the available vaccines—this article aims to review some key points.

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1. PRRS vaccines do not always prevent new infections from occurring in a farrowing barn.

In fact we almost stopped using PRRS vaccines completely in Ontario in 2004-2008 due to frustration with severe breaks in vaccinated herds, and desire to drive out cost. We do have some cases where vaccinated herds appeared to be spared PRRS virus infection completely (while similar at-risk unvaccinated herds did break) but this is not the primary reason for using PRRS vaccine.

2. PRRS vaccines can be effectively used to eliminate a PRRS infection from a farrow to wean herd.

Recent work from the US has compared two methods of PRRS elimination from over 60 infected sow herds: both trial groups were loaded with replacement gilts, closed to further replacements for a period of time, and then one group was given live-virus (Serum) exposure (LVI) and the other group was given modified live vaccination (MLV) to maximize herd immunity.

Both methods are effective in eliminating PRRS if the process is managed properly. LVI herds returned to PRRS-negative status faster; BUT MLV herds weaned more pigs in the period from intervention to eventual return to negative status. Presumably the LVI causes some additional piglet loss that MLV does not cause.

3. PRRS vaccination will reduce the impact of a wild-type PRRS outbreak in a sow herd.

In the same study mentioned above, herds that were previously exposed to PRRS (through previous infection or

vaccination) got through the outbreak more quickly, and with less loss of piglets. In fact they only lost about 1/5 of the piglets versus previously 'naïve' sow herds.

In certain neighborhoods where the likelihood of PRRS infection is high, it is not a good idea to have PRRS-naïve sow herd (a herd that is neither vaccinated nor previously exposed to PRRS). In a follow-up study by the same authors, it was shown that the cost/benefit calculation for PRRS vaccination favors the use of vaccine in the sow herd if the frequency of PRRS infection is once every 2 years or more frequently.

4. PRRS vaccines reduce shedding and disease in growing pigs if the timing is right.

There is no controversy: PRRS vaccine can be used to maintain growth and reduce losses on the growing pig. BUT, the vaccine does not work if it is given too late. The pig needs 3 weeks to build immunity following vaccination. So for the many nurseries in Ontario where the pigs enter PRRS-negative and then get exposed to positive, older pigs...there is often not enough time. But if the nursery is negative and the pigs then travel to a positive finisher, or get mixed with positive pigs from another source, the impact of PRRS vaccination can be very good.

5. PRRS vaccines carry the potential to do harm to your herd.

Because PRRS vaccines are live vaccines (not killed, like myco or circo vaccine), when you use them you are introducing living PRRS virus into your

pigs. This has caused problems in some herds in the past. Please do not start using a live PRRS vaccine in your herd without a full discussion of the risks with your veterinarian.

6. There are a number of PRRS vaccine choices and they are not all the same.

There are now 3 live PRRS vaccines available in Canada. They have unique 'source' strains of PRRS and are not interchangeable. The efficacy of the different vaccines depends on the field strains present in the region and on the intended use of the vaccine. I would not recommend that you change PRRS vaccine choice without a careful consultation with your veterinarian.

Further reading:

Economic Analysis of Vaccination Strategies for PRRS Control.
DC Linhares et al. PLOS: December 16, 2015. DOI:
10.1371/journal.pone.0144265

Comparison of time to PRRSv-stability and production losses between two exposure programs to control PRRSv in sow herds.
DC Linhares et al. Prev Vet Med. 2014 Sep 1;116(1-2):111-9.

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BSC Animal Nutrition Inc.
R.R. # 4, St. Marys, Ont. N4X 1C7
Toll Free: 1-800-268-7769
Phone: 519-349-2190
Fax: 519-349-2191

E-mail: info@bsccanimalnutrition.com
Website: www.bsccanimalnutrition.com

BSC Representatives

Peter Vingerhoeds 519-272-9041
E-mail: peter@bsccanimalnutrition.com

Ben Dekker 519-330-9070
E-mail: dekker@xcelco.on.ca

Stuart Boshell 519-949-0149
E-mail: stuart@bsccanimalnutrition.com