

## **ON-FARM HEALTH MANAGEMENT**

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### **HISTORY AND DIAGNOSTIC**

#### **Pig Production System**

This herd is mycoplasma and PRRS free (eradicated in 2002). Piglets are produced at two sow farms (1500 sows total). There are four barns on one nursery site. The nursery barns are operated all-in all-out (AIAO). There are many finisher sites operated AIAO by room or by barn depending of the size of the barn (500 head to 3000 head). Gilts are entering quarantine at 95 to 120 kg and come from an external genetic company.

In spring 2005, we began to see some palor, wasting, grey diarrhea and increase in culled pigs in some finisher barns. Mortality increased from 3% to 5%. Not so much attention was given to this since we knew that it was probably PMWS and that investments to reduce the mortality would easily overcome the potential benefit. Injection of sick animals with Nuflor and Excenel was tried but with mitigated results.

In fall 2005, acute fever, anorexia, coughing and nasal discharge were seen on many sows in one of the two sow herds. PRRS PCR conducted on serum from sows with fever was negative. Another serology was performed 3 weeks later: no seroconversion to PRRS but clear seroconversion to Influenza H3N2.

Sows were vaccinated pre-farrowing with an Influenza H1N1 and H3N2 vaccine. However, flu remains a problem in nurseries where mortality averaged 4%.

Later in fall 2005, mortality increased to 8 to 12% in finisher. Mainly palor, mild dyspnea and wasting were noticed 5 to 7 weeks after placement. At this time, pigs were submitted several times for complete necropsy. In almost all pigs PMWS was diagnosed with *Streptococcus suis* infection being a common finding.

### **INTERVENTIONS (FIRST STEPS)**

During the following 6 months, many possibilities were considered at some point in time:

1. Flu vaccine to piglets
2. Batch farrowing to do AIAO in all finisher barns
3. Single source raising
4. Reducing crossfostering
5. Reducing pig mixing
6. Increase hygiene in sow barns

7. Disinfection with Glut+Quat or Virkon
8. Change the male genetic line (was Duroc)
9. Longer gilts acclimatization (5 or 20 kg gilts)
10. Sow herd closure
11. Autogenous PCV2 vaccine (spleen homogenate)
12. Vaccination with circovac (available at some point)
13. PCV2 vaccine (available later on)

Since influenza problems were beginning at the 4<sup>th</sup> week in nursery, it was chosen not to vaccinate piglets and to keep going with sow vaccination.

Size of nurseries did not fit to do 3 week batch farrowing. It was the same problem for single source raising. The producer did not want to go to 2 or 4 weeks batch farrowing because of the labor concern.

Management change in sow herds was applied:

- Reducing crossfostering
- Reducing pig mixing at their first day of life
- Increase hygiene
- Disinfection with Glut+Quat or Virkon

Changing the male genetic line was not an option because the producer was participating in a niche market and had to use a specific boar line.

Gilts were purchased at 5 kg and raised in the same nurseries as the commercial pigs. The goal of this procedure was to make them exposed to the Influenza, PCV2, H. parasuis and Strep suis strains of the herd. They were then shipped to a designated finisher barn operated in continuous flow. For the transition period, F2 gilts were selected in some commercial batches of growing pigs. Serological tests confirmed that they were PRRS, myco and Influenza H1N1 free. These tests are also repeated before each transfer to quarantine.

Given the risk and the cost of doing Spleen-homogenate vaccination this technique was not used.

When it became available, it was chosen not to vaccinate sows with Circovac (PCV2 sow vaccine) because pigs were sick relatively old in finisher. I expect that a sow vaccine would be of little value in this situation.

## **RESULTS (FIRST STEPS)**

Unfortunately, despite these numerous changes, no substantial improvements were observed. However, change in the tendency were hard to see because of the great variability in mortality between batches.

## **INTERVENTIONS (SECOND STEP)**

The producer began to preserve litter integrity when he weaned piglets and transferred them to nursery. Also, pen integrity was preserved when the pigs were transported to finisher barns. The producer accomplished this by dividing the trailer used to transport the pigs in small pens.

Because pens in different finisher barns did not have the same size, the sow farm personnel should know at weaning where those pigs were planned to be raised. Indeed, the goal was to reduce mixing of pigs as much as possible so the groups were made at weaning time and remained the same until slaughter. For example, if piglets were planned to be raised in a finisher barn where the pens had a capacity of 23 pigs, piglets were weaned in groups of 23. Those 23 piglets may come from 2 or 3 litters. They were kept by group in the hallway awaiting loading and transport to the nursery. Down there, pigs were unloaded by groups and allocated to a pen. The same thing was done when transfer to finisher: pigs were loaded, unloaded and allocated to a pen by group.

## **RESULTS (SECOND STEP)**

Mortality went back to less than 4% in the first batch of pigs and remains between 2 and 4% since. PCV2 piglet vaccine became available: clinical trial in half of the pigs of 2 barns: no effect. Only one batch had clinical signs that could be related to PCVAD afterwards. It caused about 1% mortality and lasted about 7 days. Average daily gain and feed conversion also improved significantly.