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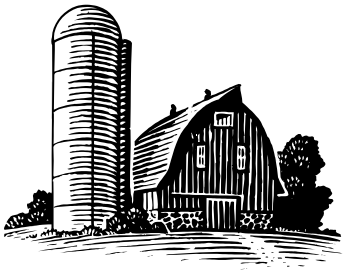

ATLANTIC SWINE RESEARCH PARTNERSHIP INC.

ASRP Research News

Current ASRP Projects UPDATE

Paylean Trial	We are doing a controlled trial on one farm using Ractopamine Paylean®, and would like to follow that up when our Research barn pigs go to market. What we will look at are growth, conversion, carcass quality attributes of pigs going to market either with or without Paylean®. Results could be available in August.
Water Acidification Trials	We used several sources of organic acids in drinking water and measured growth rate and performance of finishing pigs. We also measured manure pH of treated pigs and were able to spread the manure on a field with a high nematode count. One hypothesis we are looking at is whether liquid pig manure can help control soil pathogens. Results should be available at the end of the summer.
Disease Resistance Assay	ASRP has been working with a local breeding company and Pharmagap Inc. in Ottawa to develop a method to detect pigs with a stronger immune capacity. It appears that the test may function quite well and we now need to test some breeding stock over several generations. There has been significant interest from other breeders and what we are seeing is that immunity of a pig could be influenced by its sire.
PEI Pork Value Chain Assessment	ASRP is working with PEI Pork Plus Inc. to look at potential value chains in the Maritime provinces that could increase the value of our pigs. An early draft is complete and under review. The final report should be generally released at the end of August.
Antibiotic Alternative Projects	Producers have asked us to continue to look at alternatives to antimicrobials in swine. Most of our work has focused on immunostimulants, with the most notable being Yeast Beta Glucan (YBG) which is a purified yeast extract produced by Progressive Bioactives (www.progressivebioactives.com). We've reported some scientific results earlier, and have ongoing field trials. An earlier (2003) pilot project with a compound called OxBC had some promising results in weaned pigs, and the company who owns the product, Chemaphor, (www.chemaphor.com) is planning more work in this field. If producers have suggestions to evaluate other compounds, ASRP is open to that. A possible future project is food grade Hydrogen Peroxide to disinfect water lines.
Sow Productivity Survey	ASRP is planning to look at sow productivity factors in the Maritimes. In a world of competitive pricing, we need to continue to monitor and shoot for optimal productivity.

If any producers have research ideas that they would like to put forward either talk to your ASRP representative, or e-mail me at Hurnik@upei.ca.

Thank you,
Daniel Hurnik

Comments from the Research Chair

PMWS - What do we know today?

I am presently attending the 19th International Pig Veterinary Society Congress. This is a meeting of swine veterinarians and researchers world wide that happens every two years. In this year's meeting perhaps the most discussion centers around the PMWS/Circovirus associated diseases that are now apparent around the world. In North America, we are suggesting we change the name from PMWS to PCVD (Porcine Circovirus associated Diseases). I would like to present in this article some of the newer findings and what its implications may have for pig producers.

While Post-Weaning Multisystemic Wasting Syndrome (PMWS/PCVD) is a recognized global disease that causes losses to producers; the associated virus Porcine Circovirus type 2 (PCV2) is not new. PCV2 has been found in pigs since 1969, and sporadic cases of PCV diseases have been seen since the 1980's. The disease though spreads and acts like a new disease. One key problem has been to define what makes a definitive diagnosis of the disease in a herd. While the PCV virus can be found in all herds, and occasional wasting pigs are found in most herds, when do we classify PMWS/PCVD as a herd problem? We are gaining some consensus that in order to make a definitive diagnosis three things are needed:

1. Pigs that match the disease description… ie: pigs that fail to grow after weaning with no treatment response.
2. The presence of PCV2 in pig tissues in high quantities and microscopic lesions of disease.
3. A statistical elevation of mortality in weaned pigs … a 50% increase in mortality over industry norms.

On a farm, it appears that diseased pigs shed massive amounts of virus and it spreads rapidly between pen mates and by 3-4 months of age most pigs have been exposed to the virus. We don't full understand why some pigs shake off the infection and others go on to die, but it appears that concurrent infections play a large role. If pigs are infected with PRRS virus, or Mycoplasma at the time PCV2 is circulating it makes the mortality rate worse. Other infections can play a role also but PRRS and Mycoplasma infections likely play such a large role because they affect almost all the pigs on farm. Herd management factors that allow other infections: poor hygiene, crowding, multiple source pigs and excessive mixing all can create more PMWS/PCVD expression.

What else is new?

There is increasing evidence that some different strains of PCV2 can cause more severe disease effects. While PCV2 has been around for a long time, new variants may explain some of the variation seen around the world. The other possibility that still remains is that there may be a new undiscovered virus/agent involved that we don't know about yet. This will be answered in future congresses I expect.

There may be some variation in susceptibility within genetic sources. Landrace pigs may be more susceptible than Duroc or Yorkshire pigs. While Pietran pigs have been reported to be less susceptible, scientific evaluations have been mixed. The variation I expect is at the individual boar level, not so much the breed.

There are three potential killed vaccines in development around the world - some are designed to target sows and some the piglets. There is no consensus yet of their cost effectiveness, but some results look promising, particularly for reduction of mortality rates.

Some good retroactive studies were presented that looked at risk factors between PMWS/PCVD problem farms and those without significant losses. The Danes are suggesting the following:

- SPF health status was protective; Absence of other diseases reduced the risk of problems significantly.
- Concurrent PRRS infection specifically increases PMWS/PCVD risk; Europeans strains of PRRS virus were associated with fewer problems than infections with North American strains.
- Barns with tighter biosecurity had fewer PMWS/PCVD associated problems.
- Factors that did not seem to be associated with an increased risk of PMWS/PCVD were:
    - Use of external AI semen.
    - Being close to other PMWS positive farms.
    - Pig density in a region

Daniel Hurnik (Please contact me if you want more conference details - Hurnik@upei.ca)

Summary of USDA Hogs and Pigs Report

Excerpts from Glenn Grimes and Ron Plain
http://agebb.missouri.edu/mkt/bull8c.htm

July 7, 2006

- The June 1 Hogs and Pigs report came in a little more bullish for prices than the trade estimates. The total number of hogs and pigs on farms June 2 was at 100.3% of a year ago. The average of the trade estimates was 100.9%. The number of pigs kept for breeding at 101.4% compared to the trade estimate average of 101.3%. The market herd was at 100.2% compared to an average of the trade estimates of 100.9%.
- This report indicates hog producers continue to use restraint in building the herd. Even though this report shows slow growth in the size of the herd, total hog slaughter and pork production are still expected to set new record highs in 2006.
- One bit of good news for the pork industry is that total meat production in the last half of 2006 is expected to be about the same if not somewhat less than a year ago. For the first half of the year, per capita meat consumption in the U.S. is believed to be up about one pound from a year ago. More good news is that pork exports are expected to continue to grow.
- Hog slaughter in June was somewhat lower than indicated by the 180 lb. and heavier market inventories in the Hogs and Pigs report. Sow slaughter for June was believed to have been up about 5%. The 2.5% drop in total hog slaughter in June suggests barrow and gilt slaughter in June was down about 3%. The 180 lb. and heavier market inventories were down only 1.8%. This comparison suggests the potential that the report overstates the supply. However, recent reports have been quite accurate.
- Slaughter for April-June was about 0.8% below expectations based on the March Hogs and Pigs report. April and May slaughter was above a year earlier and above expectations, so all of the shortfall came in June.
- At Pork Expo in early June there was much discussion about circovirus and the recent death loss from this disease. How much of the June reduction was due to circovirus is not known. There was also considerable discussion about conception problems in the late summer of 2005. There are certainly no signs of marketings backing up during June. Barrow and gilt weights in the Iowa-Minnesota market are below year-earlier levels.
- Although April-June slaughter was down 0.8% from a year ago, July-September slaughter is expected to be up about 0.5% based on the heavier market weight inventories. October-December slaughter is expected to be up about 0.9% from a year ago. Two factors that might contribute to lower slaughter in the last two quarters of 2006 are continued problems with circovirus and fewer slaughter hogs being imported from Canada.
- Farrowing intentions for June-August point to a first quarter 2007 slaughter slightly above the first quarter of 2006. September-November farrowing intentions indicate second quarter 2007 slaughter will be a short 1% larger than 2006.
- Farrowing intentions for both the third and fourth quarters of 2006, which are up substantially less than the growth in the breeding herd, suggest productivity growth may be slowing. Productivity growth for the 5-year period ending April 30, 2006, was still above 2% annually.
- Litter size on average for March-May this year at 9.08 pigs per litter was a new record high. Producers with 5,000 head or more in inventory averaged 9.2 pigs per litter in March-May this year - also a new record high.

For further details, the full report is available on the United States Department of Agriculture (USDA) website at: http://usda.mannlib.cornell.edu/reports/nassr/livestock/php-bb/

ASRP Staff Profile

ASRP is extremely pleased to be able to have Janice Murphy join our staff on a part-time basis. Janice comes with a lot of skill and she will be a tremendous resource for us in the Maritimes. Janice was born and raised in PEI. She has an Animal Science degree from the Nova Scotia Agricultural College and a Masters in Swine Nutrition from the University of Guelph. Janice was a swine extension specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs for the past 12 years, where she played a key role in developing and delivering relevant information to the pork industry. Janice joined ASRP in May as a Communications and Technical Support Specialist. Janice has begun to put together the electronic newsletter, and will be updating the website. We also look forward to a paper newsletter, with this being the first one. Thank you Janice.

Research "From Away"

Cost of serving sows multiple times per breeding

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It is common practice in the pork industry to serve sows two or more times per breeding, as long as the sow is in standing heat. But, is the productivity of the sows served three times per breeding better than that of sows served twice? We posed this question in a retrospective analysis of 33,000 sow histories, from the database of three large production systems, two Canadian and one US.

No matter what the parity, about 60% of sows received two services per breeding. As parity increased from gilts to parity four sows the percentage of sows receiving three services per breeding progressively increased from 6% to ~37%, and remained high until parity 9+. Sows served three times rather than twice per breeding did not produce more subsequent pigs born or born alive in any parity. In fact, sows served three times per breeding produced 0.1 fewer ($P < 0.001$) subsequent pigs born in parities 0 to 4, 7 and 8.

Forty to fifty percent of sows with a wean-to-service interval (WSI) of 0 to 4 d were served three times per breeding. The percentage of sows with a WSI of 0 to 4 d increased with parity from ~30% of parity 1 sows to almost 80% of parity 9+ sows. In the production systems analyzed, serving sows a maximum of three times rather than twice per breeding cost an additional *$2.30 to $3.00 per sow bred*, or *$0.20 to $0.30 per pig born alive*, assuming an ideal parity distribution. To ensure herd performance does not decline if the practice of serving sows a maximum of twice per breeding is adopted careful attention must be paid to breeding protocols, which must be amended. The practice should focus on sows with WSI less than 5 days, and may not be used on gilts or parity one sows as only a few of these animals were served three times.

Implications: Producers should be aware of the costs associated with serving sows more than twice per breeding. However, before changing breeding practices to serving sows a maximum of twice per breeding (AM, AM), breeding protocols must be amended to ensure performance does not decline.

Source: Advances in Pork Production. 2006. Proceedings of the Banff Pork Seminar 2006. Volume 17. http://www.banffpork.ca

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Our mission is to empower Maritime swine producers to participate in the research and innovation needed to face present and future challenges. Our key research priorities are:

- *Reducing cost of production*
- *Nutrition with a key emphasis on reducing feed cost*
- *Herd health*
- *Environmental management*