

Sow Lameness, Longevity and Temperament Workshops

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Lameness, Longevity and Temperament of sows was the topic up for discussion at a series of workshops across Canada. Nearly 100 pig producers and associated industry representatives attended the workshops in Manitoba, Quebec, Ontario and New Brunswick to discuss the latest research in the areas of Lameness, Longevity and Temperament and what we need to consider when selecting a sow for the future.

The agenda covered some recent research outcomes from projects funded through Swine Innovation Porc. Conclusions of research results such as the new quantitative lameness assessment options and lameness levels in different sow housing systems were complimented by other up to date topics in this area, such as hoof trimming sows and economic analysis of lameness in sow barns.

Dr. Laurie Connor, University of Manitoba, introduced the day by explaining the vision behind the Swine Innovation Porc research program. This vision brought together like minded researchers from across Canada to address the issues surrounding lameness in our sow barns looking specifically at the welfare and economic analysis of lameness and its impact on longevity. This research used conventional and new technologies to identify and evaluate factors such as social characteristics, sow temperament, lameness, calcium and phosphorus balance and early reproduction management that may impact sow welfare and longevity in the sow herd. Dr. Connor



went on to focus the group on what lameness is, where it could be occurring in the herd. Dr. Connor presented figures to show it is not just an old sow issue, recent Irish work found that 39% of replacement gilts and 48% of pregnant gilts were found to be lame in a study over 68 sow herds (Quinn & Calderon Diaz. 2010).

One item covered in the workshops were the new options available to the industry that can quantify lameness. Previously lameness scoring has been subjective and differences can be found between assessors. Dr. John Deen, University of Minnesota suggested a simple two scale scoring system was easiest "is she lame or not lame?" Dr. Sabine Conte and Dr. Nicolas Devillers researched Kinematics and Force Plate analysis as a way of objectively measuring lameness (see article page 3). The Force plate takes measurements of pressure from all four feet as the sow stands in the crate. This analysis

can examine if there is any weight differentiation among the four legs and identify lameness. Due to the cost of the force plate system, it would be the most economical to adopt in multiplier facilities and in the future could also be incorporated into an ESF feeder to provide a time free lameness analysis for all gilts and sows over a long time period.

Dr. John Deen discussed why lameness is underestimated in sow barns and how we might be able to learn from the Dairy industry who continually works on lameness issues. Along with mastitis, dairy cattle lameness is sighted as the most prolific production issue facing modern dairy farmers today so why not the pig industry?

Longevity of sows is essential for improved costs of production. It is widely regarded that gilts do not pay for themselves until their third parity. So is it lameness or low productivity that leads to culling decisions? The sows that are being culled

Table 1: The Effects of Lameness on Production.

Lameness Effects	Non-Lame	Lame
Pigs born/day	0.049	0.028
Days to removal	137	90
Avg days in herd	215	147
Replacement rate	49%	67%
Mortality/removals	0.24	0.35
Calculated Productivity		
Pigs produced by sow	10.5	4.1
Pigs produced by replacement	6.6	8.7
Pigs produced	17.1	12.8

Source: John Deen, University of Minnesota

out prior to third parity because of productivity issues could indeed be lame.

Dr. Jennifer Brown from the Prairie Swine

important, this echoed a point Dr. Deen made about using our eyes more when it comes to observing problems in pig production.

To finish the session Dr. Yolande Seddon of the Prairie Swine Centre, presented work carried out outside of the cluster funding on Hoof Trimming Sows. Hoof trimming in other species is very common, cattle, sheep and horses are synonymous with hoof management but why not sows? The FeetFirst@Hoof trimming chute developed by Zinpro Corporation allows easy and low stress immobilisation of the sow so trimming can be quick and efficient.

The day ended with a general discussion and many topics were challenged such as what can be done now to look at lameness in

“Lame sows on average wean 6% fewer pigs, costing the producer up to \$5.00 per market hog sold”

covered the different temperament types identified in sows and how they could affect the productivity in the barn. As the industry thinks about moving forward to group sow housing, the interaction between sows and how stock people handle them require more consideration. The diverse range of group sow systems that are available will only add to the matrix of what type of sow will perform best in which systems.. Recent work (funded through Swine Innovation Porc) found that sows with more passive and fearful traits had greater numbers of piglets born and born alive in the free access system and confident sows showed a greater improvement of body condition score in slatted ESF systems. Temperament is heritable and is related to important production traits so will we have specific sows for specific housing systems?


Dr. Laurie Connor also discussed housing systems and how it impacts on lameness. Unfortunately in this area there is not a one size fits all answer. Even within different group sow systems there are options for group sizes, flooring types, partitions, space per sow, dynamic v static and feeder types. All these factors impact the lameness levels that you will see. Dr. Connor also reminded us that stockpeople are still incredibly

barns and what else do we need to know before the industry can set out a blue print for reducing lameness levels. Will the industry need to forgo something to achieve selection for lameness or can we manage our way through it by considering flooring types and stockmanship first.

The bottom line on lameness:

- Lamé sows wean on average 6% fewer pigs per year . This equates to a loss of \$5/market hog sold from lame sows
- All costs associated with lameness could vary between \$161- \$447 per lameness diagnosis.
- This does not include the opportunity cost on lost production of an early culled sow.

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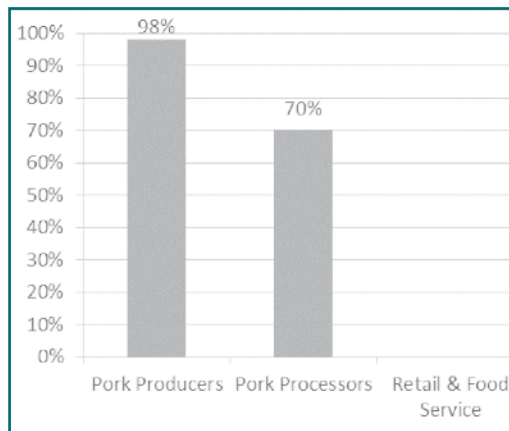
(Welfare is a Science...Con't from page 1)

wildlife biology and one a combined poultry/pig position. By contrast, today there is significantly more interest and industry as well as government resources going into the area where 22 positions existed in 2012, of these three have been discontinued with recent government scientific staff reductions and 2 are vacant. In the ebb and flow of industry, academic and government focus, the study of behaviour and the welfare of farmed animals have increased right along with perceived concerns by consumers, animal rights advocates, media exposes, and food chain supplier demands.

The increased need by industry has been our motivation to assist the industry to stay ahead of the curve and continually recruit new talent that can look at the pig in typical commercial facilities. Dr. Jennifer Brown joined PSC in 2011 and assisted in the transition to a new research team which includes recruiting Dr Yolande Seddon in 2012. Additionally a National Chair in Swine Welfare was conceived and the search for a leader identified a small group of potential academics with the research track record to allow us to build a significant and world class program to help guide pig welfare research for the industry in a sustainable manner.

The initiative would provide \$2.5 million of new research funding over 5 years. This will be accomplished by raising all of the funds from across the entire pork value chain and making application to Natural Sciences and Engineering Council (NSERC) to match industry's commitment.

Industry Fundraising Progress 2013 for the National Chair in Swine Welfare



At 63% of our target, the industry fundraising program is on target to leverage a total of \$2.5 million dollars in new funding for swine welfare research and industry outreach

