

Feature Research Project

Exploring sow-barn group housing conversion options

Housing pregnant sows in individual stalls is a "hot button" issue for many people. Pressure from organizations opposed to the use of individual stalls has created widespread phasing out of gestation crates in much of the European Union as well as the commitment from large North America pork processors/suppliers Smithfield (USA) and Maple Leaf (Canada) to purchase pork from sows group-housed during gestation. Recognizing the need to adopt gestation stall alternatives in the not too distant future, Manitoba's pork producers are taking a proactive approach.

Manitoba Pork, University of Manitoba researchers and the Manitoba Rural Adaptation Council are leading a research project to develop a suite of practical decision making tools for producers considering converting their sow barns to some form of group housing. Project lead Dr. Laurie Connor highlights what sets this project apart from her extensive research with in-place group housing systems, "In this project, we are specifically looking at options for converting existing sow barns, rather than for new barn construction. Many barns in Manitoba are at the point where interior equipment is nearing time for replacement, but the barn structures still have 10-15 years of use left". Connor sees one of the biggest challenges, aside from cost, is that there is no one ideal alternative system and therefore no one-size-fits-all solution. This research will help determine the best and most cost-effective group housing system for a given barn and management system. Dr. Qiang Zhang heads up the engineering component of the study, "Producers need to know what their options are so they can make informed decisions, selecting the combination of design changes that work best for their operation - that are economically feasible, practical and designed for good animal welfare". But Zhang cautioned their might not be a glass slipper for every producer seeking that perfect fit. "We expect there may be some barns and management systems where conversion to group housing just doesn't make economic sense".



The backbone of this study is the consultative focus group made up of producers, extension specialists, veterinarians, animal scientists and behaviourists, economists, engineers and other key stakeholders. Drs. Connor and Zhang see regular consultations with this group as part of the "getting it right" process. "Proper design of group housing is much more complicated than for individual stalls because the focus is pulled in many directions," says Connor. This is especially true when superimposing a group housing design on barns built around the stall concept. First and foremost to consider are animal interactions, making sure the pen design and feeding system create a safe and secure environment, not only for all sows in the group, but also for their caregivers. Layered on top of this are labour, in-barn manure handling, etc. and the economic analyses of capital and operation costs. "This focus group is our litmus test to make sure we're not missing anything critical as we develop this decision-making information. We're relying on their experience and expertise to keep us on track and to make sure we've accounted for the many combinations of management practices that make each operation unique," says Zhang. Connor cautions that along the way there will be some unknowns as to the full implications of sow barn conversion options, but she's confident ongoing collaborative research at the University of Manitoba and other institutions on different configurations of sow group housing will help fill these gaps.

At the end of the day an operator needing to replace in-barn equipment will have to make the decision whether to stick with individual stalls, refit the barn for group housing, or perhaps even close the barn. "These tools will simplify this decision making process, taking out the guesswork and answering 'what are my options?' and 'how much will this really cost me?'," says Zhang. The project is structured to get these practical tools in the hands of producers within a short time frame, culminating with a series of workshops in early 2013 to demonstrate hands-on use of these tools.

For more information contact Laurie Connor (mconnor@cc.umanitoba.ca) or Qiang Zhang (zhang@cc.umanitoba.ca)

Instant Update

Kim Ominski recognized for enduring enthusiasm and dedication for communicating modern agriculture to students, industry and general public

Kim Ominski, NCLE cattle-forage systems researcher, was recognized for her outstanding commitment to engage youth in agriculture, and to educate and inform the public about modern agriculture, with a University of Manitoba Outreach Award in November. Kim has championed the Bruce D. Campbell Farm and the Food Discovery Centre, serves as advisor to students in the Stockman's Club, was instrumental in establishing the annual Manitoba Grazing School, one of the largest annual producer meetings in the province, and is a regular host on NCLE tours. Congratulations Kim!



NCLE's whole-systems research approach featured in Agricultural Institute of Canada's Sustainable Futures

The article, "*Working together for whole-system sustainability in agriculture*" appeared in the Innovative Ideas section of the Fall 2010 edition. Read the article (p 13) at http://www.aic.ca/sustainable/pdf/Sustainable_Futures_Fall_2010.pdf

Research at the National Centre for Livestock and the Environment shared at winter meetings

Throughout November and December we shared our research and outreach activities at numerous events, including the Tri-Provincial Manure Management Council workshop, the Manitoba Beef Producers AGM, Manitoba Dairy Conference, Manitoba Grazing School, and most recently, Hog & Poultry Days. **Kees Plaizier, Don Flaten, Laurie Connor, Martin Nyachoti, Denis Krause, Bogdan Slominski, Juan Carlos Rodriguez and Christine Rawluk** presented.

Research Update

Project updates:

- The pastures are fenced, the winter watering lines are in and the cattle arrive in days. The **extensive vs. confinement beef cow overwintering systems comparison trial** is set to get underway in late December.
- Fall sampling and inventory recording has taken place for the dairy farms participating in the **whole farm P & K balance dairy project**. Tracking of farm inputs/exports, on-farm cycling and on-farm practices, including manure, feed, bedding and cropping practices that impact P and K balance will continue over a 12 month period.

New Project:

Successful conversion to sow group housing: Options and considerations. Manitoba Pork, University of Manitoba researchers and the Manitoba Rural Adaptation Council are leading a research project to develop a suite of practical decision making tools for producers considering converting their sow barns to some form of group housing. Contact research project leads **Laurie Connor** (mconnor@cc.umanitoba.ca) or **Qiang Zhang** (zhang@cc.umanitoba.ca) or read the feature article to learn more.

Thesis defense:

Graduate student with Mario Tenuta, soil ecologist and greenhouse gas emissions specialist, successfully defends

Gwendolyn Donohoe, MSc. *Nutrient excretion and soil greenhouse gas emissions from overwintering beef cattle fed forage based diets supplemented with DDGS.* Gwen is continuing her studies with a PhD program surrounding extensive overwintering systems for beef cows, co-supervised by Kim Ominski and Don Flaten.



Research program project descriptions available:

Want to know more about our **swine, poultry, cattle-forage production systems** and **manure phosphorus balance research programs**? Download descriptions of our research activities from the National Centre for Livestock and the Environment website at <http://umanitoba.ca/afs/nclc>.