

National Sow Housing Conversion Project



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SUMMARY

The National Sow Housing Conversion Project (NSHCP) is a descriptive project intended to facilitate the successful conversion of Canada's sow barns to group housing. The project involves collaboration from industry participants and academic researchers across Canada working together on a comprehensive strategy involving demonstration farms and technology transfer materials and events to support Canadian pork producers. This report describes progress up to year 3 of this 4 year project. The project is a collaboration between the University of Manitoba, Manitoba Pork Council, CDPQ and the Prairie Swine Centre. The full project will collect detailed information on fourteen barn sites across the country that have implemented group sow housing. The information collected is in the form of questionnaires, interviews, photos, videos, barn layouts and production and economic data. The results are being made available to producers through producer meetings and presentations, newsletters, and a comprehensive website: www.groupsowhousing.com.

INTRODUCTION

In 2007 the largest pork producers in the USA and Canada pledged to transition their sow housing to group systems over the next 10 years. The EU has banned sow gestation stalls in all member countries as of January 1st 2013. More recently, increasing numbers of food retailers, including Tim Hortons, Burger King and McDonalds, have pledged to source pork from producers who have plans for conversion to group housing, and the supermarket chains Safeway and Costco recently announced plans to develop a stall-free pork supply chain. Consequently, the Canadian pork industry is under great pressure to convert existing gestation stall housing for its approximately 1.3 million sows to group systems. With over 60% of Canadian pork going to export markets, the future strength of the industry depends on maintaining and increasing access to global markets.

However, there are major concerns within the industry surrounding the conversion from stalls to group housing. The process requires a large capital investment with little room for error, and selecting the 'right' system can be a daunting task. Within the Canadian industry there is relatively little knowledge or experience on the management of sows in group systems. A variety of group housing systems are available, most of which require more space, different management skills and require more labour inputs compared to stall housing. Without proper support and advice, there is the potential for substantial losses in herd productivity, a decline in sow welfare and an overall reduction in the Canadian herd size as producers struggle to make this change. The National Sow Housing Conversion Project (NSHCP) has brought together industry and scientific expertise to produce a comprehensive national strategy, involving demonstration farms and technology transfer, to support Canadian pork producers in this conversion.

“Results from the NSHCP will help producers transition to a group sow system in the most cost effective and manner possible.”

MATERIALS AND METHODS

Primary barn sites

Five barn sites have been identified across Canada to document the conversion to group housing. The conversion process on these farms is being documented through questionnaires, interviews, farm visits, photos, and videos taken before, during, and after the transition. As well, producers are asked to provide production data and economic data. Videos and the project website will be used to give visitors a 'virtual tour' of each facility. Producers at the primary site barns will be aided by a barn evaluation by an experienced engineer, and ongoing support from the NSHCP working group.



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3.2 Secondary barn sites

In addition to the five primary barns, up to nine other barns that have already implemented group housing are being identified across Canada. Less intensive data will be collected from these sites, which will include questionnaires, interviews, photos, videos, and barn visits. These additional sites will be used to show producers a wider variety of feeding systems design choices, and to highlight the necessity of developing a plan that will work with their individual barn design, budget, and management style.

3.3 Communications

Communicating the results to other producers interested in converting to group housing remains one of the main goals of the NSHCP. Results are being presented through workshops and producer meetings, a bi-annual newsletter, and the development of the project website: www.groupsohousing.com, which contains full documentation of the barn conversions, as well as general information on group housing options and contacts across the country for those seeking information and advice. A working group consisting of provincial pork organisation representatives from across the country will remain active and will conduct yearly meetings throughout the project.



RESULTS AND DISCUSSIONS

Primary barn sites

Five sites have been identified and are being documented, with three in Ontario, one in Quebec and one in Manitoba. The first site identified belongs to the van Engelen family, owners of Hog-Tied farms Ltd., a 250 sow farrow-to-finish operation located in Thedford, Ontario. Father and son, John and Mitch van Engelen operate the herd in a well-kept barn that includes multiple innovations, from a state-of-the-art ventilation system, hydraulic sow platforms in farrowing, a precision feeding area, and autosort feeders in grow-finish. The barn was originally built in 1983, and renovations for group-housing began in 2013. Doing most of the construction work themselves, the breeding and gestation room was converted from stalls in a three stage process. All sows were kept on-site, and while some minor reductions in herd size took place during the transition, the same numbers can be housed in the renovated barn as in the previous stall design. Sows in the group pens have roughly 20 sqft/sow, due to the efficient use of alley space around stalls and in the use of a large group dynamic ESF system. Doing the work in stages allowed the barn to remain in full operation, with little impact on the number of hogs shipped during the transition.

Table 1: Existing group housing sites documented as part of the National Sow Housing Conversion Project

Barn location	Size (sow herd)	Barn Description	Group Housing System
New Brunswick	1,600	New build (2004), farrow-to-wean	ESF feeders (Schauer); one feeder per pen, 16 static pen groups of 60 sows
Quebec	850	Renovation (2012), farrow-to-wean	ESF feeders (Schauer); two feeders per pen, 4 static groups of 160 sows.
Ontario	1400	New build (2012), farrow-to-wean	Competitive feeding in trough; 48 static groups of 18 sows/pen
Ontario	650	Barn addition (2013), farrow-to-wean	ESF feeders (WEDA); five feeders in one dynamic pen of 260 sows
Saskatchewan	600	New build (2015), farrow to wean	ESF feeders (Nedap); four feeders per pen, two dynamic pens of 180 sows
Alberta	275	Renovation (2014), farrow-to- finish	ESF feeders (Nedap); three feeders in one dynamic pen of 168 sows

All barns are documented on the project website at www.groupsohousing.com

The second producer on the project is Adam Schlegel of Schlegelhome Farms, near Shakespeare, Ontario. The Schlegel sow barn accommodates 2000 sows, farrow to wean. The barn conversion involved gutting an existing farrowing area and converting it to two large dynamic group pens for 500 sows, with some sows remaining in gestation stalls. A new farrowing wing was completed in 2014, and includes side-loading farrowing crates, in-floor heating and a robotic power washer. The new gestation area was completed in the spring of 2015. Sows in gestation are fed using four ESF feeders per pen, with a sorting alley. The ESF feeders are Sow Choice feeders, made by Ontario firm CanArm Ltd. The documentation of the both sites is ongoing, with periodic updates until December 2017.

Other sites include the farm of Luc Veilleux and sons in Quebec, Hylife's Rosco barn in Manitoba, and the farm of Ted Janmaat, a small organic producer located in Ontario. The Veilleux farm is located near Sainte-Marie-de-Beauce in Quebec. Their 600 sow farrow to wean operation was converted to group gestation in the spring of 2016, with Gestal ESF feeders installed in what were previously breeding and gestation rooms. Hylife's Rosco barn is a 3000 sow farrow to wean facility, which began renovations in the fall of 2016, also with Gestal ESF.



Ted Janmaat's facility is included as an example of organic production. The Janmaat barn is a 100 sow farrow to nursery site. The original barn was renovated in 2015 and an addition was built to accommodate farrowing and nursery pigs. All pigs are provided with straw, and sows in gestation have access to an outdoor run with sand footing.

As of January 2017, all of these barn sites can be viewed at www.groupsohousing.com.

Secondary barn sites

There are currently six existing barns with group sow housing have been identified across the country, with site locations from the east coast (New Brunswick) to Alberta (Table 1). The herd examples range in size from 275 to 1600 sows, and include a variety of new builds, renovations and barn additions. In terms of renovation costs, smaller herds that have completed owner-built conversions indicate material costs as low as \$300 per sow for basic conversion including existing manure pits and some floor improvements (new slats and/or solid bedroom areas).

Communications

The project website was launched in January 2016, and will be updated throughout the project as more resources are developed and as farms are added. Project information was presented at the 2014 Saskatchewan Pork Symposium, at PSC's 2015 spring meetings across western Canada, and at six workshops held in Quebec and Ontario. Numerous articles on the project and sow housing have been developed in collaboration with swine industry publications, for example, the National Hog Farmer produced a special 'Blueprint Issue' on group sow housing in collaboration with the project team.

Three issues of the project newsletter have been produced to help communicate the results of the project to producers. The newsletter also mentions the need for more participating barns, and may be able to help reach a wider audience. The working group remains active, and met during the Banff Pork Seminar in January 2017.

CONCLUSIONS

The NSHCP is designed to help Canada's swine production sector respond to the emerging issue of group sow housing. By compiling the best information available on group housing and working with producers on demonstration projects, the project will aid producers in meeting this challenge in an efficient manner. This four year project is being run in collaboration with the University of Manitoba and producer groups in Quebec and Manitoba. The information produced includes barn and pen designs, detailed costing and management strategies, and reviews of scientific literature. The information will be conveyed through demonstrations, factsheets, presentations at producer meetings, newsletters and the project website. The NSHCP will thus increase producer confidence surrounding this transition and provide clear support and guidance for producers wanting to convert from stalls to group housing. The project will therefore assist producers by providing the support needed to implement new housing technologies effectively. This will help producers to maintain productivity during the transition, and places the Canadian pork industry in a strong position with respect to meeting increasing animal welfare requirements within global markets.

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SIP Swine Cluster 2 Funding Announcement

Final contracts for Swine Innovation Porc's Swine Cluster 2 program were signed in June, providing support for a four year project documenting barn conversions to group housing. The National Sow Housing Conversion Project (NSHCP) is directed by Dr. Jennifer Brown, a Research Scientist in Ethology at Prairie Swine Centre, and includes research partners from the University of Manitoba, Manitoba Pork and CDPQ. The goal of the project is to document barn conversions at four sites across Canada, including planning, construction, management decisions, staff training, changes to the sow herd and production levels both before and after.

"Barn conversions and new builds for group housing represent a huge cost to the pig industry", says Dr. Brown. "Our goal is to put together the best possible information, in terms of barn layout, sow management, and cost of construction, to help Canadian producers who are considering this investment." While countries in the EU have banned stall use except during breeding and early pregnancy (embryo implantation) as of January 2013, the new Canadian Code of Practice encourages the use of group housing systems, but does not totally ban stall use. The EU deadline resulted in reports of poor implementation in some countries, with last minute renovations resulting in lost production and poorer welfare in sows. By not having a deadline, Canadian producers can properly consider their options, and choose the right time for them depending on their situation and financial capability.

The project participants include leading researchers in the science of sow management, and will draw from barn design and management concepts developed in European countries over the past 20 years. "Due to poor market conditions, very little barn construction work has been done in North America over the last 10 years", says project participant and CEO of the Prairie Swine Centre, Lee Whittington. "By documenting top-notch barn conversions here in Canada, we will develop new expertise and can provide builders and producers with the information they need for successful conversion to group housing."

In addition to funding from AAF, the project is supported by provincial pork organizations, Alberta Pork, Sask Pork, Manitoba Pork and Ontario Pork. By taking a consistent and science-based approach on this issue, the Canadian pork industry demonstrates a pro-active approach to sow management that will have long-term benefits to sow welfare and production, while strengthening domestic and export markets.

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