



# Gestation housing systems

## Auditing Best Management Practices - Part 4



Ken Engele, BSA  
Prairie Swine  
Centre

*In 2017, on-farm best management practices were audited on a total of 24 farms throughout Canada as part of a national project titled From Innovation to Adoption: On-farm Demonstration of Swine Research. This article is part of an eight-part series reporting on these audits.*

Converting to group sow housing systems is a major challenge and opportunity currently facing Canadian pork producers. In order to provide more information to producers and to help them make the conversion by the 2024 deadline, this article focuses on best management practices related to various gestation housing systems.

Of the 24 farms audited in 2017, 21 of them included sows either as a farrow-to-finish or

farrow-to-wean facility, while the other three operations were finishing only. Of these 21 farms, nine incorporated some type of group sow housing system, while the remaining housing systems would be considered traditional stall systems.

Based on meetings held as part of the National Sow Housing Conversion project, it would be estimated that nation-wide 15% of gestating sows would be kept in a group housing system. The one exception would be Quebec, where approximately 25% of sows would be housed in a group housing system.

Figure 1 provides details on the nine farms that have made the transition to group sow housing including the type of group housing system implemented on the farms. Two thirds of the farms have chosen a non-competitive system such as an electronic sow feeder or free-access system, while the balance of producers have chosen a competitive feeding system. In speaking with producers, the decision to proceed with a direct competitive feeding system is typically based on a cheaper cost of conversion, while those choosing

electronic sow feeding systems are utilizing data collection as a herd management tool.

One opportunity that most electronic feeding systems offer is the ability to feed multiple gestation diets across the sow herd. Research looking at the nutritional management of sows found that amino acid and energy requirements of sows strongly support the need for parity-segregated phase feeding of pregnant sows.<sup>1</sup> Phase feeding programs should consist of two diets that satisfy the highest and lowest amino acid requirements and can be mixed in appropriate

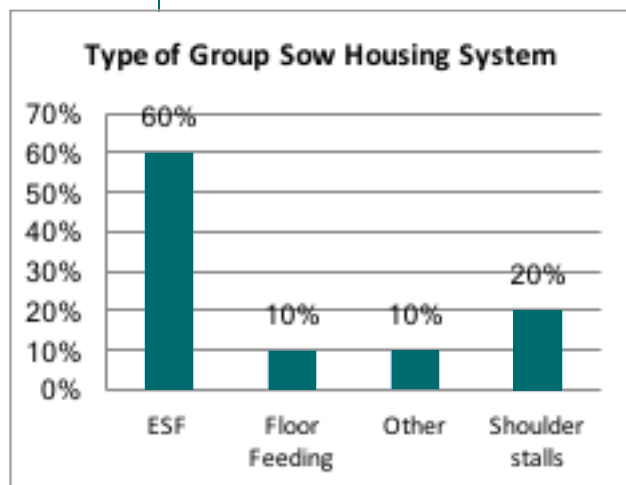


Figure 1. Types of group sow housing system implemented.

**Table 1. Audit results from farms with group sow housing systems, 9 farms**

Category	Average Percentage of Farms		
<i>Are all Sows fed same gestation diets*</i>	21 %	79 %	0 %
<i>Time of Group Formation</i>	100 %	0 %	0 %
<i>Sows are Sorted by Size (room or pen)</i>	100%	0%	0%
<i>Type of enrichment used</i>	88 %	13 %	0 %

Legend	Meets recommendation
	Partially meets recommendation
	Does not meet recommendation

ratios to cover the intermediate amino acid needs, with increasing amounts fed the last four weeks of gestation. The biggest challenge regarding the implementation of this strategy is to ensure a minimum of two feed lines are available for each electronic feeding station. As seen by the results in Table 1, only one farm has adopted this technology.

Timing of group formation is essential for ensuring high productivity from the sow herd. Groups should be formed prior to day 7 or after day 28 due to the importance of implantation. Results indicate that 100% of farms were compliant. Feedback from producers involved in the group sow housing process also indicates that they are becoming more comfortable mixing sows earlier than day 7 which, in turn, reduces the total number of stalls required on the farm. Research on the grouping of sows in non-competitive housing shows there are benefits to keeping sows in uniform groups, especially for younger sows. Sows in uniform groups demonstrated less instances of lameness after mixing compared to sows kept in mixed (non-uniform) groups<sup>2</sup>.

Within the Code of Practice for the Care and Handling of Pigs (2014)<sup>3</sup>, enrichment is considered to be a recommended practice within group sow housing systems, specifically as a way to minimize aggression. Taking a look at the data we can see that eight of nine farms audited have incorporated some type of enrichment, typically chains or wood, within their operation. According to the Code, enrichment should be simple, safe, soft, sanitary, suspended and well-positioned. More information can be found in Appendix H within the Code.

### Conclusion

Data indicates that approximately 15% of the Canadian sow herd has made the transition to group sow housing. For those producers looking to make the transition, many resources can be accessed at your fingertips by visiting the website [www.groupsowhousing.com](http://www.groupsowhousing.com). Here you will find a wide variety of information that will help you make the best choice possible for your operation.

### For Further Reading

- 1 Phase Feeding for Gestation Sows (Français) <http://www.cdpq.ca/getattachment/Recherche-et-developpement/Projets-de-recherche/Projet-224/PQ-juillet-2017-224.pdf.aspx>  
<http://www.cdpq.ca/recherche-et-developpement/projets-de-recherche/projet-224.aspx> (English) <http://www.cdpq.ca/getattachment/Recherche-et-developpement/Projets-de-recherche/Projet-224/CHJ-Summer-2017-projet-224.pdf.aspx> (English) <http://www.prairieswine.com/phase-feeding-for-pregnant-sows/>
- 2 Effects of Mixed and Uniform Parity Groups on Feeding Behaviour, Welfare and Productivity of Sows in ESF Housing (English) <http://www.prairieswine.com/effects-of-mixed-and-uniform-parity-groups-on-feeding-behaviour-welfare-and-productivity-of-sows-in-esf-housing/>
- 3 Code of practice for care and handling of pigs (Français) [http://www.nfacc.ca/pdfs/codes/porc\\_code\\_de\\_pratiques.pdf](http://www.nfacc.ca/pdfs/codes/porc_code_de_pratiques.pdf) (English) [http://www.nfacc.ca/pdfs/codes/pig\\_code\\_of\\_practice.pdf](http://www.nfacc.ca/pdfs/codes/pig_code_of_practice.pdf)



(Comparison of Alternatives ... cont'd from page 9)

### TAKE HOME MESSAGES

Many recent studies have compared intact males and castrates, or castrates and Improvest® treated males. This study is rare in that it includes females, castrates, Improvest® treated males and intact males from the same litters, all tested under similar conditions. These comparisons provide valuable information on differences that can be expected for both producers and packers to plan for and make decisions related to options for control of boar taint.

This study confirmed the advantages of raising intact males in terms of growth performance compared to females and castrates. Improvest® treatment is an interesting option because it gives the benefit of improved growth performance of intact males while producing carcasses of similar composition to castrates.

Genetic selection based on specific genetic markers shows potential for producing intact males with naturally low enough levels of androstenone and skatole to avoid boar taint problems. However, more research is needed on genetic evaluation methods, consideration of influence of genetics from the maternal breeds and to incorporate newly identified genetic markers. The impact of management and environment also needs to be considered as large differences in the levels of boar taint were observed between trials. The combination of management and genetics could result in lower and lower probability of carcasses from intact males having boar taint.

A new technology based on DNA aptamers shows great promise to lead to a reliable, practical and affordable screening test for boar taint. This could be in the form of a simple kit similar to a home pregnancy test available for humans. The ability to screen for boar taint combined with genetic selection to lower the frequency of intact males that have boar taint problems could lead to a viable alternative for control of boar taint.

### ACKNOWLEDGEMENTS

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