

# Important Factors in Effectively Managing Sow Behaviour

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It's an accepted industry fact that while group housing is more complex and challenging to manage compared to conventional sow housing, if done well, it can provide many benefits to the animals and the farm business.

One potential benefit of group housing is improved sow health and longevity, according to Dr. Jennifer Brown, a pig behavior research scientist at Prairie Swine Centre. However, knowledge of the factors affecting behavior is critical. "We want to encourage positive social behaviours and discourage negative behaviours," notes Brown. "In general, being successful with group housing requires more regular observation of the pigs for things like feeding, lameness or bullying, as well as correct responses to what is observed. Group housing requires monitoring of sow social interactions and preventing as much aggression as possible."



The most obvious aggression among sows occurs in the first 24 to 48 hours after sows are mixed together, when they establish a dominance hierarchy. After 48 hours there can be some ongoing aggression, but how much depends on management factors such as feeding system and the amount of space provided. Brown notes that specific management responses include adjustments to the feeding system, pen environment or group size and composition (and management expertise will increase over time), but the correct feeding system, pen design and space allowances must be present in the first place. Let's take a closer look at each.

## Feeding system

Brown notes that floor feeding and short stall feeding are competitive systems where sows can gain feed by fighting/aggression. Gated stall and ESF systems are described as non-competitive or individual feeding systems, where sows cannot gain additional feed by fighting, but rather compete over entry to feeding space and feeding is individually controlled. While many experts highly recommend non-competitive systems for group-housed sows because of they result in lower aggression, Brown notes that farmers must understand differences in cost, design and management to identify the most appropriate system for their farms.

## Space allowance and group size

It's not hard to understand that providing too little space in pens leads to increased aggression, which in turn can result in increased drop outs, and sows failing to maintain condition and pregnancy. See space mandates and recommendations in the Canadian Code of Practice for pigs. Beyond that, Brown observes that small groups up to roughly 30 pigs are possible with competitive feeding systems (depending on pen design and feed system), but that competitive groups be uniform in terms of size, parity and backfat, as uniform groups will have similar needs and compete equally for feed. Larger group sizes, up to over 300 sows, are possible with ESF feeding systems as sows are individually fed according to their requirements based on parity, body condition



and stage of gestation. Sows in larger groups are more socially tolerant, says Brown, and there are fewer problems related to aggression. Subordinate animals can avoid dominants so multiple parities can be kept together, but keeping gilts separate is still recommended.

### Pen Design

“The quality of pen space is as important as quantity,” Brown explains, “for reducing aggression and optimizing pig health. Feeders and drinkers should be placed in alleyway (traffic) areas, not in lying areas, and feeders should be placed in an open area, not in a corner, to prevent dominant pigs from guarding them.” She adds that in larger groups, alleyways of 10 feet in width are needed to give ‘social space’, allowing movement of subordinate individuals around dominant ones. Sufficient space is needed to allow separate areas for dunging, feeding and resting, and partitions can be used to establish lying areas. Enrichments must be provided in each pen (a Code requirement) as they occupy sows and result in less aggression. Relief/hospital pens must also be present for injured, poor doing and bullied sows.



### Handling Mixing Aggression

Brown says that although research on ways to manage and reduce mixing aggression is still ongoing, many effective techniques have been identified. Sow genetics, familiarity with other sows, temperament and socialization will influence levels of aggression, she notes. The use of mixing pens, proper pen design, providing full feeding before mixing, feeding at the time of mixing, and providing enrichments are some important factors that can be used to reduce aggression at the time of mixing. Brown adds that some farms are trying out larger mixing pens to reduce aggression, and once the group hierarchy is formed, the sows are then moved to smaller pens.

The most successful times to mix have been found to be at weaning, after insemination and after implantation (about four weeks). Mixing at weaning means aggression is resolved before estrus/implantation, and it may also help to bring sows into heat and synchronize estrus. However, mounting during estrus may lead to injury and lameness, and good floors are required to reduce injury. Mixing after insemination means mixing aggression is resolved before implantation, but it must take place shortly after breeding (within about five days). Brown says this option is becoming a common practice with large group ESF systems.

Sows behaviour in groups is a complex topic, but given the correct pen design, feeding system, space allowances and proper management, Brown believes sow behaviours will skew towards the positive and away from the negative. She says “striking the right balance is important and will lead to better handling, sow health and a better farm bottom line.”

### National Sow Housing Conversion Project (NSHCP)

A project funded through Swine Innovation Porc brings together multiple sites across Canada, it is a collaborative research project that brings together the latest scientific, industry and government expertise on group sow housing and what is needed for successful barn conversions. Learning from producers that have made the jump to group sow housing, the NSHCP project, provides tools that are essential for make the conversion to group sow housing a successful one.  
<http://groupsowhousing.com/>

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