



## SWINE EXTENSION

*Providing educational resources and applied research to assist Minnesota's pork producers and allied industry.*

### **Controlling Aggression Among Group-housed Gestating Sows**

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Mixing-induced aggression is inevitable in group-housed gestating sows, regardless of space allowance, group size, bedding, pen design, or feeding regimens. Aggression among sows is short-lived. The aggression is intense during the first few hours and drops dramatically after 24 hr of mixing. A stable social group can be formed within a week. However, the initial intense aggression is detrimental to both welfare and production of sows. The elevated aggression causes injuries and increases cortisol levels in gestating sows. When grouped during the implantation period, conception rate of sows can be reduced by 5%.

As aggression among unfamiliar pigs is necessary to develop a dominant hierarchy within a group, a minimal level of aggression in group-housed sows at mixing cannot be eliminated. Management strategies should focus on controlling aggression and protecting vulnerable sows from aggression.

Young sows are small in size which makes them subordinate and vulnerable in group housing. When housed with mature sows, young sows lose most fights at mixing, and suffer more injuries and higher cortisol levels than mature sows. The initial aggression results in the subordinate young sows becoming fearful of further conflicts while attempting to obtain feed which may lead to inadequate feed intake and reproductive failure. In most group-housing systems, gilts are housed separately. However, after the 1<sup>st</sup> lactation, parity 1 sows are usually housed with mature sows. At weaning, the body weight of parity 1 sows is similar to that of gilts, i.e. about 75% body weight of mature sows. To protect young sows from aggression, parity 1 sows should be housed with gilts rather than with mature sows.

Sows can remember pen-mates for several weeks. So grouping sows that have been housed in the same pen during the previous gestation can reduce aggression at mixing.

Several studies have demonstrated that sows are less aggressive after becoming pregnant compared to sows at weaning or shortly after breeding. Grouping sows after pregnancy check at 4 to 5 weeks post breeding can reduce aggression and its associated injuries. This can also diminish the effects of mixing on farrowing rate.

The group size of sows varies greatly in group housing systems. There is no ideal group size to keep aggression to the minimal level. However, sows in large groups, as

observed in young pigs, tend to have fewer aggressive interactions per sow compared to sows in small groups. The large area in large pens also provides the shelter space for sows to retreat.

By implementing proper management strategies, we can eliminate severe injuries and poor performance associated with aggression thus improving the overall welfare and performance of gestating sows in group housing systems.



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