

How To Mix Gestating Sows Housed in Groups

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Introduction

Due to specific state legislation or market requirements many farms will have to house gestating sows in groups. Management practices will have to be modified for farms to be successful when housing sows in groups during gestation. Gilts and sows have a dominance hierarchy based on aggression and avoidance. Fighting among sows mainly occurs during the first 2 to 3 hours after mixing. The hierarchy is primarily established within 24 hours. An important consideration will be how to mix sows and gilts in groups to reduce overall, prolonged aggression. This article will provide guidelines that can be used to formulate standard operating procedures for mixing sows into gestation pens. For this 'How-To' sheet, it will be assumed that females (gilts and sows) will be mixed after they are mated.

Objective

Provide users with criteria to be used to assign sows and gilts to pens for gestation housing.

Mixing Before or After Pregnancy Confirmation

- Limited literature suggests that pregnancy rates are similar for gilts regardless when they are mixed after mating and before pregnancy confirmation near 30 days of gestation [1].
- Sow conception rates are suggested to be lower if mixed after mating and before pregnancy confirmation near 30 days of gestation [1].
- To improve consistent management of both gilts and sows and facilitate efficiency pregnancy detection, sows and gilts should be held in breeding stalls after mating and before pregnancy detection, prior to mixing.

Preparing to Mix Sows and Gilts

- Inspect the pen for slick, broken or damaged flooring, penning, protruding bolts etc. that could cause injury.
- Inspect drinker devices for proper working order.
- During hot weather, check cooling devices for proper working order.
- Review floor space and feeding space allocation for proper allotment for the number of females to be placed into pens.
- Review standard operating procedures for animal care and evaluate animals that have been recently mixed.

Mixing Sows and Gilts in Static Groups

Static groups are pen groups of females that are mixed once and no new animals added to the pen after formation. Sows that become open or injured may be removed; however, no new animals are entered into the pen.

- Pens should have one feeding space per female, except for electronic sow feeders (ESF). Do not overstock and have animals “share” feeding spaces.
- Place females into the pen at the same time [2].
- Form groups by parity, size and body condition. House gilts with gilts. Small and thin sows can be housed together. Older and bigger sows should be housed together [3].
- Floor space allocation should be adequate. 15-18 sq ft for gilts; 19-24 sq ft for mature sows, 18-23 sq ft for a mixture of gilts and sows [3].



Figure 1. An example of a static sow group housed in non-gated stalls.

Photo courtesy of Automated Production Systems

Mixing Sows and Gilts in Dynamic Groups

Dynamic Groups are those in which females are regularly added to pens with females already in them. Typically dynamic groups are large groups with more than 40 animals in the pen, and can be as large as several hundred.

- Each female should have one feeding space.
- Do not add females into groups that are at 1-3 weeks of gestation.
- Floor space allocation should be adequate. 15-18 sq ft for gilts; 19-24 sq ft for mature sows, 18-23 sq ft for a mixture of gilts and sows [3].
- The number of new females entering the group should be greater than 20% of the total [4].
- Feed new entrants their daily allotment before placement into pens.
- Add new females in the evening and/or low light if possible.
- Ideally, new introductions into a dynamic group should not occur more than once every 5 weeks [5].



Figure 2. An example of a dynamic sow group with three ESF stations.

Photo of Legacy Farms, Fair Oaks, Indiana courtesy of Dr. Tom Parsons

Management of Compromised Females

Compromised Females are those that are sick or injured and need management and possibly medical attention.

- Compromised females should be identified early, treated within the pen and remain in their group if possible.
- Compromised females not able to remain in the pen should be moved to “relief” or “hospital” areas for treatment and recovery.
- Relief areas are typically small pens or stalls.
- For the most part, females removed from their pens for treatment, should not be returned after recovery.
- Compromised females that complete their pregnancy and farrow should be evaluated to either remain in the herd or be culled.

Mixing pens

Fighting within a new group of sows is greatest at formation. To minimize aggression, some pork producers use specifically designed mixing pens. Mixing pens are particularly beneficial to younger, smaller sows and gilts. Design and management specifications for specialized mixing pens include:

- Females placed into a mixing pen are the same group that will be placed into a gestation pen. Typically females are placed into mixing pens at 28 to 42 days of gestation.
- Once the majority of the dominance order has been established (within 2 to 4 days after mixing), the group is then moved into designated gestation pens for the remaining duration of gestation.
- A rectangular shape pen is best to allow a greater flight distance. Research has indicated that 75% of fight encounters result in a chase distance of less than 8 feet.
- Each female sow should be provided a space allowance of 36 to 37 square feet.
- Any pen fixtures in the pen (e.g. nipple drinkers, feeders) should be well protected to minimize the risk of injury.
- Ideally, a non-slippery solid floor should be used. If possible, the floor should be covered with perforated rubber mats or straw to protect the sow's feet during fighting.
- If sows are mixed on slatted floors, there should be no large gaps between the slats and the edges of the slats should not be jagged or broken.
- For the first two days, ad libitum (full) feeding can be considered. This may minimize aggression.
- The presence of a boar may or may not reduce aggression among sows and is a questionable practice.

Summary

Group housing can be successfully implemented on commercial sow farms. Development and usage of protocols to form sow groups will be a key component of a successful management plan. Following the points discussed in this 'How-To' sheet will help pork producers develop successful standard operating procedures to mix sows. For further information on group sow housing, review the National Pork Board factsheets on sow housing at pork.org/Resources/3703/SowHousingOptions.aspx.

References

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