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# Mating or Insemination

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Pigs are prolific animals. A sow is able to carry more than 2 litters of pigs annually and wean over 10 pigs per litter, ultimately producing more than 20 pigs per year. Managing pig reproduction is a key part of a successful niche pork operation.

## Natural mating

Some producers use boars to mate sows. House the boars separately from the sows. Putting the boar with the sow to be bred (hand mating) allows for maximum boar use and more precise information on breeding dates. Some producers prefer to put the boar in with a group of sows (pen mating). Pen mating has the advantage of less labor, but has the disadvantages of more sow and boar injuries, less predictable breeding dates, increased risk of boar overuse, and generally lower conception rates.

## Artificial insemination

Many producers use artificial insemination (AI) to breed sows. AI allows a producer to access more superior boars than they could otherwise. It also allows large numbers of sows to be bred in a short time. Using AI allows the producer control of breeding dates and subsequent pig flow.

Most producers purchase extended semen, although semen can be collected and extended on farm. AI supplies and boar semen can be purchased from boar studs. Have semen delivered at least weekly during breeding time. Handle semen with care. Remember, it is alive. Store extended semen at 64 °F until ready for use.

## AI technique

Mature boars are needed for estrus synchronization and detection. Check for estrus every day in early morning after feeding when sows are active. Keep records of the first sign of estrus. Insemination time is 12 and 24 hours after onset of estrus for gilts, and 24 and 36 hours after onset of estrus for sows.

Some boar studs also offer AI schools, although the technique can be learned easily from another producer or veterinarian.

In brief:

1. Wipe the vulva with a dry paper towel to clean away any dirt that may contaminate the head of the catheter.
2. Apply pressure to sow's back.
3. Insert catheter into the vulva.
4. Angle the catheter up approximately 45° to avoid the bladder.
5. Insert catheter further into the reproductive tract until a firm resistance is felt.
6. Pull the catheter slightly back to lock catheter into the sow's cervix.
7. Allow semen to be drawn in, or squeeze in very slowly (allow 2-3 minutes).
8. Bind or hold the catheter to prevent flow-back of semen.
9. Leave the catheter in the sow for another 5 minutes to continue cervical stimulation, maintain uterine contractions, and maximize semen uptake.
10. Remove catheter slowly.

Figure 1. Diagram of artificial insemination technique.
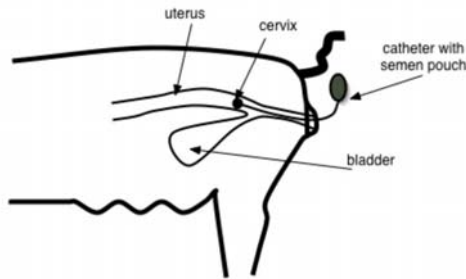


Inseminate the sow with a boar near her head if possible. The boar's presence encourages a strong estrus response and often will help the insemination process by causing the sow to draw the semen into the reproductive tract and minimize flow-back. In group sow housing arrangements, the boar can be penned in a small pen next to the sows during breeding. The sows in heat will come to the boar and can be put into a breeding stall for insemination.

Alternatively, two breeding stalls can be fixed facing each other with the boar in one and the sow to be bred facing the boar in the other. Breeding stalls can be made from gestation stalls. Put the breeding stall in a separate area from the sow group so other sows do not disrupt the breeding process and do not get too accustomed to the boar before breeding. Producers with feeding stalls may use them for breeding stalls.

Breed all sows twice about 12 hours apart. Some producers continue to breed the sow as long as estrus lasts. Litter size does not increase with more than two inseminations, but conception rate may improve depending on the accuracy of estrus detection.

**Additional Resources**

Iowa Pork Industry Center. 109 Kildee Hall. Iowa State University, Ames, IA, 50011. 515-294-4103.
in Iowa: 1-800-808-7675
http://www.ipic.iastate.edu/about.html

U.S. Pork Information Gateway
http://pork.porkgateway.org/web/guest/home