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Estrus

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Estrus is the period of sexual receptivity and ovulation when a female pig will conceive if inseminated. When a female pig is in standing heat or estrus, she is ready to be bred or inseminated.

Estrus detection

The first step to successful pig reproduction is detecting estrus. There are several signs (in order of appearance):

- ◆ Reddening and swelling of the vulva.
- ◆ Vulva mucous discharge.
- ◆ Riding or mounting other sows.
- ◆ Seeking a boar.
- ◆ Standing heat with erect ears and arched back with rigid, motionless posture.

Ovulation occurs 30-40 hours after onset of estrus (about 2/3 into estrus). Estrus signs are much stronger in the presence of a mature boar.

Check for estrus in early morning after feeding when the sows are active. Bring the boar to the sows for the heat check and then remove him until the next check. Start exposing gilts to boars on a daily basis when they are added to the breeding herd. Expose sows to boars the day after weaning and each day until signs of estrus. Then start a breeding time schedule. Exposure should be for short intense periods each day (15-30 minutes each time). House the boar separately from sows. Continuous fence line exposure to the boar will lessen estrus activity by the sows.

Synchronizing estrus

It is advantageous to have estrus occur at about the same time for a group of sows or gilts because then they will be bred at the same time and will farrow together. Their

pigs will become a group of pigs that are about the same age and can be managed together with the same feed, same housing, same marketing, etc.

Estrus occurs when the hypothalamus, the pituitary gland, and the ovaries communicate in a coordinated fashion to start a hormonal cascade that results in ovulation. These organs communicate through varying levels of hormonal signals. Synthetic means of altering hormonal signals in the pig are available and may be allowed by some niche markets. PG600® is a pharmaceutical that induces estrus in the pre-pubertal gilt. Matrix® is an orally active synthetic compound for synchronizing estrus in mature gilts and sows. Prior to using these or other products make sure they are not prohibited by your market. For appropriate use and dosage guidelines, consult your veterinarian.

Synchronizing estrus in gilts before puberty

- ◆ Exposure to a mature boar for at least 5 to 10 minutes daily.
- ◆ Inject with PG600® (if allowed by your market).
- ◆ Move or mix the gilts.

Synchronizing estrus in gilts after puberty

- ◆ Exposure to a mature boar for at least 5 to 10 minutes daily.
- ◆ Feed Matrix® (if allowed by your market) for 14 days and stop. Estrus occurs 4 to 9 days later.

Synchronizing estrus in sows

- ◆ Weaning at the same time. Estrus will occur 3 to 7 days after weaning.
- ◆ Exposure to a mature boar for at least 5 to 10 minutes daily.
- ◆ Feed Matrix® (if allowed by your market) for 14 days and stop. Estrus occurs 4 to 9 days later.

Additional Resources

Cole, D. J. A. editor. 1971. Pig Production. The Pennsylvania State University Press. University Park, PA.

Flowers, William, A. 2006. Synchronization of Estrus in Swine. Pork Information Gateway 08-06-01. Available at http://www.porkgateway.org/c/document_library/get_file?repository_id=1&file_path=%2F&file_name=08-06-01g_c052006.pdf

Holden, Palmer J. and M. E. Ensminger. Swine Science 7th Edition. 2006. Pearson Education Inc. Upper Saddle River, NJ.

Kyriazakis, Ilias and Colin T. Whittemore editors. 2006. Whittemore's Science and Practice of Pig Production 3rd Edition. Blackwell Publishing. Ames, IA.