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## Swine Artificial Insemination for Beginners: Ordering and Caring for Semen

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Sows and gilts are usually bred twice, with 12 to 24 hours between inseminations. For this reason, boar studs will not ship less than two doses of semen. A dose is 80 to 100 ml and contains three to six billion sperm cells. Swine semen is usually used fresh rather than frozen. Fresh semen is packed in plastic squeeze bottles with an extender to keep sperm cells alive, and is shipped with cool packs in Styrofoam containers.

Frozen semen is available from a few boar studs. However, frozen swine semen produces smaller litters and lower conception rates than fresh semen.

Semen is generally ordered by phone, and many boar studs have a toll-free number for this purpose. Disposable insemination rods and other supplies can be ordered along with the semen.

Boar studs collect semen on Monday and Thursday and ship it for overnight delivery Tuesday through Friday. Semen is usually ordered Monday through Thursday to coincide with the shipper's delivery schedule. Some shippers will deliver semen on Saturday, for an additional fee. In areas where Saturday delivery is available, semen can also be ordered on Friday. In areas where the shipper doesn't make Saturday deliveries, you must place your order by Thursday if you plan to breed an animal on Saturday, Sunday, or Monday.

If it is not critical that a particular boar is used, you can order semen when you notice that a sow or gilt is in heat. In this situation you can

choose from whatever boars are still available or ask the boar stud to select a boar for you. Having catalogs from several boar studs improves the chances of finding a boar you like on short notice.

If it is important that a particular boar be used, semen should be ordered weeks or months in advance to ensure availability. You must predict when the sow or gilt will be in standing heat.



**Figure 1. Semen bottles and a Styrofoam shipping container.**

The swine estrus cycle ranges from 18 to 28 days but averages 21 days. By watching an animal through two estrus cycles you can predict when she should be in heat again and place your order. This

doesn't always work, since some sows and gilts have irregular cycles. Ask about the boar stud's cancellation policy when you order the semen so you can cancel the order if the animal does not cycle as expected.

Weaning is the most reliable way to predict when standing heat will occur. Healthy sows reach standing heat 3 to 7 days after pigs are weaned, with four or five days being most common. Semen can be ordered in advance for delivery four days after the intended weaning date. Plan weaning so that day four occurs on Tuesday or Friday, which are normal delivery days for semen. This insures that fresh semen will arrive on the day the sow is most likely to be in standing heat. If the semen will be collected on Monday and arrive on Tuesday, wean the sow on the previous Friday. If the semen will be collected on Thursday and arrive on Friday, wean the sow on the previous Monday.

Semen from a boar you specify may cost \$25 to \$250 per dose. Mixed semen or semen from a boar selected for you by the boar stud may cost \$5 to \$20 per dose. Overnight shipping costs \$40-\$50. Most boar studs offer semen at a discount or half-price during the low-demand months of June thru August and December through February. Many offer discounts on volume orders and savings on overrun semen that is still available after a specified time on collection day. Some give price breaks to 4-H and FFA members.

## **Storing and Handling Semen**

Fresh semen is best used within four days of collection but may remain viable for a week or more if held at 60-65 degrees Fahrenheit (16-18 degrees Celsius). Semen storage life depends upon the boar, the extender used by the boar stud, and storage conditions. Boar studs routinely keep semen samples to monitor viability and can estimate the storage life of semen from a particular boar.

For short-term storage, wrap a quilt or sleeping bag around the Styrofoam shipping container and place the container in a cool room in

your home. Unheated basement rooms are often good choices for semen storage. Since sperm cells gradually settle to the bottom of the squeeze bottles, gently rotate the bottles two or three times a day to keep the sperm cells suspended in the extender. This can be done by simply turning the entire Styrofoam box over.

If you do not have a cool room, fill several plastic soda pop bottles with 60 to 65 degree water and place the bottles in an insulated picnic cooler. Do this the day before the semen arrives to allow the temperature within the cooler to stabilize. The more bottles in the cooler, the easier it will be to maintain a given temperature. When the semen arrives, place the semen bottles, a thermometer and any cool packs shipped with the semen into the cooler. Wrap a quilt or sleeping bag around the cooler. Check the temperature each time you turn the semen bottles and change the water in some of the soda bottles as needed to maintain the proper temperature. Since rapid temperature fluctuations shorten semen life, do not place these new soda bottles into direct contact with the semen bottles.

Some boar studs and insemination supply companies sell semen storage units that resemble small refrigerators. These have heating and cooling elements that are thermostatically controlled to maintain the proper storage temperature.

Some key points to remember when storing and handling semen:

1. Do not refrigerate the semen or allow it to become too warm. The proper storage temperature is 60 to 65 degrees.
2. Temperature fluctuations shorten semen life. To the extent possible, maintain a constant storage temperature.
3. Do not expose semen to sunlight.
4. Turn the semen bottles over two or three times a day, but do not shake the bottles.
5. If the semen is more than a week old, or has been subjected to temperature extremes, have its viability checked by a veterinarian before using.

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