



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

Artificial Insemination (AI) Checklist

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Before the Breeding Season

- Prepare an inventory of semen and plan mating decisions for heifers and cows.
- Check liquid nitrogen level of tank and schedule refill before start of the breeding season.
- Begin purchasing semen from a reputable supplier and store in liquid nitrogen tank.
- Plan AI protocol for heifers and cows (<http://www.iowabeefcenter.org/estrussynch.html>).
- Order AI and synchronization supplies (hormones, sleeves, sheaths, patches).
- Document semen locations by canister in the semen tank.
- Plan prebreeding vaccinations for cows/heifers and bull breeding soundness exams.
- Body condition score cows and adjust rations accordingly to hit target.

Synchronization and Heat Detection

- Set up facilities to handle livestock multiple times during synchronization protocol and breeding.
- Implement synchronization protocol with special attention to timing and drug dosage based on product.
*Using BQA injection guidelines, hormones should be administered intramuscular with 1.5-inch needle.
- Spend at least 30 minutes twice a day detecting for estrus if breeding with heat detection protocol.
- Inseminate 12 hours after onset of standing heat (heat detection only). Breed using the AM/PM rule.
- Insemination timing will differ based on Fixed Time AI protocols and when using sexed semen.
- Arrange multiple trained inseminators to be available on breeding day when synchronizing a large group.

Time of Insemination

- Locate nitrogen tank, warm water or thaw unit, and breeding kit near the cow and out of direct sunlight.
- Using low stress cattle handling, bring cow up and restrain in a breeding chute.
- Identify mating and locate semen in the tank using the inventory sheet.
- Thaw semen in 94-98°F water for at least 45 seconds. Warm insemination gun to body temperature.
- Protect semen from sunlight and temperature fluctuation.
- After thawing semen, dry the straw with paper towel, flick semen away from crimped end.
- Cut end of semen straw with scissors and load semen into sheath and warmed AI gun.
- Keep AI gun warm in a warmer or against body in a warm area until it is inserted into the cow.
- Put on sleeve, take paper towels and lubricant to chute.
- Follow correct insemination procedures and deposit semen in uterine body within 15 minutes.
- Administer hormone if using a Fixed Time AI breeding protocol.

After Insemination

- Check sire information on semen straw, record in breeding records and update inventory.
- Clean insemination equipment and store for next use.
- Move animals within 4 days of breeding or wait 42 days after breeding to minimize potential embryo loss.