

Assisted Reproduction in the Ewe or Doe

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Assisted Reproduction can yield production and management advantages when practiced in the ewe and doe. Little formal research in the area is done in the U.S. and objective information may be difficult to obtain. Most hormones can only be used in an extra-label manner in ewes and does. Often, these products are not available through normal commerce. Despite these problems assisted reproduction has a place in ewe and doe management.

Out of Season or Early Breeding

Ewes and does have a very finite restricted breeding season. As a result offspring are normally only born during the winter and spring. Out of season breeding allows offspring to be born at other times of the year. Pregnancy rate for most available out of season schemes are usually low (50%) and vary widely. Methods of Out of Season or Early Breeding include:

1. Selecting breeds or individuals that tend to cycle outside the normal breeding season. A good example would be the Nubian-breed of dairy goat which tends not to be seasonal.
2. The Buck effect - When transitional ewes and does have been out of sight, sound or smell contact with a male for 3 weeks or more, they will respond to introduction of a male with sexual activity in a week or so. The first cycle is not very fertile and the cycle length to the next heat is often short.
3. Artificial lighting can be used to cause out of season cycling. Exposing ewes or does to 19 hours of total light per day for 2 months beginning in January will result in estrus activity in about 2 more months. Artificial light should be added to natural light in the evening. Turning a male in with the females 3 weeks after lights are turned off will enhance the effect of the artificial lights.
4. Norgestomet implants - Various progestogens administered by various routes have been used to initiate out of season cycling in small ruminants. Norgestomet implants at ½-1 times of the cow dose is implanted subcutaneously, often under the tail. The implant is removed in 9-12 days and some estrus activity results. PMSG is not commercially available in the U.S. but using this hormone with Norgestomet will improve the results

of this system. Heat occurs about 72 hours after implant removal.

5. Melatonin - Some research in Europe has indicated to the administration of 3 mg of melatonin between 3-4 p.m. beginning in May can be used to advance the breeding season by about 2 months.

Estrus Synchronization

Estrous synchronization in ewes and does allows for a period of mating and a more concentrated birth period. Fertility using common estrus synchronization programs are unchanged from normal fertility, if a fertile male is available for each 7 females or good heat detection is practiced. Estrus synchronization schemes include:

1. Estrus Synchronization Using Prostaglandins - A single injection of PGf at 10-20% of the cattle dose given to cycling females will result in 2/3 being in heat in 30-48 hours. Two injections of prostaglandins given 10 days apart to cycling females will result in 97% being in heat in 30-48 hours. Up to 15% of does may have a short cycle after synchronization.
2. An implant (or ½) Norgestomet (synchromate B) placed subcutaneously on the back of the ear or under the tail in cycling females removed 10-14 days later will result in heat in 72 hours.