

OUT-OF-SEASON BREEDING

While there are differences, most sheep and goats are photosensitive with respect to reproduction. Their likelihood of breeding is strongly affected by how long or short the days are. In the US, the shortening of days in the fall brings females into heat and males into rut. Sheep and goats are less likely to breed in the late spring or early summer when the days are getting longer. At the same time, there are advantages to breeding at these times, and there are several methods for inducing estrus in non-cycling ewes/does and getting them to breed out-of-season.



Genetics

Out-of-season breeding starts with selecting the right animals, including males. Some individuals and breeds are less seasonal and will breed out-of-season. Even within more seasonal breeds, you can select animals that are more likely to breed in the late spring or early summer. The heritability to breed out-of-season is usually between 10 and 20 percent.

Hormonal treatments

Hormones, such as progestogens and gonadotropins, can be used to induce estrus (heat) and ovulation in ewes/does that are not cycling. CIDRs can be used to release progestogens and help synchronize estrus. Melatonin, which is released in response to darkness, can be administered to help induce estrus. Not all hormonal treatments are FDA-approved for sheep and goats in the US.



Photoperiod manipulation

Manipulating light-dark cycles can mimic shorter days and induce estrus in some animals. Confinement housing is required. A typical lighting protocol usually involves alternating between periods of long and short days. Ram/buck fertility is also affected by photoperiod; thus, males should be subjected to the same protocol.

Ram/buck effect

The introduction of a ram or buck can stimulate estrous in a group of ewes or does. It requires complete isolation of females from males for at least one month (no sight, smell, or touch), preferably longer. Females will be most responsive to the ram/buck effect during their transition period, 4 to 6 weeks before the onset of the normal breeding season.



While out-of-season breeding has the potential to improve productivity and marketing opportunities and is essential for accelerated breeding programs, it is not without downsides. Out-of-season breeding is usually more costly due to hormone treatments or other manipulations. Pregnancy and birthing rates tend to be lower. Out-of-season breeding requires optimal nutrition and a higher degree of management.

