

PREPARING EWES FOR BREEDING

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Sheep are seasonal short-day breeders. This means that they come into season naturally when the daylight length starts to decrease, therefore in autumn. Sheep can be induced to breed in spring, either with daylight manipulation or hormone supplementation. Small stock reacts well to a synchronization program and producers often get high lamb percentages with numerous ewes giving births to twins or even triplets. We must keep in mind that no artificial insemination (AI) program nor any amount of external hormones can replace the genetic potential of any ewe. Ewes must still be properly prepared for any breeding program to succeed.

Ewe condition

Ewes need to attain a body condition score of at least 3,5 (on a scale of 1-5) at mating. To achieve this, lambs must be weaned at least 6 weeks before mating, giving the ewes time to recover and again improve their condition. Flush feeding can be given from 4 weeks before AI. Flushing assists with getting out of season ewes in season and it will also improve ovulation rates. Also, injectable vitamin and mineral supplementation can be administered 4-6 weeks before mating. However, keep in mind that sheep are extremely sensitive to copper and can easily suffer from copper toxicity. Also, ensure that vitamin A and selenium is included in your program.

It has been proven that ewes in good condition have better ovulation rates, however, this also provides a reserve of body tissue which can be mobilised, if required, during pregnancy and lactation. Furthermore, ewes that are in good body condition at lambing have improved uterine recovery, have tissue reserves to mobilise, if necessary during early lactation (i.e. "milk off their backs"), produce larger volumes of colostrum and produce lambs that have greater viability and develop a stronger bond with their dam.

Ewe selection

Ewes that did not wean a lamb in the previous season must be excluded from any further breeding programs. Ewes must be checked for udder problems such as hard lumps, abscesses or deformities, as ewes with malformed teats will struggle to raise multiple lambs. Older ewes should be checked for teeth problems such as worn-down teeth. It is good practice to keep records of all ewes struggling during the lambing season with the lambing process, had little or no milk and those with any other metabolic disturbance such as milk fever. These animals can then be easily removed once the lambs are weaned. Cull any ewes suffering from chronic feet problems, those with poor mothering characteristics, and those that suffered from vaginal prolapses (as it has



a high chance of recurrence) or had difficulty lambing in the previous season. Young replacement ewes should be at 60-75 % of their adult weight before they can be bred.

Vaccination and treatments to be given to the ewe

All vaccinations should be performed before ewes are bred to minimize stress during the mating season. Important diseases that must be vaccinated against before breeding, are Blue Tongue virus, enzootic abortion (**Ovilis® Enzovax**) and Rift Valley Fever. These 3 diseases can have a negative impact on fertility and lambing percentages. Live vaccines cause temperature reactions that may influence the viability of the egg cell, so it is good practice to have at least one full heat cycle after the last vaccination. Some live vaccines may lead to abortions or resorptions if given too close to mating, therefore do not vaccinate within 4 weeks prior to mating.

Use a broad spectrum dewormer, such as **Nem-A-Rid® Orange** at a dose rate of 2 ml/10 kg body mass, 4-6 weeks before mating to remove any roundworm, nasal bot and liver fluke infestations the ewes may have contracted. No worm remedy should ever be administered to any sheep or goat unless they have been vaccinated against pulpy kidney in the preceding 12 months. Any hoof treatment and shearing of the crutch to facilitate breeding should be performed during this time. Crutching will also lessen the chance of blowfly strike.

Synchronization Program

Intravaginal sponges or intravaginal devices impregnated with progesterone are implanted into the vagina of the ewe and left for roughly 2 weeks. When the sponges or devices are withdrawn, an injection of another hormone called "pregnant mare serum gonadotrophin" can be administered to improve conception rates. With a few exceptions, ewes will show signs of heat 36-54 hours after the sponge or device was removed. Contact your veterinarian to design a program that will suit your needs and flock dynamics.

As many ewes will be on heat at the same time, the number of rams to ewes ratio and/or ability to perform AI is of critical importance. The rams that will be used during the season should be in prime condition and must have undergone a fertility test before the mating season to determine sperm quality.

As synchronization and the use of hormones increase the chance of multiple lambs, pregnancy diagnosis is extremely important after the mating season. Ewes carrying multiple fetuses will need correct feeding in the last trimester.

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