

## Herd fertility monitoring

**Problem:** Reproductive performance is a determining factor for the efficient operation and profitability of the company. The timely and accurate monitoring and collection of these performance is a fundamental aspect for the profitability of the company itself. Low reproductive efficiency can result from mismates and conception and embryonic and fetal losses during pregnancy. The most common causes deriving from a low reproductive efficiency are often due to feeding and management errors of the animals and an inadequate male / female ratio during the breeding period.

**Solutions:** The reproductive efficiency of the flock is based on the evaluation of reproductive indices of fertility and prolificacy. Fertility represents the percentage of females giving birth compared to those of reproductive age on the farm (calculated net of inseminations without consequent conception, embryonic / fetal reabsorption and abortions) and is considered good when it is higher than 90%. Prolificacy, on the other hand, represents the number of births that are obtained for each birth. Fertility is obtained from the product of the two previous parameters (fertility x prolificacy). For an optimal fertility rate, the flock must be organized so that the sheep in the breeding group have passed the weight recovery phase after the previous calving and this takes place between 90 and 120 days from calving according to the diet adopted. The body condition of the sheep (BCS between 2.75-3.25 at the time of mating) can be used to identify the optimal time. It is then necessary to ensure that there is a ratio of about 1 to 30 between fertile males and females and to adopt a correct synchronization protocol in the event that the artificial insemination technique is used.

The collection of various reproductive data such as: data of conception, date of birth, date of pregnancy ultrasounds, abnormal events such as embryonic resorptions and abortions allows to develop, analyze and improve reproductive indices.

### Practical recommendations:

- wait to introduce animals to the breeding group for the first time, or artificially inseminate them when they reach about 60% of their future adult weight;
- carry out the collection and evaluation of ram semen to evaluate its quality and the absence of transmissible diseases;
- make sure that the health status of the animals is normal;
- guarantee a sheep / ram ratio in the breeding group of approximately 30: 1
- carry out a flushing approximately 2 weeks before mounting using for example oats, corn, soy and lupine or good quality pastures (chicory, legume and polyphite grasses);
- perform ultrasound scans 50 days after placing the rams in the breeding group in order to identify and separate the empty sheep;
- if there is a case of abortion, subject the fetal material to diagnostic tests to understand the cause. The rate of abortions should be under 5%, with a rate of 2% being optimal;
- record the data relating to survival, mortality, morbidity, reform, age at first birth, age at last birth in order to be able to evaluate further reproductive parameters such as reproductive career duration, the number of births per career, the annual recovery rate and annual reform fee.