

Seasonal reproduction in ewes - how to manipulate the supply of lamb



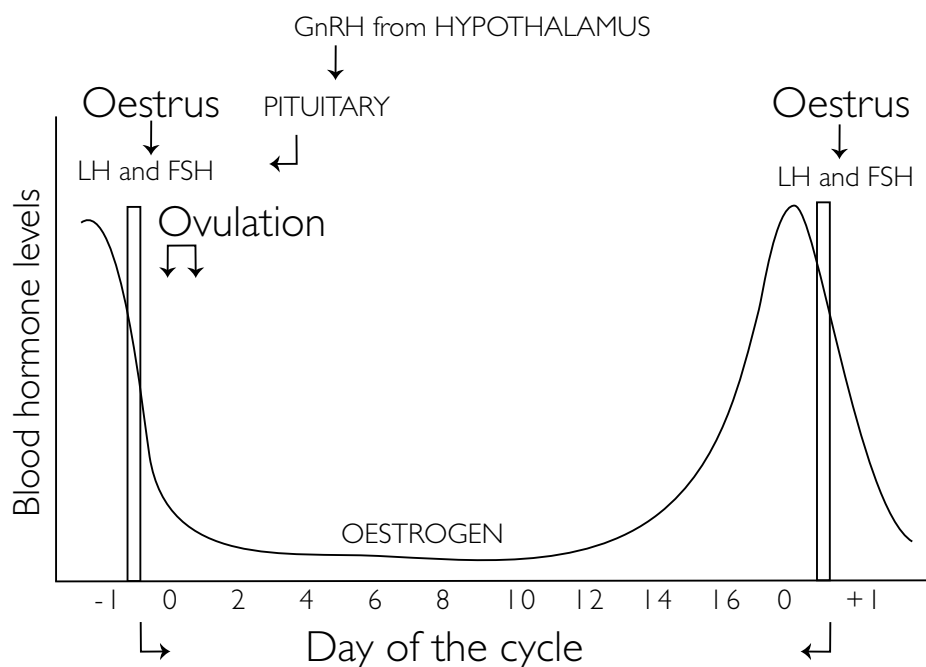
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Sheep are seasonal breeders - how does that fit with the consumers demand for lamb?
Could we get more than one crop of lamb per year? Can we extend the breeding season?
Could we lamb earlier, or later to match the demand for lamb from different markets?
Are we producing enough lamb at the right time of the year?

UNDERSTANDING WHAT HAPPENS IN THE EWE'S REPRODUCTIVE SYSTEM

The hormone melatonin is produced in greater amounts as the nights lengthen activating the hypothalamus in the sheep's brain to produce Gonadotrophin Releasing Hormone (GnRH). This makes the sheep produce Follicle Stimulating Hormone (FSH) and Luteinising Hormone (LH) from the pituitary gland which act on the ovary to stimulate ovulation to begin her oestrous cycle.



HOW MUCH CAN WE CHANGE? WHAT CAN WE INFLUENCE?

Understanding the biological and genetic basis of sheep breeding can help us make important management decisions about which breed to use and where it fits into the farm business. Sheep mainly breed at times of the year when the day length is shorter and night time longer, so ewes normally show 17 day oestrous cycles mid-Autumn into Winter which means lambs are born in the Spring. This seasonality introduces some issues in modern farming practices however, when aiming to meet the correct market times for optimal lamb prices.

Ewe nutrition and body condition score is really important in the run up to, and through, the breeding season to lambing. Use of the short term flush and carefully managed feeding through pregnancy maintains body condition score at the right level and ensures successful growth of the developing lambs. This is key to achieving the birth of healthy lambs that survive and grow to point of sale.

WHAT NOW?

1. BREED

Breed choice has an important bearing on when ewes are tugged and when they lamb. Farms with early lambing flocks usually start around Christmas time with later lambing running through to April. Breeding season ranges from three to four months for mountain breeds (Scottish Blackface and Welsh Mountain) through to five (for crossbreeds such as the Mule and Scottish Halfbred) and six for Suffolks and Suffolk crosses. However, the Dorset (Horned or Polled) has a very long season of around eight months. The peak of its breeding activity tends to be several weeks earlier in the year than for other breeds.

How could breed choice change the supply of lamb?

A few producers are keen to sell lamb around Christmas or New Year and lamb in the Autumn when there is sufficient forage available and weather is conducive to outdoor lambing. This is a challenge with lower conception rates common from seasonal breeds - for this reason less seasonal breeds such as the Poll Dorset are the preferred option. Potentially, if more lambs were born in the Autumn, lamb supply would be more even over the season with steadier demand and more stable prices.



2. HORMONAL OR NATURAL MANIPULATION

Extending the natural breeding season is another alternative - either by breeding earlier or for longer using hormonal manipulation with injections of gonadotrophin treatment or melatonin implants. However, light levels, the "ram effect" and nutrition are more natural ways of manipulating the breeding season. Introducing a teaser ram or an active ram to anoestrus ewes a month before the season starts or before it's due to end may extend the breeding season a month either side of the natural period of mating.