Choosing your lambing time

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SHEEP, pastures and labour are the major resources of the sheep enterprise but their productivity is greatly affected by the timing of operations associated with them. This article discusses how the lambing time can be chosen to get maximum use from each resource.

Sheep Season

As sheep are mostly seasonal breeders, there are times of the year when they have greater potential for producing lambs than at other times.

Various experiments have shown that ovulation rates (the number of eggs shed from the ovary at each heat period) increase through summer and reach a peak in the autumn. This variation is most marked in the British breeds and cross-breds, as can be seen in Figure 1.

![Figure 1. Relationship between ovulation rate and season for Merino and British bred ewes.](image)

The closer the mating time is to the season of peak ovulation rates, the more concentrated the lamb drop is likely to be.

Nutrition

The nutritional requirements of the ewe vary through her reproductive cycle. There are three main phases:

MATING: The fertility of ewes increases with increased liveweight so the better the body conditions at mating the higher the incidence of twinning is likely to be.

It is also possible that higher liveweights at mating would result in a more concentrated lamb drop, because more ewes are likely to be ovulating at high than at low body weights.

EARLY AND MID-PREGNANCY: The rate of growth of the foetus is not constant throughout pregnancy. During the first two-thirds of pregnancy the developing lamb makes little growth and places virtually no additional stress on the ewe. During this period the ewe requires no more feed than a dry sheep. A fall in live-weight after mating has no adverse effect on either the ewe or her lamb, providing the ewe’s condition remains strong.

LATE PREGNANCY AND LACTATION: During the last six to eight weeks of pregnancy the foetus makes rapid growth and places extra stress on the ewe. The ewe therefore needs to be on a rising plane of nutrition.

The rapidly growing foetus also occupies an increasing amount of gut space so that the feed during this period must be of good quality. This point is most important with ewes bearing twins.

Underfeeding during late pregnancy can result in:

- Birth of light lambs, which have a lowered chance of survival.
- Delayed onset of lactation.
- Reduced quality of udder secretions.
- Reduced potential for body and wool growth.
- Ewe and lamb deaths.

To ensure a good milk supply, the ewe must continue to be well fed for the first six to eight weeks of lactation. Underfeeding during lactation could reduce the milk supply to the lamb and reduce its growth rate.
The nutritional requirements of the ewe during pregnancy are illustrated in Figure 2.

![Figure 2: Feed requirements of the ewe during pregnancy and lactation](image)

Pastures

In the agricultural areas of Western Australia, paddock feed is the cheapest form of feed but is at its lowest in terms of quantity and quality in late autumn just before the break of the season. Summer rains and "false breaks" aggravate this situation.

Pasture availability is best measured by sheep condition. Figure 3 illustrates the average of three years' weights of ewes stocked at high, medium and low rates and lambing in early July.

![Figure 3: Liveweight changes of ewes stocked at low, medium and high stocking rates](image)

The effect of stocking rate is clearly seen in the diagram. Livewights recover rapidly after the break of the season at all stocking rates and remain high for a time after the feed would be expected to dry off.

Labour

The peak labour requirements on most farms are during seeding, harvesting, lambing and shearing. Although seeding and harvesting times cannot be varied, lambing and shearing can take place at a number of different times. Consideration should therefore be given to varying these to suit labour availability.

Discussion

The facts set out above should allow the selection of that time of lambing which best suits any particular set of circumstances. Aiming for a particular market (such as early prime lamb) may influence the decisions made, but all alternatives should be considered before a final decision is reached.

Figures 2 and 3 can be combined to show the relationship between feed supply at different stocking rates and the ewes' feed requirements for different times of lambing. It must be stressed however that the curves of Figure 3 refer to one set of circumstances only. The shape of these curves will vary from district to district and the local District Office of the Department of Agriculture should be contacted for the liveweight trends for any particular area.

For the purpose of this discussion three times of lambing are considered—April-May, June-July, and August-September. The likely outcomes of choosing one of these lambing times are:

April-May

Breeders wishing to take advantage of the high prices in the early prime lamb markets may choose this time.

To lamb at this time involves mating in November-December. Ewe livewights can be expected to be near maximum at this time but the effect of high liveweight on ovulation rate will probably be cancelled out by the seasonal effect. At this time of the year ovulation rates are low with the result that lower numbers of lambs may be born and the lambing will tend to be drawn out.

Figure 4 shows that for all but low stocking rates, the paddock feed will not be sufficient to meet the ewes' requirements. Handfeeding will be necessary at all but low stocking rates to prevent ewe and lamb losses.

Thus an April-May lambing time could be expected to result in either a low output or, if ewes are run at medium or high stocking rates, a high-cost product.
**June-July**

Ewes lambing in June-July would be mated in January-February.

Ovulation rates would probably be increasing at this time but ewes running on pasture may be starting to lose weight and this could cancel out the seasonal increase in ovulation rates to some extent. Under normal conditions, however, ovulation rates could definitely be expected to be higher than at an earlier mating. This should result in more lambs being conceived than at an earlier mating.

Figure 5 shows, for a June lambing, that at low and medium stocking rates, paddock feed is sufficient to meet the requirements.
of the ewe. At high stocking rates, the paddock feed may not "get away" as quickly and some hand feeding maybe required under these conditions with ewes lambing in June.

Ewes lambing in July would not require any supplementation even at high stocking rates.

The results of choosing a July lambing time would be a high output, low cost lamb. As the ewes have ample feed during lactation, good lamb growth rates can be expected.

**August-September**

Ewes to lamb at this time of the year require mating in March-April, the season when maximum ovulation rates could be expected.

Ewes are usually losing weight at this time on annual pastures and this weight loss could largely cancel out any seasonal increases in ovulation rate.

Figure 6 indicates that nutrition is not limiting and the ewes have ample paddock feed during late pregnancy and through lactation. Fast lamb growth rates to weaning could be expected.

The effects of different times of lambing on weaner performance are discussed elsewhere in this Journal.

The arguments above suggest that a later mating time (tending towards autumn) gives a potential for more lambs being born. The results of time of lambing trials also show that increased fertility is achieved with late lambing but suggest that maximum potential is not fully realised in many situations because of lowered liveweights at the "late" mating time. It is therefore necessary to maintain liveweight through to a late mating.

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**IN BRIEF . . .**

Late lambing means:

1. greatly reduced need for hand-feeding in late pregnancy and/or lactation,
2. potential for more lambs being born,
3. higher stocking rates can be carried without handfeeding,
4. sheep requirements better fit feed availability,
5. less clashes with other farming operations,
6. a possible weaner problem if lambing is too late.

Early lambing means:

1. handfeeding during late pregnancy and lactation is necessary at all but very low stocking rates,
2. less lambs can be expected to be born,
3. high stocking rates will incur heavy handfeeding,
4. feed availability is at its lowest when the requirement is highest,
5. lambing will probably clash with other farming operations,
6. there should be little chance of a weaner problem if the ewes are adequately fed in late pregnancy and lactation.