6. JOINING MANAGEMENT

It is widely accepted that a more fertile Merino flock is a more profitable one. While it is true that, if the increase is not costly, additional surplus sheep sales would make the enterprise more profitable, there are limited low cost options for improving fertility.

As ewe liveweight at joining is the largest determinant of subsequent fertility, there are two issues to consider in the pre-joining management of sheep.

The first is: is it possible to achieve a higher weaning percentage by influencing the environment of the ewes, or more specifically by feeding them better?

The second is: what needs to be done to ensure the maximum number of lambs weaned from the existing pasture conditions which exist?

SECTION KEY MESSAGES

At current feed costs, it is unlikely to be profitable to supplementing ewes at joining if intending to boost weaning percentage.

Follow the simple checklist provided for ram and ewe management for maximum reproductive success.

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Providing supplementary feed

Following drought, when sheep numbers on farm may be lower than they would normally be, increasing the number of lambs born provides one method of assisting the re-stocking process. Although it is widely accepted that a more fertile Merino flock is a more profitable one, the benefits of improvements in fertility are often overestimated and it is rare that supplementary feeding ewes to increase the number of lambs born is profitable.

The questions that should be answered when trying to increase the fertility of ewes at joining are:

- What is the cost of feeding the ewes to get them in a higher condition score, and what will be the increase in weaning percentage as a result of having a higher condition score?
- How can the additional lambs and the lower average weaning weights associated with a higher incidence of twins be managed?

Cost of additional weaning percentage from liveweight at joining

Whether an enterprise is in an arid pastoral zone or a high rainfall zone, it is often tempting to consider feeding ewes prior to joining to try to maximise their fertility.

Fertility at joining, or more specifically the incidence of twins, is predominantly associated with the liveweight of ewes assuming that the ewe is not deficient in protein. Dry ewes require only six per cent protein in their ration.

To estimate the cost of feeding to get an increase in weaning percentage, there are two important rules of thumb. The first is that it will take approximately six kilograms of feed for a ewe to gain one kilogram of liveweight. At a cost of $300 per tonne, that equates to $1.80 per kilogram of liveweight.

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The second rule of thumb, based on a review of research by CSIRO and the Victorian Department of Agriculture, is that for every one kilogram in liveweight there will be an additional 1.1 per cent lambs weaned. Therefore, every 100 ewes will cost $180 to obtain an extra 1.1 lambs or $163 per lamb. There will be some additional wool produced from supplementary feeding but there will also be some lost growth associated with additional twins. Under current conditions, and in most situations, it will not pay to feed at joining to increase your lambing percentage.

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Even allowing for a net increase in wool income, this is an expensive way to re-stock given current prices for sheep.

Feeding lupins may be an exception to the rule when protein is limiting. However trial results are highly variable and very unpredictable. For this reason, it is recommended that lupins be used only where some form of supplementation is necessary and there is no green feed available.

Maximising the weaning percent with current feed availability

Other than feeding ewes, there are management practices that can be employed to ensure that the potential fertility of the flock is optimised within the constraints of the available nutrition. Therefore, these practices are applicable no matter where the property is located.

The following checklist is not presented in any particular order of importance. Furthermore, some of the recommended procedures may not have any direct impact on the level of fertility but they may protect your investment, particularly in your rams. Some of the recommendations are fairly basic but it is surprising, even among well-managed flocks, that some of these management procedures are overlooked.

Ewes

As we discussed in the first section, it is generally uneconomical to feed ewes to be mated in a higher condition score. However the following recommendations should assist:

- Where your environment allows, ensure that weaning has occurred at the appropriate time the year before. Weaning in most flocks should take place 13 weeks after the first lamb is born. More often than not, this is delayed, and the failure to wean on time compromises the condition score of the ewe and the growth of the lamb over the summer and autumn. If the lambs were weaned late, it is almost guaranteed that you will be joining the ewes in lower condition the following year (refer to weaner management section).

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- Ensure that worm burdens do not accelerate live weight loss and reduced fertility.

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- The weaners should be given preferential nutritional management over the autumn and the ewes should come next. If necessary, constrain wethers or cattle to allow the ewes to maintain as much condition as possible.

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- Be aware of the fertility penalty of joining ewes very close to full wool. This is more of a problem in maiden ewes where the wool on the back and rump acts as a contraceptive and physically inhibits the ram from penetrating. It is not so much an issue in mature ewes, but in maiden ewes, conception rates can be halved in the worst circumstances. Crutching does nothing to resolve the problem.

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- Try to avoid joining ewes within two weeks of shearing. Shearing disrupts ovulatory activity and it takes a fortnight to settle down. Ewes seem to join very well about two weeks off the board. Otherwise, join for an extra two weeks (seven instead of five).

- Ewes begin to cycle spontaneously after the summer solstice (22 December). From the longest day through to autumn, the days shorten and most ewes cycle regularly every 17 days. For this reason, teasers in autumn mating are a complete waste of time and their use is even doubtful when mating in the spring.

- It is amazing, but true, that some flock owners yard their ewes at least once a week overnight with the rams to maximise ram/ewe contact. If this is a favoured practice of yours, stop doing it. There are far more important things to do, apart from the fact that it won't get you any more lambs anyway.

Rams

Do not forget the other half of the equation. The health of the rams is easily overlooked but critically important.

Ensure that rams are shorn at least two months before the start of mating. If you are mating in the autumn, then a summer ram shearing can sometimes result in an increase in body temperature which has deleterious effects on semen quality.

- Ensure that rams are shorn at least two months before the start of mating. If you are mating in the autumn, then a summer ram shearing can sometimes result in an increase in body temperature which has deleterious effects on semen quality. As semen needs six weeks to renew itself, a gap between shearing and mating of at least eight weeks is a good insurance policy.
- In the eight weeks leading up to joining, do not aggressively muster rams or do anything that can over-heat them as semen quality can be compromised.
- Jet the heads and pizzles of rams that are in more than three months of wool within a week or so of mating. Check testicles - lumps and bumps are common with Brucellosis.
- At the time the rams are shorn, or six to eight weeks before mating, trim the feet back to a normal shape.
- Check the testicles of all rams prior to use and cull any ram where there are significant differences in size between testicles, palpable lumps or bumps, abscesses on the scrotum and where the combined testicle size is less than 28centimetres as measured by a scrotal tape.
- Try to join the rams in at least condition score 3. In some years, supplementary feeding with lupins or cereal grain may be necessary to achieve this.
- Join the rams to mature ewes at one per cent of the ewe mob number plus one spare ram. So, for example, if you were joining a mob of 300 ewes, four rams would be required. It is rarely necessary to mate at a higher rate than this if you have checked the fertility of the rams. The exception is pastoral country, particularly if you have multiple watering points, where ram/ewe contact can be reduced.
- If paddock geography limits ram/ewe contact, for example hills, gullies or split watering points where some of the ewes might form a separate group with no ram present, then use extra rams in this paddock.
- Join rams to maiden ewes at no less than 1.5 per cent and the use of maiden rams with maiden ewes should be avoided.

- In more intensive management areas (wheat/sheep and high rainfall zones) join for a maximum of five weeks if mating is in the autumn, and seven weeks if mating is in the spring. In the case of autumn joining, five weeks is 34 days and as the cycle length of the ewe is 17 days, this allows for two cycles. This is more than enough if everything is functioning well and to extend the mating period only produces a tail on the weaner mob which is often the most difficult to manage.

Some of the recommendations made in this section are fairly basic but if the overall package of recommendations is incorporated into standard management practice, then the flock will always achieve its maximum fertility potential in the conditions prevailing in any given year.

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Managing additional weaners

Regardless of whether or not you actively pursue an increase in flock fertility, you may actually have additional weaners to feed in the years post-drought for two reasons. The first is that your flock structure is likely to have changed from a sell-down of wethers during the drought. This means more ewes and therefore more lambs. Secondly, if you are running less stock in total over the few years post-drought, they may have better feed availability and therefore be in a higher condition score at joining.

You will need to be prepared for this and should refer to the section on weaner management.

Case Study - Managing feed supply and demand

A 2000 ewe flock in south-east South Australia had the following management program:

- Ewes lamb in April - May.
- Wean lambs in August.
- Shear in September.
- Surplus sheep/sales in October. Wether lambs sold just before they cut their two teeth i.e. February - May.

The property was in a 550 millimetre rainfall environment but grew good lucerne pastures on 20 per cent of the total area.

A review of the flock profitability showed that:

- Supplementary feeding costs over the last five years averaged $3.30 per DSE ($4.95/ewe) compared to the average of other flocks at $1.10 per annum.
- Low per hectare production of wool, despite a district average stocking rate.
- The major contributing factor to the low profitability was the lambing time.

An analysis of a change to a July lambing showed that the benefits were:

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- Conservatively, an extra 600 ewes could be run on the property by reducing the late autumn/early winter grazing pressure associated with all the ewes lactating at the same time of the year when least feed is available. With a gross margin per ewe of $47 ($25 fleece, $30 lamb, less $8/ewe costs) the extra ewes would contribute an extra $25,000 to farm profits.
- Supplementary feeding costs are expected to halve in line with the reduction in autumn stocking rate, so more of the home grown feed, which is often considered low cost, can be sold. The expected saving is $2.47/ewe but it is partly offset by the extra 600 ewes. The total feed cost was normally $9,900 per annum but is now expected to be $6,422 (2600 ewes @ $2.47/hd) a saving of $3,500 per annum. These supplementary feeding costs are conservative estimates and may well be lower.

Additional working capital would be required while old ewes are retained for the next two years so the ewe numbers can be increased to 2,600. This requires foregone sales of $24,000 (600 @ $40) over the next two years, which would constrain the cashflow in the short-term.

However, the process of changing lambing time was not simple because of other complications with the management program. Required changes include:

- Delaying shearing by one month from September to October.
- Delaying surplus ewe sales until November/December to allow ewes more time to regain their body condition after weaning. This has the potential to clash with harvest and is also at the end of the period where re-stockers are seeking ewes to join for autumn lambing.
- Marking and mulesing be done the week lambing finishes to allow plenty of time for wounds to heal prior to fly activity. To help manage this, joining could be restricted to five weeks, starting 1 February, rather than the normal eight weeks (November and December).
- Teasers would not be required, because ewes are expected to be cycling naturally by February and there would not be any adverse effect.
- Delays to weaning have to be avoided in order to minimise the risk of grass seed problems. All lambs were to be weaned by the second week of October.
- Lamb sales may be delayed but not by the full three months, by which lambing has been delayed, because lamb growth rates would be higher over spring due to better ewe lactation. Lucerne pastures would be a key to growing out the better lambs in summer/autumn while the later lambs would be finished on pasture after the autumn break.

Overall, the changes would bring substantial benefits with better matching of feed supply and feed demand. The key is to avoid peak stocking rate pressure (lambing) coinciding with the time of the least feed. The net effect of the changes is an increased number of ewes and therefore more production while actually having a lower autumn stocking rate.

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The increased returns amount to $28,500 each year, with the only additional investment being the extra ewes. Essentially, the rest of the gain is free - it is achieved through better use of existing pasture resources, which in turn reduces supplementary feeding costs.