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Maximising the Lamb Drop

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Although reproductive rates vary greatly between individual properties, the average marking percentage in Western Australia still hovers around 75%. In the absence of disease it is possible to improve on this figure by undertaking some straight forward management practices at different stages of the reproductive cycle.

Pregnancy testing

There are marked benefits from pregnancy testing

- Make best use of supplementary feeding and improve lamb survival by feeding pregnant sheep correct rations
- Barren ewes can be sold if necessary
- Overcomes the difficulty of 'wet & drying' ewes at marking.
- If there is a problem, this may help identify the cause.

Methods of pregnancy testing include harnessed teasers, ultrasound scanning and udder examination. Of these, ultrasound scanning is the most accurate and is the only method of detecting ewes with multiple foetuses. Most operators recommend scanning about six weeks after the

rams are removed. For more information see Farmnote 74/99

The sheep pregnancy tester will sort the sheep into wet and dries, or better still into ewes bearing twins, singles and empties. Two areas where value adding to this services would prove valuable are

- i) Recording of performance indicators to see if progress is being made (benchmarking), and
- ii) Feeding each line to their requirements.



Improving reproductive performance

The table below shows where losses occurred on one property studied in the Great Southern area, and the reasonable potential that average merino ewes could produce under good conditions. Comparable figures will vary between farms, however it demonstrates the points at which failures occur.

	Case study	Potential	Problem
No ewes joined	100	100	
No mated	92	98	Not cycling
No pregnant	84	96	Failure to fertilise, embryo losses
Embryos alive	92	140	Poor ovulation rate (few twins)
Lambs born	80	125	Embryo loss, abortion
Lambs marked	68	112	Birth injury, mismothering
Lambs weaned	61	108	Lamb deaths

The table shows that the farm under study lost 33% of the lambs (embryos) between pregnancy testing and weaning. It also demonstrates there were 47 weaners fewer than the 100 ewes could potentially have produced.

What can you do?

The critical factor for maximum lamb survival is nutrition of the ewe flock. You need to separate ewes into two (wet and dry) or preferably three (twin, single and empty) lines so they can be fed at the correct rate with minimum wastage of supplementary feed. For three lines a contractor with an ultrasound scanner will be needed.

The following table gives “rule of thumb” supplementary feeding rates needed for ewes with dry paddock feed available. Green feed will obviously change the needs, and farmers should monitor body condition score to judge how much, if any grain feeding is necessary.

Lambing ewes on green feed need at least 2000 kg/ha feed on offer (FOO) to get by without supplementary feeding to obtain maximum production.

Rule of thumb supplementary feeding rates when dry paddock feed available

	Lupins g/h/d	Oats g/h/d
Pregnant ewe first 100 days	200	300
Single bearing ewe, day 100 to lambing	300	450
Twin bearing ewe day 100 to lambing	375	550
Lactating ewe, single lamb	400	600
Lactating ewe, twin lambs	530	800

g/h/d = grams/head/day

Figures are a rough guide only. Sheep should be body condition scored monthly and fed to maintain condition score 3

These figures assume adequate paddock dry feed is available. If not add 0.5 kg of hay/head/week

Best results are obtained when ewes are kept in condition score 3 throughout pregnancy and lactation. Every 1 kg difference in average ewe body weights at day 100 of pregnancy results in a difference of 1% lambs surviving.

Up to the first 100 days of pregnancy, feeding can be done twice a week. Late pregnant and lactating ewes should be fed every second day because of the constant and heavy drain on body fat reserves.

Feeding lupins or oats is relatively safe, but an introductory period (2 weeks for oats) should be observed. Barley, wheat, peas and beans

need gradual introduction over 3 weeks, with plenty of roughage available, to prevent grain poisoning.



Joining management

Time of joining

Sheep fertility increases as daylight decreases ie after December 22nd. Weaning rates from an autumn joining will be up to 30% better compared to a spring joining. However, time of joining / lambing has to be considered with regard to other farm activities and changing to a later lambing may not be appropriate for some.

Rams

At least eight weeks prior to joining, inspect for faults, particularly testes and penis, or get them examined by a veterinarian. Sick rams need eight weeks after recovery to produce healthy sperm.

Cull any rams with abnormal genitals, feet or teeth

To produce large testes with good sperm production, feed rams 750 g/h/d of lupins for the eight weeks leading up to joining. Rates may be lower if the pre joining period falls in spring / early summer when nutrition is very good.

Teasers

If joining starts before February, use 1% teasers for 14 days before rams go in. Teasers can be vasectomised rams or hormone treated wethers. The result is more ewes cycling and a more concentrated lamb drop.

Ewes

Weight at joining has a major effect on fertility. In one trial, 40 kg ewes gave 87% lambing, while 50 kg ewes had 105%. Below 38 kg body weight, many merino ewes may not cycle.

Best results have been obtained with ewes in condition score 3 at joining.

To stimulate the ovulation rate, feed ewes 500 g/h/d lupins from 2 days prior to rams going in and continue for 12 days after. Lupins rates should then be reduced to maintenance levels, or withdrawn completely to prevent “over flushing” with consequent loss of embryos.

- * Join teased ewes for 5 – 6 weeks
- * Before February, join unteased ewes for 8 weeks
- * From February on, join unteased ewes for 6 weeks
- * Join maiden and older ewes separately
- * Join maiden ewes to mature rams
- * Don't mix young and old rams
- * Use a minimum of 4 rams with each ewe mob

Selection

Selection of superior rams will give the fastest genetic gains in whatever traits are chosen. Modern tools such as the LambPlan evaluations now provide information that allow us to select rams whose daughters will have improved reproductive performance.

In a poorly performing flock, ewes not lambing, or those lambing but not rearing a lamb can be culled to rapidly increase the reproductive performance of that flock. Maidens not lambing should generally be given a second chance, but maidens that gave birth but did not rear her lamb should be culled.

Animal Health

Maximum production cannot be achieved unless sheep are healthy, and bio security measures are in place to prevent introduction of unwanted disease. Discuss with your veterinary adviser to have in place an effective health program.

- Nutrition; well fed sheep are most able to cope with disease challenge.
- Supplementary feeding or feedlotting can lead to health problems such as enterotoxaemia and grain poisoning. Gradual introduction to new feeds and provision of roughage are vital.
- Mineral and vitamin deficiencies need to be prevented, and should be tailored to the local area.
- Monitor water supplies over summer / autumn for salt levels and toxic algae
- An effective worm control program needs to be in place.
- Vaccination against enterotoxaemia, tetanus, cheesy gland and scabby mouth is usually worthwhile, particularly if grain feeding is practiced. Those with high levels of erysipelas arthritis in lambs can vaccinate against this condition.
- Buy rams that are tested free from brucellosis. Examine scrotum for lumps, particularly the epididymis at the bottom of the testes.
- Get help to look into problems such as infertility, abortions, high death rates, ill thrift, unusual sickness or poor overall production.
- Brought in sheep need to be isolated and treated to prevent introducing diseases such as footrot, lice, resistant worms and weed seeds.

Benchmarking

When a number of people measure the performance of their flock, individuals can see where they are in relation to others and know what to aim for. This is common practice for wool production and for financial performance, and is also suitable for sheep reproductive performance.

Measurements that can be recorded as benchmarks include;

- Pregnancy rates (maidens and adults)
- Twinning percentage
- Lambing rates (maidens and adults)
- Marking rates (single and twins)
- Marking weights (singles and twins)
- Weaning rates (singles and twins)
- Ewe mating weights
- Lambing percentage per kg ewe bodyweight
(eg 90% lambing at average mating weight of 50 kg = $90/50 = 1.8$)

Future benchmark figures will show progress from measures taken such as nutritional and genetic improvements. Another benefit of knowing these figures is to identify where any problems are restricting the flock performance, and being able to address them quickly.

For more information contact an office of the Department of Agriculture, or visit our website at www.agric.wa.gov.au

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