

CONTROLLED FEEDING INCREASES EWE STOCKING RATE MORE THAN 50% AND WEANS HEAVIER EWES AND LAMBS



An on-farm trial found that **mobs of twin bearing Dohne ewes supplemented in late pregnancy and into lambing were able to rear more lambs/Ha.**

The ewes trained their lambs to creep feed and they had higher growth rates.

The ewes that were supplement fed ate significantly less pasture which provides the **potential to increase the winter stocking rate by more than 50%.**

RESULTS SUMMARY

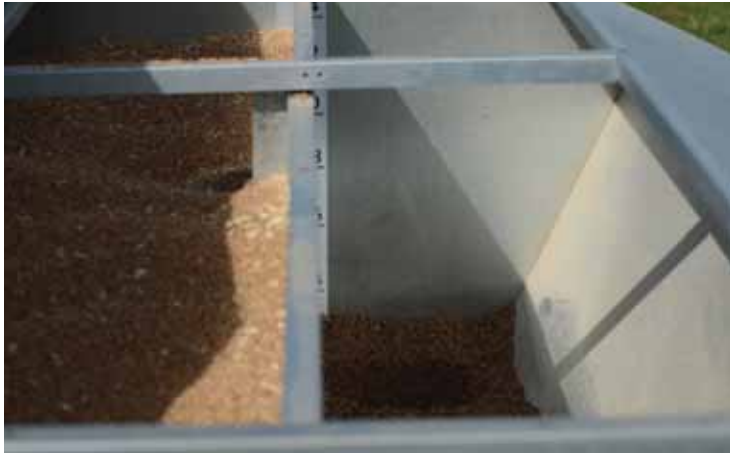
Ewes in the Advantage Feeder group:

- Ate significantly less pasture. The ewe stocking rate could have been increased from 0.6 ewes/Ha more than the control group to 4.1 ewes/Ha more
- Increased profit/Ha by \$305
- Were 2kg heavier at weaning

TRIAL OUTLINE

| | Advantage Feeders groups | Control groups |
|--|---------------------------|----------------|
| Number of groups | 2 | 2 |
| Quantity in each group | 84 | 78 |
| Ewes/Ha | 8.4 | 7.8 |
| Ewe age | 2-7 yo | 2-7 yo |
| Foetuses | Twins | Twins |
| Mean lambing date | 1/08/2015 | 1/08/2015 |
| Weaning date | 15/10/2015 | 15/11/2015 |
| Ewe supplement: 5 weeks pre-lambing to 5 weeks post lambing | 300g/day of wheat | No feed |
| Lamb supplementation: from 2 weeks of age | 150g/day of pellets/wheat | No feed |
| Weaner supplementation: until the control group is weaned | 200g/day of pellets/wheat | No feed |

Note: at docking, both Advantage Feeders groups are to be combined and run together. The same happens for the Control Groups.



TRIAL BACKGROUND AND OBJECTIVE

There are a number of challenges facing profitable lamb production farms. These include:

- 1. Increasing the stock/Ha during the winter feed gap**
- 2. Reducing the amount of supplementation**
- 3. Increasing lamb survival**
- 4. Reducing mis-mothering**
- 5. Increasing lamb growth rates**
- 6. Eliminating the “check” lambs have at weaning**
- 7. Achieving a high conception rate in ewe lambs**

Ways the trial will attempt to address and overcome the above challenges:

1. Farms (especially mixed grazing and cereal farms) have their biggest deficiency in pasture availability and livestock consumption when ewes are in late pregnancy and early lactation. If stocking rates are increased during this period (based on lambs growing efficiently), the farm can often sustain this higher stocking rate for the remainder of the year. Stocking rates can be increased by supplementing stock with little and often amounts of starch based feeds as microbe populations increase and ensure high pasture utilisation. The stocking density of the Advantage Feeders (AF) groups within this trial is 8% higher than the control groups. Several other trials have shown a 50% higher stocking rate can be achieved.
2. Supplement can be reduced in a number of areas:
 - a) Feeding little and often provides an environment where microbes thrive. Trials have shown that the feed required to supplement mature stock can be reduced by more than 30%. As the control group had ceased being supplemented by the time the trial started, this doesn't affect the profitability of this trial period.
 - b) Most enterprises have a target weight for their weaners based on reaching a particular weight for a premium market or to coincide with the finish of the spring pasture flush. Creep feeding achieves higher growth rates which allow the pregnancy period to be delayed.

The majority of supplement costs on a farm is from feeding pregnant ewes before there is adequate pasture. If mating is delayed by 3 weeks, this saves approximately \$3/ewe.

- c) Weaning coincides with the ability of a lamb to be self-reliant on pasture. Creep feeding brings this forward approximately 4 weeks meaning that lambs can be weaned off their lambs early – usually during the spring pasture flush. This provides the ewe more time on high quality pasture to raise their condition before mating, reducing the amount of supplement feeding required in early and mid-pregnancy.
 3. Supplementing ewes with starch at lambing thins its colostrum increasing the chance of its lamb receiving enough to survive past the first few days of its life.
 4. Supplementing ewes through lambing makes them run away from their lambs to receive their feed, leading to mis-mothering. It is often the lesser of two evils to choose not to supplement them. The control mob in this trial has not been supplemented so mis-mothering isn't applicable.
 5. Lamb growth rates are increased in three main ways:
 - a) Supplementing ewes post lambing increases milk supply.
 - b) Creep feeding lambs from 2-3 weeks of age starts the transition of their rumen so they can start consuming and converting pasture.
 - c) Lambs that have been creep fed have a developed rumen by eight weeks of age. Feeding a controlled ration after this period will provide an environment to maximise growth off pasture.
- The combination of these can often lead of the latter two benefits can produce a feed conversion of 3:1.
6. Weaned lambs that have been creep fed can transition through weaning better because they are less reliant on their mothers to feed.
 7. Ewe lamb conception is heavily reliant on the mating weight of ewe lambs. Higher growth rates of ewe lambs before weaning increases their conception rates, often by 20%.

FULL RESULTS

| | FEEDER 1 | FEEDER 2 | CONTROL 1 | CONTROL 2 |
|---|-------------------|----------|-----------------|-----------|
| Ewe starting weight: 25/6/15 (kg) | 54.1 | | 53.7 | |
| Ewe weaning weight: 1/11/15 (kg) | 56.9 | | 54.6 | |
| Increase in ewe weight (kg) | 2.8 | | 0.8 | |
| Ewes/Ha | 8.40 | 8.40 | 7.80 | 7.80 |
| Starting pasture FOO (kgDM/Ha) | 900 | 1300 | 1250 | 1200 |
| Finishing pasture FOO: 8/7/15 (kgDM/Ha) | 800 | 1200 | 600 | 800 |
| Change in pasture FOO: 4/9/15 (kgDM/Ha) | -100 | -100 | -650 | -400 |
| Average change in pasture FOO (kgDM/Ha) | -100 | | -525 | |
| Consumption of a ewe in late pregnancy: 3.5% of body weight, 10% pasture waste | 2.08 | | 2.07 | |
| Additional ewes/Ha run to reduce FOO by 425kgDM/Ha (525-100) over 58 days | 3.52 | | 0.0 | |
| Total ewes/Ha for equal pasture FOO | 11.92 | | 7.80 | |
| Lambs weaned/Ha | 13.0 | 10.7 | 11.2 | 11.2 |
| Average lambs weaned/Ha | 11.9 | | 11.2 | |
| Average weaning % | 141.1% | | 143.6% | |
| Average ewe lamb DWG (grams)* | 203 | | 186 | |
| Average wether lamb DWG (grams)* | 227 | | 221 | |
| Lamb DWG: equal sex (grams) | 215 | | 203 | |
| Ewe wheat cost/Ha (\$250/tonne) | \$43.75 | | \$ - | |
| Lamb wheat cost/Ha (\$250/tonne) | \$8.75 | | \$ - | |
| Lamb pellet cost/Ha (\$360/tonne) | \$12.60 | | \$ - | |
| Depreciation cost/Ha** | \$31.32 | | \$ - | |
| Filling cost/Ha (\$20/tonne) | \$5.19 | | \$ - | |
| TOTAL ADDITIONAL COSTS/HA | \$101.61 | | \$ - | |
| Weaning weight: 105 days* | 26.57 | | 25.36 | |
| TOTAL ADDITIONAL INCOME/HA: Based on 11.92 ewes/Ha (\$2.5/kgLW) | \$ 1116.95 | | \$710.18 | |
| TOTAL ADDITIONAL PROFIT/HA | \$1015.34 | | \$710.18 | |

*Assume a birth weight of 4.0kg

**This is calculated by multiplying the depreciation rate of 15% by the investment of \$2088 for one NGF1800 with Creep Panels.

Note: this doesn't take into account the benefit of the higher ewe weaning weight being an average of 2kg/head higher. If each kg of body weight gain requires 8kg of pellets, 2kg of body weight is an additional saving of \$5.76/ewe.



Advantage Feeders

**1 X 1800 + 1 X CP
PAID OFF
IN JUST
86 DAYS**



ABOUT THE TRIAL OPERATORS

Mark Veale, owner of LV Pastoral, with Farm Manager, Nic Economou, run properties in Woorndoo and Wickliffe, in Western Victoria.

Each farm also grow cereals and canola. The farms run 6,000 ewes that lamb in July and August. Twin bearing ewes are separated and treated differently for lambing. All lambs undergo a three day yard weaning period.

COMMENTS FROM THE TRIAL OPERATOR:

Although the pasture conditions at were poor, the weather was better on average for lambing. There were very few really cold days and it didn't get wet and boggy. This is a big help when you have feeders in the paddock.

We had never creep fed before however we found training the lambs to the system was very easy by putting milk powder in the troughs and on the feed access area. The lambs really were attracted to this.

We found that feeding pellets to young lambs difficult. They tended to clog due to the combination to the wet and humid time of year and the low intake of the lambs. The clogging inhibited the intake of the lambs which would have reduced the benefits of early rumen development.

Part way through the trial, we changed to feed the lambs a 50/50 wheat and pellets mix. That flowed much better and lowered the feed cost. It would be rare to see any clogging with that mix.

In the future, we will focus more on feeding the ewes to condition score. Keeping the ewes in better condition will return an increase in lamb survival and milk production.

INVOLUNTARY ADJUSTMENTS TO THE TRIAL:

The 2015 growing season in Wickliffe had 278ml in the 8 months from the start of April until the end of November. The long term average rainfall during these months is 450ml, an extra 62% than the rainfall in 2015. The annual rainfall was less than the 5th percentile. This affected the trial in a number of ways:

- **Ewes were supplement fed six weeks longer** than trial outline anticipated and led to an increased feeding cost of approximately \$15/Ha.
- As the ewes were fed longer, this **reduced the amount of trough space available for the lambs to creep feed**. The consumption of the lambs was approximately 1/3 of anticipated. If this consumption was higher, the lamb daily weight gain could increase by 50g/day, leading to much higher profit of approximately \$150/Ha.
- The choice was made to **wean the lambs in the control mob at the end of October**. This meant that there wouldn't be a four week period between when the Advantage Feeders mob and the control mob. In a year that wasn't so lacking in rainfall, it would provide an opportunity to wean the Advantage Feeders group earlier and allow ewes to gain more condition before mating.

OPPORTUNITY FOR HIGHER PROFIT:

It is common within the industry for weaning rates to vary within mobs and from year to year, despite having similar conditions. The results in the four groups in this trial vary from 127% to 155%. Over a large sample size of results, an increase weaning result of 10% could be average due to the increased colostrum and milk supply the ewe has at and after lambing. This would increase the profit/Ha by more than \$100/Ha.

The lack of growing season rainfall forced the trial to be adjusted. These items are also explained in the "Involuntary adjustments to the trial" section.