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Producer Research Support

Alternative Dryland Finishing Systems – Export Lamb

Rutherglen Quality Lamb Group Inc

The group found that lambs set to be finished to export weights over 100 days in summer should be no less than 32kg at the start of feeding. Fat scores also need to be closely monitored. Lambs that are fat score three or above at the start of the feeding period are likely to end up over-fat at the point of sale.

In the second year of the trial, some lambs had an average start weight less than 32kg but still managed to gain enough weight to reach the 45kg target. Similarly, some lambs above 32kg at the start of the trial failed to reach export weights.

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The Project

The Rutherglen Quality Lamb Group Inc. aimed to determine the cost effectiveness of different feeding systems for finishing lambs to 20kg+ (export specifications) in summer/autumn on dryland acid soils.

Objectives

1. Set up a number of finishing system alternatives on individual group members' properties;
2. Monitor feed quality and quantity for each system and the subsequent growth rates of lambs throughout the summer/autumn period until the lambs reach export specifications (over a two-year period);
3. Market the lambs over-the-hooks or on contract as a group to demonstrate the gains from (a) selling as a group, (b) selling lambs using an objective value based marketing system;
4. Compare the costs of each system with the returns gained from selling lambs in summer-autumn;
5. Compare the performance of members' lambs grown to their maximum potential with those grown using each of the finishing system alternatives;
6. Involve all group members in the collection and dissemination of information about the cost-effectiveness of finishing lambs over summer-autumn to export specifications to help them make more informed decisions; and
7. Provide an opportunity for lamb producers to improve their pasture and animal assessment (PROGRAZE®) skills.

What was done

The group tested finishing system alternatives on individual group members' properties and benchmarked against their own lambs in a feedlot. They monitored feed quality and quantity for each system over two years and the growth rates of lambs throughout summer-autumn until export specification was reached.

These systems were run on members' properties:

- dryland lucerne;
- dryland lucerne/feedlot;
- irrigated lucerne;
- irrigated perennial pasture;
- lupin-wheat stubble and pea-wheat stubble;
- chicory;
- dryland pasture/millet; and
- standing pea crop.

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The trial started in December of each of the two years and went for three months. Each member monitored the growth and finish of around 20 lambs each month. Each participant sent an additional 20 lambs to a feedlot to allow them to compare their systems with a benchmark feedlot system.

The benchmark lambs were fed a high protein-high energy diet for rapid growth. The age of the lambs varied, as did breed (first and second cross). An analysis of lamb performance based on breed was not conducted because of the number of variables.

Fodder quantity (kg DM/ha measured using a PROGRAZE stick or by quadrat cuts) and quality (using FeedTest at PVI Hamilton) was measured each month to record the nutritional value of each system.

All lambs were to be slaughtered as one mob when more than 70% reached a 20kg+ carcase weight. Lambs were sold over-the-hooks or on contract as a group, to demonstrate the gains from selling as a group and selling lambs on a value based marketing system. The cost of using each system was then compared with the returns gained from selling the lambs. The trial also helped improve pasture and animal assessment (PROGRAZE) skills. Feed availability and quality measurements need to be taken regularly to be reliable predictors of lamb growth.

Key points

- Lambs destined to be finished to export weights over 100 days in summer should weigh no less than 32kg live at the start of feeding.
- Only lambs sired by rams with high appropriate LAMBPLAN indexes should be used in finishing systems.
- Fat scores need to be monitored. Lambs that are fat score three or above at the start of feeding are likely to end up over-fat at the point of sale.
- Producers need to weigh up the costs of their system, in terms of labour and capital invested, to determine which finishing system is the most cost-effective.

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Producer Research Support

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These activities include:

- Producer Initiated Research and Development
- More Beef from Pastures demonstration trials
- Prime Time Wean More Lambs demonstration trials
- Sustainable and productive grazing grants.

Contact Stephen Feighan - MLA Project Manager, Producer Delivery and Adoption.

Tel (02) 9463 9245 or
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What happened?

Lambs fed on the dryland lucerne and oats and lucerne/oaten hay in combination, were the only 'home lambs' that gained above the desired 150g/day for each month of the entire feeding period. Lambs fed on the standing pea crop had growth rates above 150g/day for January and February. Unlike in the first year of the trial, the highest growth rates did not necessarily correspond with the highest fat scores in the home trial lambs. Some lambs on irrigated pasture, lupin/wheat stubble or pea/wheat stubble failed to reach the target 45kg final liveweight due to their low growth rates. Other lambs on irrigated pasture grew at the required rate but entered the trial with low initial liveweights. These also failed to reach the target liveweight. Some lambs with starting weights below 32kg on chicory and pea-lucerne still managed to reach the target final weight of 45kg. Lambs on dryland pasture-millet and irrigated lucerne grew below the required rate of 150g/day but managed to reach 45kg due to their higher initial start weights. All the feedlot lambs had an overall average monthly growth rate above 150g/day.

Low December growth rates were observed in the feedlot lambs, probably due to an acclimatisation period by the lambs. The lambs with the highest average overall growth rates in the feedlot were the lightest lambs at the beginning of the trial. These had an average daily growth rate of 271g. The average initial weights of the lambs in the feedlot were all higher than 32kg and all lambs reached the 45kg target final weight. The overall average monthly growth rate for lambs in the feedlot was 229g/day compared with 158g/day in the home system. There appeared to be a trend towards declining growth rates at the end of February in both the feedlot and the home trial lambs.

The growth check observed in the home trial lambs at the end of February was thought to be related to deteriorating feed quality and a reduction in available feed.

Lamb fat scores

There was no evidence the finishing systems that resulted in the most growth also resulted in the higher fat scores. This contradicted the findings from the first year of the trial where the systems with the highest growth rates also had the higher fat scores. Lamb sires need to have good growth and fat depth.

Group members entered 460 lambs in the 1999/2000 trial – 175 feedlot and 285 home trial lambs.

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Due to poor weight gain and other factors, not all the home trial lambs were sent to market. Only 13% of the feedlot lambs went to the domestic market compared with 32% of the home trial lambs. Most of the lambs (334) were still marketed as export weight lambs – 87% of the feedlot lambs and 68% of home trial lambs.

The difference in gross value between lambs fed on the home system and those fed in the feedlot was minimal. No penalties for over-fat lambs were incurred and the $2/kg price was the same for trade weight and export weight lambs. There was however, considerable difference in skin prices. The trade weight lambs received $4.20/skin; the export weight lambs received $5.98/skin. The higher export lamb skin prices resulted from six buyers putting in tenders.

Discussion

According to trial spokesperson, Simon Noble, from Rutherglen in Victoria, the importance of monitoring lamb growth and organising the sale of lambs well in advance of slaughter was highlighted in the second year of the trial.

Mr Noble said the project started from a suggestion that chicory and field peas may be worth considering as alternative finishing systems in the NE Victoria plains environment.

The trial covered two summer-autumn periods concluding in March 2001.

"The trial produced some really interesting outcomes and I have changed my lamb finishing as a result," Mr Noble said. "I now incorporate peas into my finishing system and have increased my area sown to chicory."

Mr Noble said he had drastically changed his reliance on irrigated pasture, which was shown to perform poorly as a finishing system for lambs. "Our lamb group members are now more aware of the potential weight gains of our lambs in grams per day. This has greatly assisted in market planning, with the monitoring of growth rates helping identify animal health problems and feed deficiencies."

Fellow lamb group member Andrew Vile said before he started testing standing pea crops to finish his lambs, he was grazing his lambs on early sown oats.

"I costed this method and decided to lock up my best pasture paddocks, fertilise them well and use these instead, because of the cost. This avoided seed and machine costs associated with sowing oats."

Since the project, he said he had learned that a good option for summer is a standing pea crop where the cost of sowing at $112/ha is recovered by the increased meat production, if the dressed weight price of the lambs is $2.20/kg or higher. "Before being involved in this project was only guessing at the price needed to recover the costs of sowing peas to feed lambs, but now I know and can confidently act to make a profit when the dressed weight price of lamb is $2.20/kg or more."

MLA also recommends

PROGRAZE

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Mr Noble said the trial was an excellent chance for members of the group to work together. "We had excellent responses from other lamb group members to the field days we held and we still get requests for more information and explanations of the trial."

The challenge in our environment is to finish lambs over summer/autumn to heavy 20kg+ export carcase weights. Finishing lambs at this time of year is difficult unless a reliable feed source is available."

Annual pastures in North East Victoria generally dry off around late November-early December. Summer rains encourage weeds and the acid soils restrict the summer fodder crops that can be grown.

Mr Noble said regional producers normally finish all lambs in November-December as store or light lambs. This is usually a time of surplus lambs and low prices. Lambs can also be carried through summer to heavier weights to capture the higher prices over the summer-autumn period. Grain feeding lambs is one option but many local producers have found grainfed lambs grow slowly and run to fat. Grain is expensive and cereal grains must be introduced slowly to avoid acidosis (poisoning).

Grazing crop stubble is another option but this is considered inferior feed, suitable only for maintaining older sheep over summer.

Next Steps

Mr Noble said in determining which system is "the best" each producer needs to weigh up the costs of their system, in terms of labour and capital invested, to determine whether it is worthwhile lotfeeding their lambs, or whether it is just as effective to finish their lambs at home.

"There are several variables that come into play when making these decisions. This includes whether the property has sufficient feed resources to maintain the livestock over summer and how long the lambs need to be lotfed for.

"The lambs in the feedlot in 1999/2000 for instance, would have been better sent a few weeks earlier. This would have reduced their feeding costs and made the feedlot option more appealing. The higher growth rates from the lotfed lambs are certainly an influencing factor if lambs are to be finished over a shorter time."

He said when comparing the feedlot and home trial systems, the hot carcase weights of the feedlot lambs were all heavier than the home trial lambs, with one exception.

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