

2006/Q04



Production Feeding for Profit

Tableland Production Feeding Group



Many beef producers in the Atherton Tablelands utilise production feeding of cattle in order to take advantage of higher market prices during the latter part of the year as the supply of fat cattle diminishes. The Tableland Production Feeding Group undertook an economic analysis of production feeding systems in the district, to determine the cheapest cost per kilogram of live weight gain.

The project

The project was run over a two year period and aimed to measure and compare improved pasture and production feeding options in the Atherton Tablelands to identify the cheapest cost per kilogram of live weight gain. This aim was facilitated by:

1. Improving producer record keeping to enable comparison of production feeding options;
2. Ongoing group discussion of profitable and efficient production feeding strategies;
3. Documentation of results for release to the broader beef industry in far north Queensland;
4. Utilisation of the Kairi Research Station to compare three groups of cattle consuming a standard urea mix (M3U) with a M3U production ration plus 15% grain and a new Riddleys product for molasses feeding called MFC plus grain to determine intake levels, costs and liveweight gain;
5. Improving the criteria that group members use to select cattle for production feeding; and
6. Collating kill sheet data to assess the success of meeting target market specifications.

Objectives

1. Have 15 group members compare local production feeding strategies:
 - M3U with copra;
 - M5U with lupins/corn on pastures;
 - M3U with lupins/corn on pastures;
 - M3U with lupins/corn on hay;
 - M3U with copra/corn/lupins/oil on pastures;
 - M3U with 15% corn;
 - Feedlot ration (maize silage, maize grain and molasses);
 - M3U with peanut/corn screenings; and
 - Grain self-feeder on pasture.
2. Have 10 group members document and record feed intake, cost and daily weight gain from August to turnoff in November/December;
3. Compare the performance of local Euro and British breeds with Brahm type cattle from western breeding properties;
4. Conduct field days during the project;
5. Produce Production Feeding for Profit booklet;

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6. Participants to provide historical records for comparison with project results;
7. Participants to keep separate live weight gain figures to represent differences in breed genetics;
8. Encourage maximum possible number of members to contribute steers to the Kairi Research Station feeding trial;
9. CASCO in Toowoomba to analyse production feed used on each property; and
10. Analyse dung samples for NIRS testing prior to project commencement.

What was done

2006

Three groups of cattle were fed at the Kairi Research Station, and thirteen groups of cattle elsewhere on different producer properties. At the start of the project, group meetings were held to discuss the age and weight requirements for cattle entering the feeding trials and subsequent record keeping procedures. It was decided that animals should be greater than 330kg, with a target weight of 480 – 550 kg. All participants were required to have live weight scales in their yards.

The trial cattle went on feed in July to August 2006, with stocking rates not exceeding 0.7 head per hectare. Production mixes were fed in conjunction with pasture and a total of 16 production mixes were trialled. Each participating property was visited monthly to enable progress discussions. Two field days were held at the Kairi Research Station, two radio interviews were conducted and articles were published in the local agricultural newspapers.

2007

The Kairi Research Station did not participate in 2007 due to unforeseen circumstances, however, producers were still keen to continue on their own properties during the dry season and 11 groups of cattle were monitored. While the Riddleys TSS Feed Co. sponsored further feeding work, feed cost prices increased during 2007 due to the drought and poor seasonal conditions on the Tablelands. A total of 11 production mixes were trialled.

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What happened?

The DPI&F beef team presented the 2006 final feeding trial results at a successful field day held at the Kairi Research Station in early 2007. As well as feeding results from the research station and commercial properties, major NLIS equipment suppliers had an extensive display of equipment and software.

The 2006 results for liveweight gain and cost per kilogram gained for the different treatments are summarised in *Table 1*:

Table 1. Economic Analysis Summary, 2006 Treatments

Treatment	Liveweight Gain/head/day (kg)	Cost per kg gained (\$)
Stocklick Trading Standard Mix – M3U – (Molasses, urea, copra, salt, Phosphorous, and Rumensin) plus improved pasture	0.98	\$1.10
M3U with 12% grain plus improved pasture	1.11	\$1.13
Ridleys TSS tropical molasses concentrate plus improved pasture	1.36	\$1.18
Improved pasture with legume	0.64	\$0.20
High Stocking Rate nitrogen-grass improved pastures	0.45	\$0.28
Low Stocking Rate nitrogen-grass improved pastures	0.73	\$0.37
Improved grass pasture with fertiliser	0.81	\$0.44
Improved grass pasture with no fertiliser	0.50	\$0.72
Native grass pasture with M3U	0.78	\$0.77
Improved grass pasture with M3U mix (lupins)	0.83	\$0.78
Irrigated rye grass pasture	2.80	\$0.96
Improved grass pasture with M3U mix	0.69	\$1.27
M3U mix – copra, corn, lupins, oil plus Rhodes grass hay	1.35	\$1.48
Corn based silage ration in feedlot	1.50	\$1.75
Grain based silage ration in feedlot and	1.60	\$2.17
Grain self feeders in improved grass pasture	0.60	\$2.66

The producer fed cattle performed well, and with rising prices, reasonable profits were made. The pasture fed cattle had the lowest cost per kilogram live weight, but also had the lowest live weight gain so that some of these cattle did not reach marketable weight by December 2006. The feedlot cattle performed the best but were also the most expensive per kilogram live weight gain, so that the buy-in price of these cattle was the main factor in the profitability equation. Molasses supplementation in pasture fell mid range between pasture feeding and feedlotting figures, with pasture irrigation and fertiliser application boosting live weight gain, but adding slightly to production costs. The 2006 results were assisted by a mild winter with above average out of season rainfall.

All cattle fed at the Kairi Research Station were MSA graded following slaughter, with 16% failing to grade. The rest of the production fed cattle from the participating properties were also slaughtered and MSA graded, with 25% failing to grade.

The 2007 results were presented in November 2007, with each participating property being visited so that beef producers could observe the cattle and production system and discuss the results.

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MLA also recommends

BeefPlan

BeefPlan is a non-traditional approach to learning. Groups of like-minded beef producers, work together as a management team to focus on property management. Importantly the learning agenda is set and controlled by the group.

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The 2007 results for live weight gain and cost per kilogram gained for the different treatments are summarised in *Table 2*:

Table 2. Economic Analysis Summary, 2007 Treatments

Treatment	Liveweight gain/head/day (kg)	Cost per kg gained
Irrigated rye grass pasture	2.34	\$1.50
Native pasture and crop stubble with M3U	1.59	\$1.53
Improved pasture with legume	0.61	\$1.32
Improved grass pasture with M3U mix	0.43	\$0.47
Ridleys TSS tropical molasses concentrate plus hay	0.67	\$0.89
Irrigated improved pasture plus molasses mix	0.59	\$0.17
Improved grass pasture with M3U mix (lupins)	0.75	\$0.97
Low stocking rate improved grass pastures	0.70	\$1.19
Corn based silage-earlage ration in feedlot	1.34	\$1.93
Ridleys TSS tropical molasses concentrate plus improved pasture	1.34	\$1.14
Grain self feeders in improved pasture	1.01	\$1.49

Producer group cattle that were production fed performed well with most being sold in either late November or early December. Most pasture only fed cattle attained low cost per kilogram live weight gains, but did not reach marketable weights due to poor seasonal conditions. High feed prices and falling cattle prices in 2007 resulted in poor economic returns

Discussion

The main objective of the project was to gather producer feeding results across the district to enable the calculation of cost per kilogram live weight gain across different production feeding systems. This objective was achieved, and many producers were surprised because they had not previously kept good enough records of weight gain and feed costs to be able to determine economic returns.

Several project group members owned breeder and finishing properties, so that production feeding during the dry season assured cattle were fattened and sold on schedule regardless of seasonal conditions. The system ensured that their finishing properties were always ready for the new season draft from their breeding operations. One of these producers changed management strategy as a result of the trial, deciding that only suitable cattle would be production fed, with the remainder sold into live export or saleyard markets.

Other producers found that:

- Care must be taken with the cattle price versus feed cost balance;
- Grain feeding could provide quick live weight gain but costs were very high compared to molasses mixtures;
- Correct stocking rates were important to minimise trough feed intake levels and costs;

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- It was important to target the market to ensure cattle were of a suitable type by calculating expected live weight gain before commencing production feeding;
- The landed buy-in price for purchased cattle was a critical component of the profit equation;
- Care needed to be taken with slaughter rates to ensure that production feeding was profitable; and
- Production feeding could ensure market suitability.

The feedlot operator changed the feedlot ration to silage and earlage in 2007 to keep feed costs static in the face of rising grain prices.

Labour costs were significant when production feeding, particularly if grain was sourced, stored and processed before mixing. Producers that used premix feed for their molasses brews from Stocklick Trading and/or Riddleys TSS commented on its ease and time efficiency, and if costs remained competitive, would continue to use these products in the future.