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Strategies for profitable beef production with Holstein steers

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Utilising dairy breeds and genotypes into the Australian beef supply chain is well established. Indeed, in other parts of the world dairy genetics are routinely used to supply various sectors of the beef supply chain. In Australia cull cows are used for manufacturing segments of the supply chain but the use of dairy and dairy beef cross animals into premium markets has been less common. Discrimination against dairy breeds when compared to beef breeds has been widespread whether it has been through the saleyards and open auction system or via direct consignment to meatworks. Visual conformation and appearance at saleyards is taken as an indicator of low carcass meat yield, and a reason for price discounting. Similarly, some processor grids have a payment emphasis on butt shape and perceived a linkage to low meat yield, resulting in a lower price for dairy derived carcasses. Subsequently, management of surplus dairy calves has been an issue for Australian dairy farmers. Changing consumer and market expectations with regards to surplus calf management and current favourable market conditions within the beef industry has prompted renewed interest in the use and opportunity for dairy animals to be placed into traditional beef supply chains.

A desktop study outlined potential market pathways for dairy beef. Management and feeding strategies were developed for surplus dairy calves to produce a high-quality end-product suitable for the Meat Standards Australia (MSA) graded domestic beef market. Twenty-seven males with an average starting weight of 182 kg were used in an un-replicated development trial conducted at the Gatton Research Dairy. The trial comprised entire males (n = 6), castrated males (n = 10) and castrated males treated with a hormonal growth promotant (HGP) (n = 11). Animals were fed a high energy feedlot style ration in bunks aiming to increase muscle growth and fat cover relative to frame. A cost of $500/head was assumed to rear each calf to 180 kg liveweight. These costs included feed, health, mortality, freight, equipment, fuel and labour which were assigned to each calf. Growth performance and profitability of each group is outlined in Table 1.

Table 1. Processing and profitability of three groups of male calves from Gatton Research Dairy 2021 (LW, liveweight; HSCW, hot standard carcass weight; LMY, lean meat yield; MSA, Meat Standards Australia)

Group	Final LW (kg)	Dressing (% LW)	LMY (% HSCW)	MSA Index	Price ($/kg HSCW)	Cost ($/unit)	Value ($/unit)	Profit ($/unit)
Entire males	631.7	51.3			5.10	1654.00	1651.21	–2.79
Castrated males	560.4	50.2	60.8	59.8	6.51	1530.00	1804.48	274.48
Castrated males + HGP	588.7	50.4	59.8	54.9	6.45	1586.00	1912.06	326.06

The 21 steers were processed through a local abattoir within a MSA grid achieving 100% MSA compliance, compared to the corresponding Queensland average compliance of 94%. In addition, MSA index scores for both the HGP treated and the non-HGP steers were higher than the Queensland average (2.5 and 1.0 points higher respectively). The distribution of the MSA index for the steers were also very tight, indicating a high level of consistency between the steers processed. The six bulls are currently ineligible for MSA grading and as such were processed through a standard grid.

Liveweight gain was higher than reported averages of 1.2 kg/day from commercial feedlots and research trials (Rust *et al.* 2006) for all groups, with bulls achieving 1.56 kg/day; castrated males 1.37 kg/day and HGP treated castrated males 1.49 kg/day. Bulls were also the most feed efficient (kg feed/kg LW gain) at 5.72, versus 5.93 and 5.83 for castrated and HGP treated castrated groups. HGP treated steers were the most profitable group due to a higher market price compared to bulls and higher growth rates and better feed efficiency compared to non-HGP steers. A higher price for the bulls could have been obtained through processing at an alternate abattoir resulting in a profitable outcome for these animals as well.

With record beef prices and drought induced supply issues within the Australian beef industry, opportunity exists for a long-term market for the dairy and dairy cross animals within Australia's premium beef markets. Production from dairies and therefore production of calves tends to be less adversely affected by drought when compared to extensive beef operations. Dairy systems can therefore ensure stable supply into beef markets. This demonstration trial has shown the ability of Holstein steers to effectively and profitability meet MSA and higher end market grading requirements.

Challenges and areas for further work and development include: current market perceptions of animal performance and carcass suitability; economic viability of the required investment in infrastructure to grow surplus calves out and the potential of dairy cross traditional beef breed animals to improve performance and market acceptance. Opportunities that exist for dairy bred animals include: alignment with traditional backgrounders and feedlots; a valuable alternate income source for dairy operations; an alternate and stable source of supply for backgrounders and feedlots; additional animals available with genetic potential to achieve premium market specifications and a potential opportunity for smaller farms to rear males to suitable specifications for backgrounders and feedlots.

Reference

Rust S *et al.* (2006) In ‘Proceedings of Managing and Marketing Quality Holstein Steers’. pp. 161–174.

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