FEEDLOT PERFORMANCE OF TWO GENOTYPES OF FIRST CROSS LAMBS

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A consistent supply of lambs is a major issue for the processing industry (Hopkins 1993), especially for the export market. Feedlotting is 1 option to overcome seasonal shortages of lambs, but its viability is dependent on factors such as feed costs and animal performance. Use of silage as the main feed source offers the potential to reduce feed costs and when fed with grain has produced growth rates up to 200 g/day under experimental conditions (Graham *et al.* 1992). This experiment was performed under commercial conditions in collaboration with an exporter. The objective was to assess the growth and carcass features of 2 different types of first cross lambs fed a diet predominantly of lucerne silage.

Two hundred June/July drop first cross wether lambs (100 Border Leicester x Merino (BLM), 100 Poll Dorset x Merino (PDM)) were randomly allocated according to genotype into 2 groups (pens) and run with other lambs giving total numbers of approximately 330 per pen. For the first week the lambs were fed luceme silage trailed on the ground. For the next 3 weeks the silage was fed in covered troughs with oat grain placed in with the silage at a ratio of 1 to 3 dry matter basis, followed by 4 weeks of feeding a mixture of lucerne silage, oats, and lupins at a ratio of 12 : 4 : 1 dry matter basis. After 8 weeks of feeding, lambs above 42 kg liveweight were slaughtered (n = 129). Three weeks later another 66 of the lambs were slaughtered. Of the remaining 5 lambs 3 were not deemed suitable for slaughter, 1 was misplaced and 1 died from an unknown cause. Hot standard carcass weight (kidneys, kidney and channel fat removed) and GR (total tissue depth at the 12th rib 110 mm from the backbone) were collected at slaughter.

Initial growth was slow. Across groups (pens) there was no difference in the growth rate of the 2 genotypes. The range in lamb growth rate across the groups was large (0 to 331 g/day). The BLM lambs were significantly heavier ($P < 0.05$) at the end of the feeding period (Table 1) and this was still the case when the final liveweight was adjusted to account for differences in initial liveweight. As a result significantly ($P < 0.05$) more BLM lambs were ready at the first slaughter (n=75) compared with 54 of the PDM lambs. At the second slaughter 24 BLM lambs and 43 PDM lambs were slaughtered. Mean carcass weight of the BLM lambs was greater and there was a slaughter group by genotype interaction ($P < 0.05$). GR adjusted to a common carcass weight was not significantly ($P > 0.05$) different between lamb types.

Table 1. Lamb liveweight (initial = ILW; final = FLW), growth rate (LWG), carcass weight (CW) and GR for BLM and PDM wether lambs

Genotype	ILW (kg)	F LW (kg)	LWG (g/day)	CW (kg)	GR (mm)
BLM	35.9[aA]	45.4[a]	167[a]	20.0[a]	11.5[a]
PDM	34.6[b]	42.1[b]	132[b]	18.6[b]	11.4[a]

[A] Means within columns with different letters differ significantly ($P < 0.05$).

The slow growth rate of the lambs during the introductory period was probably associated with spoilage of the outer layers of the silage and the 3 days of rain at the start of the experiment. Once the lambs were adapted to the ration and good silage and grain was fed, growth rates approached 195 grams/day. The faster growth of the BLM lambs in this study resulted in carcasses more suitable for the export market. This growth advantage may have reflected the use of sires of higher genetic merit for growth or lambs that were better adapted to the feedlot environment. If the results of this study are typical then it is apparent that significant scope exists to improve lamb performance under feedlot conditions, as growth performance directly impacts on profitability. Financial assistance was provided by the Meat Research Corporation and the co-operation of the exporter is acknowledged.

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