USING CARCASE DATABASES TO IMPROVE PERFORMANCE OF LAMB MARKETING ALLIANCES

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Direct marketing of lambs to abattoirs has increased, providing an opportunity to capture reliable carcass information in electronic form. NSW Agriculture has maintained a database of carcass details for a domestic abattoir since 1995. Alliance lambs (137,000) are delivered to abattoirs under a code of practice, following on-farm assessment for weight and fatness. Specifications of 18-22 kg carcass weight, fat score 2 or 3 (GR tissue depth 6-15 mm) and conformation score E, U or R on the EUROP system are targeted. Industry lambs (241,000) are purchased via a range of methods (saleyards, on-farm, OTH) and processed for different domestic wholesalers, and 27,000 alliance carcasses since Jan. 2000 have breed, supplier and production details. Multiple Linear Regression analysis (Genstat 5, release 4.2) was used to examine the relationship between GR tissue depth and carcass weight.

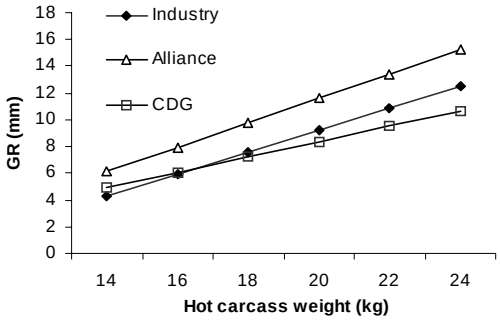

Figure 1. Relationship between hot carcass weight (HCW) and GR tissue depth (GR) for industry lambs, alliance lambs and crossbred lambs bred from sires in the Cowra Diverse Genotype (CDG) experiment

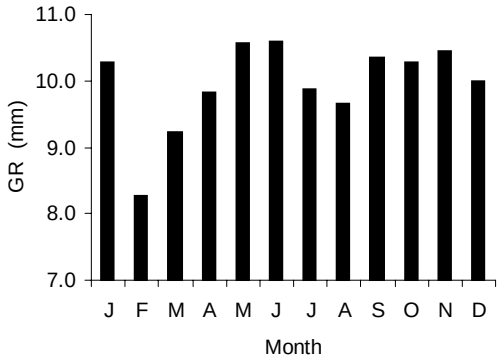

Figure 2. Monthly GR tissue depth adjusted to average HCWT of 20.1 kg

A similar relationship was observed between HCW and GR in both alliance and industry lambs (Figure 1). Industry lambs were leaner than alliance lambs due to greater diversity in genotype and production system. 33% of industry lambs were less than 18 kg HCW, and too lean for domestic specification but purchased due to low price. Alliance lambs although fatter, on average, were generally within specification for GR given the HCW specification of 18-22 kg. GR tissue depth increased by 1.0 mm for every kilogram of HCW. Both alliance and industry lambs tended to become over-fat at heavier export weights of greater than 24 kg. Lambs from CDG sires were selected using yearling LAMBPLAN estimated breeding values (EBV's) for leanness and growth which favour production of genetically leaner animals at higher carcase weights (Fogarty *et al*. 1997).

Figure 2 shows the pattern of difference in lamb fatness across month at the same carcass weight. Most of the variation in fatness was influenced by the time of lambing, the resulting growth path due to pasture conditions and genetics. Generally autumn drop lambs finished in spring are fatter. Winter/spring drop lambs when marketed in February/March are leaner and finished on lower quality pasture. Older lambs finished in. May/June are fatter.

Analysis of breed and production details of alliance lambs showed that they were useful for the individual suppliers feedback. With correct interpretation of carcass monitoring information, lamb producers can modify production systems and month of supply to better meet market requirements and improve returns to all sectors of the lamb industry. To date, there has not been an objective data capture and management system to monitor progress toward the lamb industry strategic goals of increasing carcase weight and decreasing carcase fatness. This data set provides a useful benchmark to measure industry change.

FOGARTY, N.M., GILMORE, A.R. and HOPKINS, D.L. (1997). *Proc. Aust. Assoc. Anim. Breed. Genet.* **12**, 304-7.

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