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RELATIONSHIPS BETWEEN LAMBPLAN EBVS FOR RAMS AND POST WEANING PERFORMANCE OF THEIR CROSSBRED PROGENY

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SUMMARY

LAMBPLAN calculates estimated breeding values (EBVs) for animals based on their measured performance and that of their relatives in industry flocks. Some 72 rams with LAMBPLAN EBVs were independently progeny tested in the Maternal sire Central Progeny Test (MCPT). Post weaning weight, carcase fat and eye muscle depth of their first cross progeny and second cross progeny of the first cross ewes were recorded. The correlations between the ram LAMBPLAN EBVs and their first cross progeny performance were positive and generally moderately high (0.5 – 0.6) for all traits and LAMBPLAN EBV analyses. The correlations for second cross progeny performance were positive although generally lower (0.3 – 0.5) than for first cross progeny. Regressions of progeny performance on LAMBPLAN EBVs quantified the possible response from selection and indicated higher than expected response in fat depth. The results clearly show that use of LAMBPLAN EBVs for selection of maternal sire rams will result in improved growth and carcase performance of crossbred progeny.

Keywords: Sheep, selection, correlation, breeding values

INTRODUCTION

The advent of genetic evaluation programs has helped Australian sheep breeders to make significant improvements in the genetic progress of their flocks. Terminal sire breeders have embraced genetic evaluation and have made considerable genetic improvement since the launch of LAMBPLAN, the Australian genetic evaluation program for meat sheep, in 1989 (Banks 1994). The same level of genetic improvement has not been seen in the maternal breeding sector (Banks 2002), which prompted the initiation of the Maternal sire Central Progeny test (MCPT) in 1997. The MCPT evaluated the first and second crossbred progeny of maternal and dual purpose sires and the scope for genetic improvement in the maternal sector (Fogarty *et al.* 2001). Since establishment of the MCPT, there has been an increase in awareness and uptake of genetic improvement in the maternal sector. Most of the maternal sire rams have LAMBPLAN information that is based on their own and relatives performance in industry flocks which is independent of their progeny performance in the MCPT. This paper reports the relationships between LAMBPLAN estimated breeding values of the rams and the performance of their first and second cross progeny for growth, fat and muscle.