

2000/W07



Producer Research Support

Value of LAMBPLAN's Muscle EBVs

Western Australian Texel Stud Breeders Association



The project

LAMBPLAN provides two indices in which the estimated breeding values (EBVs) for growth, fat and muscling are weighted as either 60 percent growth, 20 percent fat and 20 percent muscling (60:20:20) or 80 percent growth, 10 percent fat and 10 percent muscling (80:10:10). High EBVs for different traits can make the carcasses suitable for diverse markets.

A trial was conducted to compare the progeny of rams with high EBV indices for either muscle or growth. The individual ram EBVs related to their performance at post weaning age and at a weight range of 40-70kg liveweight.

Objectives

1. demonstrate to producers, processors and retailers the body type, market preference and retail value of prime lambs sired by rams with high LAMBPLAN EBVs for muscle versus growth;
2. show which of the LAMBPLAN indices has the greatest influence on saleable meat yield both as sucker and carryover lamb and which is preferred by the processor; and
3. identify the profitability of either high growth or high muscle index rams for sucker markets or carryover lambs and suitability for feedlot finishing.

What was done

The trial involved 45 lambs in eight groups, with individual sires for each progeny group traced. The lambs were weighed when matched to their mothers, weighed as suckers and again as carryover lambs.

With the weights recorded against their sires through LAMBPLAN, the trial could link the carcass value of each group to the EBV of the individual ram used. Thirty-three members of the trial group will take part in an ongoing survey to determine how many of their clients use LAMBPLAN to assist with their ram selection each season.

Lambs were carried through summer at a constant weight and went into feedlot on 4 February 2001. On 22 March 2001, 189 lambs were slaughtered and measured the following day for GR tissue depth and hot carcass weight (HCW).

These measurements were used to select 10 carcasses per group, to be boned into retail meat cuts. The carcasses were selected by taking five each side of the average HCW for each group and as close as possible to average for GR.

The carcasses were split in half down the spine, with the fore quarter leg and loin sections cut and weighed separately. The loin and leg sections were fully boned out to retail products, while the fore quarter section was made into a standard square cut shoulder product. Total fat, bone and trimmings were recorded for each carcass.

LAMBPLAN, which provides two indices of estimate breeding values (EBV) for growth, fat and muscling, was used by the Western Australian Texel Stud Breeders Association to compare the progeny of high index, high growth rams and high muscle rams.

While the trial clearly showed that high EBVs for both traits make the carcasses suitable for different markets, the market place needs to move towards yield based trading for producers to fully reap the rewards.

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Producer Research Support

MLA Producer Research Support offers support funding of up to \$15,000 over three years for groups of producers keen to be active in on-farm research and demonstration trials.

These activities include:

- Producer Initiated Research and Development
- More Beef from Pastures demonstration trials
- Prime Time Wean More Lambs demonstration trials
- Sustainable and productive grazing grants.

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The data was analysed using growth and muscle groups for first and second cross lambs, which included the progeny from the two sires used in each group. A linear regression model was used to account for boner and carcass weight.

What was done

The main findings from the sucker slaughtering were that:

1. Lambs sired by high growth rams grew faster and had heavier liveweights and carcass weights. As carryover lambs there was no significant difference in liveweight between the two groups, with the lambs sired by the muscle type rams growing equally as fast as the lambs sired by the growth type rams in the feedlot. This may be because by this age and stage of maturity, growth plateaus as they reach their potential frame size, while the muscle type lambs were able to continue to put on flesh.
2. Lambs sired by high muscle rams had higher dressing percentages, deeper eye muscles and lighter coloured meat. This was evident in the first cross sucker lambs which had larger eye muscles and in the second cross carryover lambs which had heavier loin and leg retail cuts. The use of a high muscle ram not only improved meat yield, but also had the most impact on the yield of high value cuts.
3. There were no differences between groups in fat cover measured as GR tissue depth.
4. The growth index influenced weight, produced heavier lambs and carcasses at both sucker and carryover stage.
5. The muscle index influenced yield, producing higher yielding lambs and more saleable meat.

Discussion

Using well-muscled rams to produce progeny with higher meat yields will become increasingly important, especially if WA processors implement VIAScan and payment grids are based on lean meat yield.

Under current marketing systems, which are based on carcass weight, a high growth index is more profitable for the producer. The high muscle index is more profitable for the processor, as the current weight and fat payment system does not identify and reward producers for high yielding carcasses.

The group clearly showed that EMD improved with rams selected for high EMD EBVs, but was disappointed not to see rewards in the market place as there is no yield based trading.

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Next steps

Initial results showed there was reasonable consistency with PL prediction, but some methodology problems seemed to have limited the value of a solid conclusion.

Future Producer Research Support projects involving genetic analysis require more a more robust methodology to collect statistically valid data. There will also be stronger monitoring of ram breeders from a single breed type wanting to conduct their own Producer Research Support projects

MLA also recommends

Sheep Genetics Australia

Sheep Genetics Australia (SGA) is the national genetic evaluation service for the Australian sheep industry. It is built around the world's most comprehensive sheep genetics database, and will deliver genetic information on a fee-for-service basis.

Tel (02) 6773 2493 or
www.sheepgenetics.org.au

EDGENetwork

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