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Summary Only

BREEDING OBJECTIVES FOR NEW ZEALAND SHEEP
PRODUCTION

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Ewe and ram breed distributions were summarized from the 1972 national census figures. Sample data from matched farms indicated marked trends over a period of five years. In the ewe population there was a trend from Romneys to Coopworths and Perendales. Among prime lamb sires there was a trend away from Southdowns. Crossbreeding patterns were summarized from lambs drafted for the freezing works from a limited study in the Hawke's Bay area. No data on crossbreeding patterns are yet available from the national census, although such data could be collected from the 1977 census. The results of such a study are important because, when combined with research results from crossbreeding comparisons, it should be possible to decide how many farmers would benefit from a change in breeding system.

A method was described for defining breeding objectives. The weights in the objective (or economic values) were calculated in two stages for the following traits: Fertility, lamb survival, liveweight at weaning for market lambs, dressing percentage, hogget weight, mature weight, and hogget and ewe fleece weights.

The first stage of calculating an economic value is an attempt to subtract from the gross returns for each trait the expected feed cost of producing a unit increase in the mean. Secondly, each net return is weighted by the frequency with which the trait is expressed in an average ewe's lifetime. Allowance is made for female replacement requirements, before calculating net lamb sales.

Breeding objectives for straightbred Romneys were calculated using 1955-60 vs. 1970-75 values. There would be little practical difference in the expected genetic change in component traits resulting from selection for the two objectives, although there was slightly more emphasis on fleece weight when using 1955-60 values. Breeding objectives were also investigated for improving Romneys when these sheep are mated with Down breed rams to produce first-cross lambs. Compared with expected changes in Romneys bred for straightbred production, differences in expected genetic changes of Romneys for crossbreeding were again small. The only exception was in expected fleece weight change, for which there was a twofold difference (the larger change being in the crossbreeding objective).