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A COMPARISON OF THE SUBCUTANEOUS FAT THICKNESSES OF LAMBS DURING CONTINUOUS GROWTH AND FOLLOWING NUTRITIONAL RESTRICTION

M.L. STAR* and R.W. HODGE*

Lambing in the spring can increase the lambing percentage of cross-bred ewes when compared with lambing in autumn or winter (Allden, 1956). However the cost involved in feeding the lambs over the summer months has usually restricted producers from taking advantage of this potential increase in the number of lambs born,

An alternative system is to maintain the body weight of lambs over the summer-and fatten them on autumn saved pastures for sale in winter on the local market or for export to the Middle East. Little is known of the effect of such a growth pattern on the distribution of subcutaneous fat which may be important in determining the value of the carcase.

In this experiment the subcutaneous fat thicknesses of lambs slaughtered at the same liveweight but differing in age were compared. Ninety-six second-cross lambs (48 wethers and 48 ewes) were randomly allocated on the basis of growth rate to two groups, there being 4 slaughter weights within each group. Group 1 grazed annual or irrigated pasture with their mothers throughout. Group 2 were weaned at 30 kg liveweight, placed in a feedlot and fed sufficient pasture hay to maintain bodyweight for a period of 4 months, then grazed without restriction on irrigated pasture. All lambs were slaughtered when they reached their allocated weight. Subcutaneous fat thickness was measured at 16 sites on the carcase. The results of one set of measurements are set out in Table 1.

TABLE 1: Fat depth over the eye muscle at the 12th - 13th rib and age at slaughter (mean and standard error)

Group		Slaughter weight (kg)			
		30	35	40	45
1	Fat depth (mm)	4.6±0.5	4.8±0.3	6.3±0.6	6.6±0.5
	Age (d)	96±4*	130±6	159±6	206±5
2	Fat depth (mm)	1.2±0.5	3.4±0.3	5.2±0.5	6.6±0.5
	Age (d)	218±4**	254±6	289±8	332±6

*Slaughtered in November 1976 **Slaughtered in March 1977

The results show that lambs maintained at 30 kg liveweight for 4 months had reduced fat cover over the eye muscle. However at 35 kg liveweight the fat depth over the eye muscle for both treatments was equivalent to the Australian Meat Board's fat'score of 3 (3-5 mm). A similar trend was shown by the other subcutaneous fat measurements recorded, kidney and channel fat depots, mesenteric fat and per cent subcutaneous fat in the 9th - 12th rib cut.

The results indicate that depth of subcutaneous fat and distribution of fat in lambs is more strongly related to carcase weight than to age or pattern of growth.

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*Animal Research Institute, Department of Agriculture, Werribee, 3030.