Liveweight gain of lambs on lucerne, other legumes and grass-sub clover pasture over winter

P.T. Kenny and K.F.M. Reed

Department of Agriculture, Pastoral Research Institute, Hamilton, Victoria 3300

Special purpose summer pastures with a high legume component considerably increased the liveweight gain of lambs over summer and autumn at Hamilton (1). A trial was conducted to compare the feeding value of the pastures for sheep during winter.

Methods

Pastures were saved for 2 months after hard grazing in autumn. Then, the liveweight gain (LWG) of weaned Merino lambs was measured on pasture, sown in 1979, to either lucerne (cv. WL 318), red clover (cv. Grasslands Hamua), white clover (cv. Haifa), subterranean clover (cv. Mt. Barker) or a mixture of either perennial ryegrass (cv. Victorian) and sub clover or cocksfoot (cv. Porto) and sub clover. Observations were taken on four soil types. The rate of stocking was 14/ha. The amounts of pasture present varied between 2.6 and 4.0 t/ha of dry matter at the commencement of grazing. Several treatments were excluded in 1980 so they could be sprayed to control annual grass.

Results and Discussion

Treatment	Proportion of sown species in the pasture (% dry basis)		LWG (g/d)[2]	
	14 July 1980	10 July 1981[1]	14 July to 11 Sept 1980	10 July to 18 Sept 1981
Gravelly Loam				
Per. ryegrass + sub	-	82 (3)	-	195 a
Lucerne	82	74 (5)	181 b	183 abc
Silty loam				
Per. ryegrass + sub	-	82 (11)	-	188 ab
Cocksfoot + sub	-	73 (2)	-	174 abcd
Lucerne	86	87 (1)	152 c	148 d
White clover	19	11 (3)	248 a	172 abcd
Red clover	11	-	186 b	-
Sub clover	-	20 (1)	-	193 ab
Clay loam				
Per. ryegrass + sub	-	85 (4)	-	168 abcd
White clover	18	11 (6)	198 b	164 bcd
Reclaimed swamp				
Stawberry clover	42	43 (-)	231 a	159 cd

Table 1. Cumulative liveweight gain of weaned lambs.

Generally, LWG on legume pasture was similar to that on grass sub clover pasture. The results indicate that on the less well drained soil (silty loam) the feeding value of winter-dormant lucerne may be somewhat low in winter. This may be alleviated if lucerne was sown with early maturing sub clover. The low LWG on the reclaimed swamp in 1981 was associated with a wet winter (350 mm).

1. Kenny, P.T. and Reed, K.F.M. 1984. Aust. J. Exp. Agric. Anim. Husb. 24: 322-331.