

## AN EVALUATION OF FIELD SYSTEMS FOR WINTER FATTENING OF SHEEP

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A substantial price premium was available during the winter months of 1977 for heavy sheep meeting shipping requirements for live export to the Middle East. Producers have since expressed the need for a simple method of raising the live weight of sheep during autumn and winter. Information on lot feeding of sheep is now available (e.g. Gillespie and McLaughlin 1977) but the practice is of limited appeal because of its requirement for capital and special expertise. An experiment at Hamilton during autumn and winter 1974 examined the influence of a short term reduction in stocking rate (SR) and of grain feeding at pasture upon the growth and development of young Corriedale **wethers**.

Between April 10 and August 31, nine groups each of ten  $1\frac{1}{2}$  year old **wethers** were stocked at rates between 7.4 and 17.3 sheep  $\text{ha}^{-1}$  on pastures previously stocked at 16 sheep  $\text{ha}^{-1}$ . A further nine groups were stocked at 17.3  $\text{ha}^{-1}$  and offered supplements of **oaten** grain at rates between 0 and 600 g  $\text{sheep}^{-1} \text{ day}^{-1}$  (Table 1).

TABLE 1: Treatments and results.

SR (sheep $\text{ha}^{-1}$ )	7.4	8.7	9.9	11.1	12.4	13.6	14.8	16.1	17.3
Fasted wt. gain (kg)	12.3	9.4	9.9	11.2	9.6	8.3	8.9	8.1	9.6
Oat level (g $\text{day}^{-1}$ )	0	75	150	225	300	375	450	525	600
Fasted wt. gain (kg)	9.6	8.0	8.4	7.5	9.8	8.0	9.7	8.1	10.2

Fasted liveweight gain (G) was slightly influenced by stocking rate ( $G = 13.23 - 0.289 \text{ SR}$   $r = 0.83$ ) but oat feeding had no significant effect on weight gain during the experiment.

Sheep in this environment rarely make rapid liveweight gains in winter however low the stocking rate may be. The stocking rates in this experiment were restricted to the low-moderate range and hence the productivity of the sheep was similar. Autumn saving of green pasture would appear to be a better strategy (Gillespie and McLaughlin 1977).

The substitution of grain for pasture was estimated from differences in **herbage** availability as 2 kg oats : 1 kg pasture on a dry matter basis. An overall nitrogen deficiency in the diet of sheep fed oats may also have contributed to the lack of a liveweight response. These **observa-**tions support earlier studies (Learmonth - **unpubl.**) in which oat supplements failed to increase the growth rate of sheep on short green pasture.

It is concluded that neither a short term reduction in stocking rate nor an oat supplement fed to sheep at pasture will prove effective as a means of increasing the growth rate of sheep during autumn and winter in the **Hamilton** environment.

GILLESPIE, D.G., and McLAUGHLIN, J.W. (1977). Aust. J. exp. Agric. Anim. Husb. **17:393**.

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