

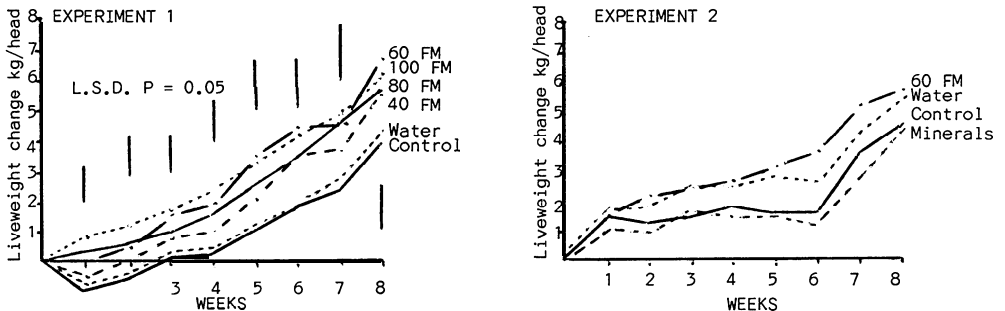
FISHMEAL SUPPLEMENTATION OF LAMBS GRAZING IMPROVED PASTURES

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The proteins in young grass are highly soluble and Reid et al. (1962) have shown that 60% of this protein goes into solution when the grass is chewed. It is likely that little of this protein escapes rumen fermentation, and the ruminant must therefore rely totally on microbial protein (McRae 1976). Thus low protein availability may be one of the factors that results in low food intake of weaner lambs suffering "ill-thrift" at pasture.

In Experiment 1, 24 Merino lambs approximately eight months old, weighing 21.1 ± 0.14 kg, were divided into six equal groups. Fishmeal was mixed with water and given to respective groups of animals each day as a "drench" at rates of 40, 60, 80 and 100 g/hd/d. There were two control groups, one drenched with water and the other not drenched. All sheep grazed as a single flock on high quality white clover, fescue, phalaris pasture at Shannon Vale, near Glen Innes. The period of supplementation was eight weeks from 27 April to 22 June, 1976. In another study (Experiment 2), three groups of six lambs (23.5 ± 0.33 kg) were drenched with either water, water plus mineral supplement or 60 g fishmeal/hd/d. Liveweight gains were compared with an undrenched group during eight weeks from 10 February to 7 April, 1977.

Fig. 1. Liveweight change of lambs supplemented with fishmeal (FM) at pasture



In Experiment 1, liveweight gains of lambs in the supplemented groups were generally greater than those of the control groups and the 60 and 100 g fishmeal treatments were significantly different from ($P < .05$) the controls. (Fig.1). Approximately half of the overall response was accounted for over the first week. In Experiment 2, although the fishmeal supplemented group tended to have the highest liveweight gains, there were no significant differences.

The liveweight responses to the fishmeal supplement in Experiment 1 are similar to responses obtained by Abidin and Kempton (1981) in pen feeding trials with lambs given low protein diets supplemented with a source of by-pass protein. This result would indicate that the unsupplemented animals grazing pastures in 1976 were protein deficient even though the N and OMD levels of the pastures were 2.9 and 80% in early May and 2.7 and 72% in mid June. However, the response could not be confirmed in the second year and this highlights the difficulty of obtaining a precise definition of nutrient requirements of grazing animals because of the lack of control which can be exercised over the quality or quantity of the grazed material.

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