INTRODUCING SUPPLEMENTS TO NEWLY WEANED LAMBS

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SUMMARY

Lupin grain was fed to newly weaned crossbred lambs either with or without lucerne hay and with or without access to pasture. The intake of lupins was highest in those groups with access to pasture. The provision of hay had no effect on animal performance while liveweight gain was improved significantly by access to grazing. The results are discussed in relation to the supplementation of weaners at pasture and the lot feeding of lambs. (Keywords: supplements, weaner, lupins, pasture, liveweight).

INTRODUCTION

In mediterranean Australia weaner sheep are commonly fed supplements of grain, conserved fodder or stock licks during the summer to prevent loss of production and sometimes death. We have recorded up to twenty two percent mortality in Polwarth ewe weaners grazing only abundant mature improved annual pasture over the summer (Mulholland and Black unpublished). The animals worst affected are those most poorly developed including twin lambs, ewe lambs and late born lambs (Allden and Anderson 1959).

Wide variability can occur in the individual intakes of supplements by grazing sheep (Lobato and Pearce 1978). This effect is accentuated by the slow acceptance of supplements and mostly results in a further rapid decline in live weight. In poorly developed animals it can mean the difference between survival and death. Feeding experience prior to weaning has greatly improved the acceptance of supplements at a later time (Hodge et al. 1981; Lynch et al. 1983). However where lambs have not been preconditioned other methods are required.

Extension literature advocates the use of high quality roughage for reducing the number of shy feeders. This experiment compares the response of lambs to supplements of lupin grain with and without lucerne hay during the introductory phase and with or without access to pasture.

MATERIALS AND METHODS

The experiment was conducted at the Agricultural Research Institute, Wagga Wagga during September/October, 1981. One hundred and twenty (Border Leicester x Merino) x Dorset Horn mixed sex lambs about 4 months of age and mean live weight (±S.D.) 29.4 ± 2.5 kg were weaned from pasture and placed directly into the experiment groups. The ewes and lambs had been fed intermittently with oats prior to weaning. Each group consisted of 15 lambs, 8 wethers and 7 ewes, stratified according to live weight, plus two mature crossbred ewes which had previous experience of supplementary feeding. The groups were allocated at random to 4 replicated treatments; whole lupin grain or lupin grain plus leafy lucerne hay and either confined to bare open yards of approximately 600 square metres or given access to 0.32 ha of pasture. The grain-only groups were offered 250 grams/day/per sheep on day 1 increasing to 600 grams by day 6, while

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the grain/hay groups were offered 80 grams lupins and 250 grams lucerne hay on day 1 with lupins increasing to 600 grams and lucerne hay reducing to zero by day 6, using daily adjustments. Thereafter the groups were fed ad libitum every second day from cement troughs and the residues were recorded weekly. No effort was made to herd sheep onto the supplements. We relied entirely on the experienced mature ewes in each group to guide the weaners to the supplement. The trial lasted 27 days and live weights were recorded following a 24 hour fast from food and water on three occasions at approximately fortnightly intervals. Pasture allowance was measured using an electronic pasture probe (Vickery and Nicol 1982). Analysis of variance was used to determine the effect of the provision of lucerne hay or pasture on the intake of supplements and the liveweight response.

RESULTS

Rainfall recorded in September was 33 mm. As a result yards were boggy for short periods and flystrike, associated with a slight scour, occurred in two lambs in the yarded groups. Otherwise animal health problems were not encountered.

Pasture availability on the four paddocks ranged from 2.4 to 3.2 tonnes dry matter/ha of principally green material, consisting of approximately 50 percent ryegrass and barley grass and 50 percent subterranean clover and trefoil.

The pattern of consumption of grain showed that lupins were accepted more slowly during the first three days by lambs with access to pasture but there after these lambs consumed higher amounts than their yarded mates. Accurate measures of intake were available for the first 21 days only. The mean intake of lupins of those lambs with access to pasture was 599 ± 28 grams compared with 572 ± 9 grams for lambs fed in yards (P<0.05). The provision of hay had a larger effect on the intake of lupins by lambs at pasture than lambs in yards (P<0.05) (Table 1).

Table 1 Intake of lupin grain (g/day) over 21 days by lambs fed in yards or with access to pasture and with or without lucerne hay during the first week.

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<thead>
<tr>
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<th>Yard</th>
<th>Pasture</th>
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<tbody>
<tr>
<td>Overall mean</td>
<td>572</td>
<td>599</td>
</tr>
<tr>
<td>With hay</td>
<td>566</td>
<td>578</td>
</tr>
<tr>
<td>Without hay</td>
<td>576</td>
<td>623</td>
</tr>
</tbody>
</table>

There were considerable differences in live weight between treatments at 15 and 27 days (Fig. 1). Lambs with access to grazing were significantly heavier than lambs in yards at both times (P<0.01) the difference increasing linearly with time. The pattern of liveweight change was also markedly different. Lambs fed in yards lost 0.6 kg in live weight in the first period of 15 days compared with a gain of 2.7 kg for the lambs with access to grazing (Fig. 1). In either period there was no difference between the live weights of weaners being fed hay as well as grain and those being fed only grain. The coefficients of variation of the liveweights of lambs with or without access to pasture at the end of the experiment were 9.88 and 9.57% respectively.
DISCUSSION

Weaning is a stressful and critical period in the lifetime of the sheep. Frequently the initial phase of supplementary feeding is accompanied by a further decline in live weight. When lot feeding lambs this can lead to a major loss of efficiency (Tomes and Dymond 1976; Hall and Mulholland 1982) and in the grazing situation can be critical to the survival of newly weaned lightweight lambs.

Where it has not been possible to provide feeding experience prior to weaning (Lynch et al. 1983) the results of this experiment offer an alternative means of introducing supplements to newly weaned lambs. The results highlight the lack of response to the provision of a high quality roughage and the very positive response to a small area of green pasture. Lambs with access to pasture grazed freely and were able to augment their intake of lupins with high quality forage during the conditioning period and suffered no setback to growth. Although no measure of pasture intake was made, the intake of lambs with access to grazing would have been higher, since the intake of lupins during the introductory phase was the same for all groups.

The lack of response to lucerne hay may be associated with the learning experience (Lynch et al. 1983). Both the hay and the lupins were a new experience and lupins appeared to be equally if not more appetizing to lambs. The ratio of 2 trainer ewes to 15 lambs was highly successful in obtaining a rapid acceptance (one week) of supplements by lambs. With larger numbers a ratio of 5 percent has been found satisfactory in field work.

In practical terms the results suggest that if feeding is anticipated either for survival or for opportunity feedlotting then lambs should be weaned prior to pasture maturing, and introduced to supplements in small paddocks before full hand feeding commences. This should minimize interruption to growth and result in lower mortalities in the field or increased profits in feedlot lambs.
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REFERENCES


