EFFECT OF SUPPLEMENTARY FEEDING WITH MAIZE BRAN ON THE MILKING POTENTIAL OF THE INDIGENOUS MALAWI GOAT

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INTRODUCTION

It has been estimated that in some areas of Malawi the incidence of malnutrition in children under the age of 5 may be as high as 70%. The problem is particularly severe in those children who have been weaned off breast milk. In many areas of the world milk is seen as being of special benefit to such children,. In excess of 60 million goats are currently being milked world wide but in sub-Saharan Africa the practice of milking them is uncommon. Malawi is a good example of this situation.

Estimates of the number of goats in Malawi very between 1.0m and 1.6m and yet, with the exception of a few localised sites, these goats are not milked. There does not appear to be any custom or taboo prohibiting the drinking of goats milk and in a recent survey Banda (1992) showed that goats milk was acceptable to many people and was, indeed, preferred to that of the cow or the sheep.

The aim of the project reported here was therefore to examine the potential of the indigenous Malawi goat as a milk producer, when managed under a system as similar to that practiced in the villages as possible.

MATERIALS AND METHODS

The trial was undertaken at Bunda College of Agriculture, (13°s, 34°E) during 1991-92. Animals grazed unimproved grassland, largely Hyparrhaenia spp., as their main forage source.. Animals were brought in from grazing before dusk and turned out immediately after milking each morning. Housing was in a pen constructed of blue-gum poles and chain-link fencing under a galvanised-iron roof. Using a 2 x 2 factorial design, half of the animals involved (n = 40) were offered a supplementary feed of one double handful (250±10g) of maize bran daily and half of the animals were milked, once daily in the morning. These animals were removed from their kids each evening at housing and penned separately. The following morning each doe was hand milked before being rejoined with her kid(s) for the day's grazing. Milking began 25 ± 3 days after kidding and usually continued until yield fell below 50 ml/day for 3 consecutive days. Does which lost their kid(s) were removed from the trial.

Animals were blocked by week of kidding, beginning on 1 July, 1991, and allocated to treatment within block, according to litter size. Milkings continued until September 1992. Milk yield for each doe was measured daily and all oestruses and matings recorded. Does and kids were weighed regularly and all mortalities were noted.

RESULTS

MILK PRODUCTION

Milk production was extremely variable with yields ranging from 1.5 to 61 litres. Does producing these very low yields generally produced very little each day, often less than 50 ml, so that effectively they never reached the bottom yield limit and the decision was taken to stop milking them. Lactation length was thus also extremely variable, ranging from 13 days for the very low yielders to 252 days for the better animals. Lactation details are given in Table 1 and illustrated in Figure 1.

TABLE 1 Mean milk yield data (l)

		Supplement (n = 20)	Control (n = 20)
Yield by month of kidding	August	31.6 ± 17.5	21.2 ± 13.6
	September	17.7 ± 12.0	15.6 ± 10.9
	February/March	17.7 ± 7.5	9.1 ± 5.7
Yield by lactation period	Weeks 1-10	13.4 ± 5.0	11.1 ± 5.7
	Weeks 1-20	19.4 ± 9.4	14.5 ± 9.6
	Overall	21.2 ± 13.2	15.0 ± 11.0
Mean lactation length (days) (to < 50ml/day)		119 ± 54	90 ± 47

Patterns of lactation were not different between treatments with peak yield from supplemented animals reaching 270±99ml at 26 days from commencement of milking (range 140-500ml) while equivalent figures for unsupplemented does were 259±99ml at 19 days (range 80-450ml).

Milk yields overall were not significantly affected by treatment although supplemented animals produced more than controls. Supplemented does milked for longer than unsupplemented animals and this difference was responsible for much of the lactation yield increase. Month-of-kidding effect was also insignificant until February/March. For these animals lactation was largely after the end of the rainy season and supplementation led to higher yields and greater persistency with the supplemented animals producing significantly more milk (17.7±0.7l vs 9.1±1.5l, $p<0.05$).

KID GROWTH

Treatment of does had no effect on kid performance. The kids from supplemented does were consistently heavier than those of unsupplemented animals and those from unmilked animals heavier than those from milked ones but none of these differences was significant.

CONCLUSIONS

It is concluded that:

(i) While yields vary considerably it is possible, with minor modifications to traditional husbandry practices, and at little cost, to produce usable mounts of milk from the indigenous Malawi goat

(ii) Removing this milk does not have any adverse effects on the doe or her offspring

ACKNOWLEDGEMENTS

The help and encouragement of the Principal and all the staff at Bunda College is gratefully acknowledged.

This work was funded by the Natural Resources Institute of the UK Overseas Development Administration.

REFERENCES

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FIGURE 1 Mean milk yield by week of lactation (dl).