



Comparison between Indigenous and crossbred [Saanen x Indigenous] goats for milk production in Malawi

RA Cooper*, Seale-Hayne Faculty of Agriculture, University of Plymouth, Newton Abbot, TQ12 6NQ, UK (a1cooper@plymouth.ac.uk)
 JW Banda, Bunda College, University of Malawi, PO Box 219, Lilongwe, Malawi

Rationale

- It has been estimated that in some areas of Malawi the incidence of malnutrition in children under five may be as high as 70%.
- In many parts of the world milk is seen as a valuable food for children.
- There are approximately 1m goats in Malawi, but they are not normally milked.
- No customs or taboos prohibit the drinking of goats milk.
- Consumer tests in villages around Bunda college suggest that goats milk is preferred to that of cows.

Aims

The project was designed to examine the potential of indigenous and Saanen x indigenous Malawi goats as milk producers, when managed traditionally.

Answers were sought to these questions:
 How much milk is a doe capable of producing, per day and per lactation, when hand milked once per day?
 •What effect does removal of this milk have on the liveweight and reproductive performance of the doe?
 •Does the crossbred have advantage over the indigenous animal?

Methods

- 11 indigenous and 9 cross-bred does were used.
- Animals were grazed on indigenous pasture by day and housed overnight.
- Does were separated from their kids at housing and hand milked each morning before rejoining the kids for grazing.
- Does received 250 ± 10g maize bran daily, before turnout.
- Milking began 3 days post-partum for crossbreds and 21 ± 3 days post partum for indigenous does, and continued until daily yield dropped below 50ml for 3 consecutive days

Results : Milk yield

Table 1. Milk yield by week of lactation (ml)

	Week					
	1	4	8	12	16	20
Indigenous	1446 ± 566	1535 ± 568	1392 ± 592	1140 ± 514	977 ± 612	930 ± 435
Crossbred	2202 ± 810	2032 ± 1113	1435 ± 806	1353 ± 485	1471 ± 522	2130 ± 327

Total lactation milk yields were variable.
 •Indigenous does averaged 32.5 ± 20.1 litres in 144 ± 50 days while crossbreds averaged 42.9 ± 27.1 litres in 172 ± 103 days
 •Higher yields were associated with longer lactations. On a daily basis, Indigenous does averaged 226 ± 94 ml, with crossbred averaging 252 ± 60 ml

Results: Reproduction

Table 2

	Mean kidding date	Mean wt. at kidding	Mean litter size	Kid mortality (%)	Kidding to conception (days)
Indigenous	29th April ± 3 days	31.7 ± 6.9kg	1.64	61	154 ± 44 days
Crossbred	31st May ±3 days	30.4 ± 6.3kg	1.22	72	167 ± 118

•In both groups mean weight loss post-partum was 1.9 ± 1.6kg with all animals in positive energy balance by week 10.
 •Return to oestrus was variable . On average, cross-breds were slower to conceive than indigenous does.
 •Kid mortality was high in both groups. Major cause was a bacterial scour which also caused 36% loss in kids from non-milked does.

Conclusions

- While yields vary considerably, it is possible, with only minor modifications to traditional practice, to produce usable amounts of milk from both indigenous and crossbred Malawi goats.
- Removing this milk does not have adverse effects on the doe, either in terms of bodyweight or of reproductive performance, but kid mortality may be adversely affected.
- The milk so produced is capable of contributing significantly to the diets of children under five in the households in which the goats are kept.
- Under subsistence-farming conditions, crossbreds do not offer significant advantage over indigenous stock.
- It must be remembered that unsupplemented goats milk is unsuitable for babies under one year of age**