LEUCAENA AS A SOURCE OF PROTEIN AND ROUGHAGE FOR MILKING COWS GIVEN HIGH LEVELS OF MOLASSES/UREA\*: By H Gaya, B Hulman and T R Preston Ministry of Agriculture, Natural Resources and the Q Environment, Reduit

Friesian cows consuming 10 kg/d molasses/urea, 9.6 kg/d leucaena forage and 200 g/d cotton seed cake lost 173 g/d and produced only 4 kg/d of milk with 2% butterfat. The estimated efficiency of using ME for milk production was only 13% indicating some disturbance in carbohydrate metabolism. (Key words: cattle, milk, molasses, feed efficiency)

Hulman et al (1978) concluded that acacia (Leucaena leucocephala) fed at 2.5% of liveweight daily (fresh basis) could provide all the necessary roughage and protein in a molasses-baset diet for fattening bulls.

To evaluate this feeding system for milk production, 5 Friesian cows were fed 120 d on leucaena at 2,5% liveweight, molasses (containing 2,5% urea) at 2.5% of liveweight, cotton seed meal at 250 g/d and minerals.

Performance was very poor, both in terms of milk yield and composition, and the cows lost weight (173 g/d). The calculated metabolizable energy (ME) intake was 107 MJ/d, which, together with the mobilization of body reserves (liveweight 173 g/d = 13 MJ) gave a total availability of 120 MJ/d, After deducting 45 MJ for maintenance, the ME for milk production was 75 MJ, sufficient for a yield of 15 kg daily. The actual yield of 4 kg of 1.8% of fat milk (9.4 MJ) accounted for only 13% of the ME available above maintenance, compared with the accepted standard about 60%. This indicates that the end products of digestion on a high molasses diet are used very inefficiently for milk production or that the particular feeding system had induced some upset in intermediary metabolism.

Milk yield and composition for cows fed high molasses diets (means for 5 animals)

	Month				
	1	ž	3	4	SEx/Prob.
		9 8 9	•	*	23.
Milk yield, kg/d	4.82	4.92	3.25	4.32	±.54/.15
Fat, Z	2.46		1.04	1.20	±.39/.05
Protein, %	. 3.21		3.24	3.27	±.06/NS
Lactose, %	3.83		4.28	4.51	±.21/.11
Total solids, %	10.8		9.68	9.96	±.25/.03

## Reference

Hulman B, Owen E & Preston T R 1978 Comparison of Leucaena leucocephala and groundnut cake as protein sources for beef cattle fed ad libitum molasses/urea in Mauritius Tropical Animal Production 3:1-8

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