LEUCAENA LEUCOCEPHALA AS A PROTEIN SOURCE FOR RESTRICTED SUCKLING CALVES AT PASTURE

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40 dual purpose calves (Brown Swiss and Holstein/Zebu) of 3-4 months old and reared under a restricted suckling system were used to evaluate the substitution of rice polishings by Leucanea leucocephala forage. The basal diet was grazing of Bermuda cross grass plus 0.5 kg/d molasses + 2.5% urea and dams residual milk, and treatments were either a) 0.6 kg/head/d of rice polishings or b) about 2.5% liveweight (fresh basis) of out leucaena forage. The liveweight gains of 713 and 681 g/d for a) and b) respectively during the 79 day trial period were not significantly different (Key words: Calves, restricted suckling, leucaena forage, dual purpose, tropical pastures)

The trial was designed to investigate the ability of Leucaena leucocephala to substitute for rice polishings in the ration for "razing calves and hence reduce rearing costs.

Materials and Methods

Climate: The trial was carried out in the wet season from September to November in a humid tropical climate.

Pasture: Bermuda Cross 1 (*Cynadon pleistostachius*) pasture, fertilised with 200 units N as urea, and applied in 4 dressings per year, was used. Several pastures were used in a rotational grazing regime with rest periods of 34 weeks. Calves were grazed before the milking cows. Stocking rate was about 3 livestock units (LU)/ha (1 LU = 400 kg liveweight).

Animals, treatments and methods : 40 crossbred female calves of Holstein or Brown Swiss (75%) crossbred with Zebu (25%) were used. Animals were 3-4 months old with liveweights between 75 - 130 kg. They were allocated by age, breed and sex to the following two treatments: a) 0.6 kg/d of rice polishings or b) 2.5% liveweight (fresh basis) of leucaena forage. The basal diet fed to both groups was 0.5 kg/head/d of molasses/urea 2.5%, residual dams milk, vitamins and minerals. The calves of both treatments were pastured together from 0800 to 1500 h after which they were separated to their respective treatments and fed the supplements.

The calves' dams were machine milked twice daily. The calf was used to stimulate let down and allowed to suckle its dam to remove residual milk following milking but had access to the cow at no other time.

Calves were weighed fortnightly after morning milking and liveweight gains determined by regression. Individual weight gains were compared by analysis of variance. The trial lasted 79 days.

Results and Discussion

Initial liveweights were 102.2 and 101.4 kg for leucaena and rice polishings respectively and final weights were 158.0 and 157.9 kg giving gains of .681 and .713 kg respectively which were not significantly different (SEx .035). No leucaena toxicity symptoms were seen. Milk consumption was estimated to be 2 - 3 1/d, the bypass nutrients from which would help to explain the good gains.

There was a tendency for calves of higher initial weight to grow more rapidly, which may suggest that they are able to make better use of the non protein nitrogen (urea) because of greater rumen development. There was a similar tendency on both diets.

Conclusions

A supplement of Leucaena leucocephala fed at 2.55 liveweight (fresh basis) is able to support good liveweight gains in restrictively suckled calves receiving 0.5 kg/head/d of molasses/urea with restricted grazing.

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