EFFECTS OF MANAGEMENT ON MILK PRODUCTION FROM TWO TROPICAL GRASSES

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Many farmers and extension officers believe that milk production from tropical grasses will be maximised by keeping the grasses in a short leafy condition. In contrast to short term studies (Stobbs 1973), long term stocking rate studies have shown no decrease in milk yield at light stocking rates (Cowan and O'Grady 1976).

At Kairi Research Station, North Queensland, the effect on milk yield of subjectively, determined removal of rank growth was tested during a period of rapid growth of two tropical grasses, Brachiaria decumbens (B) and Panicum maximum cv. Gatton (P). Three 0.60 ha paddocks of each grass were stocked for 17 weeks with three Friesian cows from November, 1976 to March, 1977. Nitrogen (N) fertilizer was applied at 43 kg ha⁻¹ month⁻¹. Treatments were 1. untreated (C), 2. slashing (S) and 3. variable stocking (V). The timing and extent of S and V treatments were decided each week by a panel of 12 research and extension officers. Milk yield was recorded daily for individual cows and pasture yield measured each week with subsamples sorted into leaf, stem and seedheads.

Each time pastures were slashed or extra cows added, milk yield per cow fell in the week following treatment. The extent of this fall depended on the severity of the slashing or the number of cows added. Average decreases in milk yield cow⁻¹ day⁻¹ were 1.2 kg and 1.1 kg for S and V respectively, in the week following treatment. In the same period, C groups averaged a decrease of 0.6 kg cow⁻¹ day⁻¹. Application of treatments always decreased leaf % and leaf yield in the week following treatment. Total green dry matter yield was only markedly decreased following severe slashing (15 cm for B; 25 cm for P). Severe slashing did increase leaf %, but only after three to six weeks regrowth.

At severe levels of S and V, milk yield was low, apparently because cows could not consume sufficient quantity of pasture. At mild levels of S and V, pasture yield was not greatly affected, but leaf content and milk yield decreased. Chacon and Stobbs (1976) showed that intake of cows was mainly determined by leaf yield through its effect on bite size.

Our results show that management did not increase pasture quality, in terms of leaf content and that pasture quantity was limiting at severe levels of S and V. Further work is needed to quantify the factors which led to decreased milk yield in this preliminary study.


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