Cattle in northern Australia usually experience liveweight loss during the dry season. In extreme cases these losses may be greater than the gains achieved in the previous wet season. Pasture availability and quality are the main contributing factors.

Pasture availability and quality has been monitored on four characteristic soil types in the tropical tallgrass ecosystem on the James Cook University Research Station, Charters Towers. The native pasture was dominated by Dicanthium sp. and Bothriochloa sp. on the basalt-derived (black) soils and by Aristida sp. and Heteropogon sp. on the granite-based (red) soils. Dry matter on offer plus chemical quality of hand-plucked samples were measured over two wet seasons and the interim dry season (1979-1980). The area was continuously grazed by young growing cattle (10 ha/animal) which were weighed regularly. Figure 1 shows the average pasture quality and animal performance over the period.

Throughout the year pastures growing on the black soils were higher in nitrogen content than those from other areas. Also these pastures showed a rapid decrease in dry matter on offer relative to those from other soils, indicating that the pastures growing on the black soils were preferentially grazed. Milford and Minson (1965) suggested that voluntary intake could be limited if N fell below 1.1% of DM. The nitrogen content of the pastures in the present study exceeded this value only in the wet season. Animal liveweight change followed but lagged behind availability of DDM and N%. Liveweight increases were still occurring when the apparent nitrogen content of the pasture dry matter had fallen below 1.1%, thus indicating that hand-plucked samples underestimate the nitrogen selectivity of the animal.

The pasture quality in this area is not sufficient to sustain animal growth through the year. The use of suitable supplements and manipulation of rumen function are areas which need further study to ameliorate the situation in northern Australia.


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