

Practical Abstracts from Tropical Grasslands Vol.35 (2) June 2001

Factors affecting the nutritive value of kikuyu grass (*Pennisetum clandestinum*) – a review — by Johan Marias, on pages 65–84.

Kikuyu grass from the highland plateau of east and central Africa has formed highly productive pastures in many countries, but is not very tolerant of cold or drought. More suitable ecotypes may exist in the natural habitat. Since kikuyu grass produces stem material throughout the growing season, its nutritive value is highly influenced by stage of regrowth and is optimised at 4.5 leaves per tiller. As kikuyu accumulates nitrogen-containing substances far in excess of animal requirements, nitrogen fertiliser should not be applied in large single applications.

Energy is limiting for milk production from kikuyu pastures and energy supplementation is needed. The grass is deficient in sodium and also contains oxalic acid. Growing kikuyu is hampered by establishment and poor persistence. Preventing kikuyu poisoning in animals appears to depend on controlling army worm infestations.

Evaluation of legumes and grasses in coastal south-east Queensland — by Dick Jones, on pages 85–95.

The highest yielding legumes in the establishment year were annuals such as *Vigna oblongifolia* or short-term perennials, particularly Lee jointvetch. The most consistent long-term perennial was pinto peanut, with accession AFT 2320 better than Amarillo. *Arachis glabrata* was slow to establish but improved with time, although a vegetatively planted *A. repens* X *A. pintoi* hybrid spread much more quickly.

Cardillo centro was better adapted to the subtropics than common centro. Creeping vigna struggled through dry years but responded well with better rainfall.

Callides rhodes was the best grass overall and could prevent Bahia grass from re-invading if fertilised, while *Paspalum nicorae* was the only grass that thickened up under these conditions.

Selecting *Chamaecrista* spp. for soil stabilisation and forage in southern China — by Bryan Hacker, Wen Shilin, Ying Zhaoyang and Bruce Pengelly, on pages 96–113.

Thirty-four accessions of *Chamaecrista rotundifolia*, 3 of *C. serpens*, 3 of *C. nictitans* and one of *C. pilosa* were evaluated at 2 sites in southern China. Large differences in *C. rotundifolia* were related to latitude of origin, those from high latitudes were earlier flowering and had higher seedling densities than late flowering accessions. Some accessions from Paraguay and Argentina survived over winter at Jianyang where accessions from lower latitudes, including Wynn, failed to persist.

Two accessions of *C. nictitans* showed promise as a cut and carry forage. They had good ability to re-establish from seed and good yield; one survived at Jianyang.

Leaf appearance, death and detachment in a bahia grass (*Paspalum notatum*) pasture under cattle grazing — by W. Pakiding and M. Hirata, on pages 114–123.

The number of live leaves was high in summer and autumn and low in winter; the number of dead leaves was high in winter and spring, and low in summer and autumn. Leaf appearance was related to air temperature while death and detachment rates were related to the number of live and dead leaves, respectively. Leaves appearing in mid and late autumn survived longer than those appearing between spring and early autumn. This and the high detachment rate during the growing season are crucial factors in the grass persisting.

Intensive fodder gardens for improving forage availability for smallholder dairy production in Hai district, Tanzania — by E.J. Mtengeti, N.A. Urrio and G.D. Mlay, on pages 124–127.

Permanent crops such as coffee and bananas in the highland zone of this Kilimanjaro region restrict the land available for feeding dairy cattle. Small backyard garden plots converted for extra pasture yield poorly. Grass is expected to grow without care as it does 'naturally in the wild'. We are promoting 'intensive fodder gardens' with pasture managed as intensively as the rest of the vegetable garden.

Elephant grass, guatemala grass and *Setaria splendida* were planted alone or with greenleaf desmodium, and with farm yard manure. Mean annual yields of fresh herbage in the first year were equivalent to 69, 93 and 197 t/ha for guatemala, setaria and elephant grass. Grass and grass-legume plots were similar. These results encouraged the farmers to appreciate the importance of intensive management for improved herbage and milk yield. The grass-legume mixtures reduced the need for dairy concentrate.