

Practical Abstracts from Tropical Grasslands Vol. 35 (4) December 2001

Sward structure and patterns of defoliation of signal grass (*Brachiaria decumbens*) pastures under different cattle grazing intensities—by J. Busque and M. Herrero on page 193–204.

Different grazing pressure created different tiller heights and canopy structures in the medium term but did not affect the pattern of defoliation relative to the height of the apical meristem. Apical meristem height was the main physical barrier to leaf defoliation upon a minimum leaf height of 2-4 cm, under which leaves were inaccessible to cattle.

Selecting buffel grass (*Cenchrus ciliaris*) with improved spring yield in subtropical Australia—by Bryan Hacker and Rollo Waite, on pages 205–210.

Two out of 9 accessions of buffel grass had better spring growth to the existing cultivars of Biloela, American, Gayndah and Molopo. Released as cv. Bella and Viva, both are intermediate in height between the robust Biloela and the low-growing Gayndah.

The breeding system of three *Paspalum* species with forage potential—by F. Espinoza, M.H. Urbani, E.J. Martínez and C.L. Quarín, on pages 211–217.

Most *Paspalum* species are apomictic and cannot be improved genetically. But *P. limbatum* has 20 chromosomes, reproduced sexually and could be genetically improved. *P. lenticulare* and *P. guenoarum* have 40 chromosomes but are apomictic. Because the three species are closely related, doubling the chromosomes of *P. limbatum* might produce a sexual parent with 40 chromosomes that could be used as a female parent for crossing.

Patterns of seedling emergence over 5 years from seed of 38 species placed on the soil surface under shade and full sunlight in the seasonally dry tropics—by the late Chris Gardener, Lindsay Whiteman and Dick Jones, on pages 218–225.

Seed of 14 introduced legumes, 10 introduced grasses, 11 native or naturalised grasses and 3 weedy forbs were placed on the soil surface at Townsville under both full sunlight and artificial shade toward the end of the dry season. Seedling emergence was followed for 5 years. Most emerged in the first 3 months after sowing—the start of the first wet season. Emergence then decreased rapidly with none emerging in full sunlight in the fourth or fifth years although a very few seedlings of legumes and *Sida acuta* emerged under shade in the fifth year. *Sida acuta* and leucaena were the most persistent, grasses the least.

Growth and persistence of 17 medic (*Medicago* spp.) accessions on clay soils in central Queensland—by Maurie Conway, Neil Brandon, Bob Clem, Dick Jones, Brain Robertson and Jacqui Willcocks, on pages 226–234.

Medics are useful legumes on clay soils in southern Queensland but become less persistent and productive further north than the Darling Downs. In an evaluation in marginal sites (Mundubbera, Biloela, Theodore and Emerald),

some barrel medics (such as Caliph and Parabinga) persisted but a button medic (SA8460) produced plenty of seed which persisted longer than the others.

Relay seeding forage species in rice systems in Bhutan—by Walter Roder, P. Wangchuk, S. Thsering and T. Gyeltsen, on pages 235–240. Soil fertility is a major constraint in rice production in the mountainous regions of the Himalayas. Integrating forage legumes could help sustain rice yields and diversify production.

Legume seed was broadcast 40 days before, 20 days before and after rice harvest. This relay seeding is possible with water management and planting date. It is not successful in fields with standing water or where water is drained immediately before harvest. *Chamaecrista rotundifolia* was best at lower elevations (300 m) with hairy vetch best above 1000 m.

The response of *Stylosanthes hamata* cv. Verano to applications of sodium and chloride—by K. Betteridge and Ray Jones, on pages 241–245. Generally, the negative effect of combined sodium and chloride as salt (NaCl) was greater than the effects of either individually, although chloride has a greater effect than sodium.

Salt had little effect on plant height but reduced leaf and flower number. Root weight was reduced by 30% at the highest rate of NaCl.

Whereas Townsville stylo is sensitive even to the chloride in fertiliser potassium chloride, Verano appears more tolerant of moderate salinity.

Effect of pasture production systems on milk production in the central plains of Thailand—by S. Tudsri, S. Prasanpanich, S. Sawadipanich, P. Jaripakorn and S. Iswilanons, on pages 246–253.

Cows receiving leucaena or lablab with ruzi grass produced more milk and higher fat percentage, but the systems did not affect composition in other ways. However, when the animals received concentrate at 4 kg/cow, pasture production systems had no effect on milk production. Tree legumes with grass or pure herbaceous legume sward next to grass pastures can support satisfactory economic milk production, although perennial legumes are needed to reduce the costs of replanting.