

## Practical Abstracts from Tropical Grasslands Vol 36 (1) March 2002

***Selection of pasture species for groundcover suited to shade in mature macadamia orchards in subtropical Australia*** — Daryl Firth, Dick Jones, L.M. McFadyen, Bruce Cook and Wal Whalley, on page 1–12.

Heavy shade under mature orchards reduces ground cover and can promote erosion. Plant density, ground cover and spread were measured in 26 legumes and grass and 1 forb under different levels of natural shading. *Dactyloctenium australe* (sweet smother grass) provided the best ground cover in both high and low light and was the most promising species. Other potential grasses included *Panicum laxum*, *Microlaena stipoides* cv. Wakefield and *Paspalum mandiocanum* (although the latter is now being cited as a potential weed).

The legumes generally did not perform as well as the grasses under heavy shade, but *Arachis pintoii* cv. Amarillo and a sterile *Arachis pintoii* x *A. repens* provided the best percentage groundcover in high and medium light.

***Herbage availability and utilisation in small-scale patches in a bahia grass (Paspalum notatum) pasture under cattle grazing*** — by M. Hirata, on pages 13-23.

These patches of 50 cm x 50 cm correspond to the 'feeding station' of an animal—the area within reach when the front feet are stationary. Spatial variation of herbage mass always increased with grazing. Animals consumed more uniform amounts of herbage from patches under higher grazing intensity. Animals tended to eat more herbage from patches with higher bulk as the grazing intensity increased. Thus, higher grazing intensity resulted in more uniform utilisation of patches by reducing selectivity but resulted in increased variation in vegetation across the patches.

***Dynamics in tiller weight and its association with herbage mass and tiller density in a bahia grass (Paspalum notatum) under cattle grazing*** — by M. Hirata and W. Pakiding, on pages 24-32.

We tried to characterise the dynamics in tiller weight and its components of live leaf, dead leaf and stem with leaf sheath to measure the effect of tiller number and tiller weight on herbage mass. Live leaf weight increased in a spring flush achieved by consuming reserves in the stolons and roots. The reverse occurred in autumn which may indicate that reserves stored in the stems are translocated back into the stolons and roots.

***Indices of root and canopy growth of leguminous cover crops in the savanna zone of Nigeria*** — by F.K. Salako, G. Tian and B.T. Kang, on pages 33–46.

The forage legumes included pigeon pea, Verano stylo, lablab, puero, cavalcade centro, black and white mucuna bean and *Crotalaria ochroleuca*. Legume canopies intercepted 80-99% of sunlight which suggests that they can maximise growth under adequate soil moisture. Legumes which can grow roots deeper than 60 cm and which intercept more than 95% of sunlight are recommended for sustained growth and rapid regeneration after cutting or browsing. These legumes can be combined with shallow-rooted crops for enhanced crop production in a crop-livestock farming system or in a pasture.

***Assessment of the condensed tannin concentration in a collection of Leucaena species using <sup>14</sup>C-labelled polyethylene glycol*** — by Ray Jones and Brian Palmer, on pages 47-53.

Condensed tannins at low concentrations may be beneficial in reducing bloat and providing some by-pass protein. At higher concentrations, they can reduce intake and digestibility and affect rumen bacteria and gut enzymes. Condensed tannin measured in 26 leucaena accessions (14 species and 3 hybrids) showed a wide range both within and between species. Thus selection and breeding of leucaena for low tannin should be possible.

***Pollen fertility in leucaena*** — by Tatiana Boff and Maria Schifino-Wittman, on pages 54-58.

Staining can be a simple method of estimating pollen fertility or viability. Pollen fertility and meiotic behaviour were analysed in some taxa of *Leucaena*; it exceeded 90% in most of the 26 accessions of 13 species. This knowledge may help to select fertile plants to be used as male parents in programmed crosses.