

Practical Abstracts from Tropical Grasslands Vol 36 (3) September 2002

Impact of fire on bellyache bush (*Jatropha gossypifolia*) plant mortality and seedling recruitment – by Faiz Bebawi and Shane Campbell, on pages 129-137.

The exotic weed, bellyache bush, predominantly infests river frontages and creek banks, but can spread into open pastures and rocky areas in the dry tropics of north Queensland. Dense stands of bellyache bush prevent the growth of pasture grasses, obscure fence lines, interfere with mustering, compete with and displace native vegetation and reduce profitability of cattle enterprises. Bellyache bush plants proved highly susceptible to fire, especially when young. Two annual burns may be needed before 90% of the original population is killed. However, fire may stimulate high emergence of bellyache bush seedlings which may soon reinfest the area. If fire is used as a management tool, further action such as a third annual burn must be taken to control the mass of seedlings which will inevitably emerge.

(editor's note: bellyache bush infestations occur also in the Northern Territory and in Indonesia)

Effects of soil fertility and fertiliser nitrogen rate on seed yield and seed quality of *Paspalum atratum* in Thailand – by Chaisang Phaikaew, Ganda Nakamanee, S. Intarit, Sayan Tudsri, Y. Ishii, H. Numaguchi and E. Tsuzuki, on pages 138-149.

Nitrogen fertilisation up to 400 kg N/ha did not affect seed yield in the establishment year on either fertile clay or infertile sand, with high seed yield at all sites. In the second year, yields peaked at 200 kg N/ha on the clays but higher rates caused lodging. On the infertile soils, yields peaked at 250 kg N but decreased without any N. Seed germination and purity increased with increasing N. The optimum N rate for seed production was about 200 kg on good soils but at least 250 kg on infertile sands, applied at planting or early and then before flowering. High levels of N are needed in the second year.

Effects of time of final closing cut on seed yield and seed quality of *Paspalum atratum* in Thailand – by Chaisang Phaikaew, S. Intarit, Sayan Tudsri, E. Tsuzuki, H. Numaguchi and Y. Ishii, on pages 150-158.

Time of final closing cut has a critical effect on seed production. Mid-June closing produced 1300 kg/ha, followed by closing in mid-May and mid-April. Closing in mid-July yield only about a third of that in mid-June while closure in mid-August gave no seed. Severe lodging of the grass occurred with closure in April, May and June. The final date should be before July 1.

Experiences with greenleaf desmodium (*Desmodium intortum*) seed production in Bhutan – by Walter Roden, S. Tshering, J. Doryi, C. Samdup and P. Dangchuk, on pages 159-164.

Greenleaf desmodium is a promising fodder legume for the subtropical Himalayan especially across Bhutan. However, it could not be promoted because seed was not available internationally or locally. Seed production technologies and locations for greenleaf were evaluated and silverleaf included. Seed yields ranged from 0-230 kg/ha for greenleaf and up to 780 for silverleaf with no effect of flowering in greenleaf across between altitudes of

640 to 1590 m. Greenleaf yield was increased with trellising on bamboo sticks and no cutting after April. Row spacing could be up to 150 cm. Recommendations for commercial seed production of greenleaf desmodium were released in the Himalayan foothills.

Effect of temperature on seedling growth characteristics of *Panicum maximum* – by Sayan Tudsri, H. Matsuoka and K. Kobashi, on pages 165-171.

In a controlled environment room, growth and development of 5 cultivars of guinea grass were severely reduced at the lowest temperature (25/15 C) but responded up to 30/20 C. Natsukaze was best under low temperatures, a fact confirmed in the field. Natsukaze can be grown as a special purpose pasture during the dry cool season if soil moisture is adequate.

Effects of herbage mass and herbage quality on spatially heterogeneous grazing by cattle in a bahia grass (*Paspalum notatum*) pasture – by Shin-ichiro Ogura, Hitomi Hasegawa and Masahiko Hirata, on pages 172-179. Herbage quality (protein and digestibility) was high in late spring-early summer when cattle ate more herbage from patches with more growth. But as quality decreased in taller patches later in the year, cattle ate herbage regardless of the growth or ate more from shorter patches. Cattle selected more from patches with taller grass when the pasture was low and became less selective when it was tall. Selecting for patches was modified by their quantity-quality as well as by the average growth over the pasture.

Dynamics in lamina size in a bahia grass (*Paspalum notatum*) pasture under cattle grazing – by M. Hirata and W. Pakiding, on pages 180-192. Most of the leaf weight (60-90%) on a bahia grass tiller under grazing belonged to the younger age classes. Cattle grazed 15-65% of the mature length of the leaf before and immediately after these were fully expanded. In the next 2 months, a further 25-80% of mature length of the leaf was removed by cattle or litter fall.