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The Australian Rangeland Society

#### NATIVE PASTURE SEED FOR THE MULGA LANDS

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Seed of native pasture species is needed for successful reclamation of south west Queensland's mulga country. These species deserve attention there is not yet an exotic (>500 tested) species that performs better than existing native species on mulga soils(1). Native species are adapted to the unique conditions of acid, infertile soils, low and erratic rainfall and extremes of temperature. They have the best chance of establishing under these conditions and will enhance the success of rangeland rehabilitation works (2). Selections of improved native species have been used extensively in range reseeding in USA. Currently there are more than 100 selected native species available (3). An attitudinal change is required to produce similar results in Australia and this poster describes one of several (4) (5) efforts to " achieve this.

In south-west Queensland desirable native species of the mulga country are being domesticated. Palatable perennial grasses of the genera Brachiaria, Chloris, Digitaria, Eragrostis, Enteropogon, Monachather, Panicum and Thyridolepis are being targeted. Successful harvesting in 4 ha lightly timbered natural mulga country has already yielded 160 kg of mixed Thyridolepis mitchelliana and Monachather paradoxa seed.

These species were chosen for the first commercial scale harvest for a number of reasons:- good seed yield per plant, good presentation of the seed head high on the plant, uniform height of seed head between plants, numbers of tillers per plant, ease of seed removal, common ripening period, the ability to harvest over a couple of days from the same area, and the ability to seed several times a year.

The area for harvesting was chosen because of its high density of desirable grasses, low density of trees, logs, anthills and its low relief. Such areas are not difficult to find and once located should be fenced and managed to encourage flowering and seeding. Once seed has been harvested, areas can be lightly grazed until the next rain and subsequent flowering period, when stock are removed and seed collected.

A Woodward Flail-vac brush harvester was used to harvest seed (6). This tractor mounted machine uses an upwardly rotating brush to strip seed. Seed is brushed from the seed stalk and then carried upward and backward into a seed bin by a draft created by the rotating brush. The brushing action does not severely damage plants and only harvests ripe seed. This allows several passes over the same plant during the ripening period. Two passes were made over a period of five days to collect the 160 kg of seed mentioned above. Two passes were sufficient to collect the majority of the seed. The seed was then coarsely sieved to remove trash. The majority of the trash comprised stem and leaf of *Trachymene spp.* which was present in the area harvested.

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(3) Society for Range Management Summer Meeting (1988).

(4) Bellotti, W.D. (1989). Suitable pastures to rehabilitate cultivated marginal wheat lands in north west NSW. Final Report to Wheat Research Committee for NSW.

(5) Lodge, G.M. (1987). An outline of the current program for the domestication of *Danthonia linkii*. Proc. Native Grass Domestication Workshop, Tamworth NSW, pp 10-11.

(6) Beisel, A. (1983). Harvesting chaffy grass seed with the Woodward Flailvac seed stripper. In Proc. Range and Pasture Seeding in the Southern Great Plains. Texas A & M University Agricultural Research and Extension Centre, Vernon, Texas, October, 1983.