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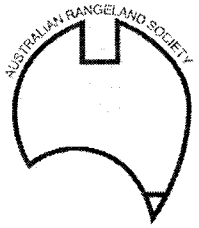

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EVALUATION OF NATIVE & LOW INPUT GRASSES

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In contrast to the Australian rangeland zone, the major contribution of native perennial grasses to the sustainability of grazing systems in the more intensively managed higher rainfall temperate zones has only been acknowledged recently (e.g. Robinson and Archer 1988). The grasses of importance in this zone include species of the genera *Austrodanthonia*, *Microlaena*, *Elymus*, *Paspalidium*, *Chloris*, *Themeda*, *Bothriochloa*, *Enteropogon*, *Dichanthium* and *Astrebla*. Together with cocksfoot and several other exotic species (e.g. *Bromus macranthos*, *Elymus trachycaulus* and *Festuca ovina)*, these are often referred to as "low input grasses". This term has developed to contrast them to species such as perennial ryegrass and tall fescue, which often fail to persist under common Australian environmental constraints.

The first native grass cultivars which comprise lines from the genera *Austrodanthonia* and *Microlaena* have recently been released (Lodge 1996) and researchers have also developed collections of germplasm of other native and exotic grasses. However, there is little knowledge of the adaptation of these selections across the pastoral regions of temperate Australia. Consequently, the National Pasture Improvement Co-ordinating Committee recommended that a multi-site evaluation program be established, and the Native and Low Input Grasses Evaluation Network was set up to carry out this task. The specific objectives of the Network include:

1. To assemble, and where necessary, multiply seed of genotypes for field evaluation;
2. To improve our understanding of genotype adaptation across temperate Australia;
3. To identify genotypes with the potential to be developed as cultivars for specific uses and environments.

The sites, which were established in 1998/99, are located in each of the following regions: New England tablelands, southern tablelands, Riverina and the north west plains, NSW; north-east Victoria; Tasmanian Midlands; Adelaide Hills, SA; and the Albany district, WA. The wide range of sites will ensure that test lines are subjected to the important environmental constraints (e.g. summer drought, soil acidity, low winter temperatures) which commonly limit the performance of perennial grasses across the target area. Lines have been sown as spaced plants, without a legume, and have been given only low rates of fertiliser according to local practice at each site. All sites are being managed according to the same protocol so that lines can be compared uniformly across sites. Test lines will be assessed for persistence, production, leafiness (index of digestibility) and palatability to grazing animals as well as resistance to disease and insect attack. Field evaluation will proceed for three years.

Data collected to May 2000 includes plant leafiness and survival counts along with three herbage yield cuts at all sites. Notes have also been taken on frost tolerance at Armidale, NSW and Jericho, Tasmania where large differences were observed between species. Data recording at the sites will be completed by June 2001 and results analysed and published shortly after that.

Acknowledgments

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