

The Native and Low Input Grasses Evaluation Network

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The major contribution that native perennial grasses make to the sustainability of Australian grazing systems has only been acknowledged comparatively recently (e.g. Robinson and Archer 1988). These grasses include species of the genera *Danthonia*, *Microlaena*, *Elymus*, *Paspalidium*, *Chloris*, *Themeda*, *Bothriochloa*, *Enteropogon*, *Dichanthium* and *Astrelba*. Together with cocksfoot and several other exotic species (e.g. *Bromus macranthos*, *Elymus trachycaulus* and *Festuca ovina*), these grasses are commonly referred to as "low input grasses". This term has developed to distinguish them from species such as perennial ryegrass and tall fescue, which often fail to persist under the environmental constraints common in Australia.

Domestication programs have recently released the first native grass cultivars from the genera *Danthonia* and *Microlaena* (Lodge 1996). 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. The National Pasture Improvement Co-ordinating Committee (NPICC) 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:

- To obtain, and where necessary, multiply seed of genotypes for field evaluation;
- To improve our understanding of genotype adaptation across temperate Australia;

- To identify genotypes with the potential to be developed as cultivars for specific uses and environments.

The sites, which were established in 1998, 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 experience at each site. In other respects, sites are 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.

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References

- Lodge, G.M. (1996). Temperate native Australian grass improvement by selection. *New Zealand Journal of*