

Native Grass Pastures - Some Current Research on the Central and Southern Tablelands

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On the northern tablelands of NSW, the importance of native grass species has long been recognised by landholders and researchers. Dry matter production from some of these species where fertiliser has been applied in association with white clover, is comparable with improved species; and livestock production from native grass pastures plus white clover, is similar to that of improved pastures over the longer term. Nevertheless, on the central and southern tablelands, widespread interest in native grasses has been more belated, despite the fact that the same key species present on the northern tablelands have also been found in the south.

Traditional pasture improvement involving the replacement of native grass pasture by introduced grass species has been, and still is, a recommended practice in the tableland areas of NSW. However droughts, increasing soil acidity and more recently, a reduction in the amount of superphosphate applied, have reduced the persistence of the introduced grasses, especially in more marginal locations. There is an increasing awareness of the virtues of native grasses, but little is known about the extent of their distribution on the central and southern tablelands. Once it is known which species remain and where they are most likely to occur, the appropriate management required to favourably vary or retain botanical composition then needs to be determined.

With this in mind, a project funded by the Natural Resources Management Strategy was commenced in 1990. The main aims of the project are to:

1. Estimate the extent of grazed native grass pastures on the central and southern tablelands of NSW;
2. Determine their botanical composition;
3. Develop an understanding of their ecology, management and productivity; and,
4. Raise the level of awareness among landholders of their value

The extent and botanical composition of native grass

pastures are being obtained from a survey which is nearly complete. Results so far indicate that the better species (eg. *Microlaena* and *Danthonia* spp.) are widespread and occurring in greater frequencies than expected. The presence of desirable species means that many landholders have a choice in the further development of these particular pastures.

On the other hand, many landholders set-stock, a practice which makes it more difficult to change botanical composition. Landholders can re-sow, or alternatively, make use of a plant resource that is already there, and increase the proportion of the better grasses through appropriate management. Sustainable production can be maintained or increased without the need to destroy existing species, or spend money introducing new species.

Three native grass associations have been recognised, and management aspects of each are being investigated at three sites representing each association (*Bothriochloa* - red grass, *Microlaena* - weeping grass, *Stipa* - spear grass). Sites are located in the Bathurst, Goulburn and Dalgety districts. At each site, six levels of superphosphate and two grazing management treatments are being compared. The effect of these treatments on growth, ground cover, recruitment etc. will determine the best way of encouraging the desirable grasses at the expense of the less desirable grasses. This approach is being aided by studying the phenology (development patterns) of all the species present.

Landholder awareness of the potential of native pastures is being addressed by holding field days, preparing posters, and running identification workshops. Dried grass seedheads are being laminated and compiled in a loose-leaf binder as a field aid to assist in the recognition and identification of native grasses. This is to help correct the situation where most landholders readily recognise the least useful species (eg. *Aristida*, *Themeda*), while the more desirable species (eg. *Microlaena*, *Danthonia*) are largely unrecognised.