Austrodanthonia - a productive pasture genus: a brief review.  
1. Occurrence and importance

○Anowarul ISLAM1,3, Peter DOWLING1, Denys GARDEN2 and Paul MILHAM1 (1NSW Agriculture, Orange, Australia; 2NSW Agriculture, CSIRO, Canberra, Australia; 3Faculty of Agriculture, Miyazaki University, Japan)

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Introduction
There is a general view that Australian native grasses are not well adapted for grazing and that they are inferior to exotic species (Whalley 1970). Donald (1970) and others concluded that native grasses are incapable of high levels of production in the temperate zone of Australia. However, the comparisons on which these conclusions were based appear flawed. The exotic species were heavily fertilised whereas the native pastures received nil or little fertiliser. In most cases, native pastures were set-stocked for longer periods than the introduced pastures, with no attempt being made to remove dry herbage accumulated after summer before the commencement of grazing (Johnston et al. 1999). In addition, a longer-term comparison may have indicated a tendency for the exotic sown pastures to decline in persistence (Kemp and Dowling 1991; Garden et al. 2001; Mitchell et al. 2001). Finally, Jones (1996) has suggested that many comparisons of native and exotic grasses have compared plants of different ages, with recently sown exotic plants being compared to native plants which were several years old. Therefore, there may be real potential for using native grasses as productive pasture plants. The potential of Australian grasses as pasture plants thus needs re-evaluation. In the USA an analogous process has resulted in about 50% of the forage plants seeded into range and perennial pastures being of native origin (Lodge 1992).

Classification, occurrence and distribution
Austrodanthonia spp. were originally part of the Danthonia genus - approximately 150 species worldwide (Wheeler et al. 1990). Distribution is extensive, and mainly in the Southern Hemisphere (Cashmore 1932). The original Danthonia genus was cosmopolitan and found in temperate areas of Australia, New Zealand, South Africa, South and North America, Europe and Asia (Breakwell 1923; Cashmore 1932). Recently, the whole Danthonia genus was revised and most of the 33 Australian species were moved to a new genus, Austrodanthonia (Linder 1997).

Austrodanthonia spp. are well adapted to conditions of low fertility, and are common in areas where soil fertility, rainfall or temperature limits productivity (Cashmore 1932). In New South Wales, Australia the genus is common on the slopes and tablelands (Garden et al. 2001) and species are considered to be important grasses (Fig. 1), due to their high tolerance of frost and good winter growth - a valuable attribute for the sheep and cattle industries (Breakwell 1923).

Importance
There is increasing interest in the development of Australian perennial native grasses for agricultural purposes, particularly to decrease the degradation of hill-slopes and to lower the rates of soil acidification and dryland salinisation. Therefore, it is important that the pasture systems should contain a combination of C3 and C4 species, which are capable of using water and providing ground cover throughout the year, especially summer (Johnston et al. 1999). The role and potential of native grasses were assessed by many researchers. For example, Johnston et al. (1999) assembled a wide range of potentially useful species and genera, and selected five potential cultivars for release (Mitchell et al. 2001). Because of such releases, there is an urgent need to evaluate inter- and intra-specific differences in traits of native grasses including: persistence, productivity, palatability, forage quality, tolerance of drought and soil acidity, as well as the potential to decrease soil erosion and water movement (Johnston et al. 1999). Tolerance of acidity is likely to be an important attribute for such grasses, as many of the areas where they are likely to be grown have acidic soils. Among the perennial native grasses, Austrodanthonia is regarded as a highly productive genus (Archer and Robinson 1988; Dowling et al. 1996) and is the subject of this review.
References:
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