

THE EVALUATION AND SEED PRODUCTION OF SELECTED NATIVE AND INTRODUCED FORAGE SPECIES FOR WESTERN NEW SOUTH WALES

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Rehabilitation of degraded pastures and marginal cropland in western New South Wales is a major theme of pasture research being undertaken by NSW Agriculture & Fisheries. The lack of seed supplies of suitable species has been the major limitation to this research in the past. A seed increase nursery has now been established at the Agricultural Research Centre, Trangie to provide seed for the following programs:

1. Pasture establishment on the cracking clay soils of north western NSW:
 - * Little is known about the technology of how and when to sow suitable species on these soils with the greatest chance of success.
2. Management of the woody weed invasion of soft red and calcareous soils in the Western Division.
 - * The aim of plant introduction for the semi-arid woodlands is to provide a nutritious, palatable and persistent forage source, and to increase the fuel for shrub-controlling fires.
3. Improving pasture production on deep, sandy and acid soils of southern Australia:
 - * *Serradella* (*Ornithopus* spp.) is one of the most promising low cost avenues for improving production from these soils where subclover, and most other legumes, fail to thrive. Two cultivars (cvs. Avila and Elgara) were recently released for commercial sowings in NSW.

Methods

The seed nursery currently consists of over 115 genotypes shown in Table 1, being grown under a trickle irrigation system. There are four main stages: Stage 1: Single row sowings of most species introductions to develop a knowledge of seed production physiology and to determine the ease of domestication of native species. Assessments are made of seedling vigor, flowering behaviour, seed retention and seed yield and the data are entered into a computer database.

Stage 2: Species selected by agronomists for further evaluation in district trials are sown in small blocks for larger seed increase.

Stage 3: Large scale seed increase of a limited number of species immediately prior to registration and commercial release. Area also allocated for maintenance of nucleus seed.

Stage 4: Investigations in seed production technology will be carried out on a limited number of promising species to facilitate commercialisation.

Table 1. Genotypes in seed nursery at Trangie

Plant classification	Number of genotypes
Native grasses	11
Exotic grasses	23
Saltbush	3
Serradella	78

This work is being conducted in association with research agronomists and district agronomists of NSW Agriculture & Fisheries at Cobar, Bourke, Walgett, Dubbo and Coonabarabran.