Alternative legumes produce and persist well on mildly saline acid soils of central Victoria

Pedro Evans* and John McIntyre
DNRE

Twenty-seven commercial grasses or legumes were sown near Ararat, Victoria, on 31 May 2000, in comparison with seventy-three accessions/experimental varieties. The soil is a grey sandy loam, with a pH in CaCl2 of 4.5. Electrical conductivity (1:5 water) is 1.19 dS/m and conductivity of the soil saturation extract is 16.66 dS/m. The average annual rainfall is 500 mm.

Average seedling counts were 383 plants/m2. Persian and balansa clovers established well, as did *Trifolium glomeratum, T. clusii* and *T. isthmocarpum*.

Balansa clover showed the highest production in late spring with Bolta and HAM 13282 producing more than 10 t/ha of dry matter. Average for all treatments was 4.8 t/ha. *T. isthmocarpum* and Paradana balansa clover produced 75% more than the average yield of all entries.

Balansa clover again had the highest seed yields of around 500 kg/ha, producing more than 2.5 times the average seed yield for all entries. Other species producing similar quantities of seed were *T. argutum* (HAM 13258), *T. glomeratum* (HAM 11865), *T. nigrescens* (HAM 13280; HAM 13293) and *T. retusum* (HAM 13290).

The balansa lines and cultivars regenerated at more than double the average for the site. However, other species are performing well such as the subterranean clovers Leura and Trikkala and the pink serradella Cadiz. The highest regeneration was that of *Trifolium bocconii* (HAM11660) with more than 9 times the average for the site. *Lotus spp* and *T. isthmocarpum* have regenerated at more that twice the average for the site. The trial established well and the results suggest that with the appropriate cultivars mild salinity and waterlogging represent an opportunity for high production. It is interesting to note that from a producer point of view there are several commercial options immediately available to use in this type of environment.

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