

THE NATIONAL WHITE CLOVER PROGRAM

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White clover (Trifolium repens) is the most important perennial legume in the temperate pasture areas of Australia. It occurs on 6 million hectares (Clements 1987) and the gross value of agricultural products derived from it is \$3,339 m (Curll and FitzGerald 1988). White clover contributes to Australia's grazing industries through its value as a nutritious feed and its capacity to improve soil fertility and consequently, the growth and quality of companion grasses. However white clover lacks persistence, its presence and yield fluctuates widely from year to year and from environment to environment, and it promotes bloat in cattle.

Despite the importance of white clover and its genetic diversity, there has been no co-ordinated effort in Australia to select or breed improved cultivars. In contrast there are improvement programs for subterranean clover, medics and lucerne. A proposal for white clover improvement was developed at a national workshop convened by NSW Agriculture & Fisheries and financed by the Australian Wool Corporation. Subsequently, the National White Clover Program commenced activities in 1988. Its aims are to develop improved cultivars for environments where white clover is currently used, and for environments at present marginal for white clover. The program is based at Glen Innes and will be carried out in co-operation with State Departments of Agriculture, CSIRO, and other research organisations. The Australian Wool Corporation has provided funds to help establish the program.

The first stage of the program involved (i) assembling a collection of white clover cultivars and ecotypes from local and overseas sources, and (ii) establishing a resource centre to maintain the collection. Seed of 380 cultivars/ecotypes has been collected. Following characterisation of the collection for persistence, productivity and nutritive value, plant types appropriate to different environments in NSW, Victoria, Tasmania and elsewhere, will be selected for regional testing.

The Resource Centre will also be responsible for seed increase and distribution of promising cultivars (state and national) for regional testing. A computerised data base is being developed to store information collected from the program. This will assist in plant selection, enable rapid identification and efficient distribution of seed for testing, allow easy information access and transfer, simplify search procedures for other researchers, and assist in making cultivar recommendations to producers.

The success of the program will depend on complementary research to identify and refine criteria that can be used to select for improved environmental adaptation, seasonal yield, predator tolerance, persistence under grazing and feeding value (including freedom from anti-nutritional factors).

REFERENCES

Clements, R.J. (1987). An Australian white clover breeding program: justification, objectives, timing and resources needed. Proc. Spec. Wkshop on National White Clover Improvement pp. 4.0-4.5.

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