

Persistence of Mt. Barker subterranean clover

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Mt. Barker has been the standard variety of subterranean clover in the medium to high rainfall zone of Victoria since pasture improvement began. It has the reputation for persisting in spite of attempts to replace it with more productive varieties.

Seed yield is an important factor likely to determine success or failure of a variety when grown in a mixture (Rossiter and Palmer 1981). Cropping for several years to reduce the seed reserves of an existing variety of subclover is often recommended as a means of establishing a new variety, but success will depend on whether the new variety can prevent the build-up of the old.

Method

A small sward trial of 8 subclover varieties was sown by hand near Kyneton (mean annual rainfall about 780 mm) in May 1983. The site was an old Mt. Barker pasture which had been cropped for 5 years, and sprayed with Sprayseed shortly before sowing to kill any germinating subclover. Plots were 4m x 1.4m, treatments were replicated 4 times and the seed was sown in rows 20cm apart at 32 kg/ha.

The plots were mown twice in the first year and 4 times in the second and third years. Seed yield was measured each summer by taking 2 quadrats of 400 sq cm to a depth of 3 cm from each plot. Seed was extracted, counted and weighed, and a sample of the black seed grown-on to determine varietal composition.

Results and Discussion

Establishment was good and all plots maintained a dense sward of almost pure clover for 3 years. Seed yields were high, ranging from about 100 to 250 gm/sq m.

Total seed yield and composition are shown in the table below.

Variety sown	1983		1984		1985	
	No/dm ²	% Mt. Barker	No/dm ²	% Mt. Barker	No/dm ²	% Mt. Barker
Mt. Barker	197		285		417	
Karridale	239	2	389	1	597	3
Enfield	366	3	462	2	524	6
Woogenellup	131	2	176	6	203	13
Junee	198	4	331	6	513	34
Trikkala	193	4	274	12	426	36
Larisa	162	6	199	9	291	25
Meteora	161	2	226	18	371	42
LSD 5% (all years)	61	8				

Over the 3 years there was a significant increase in the percentage of Mt. Barker in the seed harvested from plots sown to Junee, Trikkala, Larisa and Meteora, but very little in the Karridale and Enfield plots.

These results suggest that in a paddock situation in this area, where the density of the clover would be less than in these plots, Mt. Barker would be likely to remain a major component of the sward when most of these varieties were sown.

Reference

1. Rossiter, R. C. and Palmer, M. J. 1981. Aust. J. Agric. Res. 32. 449-92.