An interim report on the performance of a binary mixture of subterranean clover strains.

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Two new cultivars of subterranean clover, Enfield (1) and Larisa (2), are now available and could replace Woogenellup and Mt. Barker in permanent pastures in the higher rainfall zone of Victoria, i.e. >625 mm.

Enfield has a high seed yield and a high level of soft seed; this ensures a dense germination and potentially good autumn and winter growth. Larisa has better growth in late spring which could be used for hay. Enfield also has good tolerance to clover scorch and Larisa is resistant to root rot and has some tolerance to scorch.

It is possible that a mixture of the two could lead to higher production and better clover persistence and thus reduce the clover decline which is considered a major problem in the higher rainfall zone of central Victoria.

Method

A small sward trial was sown in May 1983 at Kyneton (average annual rainfall about 700 mm) with four commercial cultivars in pure swards and mixtures of Enfield and Larisa in various proportions by weight. Plot size was 4 x 1.4m with four replicates. The plots were sampled for herbage yield with a rotary lawn mower as often as growth permitted. Seed yield was measured by taking two quadrats each 20 cm square to a depth of about 3 cm from each plot.

Results and Discussion

Herbage dry matter and seed yields are shown in the table below.

	Herbage yield DM g/sq.m.			Seed Yield	Ratios of seed set.	
	to 9/11/83	8/12/83	20/6/84	g/sq.m.		
Woogenellup	224	29	118	110		
Mt. Barker	167	111	38	143		
Enfield	197	67	131	183		
Larisa	55	114	28	135	Enf.	Lar.
Enf. 10% Lar. 90%	98	97	99	153	52	48
Enf. 20% Lar. 80%	133	92	108	173	58	42
Enf. 50% Lar. 50%	152	68	120	173	79	21
Enf. 80% Lar. 20%	168	60	122	182	95	5
Enf. 90% Lar. 10%	176	65	126	192	98	2

In the year of sowing, with good spring rain, Larisa produced comparable late spring growth, suitable for hay, to that of Mt. Barker. However all the Enfield-Larisa mixtures produced less growth than the pure Larisa sward.

In the following autumn the production of Enfield and the mixtures was similar to that of Woogenellup and much greater than that of Larisa alone. This increase in autumn-winter production obtained by sowing a mixture instead of Larisa would need to be balanced against the loss of production in late spring.

In spite of the good spring which would have favoured Larisa, the marked change in the ratios of Enfield and Larisa seed caused by the high seed yield of Enfield suggests that Enfield could rapidly become dominant in all the mixtures. The experiment is being continued to study the long term effects.

1. Register of Australian Herbage Plant Cultivars, 1982. J.Aust.Inst.Agric. Sci. 48, 127-8.

2. Register of Australian Herbage Plant Cultivars - Supplement to the 1972 edition, 1982. 47-8.