

Persian clover in the Murrumbidgee Valley

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Persian clover (*Trifolium resupinatum*) is grown in irrigated situations in south-western N.S.W. as an alternative to sub clover (*T.subterraneum*) for the production of high quality forage from autumn to early summer. Susceptibility to rust and lack of hard seed are major drawbacks of cv. Moral. However, a new release, cv. Kyambro, offers improvement in both characters (1). Accessions (1) and overseas commercial lines were compared to Moral to assess their suitability for the Murrumbidgee Valley.

Methods

Fifteen lines were sown in a replicated small plot field experiment on Gogeldrie clay (Ug5.28) in May 1987. During year 1 the trial was grazed once (September) and growth, density, flowering and senescence were observed. In year 2 irrigation commenced in mid-February and regeneration was gauged by plant density in March. Rust resistance, herbage yields and in vitro digestibility (%DOMD) were measured in May.

Results and discussion

The earlier lines reached full flower by late October and senesced by early December. The later lines commenced flowering in November, and senesced late January. Regeneration of Kyambro in year 2 was not significantly different to that of Moral (Table 1). Kyambro yielded significantly more than Moral, Felix, Nupin and 14430. All lines showed better rust resistance than Maral, with Kyambro, 14426 and 14433 unaffected. There was no significant difference between varieties in digestibility (67.5 - 70.7% DOMD).

These results confirm the advantages of Kyambro over Moral in rust resistance and yield and indicate that it would suit the Murrumbidgee Valley in this context. The good autumn growth of Kyambro overcomes a crucial feed gap while its earlier maturity is important if water is limited in spring. Later maturity, however, is preferable for livestock requirements. Further studies are needed to establish the level of hardseededness required for this situation. Other lines showing promise warrant further evaluation.

Table 1. Characteristics of 15 Persian clover lines.

Variety	Origin*	Maturity**	Rust#	Density##	Yield(t/ha)	
Kyambro	Turkey	E	3.0a	2.3abc	1.90b	A,B=different
Maral(A)	Portugal	L	1.7bc	2.7ab	1.33bc	seed sources
Maral(B)	Portugal	L	1.3c	2.0abc	0.83cd	* na=not avail.
Felix	na	L	2.7a	1.7bc	0.73cd	**E=early
Nupin	na	L	2.5ab	1.7bc	0.67d	L=late
Stemher	na	E-M	2.3ab	2.3abc	1.57b	# 1=susceptible
Lupers	na	L	2.3ab	2.3abc	1.47b	3=resistant
4763	Afghanistan	E	2.7a	3.0a	2.67a	##1=poor
12239	Turkey	E	2.3ab	2.7ab	1.50b	3=good
14426	Syria	E	3.0a	1.3c	1.57b	
14430	Syria	E	2.7a	1.3c	0.59d	NB. Lines with the
14433	Iraq	E	3.0a	1.7bc	1.87b	same postscripts
18333	na	E	2.5ab	2.7ab	1.73b	are not signif.
18900	Iraq	E	2.8a	2.3abc	1.67b	diff.
19713	na	E	2.2ab	3.0a	1.93b	P<0.05
LSD(5%)			0.9	1.07	0.64	

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