

## The potential of *Medicago murex* as a new legume species for the eastern wheat belt

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Annual legumes are sown extensively in eastern Australia to improve soil N levels and the quality and quantity of feed for livestock. While subterranean clover is the dominant legume grown in the 450 mm + rainfall zone of the eastern wheat belt, existing cultivars have two major limitations. Midseason to late maturing cultivars have relatively low levels of hardseed which can result in large fluctuations in seedling populations, depending on the amount of summer rainfall and the frequency of false breaks prior to the season. Another problem is that after spring, herbage availability and quality declines markedly due to rapid senescence and decay of the legume.

*Medicago murex*, (*murex*) a new legume species being developed in Western Australia, has potential to overcome reduce these limitations. This species has a similar maturity to midseason subclover cultivars but is reported to have significantly higher levels of hardseed. Like some other medics, its growth habit is less determinate, with the ability to stay greener longer into summer when conditions permit. This paper reports an experiment in which a number of *murex* lines were compared with subterranean clover and barrel medic.

### Methods

Five lines of *murex* and three cultivars each of subterranean clover and barrel medic were sown into a red-brown earth (pH 4.8 CaC1<sup>2</sup>) at Temora (av rainfall 520 mm p.a.) in May 1985. Plot sizes were 2mx4m with three replications. The plots have been rotationally grazed by sheep.

### Results and Discussion

Spring dry matter yields of *murex* were similar to the other legumes. The *murex* lines varied in flowering time by about 11 days with the later lines having a maturity similar to Woogenellup. A summary of the results is presented in the table below.

Species/Cultivar	Days to 5% flowering	Herbage yield kg/ha	Seed set kg/ha	Hardseed %	Regeneration plants/m <sup>2</sup> 1986
<i>Murex</i> 5320	130	1887	1040	60	722
50.3	139	3345	861	66	1705
53.1	136	4172	1069	62	2216
64.4.1	141	4005	1085	60	2091
64.11.1	136	4135	1183	48	2673
71.3	136	4065	1026	77	2043
Jemalong Barrel medic	127	3278	687	69	839
Woogenellup subclover	138	4323	1523	2	3252
S.E.D.	2.2	282	204	18	584

Seed set by all the *murex* lines was good with most exceeding 1000 kg/ha. Although the *murex* set a high proportion of hardseed, regeneration was sufficient to produce a dense sward in the following year. Subsequent herbage production in 1986 and regeneration in 1987 has confirmed that *murex* is well suited to the red brown earth soils of the eastern wheat belt.