

Strawberry
clover - the
great
persister



Strawberry clover in the pink

While lucerne deserves its title as the leading perennial legume, across wide areas of the high rainfall zone of south-east Australia lucerne will not persist.

And currently, the choice of perennial legumes is limited, especially if white clover fails to survive when summer rainfall is below average.

Strawberry clover, the biennial, alsike clover, and a range of lotus cultivars are showing potential at DPI Victoria's Hamilton Centre.

After four years of trials strawberry clover is covering nearly 100 per cent of the ground, and the only other clover which has exhibited this type of persistence in this area is annual subclover. However, strawberry clover is a perennial, so it will produce in summer if occasional rain is received and will be well ahead of subclover in the autumn when the subclovers are only seedlings.

Lucerne is widely sown, although it suffers from severe limitations which restrict its use, including a lack of tolerance to set stocking; susceptibility to waterlogging; and sensitivity to acid soils and high aluminium levels.

The species likely to be viable alternatives to lucerne in the high rainfall zones include strawberry clover in wet and mildly saline patches and the lotus species in wet and acid soils.

In a four-season trial, 56 perennial legumes were evaluated at Hamilton beginning with an August, 2002 sowing of *Lotus corniculatus*, *L. glaber*, *Medicago sativa*, *Trifolium africanum*, *T. burchelianum*, *T. fragiferum*, *T. hybridum*, *T. ochroleucon*, *T. panonicum*, *T. physodes*, *T. pratense*, *T. repens* and *T. tumens*.

Commercial cultivars used as controls were Colenso red clover, Demand white clover, Mink white clover, Palestine strawberry clover and Sceptre lucerne. Seed was inoculated with appropriate rhizobia and fertiliser applied at 250 kg/ha of single superphosphate and 150 kg/ha of potash.

Highlights

> Perennial legumes for high rainfall, acid areas

> Strawberry clovers and lotus perform well in drought

> Palestine strawberry clover highly productive and persistent



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The trial was grazed intermittently with sheep for 12 months after establishment and after each dry matter assessment. The first dry matter assessment was made in August 2003.

Rainfall over the trial period was variable. While the mean annual rainfall for the site is 688 mm, the annual rainfall over the 2002-05 period was 561, 728, 728 and 541mm. Rainfall during January-March 2003 and 2004 was above average, as was rainfall during January-February 2005.

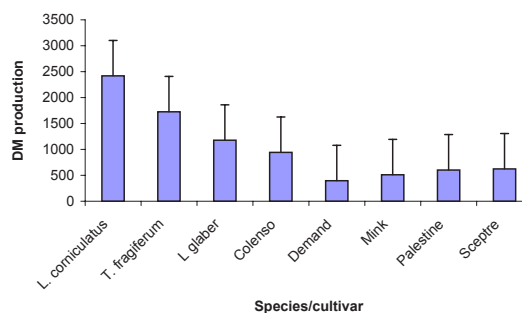
Overall the best performances were from the strawberry clover (*T. fragiferum*) lines, which were highly productive and persistent across seasons and years. Importantly, the commercial cultivar, Palestine strawberry clover is readily available for sowing.

Alsike clover performed well in the earlier years, but has failed to perform in the current drought conditions. The commercial white clover cultivars Mink and Demand persisted well until spring 2005.

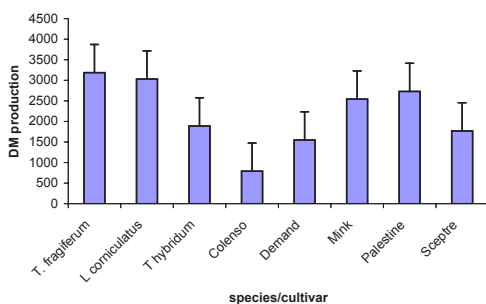
Lucerne declined in numbers and production throughout the trial and made little contribution to the sward after the first year.

Autumn production

Lotus corniculatus yielded more than twice that of any of the commercial lotus cultivars in autumn, suggesting it could play an important role in helping to fill the late summer-autumn feed gap. Currently the best late maturing annual legume for the area, late maturing arrowleaf clover, does not extend its growth period past early February.



Alsike clover out-produced Demand and Mink white clovers, Palestine strawberry clover and Sceptre lucerne during the autumn.



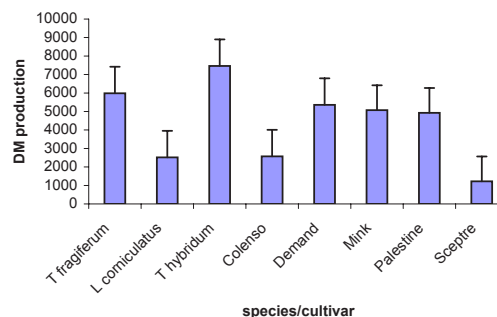
Winter production

A strawberry clover and a lotus line produced around 3t/ha of dry matter, while biennial alsike clover out-produced the biennial control, Colenso red clover. Mink white clover and Palestine strawberry clover were the most productive commercial cultivars.

Spring production

The new strawberry clover lines performed slightly better than Palestine, the commercial control, while *Lotus corniculatus* performed poorly, although still better than lucerne.

Demand and Mink white clovers performed well.



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