

Seed yield from *Medicago murex* grown alone and with Subclover

J.A. Fortune^a, W.R. Stern^a and C.W. Thorn^b

^aSchool of Agriculture, University of Western Australia, Nedlands WA 6009. ^bWA Department of Agriculture, Moora 6510

Medicago murex has the ability to colonise acid soils so that it can be grown in similar areas to subterranean clover (1). We report results of the ability of *M. murex* cv. Zodiac to set seed when sown alone and in mixture with subterranean clover.

Methods

A monoculture of cv. Zodiac, a mixture of clover cvs Seaton Park and Junee, and a mixture of Seaton Park, Junee and Zodiac were sown on 25 May on a loam soil (pH 5.6-6.0) in a 500mm rainfall zone near Kojonup. Sowing rates were 15kg/ha, and in the mixture, 7.5kg/ha of each species. All seed was inoculated, lime pelleted and sown with adequate fertiliser. Each 0.67ha plot was replicated 3 times. Sampling was on 12 Oct. 1988 (140 days) when all plants were flowering and on 13 Dec. 1988 (202 days) when stands were mature. Nine 0.1 m² quadrats per plot were taken to determine dry matter, and on six of these soil was recovered to a depth of 5cm to determine seed yield. Plots were ungrazed.

Results and discussion

Dry matter production in all treatments was similar with Zodiac appearing to grow more slowly early in the season. Thus Zodiac contributed only 27% of the dry matter in the mixture at 140 days.

Table 1: Dry matter production and seed yields

| | Clover | Medic | Clover* & Medic** |
|----------|-----------------------------------|--------------|-----------------------------------|
| | ----- | | |
| | Herbage dry matter (kg/ha ± S.E.) | | |
| | ----- | | |
| 140 days | 3736 ± 89 | 2642 ± 239 | 3523 ± 139 |
| 202 days | 5029 ± 362 | 4760 ± 376 | 5054 ± 802 |
| | ----- | | |
| | Seed yield (kg/ha ± S.E.) | | |
| | ----- | | |
| 202 days | 400.5 ± 79.5 | 341.3 ± 34.3 | 278.8 ± 40.1 (217.5* & 61.3**) |

Seed yields did not differ between the subclover or medic only plots but were significantly less in the mixture in which Zodiac produced only about 20% of the total seed yield. Relative to the "monocultures", subclover showed a yield reduction in the mixture of about 45%, while Zodiac was reduced by 80%. The reduced ability of Zodiac to produce seed in mixtures is important if it is to be sown into areas that may have large reserves of subclover seed where there could be a problem of generating adequate seed numbers in the first year, and of nurturing these, if the numbers are low.

1. Gillespie, D. (1988) *Murex medic* - A new pasture species. J. Agric. W.A. 29:132-8.