Medics for the Victorian Mallee and Wimmera - progress and future needs

R.L. Amor[1], P.E. Quigley[2], R.A. Latta[2] and J.W. Eales[3]

[1] Victorian Crops Research Institute, Horsham, Vic. 3400.
[2] Mallee Research Station, Walpeup, Vic. 3507.
[3] Department of Agriculture, Horsham, Vic. 3400.

Although there has been a steady increase in the area of grain legumes being grown on cereal farms in the Victorian Mallee and Wimmera, there is a continuing need for improved cultivars of annual medics to provide sheep feed and to maintain soil fertility. It is thus timely to review the actual extent of damage caused by the blue green and spotted alfalfa aphids and by sitona weevil since the initial concern about them in 1977 and to assess the impact of the breeding and selection programmes initiated by the South Australian Department of Agriculture to develop insect resistant cultivars. Observations in field trials and commercial crops have shown that in the Mallee the spotted alfalfa aphid has rarely been of concern. that the blue green aphid was present in most years causing extensive damage under dry conditions and that in the Wimmera the sitona weevil has generally been a major problem.

Evaluation of a range of South Australian material in Victoria in 1980 to 1983 showed that *Medicago truncatula* cv. Paraggio and *M. truncatula* SA15257 produced significantly more early dry matter than *M. truncatula* cv. Jemalong. They also produced a higher weight of seeds/ha and regenerated better.

M. scutellata (cv. Sair and Sava) and *M. rugosa* (cv. Paraponto and Sapo) generally produced less herbage and seed than the *M. truncatula* group and are considered to have less potential for the regeneration. In the past *M. scutellata* has exhibited poor regeneration.

The immediate practical outcome of the Victorian evaluation programme has been the recommendation of Paraggio as an aphid resistant medic which produces more early herbage than Jemalong. Further requirements for medics in north-west Victoria include a blue green aphid resistant replacement for *M. littoralis* cv. Harbinger for sandy soils in the Mallee, an aphid and sitona weevil resistant replacement for *M. truncatula* cv. Borung for clays in the Wimmera and medics suitable for the hardsetting neutral red duplex soils in the eastern part of the region.

Recently, it has been found that root rot organisms *(Pythium, Fusarium* and *Rhizoctonia)* are more common on Wimmera soils than on sandy and drier Mallee soils, and that some cultivars, e.g., *M. truncatula* cv. Jemalong are more prone to root rot than others, e.g., *M. truncatula* cv. Raraggio (T. Bretag, pers. comm.).

It is concluded that medics are required which have a sufficient level of hard seeds to withstand periods of cropping, although in the future there may be a trend towards sowing special purpose pastures at higher seeding rates rather than relying on natural regeneration. Other requirements are early dry matter production and resistance to blue green aphid, sitona weevil and root rots.

Percentage of comparisons in which significantly (P=0.05) better than Jemalong control

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	Paraggio	15257	Harbinger	Sair	Sava	Paraponto	Sapo
Early dry matter	83	100	43	20	0	20	0
Seed production	57	50	14	11	22	0	0