

SAGIT COL STOCK JOURNAL

Prat-proof medics

While medics can reduce the number of crop-damaging root lesion nematodes present in cropping soils, they may suffer damage in the process.

Accordingly SA researchers are involved in plant selection efforts aimed at finding medic lines with high levels of tolerance to these pests. These lines suffer far less root damage and the best are being used in crossing programs with locally-adapted medic varieties.

The principal target is the nematode, *Pratylenchus neglectus*, because it is widely-distributed.

Research scientist with the SA Research and Development Institute, Rachel Hutton, said the search had located four 'wild' strand medics with improved nematode-tolerance qualities.

"Now we have a hybrid which is a cross between one of these and Herald strand medic," she said.

"We need to further test and select progeny for say, two or three years before beginning field testing. The wild parent of the hybrid is also tolerant to *Pratylenchus thornei* – another root lesion nematode."

Mrs Hutton said the emphasis in the program, supported by the SAGIT and the GRDC, was ultimately to produce a nematode-tolerant strand medic because this was the pasture species of most significance in lower to medium rainfall areas where plant damage from root lesion nematodes could be high.

"We are optimistic that the release of a tolerant strand medic variety could increase pasture production by 10 per cent in soils with a high number of *P. neglectus*," she said.

"An increase in pasture yield means more fixed nitrogen, representing a significant saving in potential nitrogen inputs which can make up to 30 per cent of the costs of crop production. Another spin-off would be better livestock carrying capacity.

"Work is also proceeding with efforts to improve nematode tolerance in barrel medics, balansa clover and lucerne.

"We have found a couple of balansa clover lines which have tolerance and ultimately would like to get this tolerance into the variety, Frontier," Mrs Hutton said.

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