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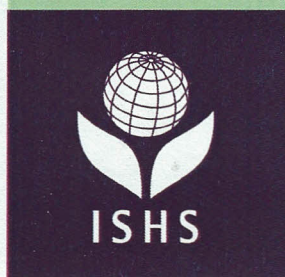
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A PYRAMIDING STRATEGY FOR RESISTANCE TO ROOT-KNOT NEMATODES MELOIDOGYNE SPP. IN PRUNUS ROOTSTOCK MATERIAL

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Many *Prunus* species are used pure or in interspecific crosses as rootstocks for apricot, peach or almond crops. The wide genetic variability within the *Prunus* genus allows to breed a high diversity of rootstocks. Besides their graft-compatibility with the variety, rootstocks need a vigor fitting the growing system and an adaptation to the different types of orchard soils that may notably be waterlogged, dry or calcareous. However, stone fruit crops *Prunus* spp. grown under mediterranean climates are severely damaged by root-knot nematodes (RKN) *Meloidogyne* spp. and breeding for RKN-resistant rootstocks is a promising control alternative to nematicide ban. Resistance (R) genes that confer different spectra to the predominant species *M. arenaria*, *M. incognita* and *M. javanica* have been identified and mapped in plums (Ma and Rjap), peach (RMia) and almond (RMja). Thus sustainable resistance in *Prunus* is based on pyramiding of R genes in interspecific rootstock material to take into account the risk of resistance breaking in the durable plant-nematode interaction for perennials. In the INRA rootstock breeding program, marker-assisted-selection (MAS) for the Ma and RMia genes have been developed and some hybrid rootstocks carrying one or two R genes have been preselected. In Morocco, first trials in peach orchards infected with several RKN species have confirmed the expected R spectrum of these preselections in comparison with the susceptible control rootstock GF677. Identification of markers for the RMja almond gene will open the way to MAS of interspecific rootstocks 'almond x peach x plum' carrying three genes, one from each *Prunus* species.

Keywords: Rootstock breeding, Nematodes, Resistance, *Prunus*, stone fruit