FINAL REPORT

Chemical control options for plant-parasitic nematodes associated with soybean in South Africa
M151/60

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Abstract

Significant yield losses in soybean is an imminent probability since no nematicides are locally registered on the crop. In addition, local soybean production is currently extending into production areas with sandy soils where root-knot nematode infestations are known to cause maize yield losses. As a result various nematicides were evaluated in this study to assist in the recommendation of agents for registration for the control of plant-parasitic nematodes on soybean. Three field trials were conducted during the 2004/05 growing season in the Nelspruit, Vaalharts and Hammanskraal areas where natural infestations of root-knot nematodes occur. Significant differences existed at all three localities among the 14 nematicide treatments with regard to the number of root-knot nematode eggs and larvae per 50 g roots. Three nematicide treatments maintained significantly lower root-knot nematode numbers at all three localities during 2005/06 and thus show potential to reduce root-knot nematode numbers most effectively compared to untreated controls. Other treatments also maintained significantly lower root-knot nematodes on one or two localities during 2005/06. Those treatments could, therefore, also be considered for registration on soybean, but residue data should be obtained before final decisions are made with regard to registration. In terms of yield no statistical differences were obtained among the 14 treatments. Environmental conditions (i.e. excessive rains) and soil characteristics (pH, etc.) may have contributed to this condition and these factors should not be ignored when nematicides are considered for registration purposes. Data obtained as a result of these trials, however, indicate that nematicide treatment on soybean may offer substantial relief to producers where root-knot nematodes occur.