

SUSCEPTIBILITY OF SOME FIELD CROPS TO THE INFECTION OF CERTAIN NEMATODE GENERA IN EGYPT

By

S.E. SHAFSHAK, ELSAYED SHOKR, F.M. SALEM,
A.A. EL-HOSARY and A. BARAKAT

ABSTRACT

In a pot experiment certain cultivars of winter and summer field crops were evaluated for their resistance to some common nematode genera in Egypt. Results indicated that in winter crops wheat cvs. Giza 157, Giza 155 and Chenah 70; barley cv. Giza 121; and clover v. Meskawy were resistant to Pratylenchus zeae. Faba bean cv. Romy was resistant to Meloidogyne javanica. On the contrary, faba bean, cultivar Giza 1; wheat cvs. Giza 157, Giza 156 and Chenab 70; and Egyptian lupin cv. Balady were highly susceptible to M. javanica. Wheat cv. Giza 157; faba bean cvs. Giza 1 and Giza 3 were highly susceptible to M. incognita race 3. Faba bean (Introduction 155), flax cv. Rauliuns; and fenugreek cv. Balady were highly susceptible to P. zeae. The other hosted cultivars of winter field crops varied in their reaction to root-knot and lesion nematodes. Root-knot and lesion nematodes significantly affected dry weights of the tested winter field crops. In summer field crops, sesame cv. Giza 23 was resistant to M. javanica and M. incognita race 3, but it was susceptible to P. zeae. Cotton cvs. Giza 70 and Giza 74 were resistant to M. javanica, but they were susceptible to M. incognita race 3 and P. zeae. On the contrary, soybean cv. Williams was resistant to P. zeae but it was susceptible to the two species of root-knot nematodes.

INTRODUCTION

Nematodes have been found to cause yield losses to the infected crops (Hoveland et al., 1975 and Elkins et al., 1979). Field crops varied in their susceptibility to nematode infection (Yousif, 1972; Mc. Clure et al., 1974; Koura, 1975; Yassin, 1977 and Osman, 1977).

It is of economic importance to plant breeders to screen the susceptibility of available field crops cultivars and lines in Egypt to nematode genera dominated in Egyptian soil. The resistant materials would be of great importance in their breeding programs.

The aim of the present investigation is to evaluate certain cultivars of wheat, barley, faba bean, flax, Egyptian clover, Egyptian lupin, fenugreek, maize, soybean, sesame and cotton for their reaction and susceptibility to some common nematode genera in Egypt.

MATERIALS AND METHODS

Pot experiments were carried out during 1980, 1981 and 1982 at the Faculty of Agriculture, Menoufia University to evaluate the resistance of some winter and summer field crops of some