

## REACTION OF SUGAR BEET VARIETIES TO *MELOIDOGYNE INCOGNITA* ROOT-KNOT NEMATODE BASED ON QUANTITATIVE AND QUALITATIVE YIELD CHARACTERISTICS

W.M.A. EL-NAGDI, M.M.A. YOUSSEF AND Z.R. MOUSTAFA\*

*Nematology Laboratory, Plant Pathology Department,  
National Research Centre, Dokki, Cairo 12311, Egypt*

*\*Physiology & Chemistry Department, Sugar Crops Research Institute,  
Agriculture Research Centre, Giza 12619, Egypt*

### Abstract

Thirty varieties of sugar beet plant either as monogerm or multigerm seeds were evaluated for their productivity and susceptibility/resistance against the infection by *Meloidogyne incognita* root-knot nematode. All the tested varieties varied in the degree of nematode development and reproduction i.e., root damage index (DI). Of these, one variety was categorized as highly susceptible, 9 as susceptible and 20 as moderately resistant to nematode infestation. Host vigor is a new term in this study, which was calculated as an average of percentages root yield potential (as a quantitative characteristic) and sucrose and total soluble solids (as qualitative characteristics). The combination between host vigor and root damage index gives us a better evaluation and a clear correlation between nematode development, reproduction and sugar beet quantity and quality. Thus, 5 sugar beet varieties were rated as highly susceptible, 5 as susceptible, 8 as resistant and 12 as moderately resistant.