244 The susceptibility of cucurbitaceous plants to Meloidogyne incognita (Kofoid & White, 1919) Chitwood, 1949

Tímea ÁCS1,*, Béla PÉNZES1, Mariann ELEKES2, Antal FERENCZY1 and József FAIL1

1 Szent István University, Faculty of Horticultural Sciences, Mőnessi út 44, 1118 Budapest, Hungary
2 Central Service for Plant Protection and Soil Conservation, Laboratory for Pest Diagnosis, Budaörsi út 141-145, 1118 Budapest, Hungary
* timeaa@hotmail.com

Meloidogyne incognita is an important pest of forced cucumber. As there are no cucumber varieties resistant to Meloidogyne incognita, the use of cucumber plants grafted onto tolerant cucurbit species offers a highly effective, as well as an environmentally friendly means of control. Two cucurbit species, Sycios angulatus Harry and Cucurbita ficifolia, have been used by Hungarian growers as rootstock for cucumber. However, the tolerance level of these two species against M. incognita has not been fully elucidated. These two species, along with eight other previously untested species belonging to the Cucurbitaceae, were evaluated for their resistance to M. incognita. Tests were carried out under glasshouse conditions. The damage caused on the roots was assessed by using two six-graded scales (measuring size of galls and number of galls). Stochastic homogeneity test was used for statistical analysis. We found that the galls formed on the roots of S. angulatus Harry were small but abundant. Galls occurring on the roots of C. ficifolia were not only abundant but also large. Three cucurbit plants, Cucurbita pepo Alba, Cucurbita pepo Sárga óriás and Cucurbita moschata Orange, were identified as potential rootstocks for glasshouse cucumber.

245 Nematode losses in cotton in the USA

Donald J. BLASINGAME

508 Colonial Circle, Starkville, MS 39759, USA
Db508pb@aol.com

Cotton is grown on more than 15 million acres in 17 states in the United States. Plant parasitic nematodes have been found in every state where cotton is grown. Each year losses to diseases and nematodes are reported to the National Cotton Council by plant pathologist and nematologist in each state where cotton is grown. Compared to other plant diseases, nematodes are the largest cause of yield loss. In 2001 plant-parasitic nematodes accounted for an estimated loss of 979,357 bales valued at $381.9 million dollars. Root-knot was responsible for a loss of US$200.5 million, reniform for US$154.5 million, and other species for US$25.5 million loss. Beltwide losses due to nematodes have increased more than 50% in the past 10 years. Most experts say that economic losses have probably been underestimated in the past when losses due to nematodes were erroneously attributed to poor soil fertility, pH, or 'weak fields'. Improvements in properly identifying nematode damage have been made, thus impacting the perceived trend of increased losses due to these pests.

246 Meloidogyne incognita, a new threat to soybean production in Illinois

Jason BOND*, Michael SCHMIDT, Alan WALTERS and John RUSSIN

Plant, Soil and General Agriculture, Southern Illinois University Mailcode 4415, Carbondale, IL 62901-4415, USA
* jbond@siu.edu

Meloidogyne incognita is an emerging threat to crop production in southern Illinois. This pathogen has been identified in six soybean fields, eight vegetable fields and in five peach orchards. The potential impact of M. incognita to soybean germplasm in northern latitudes is unknown. In 2001, four soybean varieties (Pioneer 9481, Pioneer 9492, Gateway 493 and LS 94-3207) were selected and planted in infested fields. Nematode population densities were recorded at planting and every 6 weeks until harvest. At planting, the population density of M. incognita averaged eight juveniles/100 cm³ soil. Reproduction by M. incognita was higher in the plots planted to P 9481. At harvest, the population densities (juveniles/100 cm³ soil) were 508, 41, 37 and six for P 9481, P 9492, GW 493 and LS 94-3207, respectively. Across the four varieties, the increase in the population density of M. incognita was concomitant with a linear decrease in soybean yield.

247 Host suitability and damage thresholds of arable crops to the root lesion nematode Pratylenchus penetrans

E. BROMMER, T. VAN BEERS and L.P.G. MOLENDIJK

Applied Plant Research (PPO agv), P.O. Box 430, 8200 AK Lelystad, The Netherlands