

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

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*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**

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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**

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*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 cm<sup>3</sup> soil. Reproduction by *M. incognita* was higher in the plots planted to P 9481. At harvest, the population densities (juveniles/100 cm<sup>3</sup> 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***

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