

plant disease

Editor-in-Chief: Mark L. Gleason

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Disease Notes

First Report of *Meloidogyne enterolobii* on Cotton and Soybean in North Carolina, United States

W. M. Ye, Nematode Assay Section, Agronomic Division, North Carolina Department of Agriculture and Consumer Services, Raleigh 27607; **S. R. Koenning**, Department of Plant Pathology, North Carolina State University, Raleigh 27695; and **K. Zhuo** and **J. L. Liao**, Laboratory of Plant Nematology, South China Agricultural University, Guangzhou 510642, China

Stunted cotton plants (*Gossypium hirsutum* L. cvs. PHY 375 WR and PHY 565 WR) from two separate fields near Goldsboro in Wayne County, North Carolina were collected by the NCDA&CS Agronomic Division nematode lab for nematode assay and identification in December 2011. The galls on cotton plants were very large in comparison with those commonly associated with *Meloidogyne incognita* Kofoid and White (Chitwood) infected cotton. In August 2012, the lab also received heavily galled roots of soybean (*Glycine max* (L.) Merr. cv. 7732) from Wayne and Johnston counties. Population densities of the 2nd-stage juveniles ranged from 150 to 3,800 per 500 cc soil. Female perineal patterns were similar to *M. incognita*, but PCR and DNA sequencing matched that of *M. enterolobii* Yang and Eisenback (4). DNA sequences of ribosomal DNA small subunit, internal transcribed spacer, large subunit domain 2 and 3, intergeneric spacer, RNA polymerase II large subunit, and histone gene H3, were found to be 100% homologous when comparing populations of *M. enterolobii* from North Carolina and China. Species identification was also confirmed using PCR by a species-specific SCAR primer set MK7-F/MK7-R (2). *M. enterolobii* Yang & Eisenback was described in 1983 from a population causing severe damage to pacara earpod tree (*Enterolobium contortisiliquum* (Vell.) Morong) in China (4). In 2004, *M. mayaguensis* Rammah & Hirschmann, a species described from Puerto Rico, was synonymized with *M. enterolobii* based on esterase phenotype and mitochondrial DNA sequence (3). *M. enterolobii* is considered to be a highly pathogenic species and has been reported from vegetables, ornamental plants, guava, and weeds in China, Africa, Central and South America, the Caribbean, and Florida in the United States (1,3,4). Of particular concern is its ability to develop on crop genotypes carrying root-knot-nematode resistance genes (*Mi-1*, *Mh*, *Mir1*, *N*, *Tabasco*, and *Rk*) in tobacco, tomato, soybean, potato, cowpea, sweet potato, and cotton.

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