

## Nematodes on Sweetpotato

[www.ncagr.gov/agronomi/uynem.htm](http://www.ncagr.gov/agronomi/uynem.htm)

The nematode assay for this field detected the presence of a potential hazard for sweetpotato. The detected species can cause yield loss, especially in sandy soils. They may also damage the quality of storage roots.

Although several species attack sweetpotato, the southern root-knot nematode, *Meloidogyne incognita*, is the most widespread and important in North Carolina. On fibrous roots, these pathogens cause the formation of galls. On storage roots, symptoms may include galls, blister-like swelling or, in some instances, cracking (FIGURE 1).

NCDA&CS  
AGRONOMIC DIVISION  
NEMATODE ASSAY SECTION

PHYSICAL ADDRESS  
4300 REEDY CREEK ROAD  
RALEIGH NC 27607-6465

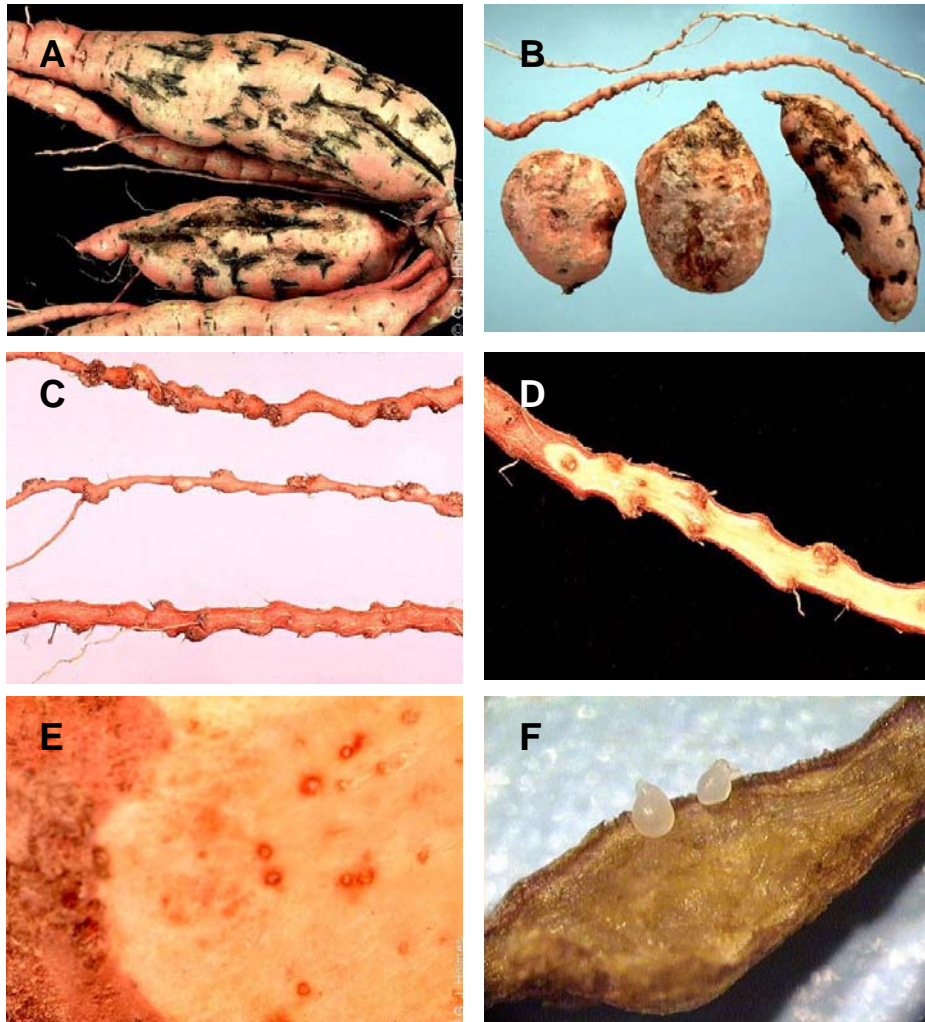
MAILING ADDRESS  
1040 MAIL SERVICE CENTER  
RALEIGH NC 27699-1040

PHONE: 919-733-2655  
FAX: 919-733-2837

DR. WEIMIN YE  
NEMATOLOGIST

DR. COLLEEN HUDAK-WISE  
DIVISION DIRECTOR

STEVE TROXLER  
AGRICULTURE COMMISSIONER



**FIGURE 1.**

A. Sweetpotato storage roots cracked due to root-knot nematode infection,

B. Blisters and galls on storage and fibrous roots,

C. Root-knot galls on fibrous roots,

D. Section of fibrous root infected with root-knot nematodes,

E. Section of storage root showing tissue reaction to root-knot infection,

F. Female root-knot nematodes (the two pear-like bodies).

(Courtesy of Dr. Gerald Holmes, NCSU).

Root-knot nematodes are controlled by a combination of crop rotation, nematicides and resistant cultivars. Currently available cultivars with moderate resistance to this nematode include ‘Covington,’ ‘Evangeline,’ ‘Murasaki-29,’ ‘Hernandez,’ and ‘Jewel.’ The cultivars ‘Beauregard,’ ‘Carolina Ruby,’ ‘Carolina Rose,’ ‘Grand Asia,’ ‘Japanese’ and ‘O’Henry’ are susceptible. Suitable rotation crops include grasses, peanut, root-knot resistant cowpea, soybean, tobacco, alfalfa and sorghum. Nematicides currently registered for use in commercial sweetpotato production include Mocap, Vydate, Temik, Telone and chloropicrin. For details on usage of these nematicides, refer to the N.C. Agricultural Chemicals Manual ([ipm.ncsu.edu/agchem/agchem.html](http://ipm.ncsu.edu/agchem/agchem.html)) and NCDA&CS pesticide registrations ([www.kellysolutions.com/nc/](http://www.kellysolutions.com/nc/)).

Other nematodes that parasitize sweetpotato include reniform (*Rotylenchulus reniformis*), lesion (*Pratylenchus* spp.), other root-knot species (*M. arenaria*, *M. hapla* and *M. javanica*), spiral (*Helicotylenchus* spp.), stunt (*Tylenchorhynchus* spp.), sting (*Belonolaimus longicaudatus*), dagger (*Xiphinema* spp.) and stubby-root (*Paratrichodorus minor*). Of these, the reniform nematode is reported to cause major losses to sweetpotato (poor root growth and cracking) in Louisiana but, as yet, has not been associated with economic damage to sweetpotato in North Carolina. Still, populations of reniform nematode are increasing here—particularly in counties with high cotton acreage.

There are no sweetpotato cultivars resistant to these other species of nematodes, so management depends on use of crop rotation and nematicides. Good rotation crops include grasses, corn, peanuts, small grain, sorghum, mustard, peppers and soybean (root-knot and reniform resistant). Weed control is also an essential management component because many weeds are excellent host plants for nematodes.

### For Additional Assistance

- Call your NCDA&CS regional agronomist or the Agronomic Division office in Raleigh (919-733-2655).
- Visit the NCDA&CS Agronomic Division Web site at [www.ncagr.gov/agronomi/](http://www.ncagr.gov/agronomi/).
- Visit your county Cooperative Extension office.
- Refer to one or more of the following online publications:
  - Sweetpotato profile in *Sustainable practices for vegetable production in the South* (Peet, 2001)  
— [www.cals.ncsu.edu/sustainable/peet/profiles/c18swpot.html](http://www.cals.ncsu.edu/sustainable/peet/profiles/c18swpot.html)
  - *Nematodes in sweet potatoes* (LSU AgCenter.com, 2005)  
— [www.lsuagcenter.com/en/crops\\_livestock/crops/sweet\\_potatoes/Nematodes+in+Sweet+Potato.htm](http://www.lsuagcenter.com/en/crops_livestock/crops/sweet_potatoes/Nematodes+in+Sweet+Potato.htm)
  - *Plant susceptibility to major nematodes in Georgia* (Cooperative Extension Service, University of Georgia College of Agricultural and Environmental Sciences, 2002)  
— [pubs.caes.uga.edu/caespubs/pubcd/B904.htm](http://pubs.caes.uga.edu/caespubs/pubcd/B904.htm)
  - *Irish and sweet potato diseases* (Clemson University Cooperative Extension, 2004)  
— [hgic.clemson.edu/factsheets/hgic2214.htm](http://hgic.clemson.edu/factsheets/hgic2214.htm)
  - *Sweet potato varieties* (N.C. State University & N.C. Crop Improvement Association, 2003)  
— [www.nccrop.com/varieties.php/8/Sweet\\_Potato](http://www.nccrop.com/varieties.php/8/Sweet_Potato)