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Managing Root-knot Nematode Species

www.ncagr.gov/agronomi/uyrnem.htm

The root-knot nematode species listed on your recent Nematode Assay Report was identified by means of molecular diagnosis made possible by a grant from the N.C. Tobacco Trust Fund Commission. Due to this precise identification, you may be able to suppress and manage the population by choosing to grow resistant or nonhost crops. If you choose crop rotation, then you should grow the suppressive crop in the problem field for at least two years.

TABLE 1 presents appropriate rotation options based on the nematode species identified and the crop you want to be able to grow. TABLE 2 lists tobacco cultivars with resistance to races 1 and 3 of southern root-knot nematode *Meloidogyne incognita*.

TABLE 1. Crop rotation options

<u>Nematode Species</u>	<u>Suitable Rotation Crops</u>
southern root-knot nematode <i>Meloidogyne incognita</i>	alfalfa, asparagus, bahiagrass, bermudagrass, corn, garlic, peanut, RKN-resistant soybean, sesame, sorghum (<i>S. bicolor</i>), Sudangrass (<i>Sorghum sudanense</i>), Sunnhemp (<i>Crotalaria juncea</i>), wheat
northern root-knot nematode <i>Meloidogyne hapla</i>	asparagus, corn, cotton, Sudangrass (<i>Sorghum sudanense</i>), wheat
peanut root-knot nematode <i>Meloidogyne arenaria</i>	cotton, Sudangrass (<i>Sorghum sudanense</i>), tobacco, wheat

TABLE 1. Crop rotation options (*continued*)

<u>Nematode Species</u>	<u>Suitable Rotation Crops</u>
Javanese root-knot nematode <i>Meloidogyne javanica</i>	Sudangrass (<i>Sorghum sudanense</i>), Sunnhemp (<i>Crotalaria juncea</i>), Weeping love grass (<i>Eragrostis curvula</i>)
Root-knot nematodes in general <i>Meloidogyne</i> spp.	asparagus, barley, mustard (<i>Brassica campestris</i>), rapeseed (<i>Brassica napus</i>), Sudangrass (<i>Sorghum sudanense</i>), Sunnhemp (<i>Crotalaria juncea</i>), Weeping love grass (<i>Eragrostis curvula</i>)

TABLE 2. Tobacco cultivars with resistance to *Meloidogyne incognita* races 1 & 3

CC 13	K 3589	NC 471	RG 17	SP 225
CC 27	K 399	NC 55	RG 81	SP 227
CC 37	K 730	NC 606	RG H4	SP 234
Coker 176	McNair 373	NC 71	RG H51	SP G117
CU 263	NC 102	NC 72	RG H61	SP G126
GL 737	NC 196	NC 810	SP 168	SP G168
GL 939	NC 291	OX 207	SP 172	SP G28
K 149	NC 297	OX 414NF	SP 179	SP G70
K 326	NC 299	PVH 1118	SP 210	SP H20
K 346	NC 37NF	RG 11	SP 220	SP NF3

Nematicides approved for use in agricultural production are listed in the *N.C. Agricultural Chemicals Manual*. However, submitting samples for nematode assay should always be your first step toward management. Results of an assay will indicate whether chemical treatment is necessary. Predictive sampling, especially in fall, helps guide the selection of appropriate management tactics.

For Additional Assistance

- Contact your NCDA&CS regional agronomist or call the Agronomic Division office in Raleigh (919-733-2655).
- Visit the Agronomic Division website — www.ncagr.gov/agronomi/.
- Visit your county Cooperative Extension office.