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Common Corn Nematode Characteristics

By Greg Tylka, Department of Plant Pathology

Awareness of and interest in corn nematodes seems to be growing along with the crops this season. Growers and agronomists are asking lots of good questions about how nematodes feed on corn, what soils they prefer, how much corn yield loss they cause, etc. Answers to those questions can be confusing and frustrating because there are more than a dozen different types of corn nematodes and the different species vary in their biology and behavior. The table below lists the basic characteristics of different types of corn nematodes.

nematode common name <i>genus name</i>	feeding habit	primary location in season	damage potential	damage threshold*
dagger <i>Xiphinema</i>	ectoparasite	soil - highest numbers in sandy soils	moderate	30 - 40
lance <i>Hoplolaimus</i>	endoparasite	roots - highest numbers in sandy soils	moderate	300 - 400
needle <i>Longidorus</i>	ectoparasite	soil - <u>requires</u> >70% sand	high	1
pin <i>Paratylenchus</i>	ectoparasite	soil	low	
ring <i>Mesocriconema</i>	ectoparasite	soil	low	100
root-knot <i>Meloidogyne</i>	endoparasite	roots and soil	low	
root-lesion <i>Pratylenchus</i>	endoparasite	roots	moderate	1,000
sheath <i>Hemicycliophora</i>	ectoparasite	soil	low	
spiral <i>Helicotylenchus</i>	ectoparasite	soil - highest numbers in clay or loam soils	low	500 - 1,000
sting <i>Belonolaimus</i>	ectoparasite	soil - <u>requires</u> >70% sand	high	1
stubby root <i>Paratrichodorus</i>	ectoparasite	soil - more common in sandy soils	moderate	
stunt <i>Tylenchorhynchus</i> and <i>Quinislucius</i>	ectoparasite	soil	low	100

* The damage thresholds listed in the table above are expressed as numbers of nematodes per g of root for lance and lesion nematodes; all others are numbers of nematodes per 100 cc soil.

These damage thresholds were established in the 1970s and 1980s and have not been verified with modern corn hybrids. The thresholds should not be considered absolute values for modern corn production systems. Also, threshold values will vary among states and universities; the values presented are those used by Iowa State University.

Greg Tylka is a professor of plant pathology with extension and research responsibilities in management of plant-parasitic nematodes. Tylka can be contacted at gtylka@iastate.edu or by calling (515) 294-3021.

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