

Stubby-Root Nematode

Stubby-root nematodes, *Paratrichodorus* (or *Trichodorus*) spp. are widespread in Georgia. Stubby-root is the most damaging nematode of corn because corn is highly susceptible and these nematodes are so widely distributed in coastal plains soils where much of the corn is grown.

These nematodes feed mostly at root tips, thereby stopping root growth. As new root growth continues to be stopped by feeding



of stubby-root nematodes, the root system takes on a characteristic "stubby-root" appearance. Affected root tips may be "stubbed" without discoloration or a slight discoloration may be evident. With some plants, usually not of the grass family, the main effect produced is a reduction of root system with no obvious "stubbing." These injured plants exhibit a small root system with fewer and shorter secondary roots than would have otherwise been present. Above-ground symptoms are the typical symptoms of nematode damage: stunting, yellowing, and slow growth. Plants are rarely killed by stubby-root nematodes.

The stubby-root nematode life cycle is simple, going from egg through four molts to adult without changes in body form except that adults are larger than larvae. The life cycle is relatively short, reportedly ranging from 16 to 17 days at 86 F and from 20 to 22 days at 71.6 F. Populations may increase tenfold in 60 days. The population thus builds up rapidly even in the cooler spring months, making it a serious problem on early-planted, susceptible crops such as corn. The population density may also decline very rapidly. This can make diagnosis rather difficult since peak populations may be missed. It is fairly common that a soil sample for nematode analysis is not taken until after the stubby-root population has declined to low levels. When this happens, the diagnosis is based on the root-system symptoms. For this reason, a root system with symptoms should be sent with the soil sample if stubby-root nematodes are suspected.

While stubby-root nematodes have a fairly wide host range, corn and other members of the grass family are the most susceptible hosts. Other plants rated as good hosts include soybeans, cotton, sunflowers, and many vegetable crops. Poor hosts include tobacco and rye.

The wide host range makes rotation rather ineffective as a control measure and resistant crop varieties are not available. Chemical control is the most effective approach.

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