

Nematode Woes

Rotation, Resistant Varieties, Seed Treatments Can Provide Control

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Pests that affect the soybean crop were a topic presented by Dr. Allen Wrather, University of Missouri professor with specialty in plant diseases. Nematode management, specifically soybean cyst nematode and root knot nematode, was the primary focus.

“Root knot nematode is one that cannot tolerate cold soils or winters so it’s primarily a problem in the southern United States, but it does cause some problems in southeast Missouri and southern Illinois, however, very little farther north than that,” he said.

Cyst nematode is the problem in most soybean growing areas of the United States. It has the ability to adapt to the warm conditions of the south and the cold conditions of the north. These nematodes both attack the root and reduce it’s ability to provide water and nutrients to the top part of the plant.

“The plant may show yellowing due to poor nodulation as well as stunt, because of the poor availability of water and nutrients,” Wrather explained. “The symptoms include the stunt and yellowing, although not always, but if you dig the roots up you’ll find they are less vigorous than healthy plants.

“We’re fortunate in the southern part of the U.S. that crop rotation, especially corn, will help control soybean cyst nematodes,” he said. “Rotation will be of benefit because the cyst nematode that hatches during the year corn is planted will die because the little juveniles that hatch from the eggs can’t live very long in the soil without feeding on a root.

Unfortunately, root knot nematode feeds on almost all crops grown in the southern United States including southeast Missouri and southern Illinois. It feeds on corn, grain sorghum, cotton and soybeans. So rotation will be of benefit for management of soybean cyst nematode, but not so much in the north part of the United States as in the south. Rotation will not help the management of root knot nematode.

“Those that have problems with soybean cyst nematode should seriously consider planting a resistant variety and there are several available,” Wrather said. “Those with root knot nematode problems are going to have difficulty finding a variety with some resistance that also yields well. There are a few available, and a farmer with a serious root knot problem needs to consider planting one of those varieties even if it may not yield quite as well as some others.”

There is another option and that is to use seed treatments. There are two products on the mar-

ket, Avicta and Votivo, and they have some ability to protect the soybean against these nematodes.

“There is data from southern Illinois indicating that both of these products will provide some short term protection to soybean against soy-



Dr. Allen Wrather, University of Missouri professor with specialty in plant diseases discusses soybean cyst and root knot nematode management.

bean cyst nematode and root knot, and that yields will be somewhat greater in fields where they have been used compared to the same fields where they were not used,” he reported. “Yield increases won’t be dramatic but greater, and they will be great enough to cover the price of the product.”

He reiterated that soybean cyst nematode, which is the main nematode problem of soybean, can be managed by crop rotation and planting resistant varieties.

“Damage from other nematodes may not be so easily managed by crop rotation,” Wrather said. “There are some resistant varieties available and seed treatments with Votivo or Avicta may be of benefit.” △

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