

NEMATODE SURVEY

By MARIA T. CINQUE
Agricultural Extension Agent,
Nassau County Cooperative Extension,
Garden City, NY

Nematode problems, especially on turfgrass, have mostly been associated with the south. In recent years there have been some unexplainable problems on Long Island Golf Courses. It was therefore decided to see if nematodes were playing a part in those problems.

The soil samples were taken between June and August. This is the time of the year when nematode populations are usually at their highest and damage from plant-parasitic nematodes is most evident. In most cases, the Golf Courses sampled had problems during the hot weather of previous years, that sounded like they could have been caused by populations of nematodes. Others were chosen because they were having problems that could not be attributed to a disease, insect or cultural practices.

In most cases, soil samples were taken from both the greens and fairways, where damage was evident, soil samples were taken from right outside of the chlorotic or necrotic areas at a depth of six to eight inches, with a soil probe.

Many samples were checked for the presence of insects and diseases and nutrient levels were also determined.

Not all nematodes are capable of causing injury to plants, only those which possess a stylet are considered to be parasitic. Nematodes are extremely small round worms and CANNOT be seen without the aide of a microscope. The stylet which they possess is even smaller and in some species is rather difficult to determine.

The following nematodes were isolated from Long Island Golf Courses.

NEMATODE	COMMON NAME
Criconemoides sp.	Ring
Hoplolaimus sp.	Lance
Tylenchorhynchus sp.	Stunt
Pratylenchus sp.	Lesion
Longidorus sp.	Needle
Tichodorus sp.	Stubby Root

All of the above named nematodes do possess a stylet which can cause injury to the grass plant. A stylet is a narrow (microscopic) hollow, slender tube which the nematode uses to withdraw plant juices and therefore hindering the plants ability to take up water and nutrients.

The damage seen during the stress period of the summer was mostly chlorosis, where the turf looked as if it hadn't been fertilized, even though it had been. In most of these areas, high populations of the Ring Nematode, *Criconemoides* sp. (300-1,000/100 cc of soil), had been found. Other damage observed was a complete killing out

of the turf (penncross bentgrass) on greens. In these areas, high populations of the Lance Nematode *Hoplolaimus* sp. (350-950/100 cc of soil) were found.

Less damage was observed during periods of cooler temperatures rather than those of high temperatures. It was also observed that in periods of moisture stress, damage from plant-parasitic nematodes was more evident.

Sampling to Continue

I would like to continue sampling Long Island Golf Courses for the presence of plant pathogenic nematodes. The sampling techniques for nematodes is different than for other soil tests. The soil to be tested should be taken just outside of the chlorotic or necrotic areas and to a depth of 6 inches or as far as the roots go down. The grass from the plug can also be included in the sample. It is better to use a soil sampling tube rather than a hole cup cutter. Take samples around the entire areas, mix the soil and submdt 2 cups of soil for analysis.

Samples should be kept out of the sun and kept COOL (refrigerated) until they are brought to the lab. If you send samples in, be sure that my name is on the box and mark it in bold letters: NEMATODE SAMPLE - REFRIGERATE.

Samples should be sent to MARIA T. CINQUE, Nassau County Cooperative Extension, 320 Old Country Road, Garden City, New York 11530. There is a \$6.00 charge per sample or \$10.00 to Nematology Lab, Cornell University, Ithaca, N.Y. 14853.

Late June to early September is the best time to sample for plant-parasitic nematodes.

WELL AND PUMP INSTALLATION

Specializing in
Deep Well Turbine Pumps — Service and Repair
Maintenance Program Available

MAXSON WELL DRILLING, INC.

3328 N. E. 11th Ave. Oakland Park, Fla.

Phone 564-3419