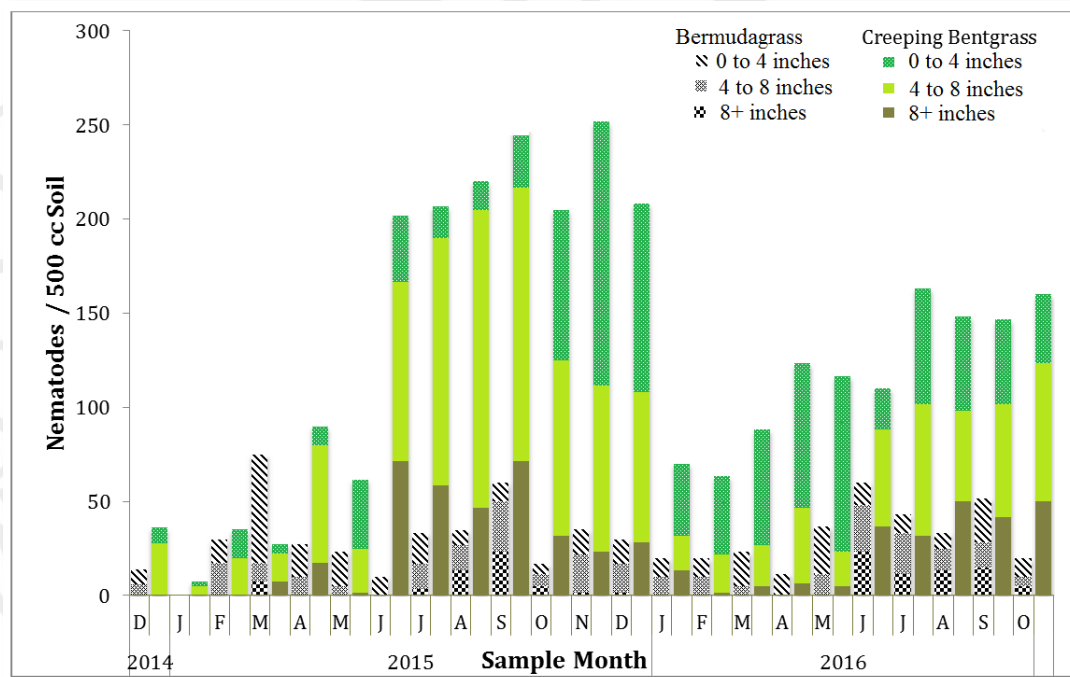




### Stinging Nematode Distribution In Putting Green Root Zones



*Turfgrass researchers at North Carolina State University are studying the distribution of sting nematodes in bermudagrass and creeping bentgrass root zones.*

Stinging nematodes are very destructive microscopic pests that feed on turfgrass roots. Control strategies are limited for managing sting nematodes. Cultural control options are inconsistent and chemicals are only effective if they come in direct contact with the nematodes. Understanding the behavior of sting nematodes and their location in the soil profile at various points in the year can help improve application timing and efficacy.

North Carolina State University researchers are studying the vertical distribution of nematodes in putting greens throughout the year. Golf course trials on L-93 creeping bentgrass and Champion bermudagrass putting greens are underway. Sting nematodes reach their highest numbers in late summer on both grass species (Figure 1), but nematode population growth can be different between the turfgrass species. Sting nematodes started to increase in March or April in creeping bentgrass putting greens. On bermudagrass

putting greens sting nematodes increased in late April and May. This means that chemical application timing is dependent on the putting green turfgrass species.

An unanticipated result of this research is nematode location in bentgrass greens during 2015. Nematodes were found in the top 4 inches of the soil in the spring and at a depth of 4-8 inches during the summer. A similar trend occurred in 2016, although nematodes were found throughout the 12-inch root zone during the summer. Bermudagrass had an even distribution of nematodes throughout the 12-inch root zone in summer. This is beyond the rooting depth of both turfgrasses and the scientists are investigating why nematodes are this deep in the soil.

In the winter months, the majority of the nematodes are shown to be in the top 4 inches of the soil for both turfgrass species. This indicates that feeding may be occurring on both turfgrass species during winter, a time when bermudagrass is dormant and bentgrass is slow to produce new roots. A fall nematicide application could help protect vulnerable turfgrass roots from winter nematode feeding.

Source: Dr. James Kerns and Glen Galle (Ph.D. Student)