

UPDATING OF NEMATODES ASSOCIATED WITH TURFGRASSES IN MICHIGAN

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Preliminary surveys of nematodes in Michigan showed stilet nematodes, Tylenchorhynchus spp., spiral nematodes, Helicotylenchus spp., and ring nematodes, Criconemoides spp., to be the most commonly recovered nematodes associated with turfgrass samples during the 1972 season. Stubby-root nematodes, Tricoporus spp., root lesion nematodes, Pratylenchus spp., and root-knot nematodes, Meloidogyne sp., were infrequently found. A cyst nematode, Heterodera iri, was recovered from a 'Toronto' creeping bentgrass golf green in the Detroit area. Previously, this nematode was reported only in Great Britain, parasitizing 'brown top'. Greenhouse studies show H. iri to reproduce on 'Toronto' creeping bentgrass, but this nematode has failed to develop on 'brown top', Penncross creeping bentgrass, several selected varieties of Kentucky bluegrasses, Perennial ryegrasses, and creeping red fescues. In addition, corn, wheat, and oats appear to be non-hosts for this nematode.

Several varieties of Kentucky bluegrass from the MSU turfgrass research area were surveyed for nematodes. Ring nematodes were the most abundant species in the sampled plots, often exceeding 1500 nematodes per 100 cc of soil. The lowest population of this nematode was associated with K-107 and the highest density was recovered from Belturf. Both Pennstar and Wertburg appeared to be the better hosts for spiral nematodes than the other varieties sampled. Belturf seemed to support only a small population of this nematode. Stilet nematodes reproduced best on Belturf and poorest on Windsor Kentucky bluegrass.

Nematode control plots were set-up on established lawns of Merion bluegrass in the greater-Lansing area. All materials tested, except Benomyl, reduced populations of stunt nematode, spiral nematodes, and ring nematodes when compared to nematode populations in untreated plots. Benomyl appeared to be least effective for the control of spiral nematodes, but was one of the better materials tested for ring nematodes. Vydate, a highly systemic nematicide, when applied at 20#AI/acre gave excellent control of stunt nematodes and intermediate control of spiral and ring nematodes. Nematicur, also a systemic nematicide, gave excellent control of spiral and ring nematodes at a 20#AI/acre rate. Lannate gave intermediate control of all three nematode species.

Nematode control trials were established on a 'Toronto' bentgrass green in Warren, Michigan. Four non-fumigant nematicides were evaluated alone and in combination with benomyl for the control of stilet nematodes and ring nematodes. Benomyl generally appeared to enhance the activity of the nematicides tested and reduced nematode populations when used alone. Two applications of Nematicur at 5#AI/acre each appeared to be as effective as two treatments of Nematicur at 10#AI/acre each or single 20#AI/acre applications of Mocap, Tirpate, and Lannate for the control of stilet nematodes. None of the nematicides

tested appeared to reduce ring nematodes except the split application of Nematicur at the higher rate. Benomyl appeared to enhance the activity of the nematicides tested, except for ring nematode control with higher rates of Nematicur late in the season. October samples indicated Benomyl may interfere with the nematicidal activity of Nematicur at higher rates.