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DELINEATION OF NEMATODE MANAGEMENT ZONES BASED ON NEMATICIDE RESPONSE AND SOIL ELECTRICAL CONDUCTIVITY

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Abstract Only

The use of soil electrical conductivity has been investigated to determine its potential for root-knot nematode management. Initial studies were conducted at the Northeast Research station to evaluate nematode occurrence and soil texture using the Veris soil EC mapping system. Root-knot nematode appears to strongly correlated with soil texture and could be associated with the sandy, coarser textured soils in a field. Soil samples collected in these fields indicated that this nematode only occurred in the sandy soils (low EC readings). Management zones could be established using a combination of nematode sampling and electrical conductivity readings. A nematicide trial conducted in a nearby location (Cemetery North field) revealed that the presence of the nematode did not necessarily cause damage in all the soil zones within that field. The nematicide Telone gave a significant yield response in only the lightest soil zone but not in two other zones in the field where root-knot nematode occurred. Another test field (Levee) had root-knot nematode present throughout the field. Telone gave a significant yield response in only the lowest three zones in 2004 and the lowest four zones in 2005. The deep electrical conductivity readings were the best indication of where the response to the nematicide was likely to occur.