

**USING GEOSPATIAL TECHNOLOGIES TO BETTER MANAGE NEMATODE PROBLEMS**  
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**Abstract Only**

Tools that are currently being utilized in precision agriculture have great application in managing plant nematodes. These include the use of geo-referenced data collection, mobile sensors, yield monitors, remote sensing, and variable rate application. Areas of a field which appear to have some type of nematode injury can be readily marked using handheld PDA's that include some type of GP:S receiver and a corresponding software program for data collection. Even a inexpensive GPS receiver to just mark points in the field can be used so that these areas can be later identified. Mobile sensors such a Veris soil EC mapping system are currently being used in a number of areas to map soil texture within a field. Nematodes such as the southern root-knot are strongly correlated with soil type. Fields that has been mapped with this system can be separated into management zones based on where this nematode is likely to occur. Yield monitors provide a good picture of where the weak and strong areas are within a field. Poor yielding areas may be the result of nematode injury or simply heavy soil texture. Yield monitors can also indicate where nematicides are working in a field and can further refine nematode management zones. Remote sensing includes such things as aerial or satellite imagery to give an indication of vegetative growth. These images can again indicate weak or strong areas in a field. Imagery should always be followed up by ground-truthing to verify exactly hat is going on within a field. Variable rate application is currently being used for fertilizer application, application of growth regulators, and defoliant. This technology can also be used to treat only the areas of a field where nematodes are causing yield loss. Probably the best method is to incorporate all of these tools in an overall plan to help manage nematodes.