Remote Sensing of Parasitic Nematodes in Plants

Stennis Space Center, Mississippi

A method and apparatus for remote sensing of parasitic nematodes in plants, now undergoing development, is based on measurement of visible and infrared spectral reflectances of fields where the plants are growing. Initial development efforts have been concentrated on detecting reniform nematodes (*Rotylenchulus reniformis*) in cotton plants, because of the economic importance of cotton crops.

The apparatus includes a hand-held spectroradiometer. The readings taken by the radiometer are processed to extract spectral reflectances at sixteen wavelengths between 451 and 949 nm that, taken together, have been found to be indicative of the presence of *Rotylenchulus reniformis*. The intensities of the spectral reflectances are used to estimate the population density of the nematodes in an area from which readings were taken.

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In accordance with Public Law 96-517, the contractor has elected to retain title to this invention. Inquiries concerning rights for its commercial use should be addressed to:

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