

## **First Report of Corky Ringspot Caused by Tobacco rattle virus on Potatoes (*Solanum tuberosum*) in Michigan**

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Potato is the fourth most important agricultural commodity in Michigan and is grown for table stock, chip processing, and seed. Tubers are either processed or fresh packed immediately following harvest or sent to storage. Tubers of potato cv. FL1879 representing two separate fields in Huron County were removed from separate storage facilities in February and March of 2007, and substantial internal necrosis was observed in 1 to 2% of the tubers. Symptoms included arcs similar to those caused by Tobacco rattle virus (TRV). This virus is a member of the genus Tobravirus and is transmitted by a number of species of stubby-root nematodes (*Paratrichodorus* or *Trichodorus* spp.). Stubby-root nematodes have been reported previously from Michigan (1). To confirm the presence of TRV, nucleic acid extractions were made from these symptomatic tubers (3). Samples were initially tested for TRV by reverse transcription (RT)-PCR using primers specific to the 16 kDa open reading frame on genomic RNA-1 (2). Samples from both storage facilities were positive. The 463-bp RT-PCR product, amplified with these primers, was sequenced (GenBank Accession No. EU315227) and was 99.6% identical to the corresponding region of two TRV isolates from Florida and Washington (GenBank Accession Nos. AF055912 and EU315226, respectively). In addition, sap from cv. FL1879 tuber samples was used to transmit the virus mechanically to tobacco cv. Samsun NN, which produced typical TRV symptoms following inoculation, and sap extracts from the tobacco leaves also tested positive with antiserum specific to TRV upon subsequent ELISA testing. Corky ringspot can result in substantial losses, with entire potato fields being rejected because of internal tuber damage. Once found, fields must be considered permanently at risk to this disease due to the large host range of both the virus and the nematode vector. This disease has been previously found in the United States in California, Colorado, Florida, Idaho, Washington, Oregon, and it is likely present in Indiana. To our knowledge, this is the first report of corky ringspot and TRV on potato in Michigan.

References: (1) G. W. Bird and N. Knobloch. *Plant Dis. Rep.* 60:76, 1976. (2) J. M. Crosslin and P. E. Thomas. *Am. Potato J.* 72:605, 1995. (3) G. G. Presting et al. *Phytopathology* 85:436, 1995.



Internal symptoms in potato cv. FL1879 from Michigan due to Tobacco rattle virus.