

2007 POTATO CYST NEMATODE SURVEY

During the winter of 2006, USDA APHIS initiated an exhaustive nation-wide survey of potato fields for potato cyst nematodes, after Pale potato cyst nematode was detected in Idaho, and Golden nematode in Quebec, Canada earlier that year. These two potato pests, the pale potato cyst nematode (*Globodera pallida*) and the Golden nematode (*Globodera rostochiensis*) are economically significant quarantine pests. They are microscopically small, worm-like creatures, whose females form a cyst-like resting stage filled with eggs. These potato cyst nematodes feed on the roots of potatoes, tomatoes and eggplants. Widespread in Europe and South America, PCN were only known to occur in few locations in North America: Pale potato cyst nematode in Newfoundland, CD, and Golden nematode in parts of British Columbia and Newfoundland, CD, and New York State.

Potato Cyst Nematode Survey 2007

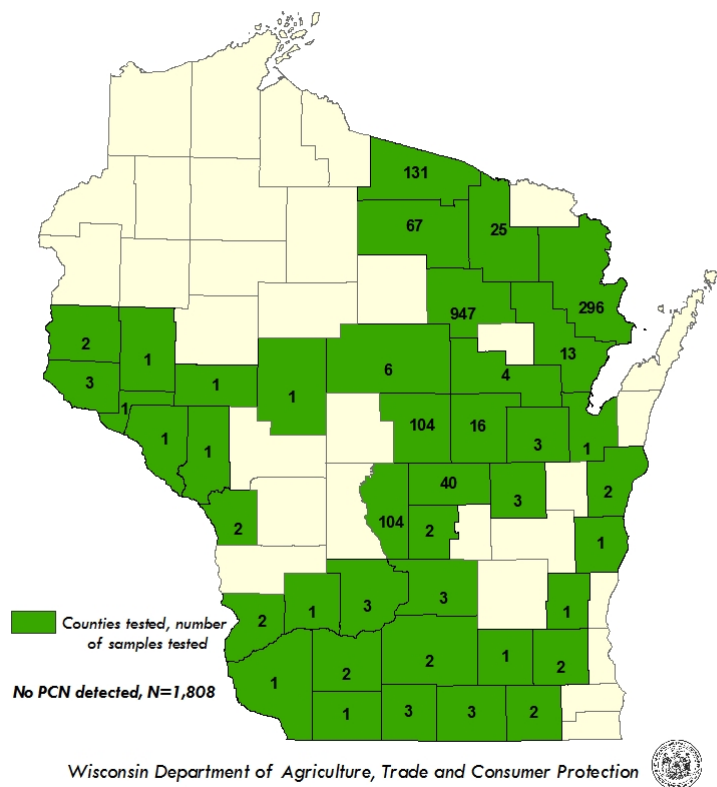


Figure 1. Number of samples tested in each county.

travel across conveyor belts for loading. Inspectors collected one five pound bag of piler dirt for each five acres of seed potato field. During the fall harvest, fields growing seed potatoes for export were sampled at a rate of one pound of soil per acre. The samples were trucked to

The survey was initiated to determine if PCN had spread beyond the newly detected locations and to reassure trading partners of the majority of potato growing areas in the US.

Wisconsin's potato industry is valued at \$229 million, and continued export of seed potatoes relies on the certification of potato fields and tubers as being free from these regulated pests. In Wisconsin the survey focused on the 8625 acres of seed potato fields plus a small subsample from 66,000 acres of potatoes grown for consumption (Figure 1).

DATCP's Fruit & Vegetable Inspectors pulled piler dirt from warehouses in the spring before seed potatoes were shipped and planted. Piler dirt consists of soil that falls off the potatoes as they

DATCP's Plant Industry Laboratory in Madison, where the soil was washed through screens to separate out nematode cysts. Each sample was then examined for cysts under a dissecting microscope. Cyst-like objects were transferred to vials and examined by a trained nematologist before a sample was confirmed negative. For final identification and confirmation, USDA requires suspect cysts to be examined by a National Identifier.

The Wisconsin PCN survey started in April of 2007 and the last of 1,808 samples was completed in January, 2008. Samples were taken from a total of 42 counties but primarily from seed potato growing areas. No suspect cysts were detected. The survey data showed that Wisconsin potato growing areas are free from potato cyst nematodes. This was a survey of unusually intensive scope that involved collecting, shipping and screening over 4 tons of piler dirt and soil. It was made possible thanks to the close cooperation and determined effort by Wisconsin seed growers, DATCP's field staff at the Fruit & Vegetable Inspection Service in Antigo, and the staff at Madison's Plant Industry Laboratory. Special funding was provided by USDA APHIS PPQ.

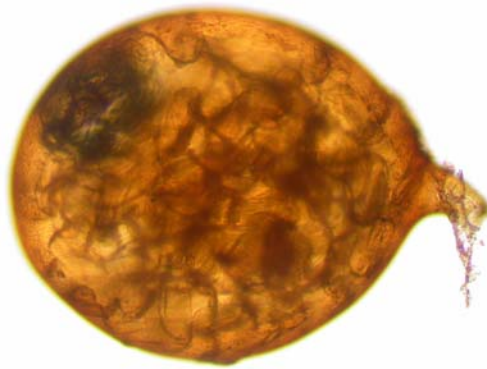


Figure 2. Tobacco cyst nematode, a PCN look-alike from Virginia.