

Golden Nematode Program Update

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On December 22, 2010 the townships of Elba and Byron in Genesee County New York were removed from the area quarantined for *Globodera rostochiensis* Golden Nematode (GN.) This is a milestone in the history of the GN program and is the first time since the establishment of the GN Quarantine in 1944 that an area of land has been removed from the quarantined area.

The decision to deregulate Genesee County was based on results of official soil surveys and the criteria in “Guidelines on Surveillance and Phytosanitary Actions for Potato Cyst Nematodes” agreed to by APHIS and the Canadian Food Inspection Agency. APHIS determined that these two townships meet all requirements necessary to qualify for removal from GN quarantine regulation.

Restrictions on the interstate movement of potato shipments and other regulated articles from these areas are no longer required. This action will also enable potato shipments and other commodities to be eligible for export to countries which require agricultural goods originate in areas free from GN.

State and federal regulatory officials are working toward deregulation of additional eligible areas. Decades of control efforts and soil surveys are yielding results by proving the nematode is no longer present in areas which have been under quarantine restrictions for many years.

Soil surveys are conducted annually in potato production areas throughout New York to ensure agricultural land remains free from this nematode and to ensure early detection of possible new infestations.

Program Highlights for 2010:

Soil survey was conducted in all seed potato and commercial potato productions areas in New York State. A total of 5,903 soil samples were collected from 1,631 acres in 26 counties. **There were no new detections of potato cyst nematode in New York.**

1,267 regulatory treatments using steam heat under tarpaulin and high pressure washing were performed on used farm equipment in 2011 to prevent possible spread of GN.

Control of GN is accomplished through strict sanitation to prevent soil movement from infested fields and through the systematic use of a four year crop rotation using resistant potato varieties and non-host crops. Although the primary host crop of this nematode is potato, tomato and eggplant are hosts as well. These crops should never be planted consecutively for multiple years.

A variant of GN known as Ro2 has been detected in fields where multiple crops of GN resistant potato varieties were grown consecutively. Scientists at Cornell University are working diligently to develop potato varieties that have resistance to Ro2. The genetic composition of Ro2 is such that development of resistance is extremely difficult.

Weeds in the Solanaceae family such as the nightshades, Solanum species can serve as alternate hosts for GN and should be eliminated from potato production areas.

The USDA and New York State Department of Agriculture and Markets continue to enforce a vigorous sanitation program to prevent spread of GN. In 2011 over 2,500 pieces of equipment were sanitized before movement from GN regulated areas.

In 2009 the United States and Canada developed the *Guidelines on Surveillance and Phytosanitary Actions for the Potato Cyst Nematodes* which provides a management plan, measures for continued trade of seed potatoes and provisions for releasing land from regulatory control.

Two nematode species: Globodera rostochiensis (Golden Nematode) and Globodera pallida (Pale Cyst Nematode) are referred to collectively as Potato Cyst Nematodes or PCN.

This document is available at
http://www.aphis.usda.gov/plant_health/plant_pest_info/potato/pcn.shtml

The successful containment of GN in NY for over 60 years provides an opportunity for releasing land from regulatory control using the provisions in the new Guidelines. Growers interested in this opportunity are encouraged to contact USDA APHIS or NY Department of Agriculture and Markets.

Idaho Update: There have been no new detections of G. pallida outside the quarantined area. Treatments of infested fields continued through 2010. Strict quarantine regulations are being enforced by state and federal agencies.

National PCN Survey: A nationwide PCN survey continued through 2010. Soil sample examination from potato producing states confirms PCN does not exist in any state other than New York and Idaho. The nationwide PCN survey will continue in 2011.

The Best Management Practices for dealing with GN are provided below as a reminder to producers and anyone dealing with this quarantine significant nematode.

Best Management Practices to Prevent Spread of Soil-Borne Organisms Including Potato Cyst Nematodes

- Clean all machinery, trucks and other equipment when going from field to field. Do not allow any vehicles in fields unless the vehicles have been thoroughly cleaned.
- Do not spread tare soil or debris from potato processing operations or from storage filling/emptying operations on farm land or place it in an area where it can be spread to farm lands.
- Leave hedgerows, sod barriers or sod strips between fields and along highways.

- Grow non-host crops in rotations with potatoes and never plant golden nematode susceptible potatoes back to back. Crops that are not host of GN include corn, small grains and alfalfa.
- Plant golden nematode resistant potato varieties in non-infested fields at least once every 4 years.
- Do not plant potatoes, not even resistant varieties, back-to-back in fields in which GN has been detected.
- Plant cover crops as soon as possible when land is not in use to prevent GN spread by erosion.
- Inform people in your operation of the seriousness of PCN and potato diseases and be sure they follow all precautions. Provide equipment needed to conduct proper cleaning and disinfection procedures.
- Segregate potatoes in storage—each field should have a definite separation.
- Do not use used bags, containers, etc. for potato transport, and be sure all commercial transport vehicles are free of soil.
- Do not permit temporary help, custom applicators, or utility companies to bring their vehicles onto your farm land without proper sanitation and do not allow them to bring any equipment, bags, etc. with them to the field.
- Do not use common headlands, farm roads and public roads as turning areas.
- Prohibit non-authorized entry onto farmlands using “No Trespassing” signs.
- Do not assume that non-regulated fields are free of the pathogen.
- Work with state/federal officials to facilitate soil surveys to ensure fields remain free from GN and provide early detection.

Additional information on GN and PCN is available at the following website <http://www.aphis.usda.gov/ppq/ispm/nematode/index.html> or by calling USDA APHIS at 607.566.2212 or NY Dept. of Agriculture and Markets, Division of Plant Industry at 518.457.2087.