

Golden Nematode Program 2011

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Deregulation of quarantined areas

After several decades of soil surveys throughout potato production areas in New York State, the USDA Animal and Plant Health Inspection Service and NY State Department of Agriculture and Markets, Division of Plant Industry have begun the process of removing land from areas quarantined for Golden Nematode (GN) *Globodera rostochiensis*.

Over one million soil samples have been collected since the program began with the vast majority of these samples being negative for GN. Now the years of negative survey data can be used to deregulate eligible areas.

On December 22, 2010 the townships of Elba and Byron in Genesee County New York were removed from the GN quarantined area -the first time since the establishment of the GN Quarantine in 1944 that an area of land has been deregulated. These two townships were included in the original quarantined area because of their proximity to GN detection in Orleans County but years of subsequent survey revealed GN was never present in Genesee County.

State and federal regulatory agencies have a five year plan with the goal of deregulating up to 90% of quarantined area by the end of 2014.

Deregulation is based on negative 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. This document is available at http://www.aphis.usda.gov/plant_health/plant_pest_info/potato/pcn.shtml The guidelines provide a system for releasing land from regulatory control, survey protocol and facilitate seed potato exports between the U.S and Canada.

Nine potato production fields in NY have been entered into an in-field bioassay defined within the guidelines. 2011 soil surveys show all nine fields testing negative for GN and being on track for release from restriction following three crops of GN susceptible potato varieties.

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.

Annual Soil Survey Results

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.

New York Soil Survey Results: In 2011 soil samples were collected from all seed potato and commercial potato production areas in New York State. A total of 4,408 soil samples were collected from 1,433 acres in 15 counties. There were no new detections of potato cyst nematode in New York.

One six acre field in upstate NY was fumigated with methyl bromide to control a GN race Ro2 infestation. Survey following treatment revealed a few live cysts remained. An additional treatment is being considered for 2012.

The majority of fields where GN has been detected remain in a crop rotation system using GN resistant potato varieties proven to be effective in reducing GN to below detectable levels. The second race, known as Ro2 is able to reproduce on potato varieties that are resistant to the original GN race known as Ro1. Multiple consecutive crops of Ro1 resistant potato varieties in fields known to be infected with GN Ro1 can result in development of Ro2. Growers with Ro1 infected fields are strongly encouraged to not plant consecutive crops of Ro1 resistant potato varieties. Scientists at Cornell University are working diligently to develop potato varieties that have resistance to Ro2. The genetic composition of Ro2 makes development of resistance extremely difficult. Ro2 has been detected on eight potato fields in NY. Ro2 fields are being fumigated at considerable expense as it is currently the only means of control.

While GN is primarily a pest of potatoes, it can live on related plants such as tomato, eggplant and weeds in the Solanaceae family.

The USDA and New York State Department of Agriculture and Markets continue to enforce a vigorous sanitation program to prevent spread of this soil borne pest. Program personnel and growers sanitized over 1,300 pieces of equipment before movement from GN regulated areas in 2011.

Idaho Update: In 2011, there were two additional detections of *Globodera pallida* in Idaho. This brings the total infested area to 1,467 acres in 12 fields in the two Idaho counties already under regulation. Treatments of infested fields continued through 2011. Strict quarantine regulations are being enforced by state and federal agencies.

National PCN Survey: A nationwide PCN survey continued in 2011. 6,237 soil samples were collected from potato producing states with results confirming PCN does not exist in any state other than New York and Idaho. The nationwide PCN survey is expected to continue in 2012.

Canadian PCN Survey: In 2011, Canada reported 54,211 soil samples were collected and processed nationwide. The primary focus of their survey effort is on seed potato production areas which must be surveyed and certified free from PCN. More information on the Canadian PCN program is available at <http://www.inspection.gc.ca/english/plaveg/pestrava/gloros/glorose.shtml>

Best Management Practices to Prevent Spread of 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.