

## POTATO CYST NEMATODES IN THE U.S. AND CANADA

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Since the 1940s, we've been battling golden nematode (GN) in New York and since 2006 the pale cyst nematode (PCN) in Idaho. In the meantime, Canada has been battling, or living with, potato cyst nematodes as well. In 1962 GN was detected in Newfoundland and Labrador (NE Islands). In 1968 PCN was also reported found in Newfoundland. In 1965 GN was reported found on Vancouver Island, an island off the west coast. In 2006 GN was reported in Quebec in eastern Canada.

In the US, our GN program in New York became one of management in the 1970's with success in containing this pest and some success in eradication. Efforts to limit the regulated area continue with more than 900,000 acres removed from regulation since 2010. Development of the potato variety NY140 has given us another tool against GN, this one a marketable potato with resistance to the GN biotypes Ro1 and Ro2. The goal of our program in Idaho has been eradication of PCN. While we continue to delimit the population, the fields detected and treated early in the program indicate our efforts have been successful. Researchers have been developing a number of treatment options and in 2015 we successfully tested Litchi Tomato (*Solanum sisymbriifolium*) as a trap crop in some infested fields. That effort will continue. In 2008 a new species of potato cyst nematode was detected in three places; one in Oregon and two in Idaho. This nematode, *Globodera ellingtonae*, though potato is a host, is not showing itself to be a pest of potatoes. Research is continuing to characterize this species. Despite tens-of-thousands of samples taken in the US and Canada since 2008, no further detections of this species have been made.

In Canada, in 1962 GN was detected in Newfoundland and Labrador, neighboring islands in the northeast. Then, in 1968, PCN was also reported found in Newfoundland. Since Newfoundland has a small, locally consumed crop and does not export articles of risk (potatoes and other articles that might move soil), regulations are largely limited to being sure vehicles leaving the area are free of soil. In 1965 GN was reported found on Vancouver Island, an island off the west coast. The response here has been different. The infestation was reported to be limited to 125 acres and Canada decided it was worth the effort to eradicate. They put in place a long-term prohibition on the planting of hosts in the area. The past five years Canada has been intensively sampling the area and will soon announce how much of the area they can move forward in an effort to remove them from regulation. Most recently, in 2006, GN was reported in Quebec in eastern Canada. Canada decided the best approach for this detection was a management program patterned after New York's program. Canada put in place best management practices, a crop rotation program using resistant potatoes, and a survey plan to monitor populations.

Both countries have ongoing surveys within regulated areas and in other potato growing areas. For current infestation and should either country find new infestations, both countries have

agreed to follow the current version of the Guidelines from 2014 titled “Canada and United States Guidelines on Surveillance and Phytosanitary Actions for the Potato Cyst Nematodes *Globodera rostochiensis* and *Globodera pallida*”.