United States Department of Agriculture

Pale Cyst Nematode (PCN) Eradication Program - Idaho Falls, Idaho
2019 4th Quarter Report (October 1 – December 31)

PROGRAM UPDATES AND NEW INFORMATION:

- On November 6, 2019, the Animal and Plant Health Inspection Service (APHIS) confirmed PCN in two potato production fields (a total of 169 acres) located in Bingham County, Idaho. These infested fields are located within the 8.5-mile radius containing all 31 infested fields (3,446 acres) detected in Idaho since program inception. APHIS collected cysts from these fields during routine delimiting surveys. Both fields have historically close associations with other infested fields and were already part of the PCN-regulated area. The first field has been in suspect status since the detection of a non-viable PCN cyst in a 2018 soil sample. The second field is located adjacent to an infested field that was confirmed PCN-infested in 2018.

- On January 10, 2020, APHIS announced the deregulation of five associated fields, a total of 404 acres, after completing a release protocol comprised of a sequence of surveys with no PCN detections. These changes bring the total regulated area 7,150 acres, of which 3,446 acres are infested fields.

ERADICATION ACTIVITIES

- A PCN program contractor applied the nematicide Telone II (1,3-dichloropropene) to five PCN-infested fields (approximately 665 acres) in September/October 2019. PCN program staff collected soil samples from four of the five fields following fumigation and will test cysts extracted from them to determine treatment effectiveness at reducing nematode egg viability. Results are expected by March 2020. Program staff will collect soil samples from the fifth field in spring 2020, with results expected by July 2020.

REGULATORY DATA

Regulatory Treatments

Treatment type	Regulatory Treatments (# of pieces of equipment)		
	4th Quarter of 2019	2019 Year to date	Since program inception
Pressure Washed	495	1,914	28,514
Steam Sanitized	65	579	4,794
Total	***560***	***2,493***	***33,308***

Self-Certification Program

Treatment type	Regulatory Treatments (# of pieces of equipment treated by stakeholders participating in the self-certification program)		
	3rd Quarter of 2019*	2019 Year to date*	Since program inception*
Pressure Washed	55	115	4,564

*Self-certification data lags one quarter behind all other program data in order to provide a stakeholder reporting period.

Regulatory Documentation

Documentation type	Regulatory Documentation			
	4th Quarter of 2019	2019 Year to date	Since program inception	Active
Certificate (PPQ 540)	150	666	13,238	*
Limited Permit (PPQ 530)	31	163	3,944	*
Compliance agreements	0	0	*	30

*Not applicable

SURVEY DATA

- To date, the PCN program has collected and screened 532,825 soil samples in Idaho outside of the 31 known infested fields.

Type of survey	Idaho soil samples collected		
	4th Quarter of 2019	2019 Year to date	Since program inception
Detection	504	1,194	240,681
Delimiting	3,207	4,491	281,121
Eradication	3,444	18,428	176,228
Total	***7,155***	***24,113***	***698,030***

LABORATORY DATA

- Since 2009, the PCN program has collected and screened 89,379 soil samples in support of the ISDA's post-regulation monitoring survey of fields deregulated by APHIS.
- The PCN laboratory has screened 80,151 soil samples collected in other potato-producing states. There have been no PCN detections in the U.S. outside of Idaho.

Identification and Diagnostics

Type of survey	Samples processed by the Idaho PCN Laboratory		
	4th Quarter of 2019	2019 Year to date	Since program inception
Detection	0	1,062	269,743
Delimiting	4,134	4,234	280,973
Eradication	6,635	14,567	173,671
Total	***10,769***	***19,863***	***724,387***

Type of survey	Samples processed at other Idaho laboratories	
	Idaho Food Quality Assurance Laboratory (2006-2009, now closed)	Idaho State Parma Research and Extension Center (2006-2009)
Detection	52,670	69
Delimiting	10,227	896
Total	***62,897***	***965***

ERADICATION MONITORING AND PROGRESS

- Since its inception, the PCN program has used a staining technique to analyze the viability of nematode eggs in 962 cyst samples collected from infested fields before and after fumigation treatments. Viable nematode eggs are no longer detected in 21 of the infested fields, which advances those fields to the next phase of evaluating eradication progress, the greenhouse bioassay.

Method	Location	Results	
		Total number of infested fields	Fields with no viable PCN detected by stain
Cyst stain	Idaho Falls PCN Laboratory	31	21

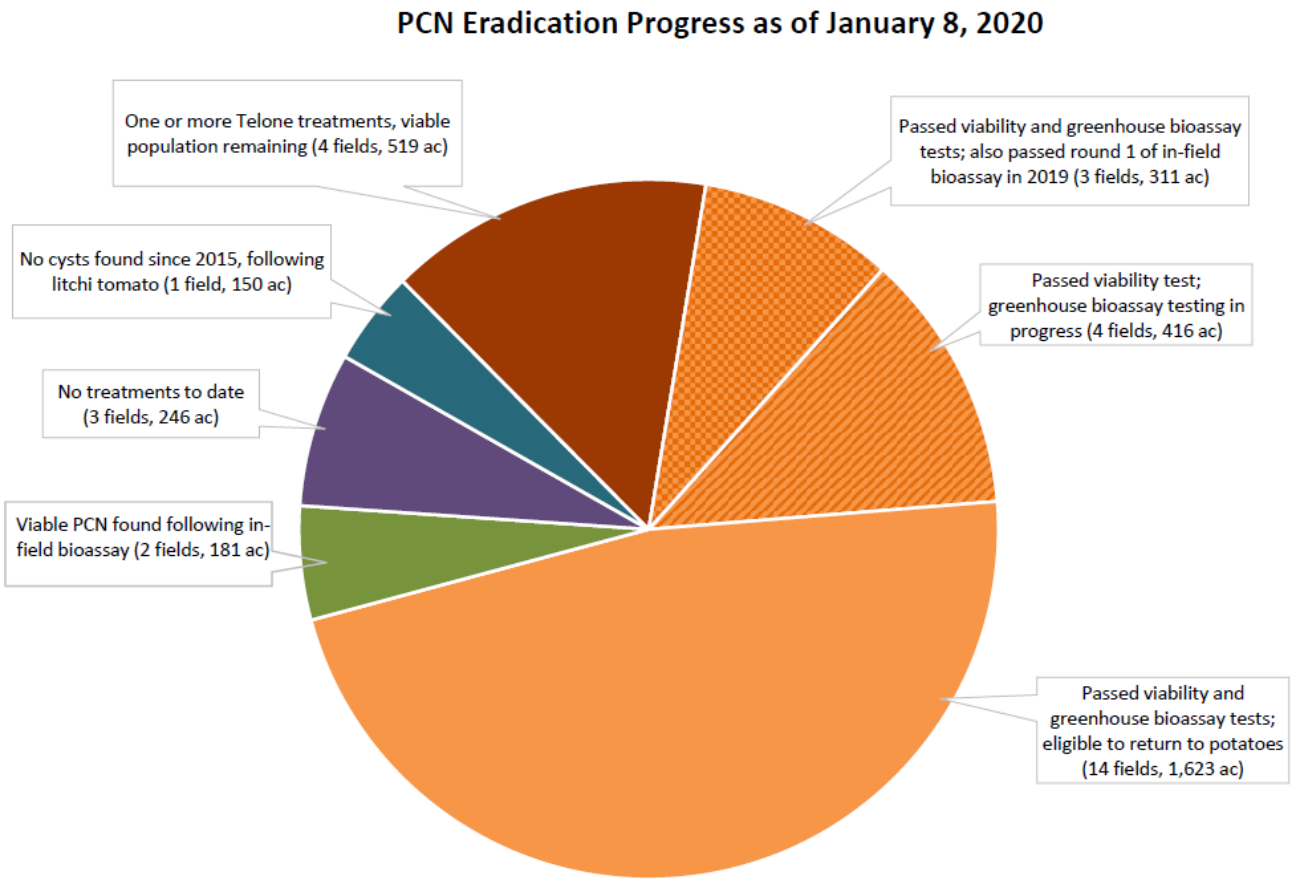
- Greenhouse bioassay is a test of the nematode ability to hatch, feed, and reproduce when placed in proximity to a growing host plant. Seventeen of the 21 fields at zero viability by the staining method have also successfully completed the greenhouse bioassay test. Final greenhouse bioassay results are expected in early 2020 for four of the fields currently in the testing process.

- The PCN program continues to monitor and regulate fields after successful completion of greenhouse bioassay testing, but with reduced sanitation requirements. Fields that have passed the greenhouse bioassay test are also eligible to return to potato production at the landowners' discretion.

Method	Location	Results	
		Fields that advanced to greenhouse bioassay testing	Fields that have passed greenhouse bioassay testing
Greenhouse bioassay	University of Idaho, Moscow	21	17

- The PCN program requires infested fields that return to potato production to undergo full-field surveys following each of three subsequent potato crops to check for viable PCN populations. Potatoes were planted in four eligible fields in 2019. Soil samples were collected from the fields following harvest and analyzed for the presence of viable PCN. Three of the fields tested negative and one of the fields tested positive for viable PCN.

ERADICATION PROGRESS SUMMARY



This pie chart represents eradication progress for the 31 infested fields (3,446 ac) detected in Idaho since program inception (2006 to present).

IMPACTS ON COMMERCE

In response to the initial PCN detection in 2006, Canada, Mexico and Korea shut off importation of potatoes from Idaho, while Japan cut off importation of potatoes from the entire U.S. The Mexico and Canada export markets have both been re-opened with the exception of potatoes from PCN-regulated areas. Both require PCN soil surveys from origin fields. The Korea market was reopened in June 2010 with the exception of potatoes originating from Bingham and Bonneville Counties, Idaho. Japan reopened their market to Idaho potatoes in September 2017. This action represented a major milestone for the Idaho potato industry and the PCN program, the full restoration of all markets lost due to the original 2006 PCN detection. Because of extensive field surveys conducted throughout production areas in Idaho, all of which have been negative beyond the twenty-nine infested fields, the general opinion by trading partners is that potatoes produced outside regulated areas do not pose a risk for spread of PCN.

PUBLIC OUTREACH

Pale Cyst Nematode program information is available via the USDA APHIS Stakeholder Registry. The Registry allows anyone to subscribe and receive alerts by email or by text message when new information about PCN or other topics of interest are announced. Subscribing is simple and you can unsubscribe or change your selections at any time. For PCN program announcements, select Plant Health in the U.S. (Domestic), then Pest Management, and finally Potato Pests and Diseases. To sign up, visit https://public.govdelivery.com/accounts/USDAAPHIS/subscriber/new

PCN program information can be found at:
https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-programs/pests-and-diseases/nematode/pcn

If you have additional questions, please contact the PCN program office at (208) 522-2431, Monday through Friday, 8:00 AM to 4:30 PM (Mountain Time), excluding federal holidays.