United States Department of Agriculture

Pale Cyst Nematode (PCN) Eradication Program - Idaho Falls, Idaho
2016 2nd Quarter Report (April - June)

PROGRAM UPDATES AND NEW INFORMATION

- On May 17, the PCN Program deregulated a 75-acre Bingham County associated field after it completed a release protocol comprised of a sequence of surveys with negative laboratory results for PCN. This change brings the current regulated area to 9,853 acres, of which 2,897 acres are infested fields. All 26 infested fields detected to date lay within a 7.5 mile radius spanning parts of northern Bingham and southern Bonneville Counties. A map and description of the current regulated area is listed on the PCN program website at: http://www.aphis.usda.gov/planthealth/pcn.

- Plant Protection and Quarantine published a Supplemental Environmental Assessment for the PCN program in April. It is located on the PCN program website at: https://www.aphis.usda.gov/plant_health/ea/downloads/2016/pcn-bingham-bonneville-counties-ea.pdf

ERADICATION ACTIVITIES

- The University of Idaho and infested field operators planted the trap crop litchi tomato on 50 acres in 2016. Since litchi tomato is non-native to Idaho, the Idaho State Department of Agriculture (ISDA) established a rigorous permitting process to define clear parameters for planting, monitoring and controlling escape of the plant. The researchers and field operators also planted litchi tomato on three fields (132 acres) in 2015. The PCN Program sampled these fields at the end of the 2015 growing season and did not detect any viable PCN cysts in two of the three fields. Results from the 2016 litchi tomato planting are due over the winter.

- Dow Agrochemical completed the second phase of a Telone II (1,3-dichloropropene) trial on a PCN-infested field in April. The first phase of the trial was conducted in October 2015 and compared the product's efficacy against PCN using two application methods, both at an application rate of 36 gallons per acre. The PCN program analyzed the viability of cysts in the treated areas following fumigation. Efficacy of the two methods ranged from 40 to 60%. The April 2016 application was also at the 36 gallons per acre rate and results will help growers and the PCN program determine if a fall/spring application series is more effective at killing PCN than a single fall treatment alone. The PCN program sampled the field in April following fumigation and will conduct a viability test on the nematode eggs inside. Results are expected in late summer.

REGULATORY DATA

Regulatory Treatments

Treatment type	Regulatory Treatments (# of pieces of equipment)		
	2nd Quarter of 2016	2016 Year to date	Since program inception
Pressure Washed	883	967	21,334
Steam Sanitized	46	58	2,751
Total	***929***	***1,025***	***24,085***

Self-Certification Program

Treatment type	Regulatory Treatments (# of pieces of equipment treated by stakeholders participating in the self-certification program)		
	1st Quarter of 2016*	2016 Year to date*	Since program inception*
Pressure Washed	1	1	3,924

*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		
	2nd Quarter of 2016	2016 Year to date	Since program inception
Certificate (PPQ 540)	264	302	10,126
Limited Permit (PPQ 530)	67	82	2,830
New compliance agreements	1	2	184

SURVEY DATA

- To date, the PCN Program has collected and screened 554,400 soil samples in Idaho to ensure Idaho's freedom from PCN outside of the 26 known infested fields.

Type of survey	Idaho soil samples collected		
	2nd Quarter of 2016	2016 Year to date	Since program inception
Detection	3,083	3,083	323,858
Delimiting	302	302	258,048
Eradication	920	1,232	147,563
Total	***4,305***	***4,617***	***638,469***

LABORATORY DATA

- Since 2009, the PCN Program has assisted with collecting and screening more than 87,000 soil samples in support of the ISDA's post-regulation monitoring survey of fields deregulated by the USDA.
- The PCN laboratory has screened more than 65,000 samples collected in other potato-producing states. There have been no pale cyst nematode detections in the U.S. outside of Idaho.

Identification and Diagnostics

Type of survey	Samples processed by the Idaho PCN Laboratory		
	2nd Quarter of 2016	2016 Year to date	Since program inception
Detection	3,097	7,997	243,153
Delimiting	302	302	249,565
Eradication	1,232	1,232	146,353
Total	***4,631***	***4,897***	***639,071***

LABORATORY DATA, *continued*

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 850 cyst samples collected from infested fields before and after fumigation treatments. Viable nematode eggs are no longer detected in 17 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	26	17

- Greenhouse bioassay is a test of nematode eggs' ability to hatch, feed, and reproduce when placed in proximity to a growing host plant. Eight of the 17 fields at zero viability by the staining method have also successfully completed the greenhouse bioassay test. The PCN program continues to monitor fields after successful completion of the greenhouse bioassay test, 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	17	8

ERADICATION MONITORING AND PROGRESS, *continued*

- 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. Potatoes were planted on half of one eligible field in 2015. This was the first potato crop produced there since before PCN was detected in 2006. The PCN program detected no viable PCN in a post-harvest soil survey. The other half of the field was planted to potatoes in 2016. The PCN program will test the field again following the 2016 crop. Results are due over the winter.

Method	Results	
	Fields currently eligible	Fields that have passed one or more rounds
In-field bioassay	8	½ field

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. The Japan market remains closed to Idaho potatoes but negotiations are actively underway to re-gain market access. Because of extensive field surveys conducted throughout production areas in Idaho, all of which have been negative beyond the twenty-six infested fields, the general opinion by our trading partners is that potatoes produced outside regulated areas do not pose the biological risk for introduction of PCN.

PUBLIC OUTREACH

- In June, PCN Program staff conducted outreach to residents and businesses located in the vicinity of fields planted with the PCN trap crop litchi tomato in 2015 and 2016. The purpose of the outreach was to educate stakeholders about litchi tomato and to ask for help with spotting and reporting any plants they find outside of the treatment fields.

General PCN Program information can be found at: http://www.aphis.usda.gov/planthealth/pcn