United States Department of Agriculture

Pale Cyst Nematode (PCN) Eradication Program - Idaho Falls, Idaho
2018 3rd Quarter Report (July 1 – September 30)

PROGRAM UPDATES AND NEW INFORMATION

- A PCN-infested field has successfully completed the greenhouse bioassay test, bringing the number of fields to reach this milestone to 13. The greenhouse bioassay tests nematodes' ability to hatch and reproduce when challenged by an actively growing host plant (potato) under simulated field conditions. Bioassays are performed in a containment facility at the University of Idaho in Moscow, Idaho. Completing the greenhouse bioassay allows reduced regulatory and sanitation requirements and enables a field to return to host crop production.
- The PCN program published a change to the regulated area on October 10, 2018. The publication announced the detection of one new PCN-infested field located in Bingham County, which was confirmed on September 25, 2018. The 87-acre field, regulated since 2011 due to its association with another PCN-infested field, was detected by a routine delimiting survey. This detection brings the total number of infested fields to 28. As a result of the new infested field detection, one 93-acre field in Bingham County, Idaho was added to the regulated area due to its association with the new infested field. Lastly, an adjustment was made to the boundary of one associated field in geographic information systems (GIS) to make the regulated area map more accurate. This adjustment resulted in removing 2 acres from the total regulated area. Together these changes bring the total regulated area to 8,311 acres, of which 3,130 acres are infested fields.
- 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

ERADICATION ACTIVITIES

- University of Idaho researchers and infested field operators planted the trap crop litchi tomato on a 71-acre portion of a PCN-infested field in 2018. Since litchi tomato is non-native to Idaho, the crop was managed under an invasive species permit issued by the Idaho State Department of Agriculture (ISDA) which defines parameters for planting, monitoring and controlling escape of the plant. The PCN program collected soil samples following the treatment in fall 2018 to determine the effectiveness of litchi tomato as a trap crop. Results are expected over the winter of 2018-19.

REGULATORY DATA

Regulatory Treatments

Treatment type	Regulatory Treatments (# of pieces of equipment)		
	3rd Quarter of 2018	2018 Year to date	Since program inception
Pressure Washed	930	1,675	26,158
Steam Sanitized	745	842	4,182
Total	***1,675***	***2,517***	***30,340***

Self-Certification Program

Treatment type	Regulatory Treatments (# of pieces of equipment treated by stakeholders participating in the self-certification program)		
	2nd Quarter of 2018*	2018 Year to date*	Since program inception*
Pressure Washed	24	24	4,287

*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			
	3rd Quarter of 2018	2018 Year to date	Since program inception	Active
Certificate (PPQ 540)	318	642	12,420	*
Limited Permit (PPQ 530)	105	200	3,748	*
Compliance agreements	0	0	*	46

*Not applicable

SURVEY DATA

- To date, the PCN program has collected and screened 523,493 soil samples in Idaho outside of the 28 known infested fields.

Type of survey	Idaho soil samples collected		
	3rd Quarter of 2018	2018 Year to date	Since program inception
Detection	0	449	239,936
Delimiting	4,536	7,838	284,468
Eradication	1,336	2,512	160,312
Total	***5,872***	***10,799***	***684,716***

LABORATORY DATA

- Since 2009, the PCN program has assisted with collecting and screening 89,379 soil samples in support of the ISDA's post-regulation monitoring survey of fields deregulated by the USDA.
- The PCN laboratory has screened 74,219 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		
	3rd Quarter of 2018	2018 Year to date	Since program inception
Detection	294	6,635	261,240
Delimiting	916	4,219	272,610
Eradication	268	9,002	157,766
Total	***1,478***	***19,856***	***691,884***

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 906 cyst samples collected from infested fields before and after fumigation treatments. Viable nematode eggs are no longer detected in 22 of the infested fields, which advances those fields to the next phase of evaluating eradication progress, the greenhouse bioassay. The infested field confirmed in October 2018 has not yet begun the testing process.

Method	Location	Results	
		Total number of infested fields	Fields with no viable PCN detected by stain
Cyst stain	Idaho Falls PCN Laboratory	28	22

- Greenhouse bioassay is a test of the nematode ability to hatch, feed, and reproduce when placed in proximity to a growing host plant. Thirteen of the 22 fields at zero viability by the staining method have also successfully completed the greenhouse bioassay test. Final greenhouse bioassay results are expected in 2019 and early 2020 for 9 fields currently in the testing process.

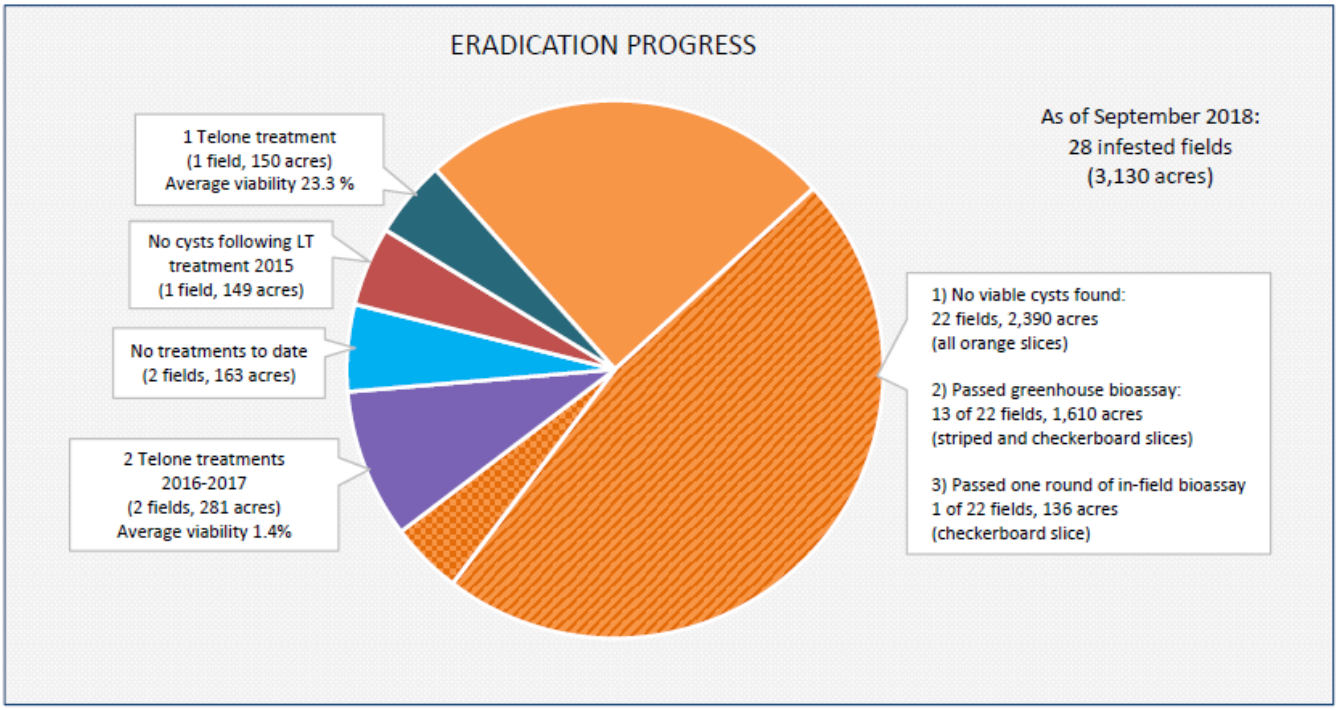
- The PCN program continues to monitor and regulate fields after successful completion of greenhouse bioassay testing, but with reduced sanitation requirements. Fields that have passed the greenhouse bioassay test are also eligible to return to potato production at the landowners' discretion.

Method	Location	Results	
		Fields that advanced to greenhouse bioassay testing	Fields that have passed greenhouse bioassay testing
Greenhouse bioassay	University of Idaho, Moscow	22	13

- 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 on half of one eligible field in 2015, 2016, 2017, and 2018 (alternating sides of the field). These were the first potato crops produced on the field since before PCN was detected there in 2006. Potato production has been successful; no viable PCN were detected in post-harvest surveys conducted in 2015, 2016, and 2017. Results from the 2018 crop will be available over the winter of 2018-19.

Method	Results	
	Fields currently eligible	Fields that have passed one or more rounds
In-field bioassay	13	1

ERADICATION PROGRESS SUMMARY



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, which 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-seven infested fields, the general opinion by our trading partners is that potatoes produced outside regulated areas do not pose a risk for spread of PCN.

PUBLIC OUTREACH

- July 2018: PCN program staff handed out flyers at homes and businesses around the litchi tomato treatment field. The flyers provided background information about this unique treatment option and guidance for reporting any LT plants spotted outside of the treatment area.

- August 2018: PCN program staff handed out flyers at homes and businesses around the Telone II treatment fields. The flyers provided general information about the chemical application, safety guidelines for reentry into the field, and how to contact the PCN program with questions or concerns.

PCN program information can be found at: http://www.aphis.usda.gov/planthealth/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.