



## **Pale Cyst Nematode (PCN) Eradication Program - Idaho Falls, Idaho 2018 2<sup>nd</sup> Quarter Report (April 1 – June 30)**

### **PROGRAM UPDATES AND NEW INFORMATION**

- The PCN program conducted eradication treatments on five infested fields (665 acres) in fall 2017 with the nematicide Telone II (1,3-dichloropropene). This was the second treatment for four of the fields, and the first treatment for one of the fields. Cyst samples were analyzed in spring 2018 to determine the percentage of viable nematodes remaining. Of the four fields that received a second treatment, two contained no viable eggs, and the eggs from two other fields together averaged 1.35% viable eggs remaining. The fifth field had an average of 23% viable eggs remaining after its first treatment. In the summer/fall of 2018, the PCN program plans to apply Telone II to the three fields (430 acres) that have a viable PCN population remaining.
- The PCN regulated area spans portions of northern Bingham County and southern Bonneville County and is currently 8,220 acres, of which 3,043 acres are infested fields.

### **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 is 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 will collect 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)		
	2 <sup>nd</sup> Quarter of 2018	2018 Year to date	Since program inception
Pressure Washed	640	691	25,174
Steam Sanitized	89	98	3,438
<b>Total</b>	<b>729</b>	<b>789</b>	<b>28,612</b>

**Self-Certification Program**

Treatment type	Regulatory Treatments (# of pieces of equipment treated by stakeholders participating in the self-certification program)		
	1 <sup>st</sup> Quarter of 2018*	2018 Year to date*	Since program inception*
Pressure Washed	0	0	4,263

\*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			
	2 <sup>nd</sup> Quarter of 2018	2018 Year to date	Since program inception	Active
Certificate (PPQ 540)	271	310	12,089	*
Limited Permit (PPQ 530)	67	85	3,633	*
Compliance agreements	1	1	192*	46

\*Not applicable



**SURVEY DATA**

- To date, the PCN program has collected and screened 519,868 soil samples in Idaho outside of the 27 known infested fields.

Type of survey	Idaho soil samples collected		
	2 <sup>nd</sup> Quarter of 2018	2018 Year to date	Since program inception
Detection	444	449	239,936
Delimiting	1,677	3,302	279,932
Eradication	1,176	1,176	158,976
<b>Total</b>	<b>3,297</b>	<b>4,927</b>	<b>678,844</b>

**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 73,925 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		
	2 <sup>nd</sup> Quarter of 2018	2018 Year to date	Since program inception
Detection	459	6,336	260,941
Delimiting	2,207	2,607	270,998
Eradication	1,176	8,734	157,766
<b>Total</b>	<b>3,842</b>	<b>17,677</b>	<b>689,705</b>

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
<b>Total</b>	<b>62,897</b>	<b>965</b>



### 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.

Method	Location	Results	
		Total number of infested fields	Fields with no viable PCN detected by stain
Cyst stain	Idaho Falls PCN Laboratory	27	22

- Greenhouse bioassay is a test of the nematode ability to hatch, feed, and reproduce when placed in proximity to a growing host plant. Twelve 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 2018 and 2019 for the other 10 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.

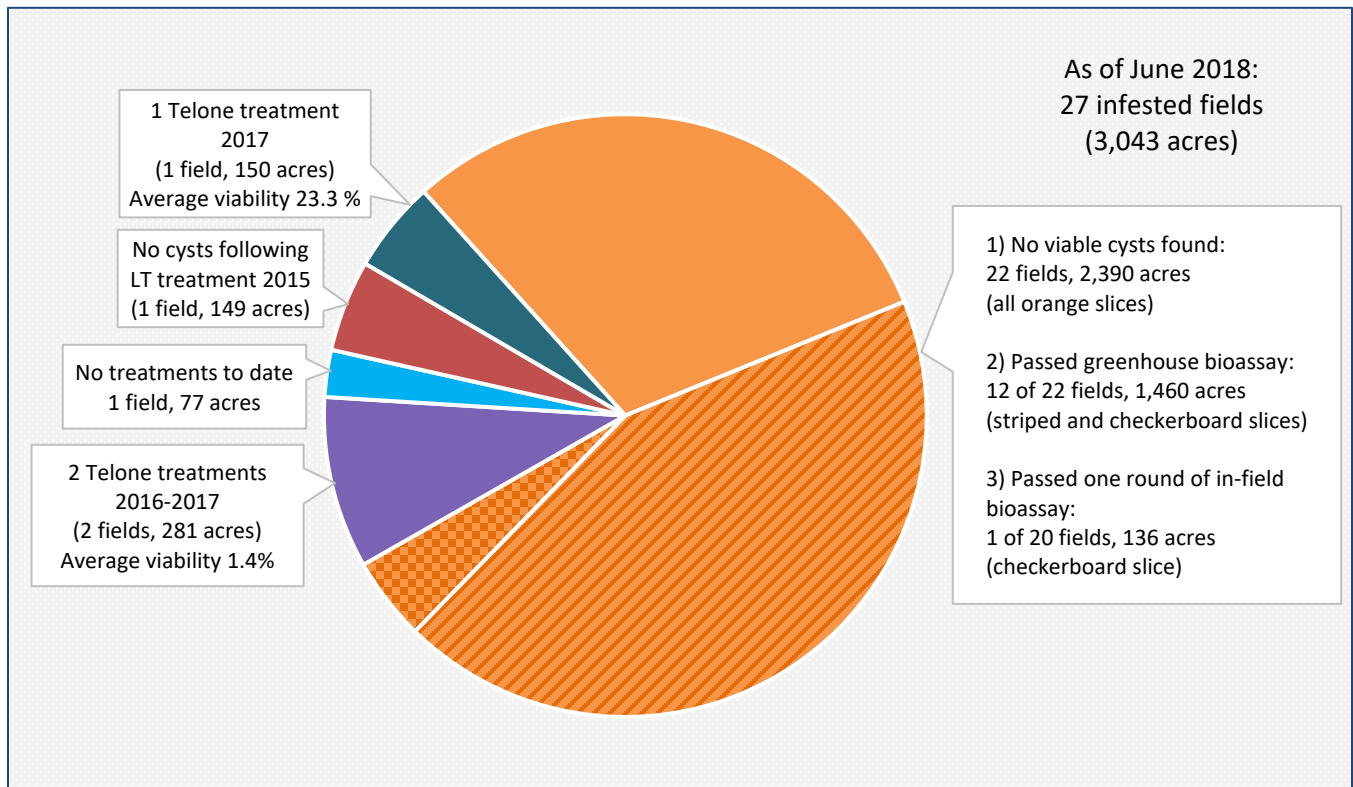
Method	Location	Results	
		Fields that advanced to greenhouse bioassay testing	Fields that have passed greenhouse bioassay testing
Greenhouse bioassay	University of Idaho, Moscow	22	12

- 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	12	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

- There were no public outreach events during the period of April 1<sup>st</sup> to June 30<sup>th</sup>, 2018.

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.