United States Department of Agriculture

Pale Cyst Nematode (PCN) Eradication Program - Idaho Falls, Idaho
2020 4th Quarter Report (October 1 – December 31)

PROGRAM UPDATES AND NEW INFORMATION:

- Trace work has been completed for infested fields announced in 2019 and 2020. A total of 444 acres will be added to the regulated area as associated fields, effective January 28, 2021, due to their exposure to infested field soil and high risk for PCN infestation.
- Effective January 28, 2021, the PCN program deregulated three associated fields, a total of 240 acres, after they completed a release protocol comprised of a sequence of surveys with negative laboratory results for PCN.
- The Animal and Plant Health Inspection Service (APHIS) is updating domestic regulations for pale cyst nematode (PCN, *Globodera pallida*). With this update, APHIS is amending Title 7 of the Code of Federal Regulations § 301.86-3(c)(1) and (d) to state that if APHIS considers making a change to the regulation or deregulation protocols, the agency will publish a notice in the Federal Register to inform the public of the proposed change, and solicit public feedback. After reviewing public comments, APHIS will publish the final notice and inform the public of changes made to the protocols as well as the reasons behind them. This action will go into effect on Jan. 28, 2021, 30 days after publication in the Federal Register. Members of the public can view the final rule, supporting documents, and additional information here: https://www.regulations.gov/document?D=APHIS-2018-0041-0040.
  This update does not contain any changes PCN program protocols for regulating and deregulating fields.

ERADICATION ACTIVITIES

- The PCN program contracted with a chemical applicator to fumigate five PCN-infested fields (450 acres) with Telone II (1,3-dichloropropene) in August and September of 2020. Soil samples will be collected from the fields in spring 2021, and cysts extracted from soil samples will be tested to determine treatment effectiveness at reducing nematode egg viability.

REGULATORY DATA

Regulatory Treatments

Treatment type	Regulatory Treatments (# of pieces of equipment)		
	4th Quarter of 2020	2020 Year to date	Since program inception (2006)
Pressure Washed	252	1,932	30,449
Steam Sanitized	13	233	5,027
Total	***265***	***2,165***	***35,476***

Self-Certification Program

Treatment type	Regulatory Treatments (# of pieces of equipment treated by stakeholders participating in the self-certification program)		
	3rd Quarter of 2020*	2020 Year to date*	Since program inception (2006)*
Pressure Washed	68	75	4,640

*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 2020	2020 Year to date	Since program inception (2006)	Active
Certificate (PPQ 540)	103	640	13,879	*
Limited Permit (PPQ 530)	18	173	4,117	*
Compliance agreements	1	37	*	37

*Not applicable

SURVEY DATA

- To date, the PCN program has collected 525,660 soil samples in Idaho outside of the 31 known infested fields.

Type of survey	Idaho soil samples collected		
	4th Quarter of 2020	2020 Year to date	Since program inception (2006)
Detection	1,292	1,610	242,291
Delimiting	1,776	2,248	283,369
Eradication	2,942	10,425	186,653
Total	***6,010***	***14,283***	***712,313***

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.
- Since program inception, the PCN laboratory has screened 85,540 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 2020	2020 Year to date	Since program inception (2006)
Detection	74	6,109	275,852
Delimiting	1,327	1,584	282,557
Eradication	3,569	8,237	181,908
Total	***4,970***	***15,930***	***740,317***

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 in 2006, the PCN program has used a staining technique to analyze the viability of nematode eggs in 976 cyst samples collected from infested fields before and after fumigation treatments. Viable nematode eggs are no longer detected in 25 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	25

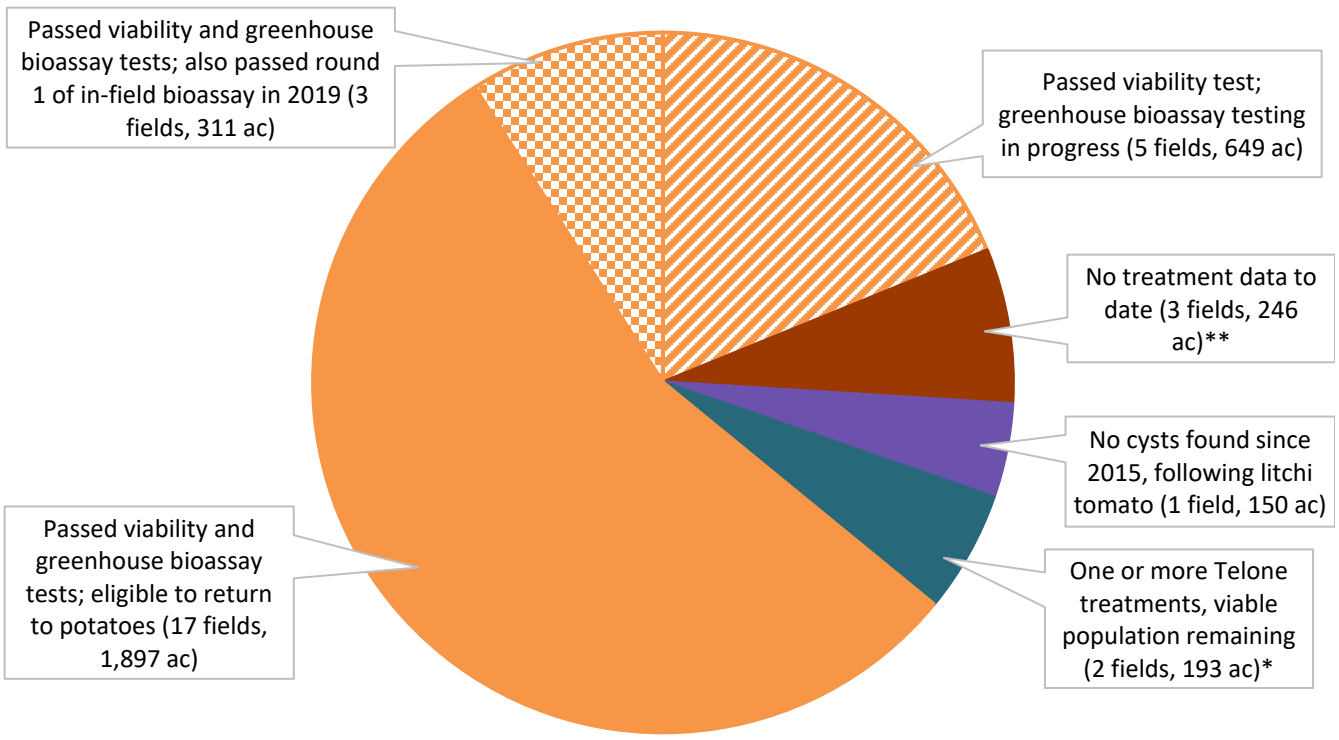
- Greenhouse bioassay is a test of the nematode's ability to hatch, feed, and reproduce when placed in proximity to a growing host plant. Twenty of the 25 fields at zero viability, according to the staining method, have also successfully completed the greenhouse bioassay test. Of the five fields currently in greenhouse bioassay testing, final results for one field are expected by mid-2021, and final results for the other four fields are expected in late 2021 to early 2022.
- 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.

	Location	Results	
		Fields that advanced to greenhouse bioassay testing	Fields that have passed greenhouse bioassay testing
Greenhouse bioassay	University of Idaho, Moscow	25	20

- 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 2020, which was the first potato crop since before PCN was found on those fields. The PCN program collected soil samples from the fields following harvest and will analyze them for the presence of viable PCN in early 2021.

ERADICATION PROGRESS SUMMARY AS OF DECEMBER 31, 2020

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



** 2019 data; 2020 post-Telone data will be available in 2021.*

*** Includes one field planted with a multi-year alfalfa crop in 2020 and two fields treated with Telone in September 2020, results pending.*

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 except for potatoes from PCN-regulated areas. Both require PCN soil surveys from origin fields. The Korea market was reopened in June 2010 except for 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

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