United States Department of Agriculture

Pale Cyst Nematode (PCN) Eradication Program - Idaho Falls, Idaho
2025 1st Quarter Report (January 1st – March 31st)

PROGRAM UPDATES AND NEW INFORMATION:

- The current Pale Cyst Nematode (PCN) regulated area, which spans portions of northern Bingham and southern Bonneville Counties, is 6,452 acres (3,538 acres of infested fields and 2,914 acres of associated fields). The PCN infestation is limited to an area with an 8.5-mile radius and represents less than 1% of Idaho's total potato production areas.

ERADICATION ACTIVITIES

- The PCN program contracted with a licensed chemical applicator to fumigate five PCN-infested fields (approximately 537.8 acres) with the nematicide Telone II® (1,3-dichloropropene). Fumigation was completed on the seven fields in October 2024.

REGULATORY DATA

Table 1. Number of Pieces of Equipment Treated by PCN Program by Treatment Type.

Treatment type	1st Quarter of 2025	2025 Year to Date	Since Program Inception (2006)
Pressure washed	50	50	36,768
Steam Sanitized	11	11	5,838
Total	***61***	***61***	***42,606***

Table 2. Number of Pieces of Equipment Treated by Stakeholders Participating in the Self-Certification Program.

Treatment type	1st Quarter of 2025*	2025 Year to Date*	Since Program Inception (2006)
Pressure washed	6	6	5,143

*Self-certification data lags all other program data as stakeholders have three months after the end of each quarter to self-certify.

Table 3. Regulatory Documentation Issued by PCN Program.

Documentation type	1st Quarter of 2025	2025 Year to Date	Since Program Inception (2006)	Active
Certificates (PPQ* 540)	26	26	16,077	**
Limited Permits (PPQ 530)	14	14	4,641	**
Compliance Agreements (PPQ 519)	1	1	416	15

*Plant Protection and Quarantine (PPQ); **Not applicable

SURVEY DATA

- To date, the PCN program has collected 541,348 soil samples in Idaho outside of the 32 known infested fields.

Table 4. Soil Samples Collected in Idaho.

Type of Survey	1st Quarter of 2025	2025 Year to Date	Since Program Inception (2006)
Detection	0	0	242,003
Delimiting	505	505	299,345
Eradication	1,245	1,245	210,561
Total	***1,750***	***1,750***	***751,909***

LABORATORY DATA

- Since 2009, the PCN program has collected and screened 89,379 soil samples in support of the Idaho State Department of Agriculture's (ISDA) post-regulation monitoring survey of fields deregulated by the Animal and Plant Health Inspection Service (APHIS). Note: this data stays static, because the ISDA no longer conducts post-regulation monitoring surveys.
- Since program inception, the PCN laboratory has screened 121,627 soil samples collected in other potato-producing states. There have been no PCN detections in the United States outside of Idaho.

Table 5. Samples Processed by the PPQ Idaho Falls PCN Laboratory.

Type of Survey	1st Quarter of 2025	2025 Year to Date	Since Program Inception (2006)
Detection	111	111	310,722
Delimiting	0	0	290,851
Eradication	0	0	208,592
Total	***111***	***111***	***810,165***

Table 6. Historic Info: Samples Processed at Other Idaho Laboratories.

Type of Survey	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

ERADICATION STATUS

Infested Field Deregulation Steps:

1. Viability Test: Since its inception in 2006, the PCN program has used a staining technique to analyze the viability of nematode eggs. Cyst samples are collected from infested field-monitoring grids before and after fumigation treatments to monitor viability. If a field is determined to have zero viability, the field may move to the next step of deregulation: greenhouse bioassay.

2. Greenhouse Bioassays: A greenhouse bioassay is a test of the nematode's ability to hatch, feed, and reproduce when cysts are placed in proximity to a growing host plant in a controlled environment. Fields must undergo three rounds of greenhouse bioassay to progress to the final deregulations stage: in-field bioassay. Greenhouse bioassay is a test of the nematode's ability to hatch, feed, and reproduce when cysts are placed in proximity to a growing host plant

3. In-field bioassay: After successful completion of greenhouse bioassay testing, fields have reduced sanitation requirements and are eligible to return to potato production at the landowners' discretion only for the purpose of an in-field bioassay following harvest. Fields that return to potato production must undergo full-field surveys following each of three subsequent potato crops to check for viable PCN populations. If viable nematodes are found after a survey, the program reinstates prohibitions on growing potatoes, and full sanitation treatments for equipment and vehicles leaving the field (i.e., pressure washing and steam treatment). Infested fields are released from regulatory control after three rounds of in-field bioassay where viable cysts are not detected.

Table 7. Current Regulatory Status of PCN Infested Fields.

Field Status	Number of Fields	Acres
Passed Greenhouse Bioassay Test: Eligible to Return to Potatoes and start the In-Field Bioassay Test (See Table 9 for in-field bioassay results summary)	21	2,296
Passed Viability Test: Greenhouse Bioassay Test in Progress	9*	963
Viable PCN: Continue with Telone Treatment	2	279
Viable PCN: No Treatment to Date	0	0.0
Total	**32**	**3,538**

*No cysts have been detected since 2015 in a Bingham County field (149.5 ac) following the litchi tomato trap crop. In the spring of CY2023 and CY2024 potatoes were planted only in the monitoring grids for the first and second rounds GH bioassay test. The rest of the field was planted to wheat.

Table 8. Current In-Field Bioassay Status.

Deregulation Status	Fields that have passed one round of in-field bioassay (viable nematode eggs not detected following harvest	Fields that have passed two rounds of in-field bioassay (viable nematode eggs not detected following harvest	Fields that did not pass in-field bioassay (viable nematode eggs were detected following harvest)
# of Fields	1	5	7*
# of Acres	148.6	454.1	826.3

*Viable nematodes detected in five fields on first deregulation iteration and in two fields on the second deregulation iteration.

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 United States. 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 the market for all except Idaho potatoes in February 2007 and 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 thirty-two 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, 7:30 AM to 4:00 PM (Mountain Time), excluding federal holidays.