

# IDAHO POTATO PULSE



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## USDA APHIS Pale Cyst Nematode (PCN) Stakeholder Update - 02/03/10

### UPDATES AND RELATED INFORMATION:

- In 2009, a total of 17,270 acres were deregulated through the soil survey and release protocol. An additional 1,562 acres were deregulated in January 2010.
- In 2009, the Idaho State Department of Agriculture continued to monitor deregulated potato fields for PCN by collecting over 3,400 soil samples. All samples were negative for PCN.
- The current regulated area is 2,327 acres, of which 1,100 acres are infested fields undergoing eradication treatments.
- In December 2009, the PCN Program hosted Korean delegates who were touring key PPQ emergency and domestic programs.
- The PCN Program Office held an open house in December 2009. The PCN facility was open to the entire potato industry and the general public for tours.
- In October 2009, the PCN Program participated in a PCN Stakeholder Meeting that was arranged and hosted jointly by USDA, the Idaho State Department of Agriculture, and the Idaho Potato Commission.
- In 2009, the upgraded Idaho Falls laboratory eliminated a backlog of general and eradication survey samples. All samples collected in 2009 from Idaho and other potato producing states should be processed prior to the opening of the 2010 survey season. The Idaho Falls lab processed more than 106,000 soil samples in 2009.
- A worldwide shortage of Telone II, the traditional soil fumigant used in the fall PCN treatment program, caused a change in the scheduled fall 2009 eradication treatment protocol. The program pursued a non-chemical treatment strategy over the Fall/Winter. Soil fumigants are expected to be available for treatments in 2010.
- The PCN eradication program completed program and safety reviews by both national and regional headquarters staff this summer and received high marks.

### SAMPLING INFORMATION:

- To date, more than 209,000 soil samples have been collected to confirm Idaho's freedom from PCN outside of the 9 known infested fields.
- Roughly 48,200 pre and post-fumigation samples have been collected in connection with PCN eradication treatments and viability assessments.
- A total of 352 viability samples collected from infested fields have been analyzed following fumigation treatments since program inception. The average viability of PCN in infested fields has declined by more than 90% since eradication treatments began.
- Through December 10, 2009, over 257,700 soil samples have been collected as part of the overall Idaho PCN Program.

### PROGRAM CHRONOLOGY

On April 19, 2006, officials of USDA's Animal and Plant Health Inspection Service (APHIS) and the Idaho State Department of Agriculture (ISDA) announced the detection of potato cyst nematode (PCN), *Globodera pallida*, a major pest of potato crops. This was the first detection of the pest in the United States. The nematode cysts were detected during a routine survey of tare soil at an ISDA grader facility in eastern Idaho. Subsequent 2006 surveying to determine the possible origin and distribution of the pest in Idaho confirmed seven PCN positive fields, all located in close

proximity, within Bingham and Bonneville Counties, Idaho. In response to the detection, Canada, Mexico and Korea shut off importation of potatoes from Idaho, while Japan cut off importation of potatoes from the entire U.S. The positive fields and an area surrounding the fields were placed under a Federal Domestic Quarantine Order and parallel State Rule establishing restrictions on planting and movement of certain regulated articles from Idaho in order to prevent the spread of PCN.

A trace of seed sources for the positive fields did not yield any evidence that seed was the source of infestation. Over 90% of the 2006 Idaho certified seed potato crop was surveyed and found negative for PCN. Other sources of introduction such as imported farm equipment, nursery stock, foreign flower bulbs, and other soil bearing items were investigated without providing any leads as to the origin of the infestation. As a result of the extensive surveying, negative test results and the regulatory actions of USDA and ISDA, Canada and Mexico reopened their markets to Idaho potatoes with some restrictions. Japan allows potatoes from the U.S. except for Idaho provided the product is not from Idaho seed.

In 2007, ISDA and USDA initiated a program to treat fields which have tested positive for PCN. The program includes pre-treatment sampling, fumigation, and post treatment sampling for up to two treatments per year. The ISDA contracts with growers for activities related to eradication of PCN from infested fields including access, tilling, irrigation, and maintaining a bio-fumigant planting at a fixed cost per acre. The first fumigation process was completed in May 2007. A bio-fumigant oil radish planted on the fields added an additional measure of control and prevented soil erosion over the summer months. The oil radish plants were tilled into the fields to replenish organic matter and rejuvenate the soil and release a compound which is toxic to the nematodes. No crops were grown for harvest in the infested fields in 2007. The second fumigation treatment was completed in August 2007. Infested fields were also fumigated in 2008. Each year, the spring fumigant used was methyl bromide and the fall fumigant used was Telone II.

On November 1, 2007, a Federal Interim Rule and Idaho State Rule went into effect, providing the framework for continued protection of Idaho and U.S. potato interests. Successful survey, regulatory, and eradication activities since the initial detection in 2006 have facilitated some regulatory relief in Idaho while forwarding the program objectives of: preventing the spread of PCN, delimiting the current infestation of PCN, eradicating PCN, restoring lost potato markets, and maintaining existing potato markets.

Regulated articles require either a limited permit or a certificate to move from the regulated areas. Equipment moving from regulated areas may be required to be cleaned. Cleaning can be done by USDA or by private parties, but USDA or ISDA must certify the cleaning. Based on a sequence of surveys, areas can be released from regulation. For low risk fields, one single survey with negative results can qualify equipment to move from the surveyed field without cleaning. Complete deregulation of fields requires at least two negative surveys taken by USDA or ISDA with at least a ten month interval between surveys.

On November 28, 2007, APHIS confirmed PCN in an additional field in Bingham County, Idaho as a result of continued intensive sampling. This find represents the eighth field infested with PCN in the regulated area in Idaho. The field has been regulated since August 28, 2006 under the Federal Order, Interim Rule, and Idaho State Rules covering PCN in Idaho. The field is adjacent to two of the other infested fields.

In 2007, approximately 5,000 acres regulated by the Federal Order in August of 2006 were released from regulated status. Additionally, corn and small grain were removed from the list of regulated articles. Peas and beans were added to the list of regulated articles.

In an effort to provide the best protection possible to the potato production and marketing system, approximately 125 fields were added to the regulated area in parts of Bingham, Bonneville, and Jefferson Counties in response to the publication of the Interim Rule for PCN. These fields are known to have been farmed by an operator the same year as he farmed one of the infested fields during the past 10 years and had at least one crop of potatoes during the past ten years.

In March 2008, more than 1,400 acres of farmland in Bingham and Bonneville Counties successfully completed a soil survey protocol, resulting in their release from Federal Regulation. In June and July 2008, the PCN Program deregulated over 580 acres of farmland subjected to intense survey and found free of PCN.

On December 9, 2008, approximately 1,200 acres of farmland in Bingham and Bonneville Counties successfully completed a soil survey protocol resulting in their release from federal regulation for PCN. The December release represents the third release in 2008 of fields that successfully completed the survey-release protocol. In total, more than 3,100 acres were released in 2008 after completing the intensive survey protocol without PCN detection.

On December 11, 2008, APHIS confirmed PCN in another field located in Bingham County, Idaho as a result of continued intensive sampling. This find represents the 9th field infested with PCN in the regulated area in Idaho and is in close proximity to the other infested fields. The field has been regulated since August 28, 2006 under the Federal Order, Interim Rule, and Idaho State Rules covering PCN in Idaho. The field is located directly across a road from another PCN infested field, and was closely associated with two other infested fields over the past decade. In response to discovering the 9th infested field, approximately 4,800 acres of farmland in parts of Bingham and Bonneville Counties were added to the regulated area. These fields became regulated due to having been farmed by a common operator in the same year as the 9th infested field and because they had had at least one potato crop in the last ten years.

On April 29, 2009 APHIS published a Final Rule for PCN with three changes; 1) referring to the nematode of concern, *Globodera pallida*, by the common name "pale cyst nematode" rather than by the name "potato cyst nematode;" 2) allows the movement of *Phaseolus* species (beans) and *Pisum* species (peas) under the same conditions that apply to the movement of other crops to which soil is often attached; 3) requires that a protocol approved by the Administrator as sufficient to support removal of infested fields from quarantine, rather than a 3-year biosecurity protocol, be completed in order to remove an infested field from quarantine.

The change specifying a protocol approved by the Administrator provides an opportunity to amend the requirements for removal of infested fields from quarantine in a more streamlined manner. PCN officials do not anticipate this change will have any negative effect on the quarantine removal program.