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Idaho Pale Potato Cyst Nematode Cooperative Program



APRIL 2009

USDA/APHIS Plant Protection & Quarantine
Idaho State Department of Agriculture

PCN Eradication Program Enters Third Year

Agricultural Threat

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 the pale potato cyst nematode (PCN), *Globodera pallida*, a major pest of potato crop, in the Shelley, ID area. This was the first detection of the pest in the United States.

Potatoes are the principal economically significant crops attacked by PCN. At high population levels, PCN will greatly reduce potato yields.

The goals of APHIS and ISDA in the PCN Program are to:

- Prevent the spread of PCN
- Delimit the current infestation
- Eradicate the infestation
- Restore lost foreign markets
- Preserve current markets



Pale Potato Cyst Nematode

Control Measures

APHIS and ISDA have implemented a regulatory program designed to prevent the pest's spread to other fields. The program defines restrictions on the movement of soil and other regulated articles, and requires sanitation procedures for equipment that have come into contact with regulated or infested fields.

APHIS and ISDA scientists have developed a PCN pest eradication program including soil sampling, soil treatments, and managed cultivation to ensure the continued vitality of agriculture in Idaho.

Program Progress

Since the onset of the PCN Program in April 2006, more than 200,000 soil samples have been collected in the State of Idaho and processed by USDA and ISDA laboratories.

Since March 2008, more than 8,000 acres of farmland in Bingham, Bonneville, and Jefferson Counties have successfully completed a soil survey protocol resulting in their release from Federal regulation.

With continued support from growers, the PCN Program anticipates that several additional fields will complete the soil survey protocol, resulting in their release from Federal regulation, in 2009 and 2010.

For more information, visit:
www.aphis.usda.gov/plant_health/plant_pest_info/potato/pcn.shtml

Soil Treatment Process

Soil fumigation, an effective method of controlling the pale potato cyst nematode (PCN), will resume in nine PCN positive fields in the Shelley, ID area. Treatments in PCN positive fields began in 2007 and will continue in 2009.

Two treatments of infested fields will take place between April and September of each year until the pest is successfully eradicated.

The first treatment, applied between late April and mid May, will be a soil fumigation with the chemical methyl bromide.

- The chemical is injected approximately 10-12 inches beneath the soil surface.
- Treated soil will be covered with a plastic tarp for several days during treatment.

Following methyl bromide fumigation, infested fields will be planted with arugula (*Eruca sativa*) to secure the treated soil until the next fumigation treatment.

The second treatment for 2009 of infested fields, conducted between mid and late August, will employ another common soil fumigant, Telone II. The chemical application process is similar to the spring methyl bromide

treatment except that the treated fields will not be covered with plastic tarp.

Safety and Precautions

- Safety is the primary concern of the PCN project staff.
- All chemicals used by the PCN Program are applied according to label directions and in compliance with all state and federal regulations.
- Each treated field is clearly marked with warning signs.
- Treatment is conducted by a licensed applicator under contract with USDA.
- Heed warning signs posted in or near treated fields.

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Hours of Operation: Monday through Friday, 8:00am-4:30pm

Questions and Answers about PCN Treatments

- Q. Why is treatment for PCN necessary?
- A. Fortunately, PCN was detected before it spread throughout the state. It has only been detected in eight fields in the Shelley, ID area. This means that the problem is small enough that eradication of the pest is possible.
- Q. Are treatments other than soil fumigation possible?
- A. Soil fumigation is the most effective treatment for PCN. There are other treatments, but they have less chance of success.
- Q. Are the soil fumigants safe that are being used for this treatment?
- A. The chemicals used to fumigate soil in the infested fields are well understood and documented. They have been used safely in many areas of the United States for years. When applied under the label directions, as they are in this case, there is an excellent margin of safety for human and environmental health.
- Q. Should I keep children and pets away from treated fields?
- A. Humans and animals should avoid exposure to any pesticide. Warning signs posted at fields where treatment occurs should be strictly obeyed. For additional peace of mind, you may wish to restrict children and pets from playing near treated fields until after the plastic and warning signs have been removed.
- Q. Should the chemicals be applied when it is windy?
- A. The contractor will carefully monitor wind conditions to ensure that safety limits are not exceeded. Chemical application will be discontinued during adverse weather conditions.
- Q. Does the material have an odor?
- A. Soil fumigant chemicals are mixed with a special chemical to make them detectable. The contractor will monitor the work area to make sure that there is no risk to the public. It is important to note, however, that when the plastic is removed, the odor of decayed plant material may be detected. The contractor will not remove the plastic until it is safe to do so.
- Q. Can the plastic be used for other purposes after the soil treatment is concluded?
- A. Only the contractor is authorized to remove and dispose of the plastic covering and it is not re-used.
- Q. What should I do if I become ill?
- A. Consult your local health care provider and follow his/her instructions.
- Q. Are people who live near the treated fields at risk of injury from the chemicals used?
- A. Obeying the posted warning signs and staying out of treated fields until signs and tarps are removed are sufficient to prevent injury from the chemicals.
- Q. Are people with chemical sensitivities at risk?
- A. Persons with special chemical sensitivities should contact their personal health care provider and follow his/her advice.
- Q. How many treatments will be conducted?
- A. Treatments will continue at the rate of two per year until monitoring data indicates that the pest has been successfully eradicated.
- Q. How long do the chemicals persist in the environment?
- A. The fumigation chemicals break down in the soil in a matter of a few days.
- Q. Is it safe at any time to be in treated fields?
- A. Only authorized personnel should be on these fields at any time, so as to prevent the spread of PCN.