

Pale Cyst Nematode Program: Frequently Asked Questions

Pale cyst nematode (PCN) is a microscopic, soilborne pest of potatoes and other plants in the nightshade family, including tomatoes, eggplants, and some weeds. Although PCN does not infect potato tubers, large numbers of nematodes can cause wilting, stunted growth, poor root development, and early plant death. PCN is not harmful to people or animals.

PCN has been detected in a small area spanning parts of Bingham and Bonneville Counties in southeast Idaho. Although no one knows how PCN came to Idaho or from where, scientists agree that the pest was unintentionally introduced in the area decades ago, well before the activities of the current growers.

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) and the Idaho State Department of Agriculture (ISDA) are working together to eradicate PCN, protect Idaho's potato industry, and maintain markets for Idaho potatoes. Together, we regulate infested and associated fields (cultivated plots that may have been exposed to PCN-infested soil transferred through shared farming equipment and other regulated articles) and restrict movement of potatoes and other regulated items from quarantined areas to prevent this pest's spread. These actions are necessary to safeguard potato production areas outside of PCN-regulated areas and maintain domestic and international markets for U.S. potatoes.

Where and how large is the current PCN-regulated area?

The PCN-regulated area spans portions of Bingham and Bonneville counties. It represents less than 1 percent of Idaho's total potato-producing acreage. Maps showing the current regulated area are available online at www.aphis.usda.gov/planthealth/pcn.

Are all regulated fields infested with PCN?

APHIS and ISDA regulate infested fields, where PCN has been confirmed, and associated fields, where PCN has not been confirmed but that may have been exposed to PCN-infested soil in the past. Exposure typically occurs when farming equipment is moved between fields, resulting in soil transfer from one field to another.



Why don't APHIS and ISDA publicize the locations of infested fields?

We do not share the exact locations of infested fields to protect the privacy and safety of individuals who own or farm those fields. Maps of all regulated fields (both infested and associated) are publicly available, but they don't distinguish infested fields from associated fields.

Are entire farming operations regulated?

APHIS and ISDA regulate known infested and associated (potentially PCN-exposed) fields on a field-by-field basis. We do not regulate entire farming operations.

What does the PCN Final Rule, published in December 2020, do?

The 2020 rule requires APHIS to publish a notice in the *Federal Register* when considering any changes to PCN program protocols to inform the public of the proposed changes and solicit comments. The rule also requires APHIS to publish a final notice and inform the public of changes made and the reasons behind them. APHIS published this rule in response to a court order requiring us to provide a means for public input on the protocols used to regulate and deregulate fields for PCN. Current program protocols are available at www.aphis.usda.gov/planthealth/pcn.

Does the 2020 PCN rule make any operational changes to the program?

The 2020 rule does not change any of the protocols for regulating and deregulating PCN-infested and associated fields, nor does it change the interstate movement

requirements for regulated articles or field sampling protocols. Also, the final rule does not impact ISDA's PCN rule (<https://adminrules.idaho.gov/rules/current/02/020610.pdf>), which mirrors APHIS' intrastate movement requirements for regulated articles.

Is PCN spreading?

There is no evidence that PCN is spreading from infested fields since APHIS and ISDA put movement restrictions and strict sanitation requirements in place. We also conduct extensive outreach to the public, farm service providers, utility companies, and others to ensure that anyone who may need to enter an infested or associated field follows appropriate sanitation procedures to prevent soil movement.

Why are infested fields still being found if PCN is not spreading?

PCN cysts can contain hundreds of viable nematode eggs and remain dormant in soil for up to 30 years without a susceptible host. When a host crop like potato is planted, nematode eggs hatch, the nematodes enter the root, and then they reproduce on the growing potato plant. With every planting of a potato crop, the PCN population can increase, becoming large enough to be detected with soil analysis. Depending on a field's crop rotation, PCN population levels may take several years to reach detectable levels.

Can PCN be spread by the wind or migrating geese?

Although this cannot be ruled out, APHIS and ISDA field survey data do not indicate that wind or migrating geese contribute to PCN spread. PCN is spread primarily through the movement of infested soil by farming, construction, and other equipment and on seed potatoes and other regulated crops.

What has the program achieved since PCN was first detected in Idaho in 2006?

When PCN was first detected, several trading partners closed their markets to Idaho and U.S. potatoes. Through the PCN program's work to delimit and control the infestation in Idaho, APHIS was able to restore all lost markets by 2017. Since then, the program has helped maintain market access for Idaho and 914,000 total acres of U.S. potatoes valued at \$3.9 billion in 2020. Additionally, the program has successfully contained PCN to an area with an 8.5-mile radius in southeast Idaho, preventing its spread to other potato-producing areas in the United States.

Have any PCN-infested fields been released from regulation?

No infested fields have been released from regulation yet. All infested fields are undergoing a three-step testing process to ensure the absence of viable PCN cysts and ultimately qualify for deregulation. Twenty of the 32 known infested fields have progressed to the third testing step, which includes an in-field bioassay that requires growing three crops of PCN-susceptible potato varieties and testing negative for viable PCN after each crop. Achieving eradication and deregulating infested fields is an ongoing challenge.

Where can I find more information about the PCN program?

To learn more about the PCN program, go to www.aphis.usda.gov/planthealth/pcn. There, you'll find information on the pest's biology, PCN-regulated areas, program protocols, quarterly program updates, and more. You may also call the Idaho PCN Program office at (208) 522-2431, Monday through Friday, 8:00 a.m. to 4:30 p.m., excluding Federal holidays.