



Animal and Plant Health Inspection Service, Plant Protection and Quarantine

Questions and Answers

February 2015 Pale Cyst Nematode (PCN)

What is PCN and what damage does it cause?

PCN is a microscopic soil-borne pest of potatoes and plants within the potato family such as tomatoes, eggplants, and some weeds. PCN does not infect potato tubers; however, large numbers of the nematodes cause wilting, stunted growth, poor root development, and early plant death. PCN is not harmful to humans or animals. PCN has been detected in a small area within a 7.5-mile radius spanning parts of northern Bingham and southern Bonneville Counties, Idaho.

Where did PCN come from, and who is responsible for the infestation?

It is unclear exactly from where and how PCN came to southeast Idaho. Analysis of the fields' infestation levels by nematology experts and inconclusive investigations of potential pest origins suggest that it was unintentionally established in the area decades ago, well before the activities of the current growers.

Are all regulated fields infested with PCN?

No. The Animal and Plant Health Inspection Service (APHIS) regulates infested fields in addition to other fields that may have been exposed to PCN-infested soil in the past typically through share farming equipment resulting in soil transfer between fields. Most fields regulated by APHIS are not found to have PCN. Through February 2015, APHIS has screened more than 475,000 soil samples from Idaho outside of the infested fields. Fewer than 3,000 infested acres have been detected out of Idaho's more than 300,000 acres of potato cropland.

Are the growers who farm the infested and associated fields spreading PCN?

No. Strict sanitation requirements for equipment leaving infested and associated fields makes PCN spread from these fields and by these individuals unlikely.

Is PCN spreading?

APHIS continues to find additional infested fields, but there is no evidence that they are a result of new PCN movement since the PCN regulations designed to prevent PCN spread were implemented in 2006. Recent detections have been made through ongoing cooperative monitoring of associated fields by APHIS and the Idaho State Department of Agriculture (ISDA).

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

PCN cysts contain hundreds of nematode eggs that can remain dormant in soil for up to 30 years. PCN reproduces primarily on growing potato plants. Therefore, several crops of potatoes may need to be grown in a field before a PCN infestation is large enough to be detected. Depending upon a field's crop rotation, an infestation may take several years to detect.

Can PCN be spread by the wind or by migrating geese?

Although these modes of transport cannot be ruled out, APHIS and ISDA field survey data from throughout southeast Idaho do not suggest these contribute to PCN spread. PCN is spread primarily by the transport of cysts in soil with the movement of farming, construction, and other equipment; infested soil adhering to seed potatoes and other regulated crops, and any other items or means of soil transport. The Idaho and other states' seed potato production areas have been surveyed since 2006 with no PCN detections.

Does APHIS regulate entire farming operations?

APHIS regulates potentially PCN-exposed fields on field-by-field basis.

Why doesn't APHIS publicize the locations of infested fields?

The exact locations of infested fields are not publicized to defend against malicious acts and to protect the privacy of individuals who own or farm the fields. Maps of all regulated fields (both infested and associated), are publicly available, although the infested fields are intentionally indistinguishable from the associated fields.

APHIS conducts extensive outreach to neighbors, custom service providers, utility companies, etc. to ensure that all parties who may need to work in an infested or associated field follow appropriate sanitation procedures for preventing soil movement. Maps of current and past regulated fields are located on the web at:

<http://www.aphis.usda.gov/planthealth/pcn>

Additional Questions?

Contact the PCN Program office at (208) 522-2431, Monday through Friday, 8:00 AM to 4:30 PM, excluding federal holidays.