

Potato Cyst Nematode (PCN)  
Stakeholder Update  
(6/23/06)

## SITUATION SUMMARY

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 is 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. In that survey, more than 3,500 samples were analyzed, and only one was positive.

On June 13, 2006, soil samples collected from a 45-acre field in northern Bingham County tested positive for PCN. Based on these survey results, and the more than 3,000 additional samples taken since the April detection, the PCN infestation appears to be isolated, but additional surveillance will continue.

### Updates and related information:

- Investigations revealed that over 80 fields operated by nearly 30 growers provided potatoes that passed through the ISDA grader facility on the day the positive tare dirt sample was collected. Fifty-six of those fields, operated by 25 growers in seven counties, were identified as high priority for sampling. The positive field was one of those fields.
- Personnel from ISDA and APHIS continue to collect soil samples from potato fields and cellars in eastern Idaho. They are taking samples from fields that are associated with the positive field south of Idaho Falls as well as other fields throughout the Upper Snake River Plain. Only one field has been confirmed positive.
- University of Idaho nematology lab in Parma is currently analyzing the samples, and ISDA is developing additional laboratory capacity in Twin Falls. APHIS is planning to establish laboratory capacity in Idaho Falls.
- The two potato cellars which were regulated in April were released from their Emergency Action Notifications (EANs) June 19. All the samples taken at these cellars were analyzed and found to be free of PCN.
- Currently, three fields and one packing shed are regulated under EANs. Under the EAN restrictions, no potatoes can be planted in the fields, no soil can leave the fields, and equipment leaving the fields must be cleaned of soil. APHIS and ISDA provide a cleaning service for the equipment when requested. Two of the fields were highly suspect based on the original tare dirt sample analyzed in April. So far, all samples from those fields have been negative for PCN. If analyses of all samples are completed and they are found to be free of PCN, those fields can be released. The third field was determined to be infested with PCN and will be subject to ongoing regulations which will be developed as the situation continues to be evaluated.

- The packing shed is currently prohibited from allowing sediment in the settling pond to be dumped without burial at an approved site. Upon disposal of the sediment currently in the pond, that shed will be completely deregulated.

## Questions and Answers

**Question:** Is it true that PCN is present in Europe and is easily managed?

**Answer:** PCN is present in several European countries, and it is under Official Control in the areas where it exists. Official Control programs place restrictions on growers and shippers so that spread and increase of the nematode population is minimized. PCN is a regulated quarantine pest on the world scene. Some of the management practices that are used in Europe and other locations where PCN is present include long rotations (5+ years between potato crops), use of resistant potato varieties, and chemical treatments. USDA and ISDA scientists do not believe that any of the potato varieties currently grown in Idaho are resistant to PCN.

**Question:** Is USDA confident of the identification of PCN in Idaho.

**Answer:** Yes. USDA utilized a multiple step process at the Beltsville Laboratory to confirm the identification of PCN from the original tare dirt sample and the field. Nematode cysts and juvenile nematodes were subjected to a microscopic examination which utilized shape, size, and structural characteristics to compare the specimens with known PCN. Then, Beltsville scientists performed multistage DNA analyses on the larvae to reach a final conclusion that the nematodes are *Globodera pallida*. They also provided genetic material to the Nematology Laboratory at University of Nebraska where the confirmation was verified through independent testing.

**Question:** Can soil tests conclusively identify the field from which a sample was taken.

**Answer:** Current soil tests can show a relationship between a sample and the field from which it was taken. Soil samples have been analyzed by USDA Natural Resources Conservation Service to determine various soil properties so that tare dirt samples can be related to soil type and other geographically described soil areas. The APHIS laboratory in Gulfport Mississippi is conducting research on soil from fields associated with the tare dirt samples, the infested field, and other fields to test new technologies that may allow more specific characterization of soil to a specific site.