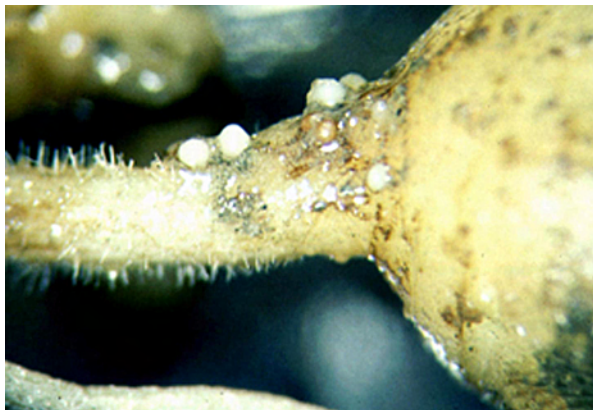


## Potato Cyst Nematode



Features of the potato cyst nematode. (Photo by Jonathan D. Eisenback, Virginia Polytechnic Institute and State University.)



White female potato cyst nematodes on the stolon of a potato. (Photo by Christopher Hogger, Swiss Federal Research Station for Agroecology and Agriculture.)

### Background

Potato cyst nematode (PCN), *Globodera pallida*, has been detected in Idaho. Among the economically significant crops, PCN principally attacks potatoes and tomatoes. This microscopic worm is a quarantine pest and presents a serious threat to domestic and international commerce in potatoes and nursery stock.

### Description

PCN is a soil-borne organism that does not infest potato tubers. The pest infests feeder roots, where the females attach, feed, and become sedentary. At high population levels, PCN will greatly reduce potato yields. The nematode causes patches of poor growth in the crop, sometimes with yellowing,

wilting, or death of the foliage. Even with only minor symptoms showing on the foliage, PCN can significantly reduce tuber size. The primary means of spread of PCN is by transport of cysts in soil. This may occur with movement of soil on farming equipment, infested soil adhering to seed potatoes, and tare dirt.

Nematodes reproduce sexually. Males are attracted to females by a pheromone (sex attractant) and may mate several times. Females form cysts containing 200–600 eggs, which can stay dormant for up to 30 years while the eggs inside remain viable.

### Detection

It is essential that public and private entities work together to determine the extent of the current infestation and

prevent the further spread of PCN. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS), working cooperatively with the States, will conduct a national survey to determine the distribution and extent of infestation of this pest in the United States. Since the initial find of PCN in Idaho in April 2006, more than 30,000 soil samples from surrounding production fields, seed fields, and storage and packaging facilities have been examined. The nematode has been isolated to seven fields within a 1-mile radius in southeastern Idaho. All other soil samples have been determined not to contain PCN.

The University of Idaho Nematology Laboratory has also processed an additional 3,500 samples collected through the



A healthy potato plant (left), compared to one infested with the potato cyst nematode. (Photo by Christopher Hogger.)



Female nematodes on potato root. (Photo by Bonsak Hammeraas, Norwegian Institute for Agricultural and Environmental Research.)

Cooperative Agricultural Pest Survey program. Except for the initial positive sample from an Idaho State Department of Agriculture grading facility, all other samples have been found to be free of PCN.

### **Control Measures**

USDA-APHIS has implemented a regulatory program in Idaho designed to prevent spread of the PCN to uninfested fields. The program defines restrictions on the movement of plants and soil, required sanitation

procedures for equipment, and a crop-rotation requirement. Commercial and seed potato producers in Idaho's regulated area who ship their products intrastate, interstate, or internationally are subject to the regulatory program.

### **For more information**

To learn more about PCN, please visit <http://www.aphis.usda.gov/ppq/ispm/potato/pcn.html> on the Web.

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