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# Pale Cyst Nematode Program

## Infested Field Confirmatory Policy

Last Modified:

Effective December 17, 2018, this policy is specific to the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) pale cyst nematode program (*Globodera pallida*; PCN) and is based on knowledge about the biology and epidemiology of the organism. Specimens must be identified and confirmed by an APHIS-approved laboratory using definitive morphological/morphometric and molecular identification techniques. If the pest is confirmed positive for PCN, regulatory action will result as outlined in Code of Federal Regulations (CFR) § 301.86-3(c).

## Morphological and Molecular PCN Confirmation Process

Complete, definitive identification of *G. pallida* is a multi-step process, as follows:

1. Verify that the sample contains suspect *Globodera* spp. cysts.
2. Verify that the suspect cysts and/or any juvenile forms have key characters and are morphometrically consistent with *Globodera* species.
3. Verify that the suspect nematode tissue yields DNA identifiable as *G. pallida* as per the APHIS, Science and Technology, Plant Pathogen Confirmatory Diagnostic Laboratory, Laurel, Maryland. Protocol by Skantar et al., 2007, posted at [Morphological and Molecular Identification of \*Globodera pallida\*](#)

## **PCN Infested Field Confirmation**

As per 7 CFR § 301.86-3(c), the Administrator will designate a field as an infested when a pale cyst nematode is found in the field. The technical minimum threshold for declaring a field infested/positive for pale cyst nematode is met by detecting a minimum of two cysts from two

samples that were identified as *Globodera* spp. by morphological/morphometric analysis, and at least one of the cysts was viable and confirmed as *G. pallida* by molecular deoxyribonucleic acid analysis. It is not necessary for the two samples to come from the same survey event.

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