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

Associated with Potato in Idaho - PMC (nih.gov)

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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