

**United States Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine**

**Survey Protocol for Interstate Movement of Citrus
Nursery Stock from Areas Quarantined for Citrus
Canker, Citrus Greening, and/or Asian Citrus Psyllid
2019**

In support of the APHIS Citrus Nursery Stock Final Rule (Docket# APHIS-2010-0048), this survey protocol is for citrus nursery stock (CNS) intended for interstate movement from APHIS-approved exclusionary facilities in areas quarantined for citrus greening (CG), Asian citrus psyllid (ACP), and/or citrus canker (CC). Inspection, sampling, and testing requirements for allowing interstate movement of CNS are described (USDA, 2008 and 2019).

Detection Survey for CC: An inspector must visually inspect plants for disease symptoms at an interval not to exceed 30 calendar days. Leaves from plants showing symptoms of CC must be tested using Work Instructions approved by APHIS.

Detection Survey for ACP: An inspector must visually inspect new flush growth of CNS for ACP at an interval not to exceed 30 calendar days. Any suspect specimens should be submitted to an APHIS approved identifier. Visual inspection can be augmented by using yellow sticky cards (1 card per 1000 ft²), vacuum suction sampling, tap sampling, or other methods approved by APHIS.

Detection Survey for CG: An inspector must visually inspect plants for disease symptoms at an interval not to exceed 30 calendar days. Leaves from plants showing symptoms of CG must be tested by a diagnostician certified by APHIS at a laboratory accredited by APHIS using the APHIS Work Instruction. CG plant tissue sampling and testing must be conducted according to the schedule in Table 1.

Table 1. Testing intervals for different citrus nursery stock tree types.

Tree Type	Testing Interval
Mother/scion	ALL mother/scion plants must be tested once per calendar year at an interval not less than 11 months and not more than 12 months
Increase	A sample of increase trees must be tested every 6 months – see Table 2 for rate of sampling
Production trees: sold prior to 12 months of age	Testing is not required
Production trees: held for 12 months or longer	Trees must be tested at 12 months and every 6 months thereafter – see Table 2 for rate of sampling

Tissue samples must be collected from plants randomly selected from the lot. Tissue samples must be tested by a diagnostician certified by APHIS at a laboratory accredited by APHIS using

the APHIS Work Instruction. Table 2 provides required sample sizes for testing of citrus nursery stock for interstate movement.

Table 2. Sampling size required for citrus nursery stock lots eligible for interstate movement.

Plants per Lot ¹	Number of Plants to Sample ²	Number of Laboratory Tests Required ³
1 to 100	All plants	1 to 25
101 to 200	160	40
201 to 300	195	49
301 to 400	220	55
401 to 500	230	58
501 to 1,000	265	67
1,001 to 1,500	275	69
1,501 to 2,000	280	70
2,001 to 2,500	285	72
2,501 to 3,000	290	73
3,001 to 3,500	295	74
> 3,500	300	75

¹A lot is defined as the population of plants to be tested (i.e. mother plants, increase trees, etc.).

²Each plant sample consists of 8 leaves.

³Laboratory tests may be run on a composite sample taken from one to four citrus plants (8-32 leaves).

Supporting Documents:

USDA. 2008. New Pest Response Guidelines Citrus Greening Disease. United States Department of Agriculture.

USDA. 2019. Interstate Movement of Citrus Nursery Stock from Areas Quarantined for Citrus Canker, Citrus Greening, and/or Asian Citrus Psyllid – November 25, 2019. United States Department of Agriculture.