Approved Survey Methodology for Negative Data

The survey methodology presented on the Approved Methods for Pest Surveillance webpages lists the most up-to-date, approved methods for survey and identification/diagnostics of target pests on the Priority Pest List. The Priority Pest List consists of pests from the 1) commodity- and taxonomic-based surveys and 2) Pests of Economic and Environmental Importance. The information on the webpage supersedes any survey and identification/ diagnostic information found in any other document (e.g., Commodity-based Survey References and Guidelines, CPHST Pest Datasheets). All other documents eventually will be revised to include the information contained on the Approved Methods for Pest Surveillance webpage; however, **these pages will always be the authoritative source for the most up-to-date approved methods for Priority Pests.**

Click here for the 2020 Approved Methods for Pest Surveillance (AMPS).

PPQ S&T Pest Datasheets

PPQ Science & Technology (S&T) develops pest datasheets for the Priority Pest List that includes pests in the commodity- and taxonomic-based survey manuals, pests on the Pests of Economic and Environmental Importance List, and pests on the Additional Pests of Concern List. For newer manuals, the pest datasheets are designed as stand-alone files and are available on the individual pest pages of the Approved Methods for Pest Surveillance site. Datasheets are accessible via the 'CPHST Pest Datasheet' link at the top left of the pest page. If a datasheet is not yet available as a stand-alone document, it can be found in the appropriate survey manual. The CAPS program is in the process of transitioning all manuals and pest datasheets to the web-based format. All manuals will be replaced with the new format, and all pest datasheets will become stand-alone documents.

Visual Surveys Conducted in Nurseries

In recent years, at the end of the survey season, some states have asked for permission to enter negative data entry for visual surveys in nurseries for pests that did not have visual as an Approved Method. It was decided at the 2013 National CAPS Committee Meeting that surveys conducted in nurseries must follow the approved methods for target pests. Negative data will be allowed for a visual survey only if visual is an approved method for the target species. If nursery owners do not want traps hung in nurseries, surveyors can place traps near the nurseries or in right-of-ways.

Insects – Survey Considerations

For 2011 and beyond, negative data may be reported for these target pests **only** when surveyed for by the Approved Methods for Pest Surveillance method. For species with attractants and/ or lures available, the approved trap type and lure **must** be used in order to report negative data.

If "visual" is listed as the only approved survey method for a target pest, then traps and lures have not yet been proven effective for attracting that target. Negative data may only be reported for these species by conducting a visual survey and not from any trap/ lure combination.

Trap recommendations

The CAPS program managers, with support from S&T CAPS Support, have made a concerted effort to review information from the literature and subject matter experts on what the most effective trap would be for an early detection survey for CAPS targets. In cases where there was more than one effective trap, the CAPS coordinators narrowed the options to one trap in order to establish homogeneity in the dataset. Decisions were made based on the scientific data available, cost, and ease of use (both for surveyors and identifiers). If you have evidence to support the use of other traps, please submit relevant literature references or communications, and these traps will be taken into consideration. Please contact Heather Moylett (heather.moylett@usda.gov) for more information.

Ordering traps and lures

Unless otherwise noted, all traps and lures should be purchased through the IPHIS Survey Supply Ordering System. The trap and lure product names on the Approved Methods for Pest Surveillance pages are synchronized with the product names in the IPHIS Survey Supply Ordering System.

IMPORTANT: Unless noted otherwise, when more than one lure is listed, all of the lures are required to report negative data for that species. For example, for *Tetropium castaneum*, three lures are listed:

Spruce Blend Lure
Geranyl Acetol Lure
Ethanol Lure

All three lures are required for negative data reporting for this target.

In some cases, there are multiple lure options that may be used. These will be designated by the **Option** header (e.g., Option 1, Option 2). It is rare that there is more than one lure option. When multiple lure options are listed, additional guidance is included to assist states in determining which lure to use.

In some cases, multiple traps or colors of traps are listed as approved. Additional guidance is included to assist states in determining which trap to use.
Example for *Adoxophyes orana*:

Paper Delta Trap, 2 sticky sides, Brown
Paper Delta Trap, 2 sticky sides, Green
Paper Delta Trap, 2 sticky sides, Orange

Any one of these traps would be equally acceptable for use. For this insect, there is a **Method Note** re-affirming this, "Trap color is up to the State and does not affect trap efficacy."

IMPORTANT: Do not place lures for two or more target species in a trap unless otherwise recommended. Effects of lures on non-target species cannot be predicted based solely on pheromone chemistry, taxonomic relationship, etc. Because of this, lures should not be combined in individual traps unless PPQ has specific data indicating that the trap will remain a functional detection tool for both species.

Some trap and lure combinations are approved for more than one target. For exotic wood borers and bark beetles, see the table in EWB/BB Survey Tables on the Exotic Wood Borer / Bark Beetle Survey Reference page.

Trap spacing
In general, when trapping for more than one species of moth, the traps for different moth species should be spaced at least 20 meters (65 feet) apart. When trapping for wood borers or bark beetles, separate traps with different lure combinations by at least 30 meters (98 feet).

Insects – Identification Information
For the majority of insects, morphology is the basis for identification. In a few instances, molecular techniques are used for confirmation. Please refer to the individual datasheets for specific information.

The "Easily Confused Species" section lists families, genera, and species that may be confused with the target species. This information is not to be interpreted as an exhaustive list of all species that could be confused for the target.

Mollusks – Survey Considerations

All mollusk surveys will be by visual inspection. Use the cited references for additional information on identifying high risk sites, seasonality and time of day to survey, and signs of mollusk presence.
Data Entry Guide for Selected Taxonomic Groups should be used to determine the appropriate requirements for reporting negative data.

Mollusks – Identification Information
See specific information on the pest datasheets.

Nematodes – Survey Considerations

Negative data may be reported for these target pests only when surveyed for by the Approved Methods for Pest Surveillance. For most nematodes, surveys will be conducted via soil sampling.

If plant hosts are present, sampling host roots or visual sampling can be used in conjunction with soil sampling. When more than one survey method is listed, all methods can be used depending on the type of survey. The methods, however, are listed in order from most preferred to least preferred. Please see detailed survey information by clicking on the target species' datasheet on the main table of the Approved Methods for Pest Surveillance.
Data Entry Guide for Selected Taxonomic Groups should be used to determine the appropriate requirements for reporting negative data.

Nematodes – Identification Information
Negative data may be reported for these target pests only when using the identification method listed in the Approved Methods for Pest Surveillance. These methods correspond to those commonly used to confirm a nematode identity. Any molecular methods that have been validated by the S&T lab in Beltsville, MD also are included in the Approved Methods for Pest Surveillance. Work instructions are available for each method validated by S&T-Beltsville. If more than one diagnostic method is listed, a combination of methods may be required to confirm a nematode identity.

For the majority of nematodes, morphology is the basis for identification. In a few instances, biochemical or molecular techniques are used for confirmation. Please refer to the individual datasheets for specific information.

The "Easily Confused Species" section lists nematodes and conditions that may be confused with the target species. This information is not to be interpreted as an exhaustive list of all species that could be confused for the target.

Information is provided on diagnostic methods from the scientific literature in individual pest datasheet and in the Approved Methods for Pest Surveillance pest information page in the "Literature-based Methods/Diagnostics" section. Although these methods have not been validated by PPQ, many labs and state institutions may find the information useful when making pest identifications.

Pathogens – Survey Considerations
Negative data may be reported for these target pests only when using the identification method listed in the Approved Methods for Pest Surveillance. For most pathogens, surveys will be conducted visually by looking for characteristic symptoms (an indication of disease by reaction of the host, e.g. canker, leaf spot, wilt, etc.) and/or signs (indication of disease from direct observation of a pathogen or its parts). When more than one survey method is listed, all methods can be used depending on the type of survey. The methods, however, are listed in order from most preferred to least preferred. Please see detailed survey information by clicking on the target species' datasheet on the main table of the Approved Methods for Pest Surveillance.

Pathogens – Diagnostic Information

Negative data may be reported for these target pests only when using the identification method listed in the Approved Methods for Pest Surveillance. These methods correspond to those commonly used to confirm a pathogen identity. Any molecular methods that have been validated by the S&T lab in Beltsville, MD also are included in the Approved Methods for Pest Surveillance. Work instructions are available for each method validated by S&T-Beltsville. If more than one diagnostic method is listed, a combination of methods may be required to confirm a pathogen's identity.

For the many pathogens, morphology is the basis for identification. Serology or molecular techniques are often used for confirmation as well. Please refer to the individual datasheets for specific information.

The "Easily Confused Species" section lists pathogens and conditions that may be confused with the target species. This information is not to be interpreted as an exhaustive list of all species that could be confused for the target.

Information is provided on diagnostic methods from the scientific literature in individual pest datasheet and in the Approved Methods for Pest Surveillance pest information page in the "Literature-based Methods/Diagnostics" section. Although these methods have not been validated by PPQ, many labs and state institutions may find the information useful when making pest identifications.

Weeds – Survey Considerations

All weed surveys will be by visual inspection. Please see detailed survey information by clicking on the target species' datasheet on the main table of the Approved Methods for Pest Surveillance.

Weeds – Identification Information

At this time, all weed identification will involve a morphological confirmation by a botanist. See specific information on the pest datasheets.

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