APHIS Cooperators: Confirming New Pests in the U.S. Environment

Last Modified:

Do you work with APHIS on pest surveys or similar activities? Have you identified a plant pest that could harm U.S. agriculture? We need to confirm it.

APHIS is the U.S. authority for plant health. If you think you've identified a regulated plant pest in the United States, we need to confirm a preliminary pest identification before:

- The U.S. Government can respond to the detection.
- The ID can be entered as a new State or county record in the National Agricultural Pest Information System or other federally recognized databases.

Early detection and rapid response are critical to keep pests from spreading. Timely official confirmation is an important part of this. Follow the steps below to request APHIS confirmation of a preliminary pest identification.

Requesting Official Confirmation of a Preliminary Pest Identification

These instructions are for Federal agencies, State and local offices, universities, and other cooperators who made a preliminary pest identification during a pest survey or other APHIS-regulated activity. The public should report plant pests to their State Plant Health Director.

Expand All

Make a Preliminary Identification

You must screen and sort all specimens and obtain a preliminary identification of the pest before sending it to one of APHIS' National Pest Identification Specialists for official identification.

*(**Note:** APHIS' National Pest Identification Specialists do not routinely identify program pests. Before submitting a suspect program pest, contact the National Policy Manager for that program for submission requirements.)*

Only cooperators who have an existing relationship with APHIS can submit pests for official confirmation. The process to make the preliminary identification before submitting to APHIS varies between State departments of agriculture or Farm Bill project cooperators.

- **State Departments of Agriculture:** Preliminarily identify any specimens onsite. If not possible, contact the Cooperative Agricultural Pest Survey (CAPS) Coordinator, Patrick Haslem, for guidance.
- **Farm Bill Projects:** Plan for how sorting and preliminary identification of any specimens will take place before the project begins. If this was overlooked, contact Darrell Bays, APHIS' National Operations Manager for Pest Detection, for assistance.

Resources

The APHIS website includes descriptions, photos, and other information online about a wide range of plant pests and diseases, including those previously detected in the United States. We also recommend the websites below as resources to help you in making preliminary pest identifications.

Botany (Weeds and Parasitic Plants)

- Mycology and Nematology Genetic Diversity and Biology Laboratory–Search the U.S. National Fungus Collections and other resources from USDA's Agricultural Research Service (ARS)
- USDA PLANTS Database–Information about the vascular plants, mosses, liverworts, hornworts, and lichens of the United States
- GRIN Taxonomy for Plants–Classification and nomenclature for the USDA's National Plant Germplasm System accessions
- SeedImages.com–Colorado State University database with seed pictures and descriptions of more than 1,400 species

Entomology (Insects and Mites)

- Systematic Entomology Laboratory–Search identification and classification of insects and mites from ARS
- BugGuide.Net–Online community dedicated to sharing observations of insects, spiders, and other bugs.
- Iowa State Entomology Index of Internet Resources–Directory and search engine of insect-related resources on the Internet

Malacology (Snails and Slugs)

- Giant African Snail–Learn about the large African land snail species that share the common name giant African snail, including the most damaging of these pests: *Lissachatina fulica.*

Nematology (Roundworms)

- Mycology and Nematology Genetic Diversity and Biology Laboratory–Search the U.S. National Nematode Collection and other resources from ARS

Plant Pathology (Bacteria, Fungi, Viruses)

- Mycology and Nematology Genetic Diversity and Biology Laboratory–Search the U.S. National Fungus Collections and other resources from ARS
- National Plant Diagnostic Network–Collective of land-grant university plant disease and pest diagnostic facilities

Contact APHIS

Once there is a preliminary identification of the specimen(s), email APHIS' Domestic Diagnostic Coordinator at ppq.domestic.diagnostic.coordinator@usda.gov and the appropriate State Plant Health Director to confirm the preliminary identification.

When the State Plant Health Director receives the email, they (or their designee) will submit a request in APHIS' Agricultural Risk Management (ARM) system and provide the submitter with a Diagnostic Record Routing Receipt.

This Diagnostic Record Routing Receipt includes the correct shipping address; type of ID requested (morphological, digital, or molecular); and any important notes.

Please print the Diagnostic Record Routing Receipt and include it in the package when shipping the specimens/samples.

Complete the Required 391 Form

To submit the sample(s) to APHIS, complete and include one PPQ Form 391 (705.18 KB) for each specimen in every set of collection data—that is, for each combination of locality, date, and collector.

Clearly label each specimen so it can easily be matched with the corresponding PPQ Form 391 (705.18 KB). APHIS recommends using collection numbers for each specimen to do this.

In the remarks section of PPQ Form 391 (705.18 KB), include an explanation of why these specimens need to be identified. For example, will the species, if confirmed, be a new State record or a new record for the continental United States? Is confirmation needed to authorize Federal or State action?

Information from your PPQ Form 391 must be entered into the Agricultural Risk Management (ARM) system to initiate a diagnostic request. For help with this step, contact the State plant health director for the State in which the specimen was collected. A Diagnostic Record Routing Receipt generated by the ARM system must

accompany any specimens sent to PPQ for confirmatory identification. The Diagnostic Routing Receipt provides the name and address of the laboratory providing confirmation services.

When sending in multiple printed forms, be sure to tightly collate each form with its corresponding specimen(s). Do not send a stack of forms and multiple containers that cannot be matched.

Prepare Specimens for Shipping

To prepare the specimen(s) to ship to APHIS, follow these steps:

- Submit plant material as fresh specimens.
- For diseases, check with APHIS' Domestic Diagnostic Coordinator to determine if you should submit DNA extracts in addition to symptomatic plant tissue.
- Place mites, snails, and nematodes in a vial of 70-percent ethyl alcohol.
- Kill insect larvae in boiling water, allow it to cool, and place in a vial with 70-percent ethyl alcohol.
- Dry adult insects and place them in vials.
    - For large specimens, place cotton or a similar material in the vial to prevent damage during shipping.
- Do not submit insects, except for Lepidoptera (moths), on sticky traps. To remove insect(s) from sticky traps:
    - Cut the insect out of the trap with scissors so it’s on just a small piece of trap backing.
    - Soak the backing with the insect in the appropriate solvent until the insect floats off.
    - Leave the insect in the solvent until it is completely free of adhesive.
    - When the insect is adhesive-free, place it in 70-percent ethyl alcohol.
- Leave Lepidoptera (moths) on the sticky cards they were collected on to preserve their wings and wing pattern.
    - Mark the position of each suspect on the card with a loop of thread, string, or a paper pointer.
    - Place each card in its own re-sealable bags with the sticky surface separated from the bag.

    - Include the name of the sticky solvent used on the Inland Beyond Port (IBP) record.
    - Do not submit more than four moth suspects per card.
    - If there are more than four moth suspects on a card, submit the best four specimens.
- Pack specimens in a well-padded box and include printouts of the PPQ 391 form (705.18 KB)(s) and the Diagnostic Record Routing Receipt you received from the State Plant Health Director in the box.

Notify APHIS Before You Ship

When the physical specimens are ready for submission, email the APHIS' Domestic Diagnostic Coordinator and the State Plant Health Director.

Include the following information in the email:

- Summary of package contents
- Explanation of why the specimens need confirmatory identification (from PPQ Form 391 (705.18 KB) "Remarks" section)
- Shipment tracking number
- PDF of the completed PPQ Form 391 (705.18 KB) and the Diagnostic Request Routing Receipt

Mail the Package

Use an express courier delivery service to submit the sample(s) to APHIS. The address to ship the sample is included in the shipping manifest from the APHIS State Plant Health Director.

Notification of Results

- If APHIS confirms the pest identification, the Domestic Diagnostic Coordinator notifies agency personnel. They in turn email the State Plant Health Director,

State Plant Regulatory Official, and other individuals as outlined in the Pest Identification Notification to States (230.34 KB) protocol.

- For any questions about the identification, contact APHIS' Domestic Diagnostic Coordinator.
- Standard Operating Procedure (SOP) for Challenging an Official Domestic Identification and Confirmatory Identification (148.58 KB)

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