THE OHIO STATE UNIVERSITY EXTENSION

Extension FactSheet

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Entomology, 1991 Kenny Road, Columbus, OH 43210-1000

Submitting Insect Specimens for Identification

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The C. Wayne Ellett Plant and Pest Diagnostic Clinic (PPDC) at The Ohio State University provides a public service wherein insects, mites, and spiders are identified and management practices are recommended. In addition, the PPDC diagnoses turf disorders and plant problems caused by insects, nematodes, disease, or environmental factors. The PPDC, which is sponsored by OSU Extension, has developed a comprehensive program of pest and plant disease identification. The PPDC utilizes expertise from members of the Departments of Entomology, Plant Pathology, Horticulture, as well as the School of Natural Resources.

This fact sheet outlines procedures for submitting insect (and related arthropod) specimens and their damage for identification. Information detailing how to submit a plant specimen can be obtained from the website **http://ppdc.osu.edu/**, your local county Extension agent, or by contacting the PPDC:

Phone: 614-292-5006

Fax: 614-292-4455

E-mail: ppdc@postoffice.ag.ohio-state.edu

The accuracy of any diagnosis or identification depends upon the written information provided, how well the submitted material represents the problem, and the condition in which the specimen arrives.

Provide Written Information

Fill out a PPDC Specimen Form COMPLETELY (**http://ppdc.osu.edu/clinicform.html**) (also available from your county Extension agent or the PPDC). It is most important that you describe exactly where and when the pest was found, how many were present, and the characteristics of any damage. Be sure that your name, address, and phone number (daytime is best) are correct, and write down any specific questions that you would like answered. You may want to include a picture of any damage that has been done by the insect. Enclose the form in a plastic bag to protect it from moisture and place it inside the mailing box with the insect sample.

Collecting the Insect Sample

Send as many insect specimens as possible. The identification of many insect species relies upon characteristics of the antennae, legs, or wings. If the submitted insects are missing these parts, a precise identification typically cannot be made. If sending wood or a product that is suspected to be damaged by an insect, it is important to send as much of the material as possible so that the diagnostician can look for signs of insect activity.

Packaging the Insect Sample

The condition of the specimens affects the accuracy and speed of the identification. Specimens typically cannot be identified when they arrive crushed, broken, or moldy, and this will result in a request for additional specimens.

DO NOT ship live insect specimens, as this is illegal. Most insects, with the exception of butterflies and moths, should be submitted in an alcohol-filled vial. Isopropyl rubbing alcohol is most commonly used, but ethanol also is acceptable. Do not use formaldehyde or water. Be sure to use a vial or other container with a leak-proof lid. Medicine or vitamin bottles are commonly used. It is a good idea to wrap the lid with tape to prevent spillage. Carefully pack the container in a crush-proof mailing tube or sturdy cardboard box. Use packing foam/bubbles or shredded/crushed newspaper to cushion the container and to keep it from bouncing around inside the mailing tube or box. DO NOT place specimens loose in an envelope because they will be crushed, making identification impossible.

Butterflies and moths should be submitted dry because alcohol or any liquid will remove the colored scales on their wings, making identification extremely difficult or impossible. If the butterfly or moth is alive, it initially should be placed inside a sealable container that is put into the freezer for 2 or 3 hours to subdue the insect. Carefully pack the butterfly or moth between loose layers of tissue or cotton in a sealable plastic container. Then pack the container in a crush-proof box.

When submitting **tiny** insects or mites, dab them with an alcohol-dampened cotton swab or cotton ball and insert this into a small vial of alcohol. Do not stick the insects or mites onto tape or send sticky traps unless absolutely necessary, as the insects cannot be peeled off these sticky surfaces without either tearing or losing antennae, legs, and wings. Never place an insect or mite specimen between two layers of tape because the microscope cannot focus through the tape to allow identification. Furthermore, such a specimen cannot be removed from the tape without destroying the sample.

Fees

The PPDC charges a fee for specimen identification. In most situations, an insect identification or damage diagnosis is $15.00. Contact your county Extension agent or the PPDC for current charges. Payment can accompany the sample (made payable to The Ohio State University), or the PPDC will send a bill to you. The check preferably should be placed in the plastic bag with the PPDC Specimen Form.

Shipping the Insect Sample

Use an overnight mail service or mail the package early in the week to avoid weekend layovers at the post office. Weekend deliveries are not accepted at the PPDC.

Mail the package to:

The C. Wayne Ellett Plant and Pest Diagnostic Clinic
The Ohio State University
110 Kottman Hall
2021 Coffey Road
Columbus, OH 43210-1087

An alternative is to personally deliver samples to the PPDC at the above address. A collection box is situated outside Room 110 Kottman Hall in the event that PPDC personnel are not in the office.

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