Using a Plant Diagnostic Lab

The best way to identify insects, plants and plant diseases, or diagnose plant and pest problems, is to send a sample to a diagnostic laboratory. The National Plant Diagnostic Network website (www.npdn.org) lists diagnostic laboratories by state and region. Contact individual laboratories for specific submission and fee information (see page 44-45).

To ensure an accurate diagnosis, it’s important to collect and ship your specimens properly. Here are a few guidelines for collecting and shipping specimens to a diagnostic lab.

1. Collect fresh specimens. Send a generous amount of material, if available.
2. Ship specimens in a crush-proof container immediately after collecting. If holdover periods are encountered, keep specimen cool. Mail packages to arrive on weekdays.
3. Incomplete information or poorly selected specimens may result in an inaccurate diagnosis or inappropriate control recommendations. Badly damaged specimens are often unidentifiable and additional sample requests can cause delays.

Submitting Plant Specimens for Disease/Injury Diagnosis

Herbaceous Plants. For generally declining, wilting, or dying plants, send several whole plants showing a range of symptoms (early through more advanced) with roots and adjacent soil intact. Dig up the plants carefully. Place roots and surrounding soil in a plastic bag and fasten it to the base of stem with a twist tie or string. Do not add water. Soil and attached roots of smaller specimens may also be secured in a double layer of heavy-duty aluminum foil pressed around the root system. Wrap the plants in dry newspaper and place in a crush-proof container for shipment.

Leaves/fruit/tubers. When localized infections (such as leaf spots or fruit rots) are suspected, send specimens representing early and moderate stages of disease. Press leaves flat between newspaper and cardboard and wrap fruits or tubers in dry newspaper. Place in a crush-proof container for shipment.

Submitting Insect Specimens

Package insects carefully so they aren’t damaged when they arrive at the lab. Separate and label the specimens if you send more than one type in the same package. Provide the appropriate information for each specimen.

Table 17: Fungicide Labeling for Greenhouse Use

<table>
<thead>
<tr>
<th>Labeled for Greenhouse Use</th>
<th>Label Prohibits Greenhouse Use</th>
<th>Label Silent on Greenhouse Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botran*</td>
<td>Aprovia Top*</td>
<td>Actigard*</td>
</tr>
<tr>
<td>Champ*</td>
<td>Cabrio*</td>
<td>Agri-Fos*</td>
</tr>
<tr>
<td>Contans*</td>
<td>chlorothalonil*</td>
<td>Agri-mycin*</td>
</tr>
<tr>
<td>Cuprofix*</td>
<td>Endura*</td>
<td>Aliette*</td>
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<tr>
<td>Dithane*</td>
<td>Flint*</td>
<td>Curzate*</td>
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<tr>
<td>Fontelis*</td>
<td>Forum*</td>
<td>Gavel*</td>
</tr>
<tr>
<td>Kocide</td>
<td>Merivon*</td>
<td>Gem*</td>
</tr>
<tr>
<td>Previcur Flex*</td>
<td>Presidio*</td>
<td>Harbour*</td>
</tr>
<tr>
<td>Procure*</td>
<td>Priaxor*</td>
<td>Inspire Super*</td>
</tr>
<tr>
<td>Ranman*</td>
<td>Pristine*</td>
<td>Luna Experience*</td>
</tr>
<tr>
<td>Scala*</td>
<td>Quadris*</td>
<td>Luna Sensation*</td>
</tr>
<tr>
<td>Terrachlor*</td>
<td>Quadris Opti*</td>
<td>Luna Tranquility*</td>
</tr>
<tr>
<td>Rally*</td>
<td>Manzate*</td>
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<td>Reason*</td>
<td>Monsoon*</td>
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<tr>
<td>Ridomil*</td>
<td>Omega*</td>
<td></td>
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<tr>
<td>Satori*</td>
<td>Pencozeb*</td>
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<tr>
<td>Vapam*</td>
<td>Phostrol*</td>
<td></td>
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<tr>
<td>Zampro*</td>
<td>Quadris Top*</td>
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<tr>
<td>Revus*</td>
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<td>Revus Top</td>
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<td>Revus*</td>
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<tr>
<td>Revus*</td>
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<td>Revus Top</td>
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<tr>
<td>Rovral*</td>
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<tr>
<td>Serenade Max*</td>
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</tr>
<tr>
<td>Switch*</td>
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<tr>
<td>Tanos*</td>
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<td>Toledo*</td>
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<td>Torino*</td>
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<td>Ziram*</td>
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</tbody>
</table>

1For example, a tomato grower in the field can use any of the products listed in the entries on pages 129-130 to treat early blight of tomato. In a greenhouse, the same grower could not use Cabrio*, any product with chlorothalonil, Endura*, Quadris*, or Quadris Opti* (these product labels prohibit greenhouse use). In the greenhouse, the grower may use the other products because the label either specified that it could be used (mancozeb products such as Dithane*, or Scala*), or the label did not mention use in the greenhouses (mancozeb products such as Manzate*/Pencozeb*, or Gavel*, Inspire Super*, Revus Top*, Tanos*, Switch*, or Ziram*).

2All products with the active ingredient chlorothalonil are prohibited in the greenhouse including Bravo*, Echo*, and Equus*.

3For use on tomato transplants only.

4Use only on bedding plants grown in containers.

5Do not use for transplant production.
Tiny or Soft-bodied Specimens. Submit such specimens (aphids, mites, thrips, caterpillars, grubs, spiders) in a small, leak-proof bottle or vial of 70 percent alcohol. Rubbing alcohol (isopropyl) is suitable and readily available. Do not submit insects in water, formaldehyde, or without alcohol or they will ferment and decompose. Package carefully to assure vials do not break in shipment. Small insects found on leaves can also be submitted on the plant material. Wrap several leaves in dry newspaper, and then seal in a plastic bag to prevent insects from escaping.

Hard-bodied Specimens. Submit such specimens (flies, grasshoppers, cockroaches, wasps, butterflies, beetles) dry in a crush-proof container. Do not tape insects to paper or place them loose in envelopes.

Submitting Samples for Nematode Analysis

If you suspect a nematode problem, contact clinics for state-specific submission information (see below).

In general nematode identification requires collection of at least one quart of soil from the root zone of affected plants. Include roots if the plants are actively growing.

Place the entire sample in a plastic bag. Do not add water or allow it to dry out. Protect the sample from extreme heat (for example, don't leave samples inside a parked vehicle in direct sunlight). It is often helpful to collect a second, similar sample from a nearby area where plant growth appears normal.

Attach a label, note, or tag identifying the sample to the outside of each bag or package.

Selected University Diagnostic Labs

Illinois

University of Illinois Plant Clinic
S-417 Turner Hall
1102 S. Goodwin Avenue
University of Illinois
Urbana, Illinois 61801
(217) 333-0519
web.extension.illinois.edu/plantclinic
www.facebook.com/UofIPlantClinic

Contact:
Suzanne Bissonnette
sbissonn@illinois.edu
(217) 333-2478

Indiana

Plant and Pest Diagnostic Laboratory
Purdue University
LSPS 101
915 W. State Street
West Lafayette, IN 47907-2054
(765) 494-7071
Fax: (765) 494-3958
ppdl.purdue.edu

Contacts:
Tom Creswell
creswell@purdue.edu
Gail Ruhl
ruhlg@purdue.edu

Iowa

Iowa State University Plant and Insect Diagnostic Clinic
327 Bessey Hall
Iowa State University
Ames, IA 50011
(515) 294-0581
Fax: (515) 294-9420
www.ent.iastate.edu/pidc

Contact:
Laura Jesse
pidc@iastate.edu

The root system of this plant has been bagged so diagnosticians can examine the roots as well as its foliage upon arrival at the diagnostic laboratory. When submitting samples to a lab, remember to attach a label, note, or tag identifying the sample to the outside of each bag or package.
Farm Labor Law Information

For information about the Immigration and Reform Act and current related farm and labor laws that specify employer responsibilities and seasonal agricultural worker status, contact the resources below:

Federal

Office of Special Counsel, Washington, D.C.
Employer Information: (800) 255-8155.
U.S. Citizenship and Immigration Services
(800) 375-5283
(800) 767-1833 (TTY)
www.uscis.gov

Illinois

Travel Control Section, Immigration and Naturalization Service
10 W. Jackson
Chicago, IL 60604

(Migrant Farm Workers and Farm Labor) Department of Labor
310 S. Michigan Ave.
Chicago, IL 60604
(312) 793-2804

Indiana

Immigration and Naturalization Service (INS)
950 N. Meridian Street, Room 400
Indianapolis, IN 46204-3915

Indiana Department of Workforce Development
Indiana Government Center South
10 North Senate Avenue
Indianapolis, IN 46204
1-888-WORKONE
workone@dwd.in.gov
www.IN.gov/dwd/

Kansas

Plant Disease Diagnostic Lab
Extension Plant Pathology
4032 Throckmorton Hall
Kansas State University
Manhattan, KS 66506-5504
(785) 532-5810
Fax: (785) 532-5692
www.plantpath.ksu.edu/p.aspx?tabid=49
Contact:
Judith O’Mara
jomara@ksu.edu

Missouri

Plant Diagnostic Clinic
Department of Plant Pathology
28 Mumford Hall
Columbia, MO 65211
(573) 882-3019
plantclinic.missouri.edu
Contact:
Patti Hosak
(573) 882-3019
plantclinic@missouri.edu

Plant Nematology Lab
23 Mumford Hall
University of Missouri
Columbia, MO 65211
(573) 884-9118
Fax: (573) 884-4288
soilplantlab.missouri.edu/nematode
Contact:
Amanda Howland
nematodelab@missouri.edu

Minnesota

Plant Disease Clinic
Department of Plant Pathology
495 Borlaug Hall
1991 Upper Buford Circle
University of Minnesota
St. Paul, MN 55108
(612) 625-1275
Fax: (612) 625-9728
pdc.umn.edu
Contact:
Brett Arnaz
aren0058@umn.edu

Ohio

C. Wayne Ellett Plant and Pest Diagnostic Clinic
Ohio State University
8995 E. Main St., Bldg. 23
Reynoldsburg, OH 43068
(614) 292-5006
Fax: (614) 466-9754
ppdc.osu.edu
Contact:
Nancy Taylor
taylor.8@osu.edu or ppdc@cfaes.osu.edu