

How to submit a sample to MSU Diagnostic Services



Diagnostic Services

Sample Submission

Accurate diagnosis depends on the rapid receipt of fresh and representative samples along with pertinent information relating to the problem. A completed submittal form should accompany all samples. Submittal forms are available at MSU Diagnostic Services or your local Extension office. Submittal forms can also be downloaded from www.pestid.msu.edu. Samples can be dropped off at our reception area between 8 a.m. and 4:30 p.m. or shipped overnight delivery by U.S. mail, FedEx, or UPS. To preserve the quality of the sample, do not package samples in envelopes. Also avoid mailing samples on Friday.

Submit samples to:

Michigan State University
Diagnostic Services
101 Center for Integrated Plant Systems
East Lansing, MI 48824-1311
Phone: (517) 355-4536 Fax: (517) 432-0899

Plant Health Analysis Samples:

Herbaceous Plants: Send whole plants, including roots and soil. Roots and soil should be in a plastic bag tied off at the soil line to prevent soil from touching foliage.

Tree Decline/Wilt: Send 6 to 12 branch sections .5 inch to 1 inch diameter and ~ 8 inches long. Samples should be taken from live areas of tree with symptoms, not from completely dead branches. Seal branches in plastic to retain moisture.

Seedlings: Leave plants in plug sheets or trays if possible. Send a minimum of 12 seedlings.

Turf: Include a 6" square of turf from the margin of the diseased area so that both healthy and diseased turf is included. An intact layer of soil should be included. Wrap sample in newspaper and pack in a box for shipment. Include a detailed description of cultural practices. Do not add moisture to the turf prior to shipment.

Leaf spot and Fruit Rot: Send several affected samples representing the early and moderate stages of the symptom progression.

Weed/Plant Samples:

Herbaceous Plant Identification: Submit whole plants, including roots, vegetative structures, and flowers. Plants may be pressed flat between paper or cardboard to prevent leaf crinkling. For best results, plants should be submitted immediately after digging. Roots and soil should be in a plastic bag to prevent soil from touching the foliage.

Woody Plant Identification: Submit a large section of the terminal end of the stem or branch. Where possible, include any flower or fruiting structures, roots, and leaves. Leaves may be pressed flat between paper or cardboard to prevent crinkling. Woody plants may be wrapped in plastic to retain moisture.

Herbicide Resistance: Weeds will be screened for herbicide resistance using whole plant pot assay established from seed. Mature, high quality seed or seedheads should be collected from suspicious plants in late summer or fall and submitted in a paper bag. Do not seal in plastic. Screens will be designed by herbicide site of action (ie: ACCase inhibitors, ALS inhibitors, Photosynthesis inhibitors).

Nematode Samples:

Refer to MSU Extension Bulletin E-2199, "Detecting and Avoiding Nematode Problems."

Always store nematode samples in plastic bags or other containers that retain moisture. Submit a pint to a quart of soil.

Problem Diagnosis: Collect soil & roots (or foliage) from the margins of diseased areas. Submit samples of diseased plants and apparently healthy ones.

Problem Avoidance: Collect soil & roots (if available) by walking a zigzag or w-shaped pattern. The more subsamples (soil, cores, probes, etc.) collected the "better" the sample.

How to submit a sample to MSU Diagnostic Services (continued)

Insect/Arthropod Samples:

Precise identification of insects or other arthropods requires specimens to be undamaged upon arrival. It is very important to kill and ship the specimens in a manner that will not damage the delicate structures that facilitate their identification. Dried and unprotected insects crumble easily during mail processing. Kill and ship specimens in a small, leak proof vial filled with rubbing alcohol.

Moths/Butterflies: Place specimens in the freezer for half an hour to kill them and gently pack in a small box or vial with tissue paper.

Ants/Other Adult Arthropods: Ant specimens should only include worker ants (i.e. those without wings). Submit all specimens in alcohol. Other adult and hard-bodied specimens: Submit in alcohol.

Larvae (Caterpillar, grub, maggot, etc.): Whenever possible, soft-bodied larvae should be lightly boiled for a few minutes before placing them in alcohol. This prevents the specimens from shriveling and becoming discolored, however it only works if the larvae are alive when dropped in the boiling water.

Services and Fees for MSU Diagnostic Services

Note: Fees for out-of-state samples are triple.

Plant Health Analysis

- Visual inspection for infectious and non-infectious diseases, insect injury and herbicide injury; pathogen culturing; pH and soluble salts: \$20.00
- INSV / TSWV ELISA tests: \$20.00
- Bacterial ID (BIOLOG™): \$25.00
- Special laboratory analysis: *

Weeds/Plants

- Common plant ID: \$10.00
- Herbicide resistance in weeds
Standard test:
 - Single site of action \$50.00
 - Each additional site of action \$20.00

Nematodes

- Basic nematode analysis: \$25.00
- Total nematode community analysis: \$50.00
- HG Type testing \$50.00
- *Verticillium* analysis
 - Wet sieving: \$25.00
 - Dilution plating: \$20.00
 - Both \$40.00

Insects/Arthropods

- Common insect ID: N/C
- Keyout insect ID: \$10.00
- Special identification/diagnosis *

* Variable costs requiring client approval. Contact laboratory for pricing.

DIAGNOSTIC SERVICES
 101 Center for Integrated Plant Systems
 East Lansing, MI 48824-1311
 Office:517-355-4536 FAX:517-432-0899
 www.pestid.msu.edu



Case No.: _____
 Date Received: _____
 Amount Paid: _____
 Check/Receipt No.: _____
 MSU Account #: _____
 Diagnostic Fee: _____

Name: _____
 Business Name: _____
 Address: _____
 City/State/Zip: _____
 Work: _____ FAX: _____ Home: _____
 Email: _____ Cell: _____
 Sample Reference: _____

Plant Disease Diagnosis Fees
 Plant health analysis: \$20
 Bacterial ID (BIOLOG!®): \$25

Insect Identification Fees
 Common ID: N/C
 Keyout ID: \$10

Plant Identification Fee \$10

Nematode Sample Fees (see below)
 Out of State Fees Triple / Fees subject to change

SEND RESULTS TO: CLIENT COUNTY AGENT KEEP RESULTS CONFIDENTIAL Fax: _____
 MSU Extension Agent: _____ County: _____ Email: _____

SAMPLE (ex. Tomato, Insect, Pine, etc.): _____

GENERAL INFORMATION (indicate all that apply)

PLANT PARTS AFFECTED	TYPE OF PLANTING	PROBLEM DISTRIBUTION	HERBICIDE HISTORY
Entire Plant Stems	Field Garden	Upland Near Drive/Road	This year: _____
Leaves/Needles Trunk	Nursery House Plant	Slopes Edge of Field	_____
Roots Twigs/Limbs	Greenhouse Pasture	Low Areas Near a Residence	Last year: _____
Fruit Flowers	Orchard Natural Area		
	Turf/Lawn City/Recreation		
NATURE OF THE INJURY	PREVALENCE	OTHER BACKGROUND	INSECTICIDE HISTORY
Poor or Abnormal Growth	Entire Planting	How long at site?	This year: _____
Spots Yellowing	Single Localized Area	Height of plant?	_____
Wilting Boring	Several Localized Areas	How many plants affected?	FUNGICIDE HISTORY
Plant Death Cupping	Few Scattered Plants	How often watered?	This year: _____
Chewing Dieback		How fertilized?	_____
Galls/Cankers Rot	EXTENT OF THE DAMAGE	Sunny or Shaded?	CROP HISTORY
Leaf/Needle Drop	Light Moderate Severe		Last year: _____
SOIL TYPE	DRAINAGE		This year: _____
Sandy Clay	Good Fair Poor		Next year: _____
Muck Silt Loam			

INSECT / ARTHROPOD ID SAMPLES ONLY (indicate all that apply)
 Where was the insect found? _____ What was the insect doing there? _____
 How many insects are there? One Few Several Hundreds Do you have small children living with you? _____

PLANT / WEED ID SAMPLES ONLY (indicate all that apply)

PLANT TYPE	PLANT SIZE	GROWTH HABIT	FLOWERS	PLANT AGE
Tree Groundcover	Height: _____	Upright/Erect	Color: _____	Annual: _____
Shrub Herbaceous	Width: _____	Prostrate/Low-Growing	Size: _____	Perennial: _____
Vine Aquatic	Few Leaves Many Leaves	Climbing	List any unique features: _____	

NEMATODE SAMPLES ONLY (indicate type of analysis requested)

Soil and root analysis (\$25/sample)	Foliar nematode analysis (\$25/sample)	No. of samples: _____
Total nematode community structure analysis (\$50/sample)		Sample/Field ID: _____
Hg Type test (\$50/sample)		
<i>Verticillium dahliae</i> analysis (potato soil / stem only)	Dilution (\$20/sample)	Wet-sieving (\$25/sample)
		Both (\$40/sample)