



MSU Diagnostic Services

SAMPLE SUBMISSION



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 ½ 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 3-4" 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.

Herbicide Injury: Submit both injured and apparently healthy crop plants. Plants should be dug carefully from the soil so roots, if injured, will remain intact. Roots and soil should be placed in a plastic bag, pot, or small bucket to prevent soil from touching the foliage. A pint of soil from both "good" and "bad" area should also be submitted. Any patterns in the field should be noted on the submittal form, along with past crop and pesticide history.

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 sub-samples (soil, cores, probes, etc.) collected the "better" the sample.

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 either pot bioassays or quick kits, if available. Weeds can be submitted as seedlings or small plants for routine herbicide application and evaluation. In many cases, seed from mature plants should be collected from the field in late summer or fall. This seed will be grown in a greenhouse and sprayed with the appropriate herbicides.

Standard test: 1 to 2 herbicides applied to weeds submitted or the use of a quick kit, if available.

Extensive test: >2 herbicides applied to weeds submitted, or weeds that need to be grown from seed.

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.



MSU Diagnostic Services

DIAGNOSTIC FEES

Note: Fees for Out-of State samples are double



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.cips.msu.edu/diagnostics. Samples can be dropped off at our reception area or shipped overnight delivery by U.S. mail, FedEx, or UPS. To preserve the quality of the sample please do not package samples in envelopes. Also avoid mailing samples on Fridays.

Plant Health Analysis

Visual inspection for infectious and non-infectious diseases, insect injury, and herbicide injury; pathogen culturing; pH and soluble salts:	\$15.00
INSV / TSWV ELISA tests:	\$25.00
Bacterial ID (BIOLOG™):	\$25.00
Special laboratory analysis:	*
* Variable costs requiring client approval.	

Nematodes

Basic nematode analysis:	\$20.00
Total nematode community analysis:	\$50.00
Verticillium analysis	
Wet sieving:	\$15.00
Dilution plating:	\$15.00

Weeds / Plants

Common plant ID:	N/C
Keyout plant ID:	\$10.00
Herbicide resistance in weeds	
Standard test:	\$30.00
Extensive test:	\$40.00
Special identification / diagnosis	
Per hour charge:	\$50.00

Insects / Arthropods

Common insect ID:	N/C
Keyout insect ID:	\$10.00
Special identification / diagnosis	
Per hour charge:	\$50.00

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

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