

FIELD CRITERIA

Field criteria listed below can serve as a guideline when collecting seedheads suspected of being herbicide resistant.

Seedheads should be collected from soybean fields where:

- Weeds have survived a glyphosate burndown application and/or an in-season POST application of glyphosate.
- Multiple and repeated applications of glyphosate have been used.
- Weed control is inadequate and resistance is suspected.

Note: These fields would have received the most selection pressure and thus the greatest likelihood of selecting for resistance to glyphosate. Fields should be scouted regularly for the presence of weed escapes.



FREE Screening for Herbicide- Resistant Weeds in Soybean Production Systems

SEEDHEAD COLLECTION

These guidelines should be followed when collecting seedheads:

- Select plants that were definitely sprayed with glyphosate. Avoid obvious unsprayed areas.
- Select plants with **no** injury or very little injury (no chlorosis, necrosis or stunting).
- Select only those plants that have a majority of mature seed, which could be in late summer to early fall. A good indication of seed maturity would be when seeds easily fall from the seedhead. Sampling too early or too late will likely result in seed with low viability.
- Harvest plants by cutting the top of the plant just below the seedhead.
- Harvest seedheads from at least 5 plants.
- **Place seedheads into a large paper bag. Do not seal in plastic!**
- Remember, the reliability of results based on greenhouse plant assays is largely dependent upon the quality of seed collected. Time should be taken to collect mature seedheads from representative plants in the field.

WEED RESISTANCE SAMPLING PROGRAM FREE ANALYSIS INCLUDES

**PALMER AMARANTH, WATERHEMP, HORSEWEED/
MARESTAIL, COMMON LAMBSQUARTERS,
COMMON RAGWEED AND GIANT RAGWEED**



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**Michigan Soybean
Promotion Committee**
www.michigansoybean.org

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EXTENSION

Screening for Herbicide-Resistant Weeds

Herbicide resistance in weeds is a growing concern for growers, due largely to the recent occurrence and spread of glyphosate-resistant horseweed, Palmer amaranth, waterhemp and occasional failure to control common lambsquarters, common ragweed and giant ragweed in Roundup Ready crops.

Confirming herbicide-resistant weed populations is the first step of any resistance management program. Verification will provide producers with the knowledge to implement the best possible management strategies, with the ultimate goal of preventing or limiting the spread of herbicide-resistant weeds.

Because of the many benefits that glyphosate offers Michigan soybean growers and the high potential for developing glyphosate resistance, an ongoing herbicide resistance screening program has been expanded. The Weed Science lab at Michigan State University will conduct free glyphosate screening for soybean producers. The program is funded by the Michigan soybean checkoff program and covers six weed species: Palmer amaranth, waterhemp, horseweed/marestail, common lambsquarters, common ragweed and giant ragweed.

Seedheads from mature plants should be collected in late summer to early fall following the guidelines listed below. If you have any questions about field criteria or seedhead collection, please call Erin Hill at 517-432.9693 or by email at hiller12@msu.edu.

GROWER INFORMATION

Name: _____

Address: _____

City: _____ MI Zip: _____

Phone: _____ Fax: _____

Email: _____

County: _____

MSU Extension Agent: _____

Township: _____ Section: _____

Field Identification/GPS Coordinates: _____

Number of Acres: _____

Sample should be submitted even if all information cannot be provided.

SAMPLE DELIVERY INSTRUCTIONS

1. Please fill out this form as completely as possible.
2. ***One completed form should accompany every weed sample submitted.***
3. Return both the form and seedheads to your local county MSU Extension Agent. Samples will be forwarded to MSU Diagnostic Services.
4. Or, send samples directly to:
 MSU Diagnostic Services
 Herbicide Resistant Weed Screening
 578 Wilson Rd., Room 107
 East Lansing, MI 48824-6469

FIELD HISTORY

MSU Sample Number _____
Date Rec'd _____

Year	Crop	Tillage	Herbicide
	Soybean		Burndown: PRE: POST:
			Burndown: PRE: POST:
			Burndown: PRE: POST:
			Burndown: PRE: POST:
			Burndown: PRE: POST: