

## FIELD CRITERIA

Field criteria listed below can serve as a guideline when collecting marestail seedheads suspected of insensitivity to:

### Glyphosate or ALS-inhibitors

Marestail seedheads should be collected from soybean fields:

- Where marestail has escaped a glyphosate burndown application and/or an in-season POST application of glyphosate.
- Where marestail was not controlled with ALS-inhibiting products.
- That have received multiple and repeated applications of glyphosate or ALS-inhibiting herbicides in the past several years.
- Where marestail is a problem and resistance may be suspected.

**Note:** These fields would have received the most selection pressure and thus the greatest likelihood of selecting for resistance to glyphosate or ALS-inhibiting herbicides. Fields should be scouted shortly after soybean planting for the presence of marestail plants. These fields, along with other suspicious fields, should be scouted later in the season for the presence of marestail following an in-season POST application of glyphosate or ALS-inhibiting herbicide.

## MARESTAIL SEEDHEAD COLLECTION

These guidelines should be followed when collecting seedheads:

- Select marestail plants that were definitely sprayed with an ALS-inhibitor or 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 seed easily fall from the seedhead. Sampling too early or too late will likely result in seed with low viability.
- Harvest selected 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 bioassays is largely dependent upon the quality of seed collected. Time should be taken to collect mature seedheads from representative plants in the field.



# **FREE** **Screening** **for Herbicide** **Resistant** **MARESTAIL** **in Soybean**

## **Production Systems**

### **MARESTAIL SAMPLING PROGRAM** **FREE ANALYSIS**



This effort is funded by Soybean Checkoff Dollars



Your soybean checkoff.  
Working together for a profitable future.



## Screening for Herbicide Resistant Marestalk

Marestalk (*Conyza canadensis*), also known as horseweed, has become a troublesome weed in many parts of the Eastern U.S. in recent years due primarily to the development of herbicide-resistant populations. Currently, glyphosate-resistant marestalk has been confirmed in at least ten states in the Eastern U.S. ALS-resistant marestalk has been confirmed in OH, Indiana, and in 11 locations spanning seven counties in Michigan.

A mature marestalk plant can produce thousands of wind-disseminated seed – seed that is capable of blowing considerable distances only to infect new fields if resistant. Because glyphosate and ALS-inhibiting herbicides are very important to Michigan soybean growers, it is essential to identify herbicide resistant populations and employ proper management strategies. *For these reasons, marestalk populations will again be screened for glyphosate and ALS resistance in Diagnostic Services. This service is FREE. The Michigan Soybean Promotion Committee will cover all sample costs.*

Seedheads from mature marestalk plants should be collected in late summer to early fall following appropriate guidelines listed below. If you have any questions about field criteria or seedhead collection, please call Steven Gower at 517-432-9693 or send an email to [sgower@msu.edu](mailto:sgower@msu.edu).

### SAMPLE DELIVERY INSTRUCTIONS

1. Please fill out this form as completely as possible.
2. One completed form should accompany every sample submitted.
3. Return both the form and marestalk sample to your local county MSU Extension Agent. Samples will be forwarded to MSU Diagnostic Services.
4. Or, send marestalk samples directly to:  
 Diagnostic Services  
 101 Center for Integrated Plant Systems  
 East Lansing, MI 48824

## GROWER INFORMATION ~ Marestalk Sample

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ MI Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

County: \_\_\_\_\_

MSU Extension Agent: \_\_\_\_\_

Township: \_\_\_\_\_ Section: \_\_\_\_\_

Field Identification: \_\_\_\_\_

Number of Acres: \_\_\_\_\_

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

### FIELD HISTORY

Year	Crop	Tillage	Herbicide
20__	Soybeans		Burndown: PRE: POST:
20__			Burndown: PRE: POST:
20__			Burndown: PRE: POST:
20__			Burndown: PRE: POST:
20__			Burndown: PRE: POST: