



# Diagnostic Facts



Diagnostic Services  
Michigan State University

MSU-DS05

[www.pestid.msu.edu](http://www.pestid.msu.edu)

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## Screening for Herbicide-Resistant Horseweed in Soybean Production Systems

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**H**orseweed (*Conyza canadensis*), also known as marestail, has become a troublesome weed in many parts of the Eastern U.S. in recent years. Horseweed has a very long emergence period - much longer than some weeds. Horseweed can emerge in the fall and overwinter as a small rosette or emerge in the spring with other summer annual weeds. If allowed to mature, a single horseweed plant is capable of producing thousands of wind-disseminated seed.

Burndown applications of glyphosate and/or 2,4-D in no-till soybeans can be quite variable depending upon the height of horseweed and environmental conditions. Moreover, control of horseweed has become more problematic due to the development of herbicide-resistant populations. Currently, glyphosate-resistant horseweed has been confirmed in at least 12

states with ALS resistance reported in Ohio, Indiana and Michigan. To date, no glyphosate-resistant horseweed has been found in Michigan. However, ALS-resistant horseweed is widespread having been confirmed in 34 field crop locations spanning 12 counties in Michigan.

### Horseweed Identification

Horseweed is a winter or summer annual plant that first forms a small, basal rosette and then an erect, 1 to 5 foot tall stem. Young rosette leaves have toothed to lobed leaf margins, prominent petioles, and are covered with short, stiff hairs (Photo 1). Leaves produced on the main stem are alternate in arrangement, numerous, often crowded on the



Photo 1. Small basal rosette of horseweed.

stem, and covered with coarse, stiff hairs (Photo 2). Stem leaves are long and narrow, sessile to short-petioled, with toothed but usually entire leaf margins (Photo 2). Mature plants produce an erect stem that is unbranched at the base but often branched at the seedhead and covered with short, bristly hairs. Branches from the main stem produce many slender flower stalks with

numerous, small, white flowers (Photos 3 and 4). Being an annual member of the aster family, a mature horseweed plant is capable of producing thousands of wind-disseminated seed. This seed, much smaller and lighter than dandelion seed, is able to blow considerable distances by wind.

## Herbicide Resistance Screen

We are asking for your assistance in scouting and sampling for herbicide-resistant horseweed. Glyphosate and ALS inhibitors are very important to Michigan soybean producers. Confirming herbicide-resistant horseweed populations in Michigan will provide producers with the knowledge to implement the best possible management strategies. The goal of any resistance management program is to prevent or limit the spread of resistant weeds. *To address this problem, horseweed will be screened for glyphosate, ALS, and triazine resistance in Diagnostic Services at Michigan State University.* **This service is FREE to Michigan soybean producers. All sample costs are covered by check-off dollars through the Michigan Soybean Promotion Committee.**

If you have fields where horseweed has been a problem and resistance is suspected, collect seedheads from mature plants in late summer to early fall. Consult the horseweed submittal form for detailed sampling instructions on field criteria and seedhead collection.



Photo 2. Long and narrow leaves found crowded on erect, central stem of horseweed.



Photo 3. Closeup of small, numerous, white flowers of horseweed.

Horseweed submittal forms will be available at various locations, including county MSU Extension offices, grain elevators, and chemical retail businesses. Horseweed seedheads and the submittal form can be dropped off at your local county MSU Extension office or sent directly to:

**MSU Diagnostic Services**  
101 Center for Integrated  
Plant Systems  
East Lansing, MI 48824  
Attn: Steven Gower

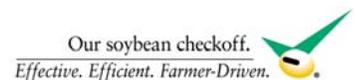
If you have any questions, please call Steven Gower at 517-432-9693 or send an email to [sgower@msu.edu](mailto:sgower@msu.edu).



Photo 4. Mature horseweed seedhead.



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