

Fall Soybean Weed Survey 2013

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Objective

To determine the level of weed infestation in soybean fields across Ohio at maturity.

Background

Crop Year: 2013

County – counties surveyed across western and northern Ohio include: Auglaize, Champaign, Darke, Defiance, Fayette, Fulton, Geauga, Ashtabula, Trumbull, Hancock, Hardin, Marion, Wyandot, Mercer, Montgomery, Shelby, Union

Methods

Surveyors drove a circular route in the county observing weeds present in soybean fields just before harvest. Weeds that appear above the canopy are observed and noted, with the infestation level of each of the weeds recorded according to the scale seen in Table 1. The number of acres in each field is estimated, and the location by road intersection or GPS reading taken. Surveyors stop once each mile and observe the soybean field to the left or right - if no soybean field at that location then they drive to the next. If soybeans are on both sides of the road, then weed incidence for both fields is noted. Surveyors are encouraged to repeat the pattern across the county until 80 to 100 fields have been visited. Surveyors also noted weed free fields to provide an accurate picture of the weed problems or lack thereof within the survey county.

Table 1. Key to infestation level (IL) notes on survey spreadsheet.

Blank = No weeds apparent

1=Occasional (A plant of the species as an occasional individual plant)

2=Large patches (A patch(es) of 8 or more plants of individual species scattered in field)

3=Wide Spread (Numerous patches or individual plants of the species across the field)

Results

Table 2. Ohio Soybean Field Weed Survey by county, surveyor, number of fields, by estimated acres and % fields with no weeds, 2013.

County	Educator/surveyor	# fields	Acres est.	No weeds	
Auglaize	John Smith	80	3665	25%	
Champaign	Harold Watters	80	4622	23%	
Darke	Sam Custer	78	2126	38%	
Defiance	Bruce Clevenger	120	6480	55%	
Fayette	Adam Shepard	96	7027	2%	
Fulton	Eric Richer	106	6085	40%	
Geauga/Ashtabula/Trumbull	Les Ober	120	2518	79%	
Hancock	Ed Lentz	120	5735	18%	
Hardin	Mark Badertscher	105	4539	34%	
Marion/Wyandot	Steve Prochaska	48	2300	44%	
Mercer	Glen Arnold	103	no est.	43%	
Montgomery	Suzanne Mills-Wasniak	65	5985	40%	
Shelby	Debbie Brown	81	3145	10%	
Union	Amanda Douridas	84	3762	21%	
		average >	92	4461	34%

Table 3. Ohio Soybean Field Weed Survey results by Percent of Fields with an appearance of the named weed, 2013.

County	Giant Ragweed	Common Ragweed	Lambs quarter	Mares tail	Volunteer corn	Pigweed	Giant Foxtail
Auglaize	49%	8%	1%	50%	23%	0%	
Champaign	36%	0%	5%	56%	18%	4%	
Darke	19%	6%	5%	28%	31%	4%	4%
Defiance	9%	18%	0%	18%	7%	0%	3%
Fayette	76%	0%	0%	71%	34%	2%	2%
Fulton	27%	8%	8%	32%	14%	2%	2%
Geauga/Ashtabula/Trumbull	0%	6%	6%	11%	3%	4%	3%
Hancock	30%	13%	1%	52%	35%	12%	21%
Hardin	30%	0%	4%	27%	30%	4%	5%
Marion/Wyandot	33%	0%	0%	29%	0%	0%	
Mercer	17%	1%	4%	39%	18%	17%	2%
Montgomery	23%	17%	11%	45%	23%	15%	
Shelby	49%	7%	12%	49%	57%	7%	11%
Union	36%	1%	5%	38%	25%	4%	5%

Table 4. Ohio Soybean Field Weed Survey, percent of fields with Infestation Level score of a 2 or a 3, 2013

County	Giant Ragweed	Common Ragweed	Lambs quarter	Marestail	Volunteer corn
Auglaize	14%	1%	0%	25%	5%
Champaign	8%	0%	1%	26%	0%
Darke	12%	4%	1%	18%	5%
Defiance	5%	12%	0%	8%	0%
Fayette	35%	0%	0%	39%	13%
Fulton	9%	2%	3%	17%	4%
Geauga/Ashtabula/Trumbull	0%	3%	1%	2%	0%
Hancock	7%	3%	0%	16%	4%
Hardin	7%	3%	0%	16%	4%
Marion/Wyandot	29%	0%	0%	23%	0%
Mercer	6%	1%	0%	10%	2%
Montgomery	11%	3%	3%	18%	12%
Shelby	19%	4%	6%	22%	10%
Union	13%	0%	0%	15%	1%

Additional weeds cited but with generally too few to tabulate data included perennials – Milkweed, Thistle, Pokeweed, and Johnsongrass. Annuals cited include Giant foxtail, Velvetleaf, Cocklebur, Jimson weed and Morningglory.

Summary

As shown in Table 2, an average of 92 fields were surveyed per county with an estimated average of 4,461 acres. On average 34% of the fields were weed free, but a wide range was seen from as low as 2% in Fayette County to a high of 79% in Geauga/Ashtabula/Trumbull counties.

In Table 3, we note the percent of fields found with each weed, from a low incidence to a high. Marestail, Giant ragweed and Volunteer corn are the most noteworthy weeds cited.

- While the average infestation for Marestail is 39%, four counties note 50% or more fields with an appearance of up to 71% level in Fayette County.
- Giant ragweed has nearly as high an appearance level as Marestail at 31% on average. Fayette County ranks highest for Giant ragweed at 76%, but two others (Auglaize and Shelby) note levels near 50%.
- Volunteer corn, presumed to be volunteer from a RoundupReady corn planting, is third in place. Shelby ranks highest here at 57%, but four others have 30% or more of their fields with high levels of volunteer corn.
- Common ragweed, typically found on lower organic matter soils than is Giant ragweed, has generally low appearance numbers but should be a concern in Defiance and Montgomery counties where higher levels can be seen.
- Common lambsquarter seems generally well controlled in 2013. Use of a pre-emergent herbicide and adequate rainfall to activate those herbicides are indicated.

- Pigweed species also appear generally well controlled in 2013, again an indication of pre-emerge herbicides and adequate rainfall. Mercer and Montgomery counties do show higher levels of an incidence than the others and may bear watching for possible resistance in the future.
- The last weed for discussion is Giant foxtail. Surveyors were asked to note additional weeds they saw from an original list of six weeds, ten educators noted Giant foxtail and indicated the level of incidence. While an incidence of 21% in Hancock County indicates a problem, it may well be evidence of excessive rainfall in July that led to an open canopy and late emergence of foxtail.

Table 4 indicates the percent of fields with an infestation level (IL) of a 2 or a 3. With a score of a “2”, there would likely be large patches of eight or more plants in the field. A score of “3” would indicate widespread weeds with numerous patches or individual plants of the species across the field. Incidents at this level would indicate more than a normal level of weed escapes and we would have concerns about the development of resistant weeds.

The high infestation level of Marestalk in several counties indicates the continuing management problems with this weed. Fayette, Champaign, Auglaize, Marion/Wyandot and Shelby county surveys all show levels of concern. Montgomery County should be noted as an area that formerly had a high incidence of Marestalk outbreaks, growers here have been able to reduce those problem fields.

Giant ragweed is fast becoming our second most troublesome weed. Two county surveys, from Fayette and Marion/Wyandot, show high numbers of fields with Infestation Levels of 2 to 3. Other county surveys also indicate increasing problems with Giant ragweed.

Volunteer corn can easily be controlled with the addition of a post grass product to the glyphosate application. Several counties have double-digit percentages of these higher infestation levels indicating the use of glyphosate alone as the post emergent herbicide in the weed control program.

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