

Recent wet, rainy weather has created some weed management challenges for Indiana growers. In this article we will hit on a few key points to consider based on current challenges. Consult the weed response table in the Ohio/Indiana Weed Control Guide <http://www.btny.purdue.edu/Pubs/WS/WS-16/CornHerbRating04.pdf> to determine which products are best suited for your corn weed spectrum.

Delayed corn planting or replanting in southern Indiana.

- 1) Southern Indiana corn growers rely heavily on atrazine premixes in corn. Rain will not have completely washed all of the herbicide away, but may have compromised overall activity. Scout fields as soon as possible to determine if weeds are escaping. Obviously giant ragweed is a big concern, but wet conditions and dilution of atrazine can result in failures to control cocklebur, sunflower, velvetleaf, burcucumber, morningglories, and waterhemp. If corn is less than 12 inches tall and you haven't used all of the atrazine allowed by the label, it would be wise to add atrazine to other broadleaf herbicides to control the above mention weeds and provide some soil residual activity. If corn is more than 12 inches tall, you cannot use any additional atrazine.
- 2) If no herbicides have been applied and corn is emerged, strongly consider switching to more of a total post program since rains needed for activation of soil applied herbicides tend to become less frequent as we move into summer. Products with good annual grass (foxtail, fall panicum, barnyardgrass, etc) activity such as Steadfast ATZ, Basis Gold, Celebrity Plus, Option or Equip plus appropriate broadleaf herbicides are effective programs to consider in these situations. You can still add reduced rates (1/3 to 1/2 X rates) of the residual herbicides to the post program to extend the weed control interval.

Weed escapes in large corn in all of Indiana.

Postemergence corn herbicide options become limited when corn is 12 inches tall, and really limited on corn at the V6 or later growth stage. Also keep in mind that large weeds are much more difficult to control. Keep spray out of whorls, especially with ALS inhibitors and contact products.

In corn between 12 inches tall and the V6 growth stage, grass products that can be used include Accent, Beacon, Steadfast, Option (through V6 up to V7), Equip (through V4 up to V5). All of these products can be applied as directed sprays on larger corn with the exception of Celebrity Plus and Steadfast.

Broadleaf products that can be broadcast on corn taller than 12 inches include include Aim, Basagran, Buctril, Callisto, Celebrity Plus, Distinct, Exceed, Glyphosate (RR corn), Hornet, Liberty (LL corn), Lightning (Clearfield corn), Northstar, Permit, Permit + dicamba, Resource, Stinger, Yukon. Broadleaf products that can be applied broadcast on corn at V7-V8 or later include Aim, Basagran, Callisto, Glyphosate (RR corn), Liberty (LL corn), Permit, Permit + dicamba, Resource, Yukon. Consult the Ohio/Indiana Weed Control Guide <http://www.btny.purdue.edu/Pubs/WS/WS-16/> or the manufacturers label for more information, adjuvants, efficacy, and use precautions of each product.

Be on the lookout for giant ragweed and burcucumber. Every year is a good one for giant ragweed, and frequent rains are good for burcucumber. Both weeds have relative long emergence patterns and herbicides with both foliar and residual activity are needed. If corn is not 12 inches tall, consider adding some atrazine to the postemergence product to extend the residual window of activity on these weeds.

Here is a brief summary of weeds controlled by various products.

Specific Weed Problems

Nightshade and jimsonweed are controlled with Aim, atrazine, Banvel/Clarity/Distinct, Buctril, Celebrity Plus, Liberty, Northstar, glyphosate, and Yukon. Basagran also works well on jimsonweed, but not on nightshade.

Burcucumber is controlled with Beacon, Buctril+atrazine, dicamba+atrazine, Spirit, Northstar.

Cocklebur, common ragweed, giant ragweed, sunflower and velvetleaf are controlled with atrazine, Banvel/Clarity/Distinct, Basagran, Buctril, Celebrity Plus, Hornet, Liberty, Northstar, Permit, glyphosate, Yukon, and 2,4-D. Callisto provides good control of cocklebur and velvetleaf, but is weak on sunflower and the ragweeds. Mixtures of **cocklebur, sunflower, or giant ragweed that are not controlled with ALS inhibitors** (ALS resistant) should be controlled with atrazine, Banvel/Clarity/Distinct, Buctril, Celebrity Plus, Hornet, Liberty, Northstar, glyphosate or 2,4-D.

Common lambsquarters are controlled with Aim, atrazine, Banvel/Clarity/Distinct, Buctril, Callisto, Celebrity Plus, Hornet, Liberty, Northstar, Resource, glyphosate, Yukon, and 2,4-D.

Entireleaf, ivyleaf and pitted morningglory are controlled with atrazine, Banvel/Clarity/Distinct, Buctril, Celebrity Plus, Liberty, glyphosate, Northstar, Yukon, and 2,4-D.

Redroot and smooth pigweed are controlled with Aim, atrazine, Banvel/Clarity/Distinct, Callisto, Celebrity Plus, Permit, glyphosate, Northstar, Yukon, and 2,4-D.

Prickly sida is controlled with atrazine, Banvel/Clarity/Distinct, Celebrity Plus, Callisto, Basagran, Hornet, Liberty, Northstar, Yukon, and glyphosate.

Waterhemp can be controlled with Aim, atrazine, Banvel/Clarity/Distinct, Callisto, Celebrity Plus, glyphosate, Northstar, Yukon, and 2,4-D.

Velvetleaf is controlled with Aim, Callisto, Hornet, Resource, and Yukon.

Keep in mind that most of these herbicides are intended for weeds less than 6 inches tall.

Large weeds in fields intended for soybean.

We have observed some fields (both planted and unplanted) with dandelions flowering for the second or third time, cressleaf groundsel in excess of 3 feet tall, common pokeweed, hemp dogbane, and milkweed in excess of 2 feet tall, and flowering thistles. In no-till fields that have not yet been planted, increase glyphosate rates for burndown to at least 1.5 lb ae/A (44 oz of Weathermax or 64 oz of most other glyphosate products) to improve control of large weeds. Wait at least 1 day before pulling a drill or planter through the field to allow the weeds to absorb glyphosate. Since it is late in the spring, if marestail is present, add FirstRate or Classic to glyphosate rather than 2,4-D unless you know it is ALS resistant.

In fields that will conventionally tilled, consider using no-till instead. It is difficult to completely control large weeds with spring tillage tools other than plows. Disks, field, cultivators, and soil finishers will knock down large weeds which then recover and become difficult to control with herbicides. If you do conventional tillage and have weeds in excess of 1 foot tall, apply glyphosate prior to tillage to ensure effective control. Wait at least one day between glyphosate application and tillage for annual weeds, and 2 to 3 days for perennial weeds. The good news is that glyphosate products work much more rapidly when air temperatures are high and knockdown activity will be more rapid than we are used to with early spring applications.

Large weeds in established soybean.

We have observed a number of fields with 3 to 6 inch tall soybeans and 6 to 24 inch tall weeds. Unfortunately we also observe when we don't have weather related challenges. Research conducted at a number of Midwest universities has shown that moderate to high densities weeds allowed to reach 9 inches or more almost always result in yield reductions. From a soybean growth stage standpoint, allowing similar densities of weeds to remain with soybean until V3 to V4 almost always results in yield reductions. With good commodity prices, why let weeds take your beans? Keep in mind that the current glyphosate labels recommend a rate of 0.56 to 0.75 lb ae/A (17 to 22 oz of Weathermax, or 24 to 32 oz of 3 lb ae/gallon formulations) for control of 4 to 8 inch weeds. If weeds are taller than 8 inches increase glyphosate rate accordingly.

Weeds that escape the first application of glyphosate can be more difficult to control if they regrow and become drought stressed.

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Information listed here is based on research and outreach/extension programming at Purdue University and elsewhere. The use of trade names is for clarity to readers of this site, does not imply endorsement of a particular brand nor does exclusion imply non-approval. Always consult the herbicide label for the most current and update precautions and restrictions. Copies, reproductions, or transcriptions of this document or its information must bear the statement 'Produced and prepared by Purdue University Extension Weed Science' unless approval is given by the author.