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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 and does not imply endorsement of a particular product, 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:

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Timing of Post-emergence Corn Herbicide Applications

A large portion of Indiana's corn acreage has been planted and has emerged in the last couple of weeks. In fact, we have observed corn in the V3 stage in the Lafayette area, and surely corn in the southern part of the state has advanced past this stage. Weeds are also emerging and post herbicide applications will be necessary within the next couple of weeks to month. Unlike post soybean herbicides there are a large number of herbicides available beyond the glyphosate products for weed control in corn. The large number of products is a positive when considering glyphosate-resistance management and prevention, but can also make timing and product application decisions more complicated since corn ear development can be greatly influenced by postemergence herbicides if they are applied too late in the growing season.

When choosing a post applied corn herbicide or herbicide combination, producers need to consider the weed species present, weed heights, AND crop growth stage. The majority of conventional post-applied corn herbicides are effective on select weed species and only at certain weed heights. Typically a combination of products or a pre-package of active ingredients is needed to achieve control of all weed species present. Producers should refer to herbicide labels for weed species controlled and recommended application heights; Table 4 of the [*2012 Ohio and Indiana Weed Control Guide*](#) can also assist in choosing an effective herbicide option. Spraying weeds that are larger than the recommended label height can result in poor weed control.

The stage and height of corn at the time of post herbicide application is also important to keep in mind as applications outside of the labeled window can result in crop injury and/or yield loss. The type and amount of injury from an application beyond the labeled window is dependent upon the herbicide, other environmental stresses, and exact timing of application. Injury symptoms include: ear pinching, ear bottleneaking, internode stacking, onion leafing, rat tailing, brace root malformation, and green snap. Refer to the herbicide label and Table 1 for the appropriate crop stages for post emergence herbicide applications. Also, Bob Nielsen has an excellent article on how to stage corn growth stage and pitfalls that one can run into when lower leaves are missing. [*Determining Corn Leaf Stages*](#)

When tank mixing products, follow the most restrictive label as far as determining the appropriate crop growth stage restriction.

Other items to consider to avoid crop injury based on our past experience:

- 1) Avoid using contact herbicides just prior to rain showers or applying these herbicides when there is a heavy dew to avoid washing the herbicide down into whorl.
- 2) Avoid applying growth regulator herbicides after several nights of cool temps (45 degrees or cooler).
- 3) Do not use UAN solutions as the carrier when applying atrazine premixes to spike stage corn.
- 4) Do not mix growth regulator herbicides with chloroacetamide herbicides and apply postemergence. These mixtures are fine if applied before corn emergence.
- 5) Do not apply ALS inhibitors past the V6 stage of corn growth.

Table 1. Post-emergence corn herbicide products and growth stage/crop height restrictions for applications as derived from Labels and 2012 Ohio and Indiana Weed Control Guide.

Herbicide	Trade Name	Corn application stage/height ^{ab}
2,4-D ester or amine	Various	Broadcast: up to 8" Directed: up to tasseling
2,4-D + atrazine	Shotgun	Broadcast: spike to 8" Directed: 8" to 12"
atrazine	Aatrex and other various	Apply up to 12" Corn
bromoxynil	Buctril, Moxy, and Boreclean	1 pt.: emergence to just before tassel 1.5 pt.: 4 leaf stage to just before tassel
bromoxynil + atrazine	Brozine	1.5-2 pt.: emergence to 12" Corn 3 pt.: 4 leaf to 12" Corn
carfentrazone	Aim	Broadcast: up to V8 stage Directed: up to V14 stage
clopyralid	Stinger	Emergence to 24"
clopyralid + fluroxypyr	WideMatch	Broadcast up to V5 corn
dicamba	Banvel, Clarity, and other various	0.5-1pt: spike to five-leaf or 8" corn 0.5 pt.: up to 36" corn
dicamba + atrazine	Marksman, Sterling Plus, and other various	Spike to five-leaf or 8" corn
dicamba + diflufenzopyr	Status	4" to 36" tall or V2 to V10
flumetsulam + clopyralid	Hornet	Up to 20" or 6 collar corn
flumiclorac	Resource	2- to 10-leaf stage
fluroxypyr	Starane	Broadcast up to V5 corn
fluthiacet-methyl	Cadet	Apply up to 48" Corn
glufosinate*	Liberty	Apply up to V7 stage
glyphosate + mesotrione + s-metolachlor**	Halex GT	Apply up to 30" or 8-collar corn
glyphosate + s-metolachlor**	Expert	Apply up to 12" Corn
glyphosate**	Various	Emergence to 30" or 8-collar corn
halosulfuron	Permit, Sandea, and Halomax	Spike to layby stage
halosulfuron + dicamba	Yukon	Spike to 36" Corn
halosulfuron + thifensulfuron	Permit Plus	1- to 5-leaf stage
imazethapyr + imazapyr***	Lightning	Broadcast: up to 20" or V6 stage Directed: until 45 days before harvest
mesotrione	Callisto	Apply up to 30" or 8 leaf stage
mesotrione + atrazine	Callisto Xtra	Emergence to 12" Corn
nicosulfuron	Accent Q and NIC-IT	Broadcast: up to 20" or 6 collar corn Directed: 20" to 36" or 10 collar corn

Table 1 Continued.

Herbicide	Trade Name	Corn application stage/height ^{ab}
nicosulfuron + rimsulfuron	Steadfast Q and Ironclad	Up to 20" or 6 collar corn
nicosulfuron + rimsulfuron + atrazine	Steadfast ATZ	Up to 12" or 6 collar corn
primisulfuron	Beacon	Broadcast: 4 to 20" Corn Directed: 20" to before tassel emergence
primisulfuron + dicamba	NorthStar	Broadcast: 4" to 20" Corn Directed: 20" to 36" corn or 15 days prior to tassel emergence
prosulfuron	Peak	Broadcast: up to 20" or 6-collar Directed: up to 30"
prosulfuron + primisulfuron	Spirit	Broadcast: 4 to 20" corn Directed: 4 to 24" corn
rimsulfuron + thifensulfuron + isoxadifen (Safener)	Resolve Q	20" or 6-collar stage
tembotrione	Laudis	Up to V8 stage
tembotrione + thien carbazon-methyl	Capreno	Broadcast: V1 to V6 Directed: up to V7
topramezone	Impact and Armezon	Up to 45 days before harvest

^a Crop stage and height restriction are for field dent corn. For pop-corn and sweet corn crop stage and height restrictions refer to the herbicide label.

^b Restriction statements including "or" should be interpreted as which ever occurs first.

* Apply to Glufosinate-resistant (Liberty Link) corn varieties only

** Apply to glyphosate-resistant (Roundup Ready) corn varieties only

*** Apply to imadazolinone-resistant (Clearfield) corn varieties only

