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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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Postemergence Residual Corn Herbicides

The majority of Indiana’s corn went into the ground the week of May 4th-9th with ideal weather and soil conditions. Although that week also came with lots of high wind speeds that kept herbicide applicators out of the field and was followed by a week of rain. It is very likely that a majority of the corn is now emerging without receiving their planned pre-emerge herbicide application. Fortunately many of the pre-emerge products can also be applied postemerge and there are many herbicides for postemergence 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 Indiana and Ohio Weed Control (https://mdc.itap.purdue.edu/item.asp?Item_Number=WS-16-W#.U3YlwI5GfIF) 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 bottlenecking, internode stacking, onion leafing, rat tailing, brace root malformation, and green snap. Refer to the herbicide label and Table 6 for the appropriate crop stages for post emergence herbicide applications. 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.