



Proceedings of the 74th Annual Meeting of the North Central Weed Science Society

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The program and abstracts of posters and papers presented at the annual meeting of the North Central Weed Science Society are included in this proceedings document. Titles are listed in the program by subject matter with the abstract number listed in parenthesis. Abstracts are listed in numerical order followed by the author and keyword listing.

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†**Extending Critical Time of Weed Removal in Dicamba-Tolerant Soybean with Residual Herbicides.** Darko Jovanovic*, Stevan Z. Knezevic, Jon Scott, Ivan B. Cuvaca, Pavle Pavlovic, O. Adewale Osipitan; University of Nebraska-Lincoln, Lincoln, NE (27)

ABSTRACT

Dicamba-tolerant soybeans were developed to provide an alternative herbicide mode of action with the use of dicamba for weed control in soybean and to manage herbicide-resistant broadleaf weed species. Residual herbicides can influence how weeds compete with the crop. Thus, they can potentially extend the critical time of weed removal (CTWR) to later in the season. Field experiment was conducted in 2018 and 2019 at Haskell Ag Lab, Concord in Nebraska. The experiment was laid out in a split-plot arrangement of 28 treatments (4 herbicide regimes and 7 weed removal timings) with four replicates. The 4 herbicide regimes were different combinations of PRE and POST treatments. These combinations were: (1) No PRE with POST Roundup PowerMax[®] (glyphosate), (2) PRE Warrant[®] (acetochlor) and XtendiMAX[®] (dicamba) with POST Roundup PowerMax[®], (3) PRE Warrant[®] and XtendiMax[®] with POST Roundup PowerMax[®] and XtendiMax[®], and PRE Warrant Ultra[®] (acetochlor plus fomesafen) with POST Warrant[®], Roundup PowerMax[®] and XtendiMax[®]. The 7 weed removal timings were: V1, V3, V6, R2 and R5 soybean growth stage, as well as weed free and weedy season long. The CTWR (based on 5% acceptable yield loss) started at V2 soybean stage in plots without residual herbicide application. The application of residual herbicides extended the CTWR to V4, V6 or R2 depending on the type of residual herbicide applied. The greatest extension of CTWR (R2) was achieved with the PRE application of Warrant Ultra[®] complemented with POST application of Roundup PowerMax[®] tank-mixed with XtendiMax[®]. The least extension of CTWR (V4) was provided by PRE application of Warrant[®] and XtendiMax[®] complemented with POST application of Roundup PowerMax[®]. In general, it can be concluded that application of residual herbicides in dicamba-tolerant soybeans clearly extended the CTWR.