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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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Yield and Yield Loss of Conventional Soybean as Influenced by 2,4-D. Ivan B. Cuvaca*, Jon Scott, Darko Jovanovic, Stevan Z. Knezevic; University of Nebraska-Lincoln, Lincoln, NE (31)

ABSTRACT

To stress investigations aimed at clarifying the impact of 2,4-D drift on non-2,4-D tolerant soybean, a study was conducted in 2019 near Concord, NE. Specifically, the study investigated the impact of 2,4-D micro-rates on conventional soybean yield. The experiment used a randomized complete block design with a split-plot arrangement and four replications. Main plots consisted of three 2,4-D application times [second trifoliate (V2); beginning of flowering (V7/R1); and full flowering (R2)] and subplots consisted of six micro rates of 2,4-D (1/5; 1/10; 1/50; 1/100; 1/500; and 1/1000 of the label recommended dose of 1,120 g ae ha^{-1}) and a check with no herbicide applied. Soybean injury was visually assessed at 7, 14 and 21 days after treatment (DAT), and grain was collected using a small-plot combine. In general, soybean injury increased with an increase in 2,4-D dose. R2 was more sensitive to 2,4-D injury than the V2 and R1 stages at 21 DAT. A 2,4-D dose of 39.6 g ae ha^{-1} caused 5% injury to conventional soybean at R2 stage compared with a 1.2-fold higher dose required to cause the same level of injury at both the V2 and R1 stages. In terms of yield reduction, the R1 stage was the most sensitive. Preliminary data analysis showed that 2,4-D dose of 1.97 g ae ha^{-1} reduced conventional soybean yield by 5% (0.2 Mg ha^{-1}) at the R1 stage compared with 140.6 and 24.2 g ae ha^{-1} required to cause the same yield reduction at the V2 and R2 stage, respectively. Overall, these results show that conventional soybean is more sensitive to 2,4-D at the reproductive stages and therefore preventing 2,4-D drift at such stages is crucial.