EVALUATION OF THE POTENTIAL FOR AN ORGANOPHOSPHATE INTERACTION IN OPTIMUM® GAT® CORN VERSUS CONVENTIONAL GLYPHOSATE TOLERANT CORN. Kevin R. Schabacker*, Larry H. Hageman, Charles E. Snipes and David W. Saunders, DuPont Crop Protection, Rochelle, IL 61068.

Increased corn injury with an In-Furrow (IF) application of a granular organophosphate insecticide followed by pre and postemergence sulfonylurea herbicides has been documented in field trials. The possibility of this organophosphate interaction has mandated label restrictions on In-Furrow and tank mix insecticide + sulfonylurea herbicide treated corn plants. Optimum® GAT® corn contains a transgenic ALS gene, a highly resistant allele with two mutations, that confers resistance to ALS herbicides.

Field Studies were conducted to evaluate the potential for Optimum® GAT® corn to avoid the organophosphate-sulfonylurea interaction. Corn was planted, along with In-Furrow applications of terbufos 15G, in light soils at two locations. Preemergence herbicide treatments were made immediately after planting. Postemergence applications of sulfonylurea herbicides alone or in tank mix with chlorpyrifos, were made to 4-collar corn. Visual injury was rated at 7, 14 and 28 days after post treatment (DAT).

Optimum® GAT® corn showed excellent tolerance to all treatments at 7, 14 and 28 DAT.

Conventional glyphosate tolerant corn showed little to no tolerance to the sulfonylurea tank mixes, the granular insecticide followed by sulfonylurea sequential applications, or the chlorpyrifos + sulfonylurea post tank mixes as the corn was severely injured by all treatments at 7, 14 and 28 DAT.

This research demonstrates the potential for the use of terbufos 15G soil insecticide when followed by sulfonylurea herbicides or tank mix applications of chlorpyrifos with post applied sulfonylurea herbicides when used on Optimum® GAT® corn.

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