AGRONOMIC BENEFITS OF MANAGING WINTER ANNUAL WEEDS WITH FALL APPLICATIONS OF CHLORIMURON ETHYL + SULFENTRAZONE MIXTURES. Marsha J. Martin, Helen A. Flanigan, Kevin L. Hahn, and David W. Saunders, Development Representatives and Product Development Manager, DuPont Crop Protection, Johnston, IA 50131

Field studies were conducted between October, 2000 and June, 2002 to compare burndown and residual activity of fall application of chlorimuron ethyl + sulfentrazone mixtures against other herbicides labeled for fall application ahead of soybean planting. Tests were conducted in Indiana, Illinois, Michigan, Missouri, North Carolina, Ohio, Pennsylvania, and Wisconsin on winter annuals, early-emerging summer annuals, and certain perennials. For broad-spectrum burndown and residual control, chlorimuron ethyl + sulfentrazone + tribenuron ethyl mixtures performed the best, with glyphosate and glyphosate + imazaquin mixtures performing well for burndown of diverse weeds but losing control in May due to new germination and lack of significant residual.

Soil temperatures, taken at 4 inch depth in fields with fall-applied chlorimuron ethyl + sulfentrazone + tribenuron ethyl mixtures, averaged 5.5 Fahrenheit degrees warmer in mid-April and 3.5 Fahrnheit degrees warmer in mid-May than soil temperatures taken at 4 inch depth in side by side spring glyphosate burndown treatments. At one location in Amboy, Indiana, where soil temperatures were taken biweekly between April 9 and May 24, 2002, soil treated with Fall applications of chlorimuron ethyl + sulfentrazone + tribenuron ethyl mixtures averaged 3 Fahrenheit degrees warmer than the side by side spring glyphosate burndown treatment.

In 2002, yields were taken at seven Indiana and Ohio test locations. Treatments with fall applications of chlorimuron ethyl + sulfentrazone + tribenuron ethyl mixtures averaged 105.9% of the side by side spring glyphosate burndown treatments.

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