

MANAGEMENT OPTIONS FOR DANDELION CONTROL IN NO-TILL SYSTEMS. Reece A. Dewell, William G. Johnson, J. Earl Creech, and Vince M. Davis, Research Associate, Assistant Professor, Graduate Research Assistant, and Graduate Research Assistant, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907.

Adoption of no-till production practices utilizing low-residual postemergence herbicide programs has led to a resurgence of several perennial weed concerns. Dandelion is one such concern in Indiana, especially in the northeastern portion of the state. Three field studies were conducted near Woodburn, IN to evaluate various herbicide combinations and application timings for fall and spring dandelion control in soybean. Fall treatments were applied on November 17, 2003 and spring treatments were applied between April 1 and May 20, 2004. Soybeans were planted in 15-inch rows on May 6 by the cooperating farmer. A postemergence blanket treatment of glyphosate (Roundup Weathermax) was applied on June 4, 2004 to two of the three study areas. Visual dandelion control ratings and/or dandelion counts were collected several times between April 9 and October 7. In an application-timing study, dandelion control with glyphosate, 2,4-D (ethylhexyl ester), and glyphosate + 2,4-D was most effective with applications prior to flowering (i.e., fall, April 1, and April 10). In this study, glyphosate + 2,4-D consistently provided better control than either product alone across most rating dates. At the May 20 rating, 14 of 15 chlorimuron combinations (fall or spring applications) were providing at least 79% control of dandelion. The only exception was a spring application of 2,4-D + chlorimuron + NIS + AMS (0.5+0.0078+0.25%+2.5 lb/A) which provided 69% control. Other treatments that provided at least 80% control of dandelion at this rating were: fall-applied flumioxazin + dicamba&2,4-D (Range Star) + tribenuron + NIS + AMS (0.064+0.25&0.72+0.0047+0.25%+2.5 lb/A), spring-applied flumioxazin + cloransulam + glyphosate (GF-1279) + 2,4-D + COC + AMS (0.048+0.0157+0.56+0.5+1.0%+2.5 lb/A), spring-applied glyphosate + 2,4-D + AMS (0.77+1.0+2.5 lb/A), and spring-applied glyphosate + flumioxazin + 2,4-D + AMS (0.77+0.064+0.5+2.5 lb/A). On July 1 (27 days after the glyphosate blanket application), 14 of 15 chlorimuron combinations (fall or spring applications) were still providing at least 89% control of dandelion. The exception at this rating was a spring application of flumioxazin + glyphosate (Roundup Original Max) + chlorimuron + NIS + AMS (0.063+0.77+0.0078+0.25%+2.5 lb/A) which provided 83% control. Other treatments providing at least 89% dandelion control on July 1 were: spring applications of glyphosate + 2,4-D + AMS (0.77+1.0+2.5 lb/A), glyphosate + flumioxazin + 2,4-D + AMS (0.77+0.064+0.5+2.5 lb/A), flumioxazin + 2,4-D + NIS + AMS (0.063+0.5+0.25%+2.5 lb/A), flumioxazin + cloransulam + glyphosate (GF-1279) + 2,4-D + COC + AMS (0.048+0.0157+0.56+0.5+1.0%+2.5 lb/A), flumetsulam + glyphosate (GF-1279) + 2,4-D + COC + AMS (0.04+0.56+0.5+1.0%+2.5 lb/A), and cloransulam + glyphosate (GF-1279) + 2,4-D + COC + AMS (0.0157+0.56+0.5+1.0%+2.5 lb/A). October 7 dandelion counts showed that all fall and spring applications reduced the number of dandelions by 50 to 95% compared to nontreated checks, which only received the blanket glyphosate application 4 to 6 weeks after planting.