

GLYPHOSATE TOLERANT ASIATIC DAYFLOWER (*COMMELINA COMMUNIS*) CONTROL IN NO-TILL SOYBEANS. Jim A. Fawcett, Extension Crop Specialist, Iowa State University, Ames, IA 50011.

Asiatic dayflower is an annual monocot weed in the Spiderwort family that has recently become a problem for some crop producers in eastern Iowa. Its relative tolerance to glyphosate and lengthy period of emergence has made it a challenge to manage in soybeans.

A trial was conducted in 2002 and 2003 in a field near Vinton, IA to investigate alternatives for controlling Asiatic dayflower in soybeans. Roundup Ready<sup>®</sup> soybeans were planted in 75-cm rows without tillage on May 7, 2002 and May 22, 2003. Herbicide treatments were applied with a CO<sub>2</sub> backpack sprayer to plots arranged in a randomized complete block design with three replications. The plot size was 3 m by 7.5 m in 2002 and 3 m by 9 m in 2003. All applications were made using a carrier volume of 234 L/ha in 2002 and 187 L/ha in 2003. All glyphosate applications included ammonium sulfate at 3% by weight. Visual evaluations of Asiatic dayflower control were made throughout both seasons.

Applications of clomazone and of flumioxazin made 3 to 5 days after planting did not provide acceptable control of Asiatic dayflower in either year. Postemergence applications of bentazon, aciflourfen, lactofen, flumiclorac, imazamox, and fomesafen to 5- to 30-cm Asiatic dayflower provided little to no control of the weed in 2002. Postemergence applications of carfentrazone-ethyl at rates up to 7 g ai/ha to 2- to 15-cm Asiatic dayflower did not provide acceptable control of the weed in 2003. A planting time application of glyphosate at 0.84 kg ae/ha followed by an application of glyphosate to 10- to 30-cm Asiatic dayflower at rates up to 1.68 kg ae/ha made in early July did not provide acceptable control of the weed in either year. However, more timely glyphosate applications did provide better control. Three glyphosate applications of 0.84 kg ae/ha made soon after planting, in mid-June, and in early July to 2- to 20-cm Asiatic dayflower provided greater than 80% control in both years. Glyphosate at 0.84 kg ae/ha applied soon after planting followed by glyphosate at 1.26 kg/ha applied to 2- to 20-cm Asiatic dayflower in mid-June provided greater than 80% control of the weed in 2003, but not in 2002. Cloransulam-methyl at 18 g/ha applied to 2- to 20-cm dayflower provided greater than 80% control in 2002, but not in 2003. The greatest control with soil-applied herbicides occurred with cloransulam-methyl and with sulfentrazone in both years.