

RENNER, KAREN A., and GARY E. POWELL*. Crop and Soil Sciences Dept., Michigan State University, East Lansing, MI 48824. - Response of sugarbeet (*Beta vulgaris*) to soybean (*Glycine max*) herbicide residues in soil.

Clomazone, imazaquin, imazethapyr, and chlorimuron are soybean herbicides with lengthy soil persistence. When sugarbeets are planted in rotation, yield loss may occur. Research was initiated in 1986 to examine the effect of these herbicides on sugarbeets planted 1 (6 locations) and 2 (2 locations) years following application. Residues from preplant incorporated clomazone at 2.0 and 1.0 lb ai/A did not reduce sugarbeet yield 1 and 2 years following application at any location. Yield losses in sugarbeets planted 1 year following preemergence imazaquin at 0.25 and 0.125 lb ai/A were detected at 5 of 5 and 1 of 5 locations, respectively. Sugarbeet yield losses were not detected 2 years after imazaquin application. At the location where imazaquin was preplant incorporated, sugarbeet yield reductions were detected for both application rates 1 year but not 2 years following application. Residues from preemergence imazethapyr applications at 0.125 lb ai/A reduced yield of sugarbeets planted 1 year after application at all locations. Sugarbeet yield losses were detected at only 1 location from imazethapyr applications of 0.063 lb ai/A 1 year after application. Where imazethapyr was preplant incorporated at 0.078 lb/A, sugarbeet yield loss occurred for 1 and 2 years following application. Residues from preemergence chlorimuron applications of 0.02 to 0.08 lb ai/A reduced sugarbeet yield severely at all locations, regardless of soil pH (range 6.0-8.0). Sugarbeet yield losses were still detected 2 years after application at the single location (pH 7.6) where chlorimuron was applied and sugarbeets planted for 2 years following application.

WILSON, ROBERT G.*, and G. L. HEIN. Univ. of Nebraska, Scottsbluff, NE 69361. - Effect of planting time herbicide and insecticide combinations on sugarbeet emergence, vigor, and yield.

Herbicides and insecticides applied at planting were combined and compared for their effect on sugarbeets. The results from two locations indicate that preplant applied cycloate (Ro-Neet) and ethofumesate (Nortron) can interact with aldicarb (Temik), carbofuran (Furadan), chlorpyrifos (Lorsban), fonofos (Dyfonate), and terbufos (Counter) applied at planting to reduce sugarbeet stand, vigor, and yield. The degree of injury depended upon the pesticide, rate of application, and location.