TIME OF WEED REMOVAL AND CROP PERFORMANCE IN A TWIN-ROW PRODUCTION SYSTEM. Kelly A. Nelson, Assistant Professor, Department of Agronomy, University of Missouri, Novelty, MO 63460.

Research was conducted to evaluate the impact of weed removal timing on twin-row corn and soybean performance compared with standard row spacings in 2002. Additional research evaluated weed-free twin-row corn and soybean performance compared to standard row spacings in 2001 and 2002. A twin-row crop is planted in 19 cm rows which are on 76 cm centers. Corn seed was planted in twin- and 76 cm wide-rows. Soybean seed was planted in 19 cm, 38 cm, and twin-rows. Twin-row corn intercepted a greater percentage of photosynthetically active radiation than 76 cm wide-row corn; however, light interception was greatest in 19 cm wide-row soybean when compared with 38 cm wide- or twin-rows. Corn grain yield for weed-free 76 cm wide-row and twin-row corn was similar to the 10 and 15 cm weed removal timings. Weed removal of 10 to 30 cm weeds in 19 cm, 38 cm, and twin-row soybean resulted in grain yields similar to the weed-free control for each row spacing, respectively. Soybean grain yield in 19 and 38 cm wide-row soybean was greater than twin-row soybean when weeds were removed at the 30 cm height. Eight site years of research in weed-free corn indicated that there was no grain yield benefit of twin-row corn compared to 76 cm wide-rows. Soybean grain yield in 19 cm wide-rows was 4.5 bu/a greater than 38 cm wide- or twin-row cultures.

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