

INFLUENCE OF SHATTERCANES INTERFERENCE ON CORN YIELD AND NITROGEN UPTAKE. Sarah R. Hans and William G. Johnson, Undergraduate Student Assistant, and Assistant Professor, Department of Agronomy, University of Missouri, Columbia, MO 65201.

Field experiments were conducted to determine the impact of shattercane (*Sorghum bicolor*) interference on corn (*Zea mays*) yield and nitrogen uptake in 1999 and 2000 near Columbia, MO on a Mexico silt loam with 2.6 % organic matter and pH 5.4 in fields with natural levels of shattercane infestations. Corn 'Dekalb 626RR' was planted using conventional-till methods. Atrazine was applied on all plots PRE at 2.76 kg a.i./ha and EPOST (3 to 8 cm grass) at 1.84 kg a.i./ha. Shattercane, corn, and soil were collected when the shattercane was 8, 15, 23, 30, or 46 cm tall, at tasseling (in 2000), and at corn harvest. Corn yields responded differently to environments. Corn yields were greater in 2000 than in 1999 due to more suitable growing conditions. In both years corn yields were reduced by shattercane interference when allowed to reach 30 cm tall before removal. In both years, shattercane contained more nitrogen than the corn on a per acre basis through the 30 cm shattercane removal timing. Yields from treatments in which the shattercane was allowed to compete until 12-inches tall before removal were approximately 76% of the weed free control. Season long shattercane interference resulted in an 86% yield loss in 1999 and a 42% yield loss in 2000. In 1999, corn in the untreated control had 87% less nitrogen than the weed free control at harvest. In 2000, corn in the untreated control had 51% less nitrogen than the weed free control at harvest. Shattercane interference resulting in reductions in per acre nitrogen levels in corn at harvest also resulted in yield reductions in both years.