

CORN GROWTH AND YIELD AS AFFECTED BY TIME OF WEED EMERGENCE. Corey J. Guza and James J. Kells, Graduate Research Assistant and Professor, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824.

Corn yield loss from weeds can be affected by weed species and emergence timing relative to corn emergence. The effect of weed species and emergence time on weed growth and corn yield was examined in Michigan in 2001 and 2002. Weeds examined were giant foxtail, common lambsquarters, and velvetleaf. Weeds were planted at four different timings associated with corn growth stage; corn planting (cohort one), corn emergence (cohort two), V1 (cohort three), and V3 (cohort four). Cohort two was not planted in 2002 due to heavy rainfall and rapid corn emergence. Weed growth was compared using maximum weed volume within each cohort. Maximum weed volume was also used to compare weed growth among cohorts.

Weeds planted at the time of corn planting produced the greatest weed volume. In 2001, in cohort one, velvetleaf produced a greater weed volume than giant foxtail, while giant foxtail produced a greater weed volume than common lambsquarters. In cohort two, velvetleaf produced the greatest weed volume. There were no differences in weed volume among the weeds at cohorts three and four in 2001. In 2002, velvetleaf produced the greatest volume in cohorts one and three. There were no differences in weed volume at cohort four. In 2001 and 2002, greatest giant foxtail growth occurred in cohort one. There were no differences in common lambsquarters growth between any of the cohort timings in 2001. However, in 2002, common lambsquarters growth was greatest in cohort one. In both years, velvetleaf growth was greatest in cohort one and declined with later cohort timings.

Giant foxtail had no effect on corn yield regardless of cohort timing. Common lambsquarters reduced corn yield in cohort one and two in 2001 and in cohort one and three in 2002. Velvetleaf reduced corn yield in cohort one in 2001 and cohort one and three in 2002.