

WEED GROWTH AND CORN 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.

The extent that weeds impact crop growth is affected by weed species and the time when the interaction between weed and crop plants occur. In 2001, 2002, and 2003, the effect of weed growth on corn yield was examined in Michigan. Weeds were planted at four different timings based on corn growth stage; corn planting (cohort one), corn emergence (cohort two), V1 corn (cohort three), and V3 corn (cohort four). Cohort two was not planted in 2002 due to heavy rainfall and rapid corn emergence. Weeds were planted at a density of 10 plants per meter. Maximum weed volume was used to compare weed growth between three weed species; giant foxtail, velvetleaf and common lambsquarters. The effect of weed species and weed emergence time on corn growth was determined by corn yield.

Giant foxtail growth was similar between cohorts one and two in 2001, one and three in 2002, and was greater than later cohorts. Giant foxtail growth was greater with cohort one compared to other cohorts in 2003. Velvetleaf growth was greatest with cohort one each year. In 2001, cohort two had greater velvetleaf growth than cohort three and cohort three had greater growth than cohort four. In 2003, velvetleaf growth was similar between cohorts two, three, and four. No differences in common lambsquarters growth were observed in 2001. In 2002 and 2003, cohort one had the greatest common lambsquarters volume and there were no differences between the other cohorts.

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. Weed competition did not affect corn yield in 2003.