RELATIVE COMPETITIVENESS OF SHATTERCANE AND COMMON SUNFLOWER BASED ON EARLY SEASON GROWTH AND DEVELOPMENT. Eric L. Blinka and J. Anita Dille, Graduate Research Assistant and Professor, Department of Agronomy, Kansas State University, Manhattan, KS 66502.

The relative competitiveness of plants can be examined through growth analysis. Relative growth rate (RGR), leaf area ratio (LAR), and the net assimilation rate (NAR) are just a few of the parameters used to describe growth analysis. It is expected that all three of these parameters would decrease over time due to the production of less photosynthetically active plant material such as stem tissue and shaded leaves. Our objective in this experiment is to determine the early season relative competitiveness of shattecane and common sunflower in corn through growth analysis under different competition scenarios. Plots were established with different weed mixture combinations. Destructive harvests were performed periodically to determine plant leaf area and above ground biomass. This information was then sent through a growth analysis computer program that derived the best fit models, means, and standard errors for the plant growth parameters RGR, LAR, and NAR. The findings suggested that when shattercane and common sunflowers were grown together by themselves, shattercane was more competitive. However, when shattercane and common sunflower were grown together in the presence of corn, common sunflower became more competitive.

2002 North Central Weed Science Society Abstracts. 57:115.