

INFLUENCE OF CORN ON COMMON WATERHEMP GROWTH AND FECUNDITY. Dawn E. Nordby and Robert G. Hartzler, Graduate Assistant and Professor, Department of Agronomy, Iowa State University, Ames, IA 50011.

Common waterhemp is native to the Midwest, although it has only developed into a serious problem in corn and soybeans in the last decade. Four experiments were conducted in Central Iowa during the 2001 and 2002 growing seasons to evaluate the effect of delays in waterhemp emergence in corn planted in 38 and 76 cm rows. Four emergence cohorts were established in each experiment corresponding to the VE, V3, V5, and V8 stage of corn development. Thirty plants were identified shortly after emergence and monitored throughout the growing season. Percent survival, height, biomass accumulation, and fecundity of the cohorts were determined.

Waterhemp survival and height were averaged over the four locations due to similarity in response to emergence timing and row spacing. There was a 78, 39, 3, and 1% survival rate for the first, second, third and fourth cohorts respectively. Mean height for the first cohort was 140 cm, whereas waterhemp emerging at the V8 corn stage were only 13 cm. Row spacing significantly affected height, biomass and fecundity of the first cohort, but later cohorts were not affected by row spacing. For example, biomass of the first cohort was 20% less in 38 cm rows than in 76 cm rows. Biomass and seed production of waterhemp emerging at the V3, V5, and V8 corn stages decreased 80, 97 and 99%, respectively, compared to the first cohort.