

A 2-YEAR SUMMARY OF COHORT EMERGENCE IN NARROW ROW SOYBEAN. Edward M. Costigan, Thomas J. Ross and Christy L. Sprague, Undergraduate Students and Assistant Professor, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824.

Research was conducted at East Lansing, MI in 2004 and 2005 to examine the interference potential of a multi-species weed community that emerged after soybean growth stages VE, VC, V1 and V3. Plots were planted with glyphosate-resistant soybean (Asgrow 2107) at 494 000 seeds ha<sup>-1</sup> in 19-cm rows spacing in a conventionally-tilled field. Treatments included plots that were weed-free and four cohort emergence timings that were kept weed-free until soybean growth stages VE (untreated), VC, V1, and V3 with glyphosate applications. The glyphosate rate was 0.84 kg a.e./ha for all applications. Quadrats were established in each plot two weeks after final glyphosate application. At peak weed biomass, weed density, height, biomass, and seed production were recorded. In 2004, weeds emerging with the crop produced a biomass of 461 g m<sup>-2</sup> and reduced soybean yield by 58%. Weeds emerging after the glyphosate application at the VC soybean stage produced a biomass of 93 g m<sup>-2</sup> and reduced soybean yield by 13%. Weeds emerging after the glyphosate application to V1 soybean produced a biomass of 21 g m<sup>-2</sup> and reduced soybean yield by 11%. Weeds that emerged after the glyphosate application at the V3 soybean stage did not survive throughout the season and did not reduce soybean yield compared with the weed-free control. In 2005, weeds emerging with the crop produced a biomass of 212 g m<sup>-2</sup> and reduced soybean yield by 41%. Weeds that emerged after the glyphosate application to VC soybean produced a biomass of 128 g m<sup>-2</sup> but did not significantly affect soybean yields compared with the weed-free control. There was no weed emergence after the glyphosate application to V1 and V3 soybean, therefore yields were not reduced. The time of late-season weed interference varied between the two years; differences in precipitation appear to be the contributing factor for these differences.