

Nematode Community as Affected by Glyphosate-Resistant Cropping System. Konanani B. Liphadzi, Kassim Al-Khatib*, Timothy Todd, J. Anita Dille, Kansas State University, Manhattan, and Curtis Bensch, Oklahoma Panhandle Research and Extension Center, Goodwell

Glyphosate use has significantly increased since the introduction of glyphosate-resistant cropping system. Long-term experiments were established in 2001 at Manhattan and Hays, KS to study the effect of glyphosate-resistant cropping system on nematode community under conventional and no-tillage systems. Herbicide treatments were conventional preemergence herbicide, glyphosate applied when weeds were 10 cm tall and when weeds were 20 cm tall. Glyphosate-resistant soybean or corn were grown in rotation. Soil samples were collected in April/May and October/November of each year. Nematodes were extracted from a 100 g soil sub-sample, identified to family or genus level, and assigned to trophic groups. Total nematode densities were higher at Manhattan than in Hays. Overall nematode community was not altered by glyphosate application when compared to conventional herbicide at both locations. Conventional tillage system had higher nematode densities than no-tillage system. At Manhattan, total nematode density in conventional tillage was at least 50% more than in no-tillage. The overall impact of glyphosate-resistant cropping system on nematode community did not differ from conventional herbicide.