

WOOLLY CUPGRASS EMERGENCE AND CONTROL IN RESPONSE TO TIME OF TILLAGE.

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A field experiment was established to assess the impact of tillage timing on woolly cupgrass control, germination and emergence. A site was selected in 1999, 2000 and 2001 to establish a split-plot experiment with six replications. Whole-plot treatment was tillage timing. Split-plot treatments were field cultivation and no-tillage. Glyphosate was applied to the split-plots to control emerged woolly cupgrass at initiation of each treatment timing. No crop was planted. Treatment timing was weekly beginning mid-April and occurred once per treatment. Data collection included initial enumeration of emerged woolly cupgrass immediately prior to each treatment timing, and final enumeration at five or six weeks.

No significant differences in final woolly cupgrass number, averaged across treatment timing, were found between field cultivation and no-tillage in all three years of the study. Field cultivation did not significantly impact the germination and subsequent emergence of woolly cupgrass compared to no-tillage.

Field cultivation and no-tillage treatment results were averaged for each of the three years to examine the overall affect of treatment timing. Woolly cupgrass emergence in 1999 initially occurred on April 14. The first treatment timing was April 21. Initial woolly cupgrass populations were significantly higher on the May 18 and 24 timings when compared to April 21 and 29. The highest number occurred on May 4 and was significantly higher than all other dates. Five weeks following the April 21 timing, a higher number of plants were noted than at treatment initiation, while all other timings had less. Further, April 29, May 4, 18, and 24 timings resulted in significantly fewer numbers five weeks after treatment, compared to April 21.

During 2000, the first treatment timing was April 14, coinciding with the initial date of woolly cupgrass emergence. On May 12 and 25 timings, initial woolly cupgrass populations were significantly higher compared to April 14 and 21. Two other timings on April 27 and May 4 were significantly different than April 14, but not the others. Woolly cupgrass numbers six weeks after the May 25 timing were significantly less when compared with the April 21 and 27 timing. It was not significantly different, however, than the April 14, May 4, and 12 timing.

Initial woolly cupgrass emergence in 2001 was observed on April 16. Initial woolly cupgrass populations on April 26, May 8, 15, 25, and June 4 timings were significantly higher on these dates than on April 19, the first timing. April 26, May 8, and 15 timings also had significantly higher numbers at treatment initiation than May 25 and June 4. Six weeks following the April 19 timing, a higher number of woolly cupgrass plants were noted than at treatment initiation. All other timings had fewer. April 26, May 8, 15, 25, and June 4 timings resulted in significantly fewer numbers six weeks after treatment, compared to April 19.