

CONTROL OF LITTLE BARLEY IN WINTER WHEAT. Bryan G. Young and Ronald F. Krausz, Associate Professor and Researcher, Department of Plant, Soil, and Agricultural Systems, Southern Illinois University, Carbondale, IL 62901.

Little barley has become a major constraint for no-tillage systems used in winter wheat production in Illinois. Research was conducted from 2001 to 2004 to determine the most effective herbicide strategy to control little barley. The application of glyphosate or paraquat at planting provided 98% or greater control of little barley through the following spring. Sulfosulfuron, propoxycarbazone, and imazamox were applied postemergence in both the fall and spring. Sulfosulfuron provided 95% or greater control of little barley at the spring rating, regardless of application timing. The efficacy of propoxycarbazone was less consistent than sulfosulfuron with control of little barley ranging from 0 to 98%, with the greatest level of control observed from the spring applications of propoxycarbazone. Similarly, little barley control with imazamox was inconsistent across years with the greatest control (68%) observed for the spring application in 2002.

No consistent trends in wheat grain yield were significant. However, control of little barley at planting with glyphosate or paraquat did result in greater yield than fall or spring applications of the other herbicides in some instances. This research suggests that little barley emergence occurs primarily in the early fall, prior to planting wheat in this region. Since postemergence herbicides have provided inconsistent control or have label limitations to rotational crops (sulfosulfuron), the use of non-residual herbicides at wheat planting is likely the best strategy for control of little barley in no-till wheat production.