BROADLEAF WEED CONTROL IN WHEAT WITH FALL AND SPRING APPLICATIONS OF HERBICIDES. James R. Martin and Dorothy L. Call, Extension Professor and Research Technician, Department of Plant and Soil Sciences, University of Kentucky, Princeton, KY 42445.

There is an increasing interest in applying herbicides in the fall rather than delaying treatments until the spring for controlling broadleaf weeds in wheat. This approach is beneficial for achieving optimum yields in no-tillage wheat and for obtaining effective control of certain species such as cornflower. However, it is unclear if fall applications provide an advantage over spring applications for managing such weeds as common chickweed and henbit in wheat planted in a conventional tilled seedbed.

The objective of this research was to evaluate the influence of fall and spring applications of the premix thifensulfuron 50% + tribenuron 25% (Harmony Extra 75 DF) and metribuzin on common chickweed and henbit control and yield of wheat planted in a conventional tilled seedbed.

A total of nine studies were conducted in western Kentucky during the last four growing seasons. All studies were conducted in areas where the previous rotational crop was field corn. Plot areas were prepared after corn harvest with multiple passes of a field disk or by a combination of chisel plowing and disking. Wheat was planted in early to mid October. Fall treatments were applied in mid to late November and included Harmony Extra at 0.225 oz ai or 0.38 oz ai/A plus nonionic surfactant at 0.25% v/v and metribuzin at 1.5 oz ai or 3 oz ai/A. Spring treatments were applied in late March to early April and included Harmony Extra at 0.38 oz ai/A plus nonionic surfactant at 0.25% v/v and metribuzin at 3oz ai or 4.5 oz ai/A. The approximate size for broadleaf weeds ranged from 0.5 to 3 inches in diameter for fall treatments and from 3 to 7 inches in diameter for the spring treatments. The broadleaf weed densities that were determined in late November to early December ranged from a low of 3 plants/ ft^2 to a high of 92 plants /ft^2. Visual ratings for broadleaf weed control were made in late April to early May. Wheat was harvested with a small plot combine in mid to late June.

The level of broadleaf weed control achieved with Harmony Extra or metribuzin was good to excellent for all herbicide treatments and usually exceeded 90% regardless of application time. However, henbit control with fall-applied metribuzin at the low rate of 1.5 oz ai/A was only 86% at Warren County in the 2001-2002 season and 87% at Calloway County in the 2003-2004 season. Henbit control with spring - applied Harmony Extra at 0.38 oz ai/A was 89% at Warren County in the 2002-2003 season.

The use of good management strategies resulted in competitive wheat stands and optimum grain yields. Yields ranged from a low of 72.3 bu/A to a high of 112.6 bu/A. The good to excellent broadleaf weed control achieved in these studies seldom enhanced wheat yield. Herbicide-treated plots out-yielded the non-treated check plots in only two of the nine studies. The increase in wheat yield tended to occur where common chickweed was present.

The fact that herbicide treatments provided good to excellent control of common chickweed and henbit, but rarely increased wheat yield, indicates that in many cases competition from these broadleaf weeds is not a limiting factor in wheat planted after corn in a conventional tilled seedbed.

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