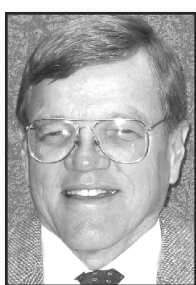


Kentucky On The Bubble With Herbicide Resistance



DR. JIM R. MARTIN

PRINCETON, KY.

In the grand scheme of things, Kentucky has been somewhat fortunate in regards to the number of problems with herbicide – resistant weeds. Seven weedy biotypes have been confirmed with herbicide resistance in Kentucky compared with ten to 18 biotypes reported in neighboring states.

While this sounds good, it doesn't diminish the fact that resistance is in Kentucky and we need to be mindful that the problems are increasing. There is mounting concern among Kentucky growers about glyphosate resistant issues. Problems with glyphosate-resistant corn are increasing either as volunteer plants or as unwanted stands in replanting situations. Other weeds suspected of resistance to glyphosate, but not confirmed in Kentucky, are common ragweed, waterhemp, and palmer amaranth.

One reason Kentucky has fewer documented cases of herbicide resistance is related to the rotation system often used in grain crops. A common rotation in Kentucky involves three crops over a period of two years. Corn is planted in the spring of the first year followed by fall planted

wheat. Soybeans are planted the second year in early to mid June after wheat harvest. This rotation accounts for approximately 27 percent of soybean acres, 33 percent of corn acres, and nearly 75 percent of wheat acres in KY. Most of the remaining corn and soybean acres are grown in rotation with one another, while the remaining wheat acres are grown as a cover crop after tobacco or used for silage or hay in rotation to corn.

Although the three-crop rotation system does not prevent development of herbicide resistance, it helps by contributing to overall weed management. For example, the use of either a spring burndown herbicide treatment or pre-plant tillage in corn breaks the life cycle of such cool-season annual weeds as common chickweed, henbit, purple deadnettle, and Italian ryegrass before they mature. A competitive wheat stand prevents or delays emergence of such annual weeds as common ragweed and horseweed. In addition to glyphosate, other herbicide chemistries, such as atrazine in corn and thifensulfuron in wheat, are used in the two-year rotation. These herbicides may limit development of certain weeds that can overlap in the transition between crops. Δ

DR. JIM R. MARTIN: Extension Weed Scientist, University of Kentucky