

## Beware of Herbicide Carryover

Dry weather has slowed the decay of some herbicides. Farmers need to alter their cropping plans to avoid crop losses from these carryover situations. Both chemical processes and microbes breakdown herbicides. Both of these processes need moisture to operate. The long dry spell last summer stopped the breakdown clock. let's review which herbicides could cause the most problems and ways to avoid damages.

Herbicides used on soybeans last year will be no problem for most operators, because Roundup has almost no carryover problems. However, operators using Classic, Command, Canopy XI, Pursuit, and Authority will need to check rates, timing of applications, crop yield and other soil factors in order to avoid damage to crops planted into these fields. If soybean yields were low and full rates were used last year, you might want to grow soybeans again or some other crop which you know is not going to be damaged by any carryover.

Herbicides of concern used on corn are topped by atrazine and the 25+ other herbicide combinations containing atrazine. Atrazine rates over 0.75 pounds per acre on our soils in fields where crop yields were low would be of concern. The most sensitive crop would be alfalfa, followed by oats and soybeans. For operators who had low yields and used rates over 1.5 pounds of atrazine per acre, I would recommend planting milo or corn.

For application rates of 1.0 - 1.5 pounds per acre, there are several choices. Grow corn or milo, plant soybeans in 30-inch rows rather than drilling, do a bioassay to see if there is danger for soybeans, oats, or alfalfa. Planting in 30-inch rows reduces the potential problem, because more soybeans are planted in smaller area. This reduces the dose that each soybean plant has to endure. Applications of atrazine between 0.75 - 1.0 pounds per acre should be safe in most situations for soybeans. If crop yields in 2002 were 80% of normal or higher the threat of herbicide carryover would be much reduces.

To conduct a bioassay: collect 5 pounds of soil from the top 2-inches of soil in the worst parts of the field. Worst parts meaning the lowest organic matter, poorest soil, and most eroded areas of the field. Collect soil from at least six places in the field. This should be an ice cream bucket full of soil. Collect an equal amount from a family garden or a field which was not treated with atrazine. Place the two samples in pots and plant six soybeans in each pot - no more no less. Place in a sunny location and as soon as they emerge thin to three plants per sample.

Atrazine symptoms will appear between 8 and 20 days after the plants emerge. If atrazine is present the leaf tips will start to brown, followed by brown speckling, yellowing and death. Compare the atrazine treated soil with the non-treated soil. You can also use oats as an assay crop. Start with 10 seeds of oats and thin to five.

Paul C Hay, Extension Educator

University of Nebraska-Lincoln Extension in Gage County • 1115 West Scott Street, Beatrice NE 68310

(402) 223-1384 • FAX: (402) 223-1370 • email: [phay1@unl.edu](mailto:phay1@unl.edu)

