

EFFECTS OF ATRAZINE RATES ON WHEAT DOUBLE CROPPED FOR FORAGE IN CONTINUOUS CORN. Randall S. Currie, Research Weed Scientist, K-State Southwest Research-Extension Center, 4500 East Mary Street, Garden City, KS 67846.

The study was established in a 2 by 3 factorial arrangement of cover crop (with and without) and atrazine rate (0, 0.75 and 1.5 lb/a). A wheat forage crop was inserted between corn crops by planting wheat after corn harvest in October. A 1-inch irrigation was applied, to ensure uniform emergence if sufficient rain was not received. This was done as an adjunct to a study measuring the impact of wheat as a killed cover crop on soil water use and weed control. (See proceedings Weed Science. Society of America 41:132). Wheat was allowed to grow until the late boot stage, at which point all aboveground wheat biomass was harvested from 1 foot of row. The experiment was repeated at three separate locations from 1999 and 2003, and it was further replicated by re-imposing the treatments on the same plots in three successive years. There were a total of nine location-year combinations. Prior to beginning of these studies, each location was fallowed one year. There were 3 plots/replicate and 5 replicates. When treatments were re-imposed, a full season of corn at the various levels of atrazine had been grown at each location. When treatments were re-imposed a second time, two full seasons of corn had been grown. The fallow period prior to the first wheat planting consistently produced higher forage yields. Planting wheat back into a single season of corn stubble reduced forage yield 2 out of 3 times. There was no statistically significant impact of prior atrazine treatment on wheat forage yield. Planting wheat into corn stubble from two seasons also reduced yield compared to fallow history in all cases. It is of note that at no time was a reduction in forage yield associated with any prior atrazine use history. Furthermore, previous use of the 0.75 lb/a atrazine rate may have elevated yield, although no explanation of this effect is offered here. Nonetheless, the results clearly showed that yield was not depressed by prior atrazine use history. Severe injury can occur from residual atrazine to wheat planted into sandy soils or on other soils without sufficient rainfall or irrigation. It should also be noted that it is a violation of federal law to double crop wheat into corn and sorghum stubble that have been treated with 1 lb/a of atrazine. The work presented here is for the sole purpose of documenting crop response. It is not intended as an endorsement of cropping practices that ignore label restriction. The reader is advised that, unless an exemption is obtained, federal and state laws require pesticide usage to be in accordance with the label. This includes any pre-harvest and/or post-harvest intervals that are contained on the label.