

MILLER, STEPHEN D., and K. JAMES FORNSTROM, Departments of Plant, Soil, Insect Sciences and Civil Engineering, University of Wyoming, Laramie, WY 82071. Reduced preplant rates with a postemergence herbicide program.

Soil applied herbicide treatments in sugarbeets often have increased the effectiveness of postemergence treatments by increasing weed susceptibility and/or broadening the window of postemergence application especially under adverse weather. The current trend; however, in sugarbeets has been to fewer soil applied treatments and multiple postemergence applications. Experiments were conducted at Torrington, WY in 1994, 1995 and 1996 to compare weed control and sugarbeet response with reduced and normal rates of soil applied herbicides alone or in combination with multiple postemergence herbicide applications. Plots were 10 by 30 ft. with three replications arranged in a randomized complete block design. All herbicide treatments were applied with a CO₂ pressurized knapsack sprayer delivering 20 gpa at 40 psi. Weed control, sugarbeet injury and hoe times were determined 7 to 10 days following the last postemergence herbicide application. Weed control was better and hoe times reduced with complementary preplant incorporated/postemergence treatments than with preplant incorporated or postemergence treatments alone. Weed control and hoe times with the complementary treatments were similar whether the preplant incorporated herbicide treatment was applied at the full or reduced rate. However, sugarbeet injury with the complementary treatments was reduced when the post treatments were applied over the reduced compared to the full rate soil applied treatment.