

FORNSTROM, K. JAMES and STEPHEN D. MILLER, Departments of Civil Engineering and Plant, Soil and Insect Sciences, University of Wyoming, University Station Box 3295, Laramie, WY 82071. Weed management after mid-season sugarbeet defoliation.

ABSTRACT

Defoliation of sugarbeet by mid-season hail storms opens the field up for late season weed invasion. This research was conducted at the Torrington Research and Extension Center in 1995 and 1996 to develop weed management guidelines for sugarbeet fields that have been defoliated in mid-season. Sugarbeet plot areas were treated as a production field with best management practices until layby herbicides were applied and included: planting sugarbeet to stand; preplant incorporated herbicide; and post emergence herbicide application. Three replications were arranged in a split plot randomized complete block. Defoliation date treatments were split to include application timing and herbicide treatments. Herbicides were applied layby and after defoliation and included dimethenamid, EPTC and triflurin.

In 1995, two dates were compared with no defoliation and four herbicide treatments were compared. Weed populations were higher in defoliated treatments, weed control was 15% higher when herbicides were applied after defoliation than at layby and dimethenamid provided the best weed control (63%) followed by EPTC plus triflurin (55%).

In 1996, four dates of defoliation were compared with no defoliation and two herbicide treatments were applied, at layby and after defoliation. Weed populations were nearly five times higher with early season defoliation than when sugarbeets were not defoliated. Weed control with post defoliation treatments was 8% higher than with layby treatments. Although, dimethenamid provided the best weed control in 1995, EPTC plus triflurin (83%) was better than dimethenamid (70%) in 1996. Sugarbeet returns were 30% less with mid-August defoliation than when sugarbeets were not defoliated.