

WILSON, ROBERT G.*, JOHN A. SMITH and C. DEAN YONTS, University of Nebraska, 4502 Avenue I, Scottsbluff, NE 69361. **Late season weed control in sugarbeets by hand-weeding, mowing, or selective application of glyphosate.**

ABSTRACT

Field experiments were conducted over a three-year period near Scottsbluff, Nebraska to evaluate weed control from hand-weeding, mowing, or applying glyphosate over the top of sugarbeet with a canvas applicator. Four weeds were evaluated in each plot by planting corn, sunflower, kochia, or common lambsquarters in a separate sugarbeet row, every 1.5 m, after the crop had emerged. Weed control treatments were initiated after weeds had emerged above the sugarbeet canopy in either early or mid-August. Treatments consisted of hand-weeding, removing the weed from the plot; mowing, removing the top of the weed protruding above the sugarbeet canopy; or applying glyphosate with a canvas covered applicator to the top of the weed protruding above the sugarbeet canopy. The three treatments were applied in either early-August, mid-August, or on both dates. These treatments were compared to non-treated plots where weeds were allowed to grow with the crop. Mowing the top off of kochia and common lambsquarters did not kill the plant but did cause the plant to regrow from stems below the sugarbeet canopy. Although weeds regrew, the plant height was reduced and more sunlight reached sugarbeet leaves. Corn and sunflower plants that were mowed either died or continued to grow slowly where the top of the plant was removed. Weeds treated with glyphosate either died or were injured by the herbicide. In some situations, glyphosate dripped from the applicator or from treated weeds and killed sugarbeets growing next to weeds. Corn and sunflower were suppressed more by glyphosate than kochia and common lambsquarters. On average weeds that were allowed to grow with sugarbeet all season reduced root yield 27%. If weeds were mowed in early-August they caused a 5% reduction in sugarbeet root yield while weeds treated with glyphosate in early-August caused a 26% yield reduction. Mowing weeds that protrude above the sugarbeet canopy was more effective than treating with glyphosate for late season weed management.