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Glyphosate and glufosinate for weed control in sugarbeet.

Field experiments were conducted in 1999 and 2000 to examine the optimum weed size, number of applications of glyphosate or glufosinate required for weed control, and the yield potential of the two sugarbeet weed control programs. Glyphosate at 0.8 kg/ha or glufosinate at 0.4 kg/ha were applied either once, twice or three times beginning when average weed height was 2.5, 10, 15 or 25 cm. Two applications of glyphosate applied when average weed height was 10 cm or three applications of glufosinate applied when average weed height was 2.5 cm provided excellent weed control. Sugarbeet sucrose yield with both weed control programs was near 11,000 kg/ha. Glufosinate weed control was influenced by humidity at the time of application, as percent humidity increased weed control from glufosinate increased. If weed control was delayed until average weed height was 15 or 25 cm sugarbeet root yield was reduced 8 and 18% respectively, because weeds competed with the crop.