

WILSON, ROBERT G.*, J. A. SMITH, and C. D. YONTS. Univ. of Nebraska, Scottsbluff, NE 69361. - Effect of seeding depth, herbicide, and variety on sugarbeet emergence, vigor, and yield.

Preplant applied herbicides were compared for their effect on three varieties of sugarbeets when seeds were planted at six depths during 1987 and 1989. More sugarbeet seedlings emerged and at a faster rate as the depth of seeding decreased from 4.5 to 1.6 cm. Herbicide injury to sugarbeet seedlings increased as depth of seeding increased from less than to greater than 2.5 cm. Under weed-free conditions herbicide treatments reduced sugarbeet stand and decreased early season sugarbeet height but had little effect on root yield or sucrose content.

GILES, J. F.*, A. W. CATTANACH, and N. R. CATTANACH. Dept. of Soil Science, North Dakota State Univ., Fargo, ND 58105. - Planting depth, time of planting and secondary tillage interactions on sugarbeet emergence.

Adequate sugarbeet stands resulting from vigorous seedling emergence are important for optimum crop production. Seedling emergence is usually influenced by soil water potential and seedling depth as well as other environmental factors. Often these environmental conditions are interacting with the secondary tillage depth and type to produce seedbeds of varying suitability for germination and emergence. The objective of this study was to evaluate seedling emergence in seedbeds prepared by three secondary tillage implements in combination with a grain drill. Sugarbeet seed was drilled at three depths and at six planting times following tillage. Changes in water content due to tillage treatment were observed to the depth of tillage at each planting time. Seedling emergence was significantly affected by seeding depth and tillage treatment.