

PALM, KAREN L., and JOHN A. SMITH, University of Nebraska, 4502 Avenue I, Scottsbluff, NE 69361. - A survey of sugarbeet plant spacings in grower fields in western Nebraska.

More growers in western Nebraska are planting-to-stand rather than overseeding and thinning their sugarbeet fields. The desired plant population and plant spacing accuracy result from the performance of the planting system and associated emergence, and are not "corrected" by thinning. The goal of this survey was to determine the level of accuracy of plant spacings in fields planted-to-stand and in fields before and after thinning. Plant spacing measurements were made in a total of 54 sugarbeet fields in western Nebraska over a four year period. A total of 500 spacings were measured in random locations within each field. ISO defined spacing accuracy parameters were calculated. Simple parameters of "accurate" spacings (within  $\pm 1$  in. of mode spacing), "narrow" spacing ( $< 1$  in.), and "wide" spacings ( $> 18$  in.) were also calculated to provide easily visualized descriptions of plant spacing accuracy. The mode spacing was assumed to be the actual spacing delivered by the planter or the target spacing if the field was thinned. In the fields planted-to-stand, an average of 38% of the plant spacings were rated as accurate spacings, (ranging from of 26% to 58%), 4% narrow spacings and 2% wide spacings. This suggests that improvement in plant spacing accuracy is needed. For the fields with both before and after thinning measurements, an average of 35% of spacings measured accurate (ranging from 27% to 57%), 8% narrow, and 2% wide before thinning. In these same fields after thinning, 22% of spacings measured accurate (ranging from 15% to 37%), 4% were narrow, and 6% were wide. Thinning was detrimental to plant spacing accuracy.