

ABSTRACT

Accurate spacing of sugarbeet plants within the row can be a factor in effective weed control, in efficient harvest, and in sugar yield. As a result, growers are seeking better performance from their planters, examining different models, accessories, and operating practices, to achieve more accurate plant spacing. The objectives of this study were to examine plant spacing accuracy of common sugarbeet planters and one new planter; compare laboratory seed spacing accuracy with field plant spacing accuracy; and evaluate new components introduced for the MaxEmerge 2 planter. A total of 500 spacings were measured for each planter model. Planter models evaluated were the Deere 71, Milton, Deere MaxEmerge 2, Monosem, Stanhay-Webb 590, WIC and Kleine. There were both field plant spacing and laboratory seed spacing accuracy differences among planter models. The Kleine planter provided the most accurate plant spacing, followed by the Milton and Stanhay-Webb 590 planters. The new components for the MaxEmerge 2 planter did not substantially improve plant spacing, but they did improve seed depth control. Accuracy of seed spacing in the laboratory was much better than plant spacing accuracy in the field, with most planters. The reason was movement of the seed within the seed furrow. Seed spacing accuracy on a grease belt test stand did not consistently represent plant spacing accuracy in the field. Seedbed conditions, seed coating type, and field speed influenced plant spacing accuracy.