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Adequate sugarbeet population resulting from vigorous seedling emergence is important for optimum crop production. Seedling emergence is usually influenced by soil water potential and other environmental factors. The objective of this study was to evaluate seedling emergence and sugar production from fall ridges established at the location of beet rows the following spring. In the spring, before planting, the dry soil on the ridge is moved into the ridge valleys, which results in a level field and exposes the moist soil beneath.

Seedbed studies were established on silt loam and silty clay loam soils in 1993 and 1994. Main treatments included fall ridging with Alloway and Sukup equipment following tillage of small grain residue with a chisel plow, and conventional fall tillage with secondary spring tillage with a Alloway RTS seedbedder prior to planting. Soil moisture prior to spring tillage was similar for all treatments. Following deridging, the surface inch of soil contained 0.1 to 0.2 inches more available water than in the conventional prepared seedbed. Sugarbeet root yield, sucrose percentage and recoverable sugar production were significantly greater in the fall ridge tillage treatments. The increase in production can be attributed to the advanced emergence of the seedlings caused by the increased soil moisture in the seeding depth at planting time.