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AUTUMN STRIP TILLAGE FOR SUGAR BEET GROWN ON LOESS SOIL IN GERMANY

ABSTRACT

The aim of the present study was to investigate effects of strip tillage in autumn on field emergence and yield of sugar beet crops grown on loess soil in typical sugar beet areas of Germany. Standard tillage practices which had proved to be optimal for the respective sites served as reference. Therefore, trials were carried out as on-farm experiments (strip design) at a total of 30 sites in the years 2012/13, 2013/14 and 2014/15. On average, field emergence was lower for strip tillage than for standard tillage practices. Plant population did not correlate with white sugar yield, presumably because differences between tillage treatments were mostly in the range of the optimal plant density of 82,000–110,000 plants ha⁻¹. In the mean of all trials, white sugar yield was 3.5% lower for strip compared to standard tillage. Lower yields for strip tillage were probably caused by delayed early development and occurred more frequently on heavier soils.
