

STRIP TILL, NITROGEN PLACEMENT, AND STARTER FERTILIZER EFFECTS ON CORN GROWTH AND YIELD

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Strip tillage, a system where residue is removed and small ridges are formed in the fall in the position of next year's rows, has become an increasingly popular alternative to 0-till for corn in Illinois. Over three years and eight environments in Central and Northern Illinois, tillage had no effect on grain yield: conventional tillage, strip tillage, and 0-till produced 11.67, 11.67, 11.57 Mg/ha, respectively. There were also no differences in yield due to N timing, N placement, or starter fertilizer. In some environments, starter fertilizer increased early season plant heights, by an average of about 3 cm. Plant heights were also shorter under 0-till in some environments, but such height differences were not correlated with grain yield. Averaged over all environments tillage, starter, and N timing did not affect plant emergence. Spring conditions were relatively warm and dry in all environments, resulting in nearly identical soil conditions among tillage treatments at planting. While cooler and wetter soil conditions that occur under 0-till in some years might be expected to reduce emergence and growth, we did not see a benefit to tillage in any of eight environments in Illinois.

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