# Tillage System Effects On Nitrogen Requirements For Optimum Irrigated Corn Yields. (S06-halvorson111158-Poster)

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## Abstract:

Irrigated farmers generally utilize intensive tillage to manage crop residues and prepare a seedbed for corn. Nitrogen fertilizer management practices have been developed for conventional-till (CT) irrigated corn systems. Information is limited for no-till (NT) and reduced- till (RT) irrigated corn systems. We compared the response of irrigated continuous corn to N fertility level under CT and NT (or RT) production systems on a Fort Collins clay loam soil from 1999 through 2001. Grain yields increased similarly with increasing available N level (soil NO3-N in 0-90 cm depth plus fertilizer N added) in 1999, 2000, and 2001 for all tillage systems. The CT corn yields were greater than the RT in 1999 and NT corn yields in 2001. Based on the results from this study, similar N levels were required for optimum corn yields in all tillage systems. Additional years are needed to determine if NT will require a higher level of N fertilizer input than CT to optimize corn grain yields, since residual soil N levels are decreasing in NT compared to CT. Based on these results, current N fertilizer recommendations for CT appear to be adequate for irrigated NT corn.

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