

Tillage and Seeding Rate Effects on Wheat Varieties

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Summary

Conservation systems are expanding in major wheat producing regions. Variety recommendations generally are based on adaptation trials in conventional-tillage systems. Our objectives were to determine if tillage affected vegetative and reproductive growth of hard red spring wheat (*Triticum aestivum* L. emend. Thell.) varieties in a wheat-fallow monoculture, and to determine if planting rate adjustments were needed for optimum reproductive growth as tillage was reduced. Five varieties each were seeded at 11, 22, and 33 PLS/ft² in conventional-, reduced-, and no-tillage plots over a 4-yr period at Dickinson, North Dakota. A randomized and replicated experimental design was used to evaluate varieties, planting rates, and tillage treatments. Tillage x variety, tillage x seeding rate, and tillage x seeding rate x variety interactions did not occur for most growth parameter measured ($P < .05$). Results of this study suggest that variety recommendations based on trials in conventional-tillage systems may be appropriate for variety selection in conservation-tillage systems.

Three papers describing this study are under preparation or review for publication in scientific journals and will be summarized in future press releases.

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