Post-Harvest Weed Control in a Wheat-Fallow Rotation. (S06-schlegel100416-Oral)

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Abstract:

A study was initiated in 1994 at the Southwest Research-Extension Center near Tribune, KS to evaluate the impact of post-harvest weed control on grain yield and stored soil water in a wheat-fallow (WF) rotation. Averaged across a 6-yr period, grain yields were 47% greater with no-till (NT) than with conventional tillage (CT). Allowing weed growth after harvest did not reduce yields compared to tillage. A delayed minimum tillage (DMT) system (allowing weed growth post-harvest and controlling weeds with chemicals and tillage the following year prior to wheat planting) yielded 500 kg/ha more than CT. The water used by weed growth post-harvest was offset by increased storage of water during the remainder of the fallow year because of increased residue on the soil surface (wheat stubble and dead weed growth). An economic analysis showed that production costs were greatest with NT and least with DMT. Although yields were greater with NT, net returns were greater with DMT and least with CT. Another advantage of the DMT system is enhanced wildlife habitat, particularly for pheasants.

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