

Double Benefits ✓

MINIMUM and no-till fallow have double benefits - they increase soil water for the next crop and also greatly reduce the soil's susceptibility to wind erosion, according to USDA researchers.

Minimum and no-till were compared with conventional fallow. Minimum tillage consisted of chemical weed control for the first 12 months followed by two tillage operations just prior to seeding. No-till used chemicals exclusively to control weeds during the 14-month fallow period.

Results indicate that each tillage operation with a blade or rodweeder destroys 15% of the straw on the soil surface, equal to as much as 600 pounds per acre. Under the conventional program, an average of six tillage operations were needed, which could destroy more than 1½ tons of straw per acre.

The researchers also found that more straw on the soil surface reduces the disintegration of soil particles. Smaller particles are more susceptible to wind erosion, and particles larger than approximately 3/100 inch are generally considered non-erodible and "safe" from the wind.

They report that the total percent of non-erodible particles was significantly higher for both minimum and no-till systems compared to conventional stubble mulch tillage. There was no significant difference in total percent non-erodible particles between minimum and no-till systems.

The work was done at the U.S. Central Great Plains Research Station, Akron CO.

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