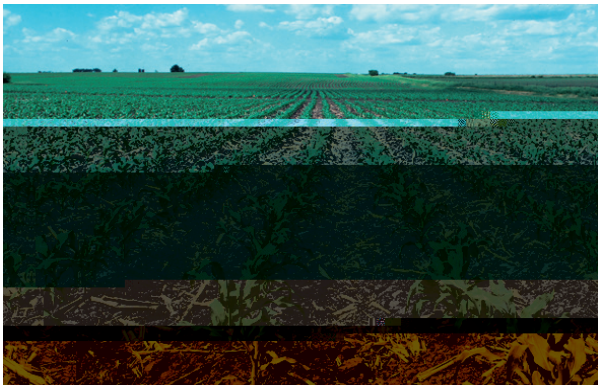
Conservation Practices that Save: Crop Residue Management

A producer can save at least 3.5 gallons of fuel per acre by going from conventional tillage methods to no-till. At November 2005 diesel prices, this amounts to $7.70 per acre in production cost savings. On a farm with 1,000 acres of cropland, these savings add up to 3,500 gallons of diesel fuel per year valued at $7,700.

Currently, no-till is practiced on over 62 million acres. If the amount of no-till acreage doubled, farmers could save an additional 217 million gallons of fuel, valued at over $480 million.

No-till is a conservation practice that leaves the crop residue undisturbed from harvest through planting except for narrow strips that cause minimal soil disturbance. Crop residues are materials left in an agricultural field after the crop has been harvested. These residues include stalks and stubble (stems), leaves and seed pods.



Conservation tillage systems have at least 30 percent of last year's crop residue on the soil at planting. Residue adequately controls erosion by both wind and water, among other conservation benefits.

Good management of field residues can increase efficiency of irrigation and control of erosion. No-till can be used for almost any crop in almost any soil and can save producers labor costs and fuel. It's a sound investment for the environment and the farm.

In addition to energy efficiencies and cost savings, no-till has several environmental benefits. No-till increases the organic matter in the soil, making it more stable and helping prevent soil erosion. No-till reduces greenhouse gases because it requires less fuel and sequesters (stores) carbon in the soil. Other benefits of using no-till as part of a resource management system include:

- Increased earthworm populations that improve soil quality—an average of 540,000 earthworms per acre versus 285,000 in conventional tillage;
- Increased water infiltration—cutting evaporation and runoff by at least 70 percent;
- Reduced tilling time per acre—by as much as two-thirds; and
- Improved wildlife habitat.

NRCS supports conservation practices that save producers money and improve the environmental health of the Nation. For more information on energy-saving conservation practices, visit the NRCS "Save ENERGY, Save MONEY" Web site at www.nrcs.usda.gov.

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