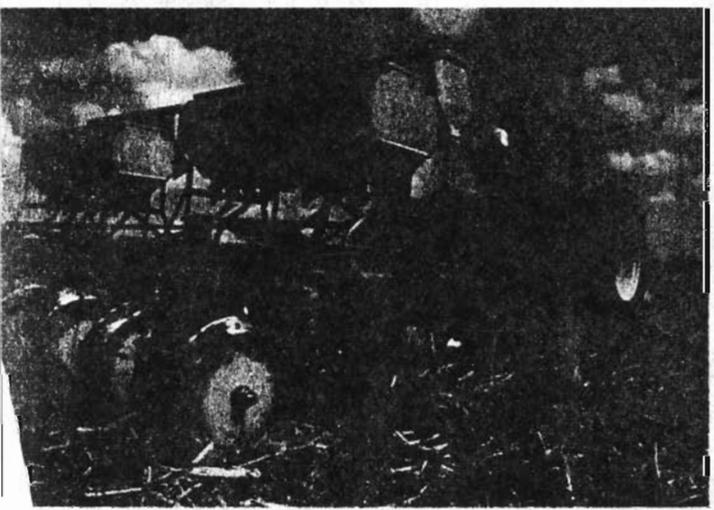


# IDEAS THAT SLOW SOIL BLOWING

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Photos by the author



**No-till farming is the ultimate way** to cut soil erosion. Above, Herbert Jeffery, Jewell County, Kan., plants sorghum in old sorghum stalks with modified drill. At right, his brother Maurice checks sorghum planted after minimum tillage in wheat stubble. Now they use 16 planter units mounted behind a V-plow to plant in rows 24" apart.

**V**egetative cover, dead or alive, is the best defense against soil blowing. Proper tillage also helps. That lesson stands out from the Canadian Prairies to the Low Plains of Texas, where farmers face their worst soil losses since the Fifties.

"It's not as bad as the Thirties," says 75-year-old Carl Hinkle, Ford County, Kan. "But it would be worse now if we weren't using stubble mulch and sweep plows."

Other practices learned since Dust Bowl days are proving their worth in holding soil. In Montana, tall grass strips seeded every 50 feet or so not only protect soil from blowing, but they also trap snow.

The extra moisture held by these miniature shelterbelts can free some farmers from summer fallowing, say USDA-ARS soil scientists A. L. Black and F. H. Siddoway, stationed at Sidney, Mont. They tested single and double rows of Tall Wheat Grass spaced 48 feet apart in wheat fields. "In five years of continuous spring wheat, yields were about 35% better than spring wheat grown on fallow," they report. "Annual yields of winter wheat were nearly double those of winter wheat or spring wheat grown on fallow."

"These grass strips made a believer out of me this winter," says Worth Jewel, Chouteau County, Mont. "Only drawback is they take out some acreage, and you have to farm around them."

Another way to get ground cover is to seed winter wheat as early as possible. This has worked for wheat growers in the Pacific Northwest. But early seeding can also increase disease, weed and insect problems. In many sections of the Great Plains, Hessian fly-free

dates come after Oct. 1, when wheat should be up and growing.

"I waited until Oct. 15 and seeded in dry ground," says Hinkle. "I bought a new shovel drill to get seed down to moisture. I should have seeded on Sept. 20 with this drill to get some growth before the blowing got bad," he concludes.

Some soils experts, long outraged by the moldboard plow, are now questioning overuse of the offset disk. "Too much tillage chops up straw and buries it," says Wally Greb, USDA-ARS soil scientist at Akron, Colo. "An offset disk destroys 50% of what is left each time. It also pulverizes soil into particles small enough to blow." To resist blowing, soil particles should be at least one millimeter in diameter. And, of course, you want to hang onto all the straw and stubble you can seed through.

**So how do you control weeds?** "We undercut once after wheat harvest with the blade," Greb explains. "Then we come back in the spring with sweeps and the rod weeder."

No-tillage farming is the ultimate way to stop soil erosion. And new clearances for herbicides may make no-till wheat seeding practical. For example, you can apply Bladex as close as 120 days before wheat planting. "With an application in April or May, you should get 45 to 60 days of protection," says Daryl Smika, USDA-ARS agronomist at Akron, Colo. "Then you can come back with 2,4-D and Dicamba until Aug. 10, and with Paraquat after that if you need it." All without any tillage. ◀

Photo: USDA-ARS



**From the air, emergency tillage** that farmers used to slow blowing soil looks as if children dragged their fingers through sand. But the artistic patterns their implements designed spell disaster for many farmers. "I get the feeling this is like trying to stop skin cancer with your fingernails," says a grower in Meade County, Kan.



**Miniature shelter belts** formed by rows of perennial grass protect soil for 10 times their height. "Tall Wheat Grass works best for us," says F. H. Siddoway at USDA Research Center, Sidney, Mon. "They should grow as far south as cool season grasses thrive," he adds. Some farmers plant strips of annual grasses like sorghum-sudan.