

Tillage

Three cooperators and a Sustainable Projects recipient compared no-till to some other tillage system in 1994. **Ted and Donna Bauer**, Audubon, achieved 19-inch soybean rows by offsetting the 38-inch row planter and making two passes across the field. Although the narrow-row soybeans yielded significantly better than beans in the 38-inch rows, the cost of the extra planter pass made the practice somewhat less economical ([Table 5](#)). Still, the narrow-row soybeans yielded well, and the results suggest the trial is worth repeating.

Don and Sharon Davidson, Grundy Center, compared ridge-till and no-till beans and corn in 38-inch row spacings. This was the second year for the trials on that particular site.

The no-till crops received one cultivation and broadcast herbicides, while the ridge-till received banded herbicides and two cultivations. There were no significant differences in crop yield ([Table 5](#)). Ridge-till corn had more broadleaf weeds than no-till corn, but there was more grass pressure in no-till corn and soybeans. In the soybean trial, weed management costs were markedly higher in no-till than in ridge tillage.

The Dordt College Agricultural Stewardship Center conducted a two-factor experiment - tillage and soybean variety ([Table 4](#)). Drilled no-till yields and ridge tillage yields were not significantly different. Economics favored the drill because ridge tillage strips received one cultivation plus the two broadcast applications of herbicide that the no-till treatments were given. There was a significant yield difference between the two soybean varieties.

The Riceville FFA carried out an extensive evaluation of tillage systems for soybeans: 30-inch planted rows; 15-inch drill; 8-inch drill with true no-till, and 8-inch drill with reduced tillage ([Table 4](#)). The no-till 8-inch drilled soybeans were the only ones in which no primary cultivation was used to prepare a seedbed. The yield winner was the soybeans drilled in 15-inch rows. Jim Green, high school agriculture instructor for the group, thinks that the 8-inch drill was not used to its full capability. It should have been calibrated for each treatment. There were significant stand differences among the treatments; however, these differences, in themselves, were not correlated with the yield differences.

Dick and Sharon Thompson, Boone, designed a trial to "shed light on" the rumor that weeds can be kept from appearing by depriving them of the light cue that stimulates germination ([Table 4](#)). Work in Europe continues on this, but most reports from the U.S. have been negative. The Thompsons compared flat (no-till) planting at night, flat planting in the day, and ridge planting in the daytime - all with no herbicides. But the phenomenon remained elusive. There were similar numbers of broadleafed weeds in the night and day flat planting. Ridge-till day planting had significantly more weeds, which might be expected from ridges built the previous fall. The light-weeds connection may be unproven, but the tillage-weeds connection was confirmed once again.

Dick Thompson discusses weed management at a field day.

