

**MINIMUM TILLAGE AND SEEDING AND DOUBLE DISKING AND
CONVENTIONAL SEEDING ON SECOND CROPPING**

In 1976 there was no significant difference in wheat production between minimum tillage and conventional tillage on second cropping. Growing conditions were excellent in 1976.

In 1977, hot, dry spring weather conditions were not particularly favorable to germination and early crop growth because of dry surface soil. Because of the small diameter of the rotating coulters on the John Deere 1500 Power Till Seeder, it was not possible to place seed deep enough to get it into moist soil. As a consequence germination was spotty and delayed until later rainfall came. Excessive weed growth was also a problem on this treatment. Penetration of the surface soil and satisfactory seed placement was not as difficult with the Melroe 701 Minimum Tillage Drill. Germination and growth was satisfactory and production was double that for the Power Till Seeder. Conventional disking and seeding was the best production method in the 1977 comparison.

In 1978 and 1979 only the Melroe 701 and the conventional tillage and seeding treatments were compared. Initial growth was slower on the minimum tillage treatment. This may be partly due to lower surface temperatures caused by the reflective and insulating effects of the straw and stubble on the field surface. Weed problems were also a greater problem on the minimum tillage treatment.

In 1980 the Melroe 701 drill and conventional seeding was compared once again. Because of severe drought, production was zero for both treatments.

In 1981 the John Deere Hoe Drill was used for seeding the minimum tillage treatment. A good stand of wheat resulted from both the minimum tillage seeding and the conventional seeding, with the minimum tillage treatment producing slightly higher yields for the first time since the trial was begun. Yields for the five year period 1977-1981 are summarized in Table 34.

**Table 34. Minimum Tillage and Double Disking for Wheat Production
On Recrop**

Treatment	Yield Bushels Per Acre					5 yr. Avg.
	1977	1978	1979	1980	1981	
Minimum tillage & seeding	12.6	10.3	9.6	0.0	15.3	9.6
Double disk and conventional seeding	15.0	28.5	15.9	0.0	14.3	14.7