

**Yield of Winter Wheat in a Long-Term Continuous No-Tillage  
Rotation of Corn, Wheat and Double-Crop Soybean  
John H. Grove, Agronomy Department**

**Research Objective:**

Determine the economic contribution of wheat to the long-term productivity of the 3 crops/2 years rotation.

**Method:**

Location	Fayette County/Spindletop
Soil Type and Drainage	Maury silt loam - well drained
Previous Crop	Corn
Tillage	No-Tillage (Lilliston 9680)
Cultivar	Pioneer 2552
Planting Date/Rate	Oct. 23, 1997; 28 seed/sq. ft
Harvest Date	June 26, 1998
Fertilizer:	Nitrogen - 40 lb N/ac as 34-0-0 on 11/4/97 40 lb N/ac as 34-0-0 on 3/15/98 80 lb N/ac as 34-0-0 on 4/13/98
Herbicide:	Harmony - 0.6 oz/ac on 3/19/98
Fungicides:	Bayleton 50WP - 4 oz/ac on 4/24/98 Tilt 3.2EC - 4 fl oz/ac on 5/11/98
Results:	Average of 4 replications - 62.4 bu/acre

**Conclusions:**

Yields were good, but not great. Historically, the yield of no-tillage wheat in these plots has been negatively related to the yield of the previous corn crop. Average yield losses appear to be about 1 bu/ac of wheat for every 10 bu/ac in the preceding corn crop, with corn yields ranging between 90 and 190 bu/ac. The extremely low wheat yield observed in 1990 was excluded from the relationship. This relationship exists probably because greater corn yields are associated with greater corn residue levels, which hinder wheat stand establishment and may also reduce/delay wheat tillering.