TILLAGE AND NITROGEN MANAGEMENT FOR WHEAT PLANTED AT DIFFERENT DATES

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OBJECTIVE:

Determine whether no-tillage wheat following corn requires an earlier planting date and greater attention to early N nutrition than wheat planted in a tilled seedbed.

METHODS:

Location: Fayette County/Spindletop
Soil Type and Drainage: Donerail silt loam - well drained
Previous Crop: Corn
Tillage: No-Tillage (Lilliston 9680)
Chisel Plow + Secondary Disking
Cultivar: Pioneer 2568
Planting Dates: Oct. 23, Nov. 5, and Nov. 23, 1998
Seeding Rate: 40.2 seed/sq ft
Harvest Date: June 30, 1999
Fertilizer: Nitrogen - 0 and 40 lb N/ac as 34-0-0 on 12/16/98
0 and 40 lb N/ac as 34-0-0 on 3/1/99
80 and 120 lb N/ac as 34-0-0 on 4/7/99
Herbicides: Gramoxone Extra - 1 qt/ac on 10/23/98
Harmony Extra - 0.7 oz/ac on 4/7/99
Brominal ME4 - 0.75 pt/ac 4/7/99
Fungicides: Bayleton 50WP - 4 oz/ac on 5/8/99
Tilt 3.2 EC - 4 ft oz/ac on 5/15/99
Results: Average of 4 replications - see Table 1, below.

CONCLUSIONS:

Stand establishment was excellent at the first two planting dates, but was weaker at the last date (data not shown). There was a planting date by tillage interaction, with no-till wheat yielding less than chisel plow wheat at the first planting date, but there was no difference between

tillage systems at the later two dates (Table 1). Again, no-till wheat was not inferior with later planting.

Nitrogen timing treatments did not interact with planting date or tillage treatments. Fall application of N slightly improved yields (+4 bu/ac), while none of the spring N management alternatives affected yield.

TABLE 1. EFFECT OF PLANTING DATE, TILLAGE AND N TIMING ON WHEAT GRAIN YIELDS

Planting Date	Tillage System	Fall N Rate	Early Spring N	Late Spring N	Grain Yield
			lb N/ac		bu/ac
PLANTING DATE BY TILLAGE INTERACTION					
Oct. 23	NT	-	-	-	73.5
	CH	-	-	-	80.6
Nov. 5	NT	-	-	-	67.0
	CH	-	-	-	69.1
Nov. 23	NT	-	-	-	48.1
	CH	-	-	-	48.0
MAIN EFFECT OF FALL N RATE					
-	-	0	-	-	66.2
-	-	40	-	-	62.5
MAIN EFFECT OF EARLY SPRING N RATE					
-	-	-	0	-	64.1
-	-	-	40	-	64.7
MAIN EFFECT OF LATE SPRING N RATE					
-	-	-	-	80	64.3
-	-	-	-	120	64.5