Five -Year Summary of Effect of Row Width on Wheat Yield

Objective: To compare the yield of wheat grown in rows spaced 7.5 and 15-inchs apart.

Background (2000-2004):

Test Site:	Ohio State University Unger Farm	Fertilizer:	120-80-105
County:	Crawford	Wheat Variety:	INW0301 in 2003/04 Agra 962 in 2001 & 2002 I9824 in 2000
Soil Type:	Pewamo/Blount		
Tillage:	Disk	Seeding Rate:	120 lbs/acre
Previous Crop:	Soybeans	Wheat Planting Date:	10/9/03
Soil Test:	pH 6.8, P 26 ppm, K 124 ppm	Wheat Harvest Date:	7/05/04
		Herbicide:	2,4-D 1 pt/acre
Row Widths:	7.5 and 15 inch		

Methods:

A completely randomized design with two treatments and five replications was used. Treatments were rows spaced 7.5 and 15 inchs apart. Plots were 5.5 feet wide and 50 feet long. Wheat was planted with a three-point hitch mounted tool bar planter equipped with Great Plains seed meters and sunflower openers. Harvest was accomplished with a research plot combine.

Results:

Table 1. Effect of Row Spacing on Wheat Yield in Crawford County, Ohio, 2000-2003

	7.5” Rows	15” Rows	F-Test	LSD (0.05)
Year and Variety	Bu/A	Bu/A		Bu/A
2000 I9824	72.3	70.8	<1	NS
2001 Agra 962	86.7	79.2	14.5	4.4
2002 Agra 962	85.1	76.8	28.3	3.5
2003 INW0301	66.8	58.6	19.76	4.26
2004 INW0301*	86.5	84.7	.92	NS
5-Year Average	79.5	74.0	.80	NS

* INW0301 also named Brandy

Summary:

What level of wheat yield can be grown in 15 inch rows versus the row spacing of 7.5 inches? With new precision planting implements for soybeans planted in 15 inch rows and the new technology of polymer coated soybeans, this question is important to producers evaluating the

profitability of new planting and alternate cropping systems systems such as modified relay intercropping. In the first and fifth year of this study, the yield of wheat grown in two different row widths was not significantly different. In the second, third, and fourth years, yield was significantly different with higher yields in the narrower row wheat planting. When comparing the two treatments over the five-year period, yields were not statistically different however there was a 5.5 bushel per acre difference.

The yield difference in specific years has varied from about 2 to 8.2 bushels per acre. This result is consistent with work conducted by Beuerlein et al (Profitable Wheat Management, Extension Bulletin 811, page 18) on the effect of row spacing wheat yield on Ohio.

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