

Wide Row Wheat

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Objective

To evaluate the effect of row width and population on wheat grain yield.

Background

	<u>Farm A</u>	<u>Farm B</u>	<u>Farm C</u>
Crop Year:	2014	2014	2014
Location:	Wauseon, OH	Wauseon, OH	Pettisville, OH
County:	Fulton	Fulton	Fulton
Soil Type:	Nappanee	Tedrow/Blount	Blount-Pewamo
Drainage:	Systematic	Random	Random
Previous Crop:	Soybeans	Soybeans	Soybeans
Tillage:	No-till	No-till	No-till
Soil Test:	pH 6.0, P 45 ppm, K 162 ppm	pH 6.7, P 197 ppm, K 98 ppm	pH 6.6, P 63 ppm, K 230 ppm
Planting Date:	Oct. 14, 2013	Oct. 2, 2013	Oct. 12, 2013
Seeding Rate/Row Spacing:	Varies	Varies	Varies
Harvest Date:	July 15, 2014	July 9, 2014	July 14, 2014

Methods

Three commercial, on-farm wheat research plots (3 site years) were established in the fall of 2013 in Fulton County, OH using an eleven-row 15" White 5100 planter. Variety was Rupp 972 on Farms A and C, and variety was Pioneer 34R25 on Farm B. Trials were identical, randomized complete block design with four replications of treatments. Plots were 30 feet wide by a minimum of 1,000 feet long.

The standard practice of 7.5-inch row width at 2.0 million seeds/ac was compared to 15-inch row spacing at 1.0 and 1.5 million seeds/ac. Spring stand, number of heads per square foot, moisture and yield were recorded. Centers of the plots were harvested with commercial combines and yields and moistures were measured with calibrated yield monitors. Grain yield was adjusted to 13.5% moisture. Data were analyzed using the ANOVA procedure. Factors were considered statistically significant at $\alpha = 0.05$.

Treatments

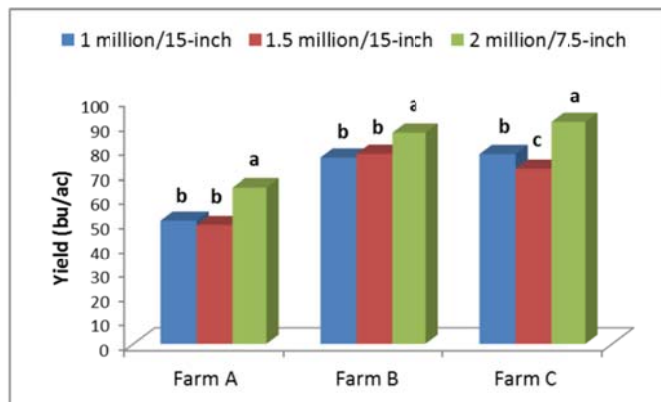
- 1) Drilled, 7.5" row wheat at 2.0 million seeds per acre
- 2) Planted 15" row wheat at 1.5 million seeds per acre
- 3) Planted 15" row wheat at 1.0 million seeds per acre



Results

	<u>Row Width</u> inches	<u>Seed Rate</u> seeds/ac	<u>Spring Stand</u> seeds/ac	<u>Head Count</u> number/sq ft	<u>Grain Moisture</u> %	<u>Yield</u> bu/ac	
FARM A	7.5	2.0 mill	1.3 mill	100	15	72.6	a
	15	1.5 mill	1.1 mill	73	15	54.8	b
	15	1.0 mill	0.68 mill	67	15	55.3	b
FARM B	7.5	2.0 mill	1.3 mill	96	14	90.5	a
	15	1.5 mill	0.93 mill	59	15	82.9	b
	15	1.0 mill	0.78 mill	63	15	81.0	b
FARM C	7.5	2.0 mill	1.3 mill	102	16	105.8	a
	15	1.5 mill	1.2 mill	81	16	83.6	c
	15	1.0 mill	0.81 mill	75	16	90.6	b

Effect of Row Spacing and Seeding Rate



Summary

In all three on-farm trials, the standard practice of 7.5-inch row width at 2.0 million seeds/ac produced more heads and yielded greater than wheat grown in 15-inch row width at 1.0 and 1.5 million seeds/ac (Fig. 3). At 15-inch row width, 1.0 million seeds per acre yielded the same as 1.5 million seeds/ac at two farms and 1.0 million seeds/ac out-yielded 1.5 million seeds/ac at one farm. These results suggest that wide-row wheat is less profitable than the standard practice. However, wide row wheat may offer seed cost savings and the opportunity to interseed soybeans in northern Ohio where double cropping soybeans is difficult. Additionally, wide-row wheat can be planted without the use of a drill. It should also be noted that the wide row wheat showed no visual signs of increased lodging at harvest. If wide-row wheat is being planted, we recommend a seeding rate of 1.0 million seeds/ac.

Acknowledgement

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