

Wide Row Wheat

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Objective

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

Background

Crop Year: 2015
 Location: Wauseon, OH
 County: Fulton
 Soil Type: Hoytville/Haskins
 Drainage: Random
 Previous Crop: Soybeans
 Tillage: No-till
 Planting Date: October 11, 2014
 Seeding Rate: varies

Soil Test (avg of zone samples):
 pH: 6.3
 O.M.: 2.8%
 CEC: 8.1 meq/100g
 P: 43 ppm Bray P1
 K: 143 ppm
 Fertility: 117-47-54-19 net lbs/ac
 Herbicide: 15 oz/ac Huskie
 Fungicide: 6.5 oz/ac Prosaro at boot
 Harvest Date: July 9, 2015

Methods

One commercial, on-farm wheat research plots was established in the fall of 2014 in Fulton County, OH to evaluate wheat row width and seeding rate. The research plot was a randomized complete block design with four replications of treatments. Plots were 30 feet wide by approximately 1,200 feet long. An eleven-row 15" White 5100 planter was used to seed the treatments in 15" rows while a 30 foot Great Plains drill was used to seed the 7.5" treatment.. The variety used was Rupp 972 with Vibrance Extreme fungicide seed treatment. This variety was utilized because of its medium height, disease resistance package and consistently high performance in the Ohio State Wide Row Wheat Performance Trials.

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. The number of heads per square foot, grain moisture and yield were recorded. Plots were harvested with a commercial combine and yields and moistures were measured with calibrated yield monitors. Grain yield was adjusted to 13% 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>Head Count</u> number/sq ft	<u>Grain Moisture</u> %	<u>Yield</u> bu/ac	
7.5	2.0 mill	88	15	85.5	A
15	1.5 mill	68	15	79.2	A
15	1.0 mill	63	14	77.4	B

LSD = 7.02 (p<.05); CV 5.02

Economics

<u>Row Width</u> inches	<u>Seed Rate</u> seeds/ac	<u>Revenue*</u> \$/ac	<u>Seed Cost+</u> \$/ac	<u>Return above Seed</u> \$/ac
7.5	2.0 mill	\$428	\$62	\$366
15	1.5 mill	\$396	\$47	\$349
15	1.0 mill	\$387	\$31	\$356

*Based on \$5/bu wheat x yield

+Seed cost = \$.031/1,000 seeds. Source: OSU AEDE 2015 Wheat Budget

Summary

There was no significant difference in yield in the treatment with 2 million seeds per acre drilled and the treatment with 1.5 million seeds per acre planted in 15" rows. These results suggest that wide-row wheat is slightly less profitable than the standard practice. However, if you are considering planting wheat in wide rows, the economics suggest that planting at 1.0 million seeds per acre is more profitable. 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.

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