

## Wide Row Wheat

Eric Richer, Ohio State University Extension Educator, Fulton County

Laura Lindsey, Assistant Professor, Ohio State University, Horticulture & Crop Sciences

### Objective

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

### Background

Crop Year:	2015	Seeding Rate:	Varies
Location:	Wauseon, OH	Soil Test (ave):	pH: 6.3, P 43 ppm Bray P1, K 143 ppm, O.M. 2.8%, CEC 8.1 meq/100g
County:	Fulton	Fertility:	117-47-54-19 net lbs/ac
Soil Type:	Hoytville/Haskins	Herbicide:	15 oz/ac Huskie
Drainage:	Random	Fungicide:	6.5 oz/ac Prosaro Feeks Stg 10
Previous Crop:	Soybeans	Harvest Date:	July 9, 2015
Tillage:	No-till		
Planting Date:	October 11, 2014		

### Methods

One commercial, on-farm wheat research plot 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	AB
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 (and statistics) 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.

## Acknowledgement

The authors express appreciation to the Michigan Wheat Program for supporting this research. Thanks to OSU Agronomy Intern Troy Grime for assistance with data collection.



THE OHIO STATE UNIVERSITY

For more information, contact:  
Eric Richer  
OSU Extension –Fulton County  
8770 State Route 108  
Wauseon, Ohio 43567  
[Richer.5@osu.edu](mailto:Richer.5@osu.edu)



THE OHIO STATE UNIVERSITY  
COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

[agcrops.osu.edu](http://agcrops.osu.edu)

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: [go.osu.edu/cfaesdiversity](http://go.osu.edu/cfaesdiversity).