

2016-17 WHEAT VARIETY EVALUATION, WFREC, JAY, FLORIDA

Jennifer Bearden and Barry J. Brecke

This report is a summary of the 2016-17 wheat variety trial at the University of Florida/IFAS West Florida Research and Education Center, Jay, Florida. It shows the performance of 7 wheat varieties. This data represents only one year and results should be considered over several locations and years before conclusions are valid.

Entries (Brand/Variety) that were evaluated:

1. Pioneer 26R59
2. Pioneer 26R41
3. Pioneer 26R94
4. Pioneer XW15C
5. Pembroke
6. Dyna-Gro Baldwin
7. VPI Jamestown

2016-17 Growing Conditions and Experimental Design

The soil type in the test area was a Tifton sandy loam that was planted to soybean in 2015. Wheat was planted with a plot drill equipped with cone seeders on 13 Dec 2016 under conventional tillage. Entries were replicated four times. Plots were six rows spaced 7 inches apart by 25 feet long.

Standard practices for wheat production were followed throughout the season. Nitrogen was applied 31 January at 60 lb/A N and again on 24 March at 50 lb/A N. Headline (9 oz/A) fungicide was applied 4 March and Monsoon (4 oz/A) fungicide was applied 28 April for disease control.

Wheat stand was determined on 31 January by counting plants in two - 24" row sections in each plot. Wheat height was measured lodging as percent of plants lodged was visually evaluated 19 June.

Wheat was harvested on 19 June with a small plot combine. Wheat test weight and yield at 13.5% moisture were determined. The Least Significant Difference (LSD) at 5 percent level is included in the tables to assist in comparing variety results. If the difference between two varieties for a parameter exceeds the LSD, the varieties can be considered different for that parameter.

Weather Summary

Rainfall was much above normal in January and May, slightly above normal in March, near normal in December and below normal for February, March and April (Table 1). Rainfall during the entire wheat growing season (December through May) totaled 34.9 inches, which was 3.6 inches normal. Weather data was obtained from Florida Automated Weather Network (FAWN) station located on Jay research farm and normal represents the mean for the past 55 years of records.

Table 1. Weather conditions during 2016-17 in Jay, FL.

Month	Total rainfall (in.)	Average air temperature (°F)	Minimum air temperature (°F)	Maximum air temperature (°F)
December	5.8 (0.8 above normal)	56.3	28.7	79.0
January	13.0 (7.6 above normal)	57.1	21.8	78.3
February	3.2 (1.9 below amount)	59.6	32.6	79.8
March	2.6 (3.9 below normal)	61.7	30.6	87.2
April	3.0 (1.8 below normal)	68.2	40.9	85.5
May	7.3 (2.8 above normal)	72.4	46.9	89.3

Data Summary

Stand counts ranged from 28 to 35 plants/ft² (1,204,000 to 1,512,000 plants/A) which is within the recommended population range (Table 2). Wheat height at harvest on 19 June ranged from 25 inches or shorter for Pioneer 26R59 and Pembroke to 33 to 34 inches tall for Baldwin and Pioneer 26R94 (Table 3). Lodging ranged from 10% for Pioneer 26R59 to 35% for Pioneer XW15C. Lodging was greater than would be expected due to the delayed harvest caused by excessive rainfall in May.

Two varieties yielded greater than 70 bu/A – Pioneer 26R94 (74 bu/A) and Baldwin (73 bu/A). Jamestown yielded 55 bu/A. All other varieties yielded less than 25 bu/A. The much above normal rainfall in January resulted in ideal conditions for disease development. Even with two fungicide application some varieties had significant disease damage. As mentioned above, harvest was delayed due to wet conditions in May and likely caused additional yield loss.

Some varieties have been evaluated over two or three years. Six varieties were evaluated over two years and 3 varieties were evaluated for three seasons. Varieties evaluated for two years that averaged more than 60 bu/A included Pioneer 26R41, Pioneer 26R94, Southern States SS 8415 and Dyna-Gro Baldwin. The three varieties tested for three seasons average yields were as follows: Pioneer 26R41 52 bu/A, Pioneer 26R94 68 bu/A and Dyna-Gro Baldwin 79 bu/A.

Table 2. Stand count 2016-17 wheat entries, WFREC, Jay, FL.

Brand/Variety	Stand Count (Plants/sq.ft.)	Stand Count (Plants/A)
	01/31/17	01/31/17
Pioneer 26R59	31.7	1,381,550
Pioneer 26R41	30.4	1,325,540
Pioneer 26R94	33.9	1,474,900
Pioneer XW15C	32.6	1,418,890
Pembroke	27.6	1,204,190
Dyna-Gro Baldwin	32.4	1,409,560
VPI Jamestown	34.7	1,512,240
LSD (0.05)	NS	NS

Table 3. Wheat height, percent lodging, test weight and yield for 2016-17 wheat entries, WFREC, Jay, FL.

Brand/Variety	Wheat Height (inches)	Lodging (%)	Test Weight (lb/bu)	Yield (bu/A)
	6/19/17	6/19/17	6/19/17	6/19/17
Pioneer 26R59	25	10	45	6
Pioneer 26R41	28	11	48	21
Pioneer 26R94	34	18	55	74
Pioneer XW15C	29	35	48	11
Pembroke	24	24	48	5
Dyna-Gro Baldwin	33	26	53	73
VPI Jamestown	28	29	55	55
LSD (0.05)	2.5	10.7	0.9	9.7

Table 4. Two and Three Year Wheat Yield Averages

Variety	2-year Average (bu/A)	3-year Average (bu/A)
Pioneer 26R59	20	
Pioneer 26R41	67	52
Pioneer 26R94	66	68
Southern States SS 8415	65	
UniSouth Genetics USG 3404	32	
Dyna-Gro Baldwin	82	79