

Wheat Update 2021

ARKANSAS WHEAT PERFORMANCE TRIALS AND VARIETY SELECTION

DR. JASON P. KELLEY
Professor
Wheat and Feed Grains
Extension Agronomist

JOHN CARLIN
Director Arkansas Crop
Variety Improvement Program

ROBYN MORGAN
Program Technician

RICHARD BOND
Program Associate

DAVID MOON
Program Associate

DR TERRY SPURLOCK
Associate Professor
Extension Plant Pathologist

Wheat performance trials were conducted during the 2020-2021 growing season by the Arkansas Wheat Variety Testing Program under the direction of John Carlin to provide information about yield potential, agronomic characteristics, and disease reaction of commercially available and experimental lines/varieties of wheat. Variety selection is very important for successful and profitable wheat production. This publication is a summary of the Arkansas Wheat Variety Testing Program results from 2021, along with 2 and 3-year average yields from commercially available varieties and is designed to help producers select adapted, high-yielding, and disease-resistant varieties.



FIGURE 1. LOCATIONS OF ARKANSAS WHEAT PERFORMANCE TESTS

- 1 – Northeast Research and Extension Center, Keiser – Sharkey Silty Clay
- 2 – Lon Mann Cotton Research Station, Marianna – Calloway Silt Loam
- 3 – Southwest Research and Extension Center, Hope – Bowie Fine Sandy Loam
- 4 – Vegetable Substation, Kibler – Roxana Silt Loam
- 5 – Newport Extension Center – Bosket Fine Sandy Loam
- 6 – Southeast Branch Station, Rohwer – Herbert Silt Loam
7. Pine Tree Research Station, Colt – Calloway/Zackary Silt Loam

Methods

Wheat varieties and experimental lines were entered by seed companies and public institutions and evaluated for an unbiased comparison of their performance. In general, recommended cultural practices for wheat production in Arkansas were used. All locations were planted between October 15 and November 9 into conventionally tilled seedbeds using small plot planters.

Each trial consisted of 92 varieties and experimental lines replicated four times in a randomized complete block design. A seeding rate of 105 lb/A was used for all varieties at each location. Recommended production practices were followed, and pests were controlled as needed. Plots were harvested with a small plot combine to determine yields, which were adjusted to 13 percent moisture.

For further details concerning methods and results from performance trials, consult the *Small-Grain Cultivar Performance Tests 2020-21*, Arkansas Agricultural Experiment Station, located at: <https://aaes.uark.edu/variety-testing/>

*Arkansas Is
Our Campus*

Visit our web site at:
<http://www.uada.edu>

Table 1. Arkansas Wheat Performance Trials Summary of Commercially Available Varieties, 2021.

Entry Name	-----2021 Performance (bu/acre)-----						
	All Trials	Keiser	Kibler	Hope	Marianna	Newport	Pine Tree*
AgriMAXX 473	75.4	66.2	72.3	53.0	83.5	108.6	68.8
AgriMAXX 492	74.4	60.1	81.2	55.4	86.2	97.9	65.6
AgriMAXX 503	---	69.8	68.9	61.2	91.0	89.4	---
AgriMAXX 505	75.0	68.4	76.9	52.8	84.5	100.1	67.6
AgriMAXX 513	67.1	73.0	66.4	49.4	80.0	73.0	61.0
AgriMAXX 514	69.0	64.6	63.3	56.5	75.1	77.3	77.4
AGS 2021	64.6	63.6	36.8	66.2	77.5	82.0	61.5
AGS 2024	54.0	57.2	23.5	43.3	61.7	70.1	68.6
AGS 2038	63.5	59.2	58.3	64.8	67.8	69.0	61.6
AGS 2055	67.5	75.5	50.7	59.0	68.9	90.7	60.0
Delta Grow 1200	70.1	68.3	68.8	52.4	85.3	75.5	70.1
Delta Grow 1500	76.1	70.6	75.6	61.1	86.8	86.8	76.0
Delta Grow 1800	69.3	53.9	55.9	59.7	74.7	110.8	61.0
Delta Grow 3500	57.9	58.2	22.0	50.8	69.1	82.8	64.6
Dixie Brown	75.7	68.3	77.4	46.7	88.5	101.2	72.3
Dyna-Gro 9002	69.6	64.9	65.0	55.2	75.9	85.4	71.3
Dyna-Gro 9120	75.4	73.2	81.2	55.7	76.9	98.2	67.0
Dyna-Gro 9151	73.5	71.0	68.5	56.9	81.0	98.7	64.8
Dyna-Gro 9172	65.9	62.5	70.3	47.7	69.3	82.7	63.3
Dyna-Gro 9701	73.0	67.7	64.5	60.0	72.5	106.4	66.9
Dyna-Gro 9811	78.6	76.6	81.8	62.2	70.0	111.5	69.5
Go Wheat 2032	66.3	57.5	48.0	58.6	61.4	104.4	67.7
Go Wheat 2058	72.9	74.9	64.5	52.7	78.6	105.0	61.5
Go Wheat 6000	69.5	64.1	60.3	56.2	80.0	94.0	62.7
Liberty 5658	61.6	51.3	42.7	50.6	73.4	88.4	63.3
Local LW2026	56.4	55.4	26.8	52.3	54.1	88.5	61.5
Local LW2068	74.3	67.6	77.0	57.4	86.5	91.4	65.6
Local LW2148	---	59.3	59.2	58.7	86.3	87.0	---
Local LW2169	71.5	66.0	67.5	55.9	81.0	95.4	63.2
Local LW2848	75.8	76.1	68.5	58.9	84.9	97.0	69.3
Pioneer 26R10	69.1	58.2	66.1	53.7	76.1	92.9	67.6
Pioneer 26R36	73.5	63.8	68.0	52.1	82.6	107.5	66.9
Pioneer 26R45	---	55.0	72.2	56.4	74.2	83.4	---
Pioneer 26R59	76.4	74.6	79.1	45.9	88.3	108.6	61.6
PROGENY #BLAZE	68.4	63.3	60.8	53.5	86.0	81.3	65.7
PROGENY #BULLET	71.4	67.5	74.4	48.4	77.0	98.3	62.8
PROGENY #TURBO	66.1	56.4	53.2	53.5	79.3	101.2	53.1
PROGENY #BUSTER	75.4	78.9	70.0	55.7	76.3	105.9	65.5
PROGENY #CHAD	70.1	73.9	47.2	60.0	85.9	77.2	76.5
SY 547	60.7	48.7	47.1	49.8	73.2	87.3	57.9
SY Richie	70.5	59.1	76.9	52.1	71.0	104.9	59.4
SY Viper	70.3	58.8	71.4	64.8	71.4	91.6	63.7
USG 3316	58.0	58.1	20.6	47.0	85.1	68.6	68.5
USG 3329	71.5	62.6	77.0	57.4	79.3	83.0	70.0
USG 3352	71.8	67.2	71.2	61.8	83.2	72.7	75.0

Continued. Table 1. Arkansas Wheat Performance Trials Summary of Commercially Available Varieties, 2021.							
	-----2021 Performance (bu/acre)-----						
Entry Name	All Trials	Keiser	Kibler	Hope	Marianna	Newport	Pine Tree*
USG 3472	66.9	53.6	72.9	53.6	72.1	82.2	67.3
USG 3536	72.9	66.8	78.5	49.3	76.4	99.4	66.9
USG 3562	70.3	63.7	71.8	49.8	71.8	95.0	69.5
Mean	69.5	62.3	56.7	53.7	74.9	89.1	64.4

*Deer feeding prevented yield data from being obtained on three awnless varieties.

Table 2. Arkansas Wheat Performance Trials Summary of Commercially Available Varieties, 2020-2021.							
	-----2-year Average Performance (bu/acre)-----						
Entry Name	All Trials*	Keiser	Kibler	Hope	Marianna	Newport	Rohwer**
Dyna-Gro 9811	78.3	73.5	88.1	65.9	71.5	92.3	76.4
Dixie Brown	78.1	69.5	86.8	58.1	84.8	91.2	69.9
Local LW2848	75.3	71.0	78.2	61.7	79.9	85.9	---
AgriMAXX 473	75.1	65.6	78.2	59.4	79.8	92.4	77.1
USG 3536	74.4	69.5	84.7	53.3	76.4	87.9	75.4
Pioneer 26R59	74.1	67.2	80.9	53.3	79.5	89.7	77.7
AgriMAXX 503	72.9	63.1	71.7	61.3	84.6	83.7	---
Dyna-Gro 9701	72.9	66.3	68.9	64.6	73.8	90.8	78.8
PROGENY #BULLET	72.8	65.7	79.5	59.7	74.1	84.8	74.3
AgriMAXX 505	72.5	68.0	71.3	55.9	79.7	87.5	---
Local LW2068	71.6	63.5	75.3	63.3	76.7	79.2	---
USG 3329	71.5	61.2	83.3	61.5	74.8	76.6	---
Go Wheat 2058	71.3	72.4	64.5	60.8	72.8	86.0	65.6
Pioneer 26R45	70.2	60.6	69.6	61.5	77.4	82.0	71.7
AgriMAXX 492	69.8	61.8	75.7	57.3	74.2	80.0	---
Delta Grow 1800	69.7	64.9	66.0	61.3	69.8	86.3	63.8
Go Wheat 6000	69.5	71.7	66.0	55.0	74.0	81.0	---
SY Viper	69.5	53.4	85.4	65.4	66.5	76.6	72.0
Pioneer 26R36	69.0	68.4	61.8	54.8	73.7	86.2	85.2
PROGENY #TURBO	68.8	61.5	66.9	58.8	72.9	83.8	74.2
PROGENY #BLAZE	68.7	61.7	70.4	62.9	75.4	73.0	70.8
AGS 2055	66.9	74.1	55.0	61.5	66.5	77.4	74.4
Dyna-Gro 9002	66.9	64.0	67.6	56.9	70.5	75.3	---
SY Richie	65.3	56.9	72.3	51.6	64.5	81.4	---
AGS 2038	65.2	63.1	63.3	64.6	67.3	67.8	72.4
SY 547	65.1	53.4	61.9	61.9	70.5	77.6	71.0
Liberty 5658	64.8	59.8	63.4	53.1	70.2	77.7	---
Pioneer 26R10	61.9	54.2	60.4	52.7	67.0	75.4	62.9
Go Wheat 2032	61.4	59.0	58.3	58.2	55.0	76.4	---
AGS 2024	55.9	61.0	45.9	50.1	59.1	63.3	---
Delta Grow 3500	52.5	57.8	32.5	56.5	54.5	61.4	71.1
Mean	69.1	64.0	69.5	58.8	72.2	81.0	72.9

*Trials with data from 2020 and 2021 only. Includes Hope, Keiser, Kibler, Marianna, and Newport

**Rohwer 2-year calculated from 2017 and 2020 (no data in 2018, 2019, or 2021). Not included in All Trials avg.

Table 3. Arkansas Wheat Performance Trials Summary of Commercially Available Varieties, 2019-2021.

Entry Name	-----3-Year Average Performance (bu/acre)-----					
	All Trials*	Keiser**	Kibler	Hope	Marianna	Newport
Dixie Brown	75.4	63.2	83.6	54.0	82.2	81.6
Dyna-Gro 9811	74.6	67.9	84.0	60.9	72.8	80.6
AgriMAXX 473	73.0	62.4	76.9	56.4	77.2	81.3
Dyna-Gro 9701	72.5	59.7	69.6	63.1	75.2	82.1
PROGENY #BULLET	72.3	61.6	77.6	57.6	74.7	79.1
Pioneer 26R59	71.6	62.9	78.0	51.5	76.7	80.0
USG 3536	71.5	62.0	81.0	48.9	78.4	77.8
PROGENY #TURBO	71.3	54.1	71.0	55.9	77.8	80.3
SY Viper	70.5	52.5	80.8	61.4	68.8	71.0
Go Wheat 2058	70.3	68.2	69.5	59.2	73.9	78.6
USG 3329	69.9	56.2	79.3	56.3	71.6	72.2
Pioneer 26R45	69.5	59.1	71.4	57.4	74.8	74.2
Delta Grow 1800	69.5	---	66.1	60.5	70.7	80.6
PROGENY #BLAZE	67.6	57.4	71.1	58.2	70.6	70.6
SY 547	67.1	53.6	66.6	58.6	74.2	68.8
Liberty 5658	65.8	---	65.1	55.9	70.0	72.1
SY Richie	64.9	---	70.6	50.0	66.6	72.5
AGS 2038	64.3	53.6	62.7	63.7	67.8	62.9
Pioneer 26R36	63.9	58.5	61.8	51.7	68.8	73.1
AGS 2055	63.8	67.3	56.9	61.0	66.3	71.1
Go Wheat 2032	62.9	---	61.0	60.2	59.1	71.4
Pioneer 26R10	60.1	54.0	60.6	48.2	64.3	67.2
AGS 2024	58.9	56.1	51.9	57.7	62.0	64.0
Delta Grow 3500	54.6	54.1	46.4	57.0	55.5	59.5
Mean	67.7	59.2	69.3	56.9	70.8	73.9

*Trials with data each year from 2019, 2020, and 2021, includes Kibler, Hope, Marianna, and Newport.

**Keiser data from 2018, 2020, and 2021 and not included in the All Trials average.

Table 4. Agronomic Characteristics of Commercially Available Varieties in Arkansas Performance Trials, 2021.*

Entry Name	Test Weight Lb/bu	Plant Height Inches	Lodging 0-9	Heading Date	Owned Variety
AgriMAXX 473	53.3	35.4	2.6	4/22	Yes
AgriMAXX 492	54.6	32.7	3.4	4/20	Yes
AgriMAXX 503	55.7	35.7	3.4	4/23	No
AgriMAXX 505	55.7	34.0	2.1	4/24	Yes
AgriMAXX 513	52.5	34.0	4.0	4/22	Yes
AgriMAXX 514	51.9	32.5	5.6	4/23	Yes
AGS 2021	53.3	35.1	4.3	4/21	Yes
AGS 2024	46.9	32.2	4.3	4/23	Yes
AGS 2038	50.2	38.9	3.6	4/23	Yes
AGS 2055	50.0	36.4	2.4	4/23	Yes
Delta Grow 1200	49.7	33.3	5.9	4/23	Yes
Delta Grow 1500	52.6	33.0	2.7	4/24	Yes
Delta Grow 1800	55.7	38.4	2.4	4/19	Yes
Delta Grow 3500	48.2	31.8	3.9	4/19	Yes
Dixie Brown	53.8	36.2	3.3	4/23	Yes
Dyna-Gro 9002	53.0	34.1	3.7	4/23	Yes
Dyna-Gro 9120	55.9	32.4	3.2	4/21	Yes
Dyna-Gro 9151	55.1	34.3	2.4	4/23	Yes
Dyna-Gro 9172	52.1	33.4	3.8	4/23	Yes
Dyna-Gro 9701	53.5	35.3	3.4	4/24	Yes
Dyna-Gro 9811	53.8	35.2	2.3	4/21	Yes
Go Wheat 2032	52.4	33.2	2.8	4/19	Yes
Go Wheat 2058	53.7	30.1	2.6	4/22	Yes
Go Wheat 6000	53.3	33.0	4.8	4/22	Yes
Liberty 5658	53.6	33.5	2.2	4/21	Yes
Local LW2026	48.4	34.1	3.1	4/20	Yes
Local LW2068	53.3	33.8	1.3	4/23	Yes
Local LW2148	54.7	36.0	3.8	4/22	No
Local LW2169	53.2	34.2	2.6	4/23	Yes
Local LW2848	53.4	35.3	2.6	4/24	Yes
Pioneer 26R10	50.8	33.5	1.9	4/24	Yes
Pioneer 26R36	53.6	33.7	2.5	4/24	Yes
Pioneer 26R45	52.4	33.7	3.4	4/23	No
Pioneer 26R59	52.6	31.2	1.4	4/22	No
PROGENY #BLAZE	52.1	34.0	3.7	4/22	Yes
PROGENY #BULLET	53.9	36.2	3.4	4/23	Yes
PROGENY #TURBO	54.0	32.0	2.8	4/20	No
PROGENY #BUSTER	54.3	34.7	2.3	4/22	Yes
PROGENY #CHAD	51.2	30.1	5.5	4/21	No
SY 547	52.6	35.9	3.2	4/22	No
SY Richie	52.9	32.5	2.0	4/19	No
SY Viper	54.9	37.2	4.6	4/20	No
USG 3316	46.5	33.1	2.1	4/24	Yes
USG 3329	51.8	33.7	2.3	4/22	Yes
USG 3352	52.7	34.2	4.4	4/25	Yes

Table 4. Agronomic Characteristics of Commercially Available Varieties in Arkansas Performance Trials, 2021.*

Entry Name	Test Weight Lb/bu	Plant Height Inches	Lodging 0-9	Heading Date	Owned Variety
USG 3472	52.1	34.1	3.1	4/23	Yes
USG 3536	52.1	36.0	3.3	4/23	Yes
USG 3562	54.4	34.5	2.6	4/24	Yes
Mean	52.7	34.1	3.2	4/22	---

*Summary of all data on commercially available entries in 2021 trials.

Table 5. Disease Reactions of Commercially Available Varieties in Arkansas Wheat Performance Trials, 2021.*

Entry Name	Stripe Rust Severity % Fayetteville**	Fusarium Head Blight Severity % Newport**	Septoria Leaf Blotch Severity 0-9 Hope	Stripe Rust Severity % Kibler	Bacterial Leaf Streak Severity 0-9 Hope
AgriMAXX 473	0	5	5.3	0.3	0.0
AgriMAXX 492	0	30	9.0	3.7	0.0
AgriMAXX 503	0	3	2.3	10.0	1.0
AgriMAXX 505	0	5	3.5	8.7	2.3
AgriMAXX 513	1	3	4.5	5.3	0.3
AgriMAXX 514	1	3	5.3	6.7	0.0
AGS 2021	5	45	6.3	23.3	0.0
AGS 2024	95	38	9.0	43.3	0.0
AGS 2038	11	55	2.8	11.7	0.0
AGS 2055	70	40	7.5	16.7	0.0
Delta Grow 1200	2	3	4.8	5.0	0.0
Delta Grow 1500	2	5	2.8	7.0	0.3
Delta Grow 1800	1	5	6.3	23.3	1.3
Delta Grow 3500	58	60	9.0	56.7	0.0
Dixie Brown	0	5	4.3	0.0	0.0
Dyna-Gro 9002	1	30	4.8	11.7	1.0
Dyna-Gro 9120	0	23	8.5	0.3	0.0
Dyna-Gro 9151	2	8	3.5	11.7	3.3
Dyna-Gro 9172	0	5	6.5	6.7	0.0
Dyna-Gro 9701	0	5	5.3	11.7	0.0
Dyna-Gro 9811	0	25	3.8	0.7	0.0
Go Wheat 2032	30	65	8.5	23.3	0.0
Go Wheat 2058	7	10	7.8	18.3	0.0
Go Wheat 6000	1	35	7.3	2.0	0.0
Liberty 5658	58	8	8.8	53.3	0.0
Local LW2026	9	70	8.0	21.7	0.0
Local LW2068	0	5	3.0	0.0	3.0
Local LW2148	0	3	2.5	8.3	1.0
Local LW2169	0	8	5.8	8.3	2.0
Local LW2848	0	5	3.8	2.0	0.0
Pioneer 26R10	1	23	7.0	3.7	1.3
Pioneer 26R36	2	18	7.0	10.0	0.0
Pioneer 26R45	0	18	2.5	0.3	0.0
Pioneer 26R59	1	28	5.5	6.7	0.0
PROGENY #BLAZE	0	5	4.3	0.7	1.5
PROGENY #BULLET	0	0	3.5	0.0	0.0
PROGENY #TURBO	8	13	4.0	11.7	0.0
PROGENY #BUSTER	0	23	6.3	5.0	0.0
PROGENY #CHAD	5	13	5.8	25.0	0.0
SY 547	11	13	5.8	21.7	0.0
SY Richie	0	43	8.5	0.7	0.0
SY Viper	0	25	5.3	0.3	1.3
USG 3316	60	15	9.0	46.7	0.0

Table 5. Disease Reactions of Commercially Available Varieties in Arkansas Wheat Performance Trials, 2021.*

Entry Name	Stripe Rust Severity % Fayetteville**	Fusarium Head Blight Severity % Newport**	Septoria Leaf Blotch Severity 0-9 Hope	Stripe Rust Severity % Kibler	Bacterial Leaf Streak Severity 0-9 Hope
USG 3329	0	13	4.8	2.0	1.3
USG 3352	1	15	2.3	3.7	0.0
USG 3472	0	3	7.5	11.7	2.8
USG 3536	0	5	4.8	0.7	0.0
USG 3562	0	8	4.5	3.7	1.3
Mean	9.2	18.6	5.6	11.6	0.5

*Summary of available data from various locations in 2021 trials.

**Data from inoculated and misted nurseries at Fayetteville and Newport.