

Wheat Update 2022

ARKANSAS WHEAT PERFORMANCE TRIALS AND VARIETY SELECTION

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Wheat performance trials were conducted during the 2021-2022 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 2022, 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.

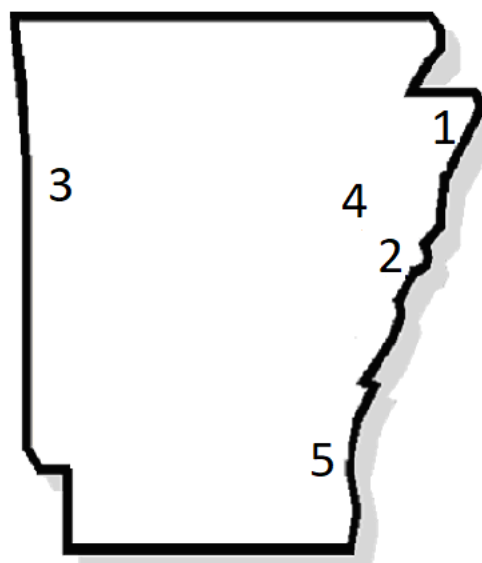


FIGURE 1. LOCATIONS OF ARKANSAS WHEAT PERFORMANCE TESTS

- 1 – Northeast Research and Extension Center, Keiser – Sharkey Silty Clay/Steele Complex
- 2 – Lon Mann Cotton Research Station, Marianna – Calloway Silt Loam
- 3 – Vegetable Substation, Kibler – Roxana Silt Loam
- 4 – Pine Tree Research Station, Colt – Calloway Silt Loam
- 5 – Southeast Branch Station, Rohwer – McGehee 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 6 into conventionally tilled seedbeds using small plot planters.

Each trial consisted of 66 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 detailed results from performance trials, consult the *Small-Grain Cultivar Performance Tests 2021-22*, Arkansas Agricultural Experiment Station, located at: <https://aes.uark.edu/variety-testing/>

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Table 1. Arkansas Wheat Performance Trials, Summary of Commercially Available Varieties, 2022.						
	-----2022 Performance (bu./ac)-----					
Entry Name	All Trial Avg.	Keiser	Kibler	Marianna	Pine Tree	Rohwer
Delta Grow 1200	93.8	75.8	96.0	78.1	102.0	117.2
Liberty 5658	90.4	66.5	84.0	82.2	91.1	128.1
PROGENY #TURBO	89.9	63.2	97.8	78.6	93.4	116.5
Dyna-Gro 9120	89.9	66.4	90.9	87.7	95.7	108.8
PROGENY #BINGO	89.5	61.3	90.1	94.0	90.6	94.8
PROGENY #BUSTER	89.5	76.3	88.1	88.1	86.2	108.7
KWS384	89.4	77.4	87.7	80.9	96.9	104.0
AgriMAXX 514	89.0	64.3	90.8	93.0	99.2	97.8
KWS405	88.2	64.7	91.9	80.8	91.4	112.5
GrowPro 381	87.7	59.7	97.1	81.4	82.1	118.1
Delta Grow 1000	86.3	58.0	89.3	85.5	87.2	111.5
HILLIARD	85.5	69.7	87.4	76.2	88.0	106.4
USG 3783	85.3	56.4	86.7	91.2	97.7	94.6
Delta Grow 1800	85.1	68.9	78.7	77.7	91.1	109.3
USG 3352	84.6	65.9	89.1	72.0	93.2	102.9
Dyna-Gro 9151	84.1	66.4	93.3	72.5	89.5	98.7
PROGENY #CHAD	83.4	66.1	85.1	84.5	85.7	95.5
SY Viper	83.1	61.3	90.7	73.0	86.7	103.8
KWS403	83.1	52.8	86.9	85.3	90.5	99.8
Dyna-Gro 9701	83.0	64.3	85.3	80.2	91.7	93.6
GrowPro 747	82.7	61.0	87.1	75.9	88.3	101.1
Dyna-Gro 9393	82.4	60.6	81.7	81.2	94.0	94.2
KWS411	82.3	75.1	82.9	80.8	88.5	84.4
AgriMAXX 492	82.2	66.2	78.4	68.8	90.5	107.2
P26R59	81.9	61.7	82.1	69.5	94.2	102.2
GrowPro 348	81.8	67.0	71.0	78.6	82.4	109.7
Dyna-Gro 9811	81.4	63.4	80.6	71.1	88.4	103.3
Go Wheat 2058	81.2	59.3	79.3	71.3	95.1	101.1
P26R10	80.9	63.5	75.9	84.3	88.3	92.5
Dyna-Gro 9002	80.9	64.4	83.4	73.2	93.6	89.8
Dixie Brown	80.8	63.3	70.8	82.6	89.7	97.4
PROGENY #BULLET	80.5	58.4	85.3	83.8	84.6	90.3
AgriMAXX 473	80.3	59.5	77.2	85.3	85.8	93.5
Dyna-Gro 9172	80.2	59.9	83.6	78.4	84.6	94.5
AGS 2055	79.9	60.2	78.1	81.6	88.9	90.7
USG 3472	78.7	54.6	80.5	71.1	95.4	91.9
P26R45	78.3	68.5	86.7	76.4	87.0	72.8
Delta Grow 3500	78.3	67.1	60.9	78.9	74.1	110.3
AgriMAXX 513	77.8	65.8	76.2	76.2	84.7	86.2
Revere 2266	77.8	63.5	78.3	77.6	87.3	82.4
Go Wheat 6056	76.6	51.2	78.6	74.2	80.8	98.4
AgriMAXX 503	76.5	64.9	77.0	77.0	83.7	80.0
P26R36	76.1	51.2	76.5	78.3	94.8	79.6
Revere 2169	75.5	55.0	83.3	64.3	84.3	90.8
Go Wheat 6000	74.6	66.2	60.3	76.3	84.3	85.7

Continued. Table 1. Arkansas Wheat Performance Trials, Summary of Commercially Available Varieties, 2022.						
	-----2022 Performance (bu./ac)-----					
Entry Name	All Trial Avg.	Keiser	Kibler	Marianna	Pine Tree	Rohwer
Go Wheat 2032	65.2	49.1	51.3	57.8	76.5	91.5
Mean	82.6	63.2	82.7	78.4	89.3	99.0

Table 2. Arkansas Wheat Performance Trials, Summary of Commercially Available Varieties, 2021-2022.						
	-----2-year Average Performance (bu./ac)-----					
Entry Name	All Trial Avg*	Keiser	Kibler	Marianna	Pine Tree	Rohwer**
Delta Grow 1200	79.7	71.8	82.2	78.7	85.8	---
Dyna-Gro 9120	79.7	69.6	85.8	82.1	81.1	---
PROGENY #BUSTER	78.7	77.6	79.0	82.2	75.9	98.9
AgriMAXX 514	78.3	64.2	76.9	83.8	88.1	---
USG 3352	76.9	66.3	79.9	77.3	83.9	---
Dixie Brown	76.4	65.6	73.8	85.3	80.8	82.6
P26R59	76.3	67.9	80.4	78.6	78.4	87.9
Dyna-Gro 9151	75.7	68.5	80.7	76.5	77.0	---
PROGENY #CHAD	75.6	70.0	66.2	85.2	81.1	---
Dyna-Gro 9811	75.0	69.8	81.0	70.3	78.8	84.5
AgriMAXX 473	74.6	62.7	74.6	84.1	77.1	86.9
PROGENY #BULLET	74.0	62.8	79.6	80.2	73.6	85.5
Dyna-Gro 9701	73.9	65.8	74.7	76.2	79.1	86.4
Dyna-Gro 9002	73.8	64.5	74.0	74.3	82.2	79.4
AgriMAXX 492	73.7	63.0	79.5	74.3	77.8	84.8
Go Wheat 2058	72.8	66.9	71.7	74.7	78.1	88.7
AgriMAXX 513	72.7	69.2	71.1	77.9	72.7	---
P26R36	72.6	57.3	72.0	80.2	80.7	79.2
P26R10	72.3	60.7	70.8	80.0	77.8	---
AgriMAXX 503	72.2	67.1	72.8	83.8	65.0	77.5
SY Viper	72.2	59.8	80.9	72.0	76.2	87.8
P26R45***	72.0	61.6	79.2	75.1	---	72.4
PROGENY #TURBO	71.8	59.7	75.4	78.8	73.3	92.9
Dyna-Gro 9172	71.3	61.0	76.7	73.7	73.7	---
USG 3472	70.7	53.9	76.5	71.4	81.1	---
Revere 2169	70.4	60.3	75.2	72.4	73.6	---
AGS 2055	70.3	67.7	64.3	75.0	74.3	78.7
Delta Grow 1800	69.5	58.9	67.2	75.9	75.9	---
Liberty 5658	69.2	58.8	63.2	77.6	77.0	97.4
Go Wheat 6000	69.1	65.0	60.1	77.9	73.3	72.4
Delta Grow 3500	61.7	62.5	41.4	73.8	69.2	78.3
Go Wheat 2032	58.5	53.1	49.5	59.5	71.9	---
Mean	72.9	64.2	73.0	77.2	77.2	84.3

*Trials with yield data from 2021 and 2022 only. Includes Keiser, Kibler, Marianna, and Pine Tree

**Rohwer 2-year calculated from 2020 and 2022 (no data in 2021.) Not included in All Trials avg.

***All Trial average does not include P26R45 due to missing data (deer feeding) at Pine Tree in 2021.

Table 3. Arkansas Wheat Performance Trials, Summary of Commercially Available Varieties, 2020-2022.				
	-----3-Year Average Performance (bu./ac)-----			
Entry Name	All Trials*	Keiser	Kibler	Marianna
Dixie Brown	77.5	67.3	81.3	83.9
Dyna-Gro 9811	75.5	70.0	85.4	71.3
AgriMAXX 473	74.2	63.5	77.8	81.5
P26R59	74.1	65.2	81.2	76.0
PROGENY #BULLET	73.9	63.2	81.3	77.2
AgriMAXX 503	72.9	63.5	73.4	81.9
Dyna-Gro 9701	71.8	65.5	74.2	75.8
P26R45	71.7	63.1	75.2	76.9
PROGENY #TURBO	71.2	62.0	77.1	74.7
SY Viper	70.5	55.9	87.0	68.5
AgriMAXX 492	69.9	63.1	76.4	70.2
Go Wheat 2058	69.8	67.9	69.3	72.1
Dyna-Gro 9002	69.4	64.0	72.8	71.3
Go Wheat 6000	69.4	69.7	64.0	74.6
Delta Grow 1800	69.0	64.5	70.1	72.3
Liberty 5658	68.7	62.0	70.2	74.1
P26R36	68.1	62.6	66.6	75.1
AGS 2055	67.8	69.3	62.6	71.4
P26R10	65.1	57.2	65.4	72.6
Go Wheat 2032	55.8	55.6	55.9	55.8
Delta Grow 3500	55.1	60.8	41.9	62.5
Mean	69.6	63.6	71.9	73.3
*Trials with yield data from 2020, 2021, and 2022.				

Table 4. Agronomic Characteristics of Commercially Available Varieties in Arkansas Performance Trials, 2022.*

Entry Name	Test Weight Lb/bu	Plant Height Inches	Lodging 0-9	Heading Date	Owned Variety
AgriMAXX 473	52.8	38	4.3	4/25/22	Yes
AgriMAXX 492	55.2	36	2.9	4/20/22	Yes
AgriMAXX 503	54.3	38	3.8	4/25/22	No
AgriMAXX 513	54.8	36	4.9	4/25/22	Yes
AgriMAXX 514	51.3	36	4.0	4/24/22	Yes
AGS 2055	52.8	38	2.5	4/23/22	Yes
Delta Grow 1000	52.9	38	2.8	4/24/22	Yes
Delta Grow 1200	52.3	36	4.6	4/25/22	Yes
Delta Grow 1800	54.4	41	3.8	4/19/22	Yes
Delta Grow 3500	55.0	35	4.5	4/18/22	Yes
Dixie Brown	53.1	38	3.9	4/25/22	Yes
Dyna-Gro 9002	53.3	37	3.3	4/23/22	Yes
Dyna-Gro 9120	57.0	35	3.3	4/24/22	Yes
Dyna-Gro 9151	55.9	36	1.5	4/23/22	Yes
Dyna-Gro 9172	51.8	35	2.5	4/25/22	Yes
Dyna-Gro 9393	53.4	34	2.3	4/25/22	Yes
Dyna-Gro 9701	53.2	38	3.1	4/26/22	Yes
Dyna-Gro 9811	52.8	39	1.3	4/22/22	Yes
Go Wheat 2032	52.9	33	3.6	4/16/22	Yes
Go Wheat 2058	52.4	33	1.9	4/24/22	Yes
Go Wheat 6000	53.1	35	4.6	4/19/22	Yes
Go Wheat 6056	52.4	36	3.0	4/26/22	Yes
GrowPro 348	56.7	35	3.9	4/19/22	No
GrowPro 381	52.9	35	1.9	4/20/22	No
GrowPro 747	48.7	36	2.3	4/26/22	Yes
HILLIARD	52.5	40	1.3	4/22/22	Yes
KWS384	55.1	38	2.8	4/23/22	No
KWS403	51.4	35	5.8	4/25/22	No
KWS405	54.7	36	2.8	4/22/22	No
KWS411	53.0	37	2.1	4/23/22	Yes
Liberty 5658	54.2	37	2.5	4/20/22	Yes
P26R10	53.1	36	2.9	4/25/22	Yes
P26R36	52.7	36	3.6	4/25/22	Yes
P26R45	50.0	38	4.6	4/24/22	No
P26R59	51.5	34	1.0	4/24/22	No
PROGENY #BINGO	49.7	36	3.8	4/25/22	Yes
PROGENY #BULLET	52.1	38	3.6	4/24/22	Yes
PROGENY #BUSTER	53.2	37	2.5	4/23/22	Yes
PROGENY #CHAD	52.3	32	5.1	4/18/22	No
PROGENY #TURBO	53.9	37	1.3	4/20/22	No
Revere 2169	52.4	36	3.0	4/26/22	Yes
Revere 2266	50.0	36	4.4	4/23/22	Yes
SY Viper	55.8	39	1.6	4/21/22	No
USG 3352	53.6	37	5.1	4/24/22	Yes
USG 3472	52.1	36	3.1	4/26/22	Yes

Table 4. Agronomic Characteristics of Commercially Available Varieties in Arkansas Performance Trials, 2022.*

Entry Name	Test Weight Lb/bu	Plant Height Inches	Lodging 0-9	Heading Date	Awned Variety
USG 3783	53.2	34	2.1	4/25/22	Yes
Mean	53.1	36	3.1	4/23/22	---

*Summary of data on commercially available entries in 2022 trials.

Table 5. Disease Reactions of Commercially Available Varieties in Arkansas Wheat Performance Trials and Other Disease Trials, 2021-2022.*

Entry Name	Fusarium Head Blight Severity % Fayetteville**	Fusarium Head Blight Severity % Newport**	Septoria Tritici Blotch Severity 0-9	Stripe Rust Severity % Kibler***	Bacterial Leaf Streak Severity 0-9
AgriMAXX 473	0	2.5	2.4	0.3	0.4
AgriMAXX 492	5.0	2.5	2.5	3.7	0.6
AgriMAXX 503	0	2.5	3.0	10.0	1.9
AgriMAXX 513	0	2.5	2.3	8.7	1.1
AgriMAXX 514	2.5	0	2.1	5.3	1.4
AGS 2055	35.0	32.5	2.8	16.7	1.4
Delta Grow 1000	0	0	2.4	---	1.3
Delta Grow 1200	2.5	0	2.1	5.0	0.6
Delta Grow 1800	2.5	2.5	3.6	23.3	0.5
Delta Grow 3500	27.5	17.5	3.0	56.7	0.9
Dixie Brown	0	2.5	2.3	0	1.1
Dyna-Gro 9002	10.0	2.5	2.0	11.7	1.1
Dyna-Gro 9120	0	5.0	1.9	0.3	0.6
Dyna-Gro 9151	0	0	2.4	11.7	0.5
Dyna-Gro 9172	5.0	2.5	2.0	6.7	1.8
Dyna-Gro 9393	10.0	10.0	2.1	---	1.4
Dyna-Gro 9701	2.5	2.5	2.8	11.7	1.4
Dyna-Gro 9811	7.5	10.0	2.4	0.7	1.0
Go Wheat 2032	17.5	32.5	3.1	23.3	1.0
Go Wheat 2058	5.0	5.0	2.5	18.3	1.0
Go Wheat 6000	7.5	10.0	3.8	2.0	0.6
Go Wheat 6056	5.0	0	1.9	---	1.5
GrowPro 348	15.0	5.0	2.1	---	1.3
GrowPro 381	7.5	12.5	2.9	---	1.3
GrowPro 747	10.0	5.0	2.4	---	1.0
HILLIARD	10.0	10.0	2.5	---	0.6
KWS384	2.5	7.5	2.1	---	1.1
KWS403	5.0	2.5	2.4	---	1.0
KWS405	2.5	5.0	2.0	---	0.9
KWS411	7.5	2.5	2.5	---	1.0
Liberty 5658	7.5	7.5	3.3	53.3	1.0
P26R10	2.5	10.0	2.0	3.7	0.9
P26R36	2.5	2.5	2.0	10.0	0.6
P26R45	5.0	2.5	1.9	0.3	1.5
P26R59	7.5	10.0	2.3	6.7	1.1
PROGENY #BINGO	5.0	2.5	1.6	---	0.8
PROGENY #BULLET	2.5	2.5	2.3	0	1.6
PROGENY #BUSTER	10.0	5.0	2.5	5.0	0.9
PROGENY #CHAD	7.5	0	2.0	25.0	0.9
PROGENY #TURBO	7.5	5.0	2.5	11.7	0.8
Revere 2169	2.5	2.5	2.6	8.3	1.4
Revere 2266	7.5	0	2.6	---	0.8

Table 5. Disease Reactions of Commercially Available Varieties in Arkansas Wheat Performance Trials and Other Disease Trials, 2021-2022.*

<u>Entry Name</u>	Fusarium Head Blight Severity % Fayetteville**	Fusarium Head Blight Severity % Newport**	Septoria Tritici Blotch Severity 0-9	Stripe Rust Severity % Kibler***	Bacterial Leaf Streak Severity 0-9
SY Viper	10.0	2.5	2.0	0.3	1.1
USG 3352	7.5	5.0	1.5	3.7	0.3
USG 3472	5.0	2.5	2.1	11.7	1.0
USG 3783	7.5	7.5	1.9	---	1.1
Mean	6.6	5.7	2.4	11.1	1.0

*Summary of available data from various locations in 2022 trials. Disease ratings were visually based on a 0-9 scale or percentage scale where the higher number represents higher disease levels.

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

*** Stripe Rust ratings are from the 2021 Performance Trial at Kibler (no stripe rust ratings were obtained in 2022).