

# 2025 Arkansas Wheat Quick Facts

Dr. Jason Kelley – Extension Agronomist – Wheat and Feed Grains  
Chris Elkins – Program Associate – Soybean and Wheat Verification  
Program Coordinator



## 2024 Facts:

- 90,000 acres harvested
- 57 bushel/acre state average
- 71.2 bushel/acre WRVP average
- Average dates in 2023-24 WRVP
  - Planting: October 15
  - Harvest: June 3
- 60 lbs = 1 bu, 13.5% moisture is dry

## Growth and Development:

Description of Vegetative Stages		
Stage	Feekes GS #	Description
Germination and seedling	1	Emergence through 3-leaf stage.
Tillering	2 – 4	Tillering begins. 4 <sup>th</sup> leaf is on first tiller.
	5	Tillering ends, plants start upright growth.
Jointing	6	First node visible at base of stem.
	7	Second node visible
	8	Flag leaf visible, still rolled up. Spike beginning to swell.
Description of Reproductive Stages		
Stage	Feekes GS #	Description
Boot	9	Ligule of flag leaf just visible.
	10	Flag leaf sheath completely out. Spike swollen but not visible (full boot).
Heading	10.1 – 10.5	First spikes just visible to all spikes out of sheath (full heading).
	10.5.1	Beginning of flowering.
	10.5.4	Flowering over, kernel watery ripe.
Ripening	11.1 – 11.3	Grain progresses from milk to soft dough to hard dough.
	11.4	Ripe for cutting, straw dead.

## Seeding:

- Plant seed between 1 to 1.5 inches deep

- Seeding rate should be 26 seed/ft<sup>2</sup> with a grain drill under ideal conditions. Increase seeding rate if planting no-till, late, or broadcast.
- 26 seeds/ ft<sup>2</sup> = 1.13 million seeds/acre

## Pounds of Seed Planted – Seed Rate by Seed Size

Seeds/lb	-----Seeds per Square Foot-----			
	25	30	35	40
	-----Pounds of Seed/Acre-----			
10,000 (large seed)	109	131	152	174
12,000	91	109	127	145
14,000 (average size)	78	93	109	124
16,000	68	82	95	109
18,000	61	73	85	97
20,000 (small seed)	54	65	76	87

## Grain Drill Calibration - Seeds per foot of row

Grain Drill Row Width	-----Seeds per Square Foot-----			
	25	30	35	40
	-----Seeds per Drill Row Foot Needed-----			
6 inches	13	15	18	20
7.5 inches	16	19	22	25
8 inches	17	20	23	27
10 inches	21	25	29	33

## Recommended Planting Dates for Arkansas

Region	Planting Date
North Arkansas	October 1 – November 1
Central Arkansas	October 10 – November 10
South Arkansas	October 15 – November 20

## Determining Final Plant Stands:

- Count the number of plants in one ft<sup>2</sup> in at least 10 random locations in the field.
- Desired stand is >20 plants/ft<sup>2</sup>.
- With good tillering and uniform stand, 10 plants/ft<sup>2</sup> can give optimum yields.

## Seed Treatments:

- Systemic seed insecticides for control of Hessian fly and aphids to control Barley Yellow Dwarf Virus are generally not recommended unless planting early.

- Systemic seed applied fungicides are recommended to control loose smut and seedling pathogens

## Weed Control: Refer to MP44 for latest Rec's

- Ryegrass resistance confirmed to Group 1 (Axial, Select Max), Group 2 (Powerflex, Osprey) and Group 9 (Glyphosate) Herbicides.
- Resistant ryegrass infestations require a program approach. This includes tillage/herbicide of first “flush” of ryegrass followed by sequential program of Axiom, Axiom + Prowl, or Zidua/Anthem Flex in fall followed by Axial Bold in spring. **Residuals are key!** One year fallow without allowing seed production typically reduces soil seed bank 95%.

## Timing for Common Wheat Herbicides

Herbicide	Timing	Remarks
Finesse 75 DF	Immediately after planting for ryegrass	Only follow with STS soybeans.
Axiom 68 DF	Spike to 2-leaf wheat.	Plant a metribuzin tolerant variety. Seed wheat 1 inch deep or more. No aerial applications.
Axial Bold 0.69 EC	2-leaf to pre-boot wheat, 1-leaf to 2-tiller ryegrass.	60 day PHI. Do not tank mix with 2,4-D.
Osprey 4.5 WDG	Emergence to jointing on wheat. 4-leaf to 2-tiller ryegrass.	See label for N restrictions.
Prowl H <sub>2</sub> O 3.8 CS	1-leaf to 4 tiller wheat.	Plant seed 0.5 to 1.0 inch deep.
PowerFlex HL 13 DG	3-leaf to jointing wheat.	See label for N restrictions.
2,4-D amine or LV esters	In spring between tiller completion and jointing stage.	Apply when temperatures are above 60°F and no rain for 12 hours.

Harmony Extra 50 SG	2-leaf to prior to flag leaf emergence.	Wild garlic 6"-12" tall.
Zidua 4.17 SC/ Anthem Flex 4.0 SE	Delayed PRE to 4 tiller wheat.	Seed wheat >0.5 inch deep; must be germinated.
Quelex 20 DF	2 leaf to flag leaf emergence.	60 day PHI. Only 1 application per year.

#### Disease Management:

- Varieties resistant or moderately resistance to Fusarium head blight (scab), bacterial streak, leaf rust and stripe rust should be planted.
- Fungicides should be applied when disease is present, or weather conditions favor disease development.
- Effective fungicide application for scab must be made prior to disease development. The timing application is critical (beginning of flowering up to 5 days after).  
Refer to <http://www.wheatcab.psu.edu/> For estimated scab pressure at flowering for your area.
- Refer to MP 154 for the latest fungicide recommendations.

#### Timings and Efficacy for selected Wheat Fungicides against Stripe Rust (SR) Leaf Rust (LR) and Scab

Fungicide	Pre-harvest intervals (PHI)	Rating*		
		SR	LR	Scab
Propiconazole	Not after Feekes 10.5	VG	VG	P
Delaro**	Not after Feekes 10.5, 35-day PHI.	VG	VG	NL
Aproach Prima**	45 -day PHI	E	VG	NR
Quilt Xcel**	Not after Feekes 10.5.4.	E	E	NL
Stratego YLD**	Not after Feekes 10.5, 30 -day PHI.	VG	VG	NL
Prosaro Pro	30-day PHI.	E	E	G
Sphaerex	30 -day PHI.	E	E	G
Absolute Maxx SC**	35 -day PHI.	VG	E	NL
Tebuconazole	30-day PHI.	E	E	F
Priaxor**	Not after Feekes 10.5.	VG	VG	NL
Trivapro**	Not after Feekes 10.5.4.	E	E	NL

Miravis Ace	Not after Feekes 10.5.4.	VG	VG	G
Topguard EQ**	Not after Feekes 10.5.4. 30 -day PHI.	E	E	NL

\*Efficacy ratings: NL=Not Labeled; NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent. \* In situations where varieties are very susceptible, fungicides may not provide expected disease control. \*\* Products containing strobilurin fungicides can increase deoxynivalenol (DON) levels in grain. Application of these products after Feekes 9 is not recommended.

#### Insect Control:

##### Treatment Levels

- Armyworm:
  - 6/ft<sup>2</sup> in fall, head cutting in spring.
- Grasshopper – When damage is occurring.
- Cereal Leaf Beetle – 1/ stem.
- Aphids – Plant height dependent.
- Refer to MP 144 Insecticide Recommendations for Arkansas for latest insecticide recommendations and thresholds.

#### Fertility:

##### Nitrogen (N) Recommendations:

Soil Texture	Previous crop	Fall-N rate	Late-winter N rate <sup>1</sup>	Total-N rate
		----- lb N/acre -----		
Silt and sandy loams	Fallow	0	90	90
	Rice	45	120	165
	All other <sup>2</sup>	0	120	120
Clay and Clay loams	Fallow	0	140	140
	Rice	45	140	185
	All other <sup>2</sup>	0	140	140

<sup>1</sup>Topdress late-winter N in one or two (3-4 weeks after first application) split applications beginning in early to mid-February.

<sup>2</sup> All other crops include corn, cotton, grain sorghum and soybeans.

##### Pre-plant N Considerations:

Fall seeded wheat generally does not require N fertilizer for establishment. However, fall applied N should be considered if wheat is:

- Late-planted. Consider 30 lb N/acre regardless of previous crop if planted after:

- November 1 for northern Arkansas (north of Hwy 64).
- November 10 for central Arkansas.
- November 20 for southern Arkansas (south of Pine Bluff).

- Wheat following flood-irrigated rice. Apply 45 lb N/acre pre-plant or shortly after planting or crop emergence.

#### Phosphorus (P) and Potassium (K) Recommendations:

Nutrient	Soil Test Level	Soil Test Value	Production System	
			Winter Wheat	Wheat and Double-Crop Soybean*
		ppm P	----- lb P <sub>2</sub> O <sub>5</sub> /acre -----	
Phosphorus	Very Low	<16	120	130
	Low	16–25	90	100
	Medium	26–35	50	70
	Optimum	36–50	0	0
	Above Optimum	≥51	0	0
		ppm K	----- lb K <sub>2</sub> O/acre -----	
Potassium	Very Low	<61	140	180
	Low	61–90	90	120
	Medium	91 - 130	60	80
	Optimum	131- 175	0	60
	Above Optimum	≥176	0	0
*Double-crop wheat P and K fertilizer recommendations include the recommendations for soybeans. The cumulative fertilizer rate can be applied in the fall.				

#### Sulfur (S):

If a field has a history of S deficiency, 20 lb S/ac should be applied in the initial late-winter N application.

#### Additional wheat production information and copies of this fact sheet are available at:

<https://uaex.uada.edu/farm-ranch/crops-commercial-horticulture/wheat/>  
<https://uaex.uada.edu/farm-ranch/crops-commercial-horticulture/verification/>  
<http://www.arkansascrops.uada.edu>

"Pursuant to 7 CFR § 15.3, the University of Arkansas System Division of Agriculture offers all its Extension and Research programs and services (including employment) without regard to race, color, sex, national origin, religion, age, disability, marital or veteran status, genetic information, sexual preference, pregnancy or any other legally protected status, and is an equal opportunity institution."