

2023 Facts:

- 12,137 acres planted (FSA Certified Acres)
- 80 bu/acre average yield (estimated)
- Average dates in the Verification Program
[Click here for more information about verification](#)
 - Planting Date: April 22
 - Emergence: April 29
 - Harvest: August 30
- 56 lbs = 1 bu
- 14% moisture is dry

Grain Sorghum Growth and Development:

	Average Growth and Development from the Verification Program		
	Days	Inches	Applications
Planting	0	0	~ April 22
VE	7	0	
V1	10	1	
V2	13	2	
V3	17	3	
V4	22	4	Sidedress Fertilizer
V5	26	5	
V6	30	7	
V7	35	9	Atrazine Cutoff (12 in)
V8	39	12	
Boot	66	36	Scout for Foliar Disease
Heading	73	49	
Flowering	76	53	Scout for Midge
Soft Dough	86	53	Scout for Headworms
Hard Dough	97	53	
Maturity	112	53	
Harvest	131	53	~ August 30

Seeding:

- Seed should be Concep treated to allow the use of metolachlor (Dual) herbicide

- Plant seed between 0.75 to 1.5 inches deep
- Plant when the soil temp is 65° @ 2 inches deep by 9:00 a.m. for three days
- Irrigated seeding rate should be 80,000 - 100,000 seeds/acre with a final plant population of 75,000 plants/acre, assuming 80% emergence
- Dryland seeding rate should be 75,000 seeds/acre with a final plant population of 50,000 - 60,000 plants/acre, assuming 80% emergence
- Consider an insecticide seed treatment such as Cruiser, Poncho, etc., for improving plant emergence

Grain Sorghum Seeding Rates

Seeding Rate (seeds per acre)	Row Spacing (inches)			Final Stand at 80% Emergence
	7"	30"	38"	
	--Seeds per 10 ft row--			
55,000	7.4	31.6	40.0	44,000
60,000	8.0	34.4	43.6	48,000
65,000	8.7	37.3	47.3	52,000
70,000	9.4	40.2	50.9	56,000
75,000	10.0	43.0	54.5	60,000
80,000	10.7	45.9	58.2	64,000
85,000	11.4	48.8	61.8	68,000
90,000	12.1	51.7	65.4	72,000
95,000	12.7	54.5	69.1	76,000
100,000	13.4	57.4	72.7	80,000

Determining Final Plant Populations:

- 30" rows measure 17 ft 5 in
- 38" rows measure 13 ft 9 in

Count plants in that distance and multiply by 1,000. This will equal plants per acre. Do this in at least ten stops in the field to get an accurate count. Example:

30" row, count 80 plants in 17 ft 5 in
 80 X 1000 = 80,000 plants per acre

Seeding Rate in Pounds/acre

Seeds/Acre	-----Seeds/Pound-----			
	11,000	13,000	15,000	17,000
	-----Pounds of Seed/acre-----			
60,000	5.5	4.6	4.0	3.5
70,000	6.4	5.4	4.7	4.1
80,000	7.3	6.21	5.3	4.7
90,000	8.2	6.9	6.0	5.3
100,000	9.1	7.7	6.7	5.9
110,000	10.0	8.5	7.3	6.3

Hybrid Selection:

2022-2023 Irrigated and Non-Irrigated yields in the Arkansas Grain Sorghum Hybrid Testing Program.

Hybrid	Irrigated Yield (bu/ac)	Non Irr. Yield (bu/ac)
Dekalb DKS 54-07	128	103
*Dekalb DKS 51-01	126	80
Dyna-Gro M71GR91	124	108
Pioneer 83P73	123	97
Dyna-Gro M67GB87	121	93
Pioneer 82P83	119	89
Dyna-Gro 72GB71	115	89
Dyna-Gro 63GB78	114	83

*NOT Sugarcane Aphid Tolerant

More information on Arkansas Grain Sorghum Hybrid Trials can be found at:

<https://aes.uark.edu/variety-testing/>

Fertilization:

Nitrogen (N):

- Apply ¼ to ½ of N immediately before or after planting
- Apply sidedress N between the V4 and V6 growth stage

Nitrogen Recommendation

Yield Goal (bu/ac)	---Units of N to apply/acre---	
	Sandy, Silt Loams	Clay
Dryland	110	150
90	110	150
110	135	175
≥130	160	200

Nitrogen sources:

- 32% UAN (1 gal = 3.5 lbs of N)
- Urea (46-0-0)
- DAP (18-46-0)
- Ammonium Sulfate (21-0-0-24)

Phosphorus (P) and Potassium (K):

P₂O₅ Recommendation

Yield Goal (bu/ac)	Soil Test P (ppm)			
	<16	16-25	26-35	≥36
	----- lbs of P ₂ O ₅ per acre -----			
Dryland	90	70	50	0
90	90	70	50	0
110	100	80	60	0
≥130	110	90	70	0

K₂O Recommendation

Yield Goal (bu/ac)	Soil Test K (ppm)				
	<61	61-90	91-130	131-175	>175
	----- lbs of K ₂ O per acre -----				
Dryland	140	90	60	0	0
90	140	90	60	0	0
110	140	100	70	0	0
≥130	150	100	70	40	0

Diseases and Fungicide Timing:

- Fungicides should only be applied when disease is present
- Plant resistant hybrids to help with anthracnose and target leaf spot

- [Check the MP 154 for the latest fungicide recommendations \(click for electronic copy\)](#)

Irrigation:

Potential Yield Reduction from Moisture Stress	
Growth Stage	% Yield Reduction
Emergence to V8	10 – 15
Boot to Flowering	30 – 50
Soft dough to maturity	10 – 20

Estimated Grain Sorghum Water Use	
Days after planting	Inches/day
0-30 (early plant growth)	0.05 – 0.10
30-60 (rapid plant growth)	0.10 – 0.20
60-80 (boot and flowering)	0.25 – 0.30
80-120 (grain fill to maturity)	0.25 – 0.10

Irrigation Termination

- Furrow Irrigation –when >50% of the heads are at hard dough and there is adequate moisture
- Pivot Irrigation –when >75% of the heads are at hard dough and there is adequate moisture

Herbicides:

- Make sure seed is treated with Concep prior to planting
- Apply metolachlor (Dual Magnum) PRE or others followed by atrazine plus Dual Magnum POST
- 1 qt of atrazine 4L = 1 lb of atrazine
- Do not apply more than 2.5 lb of atrazine in a season
- Do not apply atrazine after sorghum is 12 inches tall or taller
- Apply atrazine to healthy and growing grain sorghum to avoid injury

- There is a 10-month plant back on grain sorghum following fomesafen (Prefix, Flexstar)
- There is a 18-month plantback following Newpath
- [Check the MP 44 for the latest herbicide recommendations \(click for electronic copy\)](#)

Insects:

- [Check the MP 144 for the latest insecticide recommendations \(click for electronic copy\)](#)

Insect	Threshold
Whorl Feeders	3-6 larvae per whorl
Chinch Bug	When stand is threatened
Greenbug	Plants up to 6 inches – visible damage 6 inches to preboot – treat before entire leaves die Preboot to hard dough – treat when 2 or more entire leaves die
Sorghum Midge	1 adult midge per head when 25% - 30% of plants are flowering
Sugarcane Aphid	25% of plants infested with a colony of at least 50 aphids
Headworm Complex (Corn Earworm + Fall Armyworm)	1 larvae ½ inch long or longer per head
Sorghum Webworm	5 to 6 larvae per head
Stink Bug	5 per head from flowering to soft dough 16 per head during hard dough

More information and additional copies of this fact sheet are available at:

<https://www.uaex.uada.edu/farm-ranch/crops-commercial-horticulture/grain-sorghum/>
<https://www.uaex.uada.edu/farm-ranch/crops-commercial-horticulture/verification/>