CSU Grain and Forage Sorghum Research Updates

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CROPS TESTING PROGRAM

Colorado State University

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CSU Crops Testing Program Overview

Program Vision:

Conduct quality and relevant agronomic research to extend reliable, unbiased information to agriculture producers, industry, and researchers while training tomorrow’s agronomists.

Our testing encompasses grain, forage, and oilseed crops that either are currently or have the potential to be grown in CO.

We provide unbiased information for farmers and the agriculture industry.

We are the consumer reports for farmers.

Our Team:

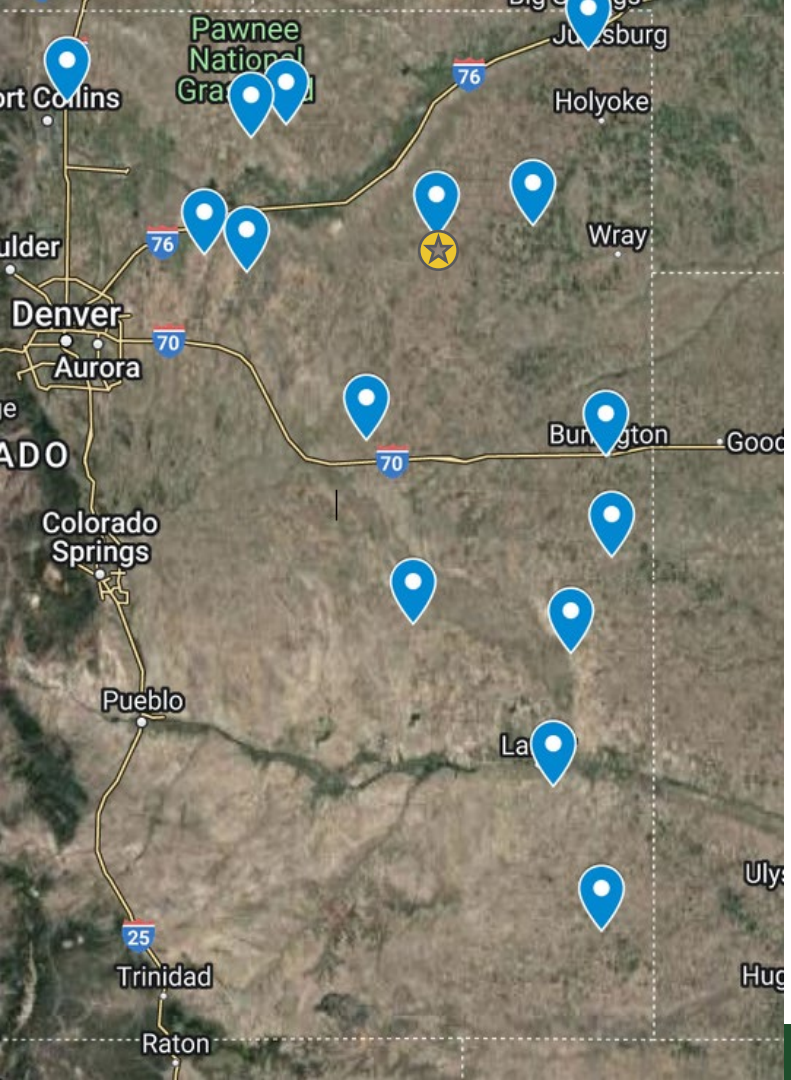
Sally Jones-Diamond

Jason Webb

Ed Asfeld

Judy Harrington

2 full-time summer interns and help manage 7 more



- **Program based in Akron, CO on USDA-ARS research center**

Types of Field Testing:

- Official Variety Performance Trials (OVT)
- Agronomy trials
  - Population, plant date, row spacing, etc.
- Product/Input trials
  - Fertilizer, soil amendments, seed treatments, etc.

Measure yield, quality, in-season growth characteristics

Select Yield Trial Results (who plants grain vs forage?)

2024 Rocky Ford Variety Trial Results

Variety	Brand	Yield				Moisture	Brix	Plant Height	Forage Type[c]	Relative Maturity[d]	Traits[e]
		Forage[b]	Dry Matter	Yield	4-Year Forage Avg.						
		tons/ac		% of test avg.	tons/ac	% at harvest	percent	in			
Fullgraze II	Dyna-Gro Seed	**28.1**	**9.8**	139%	31.0	68	9	153	SS	ML	-
Fullgraze II BMR	Dyna-Gro Seed	23.7	8.3	117%	26.3	71	12	144	SS	ML	BMR
Danny Boy II BMR	Dyna-Gro Seed	23.4	8.2	116%	29.2	80	9	133	SS	ME	BMR
Super Sile 30	Dyna-Gro Seed	23.4	8.2	116%	25.4	73	5	115	FS	ME	-
Super Sile 20	Dyna-Gro Seed	22.8	8.0	113%	27.4	76	10	137	FS	ML	-
Dynagraze II	Dyna-Gro Seed	22.1	7.7	109%	22.3	65	5	111	SS	ME	-
Excel II	Star Seed	21.4	7.5	106%	-	73	13	142	SS	L	-
F74FS23 BMR	Dyna-Gro Seed	21.2	7.4	105%	18.4	75	2	121	FS	M	BMR, BD
Dynagraze II BMR	Dyna-Gro Seed	21.1	7.4	104%	23.7	67	5	113	SS	ME	BMR
ADVFX 193	Alta Seeds	20.9	7.3	103%	-	74	2	103	FS	M	BMR
Super Sweet 10	Dyna-Gro Seed	20.3	7.1	100%	-	68	5	112	SS	M	-
F72FS05	Dyna-Gro Seed	20.3	7.1	100%	22.1	73	3	92	FS	ME	-
Cadan	Browning Seed	20.2	7.1	100%	-	64	15	140	SS	M	WMR
F75FS13	Dyna-Gro Seed	20.2	7.1	100%	-	71	3	110	FS	M	-
ADVF 8322	Alta Seeds	20.0	7.0	99%	22.1	72	0	91	FS	M	SCA
SweetTon MS	Dyna-Gro Seed	18.7	6.5	92%	22.9	71	8	106	GS	ML	SCA
Drylander	Star Seed	18.0	6.3	89%	-	80	6	126	SS	PS	BMR
FX24067	Dyna-Gro Seed	17.9	6.3	89%	-	77	1	134	-	-	-
F71FS72 BMR	Dyna-Gro Seed	17.6	6.2	87%	18.3	69	2	83	FS	E	BMR
F74FS72 BMR	Dyna-Gro Seed	17.5	6.1	87%	17.1	75	4	77	FS	M	BMR
ADVF 7232	Alta Seeds	17.5	6.1	87%	-	75	1	76	FS	M	SCA, BMR, BD
FX24015	Dyna-Gro Seed	17.1	6.0	84%	-	71	9	109	-	-	-
3 Little Indians	Browning Seed	16.0	5.6	79%	-	68	1	115	FS	M	-
Quick Chop	Star Seed	15.9	5.6	78%	-	72	11	104	FS	E	BMR
	Average	**20.2**	**7.1**	**100%**	**23.6**	**72**	**6**	**114**			
	[e]LSD (0.30)	1.8	0.6								

2024 Rocky Ford Variety Trial Results

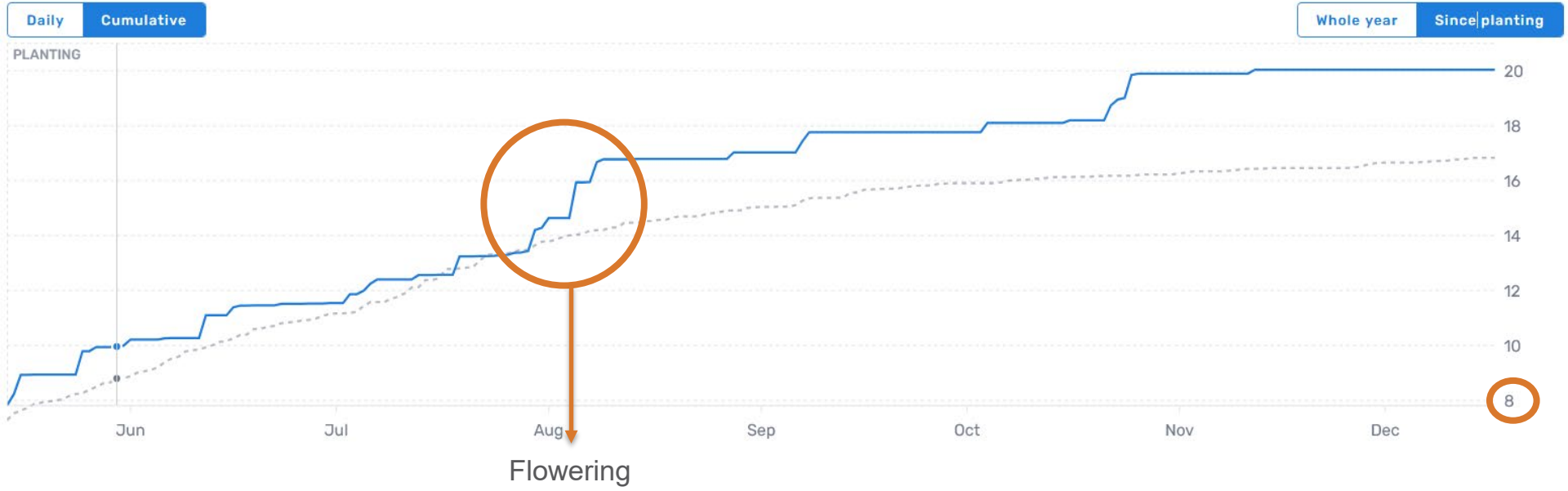
		Forage Quality[a]												
Variety	Brand	RFQ	CP	aNDFom	Lignin	WSC (Sugar)	Starch	Ash	Fat	NDFD 30hr	NDFD 240hr	TDN	NEL	Milk/Ton
		percent											Mcal/cwt	lb/ton
Fullgraze II	Dyna-Gro Seed	82	7.1	67	5.5	7.3	3	4	2	52	68	63	58	2433
Fullgraze II BMR	Dyna-Gro Seed	96	7.0	61	6.0	8.9	5	8	2	55	69	64	58	2458
Danny Boy II BMR	Dyna-Gro Seed	89	8.0	63	6.5	6.7	1	12	2	56	69	63	52	2117
Super Sile 30	Dyna-Gro Seed	84	7.2	58	4.5	9.6	6	7	2	49	66	64	58	2398
Super Sile 20	Dyna-Gro Seed	89	7.2	58	4.9	9.4	6	7	2	51	67	64	59	2455
Dynagraze II	Dyna-Gro Seed	119	7.8	44	5.1	9.5	25	7	2	42	59	66	68	2943
Excel II	Star Seed	82	6.7	57	5.3	8.4	11	9	2	47	65	64	56	2262
F74FS23 BMR	Dyna-Gro Seed	110	7.1	50	5.2	8.8	20	9	2	50	64	66	62	2647
Dynagraze II BMR	Dyna-Gro Seed	112	8.0	50	6.6	8.4	20	6	2	47	65	66	66	2882
ADVFX 193	Alta Seeds	128	7.2	45	4.8	9.9	25	8	2	50	64	67	66	2937
Super Sweet 10	Dyna-Gro Seed	103	7.8	47	5.6	9.7	21	7	2	40	58	66	65	2760
F72FS05	Dyna-Gro Seed	81	6.8	53	5.2	6.9	15	9	2	45	64	65	60	2453
Cadan	Browning Seed	100	7.3	52	5.6	8.6	19	6	2	45	62	65	64	2717
F75FS13	Dyna-Gro Seed	122	8.5	47	4.6	10.1	20	5	2	48	64	66	68	3047
ADVF 8322	Alta Seeds	98	7.0	56	5.8	7.1	17	7	2	51	67	65	61	2580
SweetTon MS	Dyna-Gro Seed	136	7.7	42	4.2	13.1	19	7	3	46	63	67	69	3096
Drylander	Star Seed	92	7.6	65	5.8	6.4	3	8	2	58	72	64	55	2320
FX24067	Dyna-Gro Seed	91	8.3	59	5.5	6.9	9	9	2	52	68	64	57	2363
F71FS72 BMR	Dyna-Gro Seed	144	7.3	41	5.3	10.8	25	8	2	50	64	67	69	3115
F74FS72 BMR	Dyna-Gro Seed	126	8.6	49	4.6	7.8	18	11	2	61	73	66	63	2823
ADVF 7232	Alta Seeds	132	9.6	50	5.5	7.8	19	9	2	60	71	66	65	2939
FX24015	Dyna-Gro Seed	111	6.9	42	4.8	10.7	22	7	2	40	59	66	68	2934
3 Little Indians	Browning Seed	96	7.8	53	5.7	7.6	17	7	2	46	64	65	62	2594
Quick Chop	Star Seed	97	6.6	54	3.7	11.2	7	12	2	54	68	65	57	2343
		105	**8**	**53**	**5**	**9**	**15**	**8**	**2**	**50**	**65**	**65**	**62**	**2651**

2024 Walsh Variety Trial Results

Variety	Brand	Yield: Forage[b]	Yield: Dry Matter	Yield	Moisture	Brix	Plant Height	Plant Density	Forage Type[c]	Relative Maturity[d]	Traits[e]
		tons/ac		% of test avg.	% at harvest	percent	in	plants/ac			
F72FS05	Dyna-Gro Seed	**11.1**	**3.9**	138%	59	22	50	47,500	FS	ME	-
Super Sile 20	Dyna-Gro Seed	**10.0**	**3.5**	125%	64	17	72	39,500	FS	ML	-
Super Sile 30	Dyna-Gro Seed	9.4	3.3	118%	62	13	55	34,000	FS	ME	-
FX24015	Dyna-Gro Seed	9.3	3.2	116%	56	14	80	42,000	-	-	-
Fullgraze II	Dyna-Gro Seed	9.1	3.2	115%	61	19	95	44,500	SS	ML	-
NK300	Sorghum Partners	9.0	3.2	113%	52	14	48	44,500	FS	ME	-
F75FS13	Dyna-Gro Seed	8.8	3.1	110%	60	20	76	49,500	FS	M	-
F71FS72 BMR	Dyna-Gro Seed	8.4	2.9	105%	56	12	58	36,500	FS	E	BMR
SP2606 BMR	Sorghum Partners	8.2	2.9	103%	59	11	52	37,000	FS	E	BMR
Fullgraze II BMR	Dyna-Gro Seed	8.2	2.9	103%	64	19	89	32,000	SS	ML	BMR
SS405	Sorghum Partners	8.2	2.9	102%	64	20	78	34,500	FS	L	-
Quick Chop	Star Seed	8.1	2.8	101%	57	14	74	35,000	FS	E	BMR
SweetTon MS	Dyna-Gro Seed	7.9	2.8	99%	64	25	74	37,500	GS	ML	SCA
FX24067	Dyna-Gro Seed	7.8	2.7	98%	62	16	72	33,500	-	-	-
Cadan	Browning Seed	7.8	2.7	98%	55	10	97	41,500	SS	M	WMR
F74FS72 BMR	Dyna-Gro Seed	7.8	2.7	97%	58	20	42	37,000	FS	M	BMR
Drylander	Star Seed	7.7	2.7	96%	71	17	72	42,500	SS	PS	BMR
Excel II	Star Seed	7.7	2.7	96%	65	19	77	46,500	SS	L	-
F74FS23 BMR	Dyna-Gro Seed	7.6	2.7	95%	66	21	62	29,000	FS	M	BMR, BD
ADVFX 193	Alta Seeds	7.4	2.6	93%	64	11	59	32,000	FS	M	BMR
Danny Boy II BMR	Dyna-Gro Seed	7.2	2.5	91%	72	17	71	38,000	SS	ME	BMR
SP2707 DT	Sorghum Partners	7.1	2.5	89%	56	15	38	32,000	FS	ME	DT
3 Little Indians	Browning Seed	7.0	2.4	87%	55	13	89	32,000	FS	M	-
Super Sweet 10	Dyna-Gro Seed	6.3	2.2	79%	60	18	80	45,500	SS	M	-
Dynagraze II BMR	Dyna-Gro Seed	5.3	1.9	67%	60	21	78	41,500	SS	ME	BMR
Dynagraze II	Dyna-Gro Seed	5.3	1.9	66%	62	24	83	40,500	SS	ME	-
	Average	**8.0**	**2.8**	**100%**	**61**	**17**	**70**	**38,500**			

		Forage Quality[a]												
Variety	Brand	RFQ	CP	aNDFom	Lignin	WSC (Sugar)	Starch	Ash	Fat	NDFD 30hr	NDFD 240hr	TDN	NEL	Milk/Ton
		index	percent										Mcal/cwt	lb/ton
F72FS05	Dyna-Gro Seed	118	8.2	50	4.1	6.3	16	8	1	54	68	62	64	2828
Super Sile 20	Dyna-Gro Seed	108	8.5	53	3.8	5.4	13	8	1	52	68	59	61	2624
Super Sile 30	Dyna-Gro Seed	100	8.2	56	4.3	4.6	11	10	1	55	70	58	58	2446
FX24015	Dyna-Gro Seed	105	9.6	50	2.8	8.4	19	12	1	56	68	57	58	2466
Fullgraze II	Dyna-Gro Seed	77	6.4	64	4.1	4.9	3	8	1	51	65	53	54	2177
NK300	Sorghum Partners	129	8.0	48	3.6	7.9	20	8	1	56	69	63	66	2956
F75FS13	Dyna-Gro Seed	130	8.8	48	3.8	6.2	22	7	1	54	66	63	67	2993
F71FS72 BMR	Dyna-Gro Seed	130	8.9	45	3.9	8.7	22	10	1	54	65	62	64	2867
SP2606 BMR	Sorghum Partners	137	8.0	46	3.7	7.4	21	10	1	61	71	64	65	2924
Fullgraze II BMR	Dyna-Gro Seed	115	8.7	56	4.4	5.5	8	9	1	61	72	62	60	2659
SS405	Sorghum Partners	110	8.4	53	4.8	7.0	11	8	1	52	68	59	61	2618
Quick Chop	Star Seed	123	8.6	50	3.8	6.8	15	10	1	57	70	62	62	2744
SweetTon MS	Dyna-Gro Seed	111	9.2	52	2.8	8.4	12	10	1	56	69	59	60	2579
FX24067	Dyna-Gro Seed	107	7.8	53	4.6	5.7	14	9	1	52	67	58	60	2542
Cadan	Browning Seed	77	7.0	62	5.3	3.1	9	8	1	49	64	53	55	2202
F74FS72 BMR	Dyna-Gro Seed	133	9.5	52	5.2	4.4	10	8	1	62	74	65	64	2914
Drylander	Star Seed	115	9.4	57	5.6	2.7	4	10	1	63	78	62	59	2587
Excel II	Star Seed	105	8.4	55	3.8	5.9	8	10	1	58	70	59	58	2476
F74FS23 BMR	Dyna-Gro Seed	134	10.0	51	3.8	6.7	9	10	1	63	74	63	62	2781
ADVFX 193	Alta Seeds	119	8.8	56	4.8	4.8	8	10	1	62	72	62	60	2628
Danny Boy II BMR	Dyna-Gro Seed	107	9.1	53	3.7	2.9	2	16	1	65	74	58	53	2237
SP2707 DT	Sorghum Partners	118	8.4	52	3.9	6.3	17	9	1	55	70	60	62	2694
3 Little Indians	Browning Seed	119	8.1	48	4.9	7.1	21	7	1	49	64	61	65	2829
Super Sweet 10	Dyna-Gro Seed	109	7.6	52	5.2	7.8	19	6	1	49	65	60	64	2797
Dynagraze II BMR	Dyna-Gro Seed	125	8.5	51	4.9	7.3	16	7	1	57	70	63	65	2927
Dynagraze II	Dyna-Gro Seed	71	6.8	63	5.4	4.6	8	10	1	50	66	50	52	1986
	Average	**113**	**8.4**	**53**	**4.3**	**6.0**	**13**	**9**	**1**	**56**	**69**	**60**	**61**	**2634**

Disclaimer: 2024 Akron Precipitation



2024 Akron Dryland Grain Trial

Site Information

Collaborator:	USDA-ARS Central Great Plains Research Center
Planting Date:	May 28, 2024
Harvest Date:	October 25, 2024
Fertilizer:	Pre-emerge: N at 50 lb/ac
Herbicide:	Pre-plant: ValorSX at 2 oz/ac, dicamba at 6 oz/ac, and glyphosate at 32 oz/ac
Previous Crop:	Winter wheat
Soil Type:	Keith-Kuma complex
GPS Coordinates:	40.161705, -103.1419429
Trial Comments:	Planted into excellent moisture into very heavy wheat residue. Average stands and emergence. Average flowering by date of Aug. 15th. Very timely and frequent rainfall allowed for excellent yield. Good weed control throughout the season. No lodging noted at harvest. First frost date was Oct. 14th. Radar estimates showed the trial received 9.74 inches of rain from planting to harvest, and 18.57 inches since January 1st, which is 120% of the ten-year average (year-to-date).

2024 Akron Official Variety Trial Results

Brand	Hybrid	Grain Yield[a]	Yield	2-Year Avg. Yield	Test Weight	Moisture	Emerged Plant Population	Harvest Population[b]	Tillering[c]	50% Bloom	Maturity Group[d]	Grain Color
		bu/ac	% of test avg.	bu/ac	lb/bu	percent	plants/ac	heads/ac	tillers/plant	days after planting		
BH Genetics	BH 3701C	**151.9**	111%	-	53.8	10.6	30,000	64,000	1.2	75	ME	Cream
Dyna-Gro Seed	M59GB94	**150.5**	110%	119	55.4	10.6	28,800	67,200	1.4	78	E	Bronze
DYNAGRO	M62GC23	**150.5**	110%	-	53.8	9.7	28,100	66,400	1.4	79	ME	Cream
Dekalb	DKS28-05	**148.9**	109%	129	54.5	9.0	24,000	73,300	2.1	70	E	Bronze
BH Genetics	BH 3520	**146.7**	107%	-	54.5	11.5	29,300	61,100	1.2	73	ME	Red
Channel Seed	5B70	**146.5**	107%	121	54.9	12.6	22,100	63,500	1.9	80	ME	Bronze
Dekalb	DKS29-95	**146.5**	107%	121	51.0	9.4	31,500	70,900	1.3	74	E	Dark Red
Dekalb	DKS28-07	**145.8**	107%	132	54.4	10.1	30,000	67,500	1.2	72	E	Bronze
Dekalb	DKS29-28	144.3	106%	124	55.0	9.7	27,100	67,100	1.5	70	E	Bronze
Channel Seed	5R45	143.0	105%	129	52.6	9.4	30,800	66,500	1.2	77	ME	Red
BH Genetics	BH 3818	142.4	104%	-	54.2	9.9	26,400	70,000	1.7	79	ME	Red
Dyna-Gro Seed	M59GB57	141.6	104%	111	54.5	8.8	27,300	64,200	1.4	71	E	Bronze
Pioneer	88P71	141.3	103%	116	54.9	10.6	30,800	60,800	1.0	73	E	Red
Dekalb	DKS28-16	140.9	103%	-	**58.7**	12.4	27,700	85,500	2.1	73	E	Bronze
LG Seeds	GA 2550R	140.3	103%	-	53.7	10.8	28,600	71,500	1.5	78	ME	Red
Sorghum Partners	SP 45A45 DT	138.9	102%	119	53.3	10.1	27,300	55,100	1.0	82	ME	Bronze
DYNAGRO	M62GB36	138.5	101%	-	53.7	12.8	23,500	62,500	1.7	89	M	Bronze
Hoegemeyer Seed	H6006	138.2	101%	-	55.8	11.1	27,100	71,600	1.7	71	ME	Red
Pioneer	89P52	137.4	100%	-	54.7	9.5	28,900	66,200	1.4	73	E	Red
Hoegemeyer Seed	H6020	137.1	100%	-	55.0	10.7	25,700	62,100	2.1	73	ME	Red
Sorghum Partners	SP 31A15	134.5	98%	120	50.4	9.6	24,900	44,800	0.9	79	ME	Red
Channel Seed	6B02	134.2	98%	-	51.9	9.7	22,700	58,500	1.8	81	ME	Bronze
Dyna-Gro Seed	M54GR24	134.0	98%	114	56.5	10.5	25,400	72,100	1.9	71	E	Red
Pioneer	86P20	133.7	98%	112	53.1	9.2	27,000	59,900	1.3	75	ME	Red
Channel Seed	5B29	133.6	98%	120	53.1	9.2	25,600	71,600	1.9	70	E	Bronze
LG Seeds	GA 1510C	132.6	97%	-	55.3	9.6	21,700	63,300	2.0	77	E	Cream
Sorghum Partners	SP 58M85 DT	130.8	96%	-	51.5	10.6	22,200	50,000	1.3	77	M	Bronze

Akron Dryland 4-Year Avg. (2020-2023)			
Hybrid	**Yield**	**Test Weight**	**Observed Days to Bloom**
DKS28-05	71.3	56.1	72
DKS29-28	70.5	56.6	74
SP 31A15	68.5	55.4	77
M54GR24	63.7	57.4	72
M59GB57	63.6	56.0	72
M59GB94	62.1	56.4	78
SP 43M80	60.6	57.1	77
M60GB31	34.2	50.5	85
Average	**61.8**	**55.7**	**76**

COLORADO SORGHUM ASSOCIATION

2024 Walsh Dryland Grain Trial

Site Information

Collaborator:	Plainsman Research Center: (Zane Jenkins, Brett Pettinger, Perry Jones)
Planting Date:	May 24, 2024
Harvest Date:	December 12, 2024
Previous Crop:	Wheat
Herbicide:	Pre-plant: applied on 4/30: 32 oz/ac Makaze, 21 oz/ac Moccassin II, 5 oz/ac Carabiner, 1.1 lb/ac Atrazine 90WDG, 6.4 oz/ac Staredown
Soil Type:	Wiley Loam
GPS Coordinates:	37.434301, -102.3102
Comments:	Precipitation Planting to First Freeze: 11.14" total (May: 0.05", June: 4.80", July: 1.99", Aug: 2.64", Sep: 1.66", Oct: 0")

SOIL AND CROP SCIENCES
COLORADO STATE UNIVERSITY

2024 Dryland Grain Sorghum Hybrid Performance Trial at Walsh

CROPS TESTING PROGRAM

Brand	Hybrid	Grain Yield[a]	Yield	Test Weight	Moisture	Plant Lodging	Emerged Plant Population	Heads at Harvest	Tillering	Maturity Group[b]	Grain Color
		bu/ac	% of test average	lb/bu	percent	percent	plants/ac	heads/ac	tillers per plant		
BH Genetics	BH3818	**58.9**	125%	61.4	12.4	0	19,000	29,000	0.5	ME	Red
BH Genetics	BH4220	**58.2**	123%	61.7	12.4	2	18,500	15,000	0.0	ME	Bronze
Dyna-Gro	M59GB57	**57.4**	122%	61.5	12.5	2	19,000	20,000	0.1	E	Bronze
Dekalb	DKS38-16	**56.6**	120%	**62.7**	12.7	2	18,500	25,500	0.4	ME	Bronze
BH Genetics	BH3701C	**54.6**	116%	61.5	12.5	1	22,500	23,000	0.0	ME	Cream
LG Seeds	GA2630C	**54.3**	115%	61.6	12.4	1	24,500	20,000	0.0	ME	Cream
Dekalb	DKS29-28	**54.2**	115%	61.8	12.5	2	19,500	24,500	0.3	E	Bronze
Sorghum Partners	SP43M80	**53.6**	114%	62.2	12.5	2	22,500	18,500	0.0	ME	Bronze
Dyna-Gro	M62GC23	**53.3**	113%	61.6	12.4	3	16,500	17,500	0.1	ME	Cream
Pioneer	86P20	51.7	110%	61.7	12.2	0	23,500	37,500	0.6	ME	Red
Dyna-Gro	M54GR24	50.5	107%	61.7	12.4	1	24,500	32,000	0.3	E	Red
Sorghum Partners	SP58M85DT	50.5	107%	61.8	12.4	1	16,500	28,000	0.7	M	Bronze
Dekalb	DKS28-05	50.3	107%	61.1	12.2	2	20,000	26,500	0.3	E	Bronze
Richardson Seeds, Ltd	G1156	49.8	106%	59.7	11.9	1	18,500	28,000	0.5	E	White
Dekalb	DKS36-07	49.3	105%	61.3	12.5	1	21,000	18,000	0.0	ME	Bronze
Dekalb	DKS28-07	49.0	104%	61.0	12.4	3	23,500	28,500	0.2	E	Bronze
Dyna-Gro	M60GB88	47.9	102%	61.2	12.6	5	16,000	23,500	0.5	ME	Bronze
Dekalb	DKS29-95	47.1	100%	61.1	12.2	2	17,500	18,000	0.0	E	Dark Red
Rob See Co	GS6455	45.5	96%	61.2	12.4	0	29,000	32,000	0.1	ME	Bronze
Rob See Co	GS5423	45.2	96%	60.4	12.1	1	23,000	27,500	0.2	E	Bronze
Dekalb	DKS28-16	44.6	95%	62.1	12.5	3	23,500	25,500	0.1	E	Bronze
Sorghum Partners	SP45A45DT	44.5	94%	62.0	12.3	0	24,500	31,500	0.3	ME	Bronze
Sorghum Partners	SPHF273DT	44.5	94%	61.7	12.5	1	20,500	36,500	0.8	-	Bronze
Dyna-Gro	M59GB94	44.0	93%	61.6	12.5	1	20,000	9,500	0.0	ME	Bronze

Walsh Dryland 4-Year Avg. (2020-2023)

Hybrid	Yield	Test Weight	Observed Days to Bloom
M59GB94	78.3	59.7	65
DKS36-07	75.9	58.3	68
SP 43M80	71.3	59.5	67
SP 31A15	70.4	58.5	64
DKS29-28	64.9	59.0	62
M60GB88	60.9	58.7	66
DKS29-95	60.3	58.3	64
M59GB57	59.1	58.4	60
DKS28-05	58.7	58.3	60
M60GB31	56.0	59.2	75
M54GR24	52.9	59.1	62
M63GB78	51.4	58.5	74
Average	**63.4**	**58.8**	**65**

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2024 Sheridan Lake Dryland Grain Trial

Site Information

Collaborator:	Scherler Farms
Planting Date:	May 18, 2024
Harvest Date:	October 15, 2024
Fertilizer:	Pre-plant: N at 50 lb/ac
Herbicide:	Brawl II at 1.33 pt/ac and glyphosate at 32 oz/ac applied on May 18. Glyphosate at 1 qt/ac on June 7 and July 22 applied with hooded sprayer.
Soil Type:	Wiley loam
GPS Coordinates:	38.5232807, -102.4708509
Trial Comments:	Planted 1.5" deep into moisture. Average stands and emergence. Heavy sandbur weed pressure, which was 70% controlled in harvested rows by pre-emerge herbicide two applications of glyphosate with a hooded sprayer, and one round of hand-labor. Trial average flowering date of July 29th. Radar estimates showed the trial received about 7.3 inches of rain from planting to harvest, and 10.1 inches since January 1st, which was 67% of the ten-year average (year-to-date).

2024 Dryland Grain Sorghum Hybrid Performance Trial at Sheridan Lake

Brand	Hybrid	Grain Yield[a]	Yield	2-Year Avg. Yield	Test Weight	Moisture	Emerged Plant Population	Harvest Population[b]	Tillering[c]	50% Bloom	H
		bu/ac	% of test avg.	bu/ac	lb/bu	percent	plants/ac	heads/ac	tillers/plant	days after planting	i
DYNAGRO	M62GC23	**56.0**	135%	90	56.9	9.1	36,400	34,900	0.0	74	
Golden Acres	GA 2630C	**51.9**	125%	84	56.7	10.2	33,700	32,600	0.0	73	
BH Genetics	BH 3701C	50.5	122%	-	56.3	8.8	35,800	36,700	0.0	73	
Channel Seed	5B70	50.3	121%	89	59.2	11.6	25,500	30,700	0.2	76	
Dyna-Gro Seed	M59GB94	50.0	121%	83	59.2	11.5	33,100	30,000	0.0	74	
Dekalb	DKS29-95	50.0	121%	79	56.3	9.3	34,400	35,900	0.1	73	
Sorghum Partners	SP 30A30 DT	46.4	112%	80	57.8	10.6	30,500	30,900	0.0	74	
Dekalb	DKS29-28	46.4	112%	74	58.6	10.4	37,900	39,100	0.0	71	
Dekalb	DKS36-07	44.8	108%	83	58.9	11.0	29,600	31,400	0.1	74	
Dekalb	DKS28-07	43.4	105%	73	56.0	9.3	34,400	39,200	0.1	69	
Channel Seed	5R45	43.4	105%	-	56.6	9.3	39,400	38,700	0.0	72	
Hoegemeyer Seed	H6020	43.1	104%	77	59.7	10.3	35,200	38,700	0.1	70	
Hoegemeyer Seed	H6037	42.5	102%	83	60.1	10.3	31,900	31,700	0.1	72	
Dyna-Gro Seed	M54GR24	42.2	102%	73	59.4	10.5	33,800	34,300	0.0	72	
Sorghum Partners	SPHF273 DT	41.7	101%	-	58.5	10.7	21,000	28,300	0.5	77	
Sorghum Partners	SP 58M85 DT	41.5	100%	-	57.0	9.3	31,500	30,700	0.0	71	
DYNAGRO	M62GB36	41.5	100%	-	58.3	11.0	25,200	26,800	0.1	80	
Dekalb	DKS38-16	41.3	100%	82	59.8	11.0	37,500	38,200	0.0	72	

Sheridan Lake Dryland 4-Year Avg. (2020-2023)				
Hybrid	**Yield**	**Test Weight**	**Observed Days to Bloom**	**Lodging %**
H6020	73.9	59.6	68	39
H6037	73.8	59.7	69	26
M59GB94	73.2	59.0	71	23
M60GB88	70.9	59.3	74	14
SP 31A15	69.9	58.8	72	12
M54GR24	68.6	59.1	68	12
DKS29-95	68.4	58.9	71	2
DKS28-05	67.9	59.2	66	23
SP 43M80	67.5	59.9	72	10
M59GB57	67.5	58.8	67	3
M60GB31	66.9	58.5	79	0
DKS29-28	65.4	59.3	68	1
Average	**69.5**	**59.2**	**70**	**14**

- Lodging based on 3 years of data

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Seibert Dryland 3-Year Avg. (2021-2023)				
Hybrid	Yield	Test Weight	Observed Days to Bloom	Lodging %
DKS28-05	42.8	56.9	69	24
DKS29-28	42.0	57.4	72	20
M54GR24	42.0	57.4	69	26
M59GB57	41.5	56.5	69	9
SP 43M80	41.5	58.0	73	11
DKS29-95	40.8	56.4	74	9
M59GB94	36.5	56.8	74	14
SP 31A15	36.1	56.1	76	20
M60GB31	35.2	57.1	81	9
Average	**39.8**	**57.0**	**73**	**16**

- Lodging based on 2 years of data

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SOIL AND CROP SCIENCES
COLORADO STATE UNIVERSITY

2024 Irrigated Grain Sorghum Hybrid Performance Trial at Wiggins

CROPS TESTING PROGRAM

Brand	Hybrid	Grain Yield[a]	Yield	2-Year Average Yield	Test Weight	Moisture	Plant Population	Maturity Group[b]	Grain Color
		bu/ac	% of test avg.	bu/ac	lb/bu	percent	plants/ac		
Dyna-Gro Seed	M59GB94	**153.9**	120%	140.5	**61.7**	13.6	52,800	E	Bronze
Channel Seed	5B70	**147.5**	115%	140.6	**62.2**	13.0	39,100	E	Bronze
BH Genetics	BH 3701C	142.9	111%	-	**61.6**	12.6	51,600	ME	Cream
Dyna-Gro Seed	M62GC23	142.9	111%	-	**62.3**	13.0	50,800	ME	Cream
Channel Seed	6B02	137.5	107%	128.9	61.4	13.4	40,500	ME	Bronze
Dekalb	DKS28-07	135.3	105%	-	59.5	11.5	44,400	E	Bronze
Pioneer	86P20	133.9	104%	138.1	**61.6**	12.5	43,300	ME	Red
Dekalb	DKS29-95	133.2	104%	-	60.5	12.1	52,000	E	Dark Red
Dyna-Gro Seed	M62GB36	131.6	102%	-	59.5	13.3	34,200	M	Bronze
Dekalb	DKS28-05	129.8	101%	-	59.6	11.9	37,600	E	Bronze
Dekalb	DKS28-16	128.9	100%	-	**61.8**	12.2	45,400	E	Bronze
Pioneer	88P71	126.4	98%	125.6	**62.4**	12.3	49,500	E	Red
Channel Seed	5R45	125.9	98%	132.1	**62.7**	13.4	40,300	ME	Red
Dyna-Gro Seed	M60GB31	123.4	96%	123.2	**62.6**	14.7	45,700	ME	Bronze
Golden Acres	GA 1510C	119.6	93%	112.6	61.0	12.2	43,700	E	Cream
Dekalb	DKS29-28	118.9	93%	-	**61.8**	12.5	44,900	E	Bronze
Dyna-Gro Seed	M59GB57	114.8	89%	117.2	60.9	11.8	42,100	E	Bronze
Golden Acres	GA 2550R	113.4	88%	-	**61.7**	12.7	46,700	E	Red
Richardson Seeds	G1156	104.8	82%	-	59.5	11.3	33,300	E	White
Dyna-Gro Seed	M54GR24	102.6	80%	105.5	**61.7**	11.8	48,000	E	Red
	Average	**128.5**	**100%**	**126.4**	**61.3**	**12.6**	**44,300**		
	[c]LSD (.30)	8.4			1.2				
	[c]LSD (.05)	16.1			2.2				

Hybrid Maturity Considerations

Maturity

- Days to mid-bloom provided in seed brochure is not exact
  - Not adjusted for our high elevation and latitude
- Add at least 10 days to mid-bloom dates provided by companies to get closer to actual for CO
- Need additional 30-45 days after bloom for grain-fill to reach maturity

Maturity

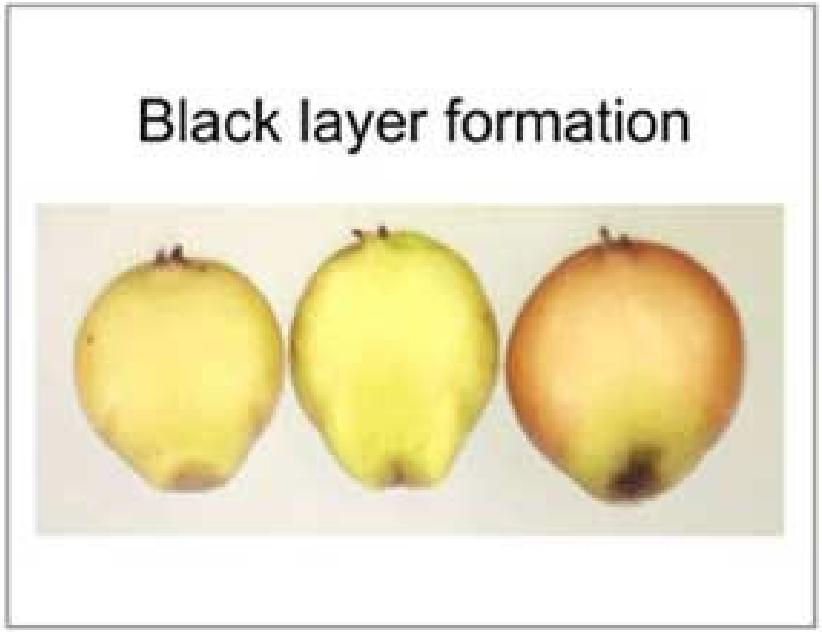


Photo credit: Dr. Ignacio Ciampitti, KSU

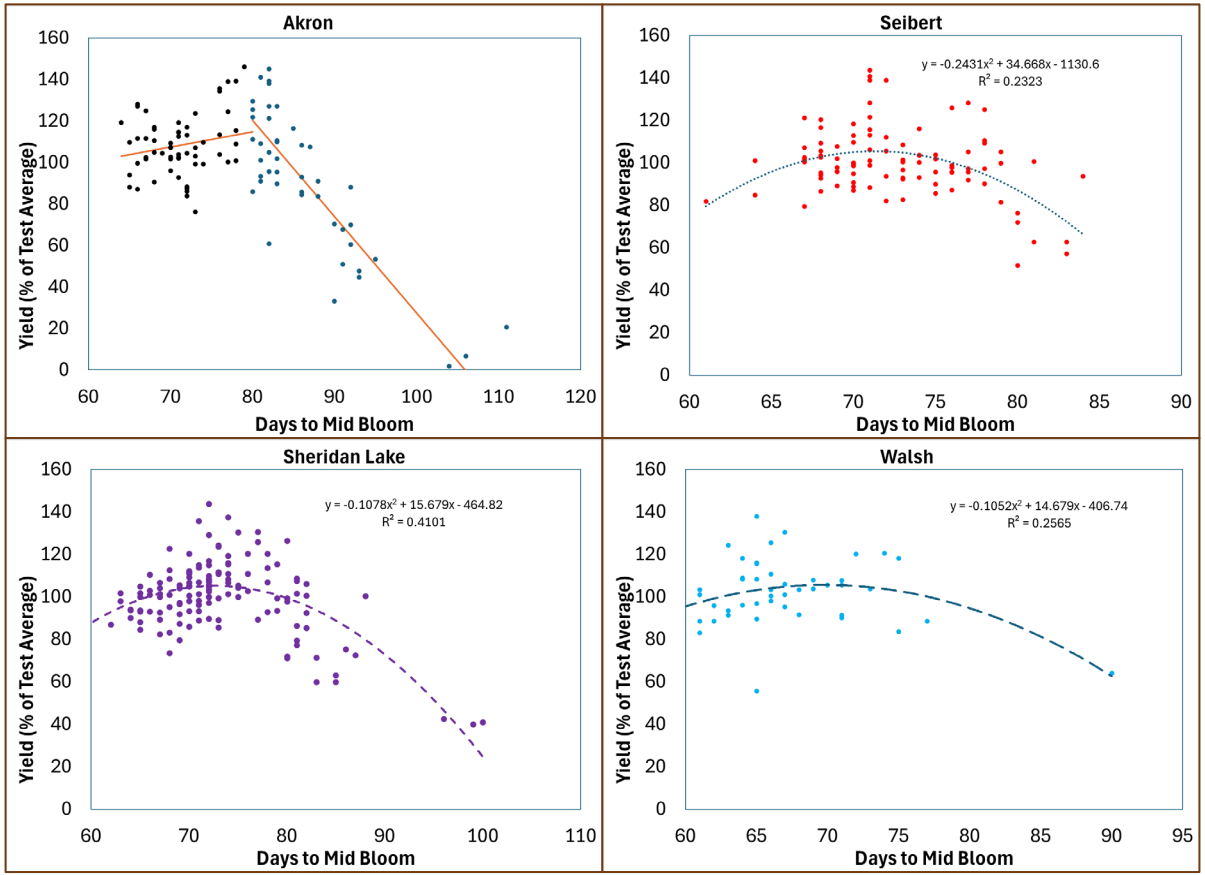
- Plant an early to med. early hybrid
  - Many are tested in our trials
- Consider avg. frost dates for your location and importance of test weight quality
- Seed heads turning color does not mean grain is mature
  - Where seed is connected to plant, there will be a black layer at maturity

Days to Mid-Bloom (observed vs estimated)

Observed Days to Mid-Bloom at Akron

Hybrid	2015	2018	2019	2021	2022	Company Est. Days to Bloom	Difference (days)
DKS28-05	66	76	78	68	66	57	9-21
M59GB57	71	76	76	67	68	59	8-17
AG1201	73	81	-	70	73	60	10-21
DKS29-28	-	71	79	71	67	58	9-21
M60GB88	75	85	81	74	-	60	14-25
SP 25C10	-	-	73	66	66	54	12-19
M60GB31	-	90	93	81	82	60	21-33
Average:							**16 days**

Hybrid Maturity – How long?



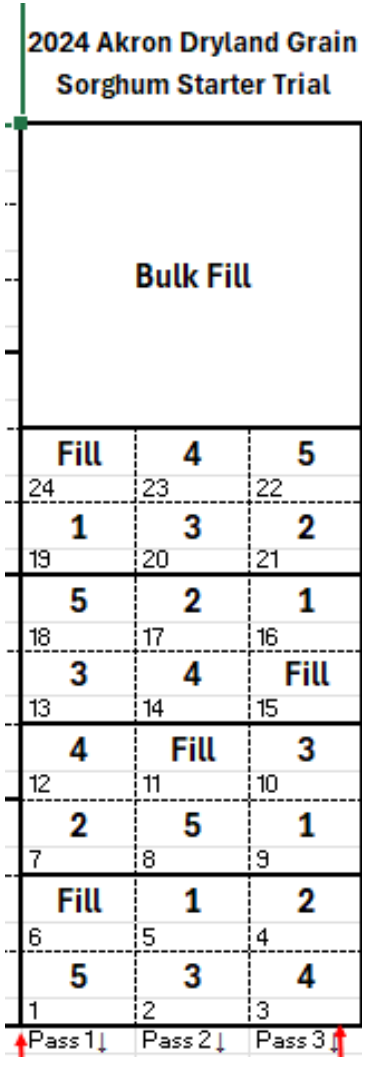
Final Notes on Maturity

- If you want plants to maturity more quickly and evenly:
  - Plant higher population to discourage tillers
  - Use wider row spacing
    - Within-row plant spacing will be closer
  - Plant reasonably early in season to accumulate heat units
  - Use early maturity hybrids
  - Make sure you have sufficient N

Fertilizer Starter Trials

Starter Fertilizer Trials

- Investigating a couple different questions:
  - Does starter matter?
  - Where to place it?
- Planted at Akron (5/28) and Seibert, data from Seibert was junk due to low rainfall and extreme field variation



2024 Dryland Milo Starter Trial
Performance Trial at Akron

Treatment	Yield (bu/ac)				Test Weight (lb/bu)	Moisture %	Emergence Population	Harvest Population
Lumen (5-15-3-.8 Zn) in-furrow 3 gal/ac	**160.4**	a			56.0	10.9	24,800	74,300
10-34-0 in-furrow 3.2 gal/ac	**159.7**	a			56.5	10.5	26,100	76,200
10-34-0 surface band 3.2 gal/acre	154.6		b		55.3	10.6	26,300	74,500
7-23-5 in-furrow 5 gal/ac	152.8		b	c	55.1	10.5	25,700	73,600
Untreated	149.7			c	54.5	10.0	24,500	71,800
Averages	**155.4**				**55.5**	**10.5**	**25,500**	**74,100**
LSD (0.10)	**3.7**							
Coefficient of Variation (CV)	**2.2%**							

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Starter Fertilizer Trial #2

- Questions:
  - Eastern CO often has issue with high pH, can we decrease pH in the root zone to increase nutrient availability?
    - Using ATS
    - Added sulfuric acid in ‘24
  - Started in corn originally, tried it in milo last year for fun
- We are hoping to partner with more fertilizer companies and co-ops to do this kind of research

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2024 Dryland Grain Sorghum Helena Input Trial Results at Akron

Treatment[a]	Application Rates	Application Type	Yield[b]		Test Weight	Population	Head Counts	Soil pH	Starting N
			bu/ac		lb/bu	plants/ac	heads/ac		lb/ac top 2'
ATS + Humic + Micros	5 gal/ac + 1 gal/ac + 3 pt/ac	Surface + In-Furrow	**165**	a	55.3	26,893	78,584	6.6	62
ATS + PGR	5 gal/ac + 1 pt/ac	Surface + In-Furrow	**163**	a b	54.8	27,325	77,653		
ATS + Humic	5 gal/ac + 1 gal/ac	Surface + In-Furrow	**162**	a b	55.6	26,215	78,293		
Strong Acid	2 gal/ac	Surface	**160**	a b	55.5	28,530	78,317		
Strong Acid + Humic	1 gal/ac + 1 gal/ac	Surface + In-Furrow	156	b c	55.2	25,598	78,152		
Grower Standard/Control	None	N/A	149	c	55.6	27,398	73,280		
Hybrid: M59GB57		**Average**	**158.9**		**55.3**	**26,993**	**77,380**		
		Replicates	4		4	4	4		
		Coefficient of Variation (CV)	2.5						
		P-Value	0.0518		0.0979	0.818	0.45		
Applied Fertilizer:									
Pre-Plant: N at 50 lb/ac									

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Sorghum

Our robust sorghum testing program consists of separate dryland and irrigated forage and grain sorghum hybrid performance trials. Trials mainly consist of varieties and hybrids entered and paid for by commercial seed companies. Sometimes hybrids that are widely grown in our region are added as commercial checks. Our sorghum trials are partially funded by the Colorado Sorghum Producers Association.

Upcoming Meetings:

Colorado Sorghum Growers meetings on Feb. 11 and 12th in La Junta, Burlington, Flagler, and Brush

2024 Sorghum Trial Results

Grain Sorghum Results:

- Akron Dryland
- Seibert Dryland – Trial lost to extreme field variation caused by drought
- Sheridan Lake Dryland
- Walsh Dryland
- Walsh Irrigated
- Wiggins Irrigated

Forage Sorghum Results:

- Rocky Ford
- Walsh

2024 Grain Sorghum Agronomy Trial Results:

- Planting Input Study – funded by Colorado Sorghum Producers

2022 Grain Sorghum Agronomy Trial Results:

- Akron Row Spacing – funded by

From a Case 1620 Combine to a Zurn 150
(life-changing!)


ZURN
ZURN 150

THANK YOU FOR YOUR CONTINUED SUPPORT OF OUR SORGHUM RESEARCH!!

COLORADO SORGHUM ASSOCIATION

SORGHUM CHECKOFF SM

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Thank you

Colorado State University