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Grain Sorghum Performance Trials

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Agronomy Guide

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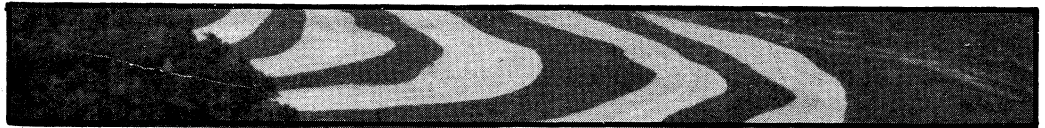
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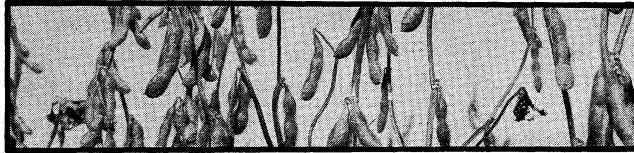
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AGRONOMY GUIDE



**PURDUE
UNIVERSITY**



Grain sorghum performance trials

AY-188

Sorghum

1969 and 1970 Purdue University Grain, Bird-Resistant and Forage Sorghum and Sorghum x Sudangrass Commercial Variety Performance Trials

*D. L. Oswalt, R. C. Pickett, W. D. Reiss
Department of Agronomy*

Commercial varieties of sorghum were tested during the 1969 and 1970 growing seasons at three locations in Indiana.

but not on bird resistant trials or at the northern locations.

GENERAL

The 1969 rainfall pattern provided almost ideal growing conditions, except during late August at the northern site. The 1970 rainfall was good except at the Purdue Agronomy Farm where a stress period occurred at the late boot stage of growth.

The grain trials were all made on fifteen-foot plots with a minimum of two row borders between lines of height difference greater than two feet and corn plots, using the randomized complete block design. Ten feet from the center of each row was harvested, using ten consecutive plants for leaf, stem and grain analysis. The forage trials were planted in six row plots with the center two rows harvested.

Insects were not a problem at any of the sites; and plots were fertilized according to soil tests to obtain high tests for all major nutrients.

In this report, all grain yields are reported as 56 lbs. per bushel at 15.5 percent moisture. The moisture content of the grain was determined at the time of threshing after it was dried to below 10 percent moisture and after standing at room temperature for at least five weeks to allow for equilibrium to be reached.

The two-cut and multi-cut trials of the grassy types were planted with a drill in seven-inch rows in a randomized complete block design harvesting ten by four-foot areas. One hundred fifty pounds of 33-0-0 were top dressed after each cutting except at the Sand Farm. No trials showed significant lodging at time of harvest.

Bird repellent was sprayed in 1969 and 1970 on yield trials at the Purdue Agronomy Farm and in southern Indiana,

In 1969 sorghum-sudan plots were harvested with a flail-type harvester on the Purdue Agronomy Farm. A hand sickle was used at the other locations

in 1969 and at all locations in 1970.

Information regarding row width, number of replications, planting and harvesting dates is recorded on the information tables of this report.

NORTHERN INDIANA SITE (1969):

The Purdue University Sand Farm is located in Marshall County near Culver. Little irrigation was required until mid-season, but a needed application of water in mid-August was not applied, and this resulted in early death of or severe wilting on nearly all experiments. All plots were under severe water stress late in the growing season, and severe stalk rot with considerable lodging to all varieties resulted. Stands were less uniform than desired due to planting and cultivating difficulties. The first cutting of the two-cut trials was not measured because of a heavy weed infestation, but the second cut results are included.

NORTHERN INDIANA SITE (1970):

The Pinney-Purdue Agricultural Center located in Porter-LaPorte Counties near Wanatah was used as a testing location for the first time. The growing conditions on the Tracy sandy loam were good as the amount and pattern of rainfall promoted good growth through-

out the season. Bird damage was very limited throughout the 13-acre field, and no spraying was required.

CENTRAL INDIANA SITE:

The Purdue Agronomy Farm is located in Tippecanoe County near Lafayette. The plots were very uniform, the fertility level was high and uniform and the rainfall pattern was good for excellent growth. Considerable amounts of basal tillering was noted in most all trial plots. The tillers matured at about the same time as the original plant heads and did not present a harvesting problem.

SOUTHERN INDIANA SITE:

The Southern Indiana Purdue Agricultural Research Center is located in northeast Dubois County near Dubois. Growing conditions were very good, as the rainfall pattern was almost ideal and the amount of rainfall quite adequate. The yields indicate the favorability of the growth at this location in 1969 and 1970, even on a soil that normally is droughty.

The following tables are selected from the complete report. Purdue University approves reproduction of these data only if they are not rearranged or abridged.

Historical

TABLE 1. 1969 COMMERCIAL GRAIN SORGHUM YIELD TRIAL AVERAGE

YIELDS AT ALL LOCATIONS(1). (Yields are bu(56 lb)/acre corrected to 15.5% moisture)								
Location	LAFAYETTE (2)					S. IND. (3)	N. IND. (4)	(SAND)
Planting date	May 6	May 6	May 7	May 7	June 17	May 3	May 15	May 15
Row spacing	30"	15"	15"&15"	10"&20"	30"	20"	24"	24"
Harvest date	9/30	9/30	9/25	9/25	10/21	9/11	10/16	10/16
No. reps	4	4	3	3	7	6	3	3
Entry	914	914	916	916	915	924	948(5)	948(6)
<u>DeKalb:</u>								
C48a	139.9	149.3						
E.-55	139.6	127.2						
A-25					109.8			
C42a					118.9			
BR44					139.0		72.1	35.2
F-65			147.8	121.7				
FS-24			111.3	105.4				
BR-64			133.2	131.4				
<u>McNair:</u>								
546							87.8	31.8
<u>Northrup King:</u>								
Savanna	144.7	122.7				126.0	86.9	40.3
222A	132.0	124.5	130.0	133.8		109.2	67.9	33.9
280	146.9	173.9				118.3		
X4041	156.2	132.4					86.2	48.2
300			141.3	149.0				
<u>Pioneer:</u>								
866	155.5	151.4	111.3	117.4	137.5	112.1		
846			148.2	120.6	122.6	105.7		
XB889			97.1	102.5			93.5	33.0
<u>Taylor-Evans:</u>								
Bird-a-boo	125.5	105.8					83.2	33.8
Mucho	153.6	120.1				102.3		
Exp. 18114	153.8	140.3				121.7		
Exp. 20107	151.0	124.8				75.3		
Exp. 18105	164.5	177.3	142.1	141.6			45.5	39.3
Exp. 11105	164.2	163.9			119.5		32.1	38.7
<u>Others:</u>								
RS610	154.4	127.3	99.7	82.4	134.8	102.3	76.0	36.7
<u>Corn:</u>								
UST3	148.2	188.6				162.1	89.1	21.1
Average	148.7	142.0	126.2	120.6	126.0	107.5	73.1	37.1
C.V.	2.2%	17.6%	18.9%	25.8%	6.5%	11.1%	14.6%	31.2%
L.S.D. (.05)	4.6	35.8	40.8	53.2	8.9	13.9	18.2	19.8
	bu	bu	bu	bu	bu	bu	bu	bu

(1) Two-row randomized complete blocks with two-row borders and six row corn plots.

(2) Applied 274 lb. N, 57 lb. phosphate, and 332 lb. potash/A plowed down plus 224 lb. N, 10 lb. potash and 50 lb. S applied on the high fertility plots planted May 7.

(3) Applied 100 lb. N, 80 lb. phosphate, and 80 lb. potash per acre.

(4) Broadcast 100 lb. potash before planting and applied 50 lb./A of N in June.

(5) Irrigated.

(6) Not irrigated.

TABLE 2. 1969 COMMERCIAL GRAIN SORGHUM BIRD DAMAGE TRIALS

Location		Lafayette (1)					Southern Indiana (2)					
Planting date		May 26					May 3					
Row spaces		30"					20"					
Harvest date		October 29					September 11					
No. reps		4					6					
Entry		918					928					
Character	Yield	Days	No. of	Bird	Yield	Days	No. of	Bird	Yield	Days	No. of	Bird
	bu/A	to				heads				dam-		
	15.5%	50%	per A	age	15.5%	50%	per A	age	15.5%	50%	per A	age
	(3)	bloom	(4)	%	(3)	bloom	(4)	%	(3)	bloom	(4)	%
		Height				Height				Height		
		inches				inches				inches		
DeKalb: BR64	150	73	65	98	0	139	83	60	93	1		
McNair: 546	126	69	56	92	0	117	75	50	94	5		
Northrup King: Savanna						125	73	54	94	2		
X4041						134	71	58	98	4		
Pioneer: XB889	119	69	54	106	0	118	79	52	101	2		
Taylor-Evans: Bird-a-boo	130	70	56	94	5	102	74	48	91	3		
Exp. 18105	51	74	66	102	70	13	83	70	88	90		
Exp. 11105	35	73	65	91	90	7	84	69	89	95		
Other: RS610	104	66	61	97	40	84	68	54	85	40		
Average	102	71	60	96	29	93	77	57	92	27		
C.V.	14.8%	2.0%	2.9%	7.7%		19.9%	1.3%	3.4%	6.8%			
L.S.D. (.05)	22.5	2.2	2.6	11		21.5	0.7	2.3	7			

- (1) Applied 518 lb/acre of nitrogen.
- (2) Applied 100 lb. N, 80 lb. of phosphate, and 80 lb. of potash per acre.
- (3) Not corrected for damage done by birds.
- (4) Counted all heads at harvest time reported as thousands per acre.

TABLE 3. 1969 COMMERCIAL GRAIN SORGHUM DRY WEIGHT AND PROTEIN CONTENT OF NORMAL GRAIN TRIALS (15") AT LAFAYETTE (1).

Company and variety	Plant parts	Grain yield bu/A	Dry weight		Protein		Thresh %	Number of plants/A (thousands)
			%	lb/A	%	lb/A		
<u>DeKalb:</u>								
C48a	Heads		64	12,030	9.9	930		
	Leaves		14	2,590	8.7	220		
	Stems		22	4,350	2.9	125		
	Total	162	47	18,970		1275	78	116.7
E-55	Heads		57	8,740	11.0	750		
	Leaves		16	2,490	9.8	240		
	Stems		27	4,550	3.1	130		
	Total	118	45	15,280		1100	76	115.0
<u>Northrup-King:</u>								
Savanna	Heads		58	8,870	10.7	680		
	Leaves		15	2,220	10.6	235		
	Stems		27	4,200	3.5	145		
	Total	139	44	15,290		1060	72	128.9
222A	Heads		58	9,020	10.3	675		
	Leaves		16	2,450	10.9	265		
	Stems		26	4,000	3.0	120		
	Total	126	42	15,470		1060	73	113.3
280	Heads		61	10,390	9.8	790		
	Leaves		14	2,410	9.7	230		
	Stems		25	4,280	2.9	120		
	Total	159	44	17,080		1140	77	115.0
X4041	Heads		59	8,940	12.0	780		
	Leaves		15	2,200	9.5	210		
	Stems		26	4,010	3.2	130		
	Total	137	51	15,150		1120	73	120.2
<u>Pioneer:</u>								
866	Heads		58	9,640	11.3	820		
	Leaves		14	2,390	9.9	235		
	Stems		28	4,620	3.2	150		
	Total	145	46	16,650		1205	75	130.7
<u>Taylor-Evans:</u>								
Bird-a-boo	Heads		59	6,650	12.0	555		
	Leaves		16	1,740	8.7	150		
	Stems		25	2,870	3.7	105		
	Total	99	46	11,260		810	70	122.0
Mucho	Heads		57	9,570	11.1	825		
	Leaves		14	2,310	10.8	250		
	Stems		29	4,830	3.0	145		
	Total	128	44	16,710		1220	78	137.7
Exp. 18114	Heads		57	9,410	10.1	905		
	Leaves		15	2,340	10.4	245		
	Stems		28	4,800	2.6	125		
	Total	133	44	16,650		1275	76	115.0
Exp. 20107	Heads		57	8,210	9.8	625		
	Leaves		14	2,670	9.0	185		
	Stems		29	4,080	2.9	120		
	Total	113	44	14,960		930	78	113.3

(continued next page)

TABLE 3. (continued)

Company and variety	Plant parts	Grain yield bu/A	Dry weight		Protein		Thresh %	Number of plants/A (thousands)
			%	lb/A	%	lb/A		
<u>Taylor-Evans:</u> (continued)								
Exp. 18105	Heads		58	14,000	9.5	995		
	Leaves		15	3,660	10.2	375		
	Stems		27	6,550	2.3	150		
	Total	185	46	24,210		1520	75	116.7
Exp. 11105	Heads		58	11,360	9.2	805		
	Leaves		16	3,100	9.7	300		
	Stems		26	4,960	2.6	130		
	Total	159	45	19,420		1235	76	108.0
<u>Others:</u>								
RS610	Heads		57	7,790	10.0	615		
	Leaves		15	1,930	10.1	195		
	Stems		28	3,750	2.6	95		
	Total	129	43	13,470		905	78	94.1
<u>Corn:</u>								
US13	Heads		59	9,960	8.7	710		
	Leaves		14	2,480	7.4	175		
	Stems		27	4,530	3.0	135		
	Total	174	41	16,970		1020	82	34.9
Average	Heads		58	9,640	10.3	763		
	Leaves		15	2,420	9.7	234		
	Stems		27	4,390	2.96	128		
	Total	140.5	45	16,450		1125	76	118.1
C.V. (%)	Heads		4.6	20.1	6.1	20.6		
	Leaves		15.3	19.4	8.0	18.1		
	Stems		3.8	20.2	10.2	24.4		
	Total	16.5	5.3	18.7		19.0	4.3	9.1
L.S.D. (.05)	Heads		3.7	4,150	1.4	337		
	Leaves		4.9	1,010	1.7	91		
	Stems		2.2	1,910	0.6	67		
	Total	49.8	5.1	6,610		460	7.1	23.6

(1) Only the grain from the two reps selected for division into heads, leaves and stems was used for the calculations of dry weight and protein analysis.

TABLE 4. 1969 FORAGE SORGHUM POUNDS OF DRY MATTER PRODUCED/A FROM ALL LOCATIONS.

		Location	Lafayette		So. Ind.	No. Ind.	
		Row width	30"	15"	20"	24"	24"
		Planting date	May 6	May 6	May 3	May 15	May 15
		Harvested	Sept. 5	Sept. 5	Aug. 25	Sept. 9	Sept. 9
		No. reps	4	4	6 (1)	4 (2)	3 (3)
Company & variety		Character	(911)	(911)	(921)	(941)	
<u>DeKalb:</u>	FS-24	Days to bloom	95	94			
		Height (in)	102	97			
		Lb. dry matter/A	15,900	17,900			
	FS-26	Days to bloom	105	104	93		
		Height (in)	135	126	135		
		Lb. dry matter/A	19,300	18,400	16,620		
<u>Grace:</u>	55-F	Days to bloom			85		
		Height (in)			130		
		Lb. dry matter/A			18,430		
<u>Pioneer:</u>	931	Days to bloom	101	100	93	117	120+
		Height (in)	168	147	173	103	87
		Lb. dry matter/A	23,600	25,700	24,490	16,120	11,590
	XF639	Days to bloom	96	94	90	105	101
		Height (in)	104	96	113	84	74
		Lb. dry matter/A	20,500	17,500	15,640	12,070	8,450
<u>Taylor-Evans:</u>	TDN	Days to bloom	103	101	91	111	120+
		Height (in)	106	102	104	76	58
		Lb. dry matter/A	19,200	13,500	16,060	13,400	7,010
<u>Others:</u>	SART	Days to bloom	112	112	113	117	120+
		Height (in)	152	142	139	112	63
		Lb. dry matter/A	14,300	15,100	17,360	11,340	6,130
	ATLAS	Days to bloom				100	100
		Height (in)				96	94
		Lb. dry matter/A				11,630	9,470
	NK300	Days to bloom	86	83			
		Height (in)	88	89			
		Lb. dry matter/A	14,800	17,500			
<u>Corn:</u>	Funk's G 4097	Days to bloom	78	78	80	84	85
		Height (in)	115	105	112	99	85
		Lb. dry matter/A	19,800	18,500	16,180	12,270	9,260
Average	Days to bloom	97	96	92	106	---	
	Height (in)	122	112	129	99	77	
	Lb. dry matter/A	18,400	18,100	17,830	12,800	8,650	
C.V. (%)	Days to bloom	1.4	0.9	0.8	3.6	---	
	Height (in)	4.5	4.8	3.9	11.3	18.2	
	Lb. dry matter/A	21.1	15.6	13.4	21.1	14.3	
L.S.D. (.05)	Days to bloom	2.1	1.4	1.8	5.8	---	
	Height (in)	8.1	8.0	5.9	17.0	25.4	
	Lb. dry matter/A	5,700	4,100	2,810	4,060	2,240	

- (1) All plots had an estimated 25% damage to grain by birds for Pioneer XF639 at this location. No other bird damage occurred in any plots.
- (2) This experiment was irrigated.
- (3) This experiment was not irrigated.

TABLE 5. 1970 COMMERCIAL GRAIN SORGHUM YIELD TRIAL AVERAGE -- YIELDS FOR ALL LOCATIONS(1). (Yields are in bu/acre corrected to 15.5% moisture and 56 lb./bu.)

Location	PURDUE AGRONOMY FARM (2)				SIPAC(3)	PPAC(4)
	May 8	May 8	May 5	June 19	May 8	May 19
Planting date	May 8	May 8	May 5	June 19	May 8	May 19
Row spacing	30"	15"	15"	30"	20"	30"
Harvest date	Sept. 9	Sept. 9	Sept. 8	Oct. 29	Aug. 26	Sept. 19
No. reps	4	4	4	4	4	4
Study no.	060	061	062 (5)	063	070	080
Company & variety						
Conlee: Top Hand	146					
DeKalb: C48a	148	133	129			
B-36				106		
BR64			117	113		
Frontier: F409	134			130		
Northrup King: NK265	132		124		110	
NK280	140		134		124	
NK222G	133		119		116	
NK300			145			
NKSavanna				117		
NK MM54BR				97		
NK X3016				126		
Pioneer: 866	149	144	138	122		
883				105		88
846			145		105	
Taylor-Evans: T.E. TELL	131				108	102
T.E. TOTAL	124				128	105
T.E. Y101	127				109	107
T.E. 70055	141				120	98
Others: RS610	122	140	123	127	99	120
RS690	122	135	128	115	127	103
RS703			121			
Sorgh. Average:	135	138	130	116	115	105
C.V. (%)	8.7	10.4	9.5	14.3	11.3	6.7
L.S.D. (.05)	16.8	N.S.D.	16.5	30.1	18.8	10.4
Corn: Variety A	123	132			93	99
Variety B	131	141			98	107
Variety C	143	167			127	114
Corn Average:	133	147			106	107
C.V. (%)	18.0	14.3			16.3	13.7
L.S.D. (.05)	N.S.D.	N.S.D.			29.9	N.S.D.

- (1) Two-row randomized complete blocks with two-row borders.
- (2) Applied 152 lbs. of nitrogen as urea in December plus 120 lbs. of nitrogen as anhydrous ammonia May 5 plus broadcast 300 lbs. of potash per acre before planting and 175 lbs. per acre of 8-30-16 in the row.
- (3) Southern Indiana Purdue Agricultural Center. Plowed down 130 lbs. nitrogen per acre plus 400 lbs. of 0-25-25 per acre.
- (4) Pinney-Purdue Agricultural Center. Plowed down 150 lbs. nitrogen per acre plus 150 lbs. of 6-24-24 in the row.
- (5) Study 062 received 260 lbs. of nitrogen in the fall and 300 lbs. of nitrogen per acre in the spring.

TABLE 6. 1970 COMMERCIAL GRAIN SORGHUM BIRD DAMAGE YIELD TRIALS (1). (Yields are in bu/acre corrected to 56 lb/bu at 15.5% moisture).

Location	PAF (2)		SIPAC (3)		PPAC (4)	
Planting date	May 25		May 8		May 20	
Row space	30"		20"		30"	
Harvest date	Oct. 29		Aug. 26		Oct. 2	
No. reps	4		4		4	
Entry	064		074		084	
Company & Variety	bu/A	% damage	bu/A	% damage	bu/A	% damage
<u>DeKalb:</u>						
BR64	134	0	126	0	100	0
<u>Frontier:</u>						
F409	135	0				
<u>McNair:</u>						
546	122	0	76	0	106	0
6901	128	0	92	0	112	0
6902	125	0	92	0	103	0
<u>Northrup King:</u>						
Savanna 2	130	0	101	0	108	0
<u>Pioneer:</u>						
BR804	117	0	94	0	99	0
<u>Others:</u>						
RS610	68	55-90	100	5-25	109	0
RS690	111	10-15	101	0-2	107	0
RS703	66	10-85				
<hr/>						
Average	115		98		105	
C.V. (%)	10.6		10.9		12.8	
L.S.D. (.05)	17.6		15.7		N.S.D.	

- (1) Two-row randomized complete blocks with two-row borders.
- (2) Applied 152 lbs. of nitrogen as urea in December plus 120 lbs. of nitrogen as anhydrous ammonia May 5 plus broadcast 300 lbs. of potash per acre before planting and 175 lbs. per acre of 8-30-16 in the row.
- (3) Southern Indiana Purdue Agricultural Center. Plowed down 130 lbs. nitrogen per acre plus 400 lbs. of 0-25-25 per acre.
- (4) Pinney-Purdue Agricultural Center. Plowed down 150 lbs. nitrogen per acre plus 150 lbs. of 6-24-24 in the row.

TABLE 7. 1970 FORAGE SORGHUM POUNDS OF DRY MATTER PRODUCED PER ACRE FROM ALL LOCATIONS.

		=====			
		Location	PURDUE AGRONOMY FARM(1)	SIPAC(2)	PPAC(3)
		Row width	30"	15"	20" 30"
		Planting date	May 8	May 8	May 8 May 19
		Harvest date	Sept. 2	Sept. 8	Aug. 19 Sept. 17
Company & variety	No. reps	4	4	4	4
	Character	066	067	077	087
<u>DeKalb:</u>					
FS24	Days to bloom	91	91	92	
	Height (in)	88	92	97	
	Plants harvested	106,100	156,800	85,900	
	Lb. dry matter/A	15,600	17,300	12,500	
<hr/>					
<u>Grace:</u>					
Sumax	Days to bloom		83		
	Height (in)		86		
	Plants harvested		137,600		
	Lb. dry matter/A		14,100		
<hr/>					
<u>Pioneer:</u>					
944	Days to bloom	90	93	90	86
	Height (in)	105	102	123	101
	Plants harvested	91,000	131,100	69,300	96,300
	Lb. dry matter/A	16,000	15,200	13,100	14,900
927	Days to bloom	92	93	90	87
	Height (in)	82	84	98	84
	Plants harvested	99,000	142,400	68,000	110,600
	Lb. dry matter/A	14,900	15,900	11,400	15,700
931	Days to bloom	104	104	90	92
	Height (in)	158	147	159	127
	Plants harvested	84,900	137,600	69,900	93,700
	Lb. dry matter/A	21,200	20,900	14,400	17,600
<hr/>					
<u>Others:</u>					
SART	Days to bloom	130	104	90	95
	Height (in)	140	127	134	116
	Plants harvested	70,300	85,400	61,400	91,300
	Lb. dry matter/A	15,800	16,800	13,900	13,300
NK300	Days to bloom	85	85	88	80
	Height (in)	74	78	80	77
	Plants harvested	85,400	151,200	78,700	112,400
	Lb. dry matter/A	16,400	16,800	11,700	14,600
ATLAS	Days to bloom	92	90	90	86
	Height (in)	102	98	114	98
	Plants harvested	102,100	150,300	79,700	133,300
	Lb. dry matter/A	13,400	13,400	11,400	14,700

(continued on next page)

TABLE 7. (Continued)

	Location	PURDUE AGRONOMY FARM(1)	SIPAC (2)	PPAC(3)
	Row width	30"	15"	20"
	Planting date	May 8	May 8	May 8
	Harvest date	Sept. 2	Sept. 8	Aug. 19
Company & variety	No. reps	4	4	4
	Character	066	067	077

Corn:

Variety A	Days to bloom	70	70	74	70
	Height (in)	100	95	117	114
	Plants harvested	34,600	38,300	26,800	21,600
	Lb. dry matter/A	13,200	12,500	10,300	11,700
Variety B	Days to bloom	70	71	75	71
	Height (in)	79	83	101	95
	Plants harvested	29,600	60,100	26,100	22,400
	Lb. dry matter/A	12,400	12,900	11,800	13,000
Variety C	Days to bloom	72	73	69	73
	Height (in)	91	93	107	109
	Plants harvested	35,200	44,900	25,200	25,500
	Lb. dry matter/A	14,700	14,400	13,900	12,700

Average:

Days to bloom	87	87	85	83
C.V. (%)	2.1	1.9	7.5	1.4
L.S.D. (.05)	3	2	9	2
Height (in)	102	97	113	102
C.V. (%)	3.6	4.5	5.0	4.7
L.S.D. (.05)	5	6	8	7
Plants harvested				
C.V. (%)				
L.S.D. (.05)				
Lb. dry matter/A	15,300	15,500	12,500	14,300
C.V. (%)	10.9	18.6	17.9	15.5
L.S.D. (.05)	770	4,100	3,200	3,200

- (1) Purdue University Agronomy Farm. Applied 152 lbs. of nitrogen as urea in December plus 120 lbs. of nitrogen as anhydrous ammonia May 5 plus a broadcast application of 300 lbs. per acre of potash plowed down with 175 lbs. of nitrogen per acre in the row.
- (2) Southern Indiana Purdue Agricultural Center. Plowed down 130 lbs. of nitrogen and 400 lbs. of 0-25-25 per acre.
- (3) Pinney-Purdue Agricultural Center. Plowed down 150 lbs. of nitrogen with 150 lbs. of 6-24-24 per acre in the row.

TABLE 8. 1970 TWO-CUT SUDANGRASS AND SORGHUM X SUDANGRASS TESTS. (1)

Company & variety	Date cut ---	Purdue Agronomy Farm (2)			SIPAC (3)			PPAC (4)		
		1st cut July 24	2nd cut Oct. 1	Total	1st cut July 18	2nd cut Sept. 4	Total	1st cut July 28	2nd cut Oct. 2	Total
DeKalb:										
SX 16	Height (in)	-	91	-	86	90	176	78	86	164
	Dry Matter (%)	-	21.0	-	21.5	20.5	-	16.1	19.5	-
	Dry Matter (lb/A)	-	7,000 (5)	-	12,500	6,000	18,500	8,700	9,900	18,600
Grace:										
MorSu 11	Height (in)	79	115	194	-	-	-	-	-	-
	Dry Matter (%)	19.4	26.0	-	-	-	-	-	-	-
	Dry Matter (lb/A)	8,600	14,500	23,100	-	-	-	-	-	-
Trudy Gr	Height (in)	73	107	180	-	-	-	-	-	-
	Dry Matter (%)	17.1	19.0	-	-	-	-	-	-	-
	Dry Matter (lb/A)	9,000	12,100	21,000	-	-	-	-	-	-
Pioneer:										
988	Height (in)	74	108	182	97	101	198	77	85	163
	Dry Matter (%)	17.5	22.7	-	25.2	22.1	-	17.9	20.5	-
	Dry Matter (lb/A)	9,600	15,400	25,000	13,500	6,200	19,700	8,900	9,900	18,800
Others:										
FFR 66	Height (in)	76	106	182	96	100	196	80	86	166
	Dry Matter (%)	16.1	21.8	-	23.0	21.1	-	17.2	18.7	-
	Dry Matter (lb/A)	8,200	15,300	23,500	12,000	6,900	18,900	8,200	9,500	17,700
Greenleaf	Height (in)	63	85	148	78	82	159	72	72	144
	Dry Matter (%)	18.7	19.7	-	24.7	21.9	-	17.9	20.4	-
	Dry Matter (lb/A)	6,400	7,600	14,000	8,200	3,400	11,600	5,800	5,600	11,400
Average:										
	Height (in)	73	104	177	89	93	182	77	82	159
	C.V. (%)	3.4	6.5	4.2	6.3	6.1	6.2	3.7	3.4	2.7
	L.S.D. (.05)	3.7	10.1	11.0	6.9	7.0	13.9	3.5	3.5	5.2
	Dry Matter (%)	17.5	21.8	-	23.6	21.4	-	17.3	19.8	-
	C.V. (%)	5.1	8.0	-	8.2	4.2	-	7.6	7.8	-
	L.S.D. (.05)	1.3	2.6	-	2.4	1.1	-	1.6	1.9	-
	Dry Matter (lb/A)	8,300	13,000	21,300	11,600	5,600	17,200	7,900	8,700	16,600
	C.V. (%)	11.6	14.8	12.3	16.4	14.3	14.3	25.5	19.4	16.7
	L.S.D. (.05)	1,160	2,310	3,150	2,290	970	2,960	2,430	2,030	3,350

- (1) Fifty pounds of nitrogen per acre were applied after the first cutting at all locations. Ten feet was harvested by hand out of each five-row plot. The rows were seven inches apart.
- (2) Purdue University Agronomy Farm. One hundred fifty-two pounds of nitrogen and three hundred pounds of potassium per acre were plowed down.
- (3) Southern Indiana Purdue Agricultural Center. One hundred thirty pounds of nitrogen per acre was plowed down and four hundred pounds per acre of 5-20-20 was applied in the row.
- (4) Pinney-Purdue Agricultural Center. One hundred fifty pounds of nitrogen per acre was plowed down and one hundred fifty pounds of 6-24-24 was applied in the row.
- (5) Note: Only the second cutting was harvested.