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## EC99-106 Nebraska Grain Sorghum Hybrid Tests, 1999

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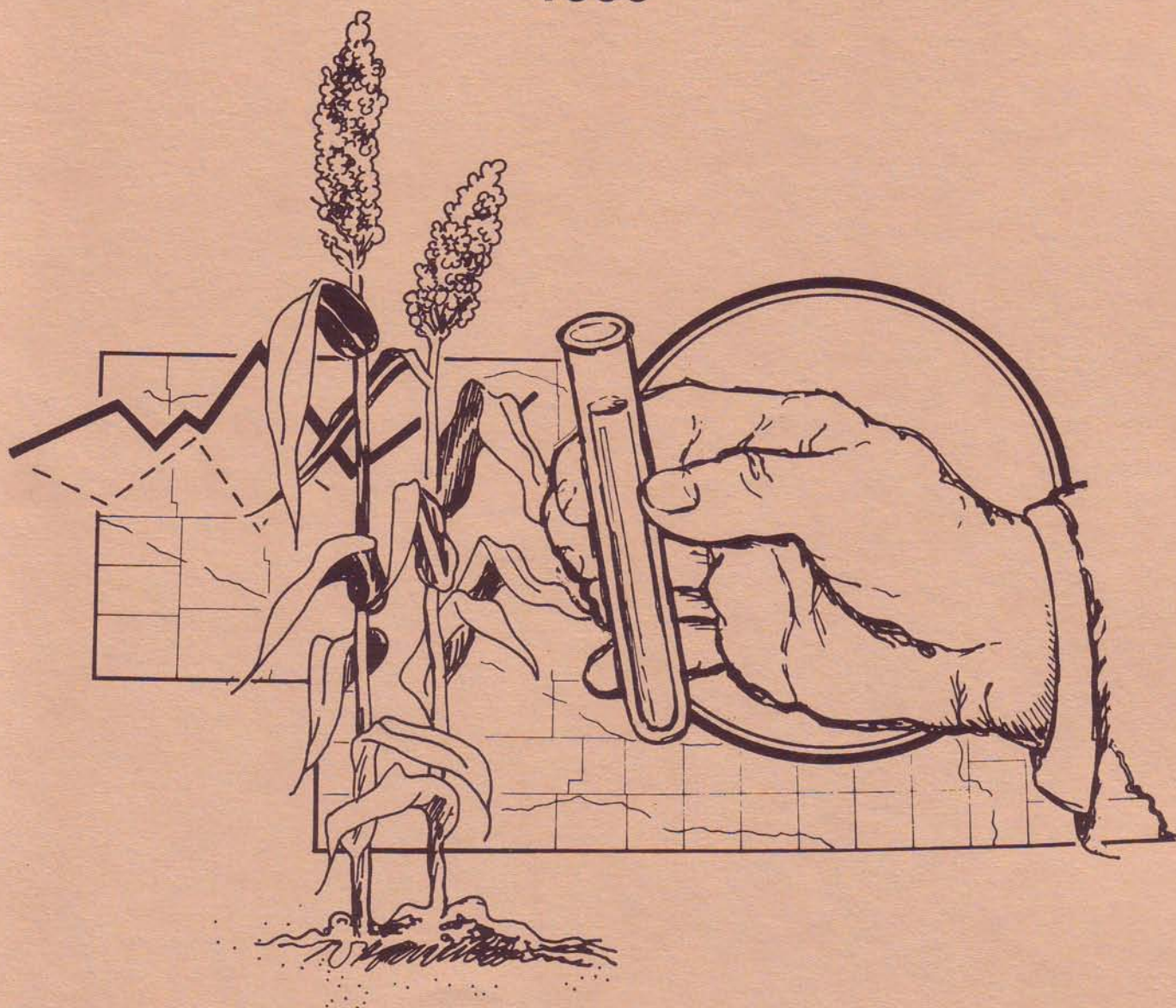
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Nelson, Lenis Alton; Elmore, Roger Wesley; Klein, Robert N.; and Baltensperger, David D., "EC99-106 Nebraska Grain Sorghum Hybrid Tests, 1999" (1999). *Historical Materials from University of Nebraska-Lincoln Extension*. 1599.

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# NEBRASKA GRAIN SORGHUM HYBRID TESTS 1999



**University of Nebraska–Lincoln  
Institute of Agriculture and Natural Resources  
Agricultural Research Division  
Cooperative Extension**



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Elbert C. Dickey, Interim Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.





**EXTENSION CIRCULAR 99-106****NEBRASKA GRAIN SORGHUM HYBRID TESTS****January 2000**

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**ACKNOWLEDGMENTS**

This circular is a progress report of grain sorghum trials conducted to obtain yield and other information for some of the hybrids being marketed. The 1999 season was the 42th year that private hybrids were included in these trials. Seed producers supported tests through fee payments.

Cooperating were the Agronomy Department and the South Central, West Central and Panhandle Research and Extension Centers. Acknowledgment is made to Extension Educators and others who assisted in these tests. Special acknowledgment is made to farmers who furnished land for the trials.

Conduct of experiments and publication of results is a joint effort of the

Agricultural Research Division and the Cooperative Extension Service.

We want to acknowledge the State Climate Program at the University of Nebraska-Lincoln for providing the climate data used in this report. The reports of temperature and rainfall conditions at the various locations are found on pages XX-XX.

We also wish to acknowledge the Nebraska Agricultural Statistics Service for data on crop acreages. Their data is included in the introduction on page X.

We want to thank the people who provided technical support for this project, namely John A. Eis, Greg Dorn, Jeff Golus, George Hoffmeister, Glen Frickel, Ralph Klein and Pat Monaghan.

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## METRIC EQUIVALENTS

1 centimeter = 0.394 inches	cm = inches x 2.54
1 hectare = 2.471 acres	ha = acres x 0.405
1 kilogram = 2.205 pounds	kg = pounds x 0.454
1 hectoliter = 2.838 bushels	hl = bushels x 0.352

Kilogram/hectoliter = lb/bu x 1.287  
 Kilograms/hectare = bu/A x 62.78 (56# bu)



## NEBRASKA GRAIN SORGHUM HYBRID TESTS 1999

Recent grain sorghum acreage and yields for Nebraska were as follows:

	1992	1993	1994	1995	1996	1997	1998	1999
Yield bu/A	82.0	59.0	98.0	54.0	95.0	83.0	98.0	89.0
Acres Harvested(000)	1,500	1,250	1,250	980	1,030	800	700	450

Total grain sorghum planted in state was 450,000 acres. The following are the statewide growing conditions for grain sorghum. By June 6, planting had reached 60% completed compared to last year at 96% and the five year average at 73%. The crop was 23% emerged compared with 73% last year and 47% five year average. Temperatures were one to four degrees above normal for the week across the State. Precipitation amounts varied from 0.04 inches in the west to five inches at David City. By June 13, widespread precipitation and above normal temperatures provided good growing condition for row crops. Planting had progressed to 89% compared with 99% last year and 66% for the five year average. Emergence was at 66% compared to 87% last year and 66% average. By July 18, sorghum conditions were 1% poor, 19% fair, 70% good, and 10%

excellent. Temperatures for the week averaged near normal. By August 8, temperatures averaged six to eight degrees below normal for Nebraska. The crop was 52% headed, compared with 75% last year and 56% for the five-year average. Sorghum conditions were rated 2% very poor, 7% poor, 32% fair, 56% good, and 3% excellent. Green bugs were sighted in some fields. By August 29, sorghum heading was 94% complete, compared with 99% last year and 95% for the five-year average. The percent turning color was at 28%, behind the 55% of last year. Sorghum conditions rated 6% poor, 31% fair, 51% good, and 12% excellent. By October 17, sorghum harvest was 37% complete compared with 54% last year and 43% average. November 7, sorghum harvest rated 93% complete, ahead of 89% last year and 88% average.

### PROCEDURE

Locations of trials are shown on the map (page 8). Names of cooperators are shown in Table A. Entrants and entries are shown in Tables B and C, respectively.

Seed for testing was furnished by the entrant. Seeding rates varied with location as shown in Table D. Seeding was accomplished with cone or air units mounted on commonly used row planters. Two-row or 4-row plots, 20 to 30 feet long were used.

Data on one-half bloom were obtained at

three of the sites by visiting plots on alternate days during the flowering period. Grain moisture determinations were made at harvest at a time when differences between entries were relatively high. This gives an indication of relative grain drying rates.

Plant height and head exertion readings were made at harvest. Lodging readings were taken at harvest. Reported yields are based on 56 pounds per bushel and 14 percent grain moisture.



Maturity of a hybrid is an important consideration in its adaptation to a given location. Entries are listed in data tables in order of decreasing yields. Maturity of a hybrid is listed as plant bloom days or days from planting to half bloom. Variations do occur in maturity among trials and over years data. The maturity of a hybrid is an important consideration in its adaptation to a given location. In analyzing yield evaluations, hybrids should be compared with those having similar maturities.

Variations in soil fertility, moisture conditions and other factors are found in each test area. This makes it impossible to measure yielding ability of hybrids with absolute accuracy. For this reason, small yield differences have little meaning. A statistical measure of differences required for significance is given in each table. These differences were computed at the 5 percent levels of significance. At the 5 percent level a difference of that magnitude would be expected once in twenty trials through chance alone. This is the first year of using a statistical procedure for minimizing spatial variability on the plot area.

## RESULTS

The average performance of all entries at each 1999 test location is shown in Table D. All tests were machine harvested this year.

The average performance of hybrids included in trials over a three-year period is shown in Table E. This data indicates the effect of seasonal growing conditions on the characters measured. Stalk lodging data are included only for experiments where differentials among hybrids were observed.

### Southeast (Pages 13- 14)

Twenty seven entries were planted at two locations excluding farmer entries. Gage County dryland plot had adequate moisture during most of the growing season. No lodging occurred in this test. Plot was harvested early with low moisture due to good dry down weather conditions. Farmer entries were NC+7B29 @ 130 bu/a, Producers Hy @ 140 bu/a, and Midland 98105 @ 130 bu/a. Average for all entries was 140 bu/a. Grain sorghum was planted in the same field as the Southeast Dryland Corn Hybrid trial which was lost.

Jefferson County dryland plot had inadequate subsoil moisture during growing season. Considerable damage occurred due to deer and birds. Estimates of the amount of damage was used to adjust yields in all plots. The farmer entries were: DK44@ 57 bu/a, DK41Y @ 51 bu/a, and Producers Hy 74 @ 84 bu/a. Average of all entries was 77 bu/a.

### South Central (Pages 15 - 16)

There were 19 entries, 4 replications, 4 rows, 30 inch wide, and 24 feet long planted at Clay and Nuckolls Counties. Plots were 30 feet long. Clay County was a gravity irrigated plot at the SCREC near Clay Center. Ridge tilled into soybean stubble. This field is part of a sorghum/soybean rotation. The average yield at Clay County was 175 bu/a.

The Nuckolls County dryland grain sorghum trial was planted in the same field as the South Central Dryland Corn Hybrid trial. Thirty three corn hybrids were included. Average corn yield was 88 bu/a with yields of individual hybrids ranging from 73 to 110 bu/acre. This compares to 92 to 121 bu/a yield



range and 108 bu/acre average from the grain sorghum trial. See page 29 in Nebraska Corn Hybrid Tests - 1999 (E.C. 99-105) to see the complete corn results.

### **West Central** (Pages 17 - 18)

Red Willow, Dundy and Lincoln Counties were ecofallow plots with 11 entries planted in wheat stubble from the 1998 harvest and fallowed in 1997. Planted at 80,000 seeds/acre. Red Willow County test averaged 108 bu/acre. Dundy County had an average yield of 113

bu/acre. Lincoln County had an average yield of 93 bu/a.

### **West** (Page 19)

Two entries were tested at two locations in Cheyenne County. Plenty of moisture, but moderate summer temperatures delayed maturity. Crop was not mature when froze on Sept. 13. One test was an ecofallow with an average of 62 bu/a and the other was black fallow with an average yield of 74 bu/a. Black fallow had a 20 month fallow following wheat while ecofallow had eight months following wheat.

## **Cultural Practices**

**Gage (dryland)**: Crop history: No-till into soybean stubble. Fertilizer: 90 lb N as anhydrous ammonia, 4.2 gal 10-34-0 in furrow. Herbicide: 4.5 pt/a Guardsman, and spot sprayed field with Permit 6-18-1999. Insecticide: None. Hand hoed.

**Jefferson (dryland)**: Crop history: 1998 Sudax. 100 lb/a N. Herbicide: Permit. Insecticide: None.

**Clay (gravity irrigated)**: Crop history: Grain sorghum, soybean rotation. Fertilizer: 165 lbs/a N pre plant, and 100 lbs 11-52-0 on 4-2-99. Herbicide: 1 qt/a of Roundup Ultra preplant, and 2.4 qt/a Bicep II postemergence. No insecticide used.

**Nuckolls (dryland)**: Crop history: Slot planted into wheat fallow. 100 lbs/a N preplant as 28% liquid broadcast. 12 gal/a 10-34-0 in the fall broadcast with 1 lb/a Atrazine. 6.5 oz/a Paramount postemergence. Insecticide: None.

**Red Willow (ecofallow)**: No-till into wheat stubble. Previous years: fallow-1997, winter

wheat-1998. Fertilizer: 120 lb/a N preplant. Herbicide: 1.33 qt/a Bicep II Magnum Lite. Insecticide: Lorsban 8 oz/1000 feet.

**Dundy (ecofallow)**: No-till. Previous crops: 1997-fallow, 1998-winter wheat. Fertilizer: 80 lb/a N preplant. Herbicide: Bicep II Magnum + Clarity + Roundup Ultra. Insecticide: Lorsban at 8 oz/1000 ft of row at planting.

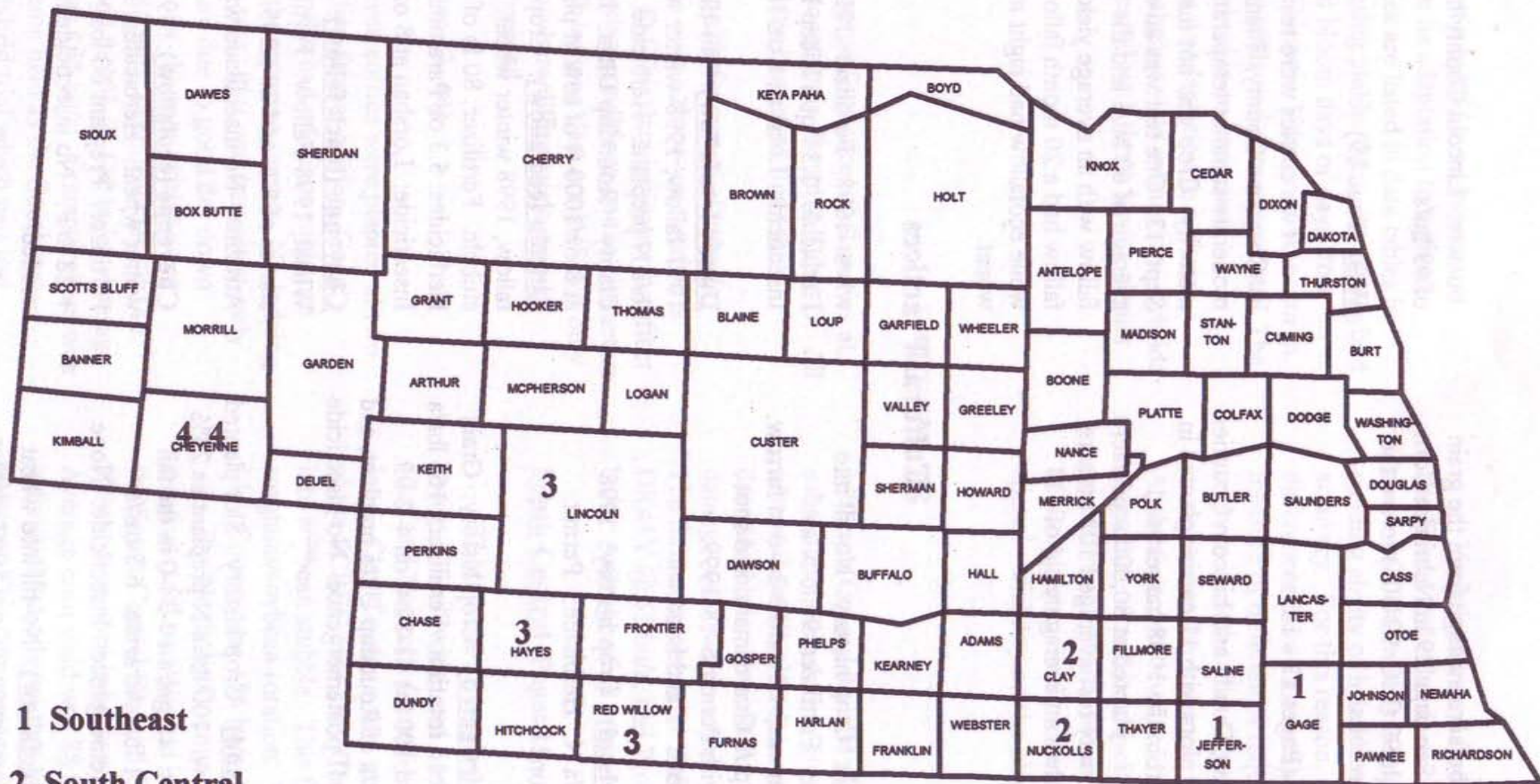
**Lincoln (ecofallow)**: Crop history: 1997-fallow, 1998 winter wheat. No-till into wheat stubble. Fertilizer: 80 lb of N preplant. Herbicides: 5.3 oz Paramount + .33 lb Atrazine. Insecticide: Lorsban at 8 oz/1000 ft.

**Cheyenne (black fallow)**: Crop history: 1997-Wheat, 1998-Fallow. Fertilizer: 60 lb N + starter of 8 N and 28 P205. Herbicide: 3/4 lb Atrazine. No insecticide was used.

**Cheyenne (ecofallow)**: 1997-Fallow, 1998-winter wheat. Herbicides: 3/4 lb Atrazine. Fertilizer: Preplant 60 lbs N. At planting 8 lb N + 28 lb P. No insecticide treatment was needed.



# Locations of 1999 Grain Sorghum Tests



1 Southeast

2 South Central

3 West Central

4 West



**Table A. Location and Cooperators. 1999  
Nebraska Grain Sorghum Performance Tests.**

Location	Soil Type/Herbicide	Cooperator
<b>Southeast</b>		
Gage (dryland)	Butler silty clay loam Guardsman + Permit	Rodney Bergman Wilbur
Jefferson (dryland)	Hobbs silt loam Permit	Rick DeBoer Fairbury
<b>South Central</b>		
Clay (irrigated)	Hastings silt loam Roundup Ultra + Bicep II	South Central REC Clay Center
Nuckolls (dryland)	Crete silt Loam Atrazine + Paramount	Gary Tordrup Nelson
<b>Southwest</b>		
Red Willow (ecofallow)	Hord silt loam Bicep II Magnum Lite	Cappel Farms McCook
Dundy (ecofallow)	Keith silt loam Bicep II Mag + Clarity + Roundup Ult	Richard Keiser Wauneta
Lincoln (ecofallow)	Holdrege silt loam Atrazine + Paramount	West Central REC North Platte
<b>West</b>		
Cheyenne (black fallow)	Keith loam Atrazine	High Plains Ag. Lab. Sidney
Cheyenne (ecofallow)	Keith loam Atrazine	High Plains Ag. Lab. Sidney

**Table B. Entrants. Nebraska Grain Sorghum  
Performance Tests. 1999**

Brand	Company	Address
-----	Agricultural Research Div., UNL	Lincoln, NE 68583
Cargill	Cargill Hybrid Seeds	RR2 Box 82, Lockney, TX 79241
DeKalb	Dekalb a member of Monsanto Global	7159 N. 247 W., PO Box 7, Mt. Hope, KS. 67108
Garst	Garst Seed Company	1104 W 18th Rd, Aurora, NE 68818
Mycogen	Mycogen Seeds	1117 Recharge Road, York, NE 68467
Midland	Phillips Seed/Midland Genetics	980 Hwy 15, Hope, KS 67451
Triumph	Triumph Seed Co., Inc.	P. O. Box 1050, Ralls, TX 79357



**Table C. Grain Sorghum entries and zones entered in 1999**

Brand	Hybrid	Zone *			
-----	060A X1014	A	.	.	.
CARGILL	576	.	.	B	D
CARGILL	627	A	I	B	.
CARGILL	697	A	I	B	.
CARGILL	730	A	I	B	.
CARGILL	737	A	I	.	.
CARGILL	647	.	.	B	D
CARGILL	770Y	A	I	.	.
DEKALB GENETICS	DK-35	.	.	B	.
DEKALB GENETICS	DK-36	.	.	B	.
DEKALB GENETICS	DK-43A	.	.	B	.
DEKALB GENETICS	DK-44	.	.	B	.
DEKALB GENETICS	DK-47	.	I	.	.
DEKALB GENETICS	DK-53	A	I	.	.
DEKALB GENETICS	DK-54	A	I	.	.
DEKALB GENETICS	X758	A	I	.	.
.....	WHEATLAND X 17473 (N312R)	A	.	.	.
.....	WHEATLAND X 22808-1	A	.	.	.
.....	WHEATLAND X(N91/SN19)-4	A	.	.	.
.....	WHEATLAND X 22808-9	A	.	.	.
.....	1808 X N312R	A	.	.	.
GARST	5440	A	.	.	.
GARST	5515	A	I	.	.
MIDLAND	M-4725	A	I	.	.
MIDLAND	M-4836	A	I	.	.
MIDLAND	M-X614	A	I	.	.
MIDLAND	M-X818	A	I	.	.
MYCOGEN	3696	A	I	.	.
MYCOGEN	3700	A	I	.	.
.....	N285A (340A) X 1014	A	.	.	.
.....	N298A (530A) X 1014	A	.	.	.
.....	N310A (026A) X 1014	A	.	.	.
TRIUMPH	TR 438	.	.	B	.
TRIUMPH	TR 459	.	.	B	.
TRIUMPH	TR 461	.	I	.	.
TRIUMPH	TR 462	.	I	.	.
TRIUMPH	TR 481	A	I	.	.
TRIUMPH	TR 65-G	A	.	.	.

\* Zone A = Southeast, Zone I = South Central, Zone B = Southwest  
Zone D = West Dryland



**Table D. Grain Sorghum. Average performance at each test location. 1999**

Location	Planted	Harvested	Grain yield bu/A	Planting to bloom days	Plant height inches	Head exsertion inches	Test weight lb/bu
<b>Southeast (27 entries)</b>							
Gage (dryland)	May 28	Oct 25	140	68	59	6.0	63.0
Jefferson (dryland)	May 28	Oct 5	77	74	42	5.6	56.0
Average 2 test	---	---	110	71	51	5.8	59.6
<b>South Central (19 entries)</b>							
Clay (irrigated)	May 28	Oct. 15	175	76	55	6.0	60.9
Nuckolls (dryland)	May 27	Oct. 22	108	---	43	6.0	59.9
Average 2 tests	---	---	141	---	49	6.0	60.5
<b>West Central (11 entries)</b>							
Red Willow (ecofallow)	May 27	Oct. 12	108	---	41	---	60.2
Dundy (ecofallow)	May 27	Nov 10	113	---	48	---	58.9
Lincoln (ecofallow)	May 28	Nov 1	93	---	47	---	53.7
Average 3 tests	---	---	105	---	45	---	57.6
<b>West (2 entries)</b>							
Cheyenne (blackfallow)	June 1	Oct 7	74	---	43	---	45.6
Cheyenne (ecofallow)	June 1	Oct 7	62	---	41	---	43.0
Average 2 tests	---	---	68	---	42	---	44.0

**Table E. Sorghum performance. Average for common entries over years within tests. Three years. 1997 - 1999.**

Test	Year	Grain yield bu/a	Planting to bloom days	Plant height inches	Head exsertion inches	Early-grain moisture %	Stalk lodging %	Test weight lbs/bu
<b>Southeast (5 entries)</b>								
	1997	131	72	49	6	14.0	0	58.3
	1998	134	74	56	6	16.0	5	59.1
	1999	112	72	46	6	19.0	--	58.8
<b>South Central (6 entries)</b>								
	1997	126	69	50	4	17.0	33	59.8
	1998	145	--	57	8	14.0	--	--
	1999	141	76	51	7	14.0	--	60.4
<b>West Central (5 entries)</b>								
	1997	96	--	43	--	15.0	5	59.6
	1998	105	--	48	--	15.0	--	56.8
	1999	108	--	45	--	12.0	3	57.6



# Grain Sorghum Characteristics 1999

Brand	Variety	Mat Rel To RS626	Grain Color	Height RS626=MeC	Greenbug	Resistance E	I
----	N123A X 681R	Early	White	V Short	-	-	-
----	585A X 1014	Med	Cream	Med	-	-	-
----	38084 X 681R	Early	Bronze	Short	-	-	-
----	38153A X 681R	Early	Cream	Short	-	-	-
----	863A X 1014	Med	Cream	Med	-	-	-
----	144-3A X 681R	Early	Cream	Short	-	-	-
----	026A X 1014	Med	Cream	Med	-	-	-
----	9096 X 1014	Med	Cream	Med	-	-	-
----	N123A X 1017	Early	White	Short	-	-	-
----	144-3A X 1017	Early	Cream	Short	-	-	-
----	38084A X 1017	Early	Bronze	Short	-	-	-
----	38153A X 1017	Early	Cream	Short	-	-	-
----	618A X 1017	Early	Cream	Short	-	-	-
ASGROW	A570	Med/Lat	Bronze	---	-	-	-
ASGROW	A571	Med/Lat	Bronze	---	-	-	-
ASGROW	XP5165	Late	Bronze	---	-	-	-
ASGROW	SENECA	Early	Bronze	---	-	-	-
ASGROW	A425	Early/Med	Red	---	C	E	-
ASGROW	A459	Early/Med	Red	---	C	E	-
ASGROW	A201	Early	Red	---	-	-	-
ASGROW	A298	Early	Cream	---	-	-	-
ASGROW	XP3257	Early/Med	Bronze	---	-	-	-
CARGILL	576	Early	Bronze	Med	C	E	I
CARGILL	X12027	Med	Bronze	Med	C	E	I
CARGILL	737	Med	Bronze	Med	C	E	-
CARGILL	730	Med	Bronze	Med	C	E	I
CARGILL	627	Early	Bronze	Med	C	E	I
CARGILL	X12200	Med	Bronze	Med	C	E	I
CARGILL	647	Early	Bronze	Med	C	E	-
CARGILL	770Y	Med	Cream	Med	C	E	-
DEKALB Genetics	DK-44	Med	Red	Med	C	E	-
DEKALB Genetics	DK-47	Med	Red	Med	C	E	-
DEKALB Genetics	DK-54	Late	Red	Tall	C	E	-
DEKALB Genetics	DK-53	---	---	---	-	-	-
DEKALB Genetics	DK-43A	Med	Red	Sh Med	C	E	-
DEKALB Genetics	DK-36	Early	Yellow	Sh Med	C	E	-
DEKALB Genetics	DK-35	---	---	---	-	-	-
DEKALB Genetics	DK-45	Med	Red	Tall	C	E	-
MIDLAND	M-4725	Med	Cream	Med	-	-	-
MIDLAND	M-4774	Med	Bronze	Med	-	-	-
MIDWEST SEED	G530	Early	Cream	Short	C	E	-
MYCOGEN	3800	Late	Bronze	Med	C	E	-
MYCOGEN	3636	Med	Yellow	Med	C	E	I
MYCOGEN	3696	Late	Yellow	Med	C	E	I
MYCOGEN	444E	Late	Bronze	Med	C	E	-
TRIUMPH	TR447	Early/Med	Cream	V Short	C	E	-
TRIUMPH	TR459	Med	Bronze	Short	C	E	-
TRIUMPH	TR481	Med/Lat	Red	Med	C	E	-
TRIUMPH	TR462	Med	Red	Short	C	E	-
TRIUMPH	TR65-G	Med	Red	Med	C	E	-



# Southeast Grain Sorghum Hybrid Test - 1999

## Gage and Jefferson Counties

Brand	Hybrid	Yield			Days to bloom	Bushel weight lb/bu	Plant height inches	Head exsertion inches	Grain moisture pct	Seeds per pound
		Average	Gage	Jefferson						
-----	Wheatland X 17473(N312R)	139.1	158.5 *	116.2 **	73	59.9	56	6	17.9	13300
-----	Wheatland X 22808-9	136.9	158.9 *	101.3 *	74	58.6	49	5	17.8	13100
-----	1808 X 17473 (N312R)	130.9	157.6 *	93.9 *	74	58.3	50	6	17.8	13000
DEKALB Genetics	DK-54	129.2	168.3 **	88.7	74	57.2	51	8	20.8	14400
CARGILL	730	125.0	146.6	95.1 *	71	60.4	43	6	15.9	14600
DEKALB Genetics	DK-53	124.6	157.1 *	88.9	76	58.6	50	5	20.9	13100
DEKALB Genetics	X758	119.4	142.3	86.2	74	58.1	46	6	21.0	15200
MYCOGEN	3696	113.1	131.9	89.1	70	59.3	39	4	16.3	16200
-----	Wheatland X (N91/SN19)-4	112.3	140.9	77.5	73	59.9	47	6	16.7	14100
MYCOGEN	3700	112.0	142.0	79.0	69	61.1	46	6	16.7	13400
TRIUMPH	TR 481	110.9	143.9	77.4	77	58.9	50	7	20.9	15200
CARGILL	697	110.1	144.5	74.1	70	59.6	44	7	16.6	15900
MIDLAND	MX818	109.8	148.0	76.4	72	59.7	44	6	18.0	15600
GARST	5515	109.5	120.6	96.7 *	67	59.2	43	6	15.5	14300
MIDLAND	M-4725	108.4	134.9	75.7	69	61.1	48	8	15.4	14600
MIDLAND	M-4836	107.4	140.5	73.5	71	58.9	43	6	17.9	15500
TRIUMPH	TR 65-G	107.4	140.0	72.3	70	60.6	44	5	16.6	14200
CARGILL	627	106.8	133.7	79.1	69	58.7	44	8	18.6	16700
-----	Wheatland X 22808-1	105.5	146.7	79.1	69	61.4	46	6	15.8	12000
CARGILL	770Y	105.1	151.2	62.6	70	58.8	42	5	16.5	14300
CARGILL	737	104.2	149.0	57.0	70	59.6	41	6	16.6	13400
MIDLAND	MX614	101.5	128.7	72.1	67	61.6	40	6	15.1	16100
GARST	5440	100.7	120.9	64.1	70	60.5	43	6	17.0	14700
-----	060A X 1014	98.9	131.2	57.8	72	58.6	45	5	17.7	16400
-----	N298A(530A)X1014	94.1	114.1	63.2	69	61.0	45	5	15.7	17200
-----	N310A(026A)X1014	93.7	125.2	59.6	70	59.7	45	7	16.5	17400
-----	N285A(340A)X1014	86.6	104.5	47.5	73	59.7	46	5	16.8	14700
Average all entries		110.0	140.6	77.4	70.8	59.6	45	6	17.2	14788
Dif. Req. for Sig. 5%		10.4	14.8	25.0	1.2	NS	1	2	NS	730

\*\* denotes top yielding hybrid at each location

\* denotes hybrids not significantly different than top yielding hybrid



## Southeast Grain Sorghum Hybrid Test 1997 - 1999

Brand	Hybrid	Grain Yield bu/a	Days to bloom	Plant height inches	Head exsertion inches	Grain moisture pct	Plant lodging pct	Seeds per pound	Bushel weight lb/bu
<b>2 Year Averages</b>									
DEKALB Genetics	DK-53	137.8	76	54	5	19.5	3	14000	59.1
DEKALB Genetics	DK-54	134.1	75	56	8	19.0	5	15100	58.3
TRIUMPH	TR 481	127.5	77	55	6	19.5	0	15400	59.3
MIDLAND	M-4725	121.2	72	52	7	15.5	0	16100	60.4
CARGILL	770Y	118.1	72	48	5	16.0	2	15500	58.7
CARGILL	697	118.1	72	48	7	16.5	1	16900	59.2
CARGILL	627	117.9	71	47	8	17.5	0	16800	58.5
TRIUMPH	TR 65-G	117.7	72	51	5	16.5	20	16300	60.3
Average all entries		123.0	73	51	6	17.4	4	15750	59.3
Dif. Req. for Sig. 5%		4.0	1	1	0.2	0.8	NS	NS	NS
<b>3 Year Averages</b>									
DEKALB Genetics	DK-54	137.7	74	55	7	17.7	2	15500	58.1
TRIUMPH	TR 481	128.0	76	54	7	18.0	0	15900	59.3
TRIUMPH	TR 65-G	125.1	72	50	5	15.7	10	16700	60.0
CARGILL	770Y	122.0	71	47	5	15.3	1	16000	58.0
CARGILL	627	114.9	71	47	8	16.3	0	17600	58.3
Average all entries		126.0	73	51	6	16.6	3	16330	58.7
Dif. Req. for Sig. 5%		NS	0.6	1	0.2	0.5	NS	NS	0.4



## South Central Grain Sorghum Hybrid Test - 1999

### Clay and Nuckolls Counties

Brand	Hybrid	Yield			Days to bloom	Bushel weight lb/bu	Plant height inches	Head exsertion inches	Grain moisture pct	Seeds per pound
		Average	Clay	Nuckolls						
DEKALB Genetics	DK-54	153.0	185.0 *	121.0 *	77	59.7	57	8	13.9	14300
DEKALB Genetics	X758	152.5	189.2 **	115.8 *	79	59.6	52	6	14.8	15300
TRIUMPH	TR 462	148.8	176.1	121.5 **	75	61.1	49	6	12.9	13800
MYCOGEN	3696	146.5	178.8	114.1 *	77	60.4	44	4	13.8	15800
DEKALB Genetics	DK-53	146.3	172.4	120.1 *	80	60.1	55	6	15.6	14000
CARGILL	697	145.9	179.7	112.0 *	75	59.8	47	8	13.7	16500
CARGILL	737	145.3	176.8	113.8 *	77	59.7	45	4	13.9	13900
MYCOGEN	3700	144.9	182.0 *	107.7 *	74	61.3	51	6	13.1	13800
TRIUMPH	TR 461	144.6	176.3	112.9 *	77	61.0	51	4	13.6	14400
DEKALB Genetics	DK-47	142.4	173.4	111.3 *	74	61.3	50	4	14.2	16100
MIDLAND	MX818	141.2	183.0 *	99.3	75	60.4	48	6	13.0	16300
CARGILL	730	139.7	170.6	108.7 *	77	60.1	48	4	13.1	15000
MIDLAND	M-4725	138.2	163.9	112.5 *	75	60.8	49	8	13.3	15400
MIDLAND	M-4836	136.0	179.5	92.5	75	60.3	48	6	12.8	16500
GARST	5515	136.0	171.4	100.5	68	60.3	47	7	13.3	14400
CARGILL	627	135.8	169.7	101.8	74	59.6	48	10	13.2	16600
MIDLAND	MX614	135.3	170.5	100.1	76	61.8	46	7	13.3	16000
CARGILL	770Y	134.9	164.6	105.2	77	59.8	49	5	13.5	14100
TRIUMPH	TR 481	128.8	165.6	92.0	79	60.8	54	7	14.5	15700
Average all entries		142.0	175.0	108.0	76	60.4	49	6	13.6	15137
Dif. Req. for Sig. 5%		NS	9.0	14.0	1	0.4	1	1	0.5	591

\*\* denotes top yielding hybrid at each location

\* denotes hybrids not significantly different than top yielding hybrid



## South Central Grain Sorghum Hybrid Test 1997 - 1999

Brand	Hybrid	Grain Yield bu/a	Days to bloom	Plant height inches	Head exsertion inches	Grain moisture pct	Plant lodging pct	Seeds per pound	Bushel weight lb/bu
<b>2 Year Averages</b>									
DEKALB Genetics	DK-54	159.0	77	60	9	14.5	65000	14300	59.7
DEKALB Genetics	DK-53	151.7	80	57	6	16.0	55000	14000	60.1
DEKALB Genetics	DK-47	144.7	74	53	5	14.5	70000	16100	61.3
CARGILL	697	144.5	75	51	8	14.5	65000	16500	59.8
CARGILL	737	143.2	77	49	6	14.0	60000	13900	59.7
TRIUMPH	TR 462	142.9	75	52	7	13.5	70000	13800	61.1
TRIUMPH	TR 481	137.9	79	57	9	14.5	65000	15700	60.8
CARGILL	770Y	136.5	77	53	6	12.5	65000	14100	59.8
MIDLAND	M-4725	136.1	75	54	9	14.0	75000	15400	60.8
CARGILL	627	135.9	74	50	10	13.5	70000	16600	59.6
Average all entries		143.0	76	53	7	14.2		15620	60.3
Dif. Req. for Sig. 5%		NS	1	1	1	0.4		NS	NS
<b>3 Year Averages</b>									
DEKALB Genetics	DK-54	150.0	73	58	7	15.7	32525	15800	59.5
DEKALB Genetics	DK-47	139.5	72	52	4	14.7	35024	17300	61.2
TRIUMPH	TR 462	137.3	72	51	6	14.7	35022	16100	60.7
CARGILL	770Y	135.3	74	51	5	13.0	32503	15800	59.2
TRIUMPH	TR 481	135.3	74	55	7	16.0	32525	16200	60.8
CARGILL	627	125.9	72	49	8	14.3	35000	17700	59.3
Average all entries		137.0	73	52	6	14.7		16479	60.1
Dif. Req. for Sig. 5%		NS	NS	1	0	0.5		NS	0.2





# **West Central Grain Sorghum Hybrid Test - 1999** **Red Willow, Dundy and Lincoln Counties**

Brand	Hybrid	Yield		Yield		Bushel weight lb/bu	Plant height inches	Grain moisture pct
		Average	Red Willow	Dundy	Lincoln			
DEKALB Genetics	DK-44	111.4	114.1 *	122.9 *	97.2	58.0	46	12.0
DEKALB Genetics	DK-36	109.7	120.3 *	117.7 *	91.1	58.0	45	12.2
DEKALB Genetics	DK-35	108.8	113.6 *	121.0 *	91.8	58.4	46	12.2
TRIUMPH	TR 438	108.5	109.2 *	115.6 *	100.6	57.5	47	11.7
CARGILL	697	108.3	122.2 **	110.0	92.6	57.0	47	11.2
TRIUMPH	TR 459	107.8	111.3 *	113.5 *	98.5	58.0	44	11.8
CARGILL	627	106.7	104.3	125.7 **	90.1	56.3	46	11.9
DEKALB Genetics	DK-43A	103.2	115.7 *	109.8	84.0	57.4	44	11.3
CARGILL	647	102.8	116.7 *	109.8	81.8	58.7	47	11.6
CARGILL	576	99.3	86.6	90.9	120.3 **	58.7	41	11.9
CARGILL	730	94.4	93.4	107.2	82.6	57.1	47	11.1
Average all entries		106.0	108.0	113.1	93.0	57.7	46	11.7
Dif. Req. for Sig. 5%		NS	13.2	12.6	11.0	NS	1	NS

**\*\* denotes top yielding hybrid at each location**

**\* denotes hybrids not significantly different than top yielding hybrid**





## West Central Grain Sorghum Hybrid Test 1997 - 1999

Brand	Hybrid	Grain Yield bu/a	Days to bloom	Plant height inches	Head exertion inches	Grain moisture pct	Plant lodging pct	Seeds per pound	Bushel weight lb/bu
<b>2 Year Averages</b>									
DEKALB Genetics	DK-44	111.2	NA	48	NA	14.0	5	NA	57.3
DEKALB Genetics	DK-35	109.9	NA	47	NA	13.5	2	NA	57.9
DEKALB Genetics	DK-43A	105.6	NA	46	NA	13.5	3	NA	57.3
DEKALB Genetics	DK-36	105.4	NA	47	NA	13.5	5	NA	57.5
CARGILL	627	104.4	NA	48	NA	13.5	3	NA	56.1
CARGILL	697	103.7	NA	50	NA	13.0	10	NA	56.9
TRIUMPH	TR 459	99.9	NA	45	NA	13.5	1	NA	57.5
Average all entries		106.0		47		13.5	4		57.2
Dif. Req. for Sig. 5%		NS		NS		NS	NS		0.2
<b>3 Year Averages</b>									
DEKALB Genetics	DK-35	107.3	NA	45	NA	14.0	5	NA	59.0
DEKALB Genetics	DK-44	104.8	NA	46	NA	14.7	5	NA	58.0
DEKALB Genetics	DK-43A	102.4	NA	44	NA	14.0	6	NA	58.1
CARGILL	627	102.2	NA	47	NA	14.0	3	NA	57.3
TRIUMPH	TR 459	97.9	NA	44	NA	14.3	1	NA	57.7
Average all entries		102.0		45		14.2	4		58.0
Dif. Req. for Sig. 5%		NS		0.6		NS	NS		NS



# West Black & Ecofallow Grain Sorghum Hybrid Test - 1999. Cheyenne County



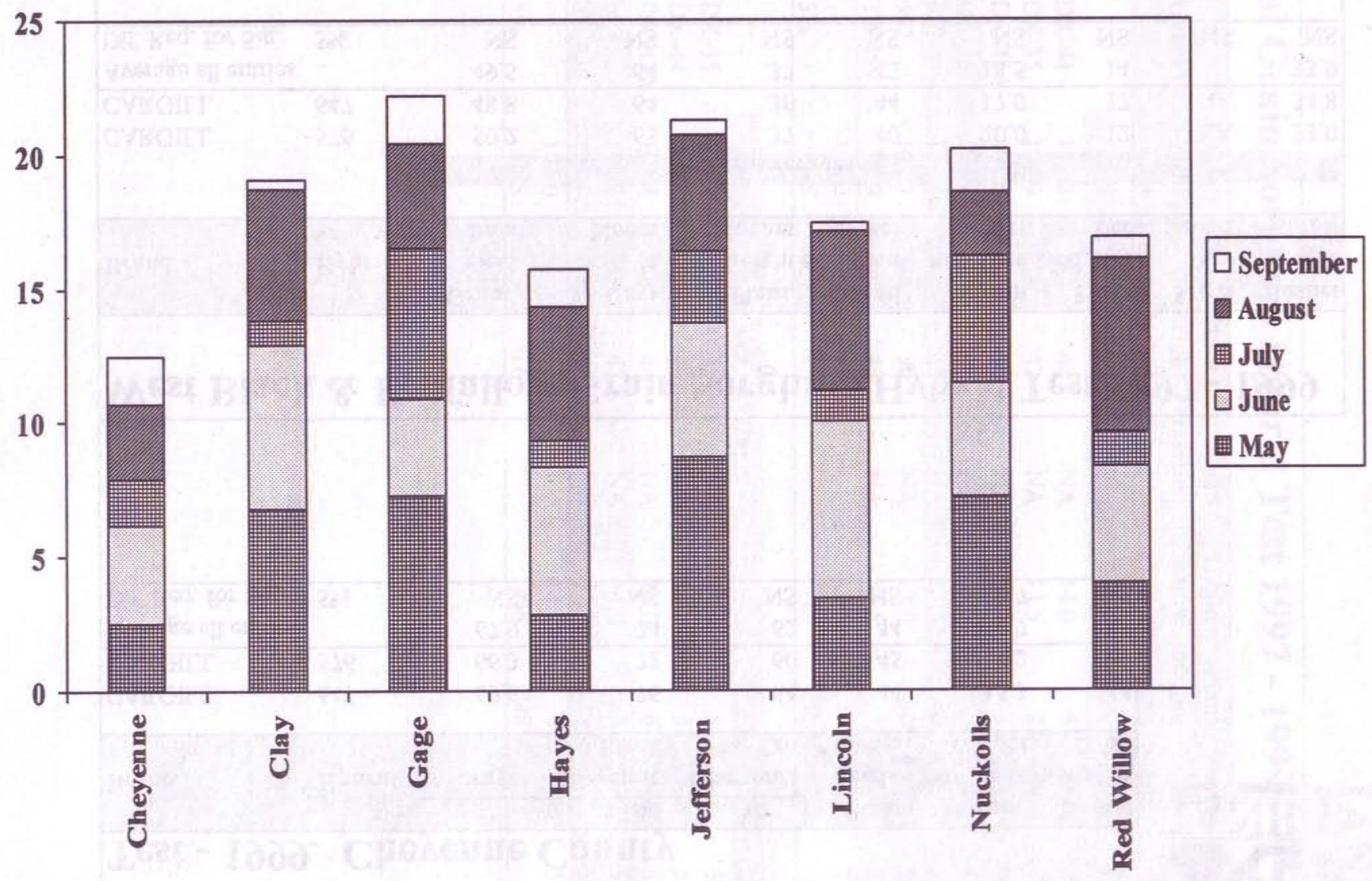
Brand	Hybrid	Yield			Plant height inches	Grain moisture pct	Bushel weight lb/bu
		Average	Cheyenne Black	Cheyenne Eco			
CARGILL	647	69.6	76	64	44	15.3	44
CARGILL	576	66.3	72	60	45	14.2	40
Average all entries		67.9	74	62	44	14.7	42
Dif. Req. for Sig. 5%		NS	NS	NS	NS	0.7	2

## West Black & Ecofallow Grain Sorghum Hybrid Test 1997 - 1999

Brand	Hybrid	Grain Yield bu/a	Days to bloom	Plant height inches	Head exsertion inches	Grain moisture pct	Plant lodging pct	Seeds per pound	Bushel weight lb/bu
2 Year Averages									
CARGILL	576	50.2	65	37	40	20.0	12	NA	33.0
CARGILL	647	48.8	64	36	44	17.0	17	NA	34.8
Average all entries		49.5	64	37	42	18.5	14		33.9
Dif. Req. for Sig. 5%		NS	NS	NS	NS	NS	NS	NS	NS
3 Year Averages									
CARGILL	647	49.5	74	38	44	16.0	17	NA	38.9
Average all entries		49.5	74	38	44	16.0	17		38.9
Dif. Req. for Sig. 5%		NS	NS	NS	NS	NS	NS	NS	NS

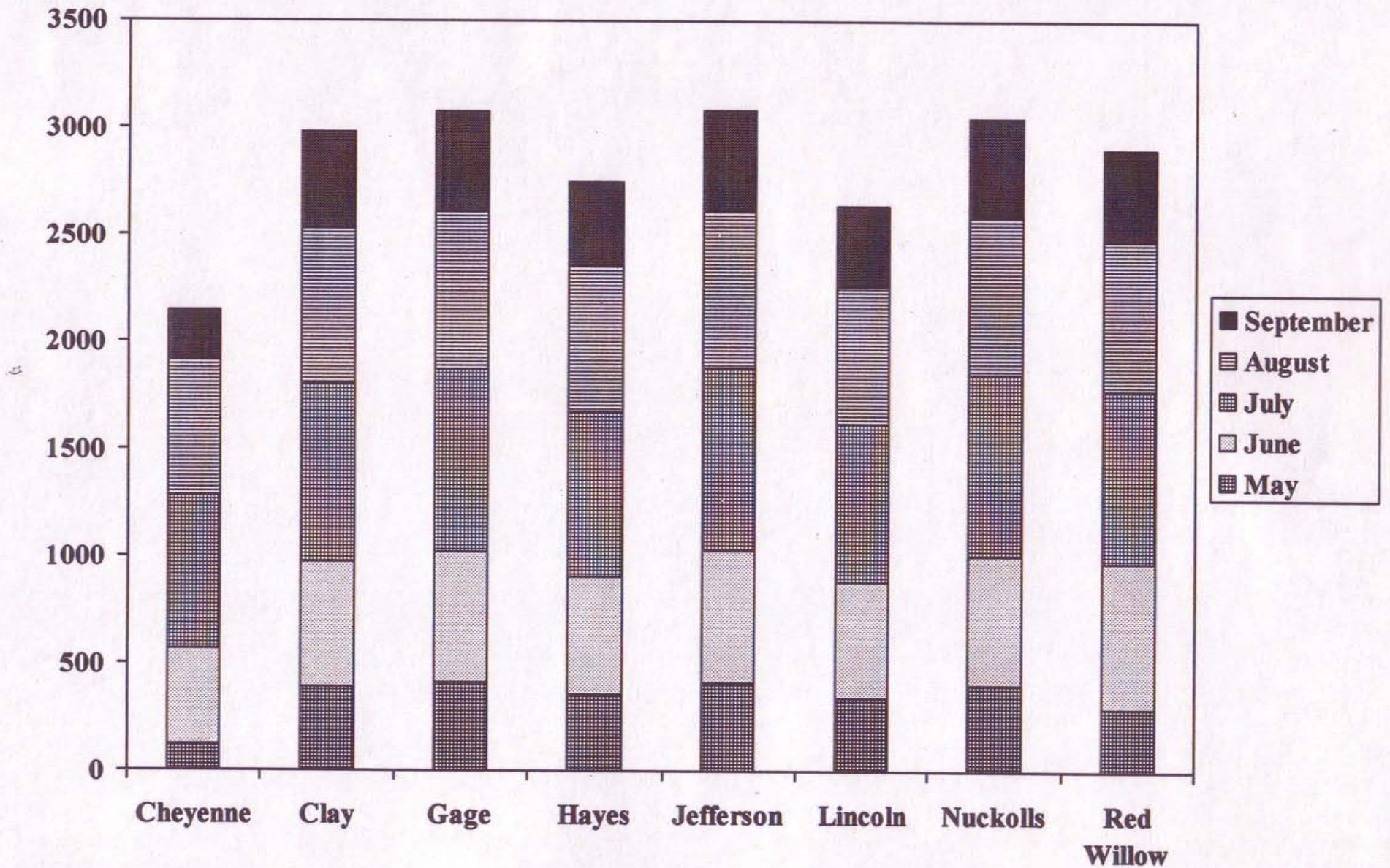


# Rainfall in inches by month at grain sorghum tests

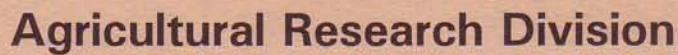
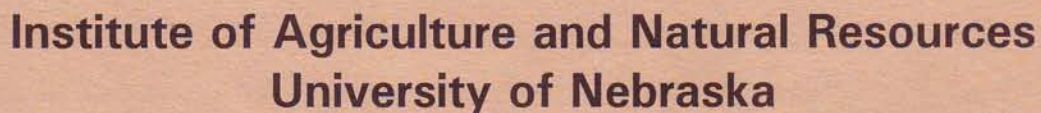




## Growing degree days by month at grain sorghum tests







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