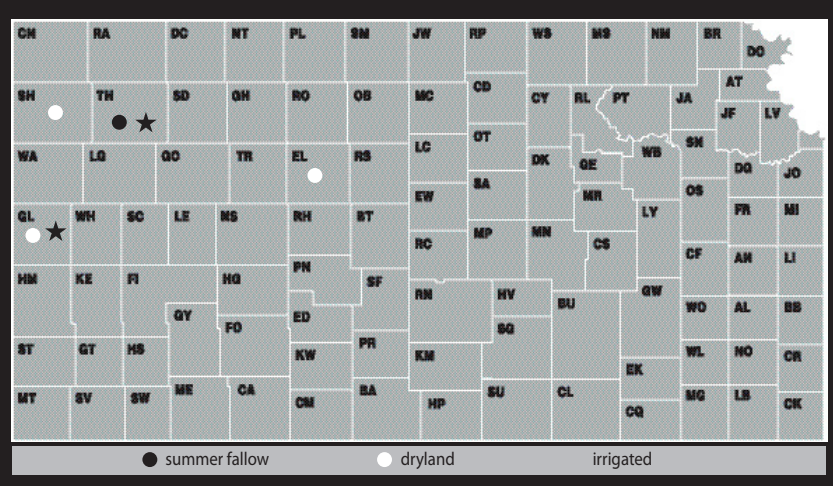


2004

KANSAS PERFORMANCE TESTS WITH SUNFLOWER HYBRIDS

REPORT OF PROGRESS 936

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service



INTRODUCTION

Objectives and Procedures

Sunflower performance tests were conducted in 2004 by the Kansas Agricultural Experiment Station to provide farmers, extension workers, and private industry with unbiased agronomic information on many of the sunflower hybrids marketed in the state. Tests were financed in part by entry fees from private companies. Companies known to be developing and marketing sunflowers were invited to participate and enter hybrids on a voluntary fee-entry basis. As a result, not all hybrids grown in the state were included in tests, and hybrids were not grown uniformly at all locations.

Seven test locations in 2004 included Ellis, Thomas, Sherman, and Greeley Counties – on fallow; Thomas and Greeley Counties – irrigated; Reno and Harvey Counties – dryland, continuous crop. The test in Sherman County had to be abandoned because of drought conditions. Oilseed entries were grown at all locations. Confectionary entries were evaluated only in Thomas and Greeley counties. Oilseed and confectionary entries were planted separately in all tests. Entries were planted in four-row, replicated plots at all locations. To ensure uniform and adequate stands, all tests except those in Thomas and Sherman counties were planted at a high seeding rate and were hand thinned after emergence to desired stands. Tests in Thomas and Sherman counties were planted to stand with a modified Monosem Vacuum Planter.

Environmental factors affecting test results and cultural practices are discussed individually for each of the test sites. Test results for 2004, and period-of-years average data, are included in Tables 1 through 15. Entrants and entries in 2004 tests are listed in Table 16.

Data Interpretation

Yields are reported as lbs seed/acre adjusted to 10% moisture content.

Days to half bloom is number of days from date of planting to date when 50% of plants were in bloom.

Lodging percentage is based on counts of lodged and total plants in harvested areas at all locations.

Oil percentage was obtained from samples submitted under code number to the Kansas Grain Inspection Service for analysis and is reported on a 10% moisture basis. Samples for all tests were derived by compositing replications by entry for each location and subsampling.

Oil yields are reported as net lbs oil/a.

Seed-size percentage analysis for confectionary-type entries was performed at the Northwest Research-Extension Center on cleaned samples submitted from each of the tests. Separation by seed size was made by screening a weighed sample through a series of six sieves (22/64, 21/64, 20/64, 19/64, 18/64, and 16/64-round holes) secured on a Ro-Tap mechanical shaker.

Statistical analysis: Conducting perfect tests is virtually impossible because soil fertility, moisture, and other environmental factors vary. Therefore, small differences in results may have no real meaning. To help interpret data, we applied a statistical technique, analysis of variance, wherever possible. Such analysis requires repeating whole sets of varieties or treatments several times and placing individual varieties or treatments as they would be placed by chance alone. Results of the analyses are reported in terms of least significant differences (LSD). If two means differ by more than the LSD (.05), such a difference would be due to chance variation only 5% of the time. So, it's 95% probable that the difference was due to treatment. If means do not differ by as much as the LSD, then little confidence can be placed in the importance of varietal or treatment differences. The coefficient of variability (CV) represents an estimate of the precision of replicated yield trials. Trials with a CV ranging from 10 to 15% are usually acceptable for performance comparisons. Trials with a CV greater than 15% provide only a rough guide to hybrid performance.

ACKNOWLEDGEMENTS

Cooperation of research center personnel who performed many of the field operations is sincerely appreciated. Vicki Brown, secretary, and Kraig Roozeboom, coordinator – Kansas Crop Performance Tests, assisted in preparing this report, and temporary workers Samantha Wolf and Jordan Harris helped with seed counting, plot thinning, and maintenance. Mary Knapp at the Weather Data Library provided climatological data, and James R. Cochrane, Assistant Scientist, posted data to the Kansas Crop Performance Test web site.

NORTHWEST KANSAS OILSEED SUNFLOWER TESTS

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist

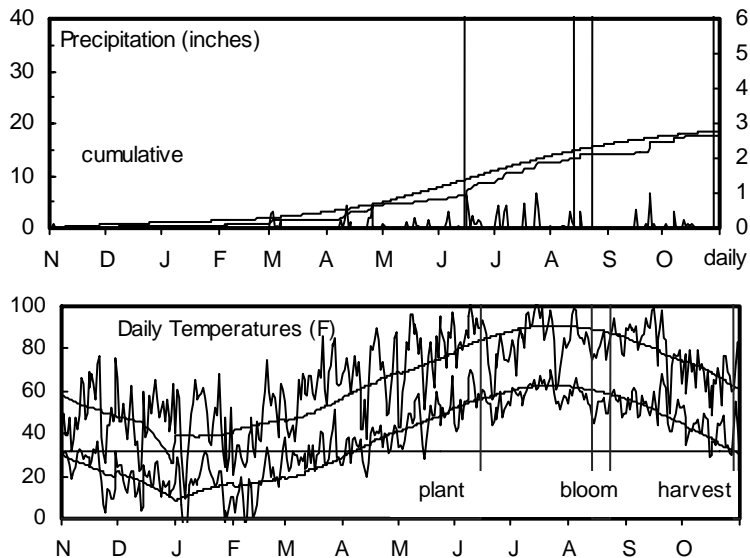
Keith silt loam; Soybeans in 2003

130 - 20 - 0 lb/a N, P, K

Planted on 6/14/2004; Harvested on 10/26/2004

Target stand of 23,000 plants/acre; 9.1 in. spacing

Good stands and favorable growing conditions. Temperatures were cooler than normal, with beneficial rains through July.



Month	Precipitation		Average Temp.	
	2004	Norm.	2004	Norm.
Nov.-Mar	1.8	3.0	35	32
April	2.6	1.8	51	49
May	1.1	3.1	63	60
June	3.2	3.0	68	70
July	4.6	3.1	73	76
August	1.2	2.2	71	74
Sept.	2.6	1.5	69	65
Oct.	1.2	1.0	54	53
Totals:	18.2	18.6	52	51

Table 1. Colby Irrigated Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
CROPLAN GENETICS 308	2558	3278	3371	2918	3069	99	109	101	44.5	44.8	46.6	1138	1308	1437
CROPLAN GENETICS 3080DMR	2591	--	--	--	--	101	--	--	43.3	--	--	1122	--	--
CROPLAN GENETICS 380NS	2593	3063	3527	2828	3061	101	101	105	40.9	40.8	42.2	1061	1152	1297
CROPLAN GENETICS 385NS	2416	2897	3730	2657	3014	94	96	111	39.7	40.5	42.2	959	1076	1285
DEKALB DK F 33-33NS	2418	3036	3163	2727	2872	94	101	94	38.6	38.9	40.2	933	1060	1158
DEKALB DKF38-30NS	2462	2818	--	2640	--	96	93	--	41.2	41.2	--	1014	1086	--
DEKALB DKF38-80CL	2742	3386	--	3064	--	107	112	--	37.1	38.1	--	1017	1171	--
DEKALB EXP35-10NS	2266	--	--	--	--	88	--	--	38.3	--	--	868	--	--
FONTANELLE 902 NS	2771	2744	3504	2758	3006	108	91	105	41.7	42.2	44.3	1156	1162	1342
GARST/INTERSTATE 4704NS	2449	--	--	--	--	95	--	--	39.5	--	--	967	--	--
GARST/INTERSTATE F100116NS	2479	--	--	--	--	96	--	--	41.3	--	--	1024	--	--
GARST/INTERSTATE HYSUN 424	2187	3125	3085	2656	2799	85	104	92	40.8	40.8	42.6	892	1084	1199
GARST/INTERSTATE HYSUN 450	2690	3346	3504	3018	3180	105	111	105	40.6	40.8	42.5	1092	1230	1356
GARST/INTERSTATE HYSUN 454	2505	3177	3554	2841	3079	97	105	106	42.0	42.1	43.6	1052	1196	1351
GARST/INTERSTATE IS 4049	2657	2814	3261	2736	2911	103	93	97	41.1	40.3	42.6	1092	1102	1246
KAYSTAR 2020NS	2484	3063	3300	2774	2949	97	101	99	40.8	41.0	42.7	1013	1136	1265
KAYSTAR 9404	2472	--	2556	--	--	96	--	83	38.9	--	--	962	--	--
KAYSTAR 9501	3049	3226	3387	3138	3221	119	107	110	37.4	37.6	37.8	1140	1180	1217
MYCOGEN 80310	2580	--	--	--	--	100	--	--	38.3	--	--	988	--	--
MYCOGEN 8377NS	2878	3466	3631	3172	3325	112	115	108	42.2	42.5	44.0	1215	1347	1467
MYCOGEN 8N352	3235	--	--	--	--	126	--	--	44.9	--	--	1453	--	--
MYCOGEN 8N421	2560	3271	3515	2916	3115	100	108	105	41.9	42.3	44.1	1073	1233	1382
MYCOGEN 8N510	2385	--	--	--	--	93	--	--	40.7	--	--	971	--	--
PIONEER 63M80	2569	--	3499	--	--	100	--	104	42.9	--	--	1102	--	--
PIONEER 63M91	2640	--	3230	--	--	103	--	96	41.9	--	--	1106	--	--
SEEDS 2000 BLAZER	2625	3130	3419	2878	3058	102	104	102	39.9	40.7	42.6	1047	1172	1311
SEEDS 2000 X 3987	2234	--	--	--	--	87	--	--	39.8	--	--	889	--	--
TRIUMPH 636	2836	2795	3829	2816	3153	110	93	114	42.6	42.9	44.6	1208	1206	1418
TRIUMPH 645	2903	3218	3632	3061	3251	113	107	108	45.5	45.3	46.0	1321	1384	1497
TRIUMPH 650CL	2313	--	--	--	--	90	--	--	37.8	--	--	874	--	--
TRIUMPH 658	2545	2617	3447	2581	2870	99	87	103	42.3	42.7	44.4	1077	1102	1284
TRIUMPH 665	2576	2999	3734	2788	3103	100	99	111	43.7	43.7	45.1	1126	1217	1409
TRIUMPH s667	2600	2557	--	2579	--	101	85	--	45.9	44.7	--	1193	1152	--
TRIUMPH s672	2521	--	--	--	--	98	--	--	44.6	--	--	1124	--	--
TRIUMPH s675	2639	--	--	--	--	103	--	--	46.0	--	--	1214	--	--
TRIUMPH TRX 3346 CL	1858	--	--	--	--	72	--	--	41.5	--	--	771	--	--
TRIUMPH TRX 4342 CL	2888	--	--	--	--	112	--	--	42.7	--	--	1233	--	--
AVERAGES	2572	3019	3067	2796	2886	100	100	100	41.4	41.4	41.9	1065	1156	1211
CV(%)	11	10	16	--	--	0	0	--	0.0	--	--	0	--	--
LSD(0.05)*	334	353	571	--	--	13	12	19	0.0	--	--	0	--	--

Table 1. Colby Irrigated Oilseed Sunflower Performance Test, 2002-2004, continued.

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
	CROPLAN GENETICS 308	59	57	55	66	64	62	7	5	4	27.3	28.2	28.8	9.8	10.1
CROPLAN GENETICS 3080DMR	60	--	--	65	--	--	5	--	--	26.7	--	--	9.0	--	--
CROPLAN GENETICS 380NS	64	61	59	73	71	68	4	3	4	27.1	27.8	28.4	10.3	9.9	--
CROPLAN GENETICS 385NS	65	63	60	66	65	63	5	8	6	27.8	27.7	28.3	10.7	10.3	--
DEKALB DK F 33-33NS	59	58	56	67	67	65	4	3	3	27.6	28.3	28.6	11.0	11.2	--
DEKALB DKF38-30NS	66	63	--	69	69	--	3	3	--	27.7	27.8	--	10.3	9.9	--
DEKALB DKF38-80CL	63	61	--	65	65	--	2	3	--	26.8	27.2	--	9.8	9.8	--
DEKALB EXP35-10NS	63	--	--	69	--	--	2	--	--	27.9	--	--	11.2	--	--
FONTANELLE 902 NS	65	63	60	75	72	68	3	4	3	23.8	24.4	25.2	12.4	11.4	--
GARST/INTERSTATE 4704NS	61	--	--	61	--	--	2	--	--	28.8	--	--	14.9	--	--
GARST/INTERSTATE F100116NS	62	--	--	59	--	--	3	--	--	28.3	--	--	12.8	--	--
GARST/INTERSTATE HYSUN 424	66	63	61	69	68	65	10	--	--	27.9	28.2	28.8	11.8	10.8	--
GARST/INTERSTATE HYSUN 450	65	63	60	65	65	62	2	3	2	27.3	27.7	28.4	10.6	10.5	--
GARST/INTERSTATE HYSUN 454	63	60	58	72	71	69	5	4	4	27.2	27.5	28.3	11.6	11.4	--
GARST/INTERSTATE IS 4049	65	62	60	78	78	73	6	4	4	27.3	27.2	27.8	10.6	10.2	--
KAYSTAR 2020NS	66	63	60	62	63	61	3	3	4	27.8	28.1	28.5	11.3	10.5	--
KAYSTAR 9404	61	--	--	69	--	--	6	--	--	26.5	--	--	10.2	--	--
KAYSTAR 9501	65	63	61	79	77	71	3	4	3	27.7	28.0	28.7	11.1	11.3	12.4
MYCOGEN 80310	60	--	--	68	--	--	3	--	--	26.2	--	--	15.2	--	--
MYCOGEN 8377NS	60	57	55	69	67	66	4	3	--	27.5	27.8	27.9	10.5	10.4	--
MYCOGEN 8N352	64	--	--	69	--	--	4	--	--	29.3	--	--	10.4	--	--
MYCOGEN 8N421	64	61	59	71	71	69	10	6	4	26.5	26.9	27.4	9.7	9.7	--
MYCOGEN 8N510	65	--	--	68	--	--	11	--	--	26.1	--	--	10.1	--	--
PIONEER 63M80	62	--	--	69	--	--	3	--	--	26.8	--	--	12.4	--	--
PIONEER 63M91	62	--	--	75	--	--	2	--	--	27.8	--	--	10.7	--	--
SEEDS 2000 BLAZER	63	60	58	64	63	60	4	3	3	26.7	27.3	28.1	9.5	9.4	--
SEEDS 2000 X 3987	60	--	--	66	--	--	7	--	--	27.5	--	--	9.4	--	--
TRIUMPH 636	66	63	60	72	70	66	6	6	4	23.7	24.4	24.9	12.1	11.9	--
TRIUMPH 645	65	62	60	72	70	66	3	4	--	25.4	25.4	25.6	12.3	11.6	--
TRIUMPH 650CL	64	--	--	73	--	--	7	--	--	25.8	--	--	11.5	--	--
TRIUMPH 658	65	63	60	74	73	69	13	11	8	23.7	24.3	25.0	11.7	10.9	--
TRIUMPH 665	66	63	60	77	74	70	13	8	6	26.2	27.0	27.8	10.5	10.0	--
TRIUMPH s667	67	63	--	50	48	--	36	36	--	27.7	27.9	--	11.0	11.5	--
TRIUMPH s672	65	--	--	46	--	--	4	--	--	28.7	--	--	8.8	--	--
TRIUMPH s675	68	--	--	42	--	--	13	--	--	28.7	--	--	9.9	--	--
TRIUMPH TRX 3346 CL	69	--	--	49	--	--	30	--	--	27.8	--	--	9.1	--	--
TRIUMPH TRX 4342 CL	66	--	--	73	--	--	6	--	--	27.5	--	--	10.3	--	--
AVERAGES	64	61	59	67	66	64	7	6	4	27.0	27.4	27.9	10.9	10.7	11.4
CV(%)	1	--	--	3	--	--	64	--	--	2.3	--	--	--	--	--
LSD(0.05)*	1	--	--	2	--	--	5	--	--	0.7	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist
 Target stand of 17,000 plants/acre; Keith silt loam; Fallow in 2003
 Planted on 6/14/2004; Harvested on 10/8/2004; 50 - 15 - 0 lb/a N, P, K

Excellent stands. Summer was hot and very dry. The lack of sub-soil moisture and summer rain severely affected yields.

Table 2. Colby Fallow Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
DEKALB DK F 33-33NS	1333	235	608	784	725	88	112	49	32.6	32.2	34.5	435	255	249
DEKALB DKF38-30NS	1518	191	--	855	--	101	91	--	36.0	34.4	--	546	304	--
DEKALB DKF38-80CL	1477	216	--	847	--	98	103	--	31.2	31.5	--	461	265	--
DEKALB EXP35-10NS	1345	--	--	--	--	89	--	--	34.3	--	--	461	--	--
FONTANELLE 902 NS	1723	209	1479	966	1137	114	100	119	35.0	36.4	39.2	603	341	448
GARST/INTERSTATE 4704NS	1294	--	--	--	--	86	--	--	34.8	--	--	450	--	--
GARST/INTERSTATE F100116NS	1314	--	--	--	--	87	--	--	35.6	--	--	468	--	--
GARST/INTERSTATE HYSUN 424	1273	--	--	--	--	84	--	--	35.3	--	--	449	--	--
GARST/INTERSTATE HYSUN 450	1582	--	--	--	--	105	--	--	34.8	--	--	551	--	--
GARST/INTERSTATE HYSUN 454	1549	--	--	--	--	103	--	--	36.4	--	--	564	--	--
GARST/INTERSTATE IS 4049	1554	327	1397	941	1093	103	156	113	36.6	35.9	38.0	569	342	424
KAYSTAR 9501	1810	280	1256	1045	1115	120	133	101	32.7	31.9	33.9	592	339	385
MYCOGEN 80310	1630	--	--	--	--	108	--	--	32.9	--	--	536	--	--
MYCOGEN 8377NS	1582	220	--	901	--	105	105	--	35.3	35.6	--	558	319	--
MYCOGEN 8488NS	1604	262	1219	933	1028	106	125	98	35.1	34.2	36.8	563	325	388
MYCOGEN 8N510	1693	--	--	--	--	112	--	--	33.4	--	--	565	--	--
PIONEER 63M80	1461	204	1155	833	940	97	97	93	35.8	33.9	37.5	523	294	369
PIONEER 63M91	1469	204	1109	837	927	97	97	89	36.6	34.8	37.5	538	302	361
TRIUMPH 665	1578	158	1127	868	954	105	75	91	35.4	34.0	37.3	559	305	368
TRIUMPH s675	1380	--	--	--	--	91	--	--	39.3	--	--	542	--	--
AVERAGES	1509	210	1242	860	987	100	100	100	35.0	34.4	37.0	528	299	374
CV(%)	13	41	33	--	--	1	20	--	0.0	--	--	0	--	--
LSD(0.05)*	234	101	480	--	--	16	48	39	0.0	--	--	0	--	--

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
DEKALB DK F 33-33NS	60	58	56	52	42	39	9	8	12	22.2	22.9	25.1	9.6	7.5	7.7
DEKALB DKF38-30NS	66	63	--	51	41	--	12	8	--	24.1	24.0	--	9.1	7.2	--
DEKALB DKF38-80CL	63	61	--	48	40	--	11	9	--	18.7	20.7	--	6.7	5.6	--
DEKALB EXP35-10NS	63	--	--	53	--	--	6	--	--	23.5	--	--	8.8	--	--
FONTANELLE 902 NS	64	63	61	57	44	41	19	11	7	19.8	21.1	22.9	8.8	6.9	7.9
GARST/INTERSTATE 4704NS	63	--	--	50	--	--	4	--	--	22.0	--	--	11.2	--	--
GARST/INTERSTATE F100116NS	62	--	--	48	--	--	13	--	--	22.1	--	--	9.9	--	--
GARST/INTERSTATE HYSUN 424	66	--	--	51	--	--	14	--	--	21.5	--	--	8.0	--	--
GARST/INTERSTATE HYSUN 450	66	--	--	48	--	--	6	--	--	21.7	--	--	8.1	--	--
GARST/INTERSTATE HYSUN 454	63	--	--	54	--	--	2	--	--	23.0	--	--	9.6	--	--
GARST/INTERSTATE IS 4049	64	62	61	55	46	42	10	6	6	22.2	22.7	24.8	8.4	7.0	8.2
KAYSTAR 9501	64	62	61	58	47	43	10	7	9	23.5	24.3	25.9	8.7	6.9	8.2
MYCOGEN 80310	60	--	--	55	--	--	9	--	--	20.8	--	--	12.0	--	--
MYCOGEN 8377NS	60	59	--	54	42	--	8	5	--	22.7	24.5	--	7.9	6.5	--
MYCOGEN 8488NS	64	60	59	56	46	42	8	10	7	22.5	22.6	24.9	7.3	6.0	7.1
MYCOGEN 8N510	65	--	--	53	--	--	4	--	--	21.4	--	--	8.1	--	--
PIONEER 63M80	62	59	58	49	41	39	12	8	8	20.4	21.9	24.7	10.7	8.0	8.3
PIONEER 63M91	62	60	59	57	45	43	7	8	7	21.6	22.1	24.3	9.0	7.0	7.8
TRIUMPH 665	65	63	62	58	43	40	10	6	6	23.4	22.8	24.9	8.4	6.6	7.5
TRIUMPH s675	68	--	--	34	--	--	5	--	--	24.3	--	--	8.0	--	--
AVERAGES	63	61	60	52	42	39	9	6	6	22.1	22.9	24.7	9.0	7.0	7.9
CV(%)	1	--	--	6	--	--	71	--	--	5.7	--	--	--	--	--
LSD(0.05)*	1	--	--	4	--	--	8	--	--	1.5	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

WEST CENTRAL KANSAS OILSEED SUNFLOWER TESTS

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist

Ulysses silt loam; Wheat in 2003

140 - 0 - 0 lb/a N, P, K

Planted on 6/25/2004; Harvested on 9/15/2004

Target stand of 23,000 plants/acre; 9.1 in. spacing

June rains delayed planting. Cool temperatures in July and August slowed growth.

Month	Precipitation		Average Temp.	
	2004	Norm.	2004	Norm.
Nov.-Mar	2.0	2.1	37	34
April	3.9	1.3	52	49
May	0.2	2.3	64	60
June	7.4	2.6	69	70
July	4.1	2.5	72	77
August	3.8	2.2	70	74
Sept.	2.3	1.3	68	66
Oct.	0.8	0.7	54	54
Totals:	24.6	15.0	53	52

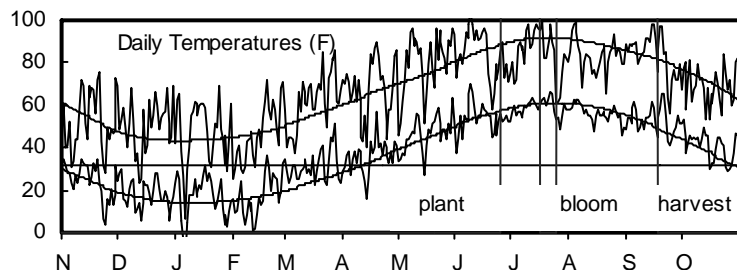
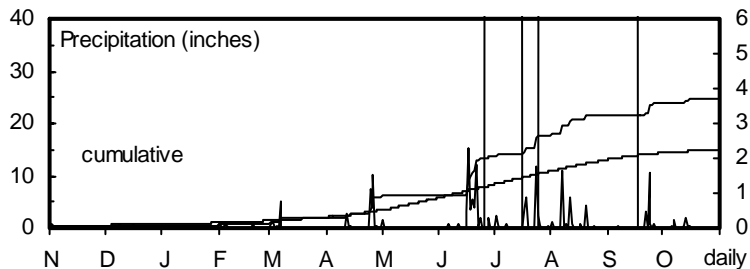


Table 3. Tribune Irrigated Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
CROPLAN GENETICS 380NS	1561	--	--	--	--	72	--	--	41.1	--	--	642	--	--
DEKALB DK F 33-33NS	2487	2808	--	2647	--	115	109	--	37.4	38.4	--	930	1018	--
DEKALB DKF38-30NS	2034	2110	--	2072	--	94	82	--	40.1	40.6	--	816	841	--
DEKALB DKF38-80CL	1808	2756	--	2282	--	84	107	--	38.8	38.4	--	702	874	--
DEKALB EXP35-10NS	2342	--	--	--	--	108	--	--	39.1	--	--	916	--	--
GARST/INTERSTATE 4704NS	1527	--	--	--	--	71	--	--	37.0	--	--	565	--	--
GARST/INTERSTATE F100116NS	1927	--	--	--	--	89	--	--	37.6	--	--	725	--	--
GARST/INTERSTATE HYSUN 424	2454	3181	--	2818	--	114	124	--	40.7	40.8	--	999	1148	--
GARST/INTERSTATE HYSUN 450	1735	3195	--	2465	--	80	124	--	40.4	40.7	--	701	1005	--
GARST/INTERSTATE HYSUN 454	2050	2510	--	2280	--	95	97	--	39.6	40.6	--	812	927	--
GARST/INTERSTATE IS 4049	2521	2612	--	2567	--	117	101	--	40.3	40.2	--	1016	1032	--
MYCOGEN 80310	2374	--	--	--	--	110	--	--	38.3	--	--	909	--	--
MYCOGEN 8377NS	2909	2780	--	2844	--	135	108	--	41.2	41.1	--	1199	1168	--
MYCOGEN 8N352	2399	--	--	--	--	111	--	--	44.8	--	--	1075	--	--
MYCOGEN 8N421	2061	2680	--	2370	--	95	104	--	43.5	42.7	--	897	1008	--
MYCOGEN 8N510	2193	--	--	--	--	102	--	--	42.1	--	--	923	--	--
PIONEER 63M80	2573	--	--	--	--	119	--	--	41.9	--	--	1078	--	--
PIONEER 63M91	1956	--	--	--	--	91	--	--	42.7	--	--	835	--	--
SEEDS 2000 BLAZER	2336	--	--	--	--	108	--	--	40.7	--	--	951	--	--
TRIUMPH 645	2305	2816	--	2561	--	107	109	--	45.2	45.2	--	1042	1156	--
TRIUMPH 665	1681	2406	--	2044	--	78	93	--	43.2	42.3	--	726	861	--
TRIUMPH s675	2154	--	--	--	--	100	--	--	45.4	--	--	978	--	--
TRIUMPH TRX 4342 CL	2261	--	--	--	--	105	--	--	43.6	--	--	986	--	--
AVERAGES	2159	2575	--	2367	--	100	100	--	41.1	40.9	--	887	968	--
CV(%)	23	22	--	--	--	1	1	--	0.0	--	--	0	--	--
LSD(0.05)*	586	668	--	--	--	27	26	--	0.0	--	--	0	--	--

Table 3. Tribune Irrigated Oilseed Sunflower Performance Test, 2002-2004, continued.

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.
		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.
CROPLAN GENETICS 380NS	65	--	--	78	--	--	6	--	--	30.0	--	--	10.7	--	--
DEKALB DK F 33-33NS	59	59	--	72	70	--	13	--	--	30.6	29.5	--	12.6	12.2	--
DEKALB DKF38-30NS	65	65	--	73	75	--	20	--	--	30.4	28.7	--	11.6	10.8	--
DEKALB DKF38-80CL	64	63	--	66	65	--	5	--	--	28.4	26.7	--	12.0	11.0	--
DEKALB EXP35-10NS	64	--	--	74	--	--	14	--	--	30.5	--	--	11.8	--	--
GARST/INTERSTATE 4704NS	61	--	--	61	--	--	1	--	--	25.3	--	--	14.0	--	--
GARST/INTERSTATE F100116NS	62	--	--	61	--	--	4	--	--	25.8	--	--	12.9	--	--
GARST/INTERSTATE HYSUN 424	66	66	--	73	75	--	9	--	--	30.2	29.5	--	12.8	11.9	--
GARST/INTERSTATE HYSUN 450	66	66	--	66	69	--	9	--	--	29.7	29.5	--	10.9	10.6	--
GARST/INTERSTATE HYSUN 454	65	65	--	77	75	--	8	--	--	27.8	27.2	--	12.8	12.4	--
GARST/INTERSTATE IS 4049	67	66	--	80	80	--	10	--	--	28.3	27.2	--	10.6	10.8	--
MYCOGEN 80310	60	--	--	72	--	--	5	--	--	28.5	--	--	16.8	--	--
MYCOGEN 8377NS	61	61	--	73	72	--	1	--	--	29.0	26.9	--	12.1	11.6	--
MYCOGEN 8N352	64	--	--	74	--	--	9	--	--	31.6	--	--	11.2	--	--
MYCOGEN 8N421	65	65	--	76	76	--	5	--	--	30.7	27.6	--	10.3	10.5	--
MYCOGEN 8N510	66	--	--	72	--	--	10	--	--	30.1	--	--	9.4	--	--
PIONEER 63M80	61	--	--	70	--	--	4	--	--	30.5	--	--	14.0	--	--
PIONEER 63M91	62	--	--	74	--	--	5	--	--	32.1	--	--	12.9	--	--
SEEDS 2000 BLAZER	63	--	--	68	--	--	15	--	--	27.2	--	--	12.1	--	--
TRIUMPH 645	64	65	--	81	80	--	28	--	--	27.1	27.0	--	11.4	11.9	--
TRIUMPH 665	65	65	--	79	77	--	26	--	--	29.3	26.3	--	11.2	11.0	--
TRIUMPH s675	68	--	--	58	--	--	88	--	--	27.3	--	--	12.0	--	--
TRIUMPH TRX 4342 CL	66	--	--	80	--	--	9	--	--	30.5	--	--	11.0	--	--
AVERAGES	64	64	--	72	72	--	13	--	--	29.2	27.9	--	12.0	11.8	--
CV(%)	1	--	--	5	--	--	62	--	--	5.0	--	--	--	--	--
LSD(0.05)*	1	--	--	4	--	--	10	--	--	1.7	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist
 Target stand of 17,400 plants/acre; Richfield silt loam; Wheat in 2003
 Planted on 5/17/2004; Harvested on 10/26/2004; 80 - 0 - 0 lb/a N, P, K

June rains delayed planting. Cool temperatures in July and August slowed growth.

Table 4. Tribune Dryland Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
	DEKALB DK F 33-33NS	1103	1219	904	1161	1075	90	105	85	32.7	34.7	35.8	361	404
DEKALB DKF38-30NS	1414	944	--	1179	--	115	81	--	34.7	38.0	--	491	440	--
DEKALB DKF38-80CL	1229	1205	--	1217	--	100	104	--	33.1	36.4	--	407	443	--
DEKALB EXP35-10NS	933	--	--	--	--	76	--	--	34.2	--	--	319	--	--
FONTANELLE 902 NS	1169	804	1198	986	1057	95	69	113	35.9	38.5	38.9	420	375	409
GARST/INTERSTATE 4704NS	993	--	--	--	--	81	--	--	33.4	--	--	332	--	--
GARST/INTERSTATE F100116NS	761	--	--	--	--	62	--	--	33.8	--	--	257	--	--
GARST/INTERSTATE HYSUN 424	1285	--	--	--	--	105	--	--	35.2	--	--	452	--	--
GARST/INTERSTATE HYSUN 450	1100	1214	1259	1157	1191	90	105	119	35.6	38.0	38.2	392	441	456
GARST/INTERSTATE HYSUN 454	1283	1200	1234	1241	1239	104	103	117	34.5	37.0	37.4	443	458	462
GARST/INTERSTATE IS 4049	1545	1176	1164	1361	1295	126	101	110	33.7	37.2	37.4	521	500	480
MYCOGEN 8377NS	1368	--	--	--	--	111	--	--	35.0	--	--	479	--	--
MYCOGEN 8488NS	1015	1288	806	1152	1036	83	111	76	33.9	37.1	38.0	344	431	394
MYCOGEN 8N421	1221	1341	--	1281	--	99	116	--	35.2	38.8	--	430	499	--
MYCOGEN 8N510	1537	--	--	--	--	125	--	--	32.5	--	--	500	--	--
PIONEER 63M80	1006	1129	682	1067	939	82	97	64	35.2	37.9	38.2	354	406	359
PIONEER 63M91	1147	896	956	1022	1000	93	77	90	34.5	37.2	37.7	396	377	375
SEEDS 2000 BLAZER	1583	1234	--	1408	--	129	106	--	34.9	38.4	--	552	535	--
SEEDS 2000 CHARGER	1221	1176	--	1198	--	99	101	--	33.1	36.3	--	404	434	--
SEEDS 2000 X978	1129	--	--	--	--	92	--	--	35.8	--	--	404	--	--
TRIUMPH 645	1642	--	--	--	--	134	--	--	38.2	--	--	627	--	--
TRIUMPH s675	1320	--	--	--	--	107	--	--	36.6	--	--	483	--	--
AVERAGES	1228	1161	1058	1194	1149	100	100	100	34.6	37.4	37.9	425	446	434
CV(%)	32	30	29	--	--	3	3	--	0.0	--	--	0	--	--
LSD(0.05)*	461	408	363	--	--	38	35	34	0.0	--	--	0	--	--

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
	DEKALB DK F 33-33NS	56	55	58	61	54	52	5	--	--	26.7	27.0	27.7	10.0	9.6
DEKALB DKF38-30NS	61	60	--	66	60	--	0	--	--	26.3	28.2	--	11.1	11.0	--
DEKALB DKF38-80CL	59	58	--	60	53	--	3	--	--	24.6	26.5	--	8.6	9.7	--
DEKALB EXP35-10NS	59	--	--	61	--	--	0	--	--	26.2	--	--	12.3	--	--
FONTANELLE 902 NS	59	59	61	71	62	59	3	--	--	24.2	26.0	27.0	11.3	10.9	12.2
GARST/INTERSTATE 4704NS	58	--	--	56	--	--	1	--	--	24.9	--	--	13.4	--	--
GARST/INTERSTATE F100116NS	59	--	--	56	--	--	0	--	--	24.8	--	--	11.5	--	--
GARST/INTERSTATE HYSUN 424	61	--	--	67	--	--	4	--	--	26.5	--	--	9.5	--	--
GARST/INTERSTATE HYSUN 450	61	61	63	61	54	51	1	--	--	26.5	28.0	28.6	10.2	9.9	11.5
GARST/INTERSTATE HYSUN 454	60	59	61	67	60	57	0	--	--	27.1	27.7	28.2	10.9	12.0	12.8
GARST/INTERSTATE IS 4049	60	59	61	75	65	62	4	--	--	26.0	26.9	27.7	9.1	9.9	11.2
MYCOGEN 8377NS	58	--	--	69	--	--	3	--	--	26.3	--	--	9.6	--	--
MYCOGEN 8488NS	61	59	61	71	62	59	1	--	--	26.4	28.4	28.3	9.4	9.4	11.2
MYCOGEN 8N421	60	59	--	69	61	--	4	--	--	25.8	27.8	--	10.4	10.4	--
MYCOGEN 8N510	60	--	--	64	--	--	3	--	--	25.0	--	--	8.4	--	--
PIONEER 63M80	59	59	61	61	56	53	3	--	--	26.1	26.5	27.5	12.3	12.4	13.0
PIONEER 63M91	59	59	61	66	57	55	1	--	--	26.3	27.6	28.3	11.1	11.9	12.7
SEEDS 2000 BLAZER	59	59	--	58	51	--	3	--	--	25.7	27.1	--	10.6	9.6	--
SEEDS 2000 CHARGER	59	59	--	76	65	--	8	--	--	24.1	26.2	--	8.5	10.1	--
SEEDS 2000 X978	61	--	--	72	--	--	3	--	--	27.2	--	--	8.8	--	--
TRIUMPH 645	61	--	--	69	--	--	6	--	--	25.0	--	--	11.0	--	--
TRIUMPH s675	63	--	--	45	--	--	0	--	--	27.6	--	--	8.5	--	--
AVERAGES	60	59	61	64	57	54	2	--	--	25.9	27.3	27.9	10.3	10.7	12.0
CV(%)	1	--	--	9	--	--	185	--	--	3.0	--	--	--	--	--
LSD(0.05)*	1	--	--	7	--	--	5	--	--	0.9	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

NORTH CENTRAL KANSAS DRYLAND OILSEED SUNFLOWER TEST

Agricultural Research Center, Hays; Ken Kofoid, agronomist

Harney silt loam; Fallow in 2003

60 - 0 - 0 lb/a N, P, K

Planted on 6/24/2004; Harvested on 10/22/2004

Target stand of 17,400 plants/acre; 12.0 in. spacing

Heavy rains in the middle of June delayed planting. Good growing conditions continued throughout the growing season.

Month	Precipitation		Average Temp.	
	2004	Norm.	2004	Norm.
Nov.-Mar	3.6	3.5	35	33
April	1.3	1.8	54	51
May	1.8	3.1	66	62
June	4.3	3.8	72	72
July	7.5	3.4	75	78
August	1.8	2.8	74	76
Sept.	2.0	2.2	72	68
Oct.	1.8	1.5	57	55
Totals:	23.9	22.0	54	52

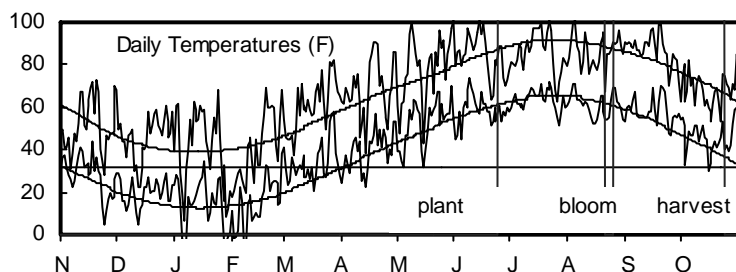
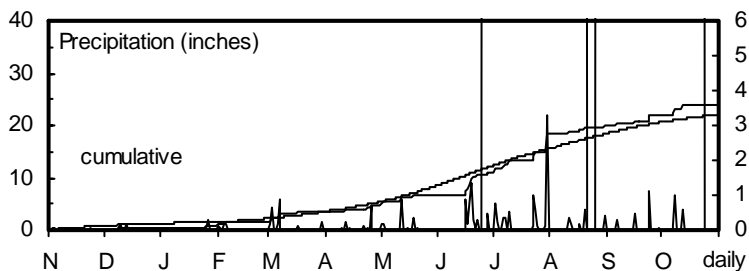


Table 5. Hays Dryland Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
CROPLAN GENETICS 385NS	1585	--	--	--	--	94	--	--	35.8	--	--	567	--	--
DEKALB DK F 33-33NS	1387	--	--	--	--	82	--	--	32.6	--	--	452	--	--
DEKALB DKF38-30NS	2352	--	--	--	--	139	--	--	36.2	--	--	851	--	--
DEKALB DKF38-80CL	1667	--	--	--	--	99	--	--	33.0	--	--	550	--	--
DEKALB EXP35-10NS	1763	--	--	--	--	104	--	--	34.5	--	--	608	--	--
FONTANELLE 902 NS	1962	--	--	--	--	116	--	--	35.6	--	--	698	--	--
GARST/INTERSTATE 4704NS	1672	--	--	--	--	99	--	--	36.5	--	--	610	--	--
GARST/INTERSTATE F100116NS	1709	--	--	--	--	101	--	--	35.1	--	--	600	--	--
GARST/INTERSTATE HYSUN 424	1506	--	--	--	--	89	--	--	35.7	--	--	538	--	--
GARST/INTERSTATE HYSUN 450	1759	--	--	--	--	104	--	--	34.8	--	--	612	--	--
GARST/INTERSTATE HYSUN 454	1802	--	--	--	--	107	--	--	36.7	--	--	661	--	--
GARST/INTERSTATE IS 4049	1901	--	--	--	--	113	--	--	36.0	--	--	684	--	--
KAYSTAR 2020NS	1254	--	--	--	--	74	--	--	34.5	--	--	433	--	--
KAYSTAR 9404	1643	--	--	--	--	97	--	--	34.1	--	--	560	--	--
KAYSTAR 9501	1650	--	--	--	--	98	--	--	32.6	--	--	538	--	--
MYCOGEN 8377NS	1699	--	--	--	--	101	--	--	37.1	--	--	630	--	--
MYCOGEN 8N421	1957	--	--	--	--	116	--	--	36.4	--	--	712	--	--
MYCOGEN 8N510	1762	--	--	--	--	104	--	--	35.4	--	--	624	--	--
PIONEER 63M80	1360	--	--	--	--	81	--	--	39.4	--	--	536	--	--
PIONEER 63M91	1236	--	--	--	--	73	--	--	37.3	--	--	461	--	--
TRIUMPH 645	1490	--	--	--	--	88	--	--	40.1	--	--	597	--	--
TRIUMPH s675	2044	--	--	--	--	121	--	--	38.0	--	--	777	--	--
AVERAGES	1689	--	--	--	--	100	--	--	35.8	--	--	605	--	--
CV(%)	17	--	--	--	--	1	--	--	0.0	--	--	0	--	--
LSD(0.05)*	343	--	--	--	--	20	--	--	0.0	--	--	0	--	--

Table 5. Hays Dryland Oilseed Sunflower Performance Test, 2002-2004, continued.

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.
		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.
CROPLAN GENETICS 385NS	61	--	--	53	--	--	5	--	--	23.0	--	--	9.0	--	--
DEKALB DK F 33-33NS	57	--	--	52	--	--	2	--	--	23.1	--	--	11.6	--	--
DEKALB DKF38-30NS	60	--	--	55	--	--	1	--	--	24.2	--	--	10.5	--	--
DEKALB DKF38-80CL	59	--	--	48	--	--	2	--	--	21.1	--	--	11.6	--	--
DEKALB EXP35-10NS	57	--	--	54	--	--	1	--	--	24.2	--	--	13.3	--	--
FONTANELLE 902 NS	61	--	--	59	--	--	1	--	--	21.9	--	--	10.8	--	--
GARST/INTERSTATE 4704NS	57	--	--	50	--	--	4	--	--	22.9	--	--	12.6	--	--
GARST/INTERSTATE F100116NS	57	--	--	49	--	--	2	--	--	22.8	--	--	13.5	--	--
GARST/INTERSTATE HYSUN 424	61	--	--	54	--	--	4	--	--	23.4	--	--	10.9	--	--
GARST/INTERSTATE HYSUN 450	62	--	--	50	--	--	3	--	--	23.6	--	--	9.1	--	--
GARST/INTERSTATE HYSUN 454	61	--	--	60	--	--	2	--	--	24.5	--	--	12.1	--	--
GARST/INTERSTATE IS 4049	61	--	--	64	--	--	4	--	--	24.6	--	--	11.5	--	--
KAYSTAR 2020NS	61	--	--	49	--	--	5	--	--	22.7	--	--	11.2	--	--
KAYSTAR 9404	57	--	--	51	--	--	4	--	--	24.0	--	--	11.3	--	--
KAYSTAR 9501	61	--	--	63	--	--	2	--	--	24.8	--	--	12.2	--	--
MYCOGEN 8377NS	57	--	--	53	--	--	2	--	--	23.4	--	--	10.7	--	--
MYCOGEN 8N421	61	--	--	59	--	--	2	--	--	23.9	--	--	11.1	--	--
MYCOGEN 8N510	61	--	--	55	--	--	4	--	--	23.1	--	--	9.8	--	--
PIONEER 63M80	58	--	--	56	--	--	3	--	--	23.1	--	--	14.2	--	--
PIONEER 63M91	58	--	--	53	--	--	2	--	--	23.7	--	--	11.4	--	--
TRIUMPH 645	61	--	--	61	--	--	2	--	--	21.7	--	--	10.7	--	--
TRIUMPH s675	61	--	--	35	--	--	5	--	--	23.9	--	--	8.7	--	--
AVERAGES	60	--	--	54	--	--	3	--	--	23.3	--	--	11.3	--	--
CV(%)	2	--	--	10	--	--	132	--	--	7.1	--	--	--	--	--
LSD(0.05)*	1	--	--	6	--	--	4	--	--	1.9	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

SOUTH CENTRAL KANSAS DRYLAND OILSEED SUNFLOWER TEST

South Central Kansas Exp. Field, Hutchinson; William Heer, agronomist

Ost silt loam; Fallow in 2003

100 - 0 - 0 lb/a N, P, K

Planted on 5/28/2004; Harvested on 10/4/2004

Target stand of 22,000 plants/acre; 9.5 in. spacing

Good to excellent stands were established. Growing season was cooler and wetter than normal. Head moths were present but controlled.

Month	Precipitation		Average Temp.	
	2004	Norm.	2004	Norm.
Nov.-Mar	7.0	4.2	38	37
April	1.3	2.7	54	56
May	3.3	4.0	67	65
June	6.8	4.2	72	75
July	7.4	3.4	76	81
August	2.2	3.1	72	79
Sept.	2.3	3.3	72	70
Oct.	2.3	2.6	59	58
Totals:	32.5	27.5	55	56

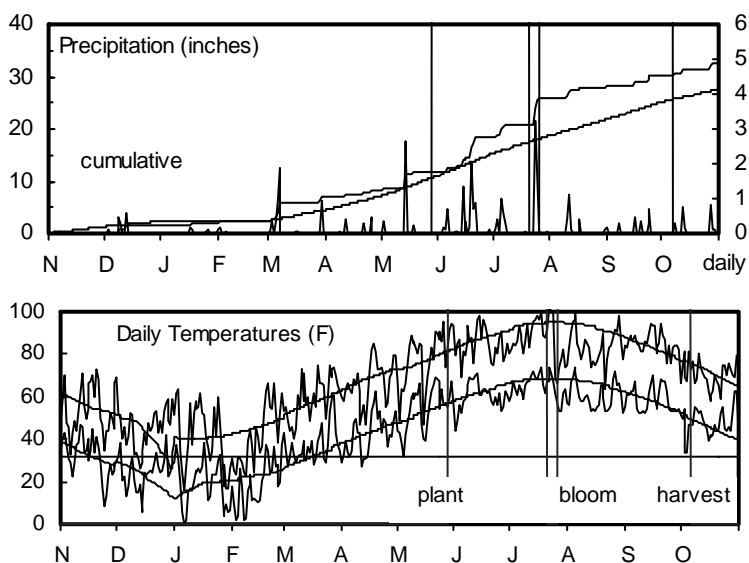


Table 6. Hutchinson Dryland Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
CROPLAN GENETICS 385NS	2358	682	--	1520	--	110	138	--	41.0	37.9	--	967	602	--
DEKALB DK F 33-33NS	2158	525	437	1342	1040	101	106	117	42.1	38.7	38.5	909	547	420
DEKALB DKF38-30NS	2069	392	--	1230	--	97	79	--	42.3	38.4	--	875	505	--
DEKALB DKF38-80CL	1771	541	--	1156	--	83	109	--	41.1	37.7	--	728	457	--
DEKALB EXP35-10NS	2328	--	--	--	--	109	--	--	41.0	--	--	954	--	--
GARST/INTERSTATE F100116NS	2161	--	--	--	--	101	--	--	41.0	--	--	886	--	--
GARST/INTERSTATE HYSUN 424	2086	--	--	--	--	97	--	--	41.8	--	--	872	--	--
GARST/INTERSTATE HYSUN 450	2103	--	--	--	--	98	--	--	40.2	--	--	845	--	--
GARST/INTERSTATE HYSUN 454	1799	--	--	--	--	84	--	--	42.0	--	--	756	--	--
PIONEER 63M80	2256	473	294	1365	1008	105	96	78	43.6	40.2	40.0	984	579	425
PIONEER 63M91	2501	423	335	1462	1086	117	86	90	44.5	41.9	40.7	1113	639	469
AVERAGES	2144	495	374	1320	1004	100	100	100	41.9	39.2	39.0	898	539	408
CV(%)	22	24	30	--	--	1	5	--	0.0	--	--	0	--	--
LSD(0.05)*	556	138	135	--	--	26	28	36	0.0	--	--	0	--	--

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
CROPLAN GENETICS 385NS	56	56	--	67	56	--	4	32	--	30.8	25.9	--	11.4	8.9	--
DEKALB DK F 33-33NS	52	51	51	68	58	--	18	43	--	33.2	27.6	26.9	12.0	9.0	8.7
DEKALB DKF38-30NS	57	56	--	70	60	--	16	41	--	31.8	27.7	--	12.2	9.0	--
DEKALB DKF38-80CL	55	54	--	64	54	--	10	42	--	32.2	25.8	--	10.8	8.0	--
DEKALB EXP35-10NS	56	--	--	70	--	--	6	--	--	32.3	--	--	13.5	--	--
GARST/INTERSTATE F100116NS	55	--	--	62	--	--	11	--	--	30.2	--	--	13.6	--	--
GARST/INTERSTATE HYSUN 424	56	--	--	70	--	--	14	--	--	32.2	--	--	12.6	--	--
GARST/INTERSTATE HYSUN 450	56	--	--	66	--	--	15	--	--	31.0	--	--	11.7	--	--
GARST/INTERSTATE HYSUN 454	56	--	--	72	--	--	13	--	--	32.5	--	--	12.7	--	--
PIONEER 63M80	54	52	53	67	57	--	8	36	--	31.9	26.0	25.8	13.8	10.3	9.6
PIONEER 63M91	56	53	53	74	63	--	5	35	--	33.2	28.4	26.7	11.7	9.2	8.8
AVERAGES	55	54	54	68	58	--	11	35	--	31.9	26.8	25.8	--	3.0	4.7
CV(%)	2	--	--	4	--	--	82	--	--	3.4	--	--	--	--	--
LSD(0.05)*	1	--	--	3	--	--	11	--	--	1.3	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

SOUTH CENTRAL KANSAS DRYLAND OILSEED SUNFLOWER TEST

Harvey County Experiment Field, Hesston; Mark Claassen, agronomist

Smolan silt loam; Wheat in 2003

80 - 0 - 0 lb/a N, P, K

Planted on 6/28/2004; Harvested on 10/4/2004

Target stand of 22,000 plants/acre; 9.5 in. spacing

Excellent conditions at planting. Plots were hand thinned. In July and August, temperatures were below normal, with only 3 days at or above 100 degrees. Rainfall was above normal in July, but below normal in August. Stalk rot contributed to lodging that caused yield loss and variability. Lodging accounted for approximately 15% of yield variation beyond that attributed to hybrid.

Lodging accounted for approximately 15% of yield variation beyond that attributed to hybrid.

Month	Precipitation		Average Temp.	
	2004	Norm.	2004	Norm.
Nov.-Mar	9.3	5.9	38	37
April	1.2	2.7	55	56
May	2.8	4.3	68	66
June	5.3	4.8	72	76
July	5.8	3.8	75	81
August	2.4	3.1	74	80
Sept.	1.3	3.6	72	71
Oct.	3.0	2.6	59	59
Totals:	31.1	30.8	55	56

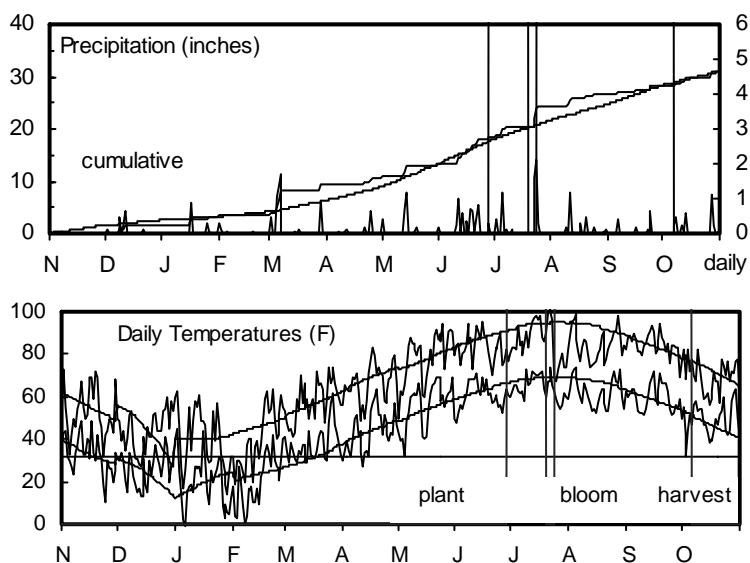


Table 7. Hesston Dryland Oilseed Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD (% AVG.)			OIL (%)			OIL YIELD (lbs/a)		
	2004	2003	2002	2-Yr. AVG.	3-Yr. AVG.	2004	2003	2002	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
DEKALB DK F 33-33NS	1162	864	1740	1013	1255	61	88	112	37.5	40.9	--	436	409	--
DEKALB DKF38-30NS	2195	815	--	1505	--	114	83	--	38.5	41.1	--	845	601	--
DEKALB DKF38-80CL	1656	768	--	1212	--	86	78	--	36.0	40.0	--	596	467	--
DEKALB EXP35-10NS	2282	--	--	--	--	119	--	--	37.6	--	--	858	--	--
MYCOGEN 8N421	1763	1300	--	1532	--	92	133	--	37.8	41.4	--	666	625	--
MYCOGEN 8N510	1866	--	--	--	--	97	--	--	36.8	--	--	687	--	--
TRIUMPH 645	2508	--	--	--	--	131	--	--	42.0	--	--	1053	--	--
AVERAGES	1919	981	1547	1450	1482	100	100	100	38.0	41.2	--	729	582	--
CV(%)	16	19	21	--	--	1	2	--	0.0	--	--	0	--	--
LSD(0.05)*	368	270	380	--	--	19	27	25	0.0	--	--	0	--	--

BRAND and HYBRID	DAYS TO 1/2 BLOOM			PLANT HT			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.	2004	2-Yr. AVG.	3-Yr. AVG.
DEKALB DK F 33-33NS	51	51	53	62	54	54	60	44	40	25.7	27.2	26.6	9.8	--	--
DEKALB DKF38-30NS	55	55	--	66	57	--	5	22	--	25.1	26.9	--	9.7	--	--
DEKALB DKF38-80CL	53	53	--	60	51	--	26	33	--	24.1	25.9	--	9.0	--	--
DEKALB EXP35-10NS	52	--	--	62	--	--	20	--	--	26.4	--	--	11.0	--	--
MYCOGEN 8N421	54	54	--	67	59	--	7	11	--	24.3	25.3	--	8.8	--	--
MYCOGEN 8N510	54	--	--	63	--	--	13	--	--	23.5	--	--	8.5	--	--
TRIUMPH 645	54	--	--	66	--	--	6	--	--	24.4	--	--	10.6	--	--
AVERAGES	53	53	54	64	55	56	19	22	25	24.8	26.2	26.3	9.6	--	--
CV(%)	1	--	--	4	--	--	77	--	--	4.9	--	--	--	--	--
LSD(0.05)*	0	--	--	3	--	--	18	--	--	1.5	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

NORTHWEST KANSAS CONFECTIONARY SUNFLOWER TESTS

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist
 Target stand of 17,000 plants/acre; Keith silt loam; Soybeans in 2003
 Planted on 6/14/2004; Harvested on 10/26/2004; 130 - 20 - 0 lb/a N, P, K

Good stands and favorable growing conditions.
 Temperatures were cooler than normal, with beneficial rains through July.

Table 8. Colby Irrigated Confectionary Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD AS % OF TEST AVERAGE			DAYS TO 1/2 BLOOM		
	2004	2003	2002	2-Yr.	3-Yr.	2004	2003	2002	2-Yr.	3-Yr.	
				AVG.	AVG.				AVG.	AVG.	
CHS SUNFLOWERS 04-EXP 03	2071	--	--	--	--	101	--	--	64	--	--
CHS SUNFLOWERS RH 118	2388	2157	2756	2273	2434	117	94	107	66	62	61
CHS SUNFLOWERS RH 318	2201	2469	--	2335	--	108	107	--	61	59	--
CROPLAN GENETICS 135	1884	--	--	--	--	92	--	--	59	--	--
CROPLAN GENETICS EX822	2103	--	--	--	--	103	--	--	58	--	--
CROPLAN GENETICS EX836	1994	--	--	--	--	98	--	--	59	--	--
DAHLGREN D-9530	2077	--	--	--	--	102	--	--	64	--	--
MYCOGEN 8C416	2173	--	--	--	--	106	--	--	66	--	--
RED R. COMMODITIES EX 2215	1973	2274	2495	2124	2247	97	99	97	63	61	60
RED R. COMMODITIES RRC7015	2291	2478	--	2385	--	112	108	--	64	61	--
SEEDS 2000 GRIZZLY	1964	1985	2284	1975	2078	96	86	89	64	62	61
SEEDS 2000 X3670	1643	--	--	--	--	80	--	--	65	--	--
SIGCO SUN PRODUCTS GOLIATH R	1683	2540	--	2112	--	82	110	--	64	61	--
SIGCO SUN PRODUCTS RUSTLER	2541	2305	--	2423	--	124	100	--	62	60	--
TRIUMPH 757C	1668	2085	2278	1877	2010	82	91	89	65	61	60
AVERAGES	2044	2302	2564	2173	2303	100	100	100	63	61	60
CV(%)	17	11	20	--	--	1	0	--	2	--	--
LSD(0.05)*	419	303	616	--	--	20	13	24	2	--	--

BRAND and HYBRID	PLANT HT (in.)			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.
		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.
CHS SUNFLOWERS 04-EXP 03	--	--	--	1	--	--	18.7	--	--	31.3	--	--
CHS SUNFLOWERS RH 118	--	--	--	5	5	3	20.1	20.3	19.6	28.8	25.4	26.4
CHS SUNFLOWERS RH 318	--	--	--	2	2	--	17.9	19.1	--	35.9	30.4	--
CROPLAN GENETICS 135	--	--	--	5	--	--	16.6	--	--	31.6	--	--
CROPLAN GENETICS EX822	--	--	--	7	--	--	19.2	--	--	26.6	--	--
CROPLAN GENETICS EX836	--	--	--	4	--	--	17.5	--	--	25.9	--	--
DAHLGREN D-9530	--	--	--	2	--	--	17.5	--	--	29.6	--	--
MYCOGEN 8C416	--	--	--	5	--	--	18.1	--	--	25.6	--	--
RED R. COMMODITIES EX 2215	--	--	--	3	3	--	18.7	18.6	18.9	27.1	24.8	26.4
RED R. COMMODITIES RRC7015	--	--	--	2	2	--	16.9	17.2	--	28.1	26.2	--
SEEDS 2000 GRIZZLY	--	--	--	2	3	--	19.7	19.6	19.0	25.9	23.7	25.6
SEEDS 2000 X3670	--	--	--	0	--	--	15.9	--	--	38.5	--	--
SIGCO SUN PRODUCTS GOLIATH R	--	--	--	1	2	--	18.9	20.0	--	32.1	27.0	--
SIGCO SUN PRODUCTS RUSTLER	--	--	--	1	2	--	20.6	20.8	--	21.5	20.7	--
TRIUMPH 757C	--	--	--	7	6	4	17.8	18.1	17.5	30.6	27.4	28.5
AVERAGES	--	--	--	3	3	2	18.3	19.0	18.7	29.3	26.0	27.0
CV(%)	--	--	--	89	--	--	3.0	--	--	--	--	--
LSD(0.05)*	--	--	--	3	--	--	0.7	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 9. Seed-size Distribution for Colby Irrigated Confectionary Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	Seed-size Distribution (%)													
	2004							2-Year Average						
	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64
CHS SUNFLOWERS 04-EXP 03	73.6	11.1	5.3	4.7	2.4	1.9	0.9	--	--	--	--	--	--	--
CHS SUNFLOWERS RH 118	38.6	24.4	16.9	12.0	4.3	2.7	1.1	30.8	19.5	17.7	17.1	7.5	5.1	2.5
CHS SUNFLOWERS RH 318	20.5	27.3	21.1	18.8	6.5	4.3	1.4	17.7	21.5	19.6	18.7	10.7	9.2	2.7
CROPLAN GENETICS 135	59.7	18.0	10.2	7.9	2.5	1.1	0.6	--	--	--	--	--	--	--
CROPLAN GENETICS EX822	50.7	17.4	9.6	11.0	4.3	5.3	1.7	--	--	--	--	--	--	--
CROPLAN GENETICS EX836	59.3	13.9	7.9	7.1	2.8	6.0	2.8	--	--	--	--	--	--	--
DAHLGREN D-9530	50.8	22.8	13.2	8.4	2.6	1.9	0.4	--	--	--	--	--	--	--
MYCOGEN 8C416	39.0	22.7	15.0	9.5	5.4	6.6	1.8	--	--	--	--	--	--	--
RED R. COMMODITIES EX 2215	33.2	25.1	18.8	12.4	5.3	4.2	1.0	34.2	23.9	17.1	13.1	6.0	4.7	1.2
RED R. COMMODITIES RRC7015	32.7	24.8	17.9	12.6	5.1	5.2	1.6	26.1	25.4	19.4	14.6	6.9	6.2	1.4
SEEDS 2000 GRIZZLY	26.2	17.2	17.8	19.2	8.3	9.3	2.1	27.0	17.9	18.2	18.2	8.1	8.6	2.1
SEEDS 2000 X3670	86.2	5.2	3.6	2.3	1.2	0.9	0.6	--	--	--	--	--	--	--
SIGCO SUN PRODUCTS GOLIATH RT	39.0	21.3	14.6	9.8	5.0	6.3	4.0	26.1	19.0	16.5	16.2	6.8	10.5	5.2
SIGCO SUN PRODUCTS RUSTLER	20.5	18.7	16.6	17.8	9.5	11.3	5.6	17.6	17.2	18.0	18.7	10.7	12.7	5.3
TRIUMPH 757C	77.5	9.8	3.1	3.4	3.1	2.0	1.1	75.1	8.6	4.5	4.2	2.3	3.5	1.9
AVERAGES	47.2	18.6	12.8	10.5	4.6	4.6	1.8	35.7	17.8	15.2	14.1	7.0	7.7	2.7

BRAND and HYBRID	3-Year Average						
	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64
	CHS SUNFLOWERS 04-EXP 03	--	--	--	--	--	--
CHS SUNFLOWERS RH 118	35.6	19.9	17.3	14.9	6.1	4.2	2.0
CHS SUNFLOWERS RH 318	--	--	--	--	--	--	--
CROPLAN GENETICS 135	--	--	--	--	--	--	--
CROPLAN GENETICS EX822	--	--	--	--	--	--	--
CROPLAN GENETICS EX836	--	--	--	--	--	--	--
DAHLGREN D-9530	--	--	--	--	--	--	--
MYCOGEN 8C416	--	--	--	--	--	--	--
RED R. COMMODITIES EX 2215	43.2	21.2	14.4	10.3	5.3	4.4	1.3
RED R. COMMODITIES RRC7015	--	--	--	--	--	--	--
SEEDS 2000 GRIZZLY	40.0	16.7	14.7	14.1	6.0	6.7	1.8
SEEDS 2000 X3670	--	--	--	--	--	--	--
SIGCO SUN PRODUCTS GOLIATH RT	--	--	--	--	--	--	--
SIGCO SUN PRODUCTS RUSTLER	--	--	--	--	--	--	--
TRIUMPH 757C	77.0	8.0	4.4	3.8	2.0	3.1	1.7
AVERAGES	42.2	16.7	13.7	12.1	6.1	6.8	2.4

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist
 Target stand of 14,900 plants/acre; Keith silt loam; Fallow in 2003
 Planted on 6/14/2004; Harvested on 10/8/2004; 50 - 15 - 0 lb/a N, P, K

Excellent stands. Summer was hot and very dry. The lack of sub-soil moisture and summer rain severely affected yields.

Table 10. Colby Fallow Confectionary Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD AS % OF TEST AVERAGE			DAYS TO 1/2 BLOOM		
	2004	2003	2002	2-Yr.	3-Yr.	2004	2003	2002	2004	2-Yr.	3-Yr.
				AVG.	AVG.					AVG.	AVG.
DAHLGREN D-9530	1452	--	--	--	--	104	--	--	66	--	--
RED R. COMMODITIES EX 2215	1383	--	1160	--	--	99	--	92	63	--	--
RED R. COMMODITIES RRC7015	1425	--	--	--	--	102	--	--	66	--	--
SIGCO SUN PRODUCTS GOLIATH R	1308	369	1363	839	1013	94	109	108	65	62	61
SIGCO SUN PRODUCTS RUSTLER	1423	372	--	898	--	102	110	--	62	59	--
AVERAGES	1398	339	1260	869	999	100	100	100	64	61	61
CV(%)	19	24	33	--	--	1	7	--	1	--	--
LSD(0.05)*	333	101	508	--	--	24	30	40	1	--	--

BRAND and HYBRID	PLANT HT (in.)			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.
		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.
DAHLGREN D-9530	55	--	--	0	--	--	14.4	--	--	19.3	--	--
RED R. COMMODITIES EX 2215	54	--	--	7	--	--	15.2	--	--	18.0	--	--
RED R. COMMODITIES RRC7015	57	--	--	4	--	--	15.0	--	--	16.6	--	--
SIGCO SUN PRODUCTS GOLIATH R	54	45	43	4	4	--	16.2	17.0	18.5	20.0	16.9	18.5
SIGCO SUN PRODUCTS RUSTLER	58	49	--	3	5	--	17.7	18.0	--	14.6	14.0	--
AVERAGES	56	47	43	3	4	3	15.7	16.6	17.7	17.7	15.6	17.4
CV(%)	5	--	--	68	--	--	4.1	--	--	--	--	--
LSD(0.05)*	4	--	--	3	--	--	0.8	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 11. Seed-size Distribution for Colby Fallow Confectionary Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	Seed-size Distribution (%)													
	2004							2-Year Average						
	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64
DAHLGREN D-9530	7.3	15.5	23.3	23.5	12.8	12.8	4.9	--	--	--	--	--	--	--
RED R. COMMODITIES EX 2215	5.4	10.0	15.0	26.6	18.8	17.4	6.9	--	--	--	--	--	--	--
RED R. COMMODITIES RRC7015	1.1	1.5	3.7	9.4	11.8	41.4	31.3	--	--	--	--	--	--	--
SIGCO SUN PRODUCTS GOLIATH RT	3.4	5.8	11.6	18.1	14.5	25.5	21.1	1.7	4.2	8.7	14.1	12.7	31.9	26.9
SIGCO SUN PRODUCTS RUSTLER	3.0	7.0	11.6	18.2	13.5	27.2	19.6	2.5	5.2	8.9	16.6	14.9	27.7	24.4
AVERAGES	4.0	8.0	13.0	19.2	14.3	24.9	16.8	3.4	5.9	9.2	14.9	12.6	29.1	25.2

BRAND and HYBRID	3-Year Average						
	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64
	DAHLGREN D-9530	--	--	--	--	--	--
RED R. COMMODITIES EX 2215	--	--	--	--	--	--	--
RED R. COMMODITIES RRC7015	--	--	--	--	--	--	--
SIGCO SUN PRODUCTS GOLIATH RT	8.7	8.1	10.3	14.3	12.1	26.6	20.0
SIGCO SUN PRODUCTS RUSTLER	--	--	--	--	--	--	--
AVERAGES	9.8	8.4	10.3	14.8	11.9	25.3	19.7

WEST CENTRAL KANSAS CONFECTIONARY SUNFLOWER TESTS

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist
 Target stand of 17,400 plants/acre; Ulysses silt loam; Wheat in 2003
 Planted on 6/25/2004; Harvested on 9/15/2004; 140 - 0 - 0 lb/a N, P, K

June rains delayed planting. Cool temperatures in July and August slowed growth.

Table 12. Tribune Irrigated Confectionary Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD AS % OF TEST AVERAGE			DAYS TO 1/2 BLOOM		
	2004	2003	2002	2-Yr.	3-Yr.	2004	2003	2002	2-Yr.	3-Yr.	
				AVG.	AVG.				AVG.	AVG.	
CHS SUNFLOWERS 04-EXP 03	1077	--	--	--	--	93	--	--	66	--	--
CHS SUNFLOWERS RH 118	1309	2892	--	2101	--	113	121	--	64	65	--
CHS SUNFLOWERS RH 318	1394	1765	--	1580	--	120	74	--	61	61	--
CROPLAN GENETICS 135	1399	--	--	--	--	121	--	--	60	--	--
MYCOGEN 8C416	907	--	--	--	--	78	--	--	65	--	--
RED R. COMMODITIES EX 2215	1330	2122	--	1726	--	115	89	--	64	65	--
RED R. COMMODITIES RRC7015	1395	2857	--	2126	--	120	120	--	64	65	--
SEEDS 2000 GRIZZLY	1075	2804	--	1939	--	93	117	--	67	67	--
SEEDS 2000 X3670	1492	--	--	--	--	129	--	--	66	--	--
TRIUMPH 700 CLS+	655	--	--	--	--	57	--	--	66	--	--
TRIUMPH 707 CLS	828	--	--	--	--	72	--	--	66	--	--
TRIUMPH 757C	1151	2058	--	1604	--	99	86	--	66	66	--
TRIUMPH 777C	1048	--	--	--	--	91	--	--	67	--	--
AVERAGES	1158	2388	--	1773	--	100	100	--	65	65	--
CV(%)	21	23	--	--	--	2	1	--	1	--	--
LSD(0.05)*	288	661	--	--	--	25	28	--	1	--	--

BRAND and HYBRID	PLANT HT (in.)			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.
		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	
CHS SUNFLOWERS 04-EXP 03	86	--	--	5	--	--	19.9	--	--	26.6	--	--
CHS SUNFLOWERS RH 118	82	82	--	10	--	--	22.5	21.3	--	25.3	26.4	--
CHS SUNFLOWERS RH 318	78	73	--	15	--	--	20.6	19.2	--	32.5	32.8	--
CROPLAN GENETICS 135	76	--	--	31	--	--	18.9	--	--	28.6	--	--
MYCOGEN 8C416	82	--	--	13	--	--	21.1	--	--	22.8	--	--
RED R. COMMODITIES EX 2215	79	79	--	8	--	--	21.2	19.1	--	23.3	24.0	--
RED R. COMMODITIES RRC7015	86	82	--	8	--	--	20.3	18.7	--	23.1	24.6	--
SEEDS 2000 GRIZZLY	82	78	--	8	--	--	20.6	19.7	--	21.0	22.7	--
SEEDS 2000 X3670	80	--	--	13	--	--	19.6	--	--	30.0	--	--
TRIUMPH 700 CLS+	81	--	--	8	--	--	18.4	--	--	23.1	--	--
TRIUMPH 707 CLS	81	--	--	8	--	--	18.9	--	--	25.4	--	--
TRIUMPH 757C	78	77	--	30	--	--	19.3	17.3	--	25.7	27.1	--
TRIUMPH 777C	85	--	--	10	--	--	19.7	--	--	26.0	--	--
AVERAGES	81	79	--	13	--	--	20.0	19.3	--	25.6	25.8	--
CV(%)	5	--	--	101	--	--	4.4	--	--	--	--	--
LSD(0.05)*	5	--	--	15	--	--	1.1	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 13. Seed-size Distribution for Tribune Irrigated Confectionary Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	Seed-size Distribution (%)													
	2004							2-Year Average						
	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64
CHS SUNFLOWERS 04-EXP 03	59.9	17.8	10.9	6.8	2.7	1.5	0.4	--	--	--	--	--	--	--
CHS SUNFLOWERS RH 118	15.6	18.0	21.7	22.4	12.3	8.5	1.7	22.4	20.3	22.0	18.3	9.0	6.2	2.0
CHS SUNFLOWERS RH 318	14.3	25.8	22.0	21.8	8.1	7.1	0.9	17.8	25.2	24.6	18.9	7.1	5.5	1.0
CROPLAN GENETICS 135	68.4	13.5	8.7	4.6	2.4	2.0	0.7	--	--	--	--	--	--	--
MYCOGEN 8C416	25.8	19.5	18.6	16.5	9.8	8.2	1.8	--	--	--	--	--	--	--
RED R. COMMODITIES EX 2215	19.7	16.6	18.9	21.1	13.1	9.2	1.8	23.6	18.9	18.8	18.4	10.5	8.5	1.6
RED R. COMMODITIES RRC7015	16.4	14.8	20.9	21.8	13.0	10.5	3.1	14.8	19.6	22.1	19.4	12.6	9.3	2.8
SEEDS 2000 GRIZZLY	12.7	16.2	21.7	23.3	11.6	12.2	2.3	18.7	18.6	21.0	20.0	10.7	9.1	2.0
SEEDS 2000 X3670	65.9	14.4	8.7	4.7	2.8	2.7	0.9	--	--	--	--	--	--	--
TRIUMPH 700 CLS+	24.2	20.1	19.2	14.0	10.6	10.0	2.0	--	--	--	--	--	--	--
TRIUMPH 707 CLS	40.5	21.3	15.0	11.6	5.8	4.8	1.1	--	--	--	--	--	--	--
TRIUMPH 757C	62.6	14.4	9.1	6.5	3.8	3.2	0.7	71.2	10.2	7.2	5.4	2.9	2.7	0.7
TRIUMPH 777C	56.1	23.9	9.3	6.0	3.1	1.5	0.4	--	--	--	--	--	--	--
AVERAGES	37.1	18.2	15.7	13.9	7.6	6.3	1.4	31.7	18.0	16.8	15.2	8.5	8.2	1.9

BRAND and HYBRID	3-Year Average						
	Above 22/64	21/64 to 22/64	20/64 to 21/64	19/64 to 20/64	18/64 to 19/64	16/64 to 18/64	Below 16/64
CHS SUNFLOWERS 04-EXP 03	--	--	--	--	--	--	--
CHS SUNFLOWERS RH 118	--	--	--	--	--	--	--
CHS SUNFLOWERS RH 318	--	--	--	--	--	--	--
CROPLAN GENETICS 135	--	--	--	--	--	--	--
MYCOGEN 8C416	--	--	--	--	--	--	--
RED R. COMMODITIES EX 2215	--	--	--	--	--	--	--
RED R. COMMODITIES RRC7015	--	--	--	--	--	--	--
SEEDS 2000 GRIZZLY	--	--	--	--	--	--	--
SEEDS 2000 X3670	--	--	--	--	--	--	--
TRIUMPH 700 CLS+	--	--	--	--	--	--	--
TRIUMPH 707 CLS	--	--	--	--	--	--	--
TRIUMPH 757C	--	--	--	--	--	--	--
TRIUMPH 777C	--	--	--	--	--	--	--
AVERAGES	--	--	--	--	--	--	--

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist
 Target stand of 17,400 plants/acre; Richfield silt loam; Wheat in 2003
 Planted on 5/17/2004; Harvested on 10/26/2004; 80 - 0 - 0 lb/a N, P, K

June rains delayed planting. Cool temperatures in July and August slowed growth.

Table 14. Tribune Dryland Confection Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	YIELD (lbs/a)					YIELD AS % OF TEST AVERAGE			DAYS TO 1/2 BLOOM		
	2004	2003	2002	2-Yr.	3-Yr.	2004	2003	2002	2004	2003	2002
				AVG.	AVG.						
TRIUMPH 700 CLS+	968	--	--	--	--	99	--	--	63	--	--
TRIUMPH 707 CLS	871	--	--	--	--	89	--	--	64	--	--
TRIUMPH 757C	1099	--	--	--	--	112	--	--	64	--	--
AVERAGES	979	--	833	--	--	100	--	100	64	--	--
CV(%)	34	--	28	--	--	3	--	--	1	--	--
LSD(0.05)*	455	--	287	--	--	46	--	34	1	--	--

BRAND and HYBRID	PLANT HT (in.)			LODGING (%)			TEST WEIGHT (lbs/bu)			200 SEED WT (g)		
	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.	2004	2-Yr.	3-Yr.
		AVG.	AVG.		AVG.	AVG.		AVG.	AVG.		AVG.	
TRIUMPH 700 CLS+	62	--	--	0	--	--	17.7	--	--	30.7	--	--
TRIUMPH 707 CLS	59	--	--	10	--	--	17.0	--	--	26.2	--	--
TRIUMPH 757C	60	--	--	13	--	--	13.3	--	--	28.3	--	--
AVERAGES	60	--	--	8	--	--	16.0	--	--	28.4	--	--
CV(%)	6	--	--	152	--	--	30.4	--	--	--	--	--
LSD(0.05)*	5	--	--	16	--	--	6.7	--	--	--	--	--

* Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 15. Seed-size Distribution for Tribune Dryland Confection Sunflower Performance Test, 2002-2004.

BRAND and HYBRID	Seed-size Distribution (%)													
	2004							2-Year Average						
	Above	21/64	20/64	19/64	18/64	16/64	Below	Above	21/64	20/64	19/64	18/64	16/64	Below
	22/64	22/64	21/64	20/64	19/64	18/64	16/64	22/64	22/64	21/64	20/64	19/64	18/64	16/64
TRIUMPH 700 CLS+	64.1	9.6	8.7	6.1	3.7	5.8	2.0	--	--	--	--	--	--	--
TRIUMPH 707 CLS	61.5	8.1	9.7	7.3	4.4	5.9	3.0	--	--	--	--	--	--	--
TRIUMPH 757C	74.1	9.2	6.2	5.3	1.8	2.5	0.9	--	--	--	--	--	--	--
AVERAGES	66.6	9.0	8.2	6.2	3.3	4.7	2.0	--	--	--	--	--	--	--

BRAND and HYBRID	3-Year Average						
	Above	21/64	20/64	19/64	18/64	16/64	Below
	22/64	22/64	21/64	20/64	19/64	18/64	16/64
TRIUMPH 700 CLS+	--	--	--	--	--	--	--
TRIUMPH 707 CLS	--	--	--	--	--	--	--
TRIUMPH 757C	--	--	--	--	--	--	--
AVERAGES	--	--	--	--	--	--	--

Table 16. Entrants and Entries in 2004 Sunflower Performance Tests.

CHS SUNFLOWERS

CHS Sunflowers
220 Clement Avenue
Grandin, ND 58038
701-484-5313
04-EXP 03
RH 118
RH 318

CROPLAN GENETICS

Croplan Genetics
PO Box 1291
Minot, ND 58078
701-852-2556
135
308
3080DMR
322NS
380NS
385NS
544CI
EX822
EX836

DAHLGREN

Dahlgren
1220 Sunflower St.
Crookston, MN 56716
218-281-2985
D-9530

DEKALB

Monsanto Seed
4312 Carol Avenue
Cortland, IL 60112
815-754-4809
DK F 33-33NS
DKF38-30NS
DKF38-80CL
EXP35-10NS

FONTANELLE

Fontanelle Hybrid
10981 8th Street
Fontanelle, NE 68044
402-721-1410
902 NS

GARST/INTERSTATE

Interstate Seed Co.
PO Box 338
West Fargo, ND 58078
800-282-7331
4704NS
F100116NS
HYSUN 424
HYSUN 450
HYSUN 454
IS 4049

KAYSTAR

Kaystar Seed Co.
PO Box 947
Huron, SD 57350
605-352-8791
2020NS
9404
9501

MYCOGEN

Mycogen Seed
406 18th Ave. N.
Whapeton, ND 58075
701-642-6007
80310
8377NS
8488NS
8C416
8N352
8N421
8N510

PIONEER

Pioneer Hi-Bred Intl., Inc.
390 Union Blvd. Suite 500A
Lakewood, CO 80228
800-258-5604
63M80
63M91

RED R. COMMODITIES

Red River Commodities
1320 East College Drive
Colby, KS 67701
785-462-3911
EX 2215
RRC7015

SEEDS 2000

Seeds 2000
Box 200
Breckenridge, MN 56520
218-643-2410
BLAZER
CHARGER
GRIZZLY
X3670
X978

SIGCO SUN PRODUCTS

Sigco Sun Products
1701 Industrial Loop
Goodland, KS 67735
785-899-5607
GOLIATH RT
RUSTLER

TRIUMPH

Triumph Seed Co., Inc.
PO Box 1050
Ralls, TX 79357
800-530-4789
636
645
650CL
658
665
700 CLS+
707 CLS
757C
777C
s667
s672
s675
TRX 3346 CL
TRX 4342 CL

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