

2005

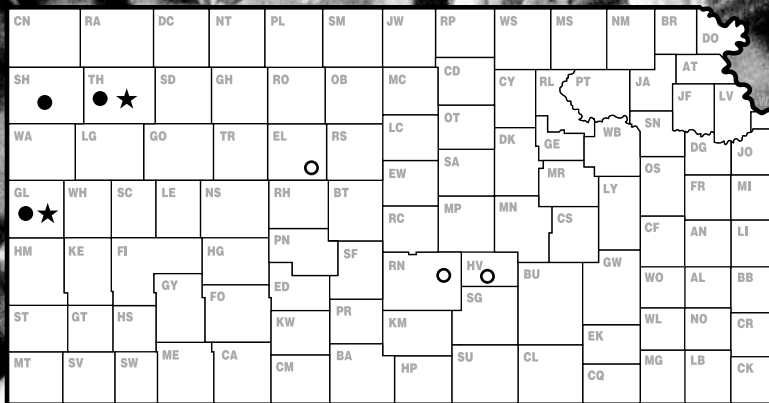
Kansas Performance Tests with

Sunflower Hybrids

Report of Progress 953



Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service



● summer fallow ○ dryland ★ irrigated

TABLE OF CONTENTS

INTRODUCTION

Test Objectives and Procedures	1
Data Interpretation	1

PERFORMANCE TEST RESULTS

OILSEED TESTS

NORTHWEST

Table 1. Colby Irrigated, Thomas County	2
Table 2. Colby Fallow, Thomas County	5
Table 3. Goodland Fallow, Sherman County	7

WEST CENTRAL

Table 4. Tribune Irrigated, Greeley County.....	8
Table 5. Tribune Fallow, Greeley County	10

NORTH CENTRAL

Table 6. Hays Fallow, Ellis County.....	12
---	----

SOUTH CENTRAL

Table 7. Hutchinson Dryland, continuous crop, Reno County	13
Table 8. Hesston Dryland, continuous crop, Harvey County.....	14

CONFECTIONARY TESTS

NORTHWEST

Table 9. Colby Irrigated, Thomas County	15
Table 10. Colby Fallow, Thomas County	16
Table 11. Goodland Fallow, Sherman County	16

WEST CENTRAL

Table 12. Tribune Irrigated, Greeley County.....	17
Table 13. Tribune Fallow, Greeley County	17

ENTRANTS AND ENTRIES IN 2005 TESTS

Table 14.....	18
---------------	----

INTRODUCTION

Objectives and Procedures

Sunflower performance tests were conducted in 2005 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.

The eight test locations in 2005 included Ellis, Thomas, Sherman, and Greeley Counties – on fallow; Thomas and Greeley Counties – irrigated; and Reno and Harvey Counties – dryland, continuous crop. Oilseed entries were grown at all locations. Confectionary entries were evaluated only in Thomas, Sherman, 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 2005, and period-of-years average data, are included in Tables 1 through 13. Entrants and entries in 2005 tests are listed in Table 14.

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 Trenton Powell and Jeanell Tucker 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; Grain Sorghum in 2004

150 - 45 - 0 lb/a N, P, K

Planted on 6/16/2005; Harvested on 10/3/2005

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

Very good planting and early-season growing conditions. Mid-July through mid-August was hot and dry, with very little rainfall. Test was irrigated in late July, mid-August, and early September for a total of 9 inches.

Month	Precipitation		Average Temp.	
	2005	Norm.	2005	Norm.
Nov.-Mar	3.8	3.0	36	32
April	3.6	1.8	50	49
May	3.8	3.1	61	60
June	3.1	3.0	71	70
July	2.4	3.1	77	76
August	3.2	2.2	74	74
Sept.	0.1	1.5	69	65
Oct.	2.0	1.0	53	53
Totals:	21.9	18.6	53	51

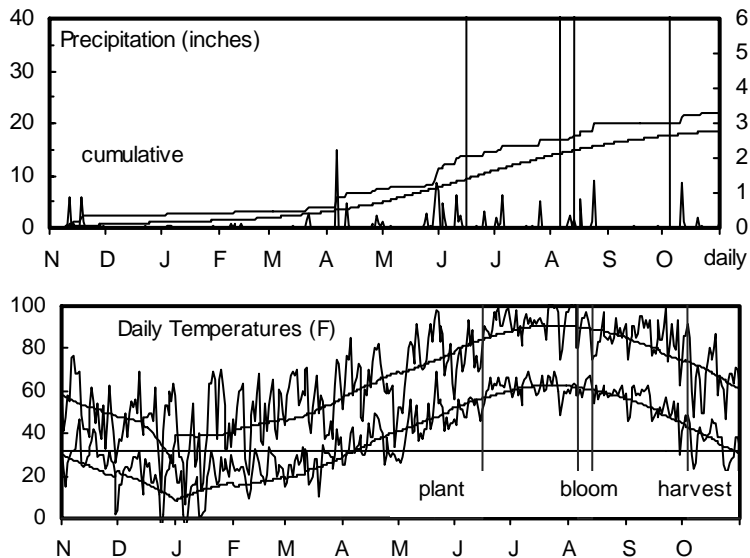


Table 1. Colby Irrigated Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
ADVANTA PACIFIC AP534NS/CL	3264	113	41.1	1342	56	68	2	24.6	10.9
ADVANTA PACIFIC AP561NS	3496	121	40.9	1430	57	64	2	25.4	10.3
ADVANTA PACIFIC NA F10125	2637	92	37.5	989	57	64	0	24.0	9.7
CROPLAN GENETICS 308	2906	101	45.8	1331	52	54	1	26.4	9.9
CROPLAN GENETICS 3080DMR	2865	99	46.0	1318	52	57	4	25.8	8.9
CROPLAN GENETICS 340HO	2470	86	41.1	1015	54	57	0	23.5	9.8
CROPLAN GENETICS 343DMR,HO	3003	104	40.1	1204	54	60	2	25.8	12.4
CROPLAN GENETICS 378DMR,HO	3169	110	43.3	1372	56	66	1	24.2	11.2
CROPLAN GENETICS 385NS	2888	100	42.3	1222	57	55	1	26.6	9.9
DEKALB DKF33-33NS	2763	96	40.3	1113	52	64	1	25.8	11.7
DEKALB DKF38-30NS	2881	100	40.7	1173	55	59	1	24.7	10.1
DEKALB DKF38-80CL	3140	109	41.3	1297	55	60	1	26.3	10.1
DEKALB EXP001	3435	119	44.6	1532	55	65	1	26.9	12.2
DEKALB EXP35-10NS	2944	102	40.3	1186	53	60	1	26.2	12.7
DEKALB MH4331B	3333	116	43.1	1437	55	60	2	26.4	13.1
DYNA-GRO SEEDS 93C05	2058	71	41.1	846	55	61	3	24.7	8.2
DYNA-GRO SEEDS 93N05	2596	90	40.7	1057	53	57	0	25.9	14.4
DYNA-GRO SEEDS 94T90	2764	96	40.8	1128	57	68	1	24.4	9.9
FONTANELLE 902 NS	3343	116	45.1	1508	56	65	1	23.3	11.4
GARST 4880NS/CL	2143	74	39.2	840	55	63	4	23.5	9.1
GARST Exp 02TH003896	3020	105	43.3	1308	54	64	0	28.4	11.2
GARST Exp 03TH004205	2883	100	40.5	1168	55	67	3	26.5	11.0
GARST Exp 03TH004251	2670	93	42.8	1143	56	64	0	24.6	12.2
GARST HYSUN 424	2698	94	40.6	1095	57	59	3	25.4	10.4
GARST HYSUN 450	2857	99	41.2	1177	57	55	0	25.6	10.2
GARST HYSUN 454	2907	101	42.1	1224	55	64	0	26.1	11.8
INTERSTATE 4575NS/CL	1928	67	40.6	783	55	60	5	23.9	7.8
INTERSTATE HO120	2789	97	41.8	1166	55	63	5	23.9	13.2
INTERSTATE HYSUN 525	2668	93	39.3	1049	55	62	3	25.1	11.5
KAYSTAR 2020NS	2827	98	41.6	1176	57	55	2	26.5	10.5
KAYSTAR 8550NS/CL	2173	75	39.5	858	55	64	6	23.7	9.3

Table 1. Colby Irrigated Oilseed Sunflower Performance Test, 2005, continued.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
KAYSTAR 9501	3713	129	37.8	1404	57	67	1	27.4	12.5
MYCOGEN 7350	3103	108	44.6	1384	51	61	1	25.7	10.2
MYCOGEN 8D310	3130	109	39.6	1239	52	62	0	25.2	16.5
MYCOGEN 8H350DM	2838	99	44.7	1269	52	60	2	24.7	9.5
MYCOGEN 8H419CL	3122	108	41.7	1302	56	64	0	24.8	10.3
MYCOGEN 8N352	3304	115	45.8	1513	54	62	1	27.7	10.7
MYCOGEN 8N386CL	3270	114	41.9	1370	53	63	1	24.0	11.3
MYCOGEN 8N429CL	3068	107	40.2	1233	54	65	1	25.2	11.7
MYCOGEN 8N510	3725	129	41.2	1535	55	58	2	24.9	10.5
MYCOGEN E84352	3011	105	43.6	1313	54	61	3	25.6	10.1
PIONEER 63M80	2842	99	44.5	1265	53	63	1	25.2	12.1
PIONEER 63M91	3256	113	44.3	1442	54	69	1	27.7	12.1
PIONEER 64H41	3086	107	42.8	1321	55	66	2	28.7	13.3
PIONEER 64H45	2778	96	41.8	1161	55	64	3	27.2	11.2
PIONEER EXP 05PI02	2205	77	40.0	882	53	56	5	23.4	11.1
SEEDS 2000 BLAZER	2497	87	43.8	1094	55	56	1	25.3	9.5
SEEDS 2000 SIERRA	2515	87	39.1	983	58	66	2	21.7	9.2
SEEDS 2000 X978	2863	99	43.7	1251	57	63	1	28.0	10.3
TRIUMPH 620CL	2784	97	42.3	1178	53	61	3	25.8	10.4
TRIUMPH 636	3413	118	43.6	1488	55	64	1	24.0	14.1
TRIUMPH 645	3021	105	45.9	1387	56	64	0	23.2	11.2
TRIUMPH 660CL	2914	101	40.9	1192	58	69	2	23.7	10.8
TRIUMPH 665	3105	108	43.5	1351	57	64	1	24.4	10.5
TRIUMPH 820HO	2310	80	45.8	1058	53	63	3	27.0	10.4
TRIUMPH s672	2991	104	44.5	1331	56	43	2	26.7	10.1
TRIUMPH s675	2873	100	45.2	1299	58	44	7	27.4	11.1
TRIUMPH S678	2662	92	44.8	1193	57	52	2	27.4	10.7
TRIUMPH TRX3241	2253	78	43.3	976	52	56	1	25.9	11.1
TRIUMPH TRX3249	2575	89	44.4	1143	53	62	0	26.6	11.1
TRIUMPH TRX4240	2968	103	44.3	1315	55	65	1	28.1	11.4
AVERAGES	2880	100	42.3	1219	55	61	2	25.5	11.0
CV(%)	11	11	--	--	1	3	142	3.4	--
LSD(0.05)*	427	15	--	--	1	3	3	1.2	--

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

2-Year Averages (2004 and 2005)

CROPLAN GENETICS 308	2732	100	45.2	1235	56	60	4	26.9	9.9
CROPLAN GENETICS 3080DMR	2728	100	44.7	1220	56	61	5	26.3	9.0
CROPLAN GENETICS 385NS	2652	97	41.0	1090	61	61	3	27.2	10.3
DEKALB DKF33-33NS	2591	95	39.5	1023	56	66	3	26.7	11.4
DEKALB DKF38-30NS	2672	98	41.0	1093	61	64	2	26.2	10.2
DEKALB DKF38-80CL	2941	108	39.2	1157	59	63	2	26.6	10.0
DEKALB EXP35-10NS	2605	95	39.3	1027	58	65	2	27.1	12.0
FONTANELLE 902 NS	3057	112	43.4	1332	61	70	2	23.6	11.9
GARST HYSUN 424	2443	89	40.7	994	62	64	7	26.7	11.1
GARST HYSUN 450	2774	102	40.9	1135	61	60	1	26.5	10.4
GARST HYSUN 454	2706	99	42.1	1138	59	68	3	26.7	11.7
KAYSTAR 2020NS	2656	97	41.2	1095	62	59	3	27.2	10.9
KAYSTAR 9501	3381	124	37.6	1272	61	73	2	27.6	11.8
MYCOGEN 8D310	2855	104	39.0	1114	56	65	2	25.7	15.9
MYCOGEN 8N352	3270	120	45.4	1483	59	66	3	28.5	10.6
MYCOGEN 8N510	3055	111	41.0	1253	60	63	7	25.5	10.3
PIONEER 63M80	2706	99	43.7	1183	58	66	2	26.0	12.3
PIONEER 63M91	2948	108	43.1	1274	58	72	2	27.8	11.4
SEEDS 2000 BLAZER	2561	94	41.9	1071	59	60	3	26.0	9.5
TRIUMPH 636	3125	114	43.1	1348	61	68	4	23.9	13.1
TRIUMPH 645	2962	109	45.7	1354	61	68	2	24.3	11.8

Table 1. Colby Irrigated Oilseed Sunflower Performance Test, 2005, continued.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
TRIUMPH 665	2841	104	43.6	1238	62	71	7	25.3	10.5
TRIUMPH s672	2756	101	44.6	1228	61	45	3	27.7	9.5
TRIUMPH s675	2756	101	45.6	1256	63	43	10	28.1	10.5
AVERAGES	2726	100	41.8	1142	59	64	4	26.3	10.9
3-Year Averages (2003 to 2005)									
CROPLAN GENETICS 308	2914	103	45.1	1316	55	60	4	27.6	10.0
CROPLAN GENETICS 385NS	2734	97	41.1	1125	61	62	6	27.3	10.1
DEKALB DKF33-33NS	2739	97	39.3	1078	56	66	2	27.5	11.3
DEKALB DKF38-30NS	2720	96	41.0	1115	60	65	2	26.7	10.0
DEKALB DKF38-80CL	3089	109	39.2	1213	59	63	2	26.9	9.9
FONTANELLE 902 NS	2953	105	43.1	1277	60	70	3	24.0	11.4
GARST HYSUN 424	2670	94	40.7	1088	61	65	4	27.3	10.7
GARST HYSUN 450	2964	105	40.9	1213	61	61	2	27.0	10.4
GARST HYSUN 454	2863	101	42.1	1206	58	69	3	27.0	11.5
KAYSTAR 2020NS	2791	99	41.2	1149	61	60	2	27.5	10.5
KAYSTAR 9501	3329	118	37.7	1254	61	73	3	27.8	11.7
SEEDS 2000 BLAZER	2751	97	41.7	1146	58	60	2	26.6	9.4
TRIUMPH 636	3015	107	43.1	1300	60	68	4	24.2	12.6
TRIUMPH 645	3047	108	45.5	1385	60	68	3	24.6	11.5
TRIUMPH 665	2893	102	43.6	1261	61	71	6	26.1	10.1
AVERAGES	2824	100	41.7	1177	59	64	4	26.7	10.8

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist
 Keith silt loam; Fallow in 2004; Target stand of 17000 plants/acre
 Planted on 6/15/2005; Harvested on 9/23/2005; 50 - 0 - 0 lb/a N, P, K

Very good planting and early-season
 growing conditions. Mid-July through mid-
 August was hot and dry, with very little
 rainfall.

Table 2. Colby Fallow Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
ADVANTA PACIFIC NA F10125	1576	92	34.0	536	57	46	0	23.2	6.9
CROPLAN GENETICS 378DMR,HO	1761	103	36.4	641	56	46	2	22.4	8.3
DEKALB DKF33-33NS	1672	98	34.9	584	52	42	0	25.6	8.2
DEKALB DKF38-30NS	1859	108	34.9	649	57	45	1	23.6	8.7
DEKALB DKF38-80CL	1716	100	34.8	597	55	42	0	23.5	7.4
DEKALB EXP001	2158	126	37.1	801	56	48	1	25.7	8.5
DEKALB EXP35-10NS	1671	98	34.6	578	54	42	0	24.5	8.8
DEKALB MH4331B	1735	101	36.7	637	54	37	1	25.3	9.1
DYNA-GRO SEEDS 93N05	1396	81	35.1	490	53	44	2	22.9	10.8
FONTANELLE 902 NS	1731	101	37.3	646	55	46	2	22.2	7.1
GARST 4880NS/CL	1371	80	34.6	474	56	45	0	21.4	7.2
GARST Exp 02TH003896	1795	105	35.8	643	54	48	2	25.7	7.3
GARST Exp 03TH004205	1816	106	34.9	634	55	45	2	24.2	7.6
GARST Exp 03TH004251	1810	106	35.5	643	56	45	2	22.4	8.0
GARST HYSUN 424	1531	89	35.5	544	57	41	1	25.0	7.6
GARST HYSUN 450	1792	105	34.9	625	57	38	0	24.3	7.4
GARST HYSUN 454	1742	102	36.6	638	54	49	0	24.8	9.2
INTERSTATE 4575NS/CL	1125	66	34.9	393	55	44	4	21.2	5.7
INTERSTATE HO120	1687	98	37.7	636	55	47	3	23.8	9.6
INTERSTATE HYSUN 525	1561	91	33.9	529	54	42	1	23.3	9.4
KAYSTAR 9501	1900	111	31.7	602	57	45	2	23.8	9.0
MYCOGEN 8H350DM	1509	88	38.6	582	52	43	0	24.2	7.2
MYCOGEN 8H419CL	1751	102	36.4	637	56	42	0	23.1	8.1
MYCOGEN 8N352	1976	115	39.0	771	54	43	1	25.1	8.4
MYCOGEN 8N386CL	1843	108	38.1	702	54	43	1	23.0	8.7
MYCOGEN 8N429CL	1729	101	35.9	621	54	44	1	22.8	8.3
MYCOGEN 8N510	1930	113	35.3	681	54	40	1	22.9	7.8
MYCOGEN E84352	1672	98	38.2	639	54	39	1	24.4	7.6
PIONEER 63M80	1608	94	38.2	614	54	46	1	22.8	9.3
PIONEER 63M91	1783	104	38.2	681	55	48	2	24.8	8.4
TRIUMPH 620CL	1714	100	37.8	648	53	44	0	23.0	8.0
TRIUMPH 660CL	1835	107	35.1	644	58	43	1	22.2	7.4
TRIUMPH s672	1800	105	39.3	707	56	31	0	25.9	7.5
AVERAGES	1714	100	36.1	620	55	43	1	23.7	8.1
CV(%)	11	11	--	--	1	5	209	3.6	0.0
LSD(0.05)*	267	16	--	--	1	3	3	1.2	0.0

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

2-Year Averages (2004 and 2005)

DEKALB DKF33-33NS	1503	93	33.8	509	56	47	5	23.9	8.9
DEKALB DKF38-30NS	1689	105	35.5	598	62	48	7	23.9	8.9
DEKALB DKF38-80CL	1597	99	33.0	529	59	45	6	21.1	7.1
DEKALB EXP35-10NS	1508	93	34.5	520	59	48	3	24.0	8.8
FONTANELLE 902 NS	1727	108	36.2	624	60	52	11	21.0	8.0
GARST HYSUN 424	1402	87	35.4	496	62	46	8	23.3	7.8
GARST HYSUN 450	1687	105	34.9	588	62	43	3	23.0	7.8
GARST HYSUN 454	1646	102	36.5	601	59	52	1	23.9	9.4
KAYSTAR 9501	1855	115	32.2	597	61	52	6	23.7	8.9
MYCOGEN 8N510	1812	112	34.4	623	60	47	3	22.2	8.0
PIONEER 63M80	1535	95	37.0	569	58	48	7	21.6	10.0
PIONEER 63M91	1626	101	37.4	609	59	53	5	23.2	8.7
AVERAGES	1611	100	35.6	574	59	48	5	22.9	8.6

Table 2. Colby Fallow Oilseed Sunflower Performance Test, 2005, continued.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
3-Year Averages (2003 to 2005)									
DEKALB DKF33-33NS	1080	99	33.1	364	56	42	5	23.8	7.7
DEKALB DKF38-30NS	1189	100	34.5	419	61	42	5	23.9	7.7
DEKALB DKF38-80CL	1136	100	32.6	375	59	40	6	21.6	6.2
FONTANELLE 902 NS	1221	105	36.7	443	60	45	8	21.5	7.0
KAYSTAR 9501	1330	121	31.8	427	60	46	5	24.1	7.6
PIONEER 63M80	1091	96	35.3	401	57	42	6	22.2	8.4
PIONEER 63M91	1152	100	35.9	429	58	46	6	23.0	7.5
AVERAGES	1144	100	34.9	406	59	42	4	23.2	7.3

NORTHWEST KANSAS FALLOW OILSEED SUNFLOWER TESTS

Northern Sun Industries, Goodland; Patrick Evans, agronomist

Ulysses silt loam; Fallow in 2004

90 - 0 - 0 lb/a N, P, K

Planted on 6/17/2005; Harvested on 9/27/2005

Target stand of 18,000 plants/acre; 11.6 in. spacing

May and June rains allowed good stands to be established, but the rest of the growing season was hot and dry. Yields were very low and variable.

Month	Precipitation		Average Temp.	
	2005	Norm.	2005	Norm.
Nov.-Mar.	2.9	3.3	36	33
April	2.1	1.5	49	49
May	2.9	3.5	60	59
June	2.6	3.3	71	70
July	1.5	3.5	78	75
August	2.8	2.5	74	74
Sept.	0.3	1.1	69	64
Oct.	2.6	1.1	54	52
Totals:	17.7	19.7	53	51

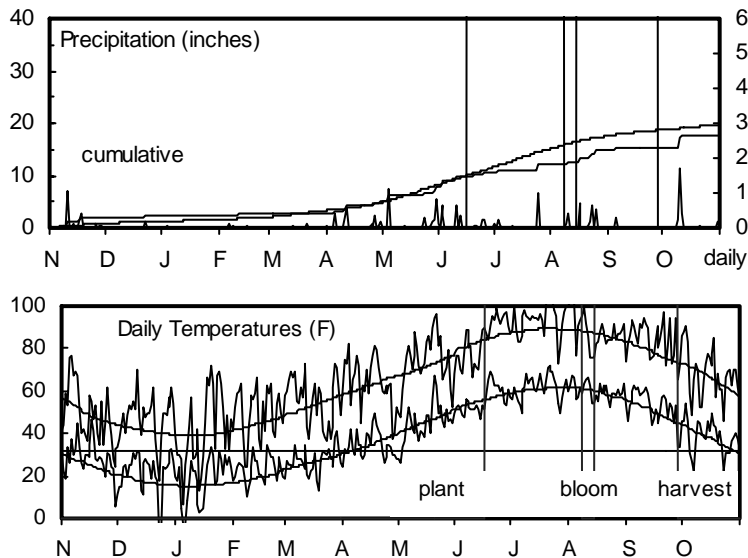


Table 3. Goodland Fallow Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
ADVANTA PACIFIC AP534NS/CL	1618	99	35.3	612	56	45	6	20.4	8.8
ADVANTA PACIFIC NA F10125	1175	72	33.0	428	57	45	11	19.3	7.8
GARST HYSUN 450	1544	95	36.4	606	57	39	1	22.8	8.3
GARST HYSUN 521	1654	102	33.6	495	51	39	2	21.9	7.6
MYCOGEN 8H350DM	1525	94	38.1	614	53	40	2	20.6	7.8
MYCOGEN 8H419CL	1578	97	35.6	478	56	41	6	19.4	7.5
MYCOGEN 8N352	2093	129	38.9	764	54	40	4	22.4	8.0
MYCOGEN 8N386CL	1705	105	36.9	619	54	43	2	20.9	9.3
MYCOGEN 8N510	1842	113	33.8	419	55	42	5	20.0	6.9
PIONEER 63M80	1360	84	36.5	508	53	40	5	14.8	8.9
PIONEER 63M91	1893	116	37.2	566	55	46	4	21.6	9.2
SEEDS 2000 X978	1351	83	35.8	498	57	40	3	21.1	7.1
TRIUMPH 620CL	1536	94	36.2	462	54	41	3	19.8	7.1
TRIUMPH 660CL	1904	117	35.3	550	58	41	2	19.5	7.1
TRIUMPH s672	1619	100	40.1	658	56	30	2	24.3	8.0
AVERAGES	1626	1626	36.2	552	55	41	4	20.6	8.0
CV(%)	19	19	--	--	1	7	105	13.6	--
LSD(0.05)*	450	28	--	--	1	4	6	4.0	--

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

2-Year Averages (2003 and 2005)

GARST HYSUN 450	961	97	36.2	371	58	39	1	25.1	6.9
GARST HYSUN 521	939	80	32.8	283	52	39	2	23.3	6.6
AVERAGES	1005	863	36.5	347	55	41	3	24.1	7.0

WEST CENTRAL KANSAS OILSEED SUNFLOWER TESTS

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

Ulysses silt loam; Wheat in 2004

120 - 31 - 0 lb/a N, P, K

Planted on 6/3/2005; Harvested on 9/29/2005

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

Good planting and growing conditions until July, which was hot and dry. Strong wind and hail on August 19 caused severe lodging, stripped leaves, and damaged heads.

Month	Precipitation		Average Temp.	
	2005	Norm.	2005	Norm.
Nov.-Mar	3.9	2.1	37	34
April	3.1	1.3	50	49
May	1.0	2.3	61	60
June	4.8	2.6	71	70
July	0.8	2.5	78	77
August	4.6	2.2	74	74
Sept.	1.6	1.3	70	66
Oct.	3.2	0.7	56	54
Totals:	22.9	15.0	54	52

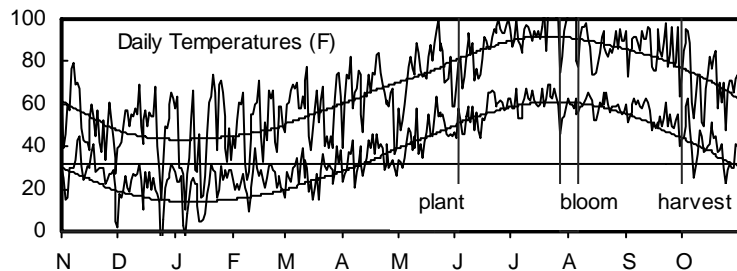
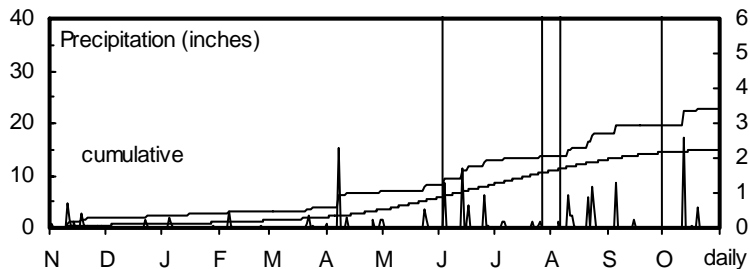


Table 4. Tribune Irrigated Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
CROPLAN GENETICS 308	2432	112	42.9	1043	57	68	4	26.0	9.9
CROPLAN GENETICS 340HO	1841	85	37.2	685	60	72	11	22.5	9.2
CROPLAN GENETICS 378DMR,HO	2212	102	41.8	925	61	76	18	27.5	10.4
DEKALB DKF33-33NS	2183	101	37.6	821	55	69	7	26.8	10.4
DEKALB DKF38-30NS	2118	98	40.6	860	63	72	2	25.1	10.5
DEKALB DKF38-80CL	2220	103	38.7	859	59	64	2	25.6	10.6
DEKALB EXP002	2373	110	41.3	980	58	64	10	25.6	11.3
DEKALB EXP35-10NS	1989	92	37.9	754	57	73	5	25.9	11.5
DEKALB MH4331B	2452	113	41.0	1005	59	66	5	26.2	12.4
DYNA-GRO SEEDS 94T90	2248	104	39.6	890	62	80	7	24.8	9.1
GARST HYSUN 424	2197	102	41.2	905	62	70	8	26.1	10.4
GARST HYSUN 450	2625	121	40.6	1066	61	71	2	27.3	9.5
GARST HYSUN 454	2354	109	40.2	946	59	75	9	26.2	12.0
INTERSTATE HO120	1702	79	40.4	688	59	79	4	25.6	11.2
MYCOGEN 7350	2038	94	41.0	836	57	71	5	25.4	10.5
MYCOGEN 8D310	2200	102	36.1	794	57	69	9	24.3	14.8
MYCOGEN 8H350DM	1974	91	40.3	796	57	72	8	25.2	9.5
MYCOGEN 8H419CL	1980	91	40.6	804	57	73	2	25.6	10.4
MYCOGEN 8N352	2008	93	42.3	849	59	69	29	26.4	10.3
MYCOGEN 8N386CL	2342	108	41.0	960	58	72	7	25.8	9.9
MYCOGEN 8N429CL	2578	119	38.8	1000	57	74	5	25.7	10.6
MYCOGEN 8N510	2544	118	41.0	1043	60	69	10	26.2	8.6
MYCOGEN E84352	2426	112	42.0	1019	58	70	7	26.4	10.3
PIONEER 63M80	2067	96	40.6	839	59	69	6	25.1	11.3
PIONEER 63M91	1941	90	42.3	821	59	74	9	26.6	11.2
PIONEER 64H41	2473	114	40.2	994	59	74	4	28.9	12.9
PIONEER 64H45	1798	83	39.0	701	59	79	13	26.6	10.7
PIONEER EXP 05PI02	2033	94	38.3	779	58	65	14	24.9	10.7
SEEDS 2000 BLAZER	2428	112	41.6	1010	60	69	4	25.1	9.3
SEEDS 2000 SIERRA	2182	101	39.8	868	64	75	22	22.7	8.7
SEEDS 2000 X978	1735	80	41.4	718	63	76	4	26.9	8.9
TRIUMPH 620CL	2020	93	41.6	840	59	68	6	25.8	8.9

Table 4. Tribune Irrigated Oilseed Sunflower Performance Test, 2005, continued.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
TRIUMPH 645	2499	115	45.4	1135	62	76	6	24.4	11.0
TRIUMPH 660CL	1886	87	41.6	785	63	76	23	24.1	9.5
TRIUMPH 820HO	1578	73	35.2	555	59	76	21	26.6	9.6
TRIUMPH s672	2069	96	45.3	937	61	55	2	27.6	9.0
TRIUMPH s675	2411	111	45.0	1085	64	55	2	28.6	10.9
TRIUMPH S678	2405	111	45.8	1101	64	64	4	28.2	10.0
TRIUMPH TRX3249	1925	89	40.1	772	57	68	3	25.8	10.7
TRIUMPH TRX4240	2076	96	40.3	837	60	74	3	25.6	10.5
AVERAGES	2164	100	40.7	883	59	71	8	25.9	10.4
CV(%)	16	16	--	--	1	4	150	3.4	--
LSD(0.05)*	493	23	--	--	1	4	16	1.2	--

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

2-Year Averages (2004 and 2005)

DEKALB DKF33-33NS	2335	108	37.5	875	57	71	10	28.7	11.5
DEKALB DKF38-30NS	2076	96	40.4	838	64	73	11	27.8	11.1
DEKALB DKF38-80CL	2014	93	38.8	780	62	65	4	27.0	11.3
DEKALB EXP35-10NS	2166	100	38.5	835	61	74	10	28.2	11.7
GARST HYSUN 424	2326	108	41.0	952	64	72	9	28.2	11.6
GARST HYSUN 450	2180	101	40.5	883	64	69	6	28.5	10.2
GARST HYSUN 454	2202	102	39.9	879	62	76	9	27.0	12.4
MYCOGEN 8D310	2287	106	37.2	852	59	71	7	26.4	15.8
MYCOGEN 8N352	2204	102	43.6	962	62	72	19	29.0	10.8
MYCOGEN 8N510	2369	110	41.6	983	63	71	10	28.2	9.0
PIONEER 63M80	2320	107	41.3	959	60	70	5	27.8	12.7
PIONEER 63M91	1949	90	42.5	828	61	74	7	29.4	12.1
SEEDS 2000 BLAZER	2382	110	41.2	980	62	69	10	26.2	10.7
TRIUMPH 645	2402	111	45.3	1088	63	79	17	25.8	11.2
TRIUMPH s675	2283	106	45.2	1031	66	57	45	28.0	11.5
AVERAGES	2161	100	40.9	885	62	71	10	27.5	11.2

3-Year Averages (2003 to 2005)

DEKALB DKF33-33NS	2493	108	38.1	952	57	70	7	28.6	11.6
DEKALB DKF38-30NS	2087	91	40.6	848	64	74	7	27.5	10.7
DEKALB DKF38-80CL	2261	98	38.5	869	62	65	2	26.3	10.9
GARST HYSUN 424	2611	113	40.9	1067	64	73	6	28.4	11.4
GARST HYSUN 450	2518	109	40.7	1025	64	69	4	28.8	10.2
GARST HYSUN 454	2305	100	40.4	933	63	75	6	26.8	12.3
TRIUMPH 645	2540	111	45.2	1149	64	79	11	26.1	11.6
AVERAGES	2299	100	40.8	939	62	71	7	27.2	11.3

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist
 Richfield silt loam; Wheat in 2004; Target stand of 17400 plants/acre
 Planted on 6/7/2005; Harvested on 10/18/2005; 100 - 31 - 0 lb/a N, P, K

Good stands were established and growing conditions were good until July, when conditions became hot and dry.

Table 5. Tribune Dryland Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
CROPLAN GENETICS 343DMR,HO	2036	87	37.8	770	57	62	12	30.3	13.1
CROPLAN GENETICS 378DMR,HO	2029	87	40.2	816	59	64	12	28.7	12.1
DEKALB DKF33-33NS	1852	79	38.6	715	54	57	14	31.4	10.9
DEKALB DKF38-30NS	1683	72	40.2	677	59	61	19	30.3	12.5
DEKALB DKF38-80CL	1764	76	39.8	702	58	57	16	29.2	10.2
DEKALB EXP002	2641	113	43.2	1141	54	59	10	31.2	13.2
DEKALB EXP35-10NS	1621	69	38.2	619	57	58	12	30.5	13.7
DEKALB MH4331B	2649	113	40.4	1070	57	55	16	30.3	13.6
FONTANELLE 902 NS	2037	87	42.4	864	57	68	25	28.0	12.1
GARST HYSUN 424	2290	98	40.8	934	58	62	19	30.6	10.8
GARST HYSUN 450	2392	102	40.1	959	59	54	12	30.1	11.3
GARST HYSUN 454	2443	105	41.9	1024	58	68	13	30.6	12.5
INTERSTATE HO120	2537	109	41.4	1050	56	69	18	29.8	12.9
MYCOGEN 7350	2621	112	43.2	1132	54	63	5	30.6	10.8
MYCOGEN 8H350DM	2461	105	43.5	1071	53	59	8	30.0	10.6
MYCOGEN 8H419CL	2688	115	40.5	1089	57	66	4	29.2	11.0
MYCOGEN 8N352	2595	111	42.4	1100	56	57	9	32.1	12.2
MYCOGEN 8N386CL	2567	110	40.8	1047	55	66	10	29.8	10.8
MYCOGEN 8N429CL	2230	96	38.1	850	55	67	10	29.3	11.0
MYCOGEN 8N510	3246	139	40.7	1321	57	57	14	30.2	10.4
MYCOGEN E84352	1783	76	41.7	744	57	60	11	31.1	12.1
PIONEER 63M80	1778	76	41.9	745	56	61	25	29.2	12.1
PIONEER 63M91	2217	95	42.3	938	55	64	17	31.3	12.2
SEEDS 2000 BLAZER	2640	113	41.8	1104	57	58	2	29.6	10.5
SEEDS 2000 SIERRA	2812	120	39.0	1097	60	64	9	27.4	10.3
SEEDS 2000 X978	2431	104	42.4	1031	57	68	17	32.0	10.7
TRIUMPH 620CL	2096	90	41.4	868	55	60	13	30.4	10.1
TRIUMPH 645	3059	131	42.9	1312	59	68	10	28.2	12.9
TRIUMPH 660CL	2389	102	40.2	960	58	62	13	29.2	11.3
TRIUMPH s672	2439	104	43.6	1063	57	49	12	31.5	10.5
AVERAGES	2334	100	41.0	957	57	61	13	30.1	11.6
CV(%)	19	19	--	--	2	7	43	2.5	--
LSD(0.05)*	623	27	--	--	1	6	8	1.1	--

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

2-Year Averages (2004 and 2005)

DEKALB DKF33-33NS	1478	85	35.7	538	55	59	10	29.1	10.5
DEKALB DKF38-30NS	1549	94	37.5	584	60	64	10	28.3	11.8
DEKALB DKF38-80CL	1497	88	36.5	554	59	59	10	26.9	9.4
DEKALB EXP35-10NS	1277	73	36.2	469	58	60	6	28.4	13.0
FONTANELLE 902 NS	1603	91	39.2	642	58	70	14	26.1	11.7
GARST HYSUN 424	1788	101	38.0	693	60	65	12	28.6	10.2
GARST HYSUN 450	1746	96	37.9	675	60	58	7	28.3	10.8
GARST HYSUN 454	1863	105	38.2	733	59	68	7	28.9	11.7
MYCOGEN 8N510	2392	132	36.6	910	59	61	9	27.6	9.4
PIONEER 63M80	1392	79	38.6	550	58	61	14	27.7	12.2
PIONEER 63M91	1682	94	38.4	667	57	65	9	28.8	11.7
SEEDS 2000 BLAZER	2112	121	38.4	828	58	58	3	27.7	10.6
SEEDS 2000 X978	1780	98	39.1	717	59	70	10	29.6	9.8
TRIUMPH 645	2351	132	40.6	970	60	69	8	26.6	12.0
AVERAGES	1781	100	37.8	691	58	63	7	28.0	11.0

Table 5. Tribune Dryland Oilseed Sunflower Performance Test, 2005, continued.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
3-Year Averages (2003 to 2005)									
DEKALB DKF33-33NS	1391	91	36.0	508	55	55	6	28.5	10.0
DEKALB DKF38-30NS	1347	90	38.7	519	59	60	6	28.9	11.5
DEKALB DKF38-80CL	1399	93	37.5	529	58	54	6	27.4	9.9
FONTANELLE 902 NS	1337	84	39.8	538	58	64	9	26.7	11.3
GARST HYSUN 450	1569	99	38.7	614	60	54	4	28.7	10.4
GARST HYSUN 454	1642	104	38.6	646	58	63	4	28.7	12.1
PIONEER 63M80	1304	85	39.2	519	58	57	9	27.4	12.3
PIONEER 63M91	1420	89	38.9	564	57	59	6	28.8	12.0
SEEDS 2000 BLAZER	1819	116	39.5	724	58	53	2	27.9	9.9
AVERAGES	1574	100	38.6	616	58	58	5	28.2	11.0

NORTH CENTRAL KANSAS DRYLAND OILSEED SUNFLOWER TEST

Agricultural Research Center, Hays; Ken Kofoid, agronomist

Harney silt loam; Fallow in 2004

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

Planted on 6/24/2004; Harvested on 10/7/2005

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

Plant stands were good. July had two very hot weeks, with record cold temperatures in between. There was moderate to severe lodging in all plots.

Month	Precipitation		Average Temp.	
	2005	Norm.	2005	Norm.
Nov.-Mar	6.5	3.5	37	33
April	2.3	1.8	54	51
May	1.6	3.1	64	62
June	3.0	3.8	75	72
July	2.3	3.4	80	78
August	4.3	2.8	78	76
Sept.	1.8	2.2	72	68
Oct.	2.7	1.4	57	55
Totals:	24.5	22.0	55	52

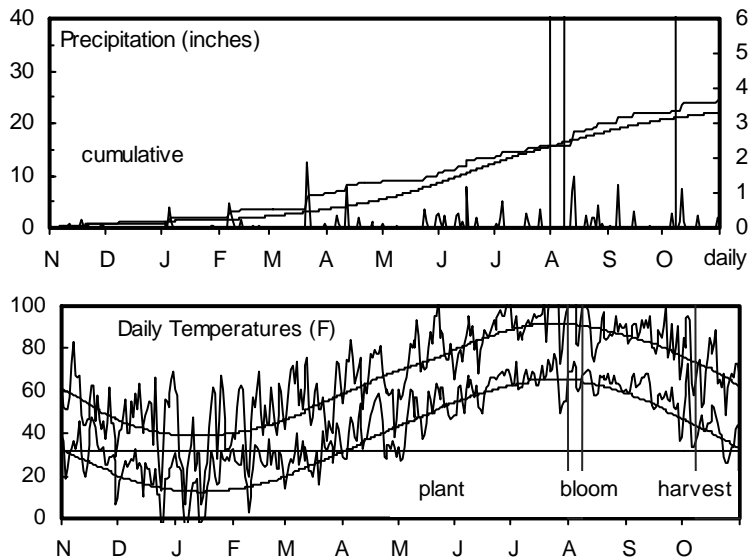


Table 6. Hays Dryland Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
ADVANTA PACIFIC NA F10125	1010	84	36.7	371	59	45	52	28.8	11.6
CROPLAN GENETICS 378DMR,HO	1038	87	41.1	427	59	48	52	27.7	12.2
FONTANELLE 902 NS	1007	84	43.4	437	59	49	43	28.4	12.9
GARST 4880NS/CL	1194	100	40.9	488	59	47	35	30.2	11.9
GARST HYSUN 450	1036	87	41.1	426	59	41	39	29.5	11.1
GARST HYSUN 454	1270	106	42.5	540	58	51	34	28.6	12.2
MYCOGEN 8H350DM	1120	94	43.4	486	55	48	21	30.2	11.5
MYCOGEN 8H419CL	1163	97	42.0	488	57	51	20	29.3	11.7
MYCOGEN 8N352	1402	117	43.8	614	57	48	23	31.1	11.9
MYCOGEN 8N386CL	1102	92	41.8	461	57	47	12	29.1	11.2
MYCOGEN 8N510	1367	114	42.2	577	59	45	21	28.7	11.6
PIONEER 63M80	1394	117	42.7	595	56	49	33	28.6	11.8
PIONEER 63M91	1252	105	42.1	527	56	55	21	29.6	12.5
TRIUMPH 620CL	1218	102	41.7	508	56	46	36	29.1	10.9
TRIUMPH 645	1074	90	43.4	466	59	43	43	28.2	14.5
TRIUMPH 660CL	1238	103	41.7	516	62	47	25	29.2	11.8
TRIUMPH 665	1266	106	43.8	555	59	41	37	28.3	12.0
TRIUMPH s672	1387	116	43.0	596	59	33	23	28.3	10.9
AVERAGES	1196	100	42.1	504	58	46	32	29.0	11.9
CV(%)	16	16	--	--	1	10	35	4.9	--
LSD(0.05)*	266	22	--	--	1	6	16	2.0	--

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

2-Year Averages (2004 and 2005)

FONTANELLE 902 NS	1485	100	39.5	568	60	54	22	25.2	11.9
GARST HYSUN 450	1398	95	38.0	519	61	46	21	26.6	10.1
GARST HYSUN 454	1536	106	39.6	601	60	56	18	26.6	12.2
MYCOGEN 8N510	1565	109	38.8	600	60	50	13	25.9	10.7
PIONEER 63M80	1377	99	41.1	566	57	53	18	25.9	13.0
PIONEER 63M91	1244	89	39.7	494	57	54	12	26.7	12.0
TRIUMPH 645	1282	89	41.8	532	60	52	23	25.0	12.6
AVERAGES	1443	100	39.0	554	59	50	17	26.2	11.6

SOUTH CENTRAL KANSAS DRYLAND OILSEED SUNFLOWER TEST

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

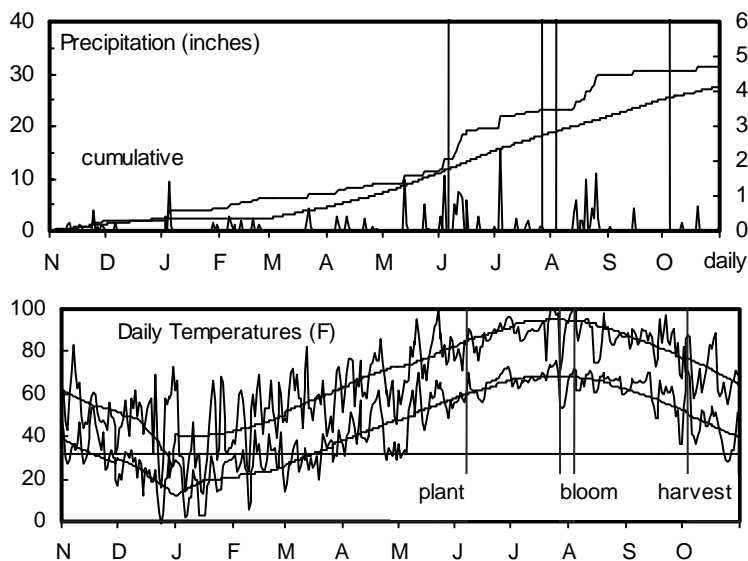
Ost silt loam; Fallow in 2004

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

Planted on 6/7/2005; Harvested on 10/3/2005

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

Good stands were established. Hail and wind July 3 caused some damage. There was severe lodging at harvest.



Month	Precipitation		Average Temp.	
	2005	Norm.	2005	Norm.
Nov.-Mar	7.2	4.2	38	37
April	1.8	2.7	54	56
May	2.5	4.0	66	65
June	8.1	4.2	75	75
July	3.6	3.4	78	81
August	6.6	3.1	78	79
Sept.	0.8	3.3	72	70
Oct.	1.1	2.5	58	59
Totals:	31.6	27.4	56	56

Table 7. Hutchinson Dryland Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
CROPLAN GENETICS 343DMR,HO	269	111	43.5	117	54	34	43	33.0	8.7
CROPLAN GENETICS 378DMR,HO	213	88	43.3	92	54	37	48	34.3	8.3
DYNA-GRO SEEDS 93N05	259	107	42.4	110	53	36	41	33.6	9.5
DYNA-GRO SEEDS 94T90	201	83	44.0	88	54	37	60	25.5	9.5
GARST HYSUN 454	281	116	42.3	119	53	37	48	33.8	10.1
INTERSTATE 4575NS/CL	210	87	43.3	91	53	36	60	34.1	10.1
INTERSTATE 4704NS	270	112	42.8	116	53	38	43	34.2	10.0
INTERSTATE HO120	236	98	43.5	103	55	36	45	25.5	9.5
INTERSTATE HYSUN 525	324	134	43.7	142	53	32	45	25.1	10.2
TRIUMPH 645	244	101	41.5	101	53	38	38	25.1	10.4
TRIUMPH s672	149	62	41.8	62	54	37	40	33.2	10.3
AVERAGES	241	100	42.9	104	53	36	46	30.7	9.7
CV(%)	43	43	--	--	4	10	51	31.8	--
LSD(0.05)*	148	61	--	--	3	5	34	14.1	--

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

2-Year Averages (2004 and 2005)

GARST HYSUN 454	1040	100	42.2	437	55	55	31	33.2	11.4
AVERAGES	1193	100	42.4	501	54	52	29	31.3	4.9

3-Year Averages (2003 to 2005)

AVERAGES	960	100	40.4	394	53	51	39	28.1	5.2
----------	-----	-----	------	-----	----	----	----	------	-----

SOUTH CENTRAL KANSAS DRYLAND OILSEED SUNFLOWER TEST

Harvey County Experiment Field, Hesston; Mark Claassen, agronomist

Smolan silt loam; Wheat in 2004

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

Planted on 6/22/2005; Harvested on 10/7/2005

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

Plants emerged quickly after planting. Only 2 days had temperatures at or above 100 °F. Early June was wet, but late June, July, and early August were dry, with periods of limited drought stress. Late-August rainfall totaled 7", but September had less than half of the long-term average. Significant late-season lodging caused yield loss and variability. Lodging accounted for approximately 11% of yield variation beyond that attributed to hybrid effect.

Month	Precipitation		Average Temp.	
	2005	Norm.	2005	Norm.
Nov.-Mar	8.3	6.0	38	37
April	1.5	2.7	55	56
May	6.0	4.3	66	66
June	9.9	4.8	76	76
July	3.5	3.8	79	81
August	7.0	3.1	77	80
Sept.	1.2	3.6	73	71
Oct.	1.2	2.5	59	60
Totals:	38.5	30.7	56	56

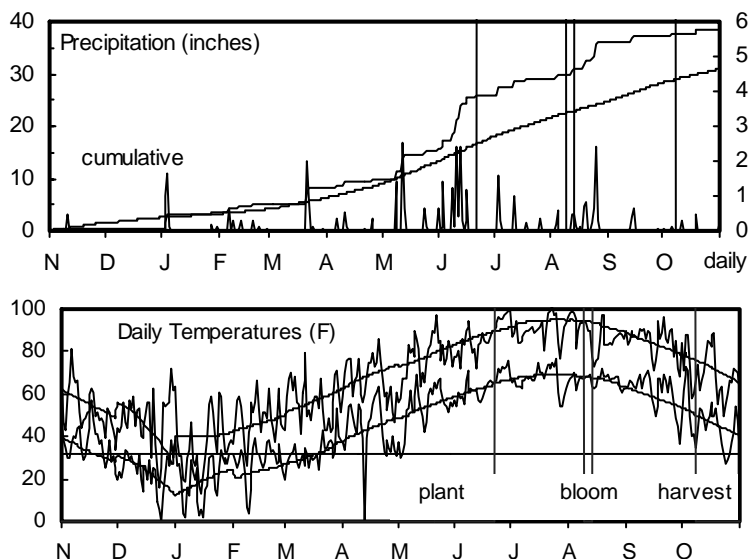


Table 8. Hesston Dryland Oilseed Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lbs/a)	Yield as % of Test Average	Oil Content (%)	Oil Yield (lbs/a)	Days to Half Bloom	Plant Height (in.)	Lodging (%)	Test Weight (lbs/bu)	Seed Weight (g/200)
AGWAY RH 3708	2138	113	39.5	845	50	51	8	28.2	12.5
AGWAY RH 3738	1889	100	42.6	805	53	49	15	28.1	10.6
CHS SUNFLOWERS RH 118	1400	74	41.8	585	49	50	45	30.1	10.1
GARST HYSUN 521	2050	109	43.2	886	53	55	10	29.2	11.5
INTERSTATE HYSUN 525	2310	123	43.8	1012	52	50	21	26.9	10.9
PATRIOT SEED, INC P99NS2	2041	108	44.6	910	52	33	14	27.8	9.5
TRIUMPH 645	1788	95	42.5	760	52	49	14	28.5	11.6
TRIUMPH 658	1793	95	43.3	776	51	50	34	27.5	10.2
TRIUMPH 665	1464	78	41.9	613	51	44	34	28.1	9.8
AVERAGES	1886	100	42.6	803	52	48	20	28.3	10.7
CV(%)	16	16	--	--	1	7	62	2.6	--
LSD(0.05)*	515	27	--	--	1	6	22	1.3	--

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

2-Year Averages (2004 and 2005)

TRIUMPH 645	2148	113	42.3	907	53	58	10	26.5	11.1
AVERAGES	1903	100	40.3	766	53	56	20	26.6	10.2

3-Year Averages (2003 to 2005)

AVERAGES	1595	100	41.7	656	53	53	21	26.9	6.8
----------	------	-----	------	-----	----	----	----	------	-----

NORTHWEST KANSAS CONFECTIONARY SUNFLOWER TESTS

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist
Keith silt loam; Grain Sorghum in 2004; Target stand of 17000 plants/acre
Planted on 6/16/2005; Harvested on 10/4/2005; 150 - 45 - 0 lb/a N, P, K

Very good planting and early-season growing conditions. Mid-July through mid-August was hot and dry, with very little rainfall. Test was irrigated in late July, mid-August, and early September for a total of 9 inches.

Table 9. Colby Irrigated Confectionary Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lb/a)	Yield % of Avg	Days to Half Blm	Plant Ht. (in.)	Lodg- ing (%)	Test Wt. (lb/bu)	Seed Wt. (g/200)	Seed Size Distribution (%)						
								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 01	2294	110	53	62	0	16.3	28.9	39.0	26.0	16.3	10.4	3.4	3.5	1.7
CHS SUNFLOWERS 04EXP02	1827	88	54	61	1	15.6	28.7	88.8	6.0	2.3	1.5	0.5	0.7	0.3
CHS SUNFLOWERS 04EXP04	2040	98	52	63	3	15.4	28.4	74.1	13.0	5.1	4.6	0.7	1.5	0.9
CHS SUNFLOWERS 05EXP04	1881	91	51	62	4	14.5	27.9	85.4	7.7	2.5	2.3	0.7	0.8	0.7
CHS SUNFLOWERS 05EXP05	1843	89	53	61	4	15.9	25.0	39.0	23.7	17.3	8.6	5.3	4.2	2.3
CROPLAN GENETICS 130	2305	111	50	61	2	16.1	20.9	66.7	10.6	7.5	5.1	3.7	4.4	2.3
CROPLAN GENETICS 135	2578	124	50	58	3	15.7	24.9	73.5	11.1	5.6	3.3	1.8	3.2	1.7
DAHLGREN 9531	2429	117	56	64	3	17.0	26.6	67.1	16.0	9.5	5.0	1.4	0.9	0.3
DAHLGREN D-9530	2181	105	57	62	4	16.6	25.7	65.0	16.9	8.2	5.4	1.9	1.9	0.8
MYCOGEN 8C416	2250	108	57	65	3	16.5	22.4	58.4	17.5	9.4	5.9	2.8	4.1	2.2
MYCOGEN 8C481	1812	87	55	68	1	14.8	27.0	40.5	23.5	17.1	11.5	3.9	2.8	0.8
RED R. COMMODITIES 2216	2442	118	56	67	1	16.5	25.4	56.4	20.0	10.7	7.0	4.2	1.2	0.5
RED R. COMMODITIES EX 2215	2315	111	56	63	1	16.7	25.3	53.7	21.5	13.9	5.4	2.2	2.9	0.5
RED R. COMMODITIES RRC7015	1939	93	56	64	1	17.1	25.9	43.3	27.3	15.7	7.7	2.5	2.1	1.5
SIGCO SUN PRODUCTS GOLIATH RT	2226	107	57	60	0	17.5	27.2	48.7	21.9	12.1	7.0	3.5	4.8	2.1
SIGCO SUN PRODUCTS SS3638	1719	83	57	63	2	14.2	26.6	65.6	15.5	8.1	4.9	2.5	2.9	0.7
SIGCO SUN PRODUCTS SS3938	2092	101	53	60	1	15.7	25.0	28.2	18.8	18.5	15.2	8.9	7.5	3.0
TRIUMPH 700CLS	1742	84	60	66	0	14.6	23.6	36.2	25.2	17.8	12.4	5.0	2.4	1.0
TRIUMPH 707 CLS	1732	83	56	60	0	14.9	30.8	68.7	12.0	8.2	5.4	3.7	1.6	0.6
TRIUMPH 717CLS	1790	86	58	70	1	15.3	24.6	44.3	21.3	14.5	9.6	6.2	3.3	0.8
TRIUMPH 757C	2142	103	55	61	3	15.9	26.7	77.9	8.0	5.1	3.0	1.8	3.2	1.0
TRIUMPH 767C	1745	84	56	60	4	16.3	30.8	76.6	12.7	5.6	2.1	0.9	1.5	0.6
TRIUMPH 777C	2433	117	57	66	0	15.1	27.2	74.5	14.7	6.1	2.1	0.9	1.1	0.8
AVERAGES	2076	100	55	63	2	15.8	26.3	59.6	17.0	10.3	6.3	3.0	2.7	1.2
CV(%)	24	24	1	3	129	6.4								
LSD(0.05)*	713	34	1	3	3	1.4								

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

2-Year Averages (2004 and 2005)

CROPLAN GENETICS 135	2231	108	55	58	4	16.2	28.3	66.6	14.6	7.9	5.6	2.2	2.2	1.2
DAHLGREN D-9530	2129	103	61	62	3	17.1	27.7	57.9	19.9	10.7	6.9	2.3	1.9	0.6
MYCOGEN 8C416	2212	107	62	65	4	17.3	24.0	48.7	20.1	12.2	7.7	4.1	5.4	2.0
RED R. COMMODITIES EX 2215	2144	104	60	63	2	17.7	26.2	43.5	23.3	16.4	8.9	3.8	3.6	0.8
RED R. COMMODITIES RRC7015	2115	103	60	64	2	17.0	27.0	38.0	26.1	16.8	10.2	3.8	3.7	1.6
SIGCO SUN PRODUCTS GOLIATH RT	1955	95	61	60	1	18.2	29.7	43.9	21.6	13.4	8.4	4.3	5.6	3.1
TRIUMPH 757C	1905	92	60	61	5	16.9	28.7	77.7	8.9	4.1	3.2	2.5	2.6	1.1
AVERAGES	2060	100	59	63	2	17.1	27.8	53.4	17.8	11.6	8.4	3.8	3.7	1.5

3-Year Averages (2003 to 2005)

RED R. COMMODITIES EX 2215	2187	102	59	63	2	18.0	24.9	40.7	23.1	16.0	10.5	4.7	4.1	0.9
RED R. COMMODITIES RRC7015	2236	104	59	63	2	17.2	26.1	31.8	26.0	18.2	12.3	5.4	4.8	1.4
SIGCO SUN PRODUCTS GOLIATH RT	2150	100	59	60	1	19.1	27.1	33.6	20.0	15.0	13.1	5.7	8.6	4.1
TRIUMPH 757C	1965	92	59	60	5	17.3	27.1	76.0	8.4	4.7	3.8	2.1	3.4	1.6
AVERAGES	2141	100	59	62	3	17.9	26.1	43.7	17.5	13.6	11.5	5.6	6.0	2.2

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist
 Keith silt loam; Fallow in 2004; Target stand of 14900 plants/acre
 Planted on 6/15/2005; Harvested on 9/23/2005; 50 - 0 - 0 lb/a N, P, K

Very good planting and early-season growing conditions. Mid-July through mid-August was hot and dry, with very little rainfall.

Table 10. Colby Fallow Confectionary Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lb/a)	Yield % of Avg	Days to Half Blm	Plant Ht. (in.)	Lodging (%)	Test Wt. (lb/bu)	Seed Wt. (g/200)	Seed Size Distribution (%)						
								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 05EXP05	982	77	57	48	0	13.6	21.4	46.7	19.0	14.1	7.7	6.9	4.4	1.5
DAHLGREN 9531	1116	88	58	45	0	15.6	21.2	42.0	21.8	15.3	7.2	4.9	7.7	1.2
DAHLGREN D-9530	1451	114	58	48	0	15.8	17.0	63.3	16.8	7.1	5.4	1.6	4.6	1.2
SIGCO SUN PRODUCTS GOLIATH RT	1471	116	58	48	0	17.0	24.0	47.7	21.7	10.6	8.8	5.6	4.9	0.8
SIGCO SUN PRODUCTS SS3938	1319	104	53	46	0	16.2	25.1	24.1	22.3	18.1	17.8	11.5	5.3	1.1
AVERAGES	1268	100	56	47	0	15.6	21.7	44.8	20.3	13.0	9.4	6.1	5.4	1.2
CV(%)	23	23	1	3	0	5.9								
LSD(0.05)*	457	36	1	2	0	1.4								

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

2-Year Averages (2004 and 2005)

DAHLGREN D-9530	1452	109	62	52	0	15.1	18.1	35.3	16.2	15.2	14.5	7.2	8.7	3.1
SIGCO SUN PRODUCTS GOLIATH RT	1390	105	62	51	2	16.6	22.0	25.6	13.8	11.1	13.5	10.1	15.2	11.0
AVERAGES	1333	100	60	51	2	15.7	19.7	24.4	14.2	13.0	14.3	10.2	15.1	9.0

3-Year Averages (2003 to 2005)

SIGCO SUN PRODUCTS GOLIATH RT	1049	106	60	46	3	17.0	19.3	17.0	10.0	9.3	12.3	10.3	22.9	18.2
AVERAGES	1002	100	59	47	2	16.3	17.6	17.2	10.7	10.4	13.0	10.4	21.2	17.2

Northern Sun Industries, Goodland; Patrick Evans, agronomist
 Ulysses silt loam; Fallow in 2004; Target stand of 14000 plants/acre
 Planted on 6/17/2005; Harvested on 9/27/2005; 90 - 0 - 0 lb/a N, P, K

May and June rains allowed good stands to be established, but the rest of the growing season was hot and dry. Yields were very low and variable.

Table 11. Goodland Fallow Confectionary Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lb/a)	Yield % of Avg	Days to Half Blm	Plant Ht. (in.)	Lodging (%)	Test Wt. (lb/bu)	Seed Wt. (g/200)	Seed Size Distribution (%)						
								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 05EXP05	835	91	56	46	3	12.6	22.2	26.1	21.5	14.7	19.9	10.3	5.0	2.7
SIGCO SUN PRODUCTS GOLIATH RT	1200	130	56	41	0	15.9	22.9	31.8	19.0	15.4	13.9	8.6	8.4	3.0
SIGCO SUN PRODUCTS SS3938	728	79	52	40	5	14.6	22.2	7.6	9.8	17.8	27.5	18.5	15.9	3.0
AVERAGES	921	100	55	42	3	14.4	22.4	21.8	16.8	16.0	20.4	12.5	9.8	2.9
CV(%)	36	36	1	7	136	21.6								
LSD(0.05)*	579	63	1	5	6	5.4								

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

WEST CENTRAL KANSAS CONFECTIONARY SUNFLOWER TESTS

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist
 Ulysses silt loam; Wheat in 2004; Target stand of 17400 plants/acre
 Planted on 6/3/2005; Harvested on 9/29/2005; 120 - 31 - 0 lb/a N, P, K

Good planting and growing conditions until July, which was hot and dry. Strong wind and hail on August 19 caused severe lodging, stripped leaves, and damaged heads.

Table 12. Tribune Irrigated Confectionary Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lb/a)	Yield % of Avg	Days			Lodg- ing (%)	Test Wt. (lb/bu)	Seed Wt. (g/200)	Seed Size Distribution (%)						
			to Half Blm	Plant Ht. (in.)	to				Above 22/64	21/64	20/64	19/64	18/64	16/64	Below 16/64
										to 22/64	to 21/64	to 20/64	to 19/64	to 18/64	
CHS SUNFLOWERS 04-EXP 01	2059	145	57	72	3	17.3	27.1	24.9	26.2	21.4	17.3	6.2	3.3	0.7	
CHS SUNFLOWERS 04EXP02	2144	151	58	73	6	17.7	27.1	77.4	12.2	4.8	2.8	1.1	1.1	0.6	
CHS SUNFLOWERS 04EXP04	1790	126	56	70	11	16.4	28.2	71.5	12.4	6.9	3.8	2.1	2.8	0.4	
CHS SUNFLOWERS 05EXP04	1779	125	55	68	9	16.2	26.7	76.1	8.3	7.3	4.6	2.2	1.2	0.3	
CHS SUNFLOWERS 05EXP05	1723	121	57	76	6	17.3	23.8	32.6	19.3	19.7	12.9	7.7	6.5	1.2	
CROPLAN GENETICS 130	1357	95	54	75	14	17.2	21.0	56.3	13.9	8.7	6.8	5.3	6.3	2.7	
CROPLAN GENETICS 135	1612	113	52	68	9	17.1	22.4	44.7	21.3	13.7	9.1	4.4	4.7	2.1	
DAHLGREN 9531	1147	81	61	78	16	17.3	21.5	30.9	21.0	20.4	16.3	6.6	3.8	1.0	
DAHLGREN D-9530	1484	104	61	75	8	17.3	23.0	33.0	27.0	17.4	13.3	5.9	2.7	0.8	
MYCOGEN 8C416	1073	75	62	79	19	17.3	21.0	32.2	21.8	18.3	14.1	7.1	5.8	0.7	
MYCOGEN 8C481	1087	76	60	85	17	15.7	20.2	23.6	16.7	17.8	19.2	12.3	9.2	1.3	
RED R. COMMODITIES 2216	967	68	61	80	24	17.2	22.5	32.7	18.8	17.3	18.6	6.6	5.4	0.6	
RED R. COMMODITIES EX 2215	909	64	61	78	19	17.4	20.5	27.4	22.2	17.9	17.0	8.3	6.0	1.1	
RED R. COMMODITIES RRC7015	1268	89	61	77	9	17.1	21.0	16.0	19.4	25.0	22.0	10.9	6.0	0.8	
TRIUMPH 757C	1257	88	61	72	13	16.2	24.5	61.3	14.5	11.5	7.7	2.6	2.0	0.3	
TRIUMPH 767C	1452	102	60	73	18	18.0	24.8	42.8	22.5	16.8	10.8	3.7	2.4	0.9	
TRIUMPH 777C	1080	76	63	81	15	16.6	21.9	56.1	18.4	8.9	8.9	3.7	3.4	0.6	
AVERAGES	1423	100	59	75	13	17.0	23.4	43.5	18.6	14.9	12.1	5.7	4.3	0.9	
CV(%)	16	16	1	5	37	3.5									
LSD(0.05)*	331	23	1	6	7	0.8									

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

2-Year Averages (2004 and 2005)

CROPLAN GENETICS 135	1506	117	56	72	20	18.0	25.5	56.6	17.4	11.2	6.9	3.4	3.4	1.4
MYCOGEN 8C416	990	77	64	81	16	19.2	21.9	29.0	20.7	18.5	15.3	8.5	7.0	1.3
RED R. COMMODITIES EX 2215	1120	89	63	79	14	19.3	21.9	23.6	19.4	18.4	19.1	10.7	7.6	1.5
RED R. COMMODITIES RRC7015	1332	105	63	82	9	18.7	22.1	16.2	17.1	23.0	21.9	12.0	8.3	2.0
TRIUMPH 757C	1204	94	64	75	22	17.8	25.1	62.0	14.5	10.3	7.1	3.2	2.6	0.5
TRIUMPH 777C	1064	83	65	83	13	18.2	24.0	56.1	21.2	9.1	7.5	3.4	2.5	0.5
AVERAGES	1290	100	62	78	13	18.5	24.5	40.3	18.4	15.3	13.0	6.6	5.3	1.2

3-Year Averages (2003 to 2005)

RED R. COMMODITIES EX 2215	1454	89	63	78	9	18.5	22.8	24.9	20.0	18.5	17.9	9.8	7.7	1.4
RED R. COMMODITIES RRC7015	1840	110	64	80	6	18.2	23.4	15.2	19.5	23.0	20.3	12.0	8.2	2.1
TRIUMPH 757C	1489	91	64	75	14	16.9	26.2	67.9	11.6	8.6	6.1	2.8	2.5	0.5
AVERAGES	1656	100	63	77	9	18.5	25.0	35.6	18.2	16.1	14.1	7.6	6.9	1.5

Southwest Res.-Ext. Center, Tribune; Alan Schlegel, agronomist
 Richfield silt loam; Wheat in 2004; Target stand of 17400 plants/acre
 Planted on 6/7/2005; Harvested on 10/18/2005; 100 - 31 - 0 lb/a N, P, K

Good stands were established and growing conditions were good until July, when conditions became hot and dry.

Table 13. Tribune Dryland Confectionary Sunflower Performance Test, 2005.

BRAND and HYBRID	Yield (lb/a)	Yield % of Avg	Days			Lodg- ing (%)	Test Wt. (lb/bu)	Seed Wt. (g/200)	Seed Size Distribution (%)						
			to Half Blm	Plant Ht. (in.)	to				Above 22/64	21/64	20/64	19/64	18/64	16/64	Below 16/64
										to 22/64	to 21/64	to 20/64	to 19/64	to 18/64	
DAHLGREN 9531	2273	82	59	70	18	21.7	27.9	44.1	21.7	14.3	11.7	4.7	2.9	0.6	
DAHLGREN D-9530	3252	118	59	68	4	22.0	28.8	40.3	23.7	16.3	11.6	4.0	3.6	0.7	
AVERAGES	2763	100	59	69	11	21.8	28.4	42.2	22.7	15.3	11.7	4.4	3.3	0.7	
CV(%)	27		1	5	35	1.2									
LSD(0.05)*	1678		1	8	9	0.6									

Table 14. Entrants and Entries in 2005 Sunflower Performance Tests.

ADVANTA PACIFIC
Advanta Pacific LLC
1215 Prairie Parkway
West Fargo, ND 58078
701-373-8115
AP534NS/CL
AP561NS
NA F10125

CHS SUNFLOWERS
CHS Sunflowers
220 Clement Avenue
Grandin, ND 58038
701-484-5313
04-EXP 01
04EXP02
04EXP04
05EXP04
05EXP05

CROPLAN GENETICS
Croplan Genetics
PO Box 1291
Minot, ND 58078
701-852-2556
130
135
308
3080DMR
340HO
343DMR,HO
378DMR,HO
385NS

DAHLGREN
Dahlgren
1220 Sunflower St.
Crookston, MN 56716
218-281-2985
9531
D-9530

DEKALB
Monsanto Seed
4312 Carol Avenue
Cortland, IL 60112
815-754-4809
DKF33-33NS
DKF38-30NS
DKF38-80CL
EXP001
EXP002
EXP35-10NS
MH4331B

DYNA-GRO SEEDS
Dyna-Gro Seeds
PO Box 636
Garden City, KS 67846
620-275-4271
93C05
93N05
94T90

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

GARST
Garst Seed Co.
2369 330th St.
Slater, IA 50244
888-464-2778
4880NS/CL
Exp 02TH003896
Exp 03TH004205
Exp 03TH004251
HYSUN 424
HYSUN 450
HYSUN 454
HYSUN 521

INTERSTATE
Interstate Seed Co.
PO Box 338
West Fargo, ND 58078
800-282-7331
4575NS/CL
4704NS
HO120
HYSUN 525

KAYSTAR
Kaystar Seed Co.
PO Box 947
Huron, SD 57350
605-352-8791
2020NS
8550NS/CL
9501

MYCOGEN
Mycogen Seed
406 18th Ave. N.
Whapeton, ND 58075
701-642-6007
7350
8C416
8C481
8D310
8H350DM
8H419CL
8N352
8N386CL
8N429CL
8N510
E84352

PIONEER
Pioneer Hi-Bred Intl., Inc.
390 Union Blvd. Suite 500A
Lakewood, CO 80228
800-258-5604
63M80
63M91
64H41
64H45
EXP 05PI02

RED R. COMMODITIES
Red River Commodities
1320 East College Drive
Colby, KS 67701
785-462-3911
2216
EX 2215
RRC7015

SEEDS 2000
Seeds 2000
Box 200
Breckenridge, MN 56520
218-643-2910
BLAZER
SIERRA
X978

SIGCO SUN PRODUCTS
Sigco Sun Products
1701 Industrial Loop
Goodland, KS 67735
785-899-5607
GOLIATH RT
SS3638
SS3938

TRIUMPH
Triumph Seed Co., Inc.
PO Box 1050
Ralls, TX 79357
800-530-4789
620CL
636
645
660CL
665
700CLS
707 CLS
717CLS
757C
767C
777C
820HO
s672
s675
S678
TRX3241
TRX3249
TRX4240

For those interested in accessing crop performance testing information electronically, visit our World Wide Web site. All of the information contained in this publication, plus more, is available for viewing or downloading.

The URL is www.ksu.edu/kscpt.

Excerpts from the
University Research Policy Agreement with Cooperating Seed Companies*

Permission is hereby given to Kansas State University to test varieties and/or hybrids designated on the attached entry forms in the manner indicated in the test announcements. I certify that seed submitted for testing is a true sample of the seed being offered for sale.

I understand that all results from Kansas Crop Performance Tests belong to the University and the public and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following ways: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its entries may be made as long as they are accurate statements about the data as published, with no reference to other companies' names or cultivars. In both cases, the following must be included with the reprint or ad citing the appropriate publication number and title: "See the official Kansas State University Agricultural Experiment Station and Cooperative Extension Service Report of Progress 953 '2005 Kansas Performance Tests with Sunflower Hybrids,' or the Kansas Crop Performance Test Web site, www.ksu.edu/kscpt, for details. Endorsement or recommendation by Kansas State University is not implied."

These materials may be freely reproduced for educational purposes. All other rights reserved. In each case, give credit to the author(s), name of work, Kansas State University, and the date the work was published.

Contributors

Patrick Evans, Research Technologist (Senior Author), Colby
Kraig Roozeboom, Agronomist, Manhattan
James R. Cochrane, Assistant Scientist, Manhattan
Mary Knapp, Kansas State Climatologist, Manhattan
Mark Claassen, Agronomist, Hesston
William Heer, Agronomist, Hutchinson
Ken Kofoid, Agronomist, Hays
Alan Schlegel, Agronomist, Tribune

*NOTE: Trade names are used to identify products.
No endorsement is intended, nor is any criticism implied of similar products not named.*

**This Report of Progress was edited, designed, and printed
by the Department of Communications at Kansas State University**

Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Manhattan 66506