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1996 Colorado Sunflower Performance Trials



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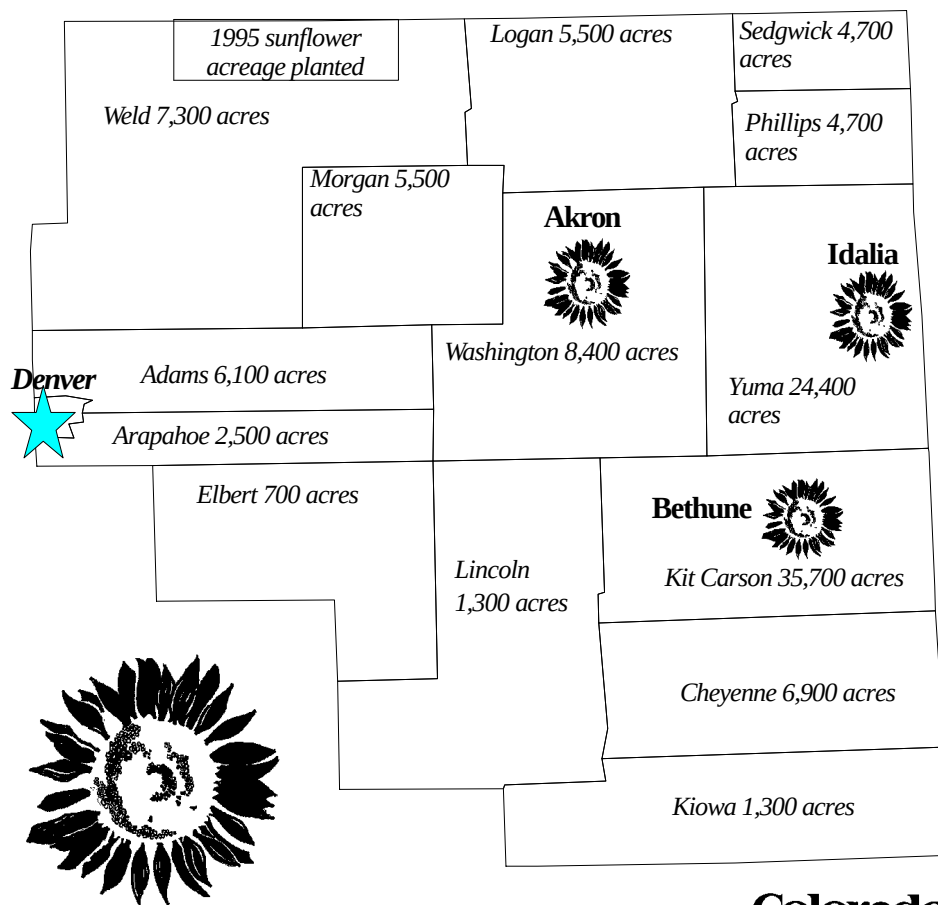
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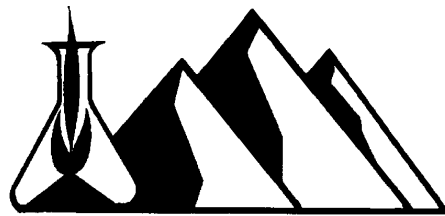
1996 Colorado Sunflower Performance Trials



**Colorado
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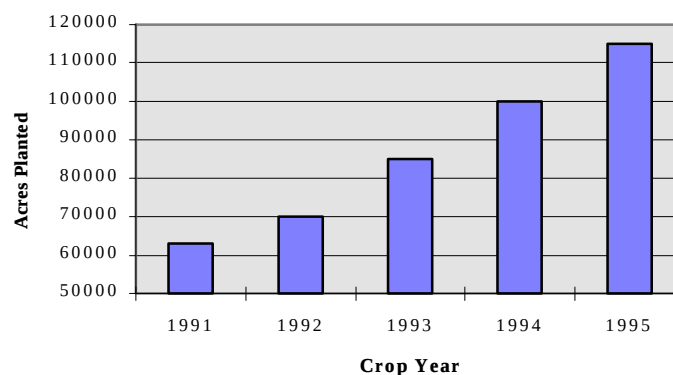
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Growth of Sunflower Acreage in Colorado



1996 COLORADO SUNFLOWER PERFORMANCE TRIALS

Introduction

There has been a phenomenal growth in acres planted to sunflower in Colorado during the five-year period from 1991 to 1995. About 50,000 acres were planted to confection sunflower in 1995 and 65,000 acres were planted to oil sunflowers. Much of Colorado's sunflower acreage is in our northeastern counties; Kit Carson, Yuma, Cheyenne, Weld and Phillips. The growth in sunflower acreage has coincided with similar acreage growth of dryland corn and signifies a shift away from the predominant winter wheat/fallow cropping system. Colorado State University's cropping systems research and dedicated extension efforts in the Golden Plains area can be partially credited for this swing toward spring planted crops.

Each of 115,000 sunflower acres of is planted to hybrid seed which costs Colorado producers from \$11 per acre (oil hybrid seed) to \$16 per acre (confection hybrid seed), making the annual seed expense about \$1.52 million. The expanding Colorado market attracts many commercial hybrid seed companies, each with many different hybrids available to our producers. To help sunflower growers make better hybrid decisions, CSU personnel evaluate commercial sunflower hybrids at different locations in northeastern Colorado to provide reliable and unbiased hybrid performance information to Colorado sunflower growers. Participation by the seed companies in the state trials is voluntary. Commercial companies were given the opportunity to enter one or more hybrids at any location. Reference to commercial companies or hybrids is made with the understanding that no discrimination is intended and no endorsement is implied by Colorado State University.

Sunflower hybrid trials are planted annually at three dryland locations and one irrigated location. At each trial location there is one trial for oil hybrids and one trial for confection. In 1996, the three dryland locations were Akron, Idalia, and Julesburg. The irrigated location was Bethune. The trials at Julesburg were completely destroyed by hail on July 18. At Idalia, herbicide drift damaged the first planting. The trial was replanted on 10 July but late season winds and Russian thistle accumulation made it possible to save only two replications of the oil hybrid trial. Results from the Idalia site are indicative of hybrid performance under extremely late planting conditions.

A randomized complete block design with four replicates was used for all trials. The center two rows of four row plots (30" spacing between rows and 40' long) were harvested for grain yield. Oil hybrids were seeded at 19,000 seeds/acre under dryland conditions and at 24,000 seeds/acre under irrigation. Confection hybrids were seeded at 15,000 seeds/acre under dryland conditions and at 17,000 seeds/acre under irrigation.

In addition to seed yields (reported in pounds per acre adjusted to 10% moisture content), test weight, moisture at harvest, plant height, lodging, plants per acre (density), oil content (for oil hybrids), and seed size (for confection hybrids) are also reported. The least significant difference (LSD) value, $\alpha=0.30$, is reported for yield. Oil content was determined by Triumph Seed Co., Inc. using NMR analysis from bulked samples. Oil content is expressed on a 10% moisture basis.

Growing degree days (GDD) and precipitation were favorable for sunflower production in 1996. Trials were seeded 3-10 days earlier in 1996 than 1995, with the exception of the late Idalia trial reseeding. GDD's were generally greater in 1996 than in 1995 throughout northeastern Colorado and near to the long-term average. For northeastern Colorado in general, rainfall in 1996 was plentiful and well-distributed. Hail, however, was especially intense and frequent in 1996, resulting in the complete loss of the Julesburg trial.

Information regarding sunflower production practices and pest control can be obtained from the following sources: "Sunflower Production in Colorado", Service in Action, No. 102 and "High Plains Sunflower Production and IPM," Bulletin No. 556A, Colorado State University Cooperative Extension, Fort Collins, CO 80523.

Table 1. Dryland Sunflower Oil Performance at Akron in 1996¹

Hybrid	Test			Plant			Oil	Density
	Yield	Weight	Moisture	Height	Lodging	Bloom ²		
	lb/ac	lb/bu	%	in	%	date	%	plants/ac
Cargill X4283	1896	25.0	9.7	62	5	134	45.4	14121
DEKALB EXP6861	1893	24.5	5.9	56	8	130	45.7	14110
DEKALB EXP5801	1879	25.5	6.7	61	5	130	46.5	13145
Cargill SF187	1871	24.7	6.8	56	1	133	44.1	13885
Cargill SF128	1837	26.6	6.9	61	7	130	37.5	13262
Cargill SF270	1812	24.7	5.9	53	2	130	46.1	14225
DEKALB DK3904	1768	23.7	7.2	59	6	132	45.9	13897
DEKALB DK3868	1759	24.8	7.5	54	4	131	45.7	12136
Cargill SF177	1753	25.4	8.7	66	10	133	47.6	15107
Pioneer brand XF361	1740	22.6	5.7	60	6	133	44.1	13971
Pioneer brand 6338	1701	26.5	9.5	64	7	132	44.5	13840
DEKALB EXP6902	1698	24.5	9.3	57	5	133	46.7	14361
Interstate IS IS6077	1686	24.5	6.6	66	8	132	43.8	11974
Interstate IS EXP03147	1686	24.9	7.4	65	8	131	44.8	12823
Interstate IS 6767	1677	24.0	7.5	61	11	132	47.1	11966
AgriPro AP 3430	1656	24.2	7.6	61	4	131	45.5	14974
DEKALB DK3790	1613	25.4	6.4	57	5	130	46.7	14262
Cargill X1167	1613	23.3	6.9	67	7	132	46.8	13137
DEKALB DK3881	1611	24.7	7.2	60	10	133	41.4	11338
Cargill X1221	1609	24.0	9.5	59	16	134	39.1	10027
Cargill X4273	1608	23.5	11.6	67	7	135	45.8	13241
Interstate IS 6363	1600	25.1	9.4	63	15	134	45.6	13106
Interstate IS 3311	1595	25.0	6.6	64	4	131	40.2	13953
Triumph 546	1564	24.9	7.1	66	8	131	47.3	13803
Pioneer brand XF469	1560	24.5	9.6	63	7	135	43.4	12745
Cargill RIGASOL	1550	25.1	5.7	65	5	131	45.0	12735
AgriPro AP 4193	1537	25.0	8.6	58	7	132	46.4	13476
Triumph 545	1463	24.4	7.4	66	4	131	46.5	13423
Pioneer brand 6451	1456	24.9	8.6	62	4	132	47.4	14021
Triumph 571	1431	24.3	6.7	68	4	133	47.9	13885
Triumph TRX5511	1173	24.6	9.2	63	7	133	46.6	12845
Average	1655	24.7	7.7	62	7	132	45.1	13348
CV%	17							
LSD (.30)	206							

¹Trial conducted on a Weld Silt Loam at the Central Great Plains Research Station following winter wheat. Trial seeded 6/11 and harvested 10/8.

Herbicide: Sonalan. Fertilizer: N =40 lb acre⁻¹. No insecticide applied.

²Julian Date.

Table 2. Average Dryland Sunflower Oil Performance at Akron, 1995-96

Hybrid	Test		
	Yield	Weight	Moisture
	lb/ac	lb/bu	%
DEKALB DK3790	1599	27.6	6.6
DEKALB EXP5801	1598	27.4	6.5
Cargill SF187	1533	27.3	6.7
Cargill SF128	1506	28.1	6.9
DEKALB DK3868	1493	27.5	7.1
AgriPro AP 4193	1492	27.7	7.8
DEKALB DK3904	1455	26.2	7.1
DEKALB DK3881	1447	26.0	6.9
Cargill SF177	1446	27.7	7.9
Cargill SF270	1433	27.0	6.3
Pioneer brand 6451	1328	28.3	8.0
Triumph 571	1319	27.6	7.0
Triumph 546	1233	27.7	6.6
Average	1452	27.4	7.0

Table 3. Dryland Sunflower Oil Performance at Idalia in 1996^{1 2}

Hybrid	Test			Plant			Oil	Density
	Yield	Weight	Moisture	Height	Lodging			
	lb/ac	lb/bu	%	in	%	%		plants/ac
DEKALB EXP6902	1449	22.2	10.5	54	18	38.4		10646
Pioneer brand 6338	1287	22.3	10.6	58	35	40.1		10307
Kaystar 9501	1234	22.1	10.1	58	53	42.5		9942
Cargill SF128	1172	23.3	6.4	57	35	40.0		12524
Pioneer brand 6451	1168	21.3	10.3	52	37	38.9		10702
Pioneer brand XF469	1079	19.7	10.6	63	38	35.6		11110
DEKALB EXP6861	1066	21.0	4.9	50	43	41.9		9750
Mycogen 8310	1044	21.8	6.6	52	23	37.1		10381
Cargill SF270	1002	22.3	8.5	55	22	39.8		10151
Cargill SF187	971	21.5	10.8	50	29	36.1		10890
Interstate IS 6363	943	21.8	9.6	50	56	38.6		11652
Mycogen 658	887	22.6	6.9	55	37	40.9		11548
DEKALB DK3790	880	22.8	5.9	50	23	39.2		10754
Kaystar 9503	878	22.5	7.9	59	43	35.4		10494
Mycogen Cavalry	867	21.8	6.3	59	39	40.7		10117
Northrup King Sunbred 231	855	19.8	5.6	49	75	37.3		8926
AgriPro AP 3430	835	20.8	5.4	52	40	38.5		11026
DEKALB DK3904	831	22.0	7.6	55	33	37.8		10808
DEKALB DK3881	821	21.6	8.5	50	35	37.4		10972
DEKALB EXP5801	793	22.3	8.4	55	29	41.4		9212
Cargill X1167	785	21.6	5.8	53	41	40.9		11240
Pioneer brand XF361	768	18.9	5.0	57	30	37.8		9855
Cargill RIGASOL	749	20.4	4.8	52	38	37.8		12660
Triumph TRX5511	731	22.4	11.3	55	33	38.5		11082
Northrup King Sunbred 259	723	21.7	6.9	55	48	38.1		11435
DEKALB DK3868	722	22.7	7.6	45	22	38.6		11517
Triumph 571	716	23.1	10.4	66	39	40.7		10704
Northrup King Sunbred 232	703	22.2	8.3	55	43	38.6		9763
Triumph TRX6541	695	21.6	10.1	62	52	42.0		10171
Triumph 546	661	21.6	7.2	54	49	41.3		10209
Mycogen SUN 980	652	21.3	6.9	54	16	40.4		10231
Triumph 545	605	22.5	8.7	56	24	40.3		9959
Cargill X4283	587	21.6	10.1	58	53	38.6		11606
Asgrow AS471	568	22.0	9.3	56	41	35.6		10296
Cargill X4273	560	22.4	10.8	64	44	37.8		9937
Triumph 565	538	22.1	11.4	62	43	40.7		10367
Cargill X1221	521	20.3	10.8	53	52	38.4		9937
Northrup King Sunbred 278	514	21.0	10.3	53	35	36.9		10917
Seeds 2000 EX288	474	21.1	10.8	66	47	38.7		10091
Interstate IS 6767	464	21.6	12.7	55	25	38.2		8998
Interstate IS EXP03147	352	22.5	11.6	61	40	37.8		9805
Interstate IS 6077	348	20.7	11.9	54	89	39.9		9257
Asgrow AS503	187	20.5	12.8	64	52	39.1		11378
Average	783	21.7	8.7	55	40	38.9		10543
CV%	19							
LSD _(.30)	160							

¹Trial conducted on a Keith Silt Loam on the Brett Dutton farm following winter wheat. Trial seeded 7/10 and harvested 11/12. Herbicide: Roundup. Fertilizer: N=35 lb acre⁻¹. No insecticide applied.

²Based on two replications only.

Table 4. Average Dryland Sunflower Oil Performance at Idalia, 1995-96

Hybrid	Test		
	Yield	Weight	Moisture
	lb/ac	lb/bu	%
DEKALB EXP5801	1164	24.3	6.8
Interstate IS 6363	1121	24.4	7.9
Cargill SF128	1076	26.1	6.0
Pioneer brand 6451	1019	25.0	7.8
Cargill SF270	992	24.4	7.0
DEKALB DK3790	980	25.1	5.6
Cargill SF187	979	23.9	8.1
Mycogen 658	972	25.7	6.1
DEKALB DK3881	960	23.8	7.0
Northrup King Sunbred 231	950	23.6	5.6
DEKALB DK3868	926	24.6	6.5
DEKALB DK3904	856	24.6	6.5
Interstate IS 6767	807	24.6	9.1
Mycogen SUN 980	768	24.9	6.1
Triumph 565	734	24.2	8.4
Interstate IS EXP03147	645	24.6	8.4
Average	934	24.6	7.0

Table 5. Irrigated Sunflower Oil Performance at Bethune in 1996¹

Hybrid	Test		Plant		Lodging	Oil	Density
	Yield	Weight	Moisture	Height			
	lb/ac	lb/bu	%	in	%	%	plants/ac
DEKALB EXP6902	3003	28.3	10.0	67	2	43.3	17969
DEKALB DK3881	2925	27.4	5.8	71	2	46.8	15972
Kaystar 9501	2921	29.1	6.8	77	2	42.3	16426
DEKALB EXP6861	2813	27.5	5.2	63	5	47.0	17061
Genetic Res. GRI96012	2710	29.2	10.2	73	4	43.1	13506
Pioneer brand 6338	2705	28.1	10.0	74	1	44.2	17152
Pioneer brand XF469	2694	27.4	8.4	72	3	44.9	15479
Northrup King Sunbred 231	2659	27.9	5.9	65	1	45.5	16224
Cargill SF128	2606	29.1	6.0	65	0	44.4	16063
Cargill SF187	2601	27.2	7.5	64	1	43.6	15973
Interstate IS EXP13558	2573	26.6	5.0	70	3	48.1	15107
Pioneer brand XF361	2565	25.5	4.8	68	4	47.1	16517
AgriPro AP 3470	2551	28.3	5.3	71	7	44.5	16663
Pioneer brand 6451	2519	28.0	5.5	63	0	47.7	16154
AgriPro AP 4193	2494	29.2	6.3	68	0	46.1	17152
Genetic Res. GRI96010	2448	28.6	8.2	80	1	45.0	16567
Cargill X1221	2409	25.8	6.2	66	1	46.6	15300
Interstate IS 6363	2403	28.2	7.9	72	4	45.4	16151
Cargill SF270	2395	28.2	5.8	62	2	45.1	16505
Cargill RIGASOL	2356	28.9	6.2	72	2	45.5	16323
DEKALB DK3868	2340	27.2	5.2	57	5	46.2	16459
Mycogen SUN 980	2335	27.9	6.1	70	3	44.7	14959
Triumph 545	2327	28.5	7.0	67	7	48.3	14962
Cargill X4273	2324	27.2	7.1	75	3	46.5	16244
Kaystar 9503	2317	27.5	6.9	73	4	44.9	15746
Triumph 571	2304	26.8	5.9	75	3	48.5	17424
Cargill X4283	2294	29.6	8.0	71	1	48.1	15799
Triumph 565	2277	28.2	5.9	73	4	45.9	16154
Northrup King Sunbred 278	2267	27.8	8.5	74	3	45.0	15881
Asgrow AS471	2263	28.5	5.4	66	7	45.3	16220
DEKALB EXP5801	2244	28.7	6.4	67	1	46.9	16607
Mycogen 658	2237	29.3	5.6	68	3	47.5	16411
DEKALB DK3904	2222	25.3	5.8	68	5	43.5	16784
Genetic Res. GRI9502	2218	28.6	8.7	71	3	42.9	17515
Northrup King Sunbred 259	2216	28.8	6.6	71	1	46.0	16335
Genetic Res. GRI9504	2214	27.4	7.7	71	5	45.7	16145
Cargill SF177	2209	26.7	8.2	71	3	46.0	17237
Triumph TRX6541	2199	28.2	7.9	80	4	47.3	15488
Interstate IS 6767	2189	29.0	6.8	67	6	47.6	16053
Triumph TRX5511	2187	27.7	6.5	69	2	48.1	16768
Mycogen Cavalry	2163	25.0	5.4	76	0	48.9	15419
Asgrow AS503	2049	24.5	5.2	76	5	44.4	16887
Northrup King Sunbred 232	2022	26.3	6.2	65	3	44.1	16032
Mycogen 8310	2018	29.1	6.1	66	6	45.4	16335
Cargill X1167	2003	25.4	5.8	69	6	44.5	16087
Triumph 546	1956	25.9	5.6	72	7	45.2	16880
DEKALB DK3790	1941	24.9	6.1	66	4	44.9	17220
Genetic Res. GRI95121	1925	23.8	6.8	74	6	45.9	17701
Interstate IS EXP03147	1855	27.2	5.3	75	4	43.4	16411
Genetic Res. GRI95111	1803	28.0	6.8	68	21	43.8	16607
Average	2345	27.5	6.6	70	4	45.6	16301
CV%	14						
LSD ₍₃₀₎	287						

¹Trial conducted on a Keith Silt Loam on the George Stahlecker farm following corn. Trial seeded on 6/3 and harvested 10/3. Herbicide: Sonalan. Fertilizer: N, P₂O₅ = 48, 20 lb acre⁻¹. No insecticide applied.

Table 6. Average Irrigated Sunflower Oil Performance at Bethune/Burlington 1995-96

Hybrid	Test		
	Yield	Weight	Moisture
	lb/ac	lb/bu	%
Cargill SF187	2289	28.4	6.5
Northrup King Sunbred 231	2183	29.7	5.8
Cargill SF270	2071	30.4	6.1
Cargill SF177	2036	29.3	8.0
Genetic Res. GRI9502	2022	30.3	7.4
Interstate IS 6363	1969	30.5	8.2
Cargill SF128	1920	30.9	6.0
Mycogen 658	1893	30.3	5.4
AgriPro AP 4193	1850	29.8	6.1
Mycogen SUN 980	1843	29.8	6.1
Triumph 565	1802	29.7	5.6
Triumph 571	1760	29.1	5.7
Genetic Res. GRI9504	1676	29.3	6.7
Mycogen Cavalry	1654	28.4	5.7
Interstate IS EXP03147	1618	28.6	5.5
Triumph 546	1599	29.3	5.9
DEKALB DK3790	1398	28.3	5.6
Average	1858	29.5	6.3

Table 7. Dryland Sunflower Confection Performance at Akron in 1996¹

Hybrid	Test			Plant			Density
	Yield	Weight	Moisture	Height	Lodging	Bloom ²	
	lb/ac	lb/bu	%	in	%	date	plants/ac
Red River RRC 954	1654	18.7	5.0	70	4	130	11458
Pioneer brand 6946	1595	19.4	4.6	62	7	132	10470
Triumph 505C	1541	18.9	4.0	68	2	130	11775
Royal Hybrid 3703	1462	19.1	4.7	68	7	129	11332
Red River RRC 2331	1455	19.4	4.4	70	6	135	10794
Royal Hybrid 3733	1396	18.4	4.3	72	3	130	11841
Dahlgren DE-1998	1391	18.8	3.8	63	7	132	10685
Interstate IS 8004	1309	20.2	6.1	73	7	132	10618
Red River RRC EX3631	1252	18.4	4.3	67	14	135	10588
Red River RRC 2211	1241	18.4	5.0	71	11	132	9850
Red River RRC EX0736	1200	19.0	5.1	71	3	145	11545
Triumph 520C	1197	18.5	4.5	72	15	133	10304
Red River RRC 4231	1143	18.5	6.2	69	21	137	9780
Royal Hybrid 4033	1141	18.3	4.6	68	5	130	11153
Red River RRC 3531	1131	18.2	4.3	68	13	136	10852
Red River RRC EX9735	1070	19.2	4.8	69	10	136	9808
Average	1324	18.8	4.7	69	8	133	10803
CV%	15						
LSD ₍₃₀₎	150						

¹Trial conducted on a Weld Silt Loam at the Central Great Plains Research Station following winter wheat. Trial seeded 6/11 and harvested 10/8.

Herbicide: Sonalan. Fertilizer: N =40 lb acre⁻¹. No insecticide applied.

²Julian Date.

Table 8. Average Dryland Sunflower Confection Performance at Akron, 1995-96

Hybrid	Test		
	Yield	Weight	Moisture
	lb/ac	lb/bu	%
Triumph 505C	1544	20.7	6.0
Pioneer brand 6946	1496	21.6	6.1
Triumph 520C	1247	19.7	6.3
Average	1429	20.7	6.1

Table 9. Seed Size of Dryland Confection Sunflower Performance at Akron in 1996

Hybrid	Seed Size					
	Above 22/64	22/64 To 20/64	20/64 To 18/64	18/64 To 16/64	16/64 To 14/64	Below 14/64
Pioneer brand 6946	8.6	15.4	12.0	48.2	7.3	8.5
Triumph 505C	9.6	14.3	12.7	43.2	7.8	12.4
Red River RRC 954	11.6	17.9	14.3	40.3	5.8	10.1
Royal Hybrid 3703	9.2	12.5	13.4	50.6	6.5	7.8
Red River RRC 2331	6.8	9.9	10.1	49.6	8.7	14.9
Royal Hybrid 3733	16.8	11.9	12.1	44.7	8.3	6.2
Dahlgren DE-1998	3.6	7.0	8.6	47.7	12.1	21.0
Red River RRC EX0736	2.5	7.8	9.6	40.3	12.4	27.4
Royal Hybrid 4033	11.3	10.9	9.6	42.9	8.5	16.8
Interstate IS 8004	21.1	20.7	13.9	32.0	4.7	7.6
Red River RRC EX3631	12.2	8.8	11.0	50.3	5.2	12.5
Triumph 520C	2.9	8.3	12.8	50.4	11.0	10.7
Red River RRC 3531	12.9	13.8	11.6	42.4	7.6	11.7
Red River RRC 2211	7.6	10.7	13.6	49.7	7.7	10.7
Red River RRC 4231	4.1	8.2	8.4	49.8	14.2	15.3
Red River RRC EX9735	10.4	17.5	17.9	44.1	3.6	6.5

Table 10. Irrigated Sunflower Confection Performance at Bethune in 1996¹

Hybrid	Test			Plant		
	Yield	Weight	Moisture	Height	Lodging	Density
	lb/ac	lb/bu	%	in	%	plants/ac
Red River RRC	2155	12.8	5.0	81	7	13826
Red River RRC	2104	14.0	6.3	81	3	13226
Red River RRC	2100	14.6	6.9	83	7	13348
Royal Hybrid 4033	2060	14.2	5.6	80	7	11603
Red River RRC 2211	2038	14.1	5.2	76	6	13019
Sigco Sun SS-50	1938	13.6	5.8	76	4	12281
Red River RRC 2331	1919	15.7	7.1	77	9	12043
Pioneer brand 6946	1917	14.3	5.3	71	13	11383
Royal Hybrid 3733	1905	14.7	5.9	81	7	12138
Sigco Sun 956	1897	14.0	5.7	70	4	11517
Triumph 505C	1834	14.3	4.7	74	10	12907
Triumph 520C	1748	14.9	5.6	80	15	11864
Red River RRC 954	1733	14.8	6.2	79	7	12115
Red River RRC 4231	1721	14.0	6.9	78	10	12640
Red River RRC 3531	1698	14.3	8.0	81	13	12695
Royal Hybrid 3703	1557	14.0	6.7	76	6	11773
Average	1895	14.3	6.1	78	8	12399
CV%	14					
LSD ₍₃₀₎	227					

¹Trial conducted on a Keith Silt Loam on the George Stahlecker farm following corn. Trial seeded on 6/3 and harvested 10/4. Herbicide: Sonalan. Fertilizer: N, P₂O₅ = 48, 20 lb acre⁻¹. No insecticide applied.

Table 12. Seed Size of Dryland Confection Sunflower Performance at Bethune in 1996

Hybrid	Seed Size					
	Above 22/64	22/64 To 20/64	20/64 To 18/64	18/64 To 16/64	16/64 To 14/64	Below 14/64
Red River RRC EX9735	24.8	22.7	15.7	28.5	3.8	4.5
Red River RRC EX3631	40.6	19.1	12.5	23.7	2.0	2.1
Red River RRC EX0736	14.3	16.7	15.3	39.3	6.2	8.2
Royal Hybrid 4033	46.0	14.1	9.8	20.4	3.6	6.1
Red River RRC 2211	27.5	24.8	15.7	26.2	2.6	3.2
Sigco Sun SS-50	28.5	15.6	11.6	34.3	4.0	6.0
Red River RRC 2331	31.3	15.0	11.6	31.0	4.4	6.7
Pioneer brand 6946	44.4	24.3	12.2	14.6	1.3	3.2
Royal Hybrid 3733	45.7	18.9	11.8	18.8	1.9	2.9
Sigco Sun 956	30.9	17.9	14.4	32.4	2.3	2.1
Triumph 505C	41.9	23.4	13.7	17.7	1.2	2.1
Triumph 520C	20.5	26.6	15.9	30.9	3.7	2.4
Red River RRC 954	30.2	22.6	12.7	28.1	2.8	3.6
Red River RRC 4231	37.8	17.9	10.4	25.3	2.7	5.9
Red River RRC 3531	30.1	26.1	15.5	21.7	2.5	4.1
Royal Hybrid 3703	32.5	21.7	11.1	28.4	2.8	3.5

Table 11. Average Irrigated Sunflower Confection Performance at Bethune/Burlington, 1995-96

Hybrid	Test		
	Yield	Weight	Moisture
	lb/ac	lb/bu	%
Triumph 505C	1959	17.1	4.3
Red River RRC 2211	1930	16.9	4.7
Red River RRC 2331	1910	17.0	5.7
Royal Hybrid 4033	1865	15.9	4.7
Triumph 520C	1822	16.6	4.7
Red River RRC 954	1795	17.0	5.1
Royal Hybrid 3703	1696	17.2	6.0
Red River RRC 4231	1644	15.3	5.6
Average	1828	16.6	5.1

Seed Company Entrants in the 1996 Colorado Sunflower Performance Trials

BRAND/HYBRID	ENTRANT	ADDRESS	TELEPHONE
AgriPro	AgriPro Seeds, Inc.	RR2, Hwy 30 East, Ames, IA 50010	(800) 373-1741
Asgrow	Asgrow Seed Co.	PO Box 1945, Plainview, TX 79073-1945	(806) 293-2647
Royal Hybrids	Agway, Inc.	PO Box 169, Grandin, ND 58038	(701) 484-5313
Cargill	Cargill Hybrid Seeds	1401 41st Street NW, Fargo, ND 58102	(701) 282-8787
Dahlgren	Dahlgren & Co, Inc.	1220 Sunflower St., PO Box 609, Crookston, MN 56716	(218) 281-2985
DEKALB DK3790	DEKALB Genetics Corp.	3100 Sycamore Rd., DeKalb, IL 60115	(815) 756-7333
Genetic Resources	Genetic Resources, Inc.	PO Box 229, Philo, IL 61824	(217) 684-2783
Interstate	Interstate Payco Seed Co.	1215 Prairie Parkway, West Fargo, ND 58078	(701) 282-3373
Kaystar	Kaystar Seed	PO Box 947, Huron, SD 57350	(605) 352-8791
Mycogen 658	Mycogen Plant Sciences	720 St. Croix Street, Prescott, WI 54021	(800) 321-2867
Northrup King	Northrup King Co.	Box 959, Minneapolis, MN 55440	(612) 593-7333
Pioneer	Pioneer Hi-Bred Int'l., Inc.	210 Gateway Mall #300, Lincoln, NE 68505-2449	(402) 467-5458
Red River	Red River Commodities, Inc.	1320 East College Drive, Colby, KS 67701	(913) 462-3911
SEEDS 2000	SEEDS 2000	Box 101, Breckenridge, MN 56520	(218) 643-2410
SIGCO	SIGCO Sun Products, Inc.	90 North 8th Street, Breckenridge, MN 56520	(218) 643-8467
Triumph	Triumph Seed Co., Inc.	PO Box 1050, Hwy 62 Bypass, Ralls, TX 79357	(806) 253-2584

Entry Forms for 1997 Trials

Entry forms for 1997 trials may be obtained from the Department of Soil and Crop Sciences, Colorado State University, by contacting Cynthia L. Johnson, Research Associate, C-4 Plant Science Building, Fort Collins, CO 80523; Telephone (970) 491-1914; FAX number (970) 491-2758; or e-mail cjohnson@ceres.agsci.colostate.edu.

Additional Copies

Crops Testing has made numerous changes to improve the quality of the 1996 Colorado Sunflower Performance Trials report. Changes have led to greater costs that we wish to partially recoup from sales of extra copies of this report without deviating from our traditional distribution policy and our public mandate to deliver reliable sunflower hybrid performance data to Colorado producers. We will continue to provide ten copies to each of the seed companies entering hybrids in the trials. We hope that seedsmen and seed companies will order additional copies to help defray costs of publication and to encourage us to make improvements in the quality of the report. Additional copies of this report may be ordered from Crops Testing, Cynthia Johnson at C-4 Plant Science Building, Fort Collins, CO 80523; Telephone (970) 491-1914; FAX number (970) 491-2758; or e-mail cjohnson@ceres.agsci.colostate.edu for \$3/copy. Colorado Cooperative Extension agents may obtain up to 10 copies of this report by calling Cynthia Johnson or by sending an e-mail message.