

Technical Report

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Colorado  
State  
University

*Knowledge to Go Places*

# *Agricultural Experiment Station*

College of  
Agricultural Sciences

Department of  
Soil and Crop Sciences

Cooperative  
Extension



## MAKING BETTER DECISIONS

2005 Colorado Corn, Soybean,  
and Sunflower Performance Trials

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## Entry Forms for 2006 Trials

Entry forms for 2006 trials may be obtained from the Department of Soil and Crop Sciences, Colorado State University, Cynthia Johnson, C03 Plant Science Building, Fort Collins, CO 80523-1170; telephone (970) 491-1914; fax (970) 491-2758; e-mail [cynthia.johnson@colostate.edu](mailto:cynthia.johnson@colostate.edu) or website <http://www.csucrops.com>.

# 2005 COLORADO CORN HYBRID PERFORMANCE TRIALS

## Introduction

The 2005 growing season was typical for Colorado with precipitation and temperatures at normal levels during most of the growing season, but periods of very hot and dry conditions occurred in June and July. The absence of a killing frost until mid-October produced a long growing season, delaying grain dry-down and the harvest of late season crops into late November. The 2005 corn for grain crop was estimated at 140.6 million bushels, only 200,000 bushels above last year's output. The average yield of 148.0 bushels per acre was better than previously expected, 13.0 bushels per acre above both November's forecast and the yield achieved last year. Area harvested for grain in 2005, at 950,000 acres, was 90,000 acres less than last year. Acreage cut for corn silage was set at 110,000 acres, unchanged from last year.

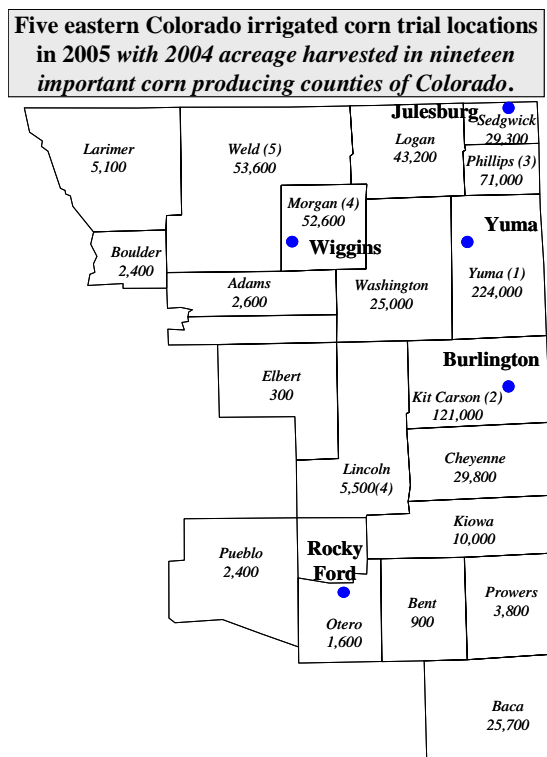
CSU conducts hybrid performance trials to provide unbiased and reliable information to Colorado producers so they can select the best hybrids for their farming conditions. Variable climatic conditions, innovations from biotechnology, acquisitions and mergers of seed companies, and rapid evolution of new hybrid lines means that unbiased crop performance information is increasingly important to Colorado corn producers.

Colorado State University personnel evaluated commercial corn hybrids under irrigation at five Eastern Colorado locations and three Western Slope locations. A randomized complete block field design with three replicates was used at all Eastern Colorado irrigated trials. Irrigated trial plots were 36 feet long and planted at 34,000 seeds/ac while dryland trial plots were 50 feet long and a target population of 15,000 plants/ac. All plots were 4 rows wide. Western Slope trials were planted at 35,900 seeds/ac. All corn grain yields are reported in bu/ac and adjusted to 15.5% moisture content.

## Summary of insect pressure in eastern Colorado for 2005

European corn borer, spider mites, corn rootworm adults: Below average  
Western bean cutworm: Average  
Disease situation: Below average

Corn disease update: Goss's wilt in irrigated corn is becoming an issue for Northern High Plains corn growers. Selected fields in southern Yuma County are finding consistent Goss's wilt infestations. When this leaf disease affects corn fields early, 50% yield reductions are being realized. Even light infestations are reducing yield in some fields by 25%. Management strategies include selecting disease tolerant hybrids, rotate out of corn, and burying residue with tillage.



## ***Eastern Colorado Irrigated Grain Corn Performance Data***

Trial Location	Weather Station	2005 GDD	Long Term Ave. GDD
Burlington	Burlington	2921	2673
Julesburg	Julesburg	2876	2752
Rocky Ford	Rocky Ford	2900	2837
Wiggins	Fort Morgan	2689	2667
Yuma	Yuma	2923	2615

**Table 1. Irrigated corn cultural conditions.**

	Burlington	Julesburg	Rocky Ford	Wiggins	Yuma
Soil Type	Keith Silt Loam	Keith Goshen Kuma Silt Loam	Rocky Ford Silty Clay Loam	Bijou Loamy Sand	Manter Loamy Sand
Previous Crop	Corn	Corn	Soybeans	Corn	Pinto Beans
Fertilization					
N acre <sup>-1</sup>	190	150	310	225	245
P <sub>2</sub> O <sub>5</sub> acre <sup>-1</sup>	60	50	-	25	47
K <sub>2</sub> O acre <sup>-1</sup>	-	-	-	5	37
Zn acre <sup>-1</sup>	2	.33	-	-	37
S acre <sup>-1</sup>	30	5	-	-	1.2
Herbicide	Celebrity +	Define Balance Pro Atrazine	Dual II Magnum Clarity	Lumax	Exper Option Distinct
Insecticide	None	Pencap M	LI 700 Fanfare 2EC Dimethoate MSD/Succeed	Aztec	None
Irrigation	Sprinkler	Sprinkler	Furrow	Sprinkler	Sprinkler

**Table 2. Irrigated corn variety performance at Burlington<sup>1</sup>.**

Hybrid	Yield bu/ac	Grain	Test	Plant	Density plants/ac	Lodging %
		Moisture %	Weight lb/bu	Height in		
DEKALB DKC61-72 (RR2)	211	17.8	56.7	85	30655	0.0
Grand Valley 23P03	211	20.0	56.6	87	30892	0.0
HYTEST HT7615 (BT/RR2)	211	15.4	56.8	83	30946	0.0
Mycogen 2T801 (RR/YGCB)	211	21.1	55.8	87	31629	0.0
DEKALB DKC52-47 (RR2/YGCB/BT)	210	13.8	56.7	75	30849	0.0
DEKALB DKC58-80 (RR2/YGCB/BT)	208	18.6	56.8	82	31337	0.0
NK Brand N67-T4 (BT/LL)	206	20.9	57.0	82	30258	0.0
Triumph 1416 (BT/YGCB)	205	16.7	56.1	87	29002	0.0
NK Brand N72-J5	205	18.5	55.6	89	29801	0.0
LG Seeds LG 2586	204	16.7	56.4	88	30946	0.6
LG Seeds LG 2545 (BT)	203	16.1	54.6	80	30820	0.0
Dyna-Gro 57P93 (YGCB/RR2)	201	22.8	55.9	87	31663	0.0
Trisler T-5244 (RRCB)	201	18.5	56.7	86	29651	0.3
Fontanelle HC7951 (YGCB)	199	18.7	55.8	83	31903	0.3
HYTEST HT7710 (BT/LL)	199	24.1	55.2	88	30357	0.0
Dyna-Gro 57P46 (YGCB/RR2)	199	19.9	55.8	90	29097	0.0
NK Brand N70-T9 (BT/LL/CL)	198	22.8	56.5	86	29978	0.0
DEKALB DKC52-23 (RR2/YGCB/BT)	197	15.3	57.7	86	31591	0.3
Mycogen 2P682	197	19.8	55.8	84	31119	0.0
NK Brand N58-L8 (GT/RR)	196	21.7	57.7	85	29657	0.6
HYTEST HT7749 (BT/RR2)	195	20.9	55.4	87	29919	0.0
Dyna-Gro 57B47 (YG/RR2)	195	16.3	57.4	83	29865	0.0
Fontanelle HC7638 (YGCB)	194	17.9	56.0	87	31075	0.6
Mycogen 2E762 (RR/YGCB)	194	15.3	56.6	87	30547	0.0
NK Brand N63-U9 (GT/RR)	194	20.2	57.3	85	30338	0.0
DEKALB DKC57-30	193	16.1	57.8	88	30290	0.0
Trisler T-5257 (RRCB)	192	20.2	56.2	87	30952	0.0
DEKALB DKC54-51 (YGCB/BT)	192	16.0	57.8	86	30558	0.3
Trisler T-5160 (RRCB)	190	16.2	56.2	85	31094	1.1
Dyna-Gro 57F70 (YGCB)	190	17.1	56.8	88	31034	0.0
ASGROW RX752 (RR2/YGCB/BT)	189	17.8	57.6	81	30583	0.6
Dyna-Gro 57P69 (YGCB/RR2)	188	17.8	56.1	87	30492	0.0
Grand Valley 22B70	186	18.8	56.9	86	31643	0.0
Producers Hybrids 6663 (YGCB/RR)	182	21.7	56.8	84	30172	0.0
Producers Hybrids 6443 (YGCB/RR)	179	20.9	56.1	81	30182	0.0
Fontanelle HC 8B436	179	18.6	58.4	86	29866	0.0
Triumph TRX546 (YGCB/RR)	178	14.8	56.0	83	30958	0.0
Grand Valley 23B05	177	17.1	57.5	85	31746	0.6
NK Brand N70-F1 (BT/LL)	176	28.8	56.0	81	30113	0.0
<b>Average</b>	<b>196</b>	<b>18.8</b>	<b>56.5</b>	<b>85</b>	<b>30604</b>	<b>0.1</b>
LSD <sub>(0.30)</sub>	7					

<sup>1</sup>Trial conducted on the Don Sircy farm; seeded 5/10 and harvested 11/01/05.

\*No ear drop.

\*\*Good growing conditions, no problems.

**Table 3. 2-yr average irrigated corn variety performance at Burlington in 2004-05.**

Hybrid	Yield	Grain	Test
		Moisture	Weight
	bu/ac	%	lb/bu
Triumph 1416 (BT/YGCB)	232	16.6	55.9
DEKALB DKC52-47 (RR2/YGCB/BT)	230	14.9	56.9
DEKALB DKC54-51 (YGCB/BT)	218	16.2	57.4
Mycogen 2P682	216	18.1	55.9
NK Brand N67-T4 (BT/LL)	215	18.8	56.4
HYTEST HT7710 (BT/LL)	214	20.3	55.4
NK Brand N72-J5	214	17.8	55.0
Dyna-Gro 57P69 (YGCB/RR2)	212	17.0	55.8
Trisler T-5257 (RRCB)	210	18.9	55.3
NK Brand N70-T9 (BT/LL/CL)	207	20.0	55.9
Trisler T-5244 (RRCB)	207	17.9	55.5
ASGROW RX752 (RR2/YGCB/BT)	205	17.8	56.8
Fontanelle HC7951 (YGCB)	204	17.9	54.7
Fontanelle HC7638 (YGCB)	204	17.4	55.6
<b>Average</b>	<b>213</b>	<b>17.8</b>	<b>55.9</b>

**Table 4. Irrigated corn variety performance at Julesburg<sup>1</sup>.**

Hybrid	Yield	Grain	Test	Plant	Density	Lodging	Ear
		Moisture	Weight	Height			Drop
	bu/ac	%	lb/bu	in	plants/ac	%	%
DEKALB DKC52-23 (RR2/YGCB/BT)	187	14.6	56.9	69	29510	0.4	0.0
DEKALB DKC54-51 (YGCB/BT)	185	14.6	57.0	74	31078	5.4	0.0
NK Brand N67-T4 (BT/LL)	180	14.3	56.7	77	31134	1.9	1.6
DEKALB DKC58-80 (RR2/YGCB/BT)	177	14.8	56.5	69	30933	1.2	0.0
Mycogen 2P682	171	14.1	56.1	72	30099	0.3	0.0
Myconate - Non-treated	170	14.6	57.0	72	27737	3.0	0.0
DEKALB DKC60-19 (RR2/YGCB/BT)	170	14.3	56.9	65	31359	2.1	0.9
DEKALB DKC57-30	168	13.8	56.6	75	28900	2.0	0.0
LG Seeds LG 2545 (BT)	166	14.7	55.6	72	28987	2.7	0.0
Mycogen 2K541 (RR/YGCB)	165	15.2	57.3	74	30767	2.5	0.3
NK Brand N63-U9 (GT/RR)	165	14.3	55.9	77	31552	0.9	0.0
Myconate - Treated	165	14.1	56.7	73	30272	4.3	0.6
Fontanelle HC8B436 (YGCB)	158	14.7	58.1	78	30051	0.6	0.0
Fontanelle HC7638 (YGCB)	156	14.3	55.5	75	29439	1.6	0.0
Fontanelle HC7951 (YGCB)	156	15.2	55.6	72	29835	0.6	0.3
Triumph 5433 (YGCB/RR)	154	14.6	57.1	73	31282	0.6	0.0
NK Brand N58-L8 (GT/RR)	153	14.5	56.8	75	29788	1.0	0.0
DEKALB DKC52-47 (RR2/YGCB/BT)	153	13.9	56.4	66	29586	1.3	0.0
Mycogen 2E762 (RR/YGCB)	144	14.6	56.7	68	29038	1.2	1.2
<b>Average</b>	<b>165</b>	<b>14.5</b>	<b>56.6</b>	<b>72</b>	<b>30071</b>	<b>1.8</b>	<b>0.3</b>
LSD <sub>(0.30)</sub>	14						

<sup>1</sup>Trial conducted on the Gene Bauerle farm; seeded 5/09 and harvested 11/09/05.

\*Mechanical problems with center pivot caused it to be shut down several times for several days, severely stressing the crop (new sprinkler will be installed for 2006).



**Table 5. 2-yr average irrigated corn variety performance at Julesburg in 2004-05.**

Hybrid	Yield	Grain	Test
		Moisture	Weight
	bu/ac	%	lb/bu
DEKALB DKC54-51 (YGCB/BT)	205	15.5	57.7
Mycogen 2P682	202	15.4	55.5
Fontanelle HC7951 (YGCB)	198	16.3	55.7
DEKALB DKC60-19 (RR2/YGCB/BT)	198	15.2	56.9
DEKALB DKC52-47 (RR2/YGCB/BT)	197	14.5	56.5
Fontanelle HC7638 (YGCB)	190	15.4	55.3
Triumph 5433 (YGCB/RR)	190	15.4	57.2
<b>Average</b>	<b>197</b>	<b>15.4</b>	<b>56.4</b>

**Table 6. Irrigated corn variety performance at Rocky Ford<sup>1</sup>.**

Hybrid	Yield	Grain	Test	Plant	Density	Lodging	Silking <sup>2</sup>
		Moisture	Weight	Height			
	bu/ac	%	lb/bu	in	plants/ac	%	date
NK Brand N70-F1 (BT/LL)	220	17.7	56.7	81	33443	0.8	193
Dyna-Gro 57P93 (YGCB/RR2)	215	18.7	57.1	87	32600	0.3	192
NK Brand N70-T9 (BT/LL/CL)	213	20.0	56.5	83	33724	0.3	192
Mycogen 2T801 (RR/YGCB)	210	19.0	57.8	82	34145	0.5	193
Producers Hybrids 7361 (YGCB)	210	19.5	56.8	85	35832	2.2	195
Triumph 1416 (BT/YGCB)	209	17.0	57.1	83	32740	1.1	195
HYTEST HT7891 (BT/RR2)	207	19.9	55.5	92	35551	0.2	198
HYTEST HT7749 (BT/RR2)	204	23.5	56.8	92	32881	7.4	196
Triumph 1536 (YGCB/RR)	202	22.0	57.5	83	33021	1.4	195
Producers Hybrids 7373 (YGCB/RR)	199	19.2	57.3	86	29789	0.3	194
Grand Valley 13B53	196	17.9	59.5	88	31616	0.3	195
Grand Valley 14B95	193	17.5	56.6	88	29227	2.9	197
Mycogen 2T780 (LL/HXI)	191	20.5	56.7	90	34473	0.6	195
Grand Valley 25P00	181	19.9	56.0	84	34848	0.0	195
Grand Valley 23P95	181	20.1	57.9	84	25995	0.7	192
NK Brand N58-L8 (GT/RR)	180	14.8	58.0	82	30633	0.3	191
Grand Valley 14B69	173	18.7	59.5	91	31195	6.0	194
NK Brand N63-U9 (GT/RR)	173	15.9	56.4	81	32740	0.0	190
HYTEST HT7813 (HX/LL)	157	22.0	57.8	98	31335	27.6	199
<b>Average</b>	<b>195</b>	<b>19.2</b>	<b>57.2</b>	<b>86</b>	<b>32410</b>	<b>2.8</b>	<b>194</b>
LSD <sub>(0.30)</sub>	17						

<sup>1</sup>Trial conducted at the Arkansas Valley Research Center; seeded 4/28 and harvested 10/18/05.

<sup>2</sup>Julian date.

\*No ear drop.

\*\*Good growing conditions, no problems.

**Table 7. 2-yr irrigated corn variety performance at Rocky Ford in 2004-05.**

Hybrid	Yield	Grain	Test
		Moisture	Weight
	bu/ac	%	lb/bu
Dyna-Gro 57P93 (YGCB/RR2)	220	17.3	58.0
Triumph 1536 (YGCB/RR)	214	19.1	58.4
NK Brand N70-T9 (BT/LL/CL)	213	17.9	58.1
Mycogen 2T801 (RR/YGCB)	211	17.2	59.0
Triumph 1416 (BT/YGCB)	209	16.2	58.2
Producers Hybrids 7373 (YGCB/RR)	205	17.6	58.1
<b>Average</b>	<b>212</b>	<b>17.5</b>	<b>58.3</b>

**Table 8. Irrigated corn variety performance at Wiggins<sup>1</sup>.**

Hybrid	Yield	Grain	Test	Plant	Density	Lodging	Ear
		Moisture	Weight	Height			Drop
	bu/ac	%	lb/bu	in	plants/ac	%	%
DEKALB DKC52-47 (RR2/YGCB/BT)	136	14.0	57.2	70	24692	0.7	0.0
DEKALB DKC54-51 (YGCB/BT)	134	16.2	58.4	80	25668	0.4	0.4
DEKALB DKC57-30	132	15.4	56.9	76	23914	1.6	0.0
NK Brand NX4164 (GT/RR)	132	16.2	56.5	69	25962	0.4	0.0
Dyna-Gro CX0 007 (YGCB)	131	22.2	56.3	75	24023	0.4	0.4
Mycogen 2K541 (RR/YGCB)	130	14.2	56.6	76	25169	1.6	0.0
Mycogen 2P682	128	17.3	55.1	75	25861	1.4	0.0
NK Brand N58-L8 (GT/RR)	128	17.1	57.5	77	25898	0.7	0.0
Mycogen 2J525	126	15.2	58.0	74	24529	1.7	0.4
DEKALB DKC58-80 (RR2/YGCB/BT)	125	18.1	56.4	71	26979	0.3	0.7
Dyna-Gro 55P41 (YGCB/RR2)	124	13.7	55.6	74	24743	0.0	0.0
Dyna-Gro 56K77 (RR2)	122	21.5	55.7	76	24854	1.1	0.0
NK Brand N63-U9 (GT/RR)	121	20.3	55.7	76	25763	0.7	0.3
Triumph 5433 (YGCB/RR)	120	16.8	57.4	70	25648	1.1	0.0
Dyna-Gro CX0 5412 (YGCB)	117	23.6	57.9	81	24784	1.5	0.0
LG Seeds LG 2475 (BT/RR)	117	14.8	57.9	70	24484	0.0	0.0
DEKALB DKC60-19 (RR2/YGCB/BT)	116	16.6	57.3	71	24052	2.8	0.8
Dyna-Gro 53K98 (RR2)	111	14.5	57.3	71	23556	0.9	0.4
DEKALB DKC52-23 (RR2/YGCB/BT)	105	15.7	57.1	72	23507	2.2	0.4
<b>Average</b>	<b>124</b>	<b>17.0</b>	<b>56.9</b>	<b>74</b>	<b>24952</b>	<b>1.0</b>	<b>0.2</b>
LSD <sub>(0.30)</sub>	11						

<sup>1</sup>Trial conducted on the Rod Graves farm; seeded 5/09 and harvested 11/08/05.

\*Mid-season hail defoliated plants and weeds became a serious, yield-limiting factor in this trial.

**Table 9. 2-yr average irrigated corn variety performance at Wiggins in 2004-05.**

Hybrid	Yield	Grain	Test
		Moisture	Weight
	bu/ac	%	lb/bu
Mycogen 2P682	172	16.3	54.1
Dyna-Gro 56K77 (RR2)	168	19.1	55.3
DEKALB DKC52-47 (RR2/YGCB/BT)	168	13.6	55.7
Mycogen 2K541 (RR/YGCB)	164	14.6	56.4
DEKALB DKC54-51 (YGCB/BT)	160	15.8	57.6
Triumph 5433 (YGCB/RR)	156	16.4	57.3
DEKALB DKC60-19 (RR2/YGCB/BT)	145	16.5	57.1
<b>Average</b>	<b>162</b>	<b>16.0</b>	<b>56.2</b>

**Table 10. Irrigated corn variety performance at Yuma<sup>1</sup>.**

Hybrid	Yield	Grain Moisture	Test Weight	Plant Height	Density	Lodging
	bu/ac	%	lb/bu	in	plants/ac	%
Fontanelle HC7951 (YGCB)	251	20.4	55.0	91	31195	1.2
DEKALB DKC58-80 (RR2/YGCB/BT)	242	17.5	57.3	86	32100	0.0
LG Seeds LG 2600 (BT)	239	18.9	55.0	95	30045	0.3
Fontanelle HC7638 (YGCB)	233	19.1	56.5	88	31037	2.8
DEKALB DKC52-23 (RR2/YGCB/BT)	232	15.5	58.4	87	32489	0.0
DEKALB DKC52-47 (RR2/YGCB/BT)	232	15.0	57.9	84	32489	0.0
Grand Valley 22B70	231	19.1	58.0	84	31269	0.3
NK Brand N70-F1 (BT/LL)	228	22.5	55.1	85	32579	2.0
NK Brand N72-J5	226	20.6	56.4	94	30890	2.2
Triumph 1416 (BT/YGCB)	226	21.0	55.9	91	33199	1.1
DEKALB DKC54-51 (YGCB/BT)	224	16.0	58.3	90	31936	1.2
DEKALB DKC57-30	223	17.3	58.5	89	33196	2.0
NK Brand N67-T4 (BT/LL)	223	22.3	56.8	88	32216	3.4
Mycogen 2P682	220	18.8	55.6	86	30917	1.5
Dyna-Gro 57F70 (YGCB)	220	18.6	56.4	87	31026	0.9
DEKALB DKC61-72 (RR2)	219	18.9	57.1	92	31817	2.0
HYTEST HT7710 (BT/LL)	219	22.8	55.0	90	31047	1.2
Producers Hybrids 6443 (YGCB/RR)	218	20.6	56.1	90	31705	0.3
NK Brand N63-U9 (GT/RR)	217	19.1	56.8	90	32820	0.6
LG Seeds LG 2625 (BT)	216	23.5	54.9	90	33024	2.0
Dyna-Gro 57P46 (YGCB/RR2)	214	23.3	56.6	94	32016	2.3
Trisler T-5244 (RRCB)	213	19.5	55.7	93	30723	0.3
Mycogen 2T801 (RR/YGCB)	210	24.5	55.5	92	32595	0.6
NK Brand N58-L8 (GT/RR)	208	20.2	57.8	86	29992	0.3
Producers Hybrids 6663 (YGCB/RR)	208	21.3	56.6	92	32828	0.6
Trisler T-2420 (CB)	208	15.4	58.1	90	32022	0.8
Grand Valley 23B05	204	18.8	56.5	94	32784	4.0
Myconate - Treated	204	16.6	58.3	91	31763	0.0
Fontanelle HC8B436 (YGCB)	204	19.2	58.4	93	32317	11.1
Dyna-Gro CX0 5412 (YGCB)	203	21.1	58.0	93	31651	0.6
Grand Valley 23P03	202	19.4	56.3	89	32563	2.8
ASGROW RX752 (RR2/YGCB/BT)	201	22.7	56.7	92	32537	1.4
LG Seeds LG 2562 (HX)	200	21.1	56.2	102	30888	2.1
Dyna-Gro 57B47 (YG/RR2)	200	19.8	56.5	89	32531	0.9
NK Brand N70-T9 (BT/LL/CL)	198	23.1	56.5	90	31994	4.4
Dyna-Gro CX0 007 (YGCB)	198	22.0	56.2	89	32110	0.0
HYTEST HT7749 (BT/RR2)	197	26.3	56.5	94	31387	6.3
Dyna-Gro 57P93 (YGCB/RR2)	197	23.9	54.9	92	32464	0.0
Trisler T-2390 (HX)	196	16.3	57.6	91	31196	0.6
Mycogen 2E762 (RR/YGCB)	187	20.7	56.5	92	32193	2.2
Myconate - Non-treated	98	16.5	58.7	83	14157	0.0
<b>Average</b>	<b>212</b>	<b>20.0</b>	<b>56.7</b>	<b>90</b>	<b>31456</b>	<b>1.6</b>
LSD <sub>(0.30)</sub>	22					

<sup>1</sup>Trial conducted on the Larry Gardner farm; seeded 5/13 and harvested 11/11/05.

\*No ear drop.

\*\*Good growing conditions, no problems.

**Table 11. 2-yr average irrigated corn variety performance at Yuma in 2004-05.**

Hybrid	Yield bu/ac	Grain	Test
		Moisture %	Weight lb/bu
Fontanelle HC7951 (YGCB)	249	18.8	53.7
Trisler T-5244 (RRCB)	233	18.1	55.1
NK Brand N72-J5	231	18.5	55.6
DEKALB DKC52-47 (RR2/YGCB/BT)	230	15.1	57.2
Mycogen 2P682	229	17.4	55.5
NK Brand N70-T9 (BT/LL/CL)	227	20.2	54.9
HYTEST HT7710 (BT/LL)	227	19.7	54.8
DEKALB DKC54-51 (YGCB/BT)	225	16.1	58.1
NK Brand N67-T4 (BT/LL)	223	19.6	56.5
Mycogen 2T801 (RR/YGCB)	219	20.7	55.6
Fontanelle HC7638 (YGCB)	215	17.9	55.4
Dyna-Gro 57P93 (YGCB/RR2)	213	20.4	54.6
ASGROW RX752 (RR2/YGCB/BT)	212	19.8	56.4
<b>Average</b>	<b>226</b>	<b>18.6</b>	<b>55.6</b>

**Eastern Colorado Dryland Grain Corn Performance Data**

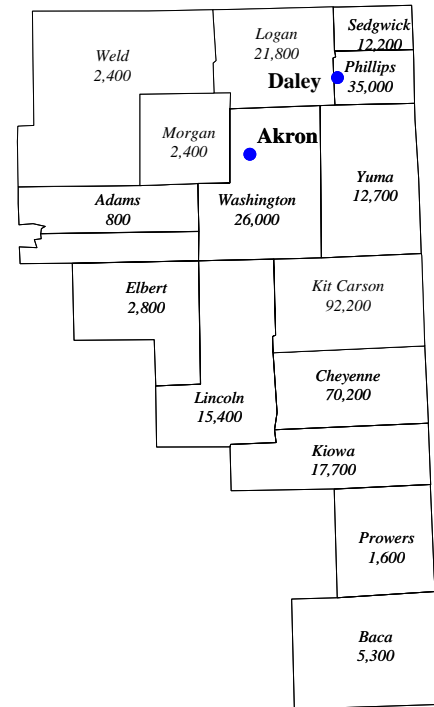
Colorado State University personnel tested dryland corn hybrids at two dryland locations in Eastern Colorado in 2005. The trial at Daley was good despite below average total precipitation for the season. The trial at Akron was not harvested due to extreme mid-season drought and high temperatures caused poor pollination and a frequent lack of ear formation.

**2005 Golden Plains Area Weather and Agriculture**

The 2005 growing season within the Golden Plains Area continued drier than normal, with exceptions being the months of June, August, and October. Average precipitation from the area as a whole, showed the three months mentioned above received above-normal precipitation, however, weather from each individual station varied greatly. For instance, while Burlington 1 recorded almost eight inches precipitation in June, Haxtun recorded a total of approximately 1.25 inches the same month. Furthermore, dryland corn south of I-70 averaged 75 bushels per acre in some areas, but west and north of Burlington dry land corn yields were near zero, again. Yields near the Haxtun area were similarly low. Similar varying crop results were noticed across the Golden Plains Area. In the Golden Plains Area in 2005, precipitation averaged 2.5 inches below normal.

Air temperatures for the entire Golden Plains Area were near normal for the most part, a sign of weather pattern moderation. There were a few slight exceptions, of course. Akron tended to be noticeably warmer than normal during July and cooler than normal during September, October, and November. The months of July and September were also warmer than normal for most Golden Plains Area sites.

**Two northeastern Colorado dryland corn trial locations in 2005 with 2004 dryland acreage harvested.**



Trial Location	Weather Station	2005 GDD	Long Term Ave. GDD	2005 Precip. 5/1-9/30	% of normal 5/1-9/30
Akron	Akron	2673	2617	11.38	98
Daley	Fleming	2624	2545	10.60	87

**Table 12. Dryland corn cultural conditions.**

Daley	
Soil Type	Haxtun Sandy Loam
Previous Crop	Wheat
Fertilization	
N acre <sup>-1</sup>	70
P <sub>2</sub> O <sub>5</sub> acre <sup>-1</sup>	20
Herbicide	Roundup Steadfast

**Table 13. Dryland corn variety performance at Daley<sup>1</sup>.**

Hybrid	Yield bu/ac	Grain Moisture %	Test Weight lb/bu	Cob Height in	Density plants/ac	Lodging %	Ear Drop %
Trisler T-2375 (RRCB)	92	16.5	57.0	31	16980	0.0	0.3
Producers Hybrids 5932 (RR)	90	18.1	56.9	31	17376	0.3	1.1
Garst 8724 (RR)	90	16.1	55.9	29	17043	1.2	0.0
Garst 8689 (IT)	89	17.5	57.1	33	17376	0.6	0.0
DEKALB DKC52-23 (RR2/YGCB/BT)	89	15.0	57.2	30	16899	0.6	0.0
Garst 8579 (RR)	88	24.6	56.0	32	16978	0.6	0.0
Grand Valley X12HX36	88	17.4	56.0	31	16985	0.8	0.0
DEKALB DKC52-47 (RR2/YGCB/BT)	88	15.6	57.5	30	16447	0.0	0.0
Trisler T-2350 (RRCB)	87	18.7	57.7	27	17274	0.3	0.3
NK Brand NX3384 (GT/RR)	87	17.5	58.3	29	17127	0.3	0.0
Garst 8881 (RR)	86	13.2	56.9	29	17133	1.7	0.0
Producers Hybrids 6443 (YGCB/RR)	84	15.6	56.7	28	17472	0.3	0.3
DEKALB DKC55-82 (RR2)	83	19.5	57.0	31	17519	0.3	0.0
Garst 8590 (RR)	83	27.4	56.2	33	16987	0.3	0.3
DEKALB DKC50-20 (RR2/YGCB/BT)	82	15.9	57.8	29	17187	0.3	0.3
NK Brand NX4164 (GT/RR)	82	14.5	56.1	28	16245	0.0	0.0
Producers Hybrids 6663 (YGCB/RR)	78	17.5	56.1	31	17273	0.9	0.3
Trisler T-2850 (CB)	77	18.2	57.9	33	17805	0.3	0.0
Triumph 5433 (YGCB/RR)	75	22.9	56.9	30	17565	0.0	0.3
<b>Average</b>	<b>86</b>	<b>17.8</b>	<b>56.9</b>	<b>30</b>	<b>17159</b>	<b>0.4</b>	<b>0.2</b>
LSD <sub>(0.30)</sub>	8						

<sup>1</sup>Trial conducted on the Mark and Neil Lambert farm; seeded 5/18 and harvested 10/17/05.

\*Good growing conditions, no problems.

**Table 14. 2-yr average dryland corn variety performance at Daley in 2004-05.**

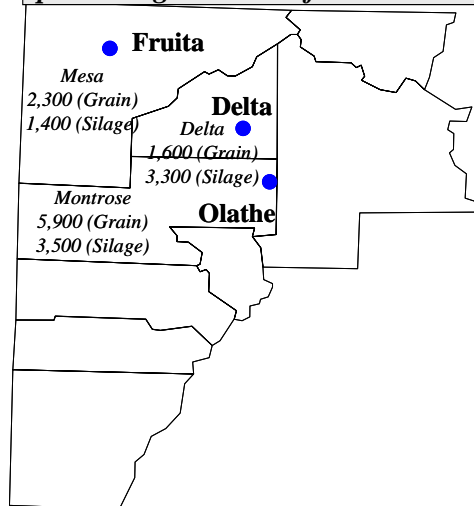
Hybrid	Yield bu/ac	Grain Moisture %	Test Weight lb/bu
Garst 8579 (RR)	74	20.7	54.9
DEKALB DKC52-47 (RR2/YGCB/BT)	74	15.3	55.9
Triumph 5433 (YGCB/RR)	67	19.5	56.2
Garst 8590 (RR)	65	21.9	55.2
<b>Average</b>	<b>71</b>	<b>18.6</b>	<b>55.9</b>

## Western Slope Irrigated Grain Corn Performance Data

Over 3 million bushels of corn grain are produced on some 30,000 acres of irrigated farmland on the Western Slope every year, bringing in over \$8 million to local producers. Calvin Pearson of the Colorado Agricultural Experiment Station evaluates long-season and short-season corn grain hybrids to provide reliable and unbiased information to Western Slope producers.

In 2005, there were 10 ten days during the summer when temperatures reached 100° F. In 2004, there were only two days when temperatures were at or above 100° F, but in 2003 there were 27 days when temperatures reached 100° F. The average growing season for Fruita is 181 days. The 2005 growing season was 199 days.

Three Western Slope corn grain and silage trial locations in 2005 with 2004 acreage harvested in three important corn producing counties of the Western Slope.



**Table 15. Western Slope irrigated corn cultural conditions.**

	Delta	Fruita Long Season	Fruita Short Season
Soil Type	Mesa Clay Loam	Youngston Clay Loam	Youngston Clay Loam
Previous Crop	Sweet Corn	Alfalfa	Alfalfa
Fertilization			
N lb acre <sup>-1</sup>	229	262	262
P <sub>2</sub> O <sub>5</sub> acre <sup>-1</sup>	75	104	104
Herbicide	2,4-D Clarity	Lasso	Lasso
Insecticide	Comite	Dimethoate Comite	Dimethoate Comite
Irrigation	Furrow	Furrow	Furrow

Trial Location	2005 GDD	Long Term Ave. GDD
Fruita	2801	2673
Delta	2749	2590

**Table 16. Irrigated short season corn variety performance at Delta<sup>1</sup>.**

Hybrid	Yield	Grain	Test	Density	Lodging	Ear
		Moisture	Weight			Density
	bu/ac	%	lb/bu	plants/ac	%	%
Garst 8689 (IT)	275	14.7	59.1	30637	0.8	0.1
Grand Valley X12HX36	271	14.1	57.6	28922	3.5	0.0
Grand Valley X12HX34	271	14.3	59.1	33465	13.7	0.1
HYTEST HT7428 (BT/RR2)	268	14.0	60.8	32121	2.8	0.0
Grand Valley 0608 (YGCB/RR)	256	14.4	61.2	32213	5.7	0.0
Grand Valley 22R40	243	14.4	59.1	31657	1.3	0.1
DEKALB DKC52-47 (RR2/YGCB/BT)	241	13.8	59.0	32723	1.0	0.0
DEKALB DKC52-23 (RR2/YGCB/BT)	225	13.8	59.9	31240	5.1	0.0
DEKALB DKC50-20 (RR2/YGCB/BT)	225	13.9	60.0	33743	2.8	0.0
Garst 8715 (RR)	223	13.8	59.7	28552	3.6	0.8
DEKALB DKC48-52 (RR2)	220	13.9	59.4	33836	1.8	0.1
Grand Valley 12B12	207	13.6	59.2	28413	0.8	0.2
Garst 8881 (RR)	203	13.6	59.9	32909	5.3	0.0
<b>Average</b>	<b>241</b>	<b>14.0</b>	<b>59.5</b>	<b>31571</b>	<b>3.7</b>	<b>0.1</b>
LSD <sub>(0.30)</sub>	8					

<sup>1</sup>Trial conducted on the Wayne Brew farm; seeded 4/28 and harvested 12/07/05.

**Table 17. 2-yr average irrigated short season corn variety performance at Delta in 2004-05.**

Hybrid	Yield	Grain	Test
		Moisture	Weight
	bu/ac	%	lb/bu
Garst 8715 (RR)	220	14.8	57.5

**Table 18. Irrigated short season corn variety performance at Fruita<sup>1</sup>.**

Hybrid	Yield	Grain	Test	Density	Lodging	Ear
		Moisture	Weight			Density
	bu/ac	%	lb/bu	plants/ac	%	%
HYTEST HT7615 (BT/RR2)	276	19.5	54.1	32171	2.3	0.0
Garst 8689 (IT)	265	17.3	54.9	30175	1.8	0.0
DEKALB DKC55-82 (RR2)	250	16.5	56.8	32126	1.3	0.0
DEKALB DKC57-30	237	16.7	55.6	31899	1.0	0.0
HYTEST HT7428 (BT/RR2)	233	15.9	55.0	32080	8.8	0.0
Garst 8715 (RR)	218	16.5	56.9	28587	2.7	0.0
DEKALB DKC52-47 (RR2/YGCB/BT)	216	15.7	55.9	32534	3.9	0.3
DEKALB DKC54-51 (YGCB/BT)	206	16.2	57.3	31627	1.7	0.0
Garst 8881 (RR)	143	15.9	55.2	32398	14.0	0.0
<b>Average</b>	<b>227</b>	<b>16.7</b>	<b>55.7</b>	<b>31511</b>	<b>4.1</b>	<b>0.0</b>
LSD <sub>(0.30)</sub>	12					

<sup>1</sup>Trial conducted at the Western Colorado Research Center; seeded 5/03 and harvested 11/16/05.

**Table 19. Irrigated long season corn variety performance at Fruita<sup>1</sup>.**

Hybrid	Yield	Grain	Test	Density	Lodging
		Moisture	Weight		
	bu/ac	%	lb/bu	plants/ac	%
HYTEST HT7891 (BT/RR2)	278	22.4	51.6	32444	2.2
HYTEST HT7749 (BT/RR2)	256	22.8	51.8	29812	1.5
<b>Average</b>	<b>267</b>	<b>22.6</b>	<b>51.7</b>	<b>31128</b>	<b>1.9</b>
LSD <sub>(0.30)</sub>	19				

<sup>1</sup>Trial conducted at the Western Colorado Research Center; seeded 5/03 and harvested 11/15/05.

\*No ear drop.

## Corn Silage Performance Data for Eastern Colorado and the Western Slope

Colorado farmers cut 100,000 irrigated acres of corn for silage in 2004 averaging 24 t/ac and another 10,000 acres of non-irrigated corn averaged 7 t/ac. Corn seed required for planting this crop represents annual sales of about \$3 million.

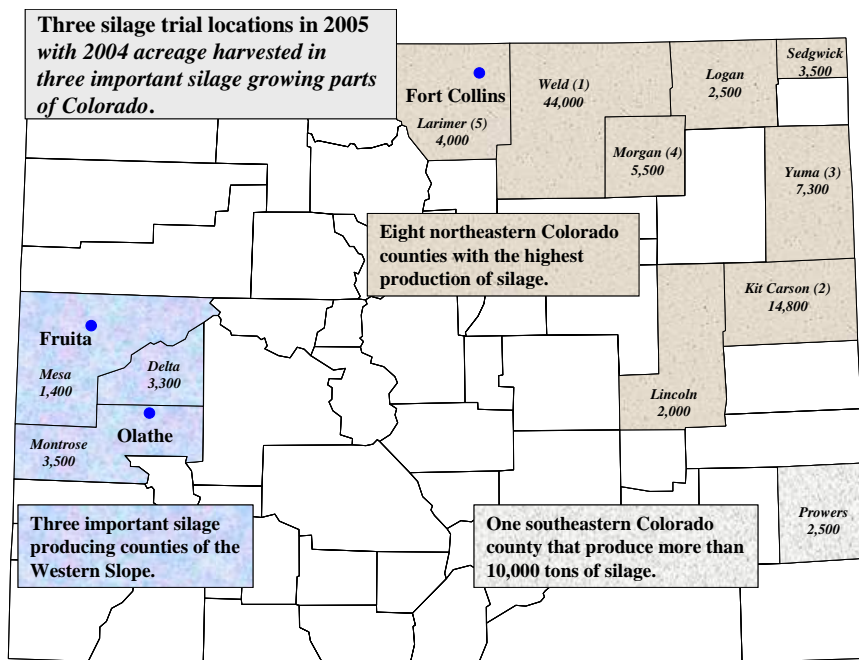
Colorado State University personnel evaluate commercial corn silage hybrids at multiple locations to provide Colorado farmers with reliable and unbiased hybrid performance information. In 2005, corn silage hybrids were evaluated at Fort Collins in eastern Colorado and at Fruita and Olathe on the Western Slope. The silage yields given below are reported in tons per acre adjusted to 70% moisture content. The moisture content at the time of harvest is an indicator of hybrid maturity at harvest.

**Table 20. Corn silage trial cultural conditions.**

			Fort Collins	Fruita	Olathe
Soil Type			Fort Collins Clay Loam	Youngston Clay Loam	Sandy Loam
Previous Crop			Corn	Alfalfa	Silage Corn
Fertilization					
	N lb acre <sup>-1</sup>		85	182	99
	P <sub>2</sub> O <sub>5</sub> lb acre <sup>-1</sup>		40	104	86
Herbicide			Celebrity Plus	Lasso	Harness
Insecticide			None	Dimethoate Comite	Comite
Irrigated			Furrow	Furrow	Furrow

Trial Location	2005 GDD	Long Term Ave. GDD
Fort Collins	2501	2316
Fruita	2801	2673
Olathe (Delta)	2749	2590





**Table 21. Corn silage variety performance at Fort Collins<sup>1</sup>.**

Hybrid	Yield	Moisture	Plant	
			Height	Density
	t/ac	%	in	plants/ac
Triumph 1866 (RR)	31.6	66.9	79	33700
Grand Valley 23B05	27.9	62.8	81	33417
Garst 8689 (IT)	24.8	61.1	83	31235
Grand Valley 14B69	22.8	63.5	81	32284
Grand Valley 13B53	22.0	63.1	82	32989
Mycogen 2T801 (RR/YGCB)	21.5	66.3	77	32019
Grand Valley 23R50	21.1	66.2	84	31891
NK Brand N72-J5	20.4	66.2	77	31391
HYTEST HT7749 (BT/RR2)	20.2	67.6	77	34405
Triumph 1536 (YG/RW/RR)	19.7	69.3	77	32203
Garst 8553 (RR)	18.8	67.7	78	31703
Grand Valley 22B70	16.3	58.0	76	30594
<b>Average</b>	<b>22.3</b>	<b>64.9</b>	<b>79</b>	<b>32319</b>
LSD <sub>(0.30)</sub>	3.3			

<sup>1</sup>Trial conducted at the Agricultural Research, Development and Educational Center; seeded 5/17 and harvested 9/23/05.

\*Compaction led to poor root development and irrigation water infiltration.

**Table 22. 2-yr corn silage variety performance at Fort Collins in 2004-05.**

Hybrid	Yield	Moisture
	t/ac	%
Triumph 1866 (RR)	29.1	70.8
NK Brand N72-J5	22.3	68.4
<b>Average</b>	<b>25.7</b>	<b>69.6</b>

**Table 23. Corn silage variety performance at Fruita<sup>1</sup>.**

Hybrid	Yield	Moisture	Density	Plant	Ear
				Height	Height
	t/ac	%	plants/ac	in	in
Grand Valley 26R50	41.1	68.2	30029	146	71
HYTEST HT7813 (HX/LL)	39.3	66.6	33411	136	68
Grand Valley 26R57	38.8	68.6	29704	145	70
Grand Valley X12HX24	38.2	63.0	30631	135	64
HYTEST HT7891 (BT/RR2)	36.6	64.2	32716	125	51
Grand Valley 26B57	36.2	67.2	32299	129	55
Grand Valley 14B69	34.7	56.7	27619	123	52
<b>Average</b>	<b>37.8</b>	<b>64.9</b>	<b>30915</b>	<b>134</b>	<b>61</b>
LSD <sub>(0.30)</sub>	1.6				

<sup>1</sup>Trial conducted at the Western Colorado Research Center; seeded 5/03 and harvested 9/20/05.

**Table 24. Corn silage variety performance at Olathe<sup>1</sup>.**

Hybrid	Yield	Moisture	Density	Plant	Ear
				Height	Height
	t/ac	%	plants/ac	in	in
Grand Valley 14A53	31.9	71.5	33921	119	50
Grand Valley 25R35	30.2	70.4	36516	126	53
Garst 7850	29.7	68.8	35821	117	48
Garst 8270 (RR)	29.4	73.2	35033	120	59
Grand Valley 13B53	28.8	69.4	32670	118	47
Garst 8374 (RR)	27.0	69.6	35265	110	40
Grand Valley 14B69	26.7	68.5	30492	113	44
Garst 8553 (RR)	24.1	69.1	33643	102	35
<b>Average</b>	<b>28.5</b>	<b>70.0</b>	<b>34170</b>	<b>115</b>	<b>47</b>
LSD <sub>(0.30)</sub>	1.7				

<sup>1</sup>Trial conducted on the Earl Seymour farm; seeded 4/28 and harvested 9/15/05.

**Table 25. 2-yr average corn silage variety performance at Olathe in 2004-05.**

Hybrid	Yield	Moisture
	t/ac	%
Garst 8270 (RR)	30.9	73.2

## 2005 COLORADO SOYBEAN PERFORMANCE TRIALS

**Table 1. Irrigated trial of soybean varieties in solid planting at Yuma<sup>1</sup>.**

Hybrid	Yield	Moisture	Test	Plant
			Weight	Height
	lb/ac	%	lb/bu	in
NK Brand S27-T7	69.7	7.7	56.7	27
DEKALB DKB26-53	62.2	7.8	56.4	31
NK Brand S28-G1	59.1	7.9	56.5	29
ASGROW AG3005	51.2	8.2	56.9	32
DEKALB DKB29-51	50.3	7.7	56.2	32
Garst 2018 (RR)	50.2	7.8	56.9	29
Garst 2677 (RR)	48.7	7.6	56.0	28
ASGROW AG2403	46.0	7.6	55.7	26
NK Brand S28-W2	45.6	8.0	56.8	28
NK Brand S29-C9	32.8	7.8	56.2	33
<b>Average</b>	<b>51.6</b>	<b>7.8</b>	<b>56.4</b>	<b>29</b>
LSD <sub>(0.30)</sub>	9.5			

<sup>1</sup>Trial conducted on the Bob Taylor farm; seeded 5/23 and harvested 10/03/05.

\*No shatter.

\*\*Good growing conditions, no problems.

**Table 2. Irrigated trial of soybean varieties in row planting at Yuma<sup>1</sup>.**

Hybrid	Yield	Moisture	Test	Plant	Shatter
			Weight	Height	
	lb/ac	%	lb/bu	in	%
NK Brand S27-T7	58.2	7.7	55.9	31	0.0
NK Brand S29-C9	57.7	7.8	56.0	38	0.7
NK Brand S28-W2	51.1	7.7	56.6	32	0.3
NK Brand S28-G1	50.6	7.8	56.5	32	0.0
Myconate - Non-treated	50.4	7.6	53.7	29	0.3
Garst 2018 (RR)	49.9	7.8	56.6	29	0.0
Myconate - Treated	47.8	7.7	55.6	31	0.0
Garst 2677 (RR)	40.6	7.9	54.7	31	0.0
<b>Average</b>	<b>50.8</b>	<b>7.8</b>	<b>55.7</b>	<b>32</b>	<b>0.2</b>
LSD <sub>(0.30)</sub>	4.1				

<sup>1</sup>Trial conducted on the Bob Taylor farm; seeded 5/23 and harvested 10/03/05.

\*Good growing conditions, no problems.

### Differential soybean variety response to solid planting or row planting in the 2005 trial

A combined analysis of planting system and variety response revealed a significant interaction between these two factors. This means that some varieties were ranked higher in one planting system and ranked differently in the other system and that variety performance is affected by the planting system. See the results above by planting system. However, the variety NK Brand S27-T7 was the highest yielding variety in both planting systems, albeit not significantly higher yielding than DEKALB DKB26-53 in the solid planting system, and not significantly higher yielding than NK Brand S29-C9 in the row planting system. The two planting systems were not significantly different from one another in terms of yield.

# 2005 COLORADO SUNFLOWER PERFORMANCE TRIALS

## ***Introduction***

CSU's Crops Testing personnel assists Colorado sunflower producers make the best possible hybrid sunflower seed selection by providing unbiased and reliable yield trial results from oil and confection sunflower performance trials.

Sunflower production was 262.3 million pounds harvested from 205,000 acres. Average yield was 1,279 pounds per acre, up from 1,193 pounds last year. Production of oil varieties increased 68 percent from the previous year to 181.3 million pounds and production of non-oil varieties increased 109 percent to 81.0 million pounds.

For the two traditional small-plot dryland trials and one irrigated sunflower performance trial, a randomized complete block design with four replicates was used. All trials, dryland and irrigated, consisted of four row plots 50 feet long. Target plant population for dryland oil and confection hybrids was 12,000 plants/ac. Irrigated oil and confection hybrids were planted at 18,000 seeds per acre for target plant populations of 15,000 plants/ac. Seed yields are reported in pounds per acre adjusted to 10% moisture content. Oil content is reported as % oil at 10% seed moisture content.

Weather patterns in 2005 across the Colorado High Plains Region varied greatly, as is customary. The growing season began warmer and drier than normal, was interrupted in late spring and early summer with beneficial moisture, but turned hot during late June through early August. Overall, the growing season was much better suited for crop production than in past seasons. 2005 sunflower production region-wide was slightly above average and coupled with above average prices received; the sunflower crop was, for the most part, profitable.

## **Summary of insect pressure in eastern Colorado for 2005**

Sunflower head moth and seed weevil: Below average

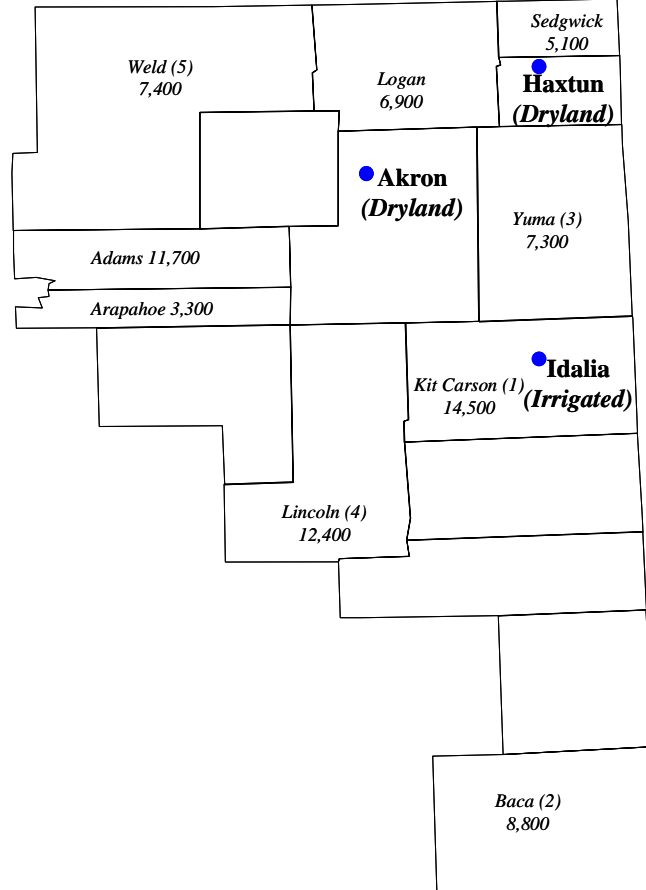
Sunflower stem weevil: About average

Sunflower disease update: Red leaf rust was found in isolated pockets within the High Plains Region in 2005. Oil types continue to show better tolerance than do confection types, as a whole. However, high oleic oil type hybrids were found especially susceptible. Within both oil and confection types, red leaf rust tolerance is beginning to be expressed by a number of hybrids. In addition, Folicur currently has a temporary label for rust control in sunflower and was found to control rust very well when applied near bloom. In one study, a Folicur treatment was found to increase yield by 767 lbs per acre from an irrigated confection field in Kit Carson County, Colorado.

**Table 1. Sunflower cultural conditions.**

	Akron	Haxtun	Idalia
Soil Type	Rago Weld Silt Loam	Rago Loam	Kuma Keith Silt Loam
Previous Crop	Millet	Corn	Corn
Fertilization			
N acre <sup>-1</sup>	30	30	70
P <sub>2</sub> O <sub>5</sub> acre <sup>-1</sup>	-	-	30
Herbicide	Roundup Prowl Poast	Select Spartan	Trifluralan
Insecticide	Warrior	None	Furadan
Irrigation	None	None	Furrow

**Three Colorado sunflower trial locations in 2005  
and the 2004 acreage harvested.**



**Table 2. Irrigated oil sunflower variety performance at Idalia<sup>1</sup>.**

Hybrid	Yield	Moisture	Test	Plant	Density	Lodging	Rust <sup>2</sup>	Oil
			Weight	Height			0-9	%
	lb/ac	%	lb/bu	in	plants/ac	%	0-9	%
Seeds 2000 Blazer	3353	7.8	31.8	58	14638	1.2	1	43.8
Mycogen 8N352	3245	9.3	31.0	59	13851	2.7	0	44.5
DEKALB MH4331B	3164	8.7	31.2	62	15672	2.1	0	44.0
Mycogen 8N510	3117	8.7	30.5	61	14672	3.2	0	41.7
Producers Hybrids 7203	3058	8.4	30.4	69	15814	1.5	0	43.0
Fontanelle 902NS	2985	9.9	28.9	69	13716	3.9	0	44.1
DEKALB DKF38-30 NS	2943	7.8	31.5	60	13779	2.6	0	42.8
Garst 424	2939	8.5	31.3	66	13992	4.4	0	41.9
Garst 02 TH003896	2911	7.8	33.3	63	14922	3.0	0	42.9
Triumph s678	2884	11.9	28.7	59	13582	5.4	0	41.9
Myconate - Treated	2842	9.0	29.6	71	14905	1.6	0	47.3
Garst 03 TH004205	2820	8.3	30.9	65	13294	6.9	0	39.4
Pioneer brand 63M80	2808	7.7	31.6	62	13808	7.2	0	44.9
Triumph TRX4240	2803	8.4	32.4	64	13108	3.0	0	44.4
Seeds 2000 Sierra	2800	11.0	27.5	64	13494	0.0	0	39.4
Garst 03 TH004251	2795	9.6	29.3	64	12904	1.6	1	40.2
Mycogen 8H419 CL	2789	9.8	28.9	67	14671	1.2	0	41.3
Trial Check 2*	2743	9.4	29.7	51	14485	2.9	0	43.9
Triumph 665	2741	8.9	30.6	66	14330	5.2	0	44.6
Croplan Genetics 378 DMR HO	2715	11.3	28.4	61	13269	7.7	0	40.2
Mycogen 8D310	2696	9.8	28.3	66	12988	7.5	0	38.7
Advanta Pacific AP561 NS	2626	10.1	30.2	68	15171	2.1	0	40.3
Producers Hybrids 7303	2615	8.4	30.8	61	13538	3.9	0	41.6
Myconate - Non-treated	2611	9.1	29.2	69	15216	4.7	0	45.4
Pioneer brand 63M91	2601	9.7	30.6	64	12592	1.4	0	41.2
Triumph s675	2594	7.8	31.2	50	16666	10.3	0	46.0
Garst 454	2591	9.5	29.5	66	12354	5.6	0	41.4
Triumph 660CL	2561	9.8	29.0	69	13770	1.1	0	42.0
DEKALB DKF38-80CL	2559	8.9	30.2	58	15104	2.8	0	40.0
Mycogen 7350	2546	8.6	30.0	59	15400	1.1	0	43.1
Trial Check 1*	2543	8.7	29.4	69	14549	4.5	0	47.4
Triumph 658	2535	10.1	28.5	70	13053	7.2	0	44.4
Mycogen 8H350 DM	2501	8.9	30.1	58	13724	1.1	0	43.6
Advanta Pacific AP534 NS/CL	2489	11.7	28.9	69	13345	3.5	0	38.9
Seeds 2000 Barracuda	2473	11.5	31.4	68	14642	13.8	0	41.5
Mycogen 8N386 CL	2468	9.4	29.2	67	13494	1.6	0	40.1
Dyna-Gro 93N05	2462	10.8	28.5	58	14850	1.8	0	39.4
Mycogen E84352	2433	8.4	30.7	63	14045	2.9	0	42.9
Triumph 620CL	2328	9.7	28.6	58	12862	6.2	0	37.9
Triumph 820 HO	2295	9.5	31.1	65	13209	3.1	0	44.6
Triumph TRX3249	2221	8.7	31.2	56	14262	1.4	0	44.7
Garst 525	2112	9.1	30.3	59	13352	3.7	0	40.4
Mycogen 8N429 CL	2056	10.2	27.6	65	13196	1.6	0	37.5
Advanta NA F10125	1915	8.7	29.7	65	12873	2.3	0	35.2
Dyna-Gro 94T90	1752	9.2	28.3	69	16951	2.0	1	39.5
<b>Average</b>	<b>2645</b>	<b>9.3</b>	<b>30.0</b>	<b>63</b>	<b>14091</b>	<b>3.7</b>	<b>0</b>	<b>42.1</b>
LSD <sub>(0.30)</sub>	214							

<sup>1</sup>Trial conducted on the Dennis Towns farm; seeded 5/20 and harvested 10/16/05.<sup>2</sup>Rust scale 0-9, with 0 = no rust detected and 9 = 100% rust on leaves.

\*Trial Check 1 was Triumph 645 &amp; Check 2 was Triumph s672.

\*\*Two 2" hard rains and hail before emergence reduced populations. Larger head size kept yields high.

**Table 3. 2-yr average irrigated oil sunflower performance at Idalia, 2004-05.**

Hybrid	Yield	Moisture	Test
			Weight
	lb/ac	%	lb/bu
Seeds 2000 Blazer	3304	8.0	31.6
Mycogen 8N352	3196	9.1	31.8
Garst 424	3060	8.2	31.3
Mycogen 8N510	3047	8.1	30.2
Pioneer brand 63M80	3014	7.8	31.3
Triumph 665	2950	9.2	30.5
Mycogen 8D310	2924	9.4	28.8
Triumph 658	2909	9.4	28.9
Garst 454	2878	9.4	29.9
Triumph 645	2862	8.5	29.4
Pioneer brand 63M91	2821	9.4	31.1
Triumph s675	2651	8.0	31.0
<b>Average</b>	<b>2968</b>	<b>8.7</b>	<b>30.5</b>

**Table 4. Irrigated confection sunflower variety performance at Idalia<sup>1</sup> with the percent of seed by screen size.**

Hybrid	Yield	Moisture	Test Weight	Plant Density	Plant Height	Lodging	Rust <sup>2</sup>	Seed Size		
								Percent below	Percent above	Percent Jumbo
	lb/ac	%	lb/bu	plants/ac	in	%	0-9	20/64	20/64	22/64
Sigco Sun SS3938	2736	7.8	21.9	15219	62	5	0	79.8	16.5	3.7
Triumph 700CLS	2577	8.1	20.4	11549	76	4	0	93.3	4.6	2.1
Red River RRC 2215	2548	7.7	22.9	12551	65	3	0	91.8	6.4	1.9
Red River RRC 7015	2525	7.1	21.4	12139	65	7	0	85.7	10.3	4.0
CHS Sunflowers 04 EXP01	2420	7.7	23.2	14750	71	5	1	77.0	19.5	3.6
CHS Sunflowers 04 EXP04	2294	7.3	20.8	12695	63	7	3	94.1	4.6	1.4
Sigco Sun Goliath RT	2263	8.1	22.8	10990	61	3	0	87.0	9.4	3.6
Triumph 777C	2243	8.5	21.4	13177	70	11	0	96.3	3.2	0.6
Mycogen 8C481	2234	8.2	21.6	12434	70	5	0	86.5	11.4	2.1
Croplan Genetics 130	2214	7.1	22.3	14867	62	11	0	79.9	12.3	7.8
Croplan Genetics 135	2197	7.5	20.4	13868	60	3	0	91.9	6.1	2.0
Red River RRC 2216	2192	7.5	22.7	12200	66	4	2	91.9	6.5	1.6
CHS Sunflowers 04 EXP02	2180	7.5	21.5	12222	63	8	0	94.9	3.8	1.3
Sigco Sun SS3638	2154	7.4	20.6	11877	66	8	4	92.5	5.7	1.9
Triumph 757C	2147	8.0	21.8	13721	64	11	0	93.8	4.6	1.6
CHS Sunflowers 05 EXP04	2140	7.6	20.3	13166	59	7	0	92.7	5.5	1.8
Garst 8048	2127	8.0	24.6	13553	64	4	0	88.8	9.1	2.2
CHS Sunflowers 05 EXP05	2076	7.7	21.9	14028	63	5	4	85.1	9.8	5.1
Triumph 767C	1970	7.6	22.6	14583	66	12	0	89.1	9.0	1.9
Mycogen 8C416	1966	8.2	22.6	12864	67	7	2	88.2	8.7	3.2
Triumph 707CLS	1920	9.0	21.3	11387	64	6	0	93.9	4.7	1.4
Triumph 717CLS	1915	8.2	20.5	12644	69	12	0	93.4	5.2	1.4
<b>Average</b>	<b>2229</b>	<b>7.8</b>	<b>21.8</b>	<b>13022</b>	<b>65</b>	<b>7</b>	<b>1</b>			
LSD <sub>(0.30)</sub>	231									

<sup>1</sup>Trial conducted on the Dennis Towns farm; seeded 5/20 and harvested 10/07/05.<sup>2</sup>Rust scale 0-9, with 0 = no rust detected and 9 = 100% rust on leaves.

\*\*Two 2" hard rains and hail before emergence reduced populations. Larger head size kept yields high.

**Table 5. 2-yr average irrigated confection sunflower performance at Idalia, 2004-05.**

Hybrid	Yield	Moisture	Test
			Weight
	lb/ac	%	lb/bu
Red River RRC 2215	2866	8.0	22.7
Red River RRC 7015	2615	7.9	21.2
Sigco Sun Goliath RT	2544	8.8	22.5
Croplan Genetics 135	2488	7.6	20.7
CHS Sunflowers 04 EXP02	2474	7.9	21.5
Triumph 777C	2397	9.2	20.6
Garst 8048	2373	8.5	24.2
CHS Sunflowers 04 EXP01	2320	8.6	22.3
Triumph 757C	2293	8.4	20.5
Triumph 707CLS	2272	9.1	20.5
Mycogen 8C416	2149	9.2	22.1
<b>Average</b>	<b>2436</b>	<b>8.5</b>	<b>21.7</b>

**Table 6. Dryland oil sunflower variety performance at Akron<sup>1</sup>.**

Hybrid	Yield	Moisture	Test		Plant		
			Weight	Density	Height	Lodging	Oil
	lb/ac	%	lb/bu	plants/ac	in	%	%
Triumph 660CL	1344	5.6	27.9	14840	39	1.4	39.3
Garst 02 TH003896	1309	5.6	30.3	13689	42	4.6	40.8
Dyna-Gro 94T90	1274	5.5	29.5	14306	39	11.3	41.8
Croplan Genetics 378 DMR HO	1256	5.6	29.1	13357	40	3.9	40.2
Myconate – Non-treated	1187	5.4	29.2	14058	33	1.8	42.9
Garst 03 TH004205	1184	5.5	29.7	14277	39	3.9	40.6
Mycogen 8N386 CL	1146	5.5	28.9	14054	36	4.4	40.5
Mycogen 8D310	1145	5.6	29.2	13800	34	6.1	38.1
Mycogen 8N352	1118	5.6	29.3	14828	32	3.9	40.5
Mycogen 8H419 CL	1097	5.6	28.7	14094	34	2.9	40.5
Myconate - Treated	1096	5.6	28.8	14900	34	3.1	40.8
Pioneer brand 63M91	1092	5.4	29.9	13370	34	1.1	42.6
Mycogen 8N429 CL	1090	5.6	28.4	14003	36	2.1	39.1
Trial Check 1*	1081	5.5	28.6	14207	34	0.7	40.5
Interstate/Garst Hysun 454	1053	5.5	29.5	13914	32	2.4	41.2
Pioneer brand 63M80	1026	5.4	29.1	13517	29	6.3	42.6
Fontanelle 902NS	1024	5.6	28.4	14480	31	3.6	41.7
Triumph 620CL	977	5.5	29.6	14361	31	0.8	40.5
Triumph 635	975	5.4	30.1	13828	34	6.8	42.7
Producers Hybrids 7203	971	5.6	29.8	14157	35	5.0	41.1
Mycogen 8N510	953	5.6	29.8	13411	30	9.4	40.8
Mycogen E84352	951	5.5	29.4	14745	31	9.2	40.6
Garst 03 TH004251	946	5.6	28.8	13650	37	3.9	38.9
Croplan Genetics 345 NS	883	5.6	28.9	13143	34	9.4	40.8
Mycogen 7350	870	5.6	29.4	13484	33	15.6	41.6
Triumph s678	847	5.5	29.4	13507	29	5.2	41.8
Garst 4880 CL/NS	846	5.5	29.5	14695	35	6.3	40.6
Trial Check 2*	756	5.4	29.7	13770	25	5.4	43.2
Mycogen 8H350 DM	733	5.5	29.6	13460	33	20.6	41.3
Interstate Hysun 525 NS	678	5.7	28.7	13972	26	3.1	38.7
Producers Hybrids 7303	657	5.5	29.1	13673	33	23.1	40.5
Interstate/Garst Hysun 424	603	5.6	29.1	13330	33	11.3	40.8
<b>Average</b>	<b>1005</b>	<b>5.5</b>	<b>29.2</b>	<b>13965</b>	<b>33</b>	<b>6.2</b>	<b>40.9</b>
LSD <sub>(0.30)</sub>	169						

<sup>1</sup>Trial conducted on the Jason Shook farm; seeded 6/20 and harvested 11/21/05.

\*Trial Check 1 was Triumph 645 & Check 2 was Triumph s672.

\*\*Croplan Genetics 308 NS was dropped from the analysis as this hybrid was damaged or destroyed by animals in all four plots.

\*\*\*Sub soil moisture was short at planting time. Well below normal growing season rain fall led to short plant heights and poor yields.

**Table 7. 2-yr average dryland oil sunflower performance at Akron, 2004-05.**

Hybrid	Yield	Moisture	Test
			Weight
	lb/ac	%	lb/bu
Mycogen 8D310	1294	6.2	28.1
Interstate/Garst Hysun 454	1280	6.4	28.7
Mycogen 8N510	1265	6.1	28.2
Pioneer brand 63M80	1195	5.6	28.3
Triumph 645	1187	6.4	28.3
Pioneer brand 63M91	1177	5.9	28.8
Interstate/Garst Hysun 424	865	6.9	29.2
<b>Average</b>	<b>1181</b>	<b>6.2</b>	<b>28.5</b>

**Table 8. Dryland confection sunflower variety performance at Akron<sup>1</sup> with the percent of seed by screen size.**

Hybrid	Yield	Moisture	Test Weight	Plant Density	Plant Height	Lodging	Seed Size		
							Percent	Percent	Jumbo Percent
	lb/ac	%	lb/bu	plants/ac	in	%	20/64	20/64	22/64
Red River RRC 7015	1126	5.6	19.8	7891	36	0.0	90.3	7.7	2.0
Sigco Sun SS3638	1045	5.7	20.6	9217	37	1.4	83.8	11.8	4.4
Sigco Sun Goliath RT	880	5.6	20.4	7576	35	3.3	88.7	9.5	2.0
Triumph 717CLS	797	5.3	19.7	10732	42	1.9	89.8	7.1	3.1
Sigco Sun SS3938	742	5.5	20.7	10480	31	4.1	78.2	16.9	4.9
Red River RRC 2215	740	5.9	20.8	9722	31	3.7	86.8	10.9	2.3
Triumph 757C	707	5.8	20.0	10227	38	3.5	83.1	12.8	4.1
Triumph 777C	705	6.0	20.3	11300	32	1.8	78.5	16.7	4.8
Red River RRC 2216	588	5.8	20.0	10038	37	3.9	84.0	13.4	2.6
Triumph 767C	588	5.8	19.8	9659	32	2.5	85.5	11.6	2.9
Triumph 707CLS	575	5.7	19.8	4293	35	0.0	86.4	9.2	4.4
<b>Average</b>	<b>772</b>	<b>5.7</b>	<b>20.2</b>	<b>9194</b>	<b>35</b>	<b>2.4</b>			
LSD <sub>(0.30)</sub>	180								

<sup>1</sup>Trial conducted on the Jason Shook farm; seeded 6/20 and harvested 11/22/05.

\*To obtain a meaningful interpretation of this trial, only replicates II, III, and IV were used.

\*\*Sub soil moisture was short at planting time. Well below normal growing season rain fall led to short plant heights and poor yields.

**Table 9. 2-yr average dryland oil sunflower performance at Akron, 2004-05.**

Hybrid	Yield	Moisture	Test
			Weight
	lb/ac	%	lb/bu
Red River RRC 7015	1364	6.9	19.6
Red River RRC 2215	1176	6.7	20.6
Sigco Sun Goliath RT	1119	7.5	21.0
Triumph 707CLS	970	7.1	18.9
Triumph 757C	883	7.2	19.4
<b>Average</b>	<b>1102</b>	<b>7.1</b>	<b>19.9</b>



**Table 10. Dryland oil sunflower variety performance at Haxtun<sup>1</sup>.**

Hybrid	Yield	Moisture	Test		Plant		Oil
			Weight	Density	Height	Lodging	
	lb/ac	%	lb/bu	plants/ac	in	%	%
Fontanelle 902NS	1344	6.8	23.9	11700	55	0.0	38.5
Garst 454	1312	7.5	25.7	10902	58	0.7	37.8
Croplan Genetics 378 DMR HO	1301	8.1	23.7	11348	60	6.3	36.1
Garst 424	1272	7.1	25.0	11529	51	1.4	36.2
Trial Check 1*	1268	7.5	25.0	13105	55	0.0	40.3
Pioneer brand 63M80	1263	6.5	24.9	12002	53	3.3	39.2
Mycogen 8N510	1220	6.9	25.1	10484	49	0.9	36.1
Mycogen 8H350 DM	1220	6.6	25.8	11679	52	0.4	40.1
Mycogen 8H419 CL	1203	6.5	24.6	12321	52	0.0	36.9
Pioneer brand 63M91	1201	6.9	26.0	11539	52	2.1	38.6
Mycogen 8N352	1138	6.3	26.0	11959	45	0.0	39.1
Mycogen 8D310	1131	6.8	24.7	12378	56	0.5	34.2
Trial Check 2*	1115	6.6	26.3	13321	40	1.1	40.6
Croplan Genetics 343 DMR HO	1104	7.1	25.3	11721	54	1.3	35.8
Dyna-Gro 94T90	1085	6.8	26.5	11641	57	4.1	38.4
Triumph s678	1079	7.0	26.5	12519	48	0.7	39.0
Interstate F10016 NS	1067	7.3	25.7	10791	47	0.4	37.0
Triumph 660CL	1042	7.1	24.0	12738	50	0.8	35.8
Mycogen 8N386 CL	1031	6.4	24.9	12514	51	2.5	36.7
Garst 4880NN/CL	973	7.2	24.1	11539	58	0.0	36.1
Mycogen 8N429 CL	955	6.8	24.2	11707	53	0.5	35.2
Triumph TRX4240	863	6.7	25.9	12863	53	1.1	38.7
Dyna-Gro 93C05	847	6.8	25.5	10964	53	0.0	37.6
<b>Average</b>	<b>1132</b>	<b>6.9</b>	<b>25.2</b>	<b>11881</b>	<b>52</b>	<b>1.2</b>	<b>37.6</b>
LSD <sub>(0.30)</sub>	160						

<sup>1</sup>Trial conducted on the Dave Anderson farm; seeded 6/10 and harvested 10/08/05.

\*Trial Check 1 was Triumph 645 & Check 2 was Triumph s672.

\*\*Below average July rain fall reduced yields.

**Table 11. 2-yr average dryland oil sunflower performance at Haxtun, 2004-05.**

Hybrid	Yield	Moisture	Test
			Weight
	lb/ac	%	lb/bu
Garst 454	1329	8.1	26.6
Triumph 645	1266	8.3	25.2
Interstate F10016 NS	1237	8.6	26.2
Mycogen 8D310	1210	7.4	25.8
Pioneer brand 63M80	1188	7.3	25.9
Garst 424	1187	7.6	27.1
Pioneer brand 63M91	1175	7.0	27.3
Mycogen 8N510	1113	7.9	26.5
<b>Average</b>	<b>1213</b>	<b>7.8</b>	<b>26.3</b>

**Table 12. Dryland confection sunflower variety performance at Haxtun<sup>1</sup> with the percent of seed by screen size.**

Hybrid	Yield	Moisture	Test Weight	Density	Plant Height	Lodging	Seed Size		
							Percent below	Percent above	Jumbo Percent above
	lb/ac	%	lb/bu	plants/ac	in	%	20/64	20/64	22/64
Croplan Genetics 130	1429	7.8	18.5	10106	51	0.6	28.1	21.7	50.2
Mycogen 8C481	1177	8.9	17.1	9953	61	1.6	36.5	24.7	27.6
Mycogen 8C416	1132	8.2	18.1	10860	52	0.5	44.8	26.5	28.7
Croplan Genetics 135	1089	8.3	18.2	9498	53	1.2	23.5	21.1	55.4
<b>Average</b>	<b>1207</b>	<b>8.3</b>	<b>18.0</b>	<b>10104</b>	<b>54</b>	<b>1.0</b>			
LSD <sub>(0.30)</sub>	176								

<sup>1</sup>Trial conducted on the Dave Anderson farm; seeded 6/10 and harvested 10/08/05.

\*Below average July rain fall reduced yields.

**Table 13. 2-yr average dryland confection sunflower performance at Haxtun, 2004-05.**

Hybrid	Yield	Moisture	Test Weight
	lb/ac	%	lb/bu
Croplan Genetics 135	1119	8.4	18.1

## Seed Company Entrants in the 2005 Colorado Performance Trials

Entrant	Brand/Hybrid	Address	Telephone
Advanta Pacific, LLC	Advanta Pacific	1215 Prairie Parkway, West Fargo, ND 58078	701-373-8115
CHS Sunflowers	CHS	220 Clement Ave., Grandin, ND 58038	701-484-5313
Croplan Genetics	Croplan	P.O. Box 1291, Minot, ND 58702	701-852-3556
Dyna-Gro Seeds	Dyna-Gro	240 22 <sup>nd</sup> Street, Greeley, CO 80631	800-332-4045
Fontanelle Hybrids	Fontanelle	10981 8 <sup>th</sup> Street, Fontanelle, NE 68044	402-721-1410
Garst Seed Co.	Garst	1101 Mansfield Drive, Fort Collins, CO 80525	970-222-4719
Garst Seed Co.	Garst	2369 330 <sup>th</sup> , Box 500, Slater, IA 50244	888-464-2778
Grand Valley Hybrids	Grand Valley	840 23 Road, Grand Junction, CO 81505	970-243-3115
HYTEST Seeds	HYTEST	P.O. Box 90850, Henderson, NV 89009	702-497-2577
Interstate Seed	Interstate	Box 308, West Fargo, ND 58078	701-282-7423
LG Seeds	LG	22827 Shissler Road, Elmwood, IL 61529	309-742-2211
Monsanto	DEKALB/Asgrow	4312 Carol Ave., Cortland, IL 60112	815-754-4809
Monsanto Co	CS	2505 McKinley Ave., Des Moines, IA 50321	515-285-3091
Monsanto	DEKALB	800 N. Lindbergh Blvd., St. Louis, MO 63167	800-335-2676
Mycogen Seeds	Mycogen	9330 Zionsville Rd., Indianapolis, IN 46268	800-692-6436
National Sunflower Assn.		4023 State Street, Bismarck, ND 58501	701-328-5138
Pioneer Hi-Bred Int'l, Inc	Pioneer brand	1616 S. Kentucky St., Suite C350, Amarillo, TX 79102	800-258-5604
Plant Health Care, Inc.	Myconate	440 William Pitt Way, Pittsburgh, PA 15238	412-826-5488
Producers Hybrids	Producers Hybrids	P.O. Box C, Battle Creek, NE 68715	402-675-2975
Red River Commodities, Inc	Red River	212 NE Loop 239, Lubbock, TX 79403	806-763-9747
SEEDS 2000	SEEDS 2000	115 North 3 <sup>rd</sup> Street, Breckenridge, MN 56520	218-643-2410
SIGCO Sun Products	SIGCO	90 N. 8 <sup>th</sup> Street, Breckenridge, MN 56520	218-643-8467
NK Brand Seeds, Inc.	NK Brand	6001 S. 58 <sup>th</sup> Street, Suite D, Lincoln, NE 68516	402-420-6664
Trisler Seed Farms, Inc	Trisler	3274 E. 800 North Rd., Fairmount, IL 61841	217-288-9301
Triumph Seed Co., Inc	Triumph	P.O. Box 1050, Ralls, TX 79357	800-530-4789



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