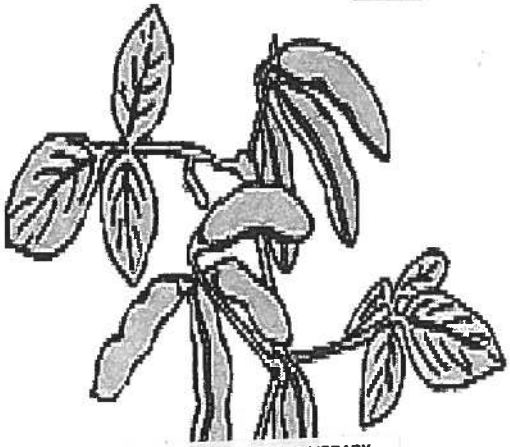
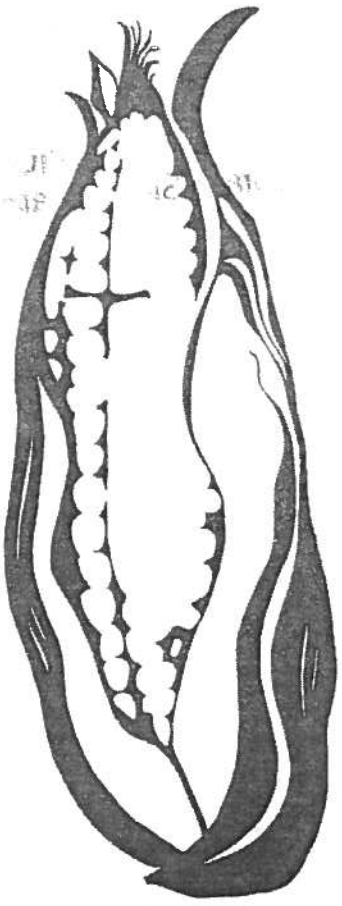
Cooperative Extension
Colorado State University

MAKING BETTER DECISIONS

2002 Colorado Corn, Soybean, and Sunflower Performance Trials





Agricultural Experiment Station

Colorado State University

Knowledge to Go Places

Technical Report TR 02-10

Agricultural Experiment Station	Department of Soil and Crop Sciences	Cooperative Extension	December 2002

TABLE OF CONTENTS

2002 COLORADO CORN and SOYBEANS 1

Introduction 2

The 2002 Cropping Season 2

Eastern Colorado Irrigated Grain Corn Performance Data 2
Irrigated corn cultural conditions — Table 1 3
Burlington — Table 2-3 4
Eaton/Greeley — Table 4-5 5
Julesburg — Table 6-7 6
Rocky Ford — Table 8-10 7
Wiggins — Table 11-12 8
Yuma — Table 13-14 9

Western Slope Grain Corn Performance Data 10
Western Slope irrigated corn cultural conditions — Table 15 10
Fruita Long Season — Table 16-17 11
Delta Short Season — Table 18-19 11

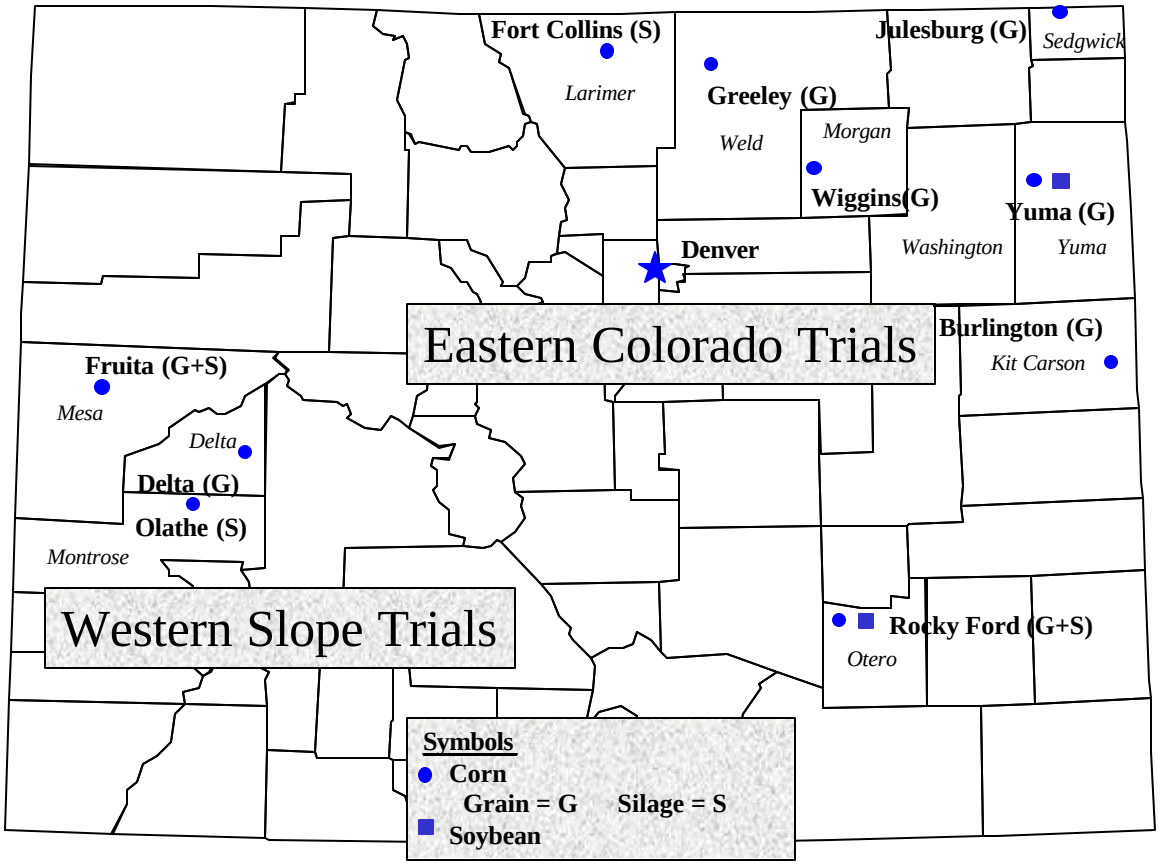
Corn Silage Performance Data for Eastern Colorado and the Western Slope 12
Corn silage cultural conditions — Table 20 12
Fort Collins — Table 21-22 13
Fruita — Table 23-24 13
Olathe — Table 25-26 14
Rocky Ford — Table 27-28 14

Colorado Soybean Performance Data 15
Soybean cultural conditions — Table 29 15
Rocky Ford — Table 30-31 15
Yuma — Table 32-33 16

Seed Company Entrants in the 2002 Colorado Corn Performance Trials 16

KNOW YOUR CORN IMPROVEMENT TEAM
Jerry J. Johnson, Extension Crop Production (970) 491-1454 jjj@lamar.colostate.edu
Frank C. Schweissing, Arkansas Valley Research Center (719) 254-6312 fschwei@ria.net
Calvin H. Pearson, Western Colorado Research Center (970) 858-3629 cpearson@coop.ext.colostate.edu
James P. Hain, Crops Testing Program (970) 554-0980
Cynthia L. Johnson, Crops Testing Program (970) 491-1914 cjohnson@agsci.colostate.edu
Steve Norberg, Morgan County Cooperative Extension (970) 867-2493 norberg@coop.ext.colostate.edu

2002 Colorado Corn and Soybean Variety Performance Trials



ACKNOWLEDGMENTS

The authors express their gratitude to the Colorado farmers who generously contributed the use of their land, equipment, and time to conduct these trials for the good of all Colorado corn and soybean producers: Burlington - Don Sircy; Greeley - Ed Croissant; Delta - Wayne Brew; Julesburg - Gene Bauerle; Julesburg - Josh Lechman; Olathe - David Seymour; Stratton - Tim and Gary Pautler; Wiggins - Larry Rothe; Yuma - Byron Weathers; Yuma - Rod Hahn. We also acknowledge the participation of the Agricultural Research, Development and Education Center (ARDEC) - Fort Collins; Central Great Plains Field Station - Akron; Western Colorado Research Center - Fruita; Arkansas Valley Research Center - Rocky Ford.

2002 COLORADO CORN HYBRID PERFORMANCE TRIALS

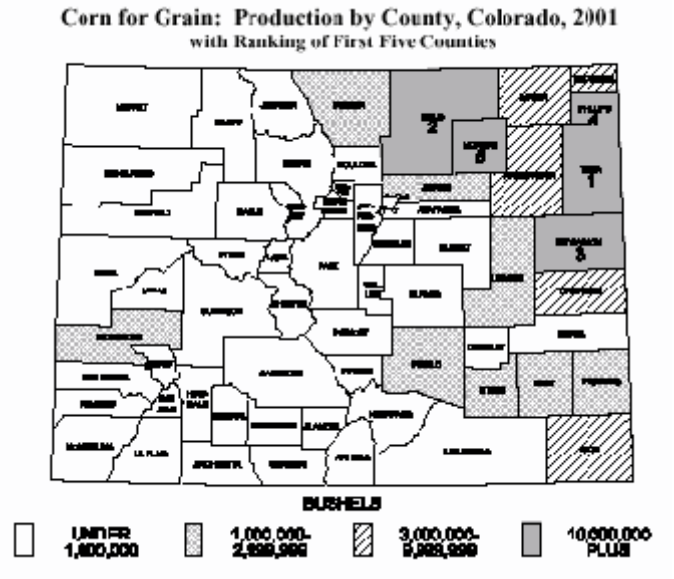
Introduction

The earliest records of corn production in Colorado dates back to 1879 when Colorado farmers planted 23,000 acres and yields averaged 19.8 bu/acre. Colorado corn producers now annually plant approximately one million acres of hybrid corn, for both grain and silage. Hybrid corn seed, valued more than $30 million, is purchased every year by Colorado corn producers from hybrid seed corn companies. 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 six Eastern Colorado locations and three Western Slope locations. Corn hybrids were also tested at three dryland locations in Eastern Colorado and silage hybrids were tested at two Eastern Colorado locations and two Western Slope locations. A randomized complete block field design with three replicates was used at all Eastern Colorado irrigated trials and four replicates were used in all dryland trials. Target plant populations for the trials were 32,000 and 15,000 seeds per acre for irrigated and dryland trials, respectively, while Western Slope trials were planted at 33,500 seeds/ac. All grain yields are reported in bushels per acre adjusted to 15.5% moisture content. Silage yields are reported in tons per acre adjusted to 70% moisture content.

The 2002 Cropping Season

The 2002 corn cropping season in eastern Colorado was dominated by severe drought conditions and damp, cold fall conditions that resulted in delayed drydown and delayed harvest. Two dryland corn trials were completely lost to the drought and the third, the only one harvested, was severely compromised by the drought and is not reported. Drought led to irrigation water shortages that affected yields of some of the irrigated trials as well. There were no widespread disease, insect, hail, or weed problems in 2002 at these sites although yields of the Julesburg irrigated trial were depressed by corn rootworms. Both the Eaton and Wiggins trials were characterized by higher than expected yields and low variation which improves the comparison of hybrid performance in these trials.



Eastern Colorado Irrigated Grain Corn Performance Data

Each year about 840,000 acres of irrigated corn for grain is planted in Colorado, yielding over 165 bu/acre, and producing upwards of 140 million bushels of corn with a value over $320 million. Yuma county, the leading producer, harvested an average of 194.5 bu/acre on 195,000 acres in 2001. CSU conducts hybrid performance trials to provide unbiased and reliable information to Colorado producers so they may select the best hybrids for their farming conditions.

An important climatic factor determining irrigated corn yield is growing degree days. Growing degree days (GDD) calculations are accumulated from May 1 to September 30 based on daily temperatures as the average daily high and low temperature minus 50° F. For calculating the mean daily temperature, a minimum temperature below 50° F is counted as 50° F, and a maximum above 86° F is counted as 86° F. GDD's in 2002 were above the long term average GDD at all locations.

Trial Location	Weather Station	2002 GDD	Long Term Average GDD
Burlington	Burlington	2921	2673
Julesburg	Julesburg	2941	2752
SW Greeley	Fort Collins	2655	2335
Rocky Ford	Rocky Ford	3155	2837
Wiggins	Fort Morgan	2767	2667
Yuma	Yuma	2929	2615

Six eastern Colorado irrigated corn trial locations for 2002 and the 2001 corn acreage harvested in sixteen important corn producing counties of Colorado.

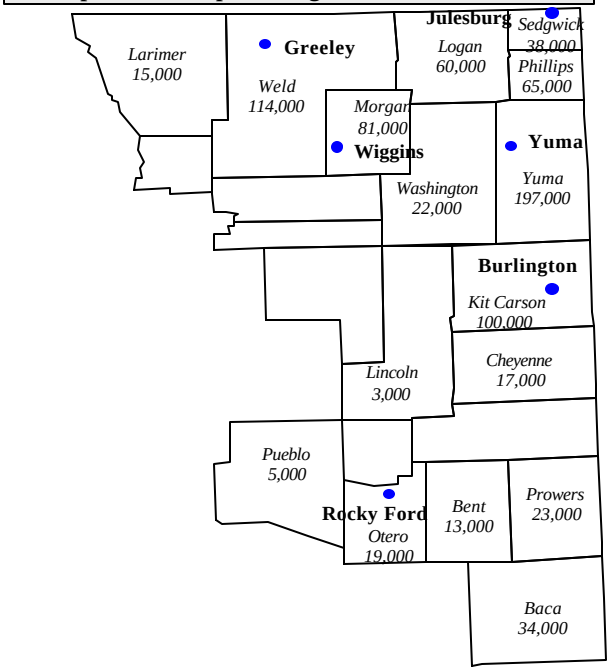


Table 1. Irrigated corn cultural conditions in 2002.

	Burlington	Greeley	Julesburg	Rocky Ford	Wiggins	Yuma
Soil Type	Kuma Keith silt loam	Weld loam	Keith, Goshen Kuma silt loam	silty clay loam	Bijon loamy sand	Haxtun loamy sand
Previous Crop	Corn	Corn	Corn	Sorghum	Corn	Corn
Fertilization						
N acre $^{-1}$	180	140	175	186	227	150
P_2O_5 acre $^{-1}$	0	60	45	50	36	20
K_2O acre $^{-1}$	0	20	0	0	20	0
Zn acre $^{-1}$	0	2	0	0	0	.5
S acre $^{-1}$	0	5	0	0	5	10
Herbicide	Frontier Distinct	Distinct	Dual II Bladex Distinct	Bladex Dual Magnum	Distinct	Bicep Light Roundup
Insecticide	Pencap	None	None	Acaricide Capture	Force	Warrior
Irrigation	Sprinkler	Furrow	Sprinkler	Furrow	Sprinkler	Sprinkler

Table 2. Irrigated corn performance at Burlington[1] in 2002.

Hybrid[2]	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density	Lodging	Ear Drop
	bu/ac	%	lb/bu	in	plants/a	%	%
NK Brand N72-J5	214	11.6	58.8	85	30851	3.7	0.0
Grand Valley SX1263	210	11.4	61.4	78	28762	0.0	0.0
DEKALB DKC57-72YG(ISO)	207	13.5	61.0	76	30783	0.0	0.0
Kaystar KX-8550(RR)	205	11.6	61.2	80	29562	2.4	0.0
Fontanelle 5282	203	11.5	57.8	85	27953	2.0	0.0
DEKALB DKC60-19(RR/YG)	203	11.7	59.6	76	28495	1.5	0.0
Farmer Check*	202	11.8	59.2	81	28425	7.0	0.3
DEKALB DKC53-32YG(ISO)	201	11.5	59.5	82	31602	1.0	0.3
ASGROW RX730IMI(ISO)	201	11.0	58.4	79	31276	1.0	0.4
Grand Valley SX1273(BT)	200	11.9	59.6	79	29121	6.6	0.4
Fontanelle HC7638(BT)	200	11.5	57.9	81	30032	5.6	0.0
Grand Valley SX1264	200	11.8	60.0	73	29841	0.0	0.0
Grand Valley SX1300(BT)	199	13.0	59.5	82	29421	2.1	1.4
NK Brand N67-T4(BT/LL)	198	11.8	59.4	80	29348	2.4	0.0
ASGROW RX730RR/YG	197	12.6	58.8	76	28027	3.1	0.4
DEKALB DK579(ISO)	195	12.8	61.6	78	29963	1.2	0.4
LG Seeds LG 2533	193	10.5	58.1	77	30159	0.9	0.3
DEKALB DK537(ISO)	192	11.3	59.4	81	32346	2.7	0.0
HYTEST HT7806	191	16.9	57.8	82	29297	2.5	0.0
Grand Valley GVX4459	187	10.7	59.3	78	30070	0.0	1.3
LG Seeds LG 2540	187	10.8	58.3	72	28875	2.4	0.0
Seedex SX7101	187	12.7	59.5	82	27088	0.0	0.0
DEKALB DKC53-34(RR/YG)	185	11.5	58.9	82	31021	0.0	0.3
DEKALB DKC64-01YG	185	13.3	60.7	82	27597	0.0	0.4
Triumph 1120(BT/RR)	183	12.9	58.6	87	30193	0.3	0.3
Seedex SX6801	183	11.3	60.1	77	27450	1.1	0.4
Grand Valley SX1298	181	12.7	58.8	82	31244	3.3	0.6
US Seeds US C1122(RR/BT)	179	13.0	58.5	85	30848	2.2	0.7
ASGROW RX730YG(ISO)	178	11.8	59.4	70	31407	2.8	0.3
US Seeds US C1102(BT)	178	13.4	60.0	85	28464	1.3	0.3
Fontanelle 5051	177	10.5	58.2	80	28168	0.7	0.0
HYTEST HT7730	176	12.1	59.7	82	28900	0.6	0.0
Triumph 2370(RR)	158	10.8	59.6	70	28398	1.1	1.1
Average	**192**	**12.0**	**59.4**	**79**	**29545**	**1.9**	**0.3**
$LSD_{(0.30)}$	16						

[1]Trial conducted on the Don Sircy farm; seeded 4/25 and harvested 11/13.
[2]ISO denotes an isoline hybrid identical to the parent hybrid except for the Bt traits.
*Farmer check was NC+ 4880.

Table 3. 2-Yr average irrigated corn performance at Burlington, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt
	bu/ac	%	lb/bu
NK Brand N72-J5	208	14.4	59.1
Grand Valley SX1264	200	14.7	58.4
Grand Valley SX1263	199	14.2	61.0
Seedex SX7101	194	15.9	59.2
NK Brand N67-T4(BT/LL)	194	14.8	60.7
ASGROW RX730(RR/YG)	191	15.4	56.8
LG Seeds LG 2533	190	12.9	58.7
Fontanelle 5051	184	13.5	58.7
Triumph 1120(BT/RR)	183	15.6	58.3
Average	**194**	**14.6**	**59.0**

Table 4. Irrigated corn performance at Eaton/Greeley[1] in 2002.

Hybrid[2]	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density
	bu/ac	%	lb/bu	in	plants/a
DEKALB DKC51-43	242	13.4	57.3	94	34467
DEKALB DKC50-72YG (ISO)	225	14.1	56.5	93	33974
Grand Valley SX1227	224	14.1	56.2	91	33772
DEKALB DK440 (ISO)	218	12.9	57.0	92	34844
DEKALB DKC46-28RR	217	12.9	57.4	93	35120
DEKALB DK507 (ISO)	217	13.8	56.9	95	35684
DEKALB DKC48-15	215	12.8	57.5	91	34659
Grand Valley SX1229	215	14.9	54.7	94	34476
DEKALB DKC44-42YG (ISO)	214	13.1	56.5	94	35665
DEKALB DKC42-22YG (ISO)	211	13.0	57.4	95	34851
Farmer Check*	207	13.9	58.6	97	33911
Grand Valley GVX3359	206	14.9	56.2	88	34703
LG Seeds LG 2503 (RR)	205	14.2	55.8	90	34851
Seedex SX6101	205	14.5	55.1	91	34712
Grand Valley SX1212	198	13.3	57.1	93	34394
DEKALB DKC42-70RR (ISO)	197	13.1	57.8	95	33895
Seedex SX5704	195	14.1	55.9	91	34289
Seedex SX6001	185	12.5	56.2	88	34939
Average	**211**	**13.6**	**56.7**	**92**	**34623**
$LSD_{(0.30)}$	12				

[1]Trial conducted on the Ed Croissant farm; seeded 5/6 and harvested 11/22. No significant lodging or ear drop.

[2]ISO denotes an isoline hybrid identical to the parent hybrid except for the Bt traits.

*Farmer check was Pioneer 37T28.

Table 5. 2 Yr average irrigated corn performance at Eaton/ Greeley, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt.
	bu/ac	%	lb/bu
Grand Valley SX1229	189	15.8	56.7
Grand Valley GVX3359	168	16.9	58.6
Average	**179**	**16.3**	**57.6**

Table 6. Irrigated corn performance at Julesburg[1] in 2002.

Hybrid[2]	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density	Lodging[3]	Ear Drop
	bu/ac	%	lb/bu	in	plants/a	%	%
DEKALB DKC51-43	212	14.3	58.8	77	31634	6.9	0.6
Farmer Check*	204	19.1	56.9	82	31193	0.6	0.0
DEKALB DK537(ISO)	196	13.9	58.2	86	32644	3.9	0.0
DEKALB DKC53-34(RR/YG)	196	15.3	58.3	85	32670	18.3	0.0
Seedex SX7101	196	18.0	56.2	86	27957	0.4	0.0
DEKALB DKC57-72YG(ISO)	194	17.4	58.2	79	31369	2.1	0.0
DEKALB DKC53-32YG(ISO)	194	15.3	56.4	86	29878	0.6	0.0
Grand Valley GVX4459	191	15.5	58.9	79	30404	1.7	0.4
NC+ 2922R(RR)	188	16.9	58.8	78	29983	5.3	0.0
DEKALB DK579(ISO)	185	16.1	59.6	82	32265	6.4	0.0
Fontanelle 5051	185	14.9	58.1	79	32336	1.4	0.0
Grand Valley SX1263	184	15.8	58.4	83	30946	7.1	0.0
NC+ 4491C(Clearfield)	179	16.7	56.6	84	31980	8.2	0.3
DEKALB DKC58-24(RR/YG)	176	15.9	58.8	77	30050	11.0	0.0
Seedex SX6801	175	16.1	58.1	79	30788	5.1	0.0
Kaystar KX-665	174	14.9	58.7	81	31499	3.8	0.6
Fontanelle HC7638(BT)	173	18.1	55.6	75	31444	13.6	0.0
DEKALB DK551BTY(ISO)	170	15.7	56.0	83	32843	10.8	0.0
Grand Valley SX1245	170	14.4	57.5	75	30621	3.4	0.0
US Seeds US C1122(RR/BT)	167	18.3	55.7	80	29812	20.8	0.8
US Seeds US C1102(BT)	167	16.9	56.4	84	31944	13.7	0.0
DEKALB DK551(ISO)	166	15.5	57.2	79	32023	14.8	0.0
Triumph 2370(RR)	165	14.4	59.4	79	31287	20.5	0.0
NC+ 3902	164	17.1	58.8	78	30629	15.2	0.0
Fontanelle 5282	162	18.4	55.2	77	29734	27.5	0.6
Average	**181**	**16.2**	**57.6**	**80**	**31117**	**8.9**	**0.1**
$LSD_{(0.30)}$	15						

[1]Trial conducted on the Gene Bauerle farm; seeded 4/30 and harvested 18/18.

[2]ISO denotes an isoline hybrid identical to the parent hybrid except for the Bt traits.

[3]Lodging due to corn rootworm damage.

*Farmer check was Pioneer 33B51.

Table 7. 2-Yr average irrigated corn performance at Julesburg, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt
	bu/ac	%	lb/bu
DEKALB DKC57-72(YG)	209	20.4	60.3
DEKALB DKC53-32(YG)	203	17.0	55.5
Seedex SX7101	195	20.2	55.2
Grand Valley SX1263	194	17.0	57.2
Fontanelle 5051	187	17.9	56.4
Triumph 2370(RR)	177	16.4	58.5
Average	**194**	**18.1**	**57.2**

Table 8. Irrigated corn performance at Rocky Ford[1] in 2002.

Hybrid	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density	Silking[2]	Lodging
	lb/ac	%	lb/b	in	plants/	date	%
NK Brand N68-K7(BT/LL)	225	12.9	54.7	84	28768	195	0.3
Producers Hybrids 7290(BT)	210	13.2	54.9	85	27951	195	0.6
HYTEST HT7806	200	15.4	59.3	84	27875	196	0.0
Kaystar X-2201	200	15.1	57.0	85	26746	195	1.0
Garst 8348	199	13.5	60.1	84	28135	195	3.4
DEKALB DKC60-19(RR/YG)	197	13.8	59.4	75	27663	188	0.0
Garst 8371	193	15.2	58.6	83	27413	192	3.7
Pioneer brand 33P67(BT)	192	13.6	61.5	84	29403	194	0.0
Garst 8301	191	14.3	56.9	87	26789	194	1.7
NK Brand N72-J5	191	14.9	58.9	84	29494	191	0.9
ASGROW RX897RR	191	14.4	58.4	94	29639	202	1.9
Garst 8383 Y61(BT)	190	14.5	59.7	85	28677	194	0.6
Producers Hybrids 7284(BT)	188	12.7	59.2	83	27225	194	0.0
Grand Valley SX1300(BT)	179	13.5	60.1	82	25562	190	0.4
Grand Valley SX1395	179	14.0	58.2	83	26136	196	3.1
DEKALB DKC64-01YG	178	14.4	60.6	81	27758	194	3.4
ASGROW RX730RR/YG	176	13.4	58.8	83	27497	193	0.0
Triumph 1416	174	13.5	52.5	83	28133	192	1.0
Garst 8255(RR)	172	17.5	58.4	94	27372	200	1.4
NK Brand N67-T4(BT/LL)	171	13.3	59.2	79	28469	191	0.7
Triumph 1120(BT/RR)	168	12.0	58.1	87	28762	194	0.0
Pioneer brand 32W86	163	13.4	61.6	93	26206	195	5.7
Grand Valley SX1600	161	15.7	58.4	91	27951	197	6.1
Kaystar KX-915	161	16.2	58.2	90	26408	201	0.0
Pioneer brand 31N27	149	15.8	58.3	87	27407	197	6.7
Average	**184**	**14.3**	**58.4**	**85**	**27738**	**195**	**1.7**
$LSD_{(0.30)}$	18						

[1]Trial conducted on the Arkansas Valley Research Center; seeded 5/8 and harvested 10/10. No appreciable ear drop.
[2]Julian date.

Table 9. 2-Yr average irrigated corn performance at Rocky Ford, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt.
	lb/ac	%	lb/bu
Pioneer brand 33P67(BT)	222	13.5	61.1
HYTEST HT7806	215	15.4	59.0
ASGROW RX730(RR/(YG)	195	12.7	58.4
Grand Valley SX1300(BT)	192	12.8	59.4
NK Brand N72-J5	190	13.8	58.7
Triumph 1120(BT/RR)	188	12.1	58.1
NK Brand N67-T4(BT/LL)	187	12.7	59.1
Grand Valley SX1600	186	15.2	58.7
Average	**197**	**13.5**	**59.1**

Table 10. Irrigated ISO corn performance at Rocky Ford[1] in 2002.

Hybrid[2]	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density	Silking[3]	Lodging
	lb/ac	%	lb/bu	in	plants/a	date	%
ASGROW RX730IMI	212	17.3	56.6	82	27860	197	4.9
DEKALB DKC58-24 (RR/YG)	210	12.4	60.0	83	26953	197	0.0
DEKALB DK647	202	18.3	55.7	86	25694	200	3.5
ASGROW RX730YG	202	16.8	57.8	79	25047	198	0.0
DEKALB DKC57-40/RR	200	12.5	60.5	81	26953	197	6.5
DEKALB DK647BTY	200	17.0	57.3	91	23656	199	1.2
DEKALB DK551BTY	190	13.2	58.5	81	26318	199	0.0
DEKALB DK551	175	12.9	58.8	83	25016	198	9.2
Average	**199**	**15.0**	**58.2**	**83**	**25937**	**198**	**3.2**
$LSD_{(0.30)}$	11						

[1]Trial conducted on the Arkansas Valley Research Center; seeded 5/8 and harvested 10/10.
[2]ISO denotes an isoline hybrid identical to the parent hybrid except for the Bt traits.
[3]Julian date.

Table 11. Irrigated corn performance at Wiggins[1] in 2002.

Hybrid[2]	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density	Lodging
	bu/ac	%	lb/bu	in	plants/a	%
DEKALB DKC53-32YG (ISO)	255	13.5	55.0	98	33339	0.8
Pioneer 34B97 + Myconate 2 -	242	17.9	52.9	98	33818	2.5
DEKALB DKC60-19 (RR/YG)	242	17.6	52.0	89	34560	2.2
LG Seeds LG 2533	241	14.9	51.7	91	34144	1.4
Pioneer 34X77 + Myconate 3 -	236	15.1	54.8	92	35120	0.3
DEKALB DKC51-43	234	13.8	55.9	93	32852	1.3
Pioneer 34X77 + Myconate 3 +	231	15.0	54.6	95	34146	0.5
NK Brand N59-Q9	231	15.7	54.8	91	32753	2.0
DEKALB DKC53-34 (RR/YG)	228	14.3	57.3	97	35391	2.3
DEKALB DKC58-24 (RR/YG)	227	15.7	50.6	91	35017	0.0
DEKALB DKC57-40RR (ISO)	226	15.5	54.7	91	34481	0.8
DEKALB DKC58-24 (RR/YG) (ISO)	225	16.9	52.1	92	34771	0.0
Kaystar KX-665	225	14.7	55.1	90	33941	0.0
Pioneer 34B97 + Myconate 2 +	223	19.2	52.7	95	32776	0.8
DEKALB DK537 (ISO)	222	13.1	56.5	100	34925	4.4
Garst 8590 + Myconate 1 -	222	16.5	54.0	92	35355	3.1
Garst 8590 + Myconate 1 +	219	16.6	53.6	91	32349	0.9
DEKALB DKC57-72YG (ISO)	215	22.8	51.4	85	34583	0.0
Grand Valley GVX3359	212	14.0	56.9	87	34620	2.2
Triumph 2370 (RR)	210	13.8	56.9	89	35029	0.8
DEKALB DK579 (ISO)	210	18.9	54.9	90	35794	1.3
Grand Valley SX1229	209	13.8	55.9	88	34747	1.3
LG Seeds LG 2617 (BT)	179	20.7	48.6	101	34388	0.5
Average	**225**	**16.1**	**54.0**	**92**	**34300**	**1.3**
$LSD_{(0.30)}$	9.0					

[1]Trial conducted on the Larry Rothe farm; seeded 5/13 and harvested 11/30. No ear drop.

[2]Myconate® is a new agricultural product developed by researchers at Michigan State University. Myconate® is a signal compound put out by plant roots in times of stress that encourages beneficial fungus (mycorrhizae) to colonize them. The fungus extends the plants root system and helps it take up nutrients and water, and fight off disease. Previous research has shown significant yield increases on a number of crops in a variety of locations. This simple compound is non-toxic, is quickly broken down in the soil, and is effective in very small quantities. It is water soluble and easy to apply to seeds or soil. Myconate® is a trademark product of VAMTech, L.L.C., commercially available for enhancing mycorrhizal colonization.

ISO denotes an isoline hybrid identical to the parent hybrid except for the Bt traits.

Table 12. 2 Yr average irrigated corn performance at Wiggins, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt.
	bu/ac	%	lb/bu
DEKALB DKC53-32YG	240	13.7	55.4
LG Seeds LG 2533	231	14.7	53.1
Grand Valley SX1229	213	13.5	56.0
DEKALB DKC57-72YG	211	22.6	53.2
Grand Valley GVX3359	197	14.3	57.2
Average	**218**	**15.7**	**55.0**

Table 13. Irrigated corn performance at Yuma[1] in 2002.

Hybrid[2]	Yield	Grain Moist.	Test Wt.	Plant Ht.	Density	Lodging
	bu/ac	%	lb/bu	in	plants/a	%
DEKALB DKC60-19(RR/YG)	253	16.3	55.7	90	29389	1.8
Kaystar KX-890(BT)	248	17.1	53.8	93	30924	1.6
LG Seeds LG 2585	247	16.1	54.8	95	31646	3.7
Grand Valley SX1298	245	17.0	55.9	98	29530	0.3
Geertson GS-1117	244	19.2	55.3	94	30995	1.0
NK Brand N67-T4(BT/LL)	243	17.3	56.4	89	32030	1.4
Fontanelle HC7638(BT)	242	15.3	54.9	93	31605	2.4
LG Seeds LG 2606	241	18.3	54.4	101	31018	0.7
DEKALB DKC53-32YG(ISO)	240	13.9	55.7	87	30723	0.6
Grand Valley SX1300(BT)	237	18.5	55.8	96	30834	0.9
NK Brand N72-J5	237	18.7	54.0	102	30948	4.6
DEKALB DK551(ISO)	236	16.0	57.3	93	31349	2.0
Seedex SX7101	233	18.1	56.2	91	28354	1.2
NK Brand N68-K7(BT/(LL)	230	17.4	55.6	96	31990	0.0
DEKALB DK551BTY(ISO)	230	15.4	56.8	90	31181	1.8
Grand Valley GVX4459	229	14.2	57.6	90	29138	0.0
US Seeds US C1122(RR/BT)	229	19.1	55.3	98	31207	0.0
US Seeds US C1102(BT)	229	20.4	56.3	106	31839	11.5
Fontanelle 5282	229	19.1	53.3	99	29652	4.2
Kaystar KX-8550(RR)	226	15.6	54.6	94	31080	4.9
Fontanelle 5051	224	14.2	55.4	93	31218	0.9
Grand Valley SX1273(BT)	223	16.2	54.8	89	31508	7.1
DEKALB DK579(ISO)	223	19.2	58.3	94	31171	0.0
DEKALB DK537(ISO)	222	14.4	56.7	92	30380	0.3
HYTEST HT7560	221	15.4	57.6	86	30435	0.0
Grand Valley SX1264	217	15.6	57.9	83	28400	0.0
Seedex SX6801	216	16.2	57.2	91	31335	0.0
Farmer Check*	214	19.5	56.8	88	29992	1.4
Geertson GS-1122	213	19.2	56.8	100	30702	1.3
DEKALB DKC53-34(RR/YG)	211	15.4	57.0	94	30765	0.0
DEKALB DKC57-72YG(ISO)	201	19.7	57.7	89	30463	0.6
DEKALB DKC58-24(RR/YG)	194	18.1	55.8	89	31372	0.0
HYTEST HT7730	183	19.2	55.5	89	29956	1.8
Grand Valley SX1263	183	13.9	54.5	86	31464	0.3
Average	**226**	**17.0**	**55.9**	**93**	**30723**	**1.7**
$LSD_{(0.30)}$	22					

[1]Trial conducted on the Byron Weathers farm; seeded 5/8 and harvested 11/12. No ear drop.

[2]ISO denotes an isoline hybrid identical to the parent hybrid except for the Bt traits.

*Farmer check was Pioneer 34M95.

Table 14. 2-Yr average irrigated corn performance at Yuma, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt.
	bu/ac	%	lb/bu
LG Seeds LG 2585	246	15.6	56.6
NK Brand N72-J5	237	16.7	55.6
NK Brand N67-T4(BT/LL)	236	16.6	57.7
Geertson GS-1117	235	17.5	56.8
DEKALB DKC53-32(YG)	231	13.8	56.6
LG Seeds LG 2606	230	17.5	56.2
Grand Valley SX1300(BT)	229	17.3	57.2
Seedex SX7101	227	16.6	57.4
Fontanelle 5051	214	14.9	56.9
Grand Valley SX1264	213	15.6	59.2
DEKALB DKC57-72(YG)	201	18.3	58.4
Grand Valley SX1263	191	13.6	57.1
Average	**224**	**16.1**	**57.1**

Western Slope Grain Corn Performance Data

Over 3,000,000 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.

Most of the 2002 growing season was very hot with high evaporative demand for crops in western Colorado. Farmers were challenged to keep crops irrigated adequately. Many farmers in western Colorado were also irrigating with reduced allocations of irrigation water. Because of increased plant demands for water due to the hot, dry conditions and trying to meet plant needs with reduced amounts of irrigation water, the 2002 crop yields in many areas of western Colorado have been lower compared to other years. Results from the irrigated short season trial at Fruita could not be reported because raccoons damaged 15 of the 28 plots making all hybrid comparisons questionable.

Trial Location	2002 GDD	Long Term Average GDD
Fruita	2760	2673
Delta	2872	2590

Two Western Slope corn grain and silage trial locations for 2002 and the 2001 acreage harvested in four important corn producing counties of the Western Slope.

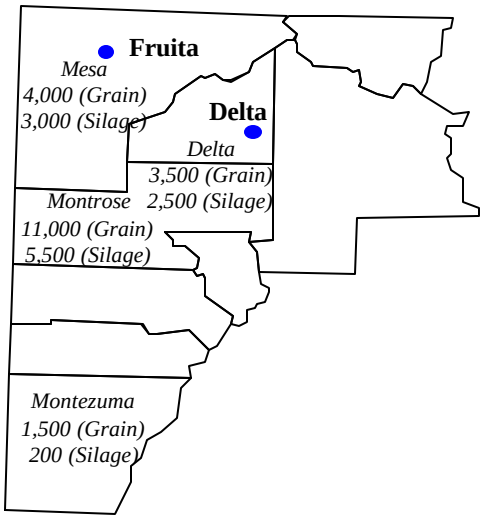


Table 15. Western Slope irrigated corn cultural conditions in 2002.

	Delta	Fruita Long Season
Soil Type	Mesa clay loam	Fruita sandy clay loam
Previous Crop	Sweet corn	Alfalfa
Fertilization		
N lb acre $^{-1}$	165	182
P_2O_5 acre $^{-1}$	55	104
Herbicide	Lasso II	Bladex 4L
Insecticide	Comite	Dimethoate Comite
Irrigation	Furrow	Furrow

Table 16. Irrigated long season corn performance at Fruita[1] in 2002.

Hybrid	Yield	Grain Moist.	Test Wt.	Density	Lodging
	bu/ac	%	lb/bu	plants/a	%
HYTEST HT7806	290	23.5	53.9	32897	0.5
Grand Valley SX1600	273	22.3	55.2	34258	0.8
Grand Valley SX1395	269	22.7	53.6	33169	1.3
Grand Valley GVX4426	267	23.6	54.6	34803	2.3
ASGROW RX897RR	244	23.6	54.1	35121	0.0
DEKALB DK687RR	232	24.7	52.6	35710	0.5
DEKALB DKC64-01YG	204	21.8	56.3	33669	2.8
Average	**254**	**23.2**	**54.3**	**34232**	**1.1**
$LSD_{(0.30)}$	12				

[1]Trial conducted on the Western Colorado Research Center; seeded 4/29 and harvested 11/11. No ear drop.

Table 17. 2-Yr average irrigated long season corn performance at Fruita, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt.
	bu/ac	%	lb/bu
HYTEST HT7806	290	21.1	56.2
Grand Valley GVX4426	269	22.2	56.3
Grand Valley SX1600	261	20.1	56.9
Average	**273**	**21.1**	**56.5**

Table 18. Irrigated short season corn performance at Delta[1] in 2002.

Hybrid	Yield	Grain Moist.	Test Wt.	Density	Lodging
	bu/ac	%	lb/bu	plants/a	%
Garst 8590(IT/IMI)	254	16.9	57.1	32399	0.3
HYTEST HT4602	254	17.1	54.6	34438	0.0
Grand Valley SX1245	251	15.6	57.8	33696	0.0
Garst 8640(IT/IMI)	251	15.4	59.2	33882	0.5
DEKALB DKC57-40(RR)	236	15.8	58.5	33743	0.0
Grand Valley GVX4459	236	16.6	57.1	33928	0.0
Grand Valley GVX3359	229	15.7	57.1	31101	0.3
DEKALB DKC53-33(RR)	228	15.6	59.1	35504	0.0
Grand Valley SX1229	217	14.9	56.6	33604	0.0
Grand Valley SX1227	216	15.0	57.7	30081	0.0
Garst 8779	215	14.8	59.0	34531	0.0
Geertson GS-1122	215	16.5	56.4	30638	1.0
Grand Valley GVX0316	213	15.2	58.3	32028	0.3
Garst 8801(IT/IMI)	206	14.9	57.5	32677	0.0
DEKALB DKC46-28(RR)	198	14.7	58.1	34206	2.5
Grand Valley SX1212	196	14.9	56.6	33696	0.3
DEKALB DKC44-46(RR/YG)	196	14.7	58.3	34902	0.5
Average	**224**	**15.5**	**57.6**	**33238**	**0.3**
$LSD_{(0.30)}$	16				

[1]Trial conducted on the Wayne Brew farm; seeded 5/3 and harvested 12/10. No ear drop.

Table 19. 2-Yr average irrigated short season corn performance at Delta, 2001-02.

Hybrid	Yield	Grain Moist.	Test Wt.
	bu/ac	%	lb/bu
Grand Valley SX1229	227	13.7	57.1
Grand Valley GVX0316	220	14.0	59.4
Grand Valley GVX3359	217	14.3	58.5
Average	**221**	**14.0**	**58.3**

Corn Silage Performance Data for Eastern Colorado and the Western Slope

Colorado farmers cut more than 100,000 acres of corn for silage each year. 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 2002, corn silage hybrids were evaluated at Fruita and Delta on the Western Slope and at Fort Collins and Rocky Ford in eastern Colorado. The silage yields given below are reported in tons per acre adjusted to 70% moisture content. Silage yields everywhere in Colorado in 2002 were adversely affected by irrigation water shortages and prolonged high temperatures. The moisture content at the time of harvest is also reported as an indicator of hybrid maturity at harvest.

Trial Location	2002 GDD	Long Term Average GDD
Fruita	2760	2673
Delta (Olathe)	2872	2590
Fort Collins	2655	2335
Rocky Ford	3155	2837

Table 20. Corn silage cultural conditions in 2002.

	Fort Collins	Fruita	Olathe	Rocky Ford
Soil Type	Fort Collins clay loam	Fruita sandy clay loam	Sandy loam	Silty clay loam
Previous Crop	Wheat	Alfalfa	Silage Corn	Sorghum
Fertilization				
N lb acre^{-1}	150	182	0	186
P_2O_5 lb acre^{-1}	50	104	0	50
Herbicide	Celebrity +	None	None	Bladex Dual Magnum
Insecticide	None	Dimethoate Comite	None	Acaricide Capture
Irrigated	Furrow	Furrow	Furrow	Furrow

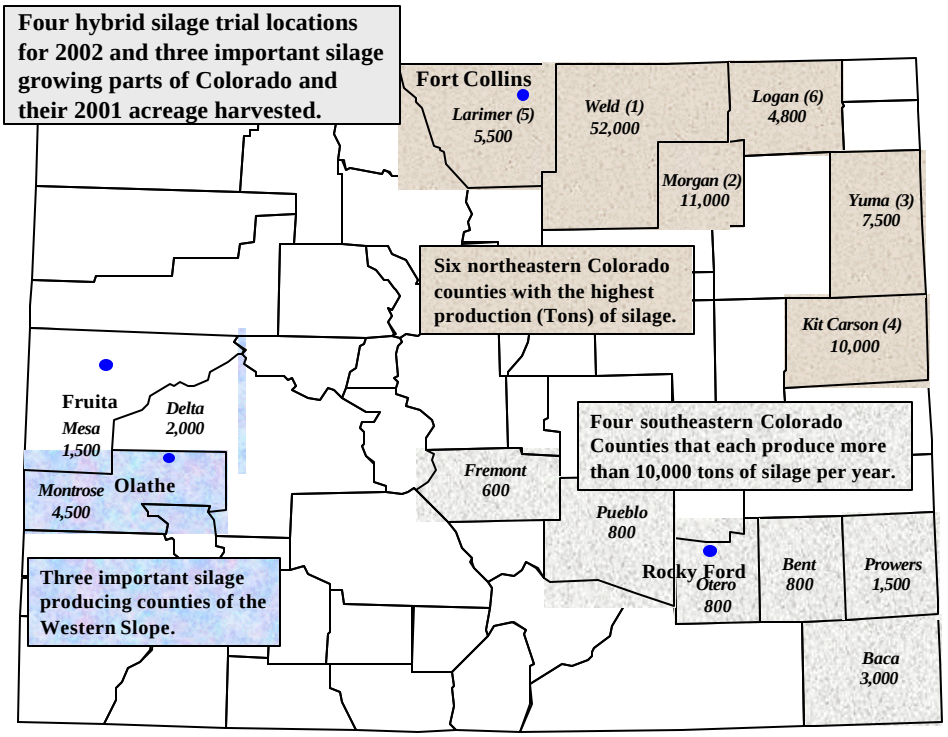


Table 21. Corn silage performance at Fort Collins[1] in 2002.

Hybrid	Yield	Moisture	Density	Plant Ht.
	t/ac	%	plants/a	in
Mycogen 2888IMI	31.9	73.0	33923	88
FR 1064 x Lfy 419 L	30.9	70.6	33982	80
Lfy 860L x FR 9661	30.7	66.0	34311	80
Grand Valley GVX4426	29.3	70.9	32805	91
Grand Valley SX1256	29.2	66.0	34291	84
Mycogen TMF108	28.8	63.1	32278	89
Grand Valley SX1356	28.2	69.1	31909	85
Garst 8640(IT)	28.1	67.2	31315	88
Mycogen TMF113	27.5	72.7	31996	85
Garst 7850	27.4	69.5	30432	88
MBS 3811 x Lfy 497L	27.2	73.1	31927	82
Mycogen 6481FQ	27.1	68.7	32648	80
Grand Valley SX1550	26.7	71.7	31322	85
Grand Valley SX1395	26.6	69.5	31837	85
US Seeds US C1051ND	26.2	70.3	33946	89
Mycogen X7909	26.2	72.0	32592	90
Geertson GS-1061	26.1	64.8	30331	84
US Seeds US C1119ND	25.3	69.8	31944	92
Average	**28.0**	**69.3**	**32433**	**86**
$LSD_{(0.30)}$	3.5			

[1]Trial conducted on the Agricultural Research Development and Education Center; seeded 5/10 and harvested 9/23.

Table 22. 2-Yr average corn silage performance at Fort Collins in 2001-02.

Hybrid	Yield	Moisture
	t/ac	%
FR 1064 x Lfy 419 L	31.2	68.6
Garst 7850	29.5	69.3
MBS 3811 x Lfy 497L	27.2	73.2
Grand Valley SX1356	26.7	68.5
Grand Valley SX1256	26.3	66.8
Garst 8640(IT)	25.8	68.0
Grand Valley SX1550	25.3	72.6
Average	**27.2**	**69.4**

Table 23. Corn silage performance at Fruita[1] in 2002.

Hybrid	Yield	Moisture	Density
	t/ac	%	plants/a
HYTEST HT7820	37.4	70.0	31836
Grand Valley SX1545M	35.9	68.3	34663
Mycogen 2888IMI	35.2	68.5	35913
Grand Valley SX1606	34.8	70.9	34755
Grand Valley SX1602	34.2	69.1	34153
Grand Valley GVX0126	34.0	71.7	31326
Mycogen 8681FQ	33.3	70.5	33967
HYTEST HT7815	32.8	73.1	35960
ASGROW RX897(RR)	32.8	70.3	35080
DEKALB DK697	32.0	66.8	34616
DEKALB DKC65-00(RR)	31.3	67.2	34153
Grand Valley SX1550	31.0	69.0	35219
Average	**33.7**	**69.6**	**34303**
$LSD_{(0.30)}$	1.9		

[1]Trial conducted on the Western Colorado Research Center; seeded 4/29 and harvested 9/16.

Table 24. 2-Yr average corn silage performance at Fruita in 2001-02.

Hybrid	Yield	Moisture
	t/ac	%
HYTEST HT7820	42.1	68.1
Grand Valley SX1602	39.3	66.2
Grand Valley SX1545M	38.1	66.5
HYTEST HT7815	37.4	69.7
Grand Valley SX1550	36.9	66.2
Average	**36.7**	**67.7**

Table 25. Corn silage performance at Olathe[1] in 2002.

Hybrid	Yield	Moisture	Density	Plant Ht.	Ear Ht.
	t/ac	%	plants/a	ft	ft
Grand Valley SX1545M	26.7	69.3	30306	8.9	3.5
ASGROW RX897(RR)	26.4	73.0	32948	8.9	3.7
Mycogen 2888IMI	25.9	72.3	32067	8.8	3.8
HYTEST HT7815	25.9	74.2	34246	8.4	3.8
Garst 8285(RR)	25.3	72.6	28731	8.8	3.6
DEKALB DK697	25.3	68.2	30677	8.8	3.3
Grand Valley SX1602	25.2	72.4	28916	8.9	3.4
Grand Valley GVX4426	25.1	68.2	30770	8.7	3.4
Garst 7850	24.5	66.0	32948	7.8	2.9
HYTEST HT7820	23.3	72.6	24699	9.2	3.8
DEKALB DKC65-00(RR)	23.1	69.8	28777	7.7	2.7
Grand Valley SX1395	21.0	68.9	29009	7.6	2.3
Average	**24.8**	**70.6**	**30341**	**8.5**	**3.3**
$LSD_{(0.30)}$	1.8				

[1]Trial conducted on Earl Seymour farm; seeded 4/26 and harvested 9/23.

Table 26. 2-Yr average corn silage performance at Olathe in 2001-02.

Hybrid	Yield	Moisture
	t/ac	%
Grand Valley SX1545M	30.7	67.6
HYTEST HT7815	27.5	72.6
Grand Valley SX1602	27.1	70.2
HYTEST HT7820	26.5	71.0
Average	**27.9**	**70.3**

Table 27. Corn silage performance at Rocky Ford[1] in 2002.

Hybrid	Yield	Moisture	Density	Plant Ht.	Silking[2]
	t/ac	%	plants/a	in	date
Garst 8285(RR)	40.1	49.9	29222	97	201
ASGROW RX897(RR)	35.8	52.5	29585	93	200
Mycogen 288IMI	34.6	53.6	28539	98	198
HYTEST HT7815	34.6	56.4	27264	96	201
Grand Valley SX1606	34.4	54.6	27770	103	194
Mycogen 8681FQ	33.5	56.9	28768	100	200
Grand Valley GVX0126	32.2	58.0	25773	100	201
Garst 8315(IT)	31.7	52.4	26045	95	200
AgriPro HY 9646	31.4	52.2	28133	96	198
DEKALB DK743	31.3	56.8	26953	100	200
Grand Valley SX1602	30.8	53.5	26681	95	201
Pioneer brand 31B13(BT)	30.7	55.4	27407	93	196
MBS 3811 x Lfy 497L	30.2	49.2	26874	105	200
HYTEST HT7820	30.1	55.2	26590	98	201
Pioneer brand 33R77	29.8	49.9	25410	99	195
US Seeds US C1132ND	29.8	54.1	29948	95	196
Pioneer brand 31G98	29.7	55.2	27770	94	197
DEKALB DKC65-00(RR)	29.4	53.3	28859	89	195
FR 1064 x Lfy 419 L	27.5	51.2	27588	102	196
Lfy 860L x FR 9661	25.9	42.6	28042	102	190
US Seeds US C1119ND	23.1	51.2	26396	92	192
Average	**31.3**	**53.1**	**27601**	**97**	**198**
$LSD_{(0.30)}$	3.1				

[1]Trial conducted on the Arkansas Valley Research Center; seeded 4/26 and harvested 9/13.
[2]Julian date.

Table 28. 2-Yr average corn silage performance at Rocky Ford in 2001-02.

Hybrid	Yield	Moisture
	t/ac	%
HYTEST HT7815	35.0	61.1
Grand Valley SX1602	34.3	57.8
AgriPro HY 9646	34.0	56.9
HYTEST HT7820	33.5	59.0
MBS 3811 x Lfy 497L	32.7	54.6
Pioneer brand 31B13(BT)	32.6	56.9
DEKALB DK743	32.5	60.6
Pioneer brand 31G98	31.5	58.8
Garst 8315(IT)	31.4	57.8
FR 1064 x Lfy 419 L	29.4	54.2
Average	**32.7**	**57.8**

Seed Company Entrants in the 2002 Colorado Corn Performance Trials

Entrant	Brand/Hybrid	Address	Telephone
Fontanelle Hybrids	Fontanelle	10981 8th Street, Fontanelle, NE 68044-2505	(402) 721-1410
Garst Seed Co.	Garst	2369 330th Street, PO Box 500, Slater, IA 50244	(800) 831-6630
Geertson Seed Farms	Geertson	1665 Burroughs Road, Adrian, OR 97901	(541) 339-3768
Grand Valley Hybrids	Grand Valley	840 23 Road, Grand Junction, CO 81505	(970) 243-3115
HYTEST Seeds	HYTEST	1404 Colorado Street, Suite 124, Boulder City, NV 89005	(702) 293-3046
Kaystar Seed	Kaystar	702 3rd Street SW, PO Box 947, Huron, SD 57350	(605) 352-8791
Lfy, L.L.C.	Lfy	1281 Fourth Street, Monterey, CA 93940	(831) 657-9002
LG Seeds	LG	1620 Hwy 10, Gibbon, NE 68840	(308) 234-4800
Monsanto	DEKALB/ASGROW	800 N. Lindbergh Blvd., St. Louis, MO 63167	(800) 833-5252
Mycogen Seeds	Mycogen	9330 Zionsville Rd. Indianapolis, IN 46268	(800) Mycogen
NC+ Hybrids	NC+	PO Box 4408, Lincoln, NE 68504	(402) 467-2517
Pioneer Hi-Bred Int'l., Inc.	Pioneer	390 Union Blvd., Suite 500A, Lakewood, CO 80228	(303) 716-3960
Producers Hybrids	Producers Hybrids	PO Box C, Battle Creek, NE 68715	(402) 675-2975
SEEDEX	SEEDEX	PO Box 1477, Longmont, CO 80502	(303) 678-7333
Seeds 2000	Seeds 2000	PO Box 200, Breckenridge, MN 56520	(888) 786-7333
Syngenta/NKBrand	Novartis	PO Box 959, Minneapolis, MN 55440	(800) 445-0956
Triumph Seed Co, Inc.	Triumph	PO Box 1050, Hwy 62 Bypass, Ralls, TX 79357	(800) 530-4789
United Suppliers, Inc.	US Seeds	PO Box 538, Eldora, IA 50627	(877) 714-4503
VAMTech, L.L.C.	Myconate	3186 Pine Tree Road Unit D, Lansing, MT 48911	(517) 819-9739