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# Agricultural Experiment Station

Colorado State University

College of Agricultural Sciences | Department of Soil and Crop Sciences | Western Colorado Research Center | Extension

# MAKING BETTER DECISIONS

## 2009 Colorado Sunflower Variety Performance Trials

## Acknowlegments

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- Brandon - Burl Scherler
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- Stratton – Shulte Bros. Farms

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Research conducted by Colorado State University Crops Testing Program
Department of Soil and Crop Sciences
Crops Testing Program
Colorado State University Extension
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# 2009 Colorado Sunflower Hybrid Performance Trials

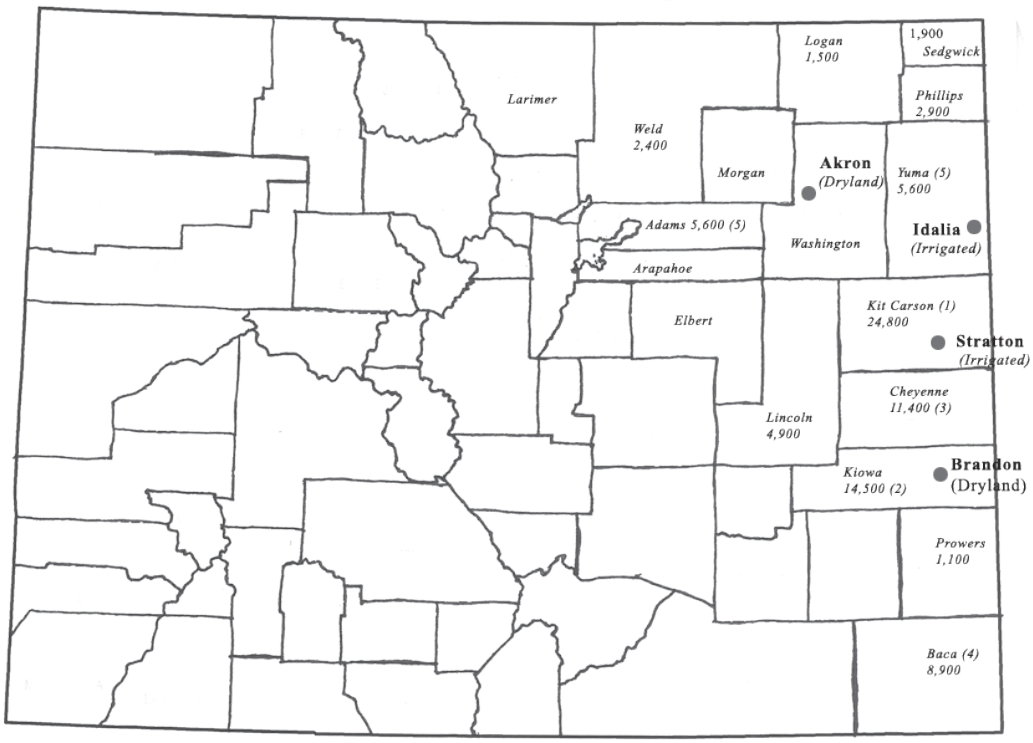
Introduction

CSU's Crops Testing personnel assists Colorado sunflower producers to make the best possible hybrid sunflower seed selection by providing unbiased and reliable yield trial results from oil and confection sunflower performance trials. Variable climatic conditions, innovations from biotechnology, acquisitions and mergers of seed companies, and rapid development of new hybrid lines means that unbiased crop performance information is increasingly important to Colorado sunflower producers.

Each year, Colorado sunflower producers purchase over $4 million of seed which means that good variety performance information is essential to making better sunflower variety decisions.

Colorado State University personnel evaluated commercial oil and confection sunflower hybrids under irrigation at two locations and in two dryland locations. The dryland oil and confection trials at Brandon, Kiowa County, were lost this year due to heavy damage from deer. The results from the other trials are presented in the following tables with the exception of the irrigated confection trial at Idalia which was lost to damage from different animals and hail. These tables are intended to be stand-alone and self explanatory. Personnel and operational costs for conducting these trials come from Colorado State University, the Colorado Sunflower Administrative Committee, and sunflower seed company entry fees.

**Four Colorado sunflower trial locations in 2009 *and the 2006 acreage harvested.***



# 2009 Irrigated Oil Sunflower Variety Performance Trial at Idalia[1]

| Company | Hybrid | Yield | Grain Moisture | Test Weight | Plant Height | Plant Population | Oil Content |
|---|---|---|---|---|---|---|---|
| | | lb/ac | % | lb/bu | in | plants/ac | % |
| Monsanto | DKF38-75 NS | 2716 | 9.7 | 27.7 | 50 | 11850 | 40.4 |
| Monsanto | DKF38-45 HO | 2559 | 8.0 | 28.2 | 47 | 13048 | 42.84 |
| Triumph Seed | 657 | 2549 | 11.9 | 22.8 | 60 | 13652 | 40.05 |
| Triumph Seed | TRX 8341 | 2485 | 12.6 | 25.1 | 57 | 13835 | 41.17 |
| Mycogen Seeds | 8N510 | 2408 | 9.4 | 26.8 | 49 | 14099 | 37.43 |
| Seeds 2000 | Firebird Express | 2348 | 11.4 | 22.7 | 57 | 13846 | 36.9 |
| Monsanto | DKF34-33 NS/DM | 2331 | 8.1 | 29.7 | 51 | 11989 | 42.89 |
| Croplan Genetics | 369 DMR NS | 2234 | 11.3 | 25.6 | 58 | 14895 | 41.53 |
| Monsanto | DKF37-31 NS | 2178 | 9.7 | 26.6 | 41 | 12224 | 40.21 |
| Mycogen Seeds | 8N187 | 2168 | 9.7 | 25.2 | 44 | 14688 | 39.63 |
| Mycogen Seeds | 8N453DM | 2168 | 9.7 | 28.8 | 53 | 12402 | 41.49 |
| Monsanto | DKF39-80CL | 2134 | 9.2 | 25.9 | 57 | 13902 | 37.38 |
| Advanta | AP461NS | 2131 | 10.7 | 28.0 | 51 | 13035 | 39.78 |
| Monsanto | DKF37-32 NS | 2129 | 9.8 | 25.6 | 43 | 11740 | 38.93 |
| Triumph Seed | 664 | 2126 | 10.6 | 24.8 | 56 | 11428 | 40.04 |
| Croplan Genetics | 356A NS | 2118 | 10.7 | 26.9 | 43 | 13692 | 40.27 |
| Triumph Seed | s655 | 2109 | 8.7 | 25.1 | 33 | 13995 | 40.62 |
| Triumph Seed | s878HO | 2095 | 11.8 | 27.0 | 48 | 11205 | 41.18 |
| Advanta | AP462NS | 2093 | 10.1 | 26.5 | 56 | 13786 | 40.39 |
| Monsanto | MH9002CL | 2083 | 10.2 | 29.9 | 54 | 13745 | 38.6 |
| Mycogen Seeds | 8N433DM | 2072 | 10.2 | 25.3 | 47 | 14504 | 41.06 |
| Croplan Genetics | 460 E NS | 2030 | 11.0 | 24.3 | 56 | 12832 | 40.11 |
| Seeds 2000 | Blazer CL | 2027 | 10.3 | 24.4 | 56 | 14661 | 39.05 |
| Triumph Seed | 630CL | 2021 | 10.0 | 24.0 | 52 | 10214 | 37.62 |
| Advanta | F30294NS,Rust | 2013 | 9.9 | 24.4 | 60 | 14567 | 37.37 |
| Triumph Seed | 845HO | 1971 | 13.1 | 22.4 | 53 | 12358 | 39.69 |
| Croplan Genetics | 555 CL DMR NS | 1968 | 9.6 | 23.7 | 62 | 12455 | 37.63 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Triumph Seed | s668 | 1960 | 11.1 | 25.9 | 44 | 14380 | 40.17 |
| Mycogen Seeds | 8H449DM | 1950 | 11.0 | 27.7 | 57 | 11961 | 38.97 |
| Triumph Seed | s678 | 1934 | 11.7 | 26.6 | 44 | 13630 | 41.05 |
| Advanta | F30008NS,CL | 1925 | 11.8 | 24.6 | 57 | 13849 | 36.9 |
| Monsanto | IS7120 HO/DM | 1919 | 9.3 | 25.5 | 43 | 13380 | 40.28 |
| Triumph Seed | s674 | 1888 | 9.3 | 27.5 | 33 | 14707 | 42.96 |
| Monsanto | DKF34-80CL | 1841 | 9.0 | 25.8 | 48 | 13725 | 39.61 |
| Triumph Seed | s680CL | 1827 | 9.1 | 28.1 | 37 | 13433 | 39.2 |
| Monsanto | MH9001CL | 1796 | 10.5 | 25.7 | 52 | 13089 | 37.29 |
| Croplan Genetics | 378 DMR NS | 1749 | 12.7 | 24.3 | 56 | 12671 | 36.54 |
| Mycogen Seeds | 8N358CLDM | 1675 | 10.0 | 26.6 | 48 | 13371 | 41.44 |
| **Average** | | **2098** | **10.3** | **25.9** | **50** | **13233** | **39.7** |
| $LSD_{(0.30)}$ | | 209 | | | | | |
| $LSD_{(0.05)}$ | | 400 | | | | | |

LSD0.30 is most useful for producers using these results to select a variety but some collaborators find LSD0.05 useful.

Experimental Design: randomized complete block design with four replications

Plot size: 5' x 31'

**Site Information**

| | |
|---|---|
| Collaborator: | Triple T Farms |
| Soil type: | Colby silt loam |
| Previous crop: | Pasture |
| Planting Date: | 6/26/2009 |
| Seeding: | Over planted and thinned to a target of 15,000 plants/ac |
| Fertilization: | N-P-K (60-14-0) |
| Herbicide: | Sonalan, Dual II, Roundup |
| Harvest Date: | 11/6/2009 and 11/10/2009 |

Note: Field received hail in late July but plants recovered well.

Yields corrected to 10% moisture

# 2009 Dryland Oil Sunflower Performance Trial at Akron[1]

| Hybrid | Yield | Moisture | Test Weight | Plant Height | Population |
|---|---|---|---|---|---|
| | lb/ac | % | lb/bu | inches | plants/ac |
| Croplan Genetics 356A NS | 2154 | 12.6 | 27.0 | 53.00 | 15363 |
| Monsanto DKF38-75 NS | 2079 | 11.1 | 26.9 | 60.50 | 13852 |
| Triumph Seed 657 | 2020 | 14.5 | 24.2 | 67.50 | 12270 |
| Mycogen Seeds 8N510 | 1973 | 14.4 | 25.3 | 54.50 | 15668 |
| Triumph Seed S671 | 1948 | 14.1 | 26.6 | 42.75 | 15316 |
| Monsanto DKF37-32 NS | 1930 | 12.1 | 26.6 | 53.75 | 14895 |
| Mycogen Seeds 8N187 | 1887 | 13.1 | 24.6 | 50.75 | 14540 |
| Monsanto DKF34-33 NS/DM | 1846 | 10.8 | 25.1 | 56.25 | 14262 |
| Monsanto DKF37-31 NS | 1748 | 10.0 | 24.9 | 57.25 | 14283 |
| Monsanto DKF39-80CL | 1683 | 13.5 | 25.1 | 66.75 | 13623 |
| Mycogen Seeds 8N358CLDM | 1674 | 11.0 | 25.8 | 59.75 | 13911 |
| Mycogen Seeds 8N433DM | 1659 | 12.7 | 25.0 | 56.75 | 14403 |
| Monsanto DKF34-80CL | 1649 | 12.2 | 25.7 | 55.00 | 15105 |
| Croplan Geneticss 460 E NS | 1643 | 12.8 | 24.0 | 58.50 | 14305 |
| Mycogen Seeds 8H449DM | 1637 | 14.2 | 27.2 | 56.50 | 13754 |
| Monsanto IS7120 HO/DM | 1632 | 12.4 | 25.1 | 54.75 | 14507 |
| Mycogen Seeds 8N453DM | 1621 | 12.8 | 26.8 | 58.75 | 15744 |
| Monsanto DKF38-45 HO | 1580 | 9.6 | 25.1 | 57.00 | 13387 |
| Triumph Seed s655 | 1562 | 13.3 | 26.1 | 37.75 | 16300 |
| Triumph Seed s678 | 1550 | 16.1 | 26.7 | 51.50 | 15501 |
| Monsanto MH9001CL | 1501 | 17.3 | 26.5 | 60.50 | 12719 |
| Monsanto MH9002CL | 1464 | 10.5 | 27.1 | 63.00 | 16099 |
| Croplan Genetics 555 CL DMR NS | 1438 | 12.7 | 24.0 | 62.75 | 13333 |
| Croplan Genetics 369 DMR NS | 1418 | 13.6 | 24.3 | 59.25 | 14023 |
| Croplan Geneticss 378 DMR NS | 1339 | 12.0 | 23.7 | 60.75 | 15158 |
| **Average** | **1705** | **12.8** | **25.6** | **56.62** | **14493** |
| $LSD_{0.30}$ | 255 | | | | |
| $LSD_{0.05}$ | 487 | | | | |



$LSD_{0.30}$ is most useful for producers using these results to select a variety but some collaborators find $LSD_{0.05}$ useful.

Experimental Design: randomized complete block design with four replications

Plot size: 5' x 31'

Collaborator: USDA Central Great Plains Research Station at Akron (Dr. Merle Vigil, Director).
Soil type: Weld silt loam/Keith Kuma Complex
Previous crop: spring barley
Planting Date: 6/19/2009
Seeding Rate: 14,000 seeds/ac
Fertilization: N 40 lb/ac
Herbicide: Spartan, Roundup
Harvest Date: 10/27/2009
Yields corrected to 10% moisture

## 2009 Dryland Confection Sunflower Performance Trial at Akron[1]

| | | | | | | | Seed Size | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Company | Hybrid | Yield | Grain Moisture | Test Weight | Plant Height | Plant Population | Above 24/64 | 23/64 to 22/64 | 21/64 to 20/64 | 19/64 to 16/64 | Through 16/64 to below |
| | | lb/ac | % | lb/bu | inches | plants/ac | % | % | % | % | % |
| Triumph | 777C | 1154 | 12.6 | 17.8 | 65 | 12534 | 4.0 | 9.0 | 16.4 | 59.2 | 11.4 |
| Croplan Genetics | 179 | 1038 | 11.9 | 17.3 | 67 | 12827 | 5.8 | 16.8 | 28.0 | 47.2 | 2.2 |
| Mycogen Seeds | 8C451 | 949 | 11.0 | 17.3 | 69 | 11803 | 2.0 | 12.2 | 19.6 | 53.4 | 12.8 |
| **Average** | | **1047** | **11.8** | **17.5** | **67** | **12388** | **4** | **13** | **21** | **53** | **9** |

There were no statistical differences among hybrids for yield.

Experimental Design: randomized complete block with 4 replications
Plot size: 5' x 31'

**Site Information**

Collaborator: USDA Central Great Plains Research Station at Akron (Dr. Merle Vigil, Director).
Soil type: Weld silt loam/Keith Kuma Complex
Previous crop: spring barley
Planting Date: 6/19/2009
Seeding Rate: 14,000 seeds/ac
Fertilization: N 40 lb/ac
Herbicide: Spartan, Roundup
Harvest Date: 10/27/2009
Yields corrected to 10% moisture

## 2009 Irrigated Oil Sunflower Performance Trial at Stratton

| Company | Hybrid | Yield | Grain Moisture | Test Weight | Plant Height | Plant Population |
|---|---|---|---|---|---|---|
| | | lb/ac | % | lb/bu | in | plants/ac |
| Monsanto | DKF38-45 HO | 3448 | 6.4 | 30.4 | 64 | 16206 |
| Monsanto | DKF38-75 NS | 3374 | 6.7 | 31.9 | 67 | 16487 |
| Triumph Seed | 664 | 3234 | 8.6 | 31.6 | 77 | 19298 |
| Mycogen Seeds | 8H449DM | 3076 | 8.0 | 32.3 | 71 | 17237 |
| Mycogen Seeds | 8N453DM | 2909 | 6.8 | 32.1 | 73 | 19391 |
| Monsanto | DKF34-33 NS/DM | 2795 | 6.6 | 33.8 | 64 | 19017 |
| Seeds 2000 | Firebird Express | 2748 | 7.9 | 29.8 | 68 | 16019 |
| Croplan Genetics | 369 DMR NS | 2693 | 8.1 | 29.9 | 71 | 18080 |
| Monsanto | DKF37-31 NS | 2692 | 6.8 | 30.2 | 60 | 18361 |
| Croplan Genetics | 356A NS | 2681 | 7.6 | 31.5 | 65 | 17892 |
| Croplan Genetics | 555 CL DMR NS | 2677 | 6.9 | 30.0 | 73 | 18267 |
| Monsanto | DKF37-32 NS | 2670 | 7.1 | 31.0 | 66 | 18923 |
| Seeds 2000 | Blazer CL | 2655 | 7.9 | 32.8 | 72 | 16581 |
| Mycogen Seeds | 8N433DM | 2633 | 6.7 | 29.2 | 64 | 17705 |
| Monsanto | DKF39-80CL | 2630 | 7.1 | 29.9 | 72 | 14988 |
| Seeds 2000 | Sierra | 2593 | 7.5 | 28.2 | 66 | 15176 |
| Monsanto | MH9002CL | 2577 | 6.7 | 33.0 | 68 | 15550 |
| Monsanto | IS7120 HO/DM | 2414 | 7.4 | 31.0 | 65 | 19298 |
| Seeds 2000 | Barracuda CL | 2393 | 9.5 | 31.4 | 73 | 16113 |
| Triumph Seed | 657 | 2301 | 8.4 | 29.1 | 75 | 15363 |
| Croplan Genetics | 378 DMR NS | 2222 | 8.2 | 30.1 | 76 | 19391 |
| Triumph Seed | s680CL | 2197 | 7.6 | 32.4 | 45 | 17424 |
| Monsanto | MH9001CL | 2188 | 7.8 | 32.6 | 74 | 17237 |
| Triumph Seed | s668 | 2177 | 10.0 | 31.5 | 56 | 18735 |
| Croplan Genetics | 460 E NS | 2173 | 7.4 | 30.2 | 73 | 18361 |
| Mycogen Seeds | 8N510 | 2170 | 6.9 | 30.5 | 70 | 19860 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Mycogen Seeds | 8N187 | 2025 | 8.0 | 30.0 | 66 | 13958 |
| Triumph Seed | s678 | 1951 | 8.7 | 32.6 | 58 | 18080 |
| Triumph Seed | s674 | 1862 | 8.3 | 32.0 | 46 | 17237 |
| Triumph Seed | S671 | 1656 | 7.1 | 31.6 | 49 | 17799 |
| **Average** | | **2516** | **7.6** | **31.1** | **66** | **17503** |
| $LSD_{(0.30)}$ | | 322 | | | | |
| $LSD_{(0.05)}$ | | 616 | | | | |

LSD0.30 is most useful for producers using these results to select a variety but some collaborators find LSD0.05 useful.

Experimental Design: Randomized complete block design with 3 replicates

Plot size: 5' x 31'

**Site Information**

Collaborator: Shulte Bros.

Soil type: Norka silt loam

Previous crop: Corn

Planting Date: 6/10/2009

Seeding: Overplanted and thinned to target of 18,000 plants/ac

Fertilization: N-P-K (50-30-0)

Insecticide: Headline

Herbicide: Round Up, Spartan, Advance, Select

# 2009 Irrigated Confection Sunflower Performance Trial at Stratton

| Company | Hybrid | Yield | Grain Moisture | Test Weight | Plant Height | Plant Population | Seed Size: Above 24/64 | Seed Size: 23/64 to 22/64 | Seed Size: 21/64 to 20/64 | Seed Size: 19/64 to 16/64 | Seed Size: Through 16/64 to below |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | lb/ac | % | lb/bu | in | plants/ac | % | % | % | % | % |
| CHS Sunflower | RH 3126RT | 2710 | 10.9 | 20.4 | 77 | 17283 | 7.6 | 18.6 | 25.8 | 46.4 | 1.6 |
| Seeds 2000 | Panther II | 2689 | 9.1 | 20.7 | 70 | 14333 | 25.4 | 28.8 | 25.6 | 19.6 | 0.6 |
| Triumph Seed | 777C | 2336 | 9.2 | 20.8 | 81 | 14052 | 21.0 | 40.4 | 23.0 | 14.4 | 1.2 |
| Red River Commodities | 2216 | 2305 | 8.5 | 19.9 | 72 | 13115 | 23.4 | 32.4 | 29.2 | 14.8 | 0.2 |
| CHS Sunflower | RH 1121 | 2293 | 8.4 | 19.8 | 76 | 15269 | 39.2 | 34.2 | 17.6 | 9.0 | 0.0 |
| Seeds 2000 | Jaguar | 2253 | 8.4 | 19.0 | 67 | 14520 | 25.8 | 33.6 | 25.4 | 14.6 | 0.6 |
| Seeds 2000 | X9681 | 2228 | 8.5 | 18.3 | 72 | 13864 | 42.6 | 27.0 | 19.2 | 11.2 | 0.0 |
| Red River Commodities | 2215 | 2226 | 8.3 | 20.3 | 70 | 13396 | 14.2 | 33.8 | 33.6 | 18.4 | 0.0 |
| Mycogen Seeds | 8C451 | 2135 | 8.2 | 18.3 | 73 | 14895 | 34.8 | 33.8 | 18.0 | 12.6 | 0.8 |
| Red River Commodities | 2217 | 2032 | 8.4 | 18.5 | 71 | 14707 | 27.4 | 36.0 | 23.6 | 12.2 | 0.8 |
| Red River Commodities | 7015 | 1971 | 8.9 | 19.8 | 74 | 16206 | 38.0 | 29.6 | 17.4 | 14.6 | 0.4 |
| CHS Sunflower | RH 400CL | 1812 | 8.4 | 18.7 | 63 | 15738 | 18.8 | 25.6 | 34.2 | 20.4 | 1.0 |
| **Average** | | **2249** | **8.8** | **19.5** | **72** | **14782** | **27** | **31** | **24** | **17** | |
| $LSD_{(0.30)}$ | | 251 | | | | | | | | | |
| $LSD_{(0.05)}$ | | 490 | | | | | | | | | |

LSD0.30 is most useful for producers using these results to select a variety but some collaborators find LSD0.05 useful.

Experimental Design: Randomized Complete Block Design

Plot size: 5' x 31'

**Site Information**

Collaborator: Shulte Bros.

Soil type: Norka Silt Loam

Previous crop: Corn

Planting Date: 6/10/2009

Seeding: Overseeded and hand-thinned to 15,000 plants/ac

Fertilization: N-P-K (50-30-0)

Insecticide: Headline

Herbicide: Round Up, Spartan, Advance, Select

Harvest Date: 11/4/2009

Yields corrected to 10% moisture

# 2009 Dryland Sunflower Variety Performance Trial at Yellow Jacket

| Company | Hybrid[1] | Oil type[2] | Seed Yield | Oil Content | Plant Population | Seed Moisture | Test Weight | Plant Height | 50% Flower | Lodging | Deer & Elk Damage | Bird Damage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | lb/ac | % | plants/ac | % | lb/bu | in | date | % | % | % |
| Pioneer | 63M91 | NuSun | 1387 | 46.0 | 13184 | 5.4 | 31.1 | 50.7 | 9-Aug | 0.0 | 1.7 | 2.3 |
| Mycogen | 8N453DM | NuSun | 1348 | 46.6 | 13765 | 5.7 | 33.4 | 41.0 | 10-Aug | 0.0 | 0.0 | 1.7 |
| Mycogen | 8H449DM | High Oleic | 1259 | 47.3 | 12952 | 5.8 | 32.9 | 47.0 | 10-Aug | 1.7 | 1.7 | 5.3 |
| Triumph | 657 | NuSun | 1246 | 46.6 | 10861 | 5.6 | 29.1 | 49.4 | 12-Aug | 3.3 | 0.0 | 11.3 |
| Pioneer | MH6640 | NuSun | 1226 | 44.4 | 13126 | 5.5 | 30.9 | 43.9 | 10-Aug | 3.3 | 2.3 | 1.0 |
| Mycogen | 8N510 | NuSun | 1191 | 42.5 | 14172 | 5.7 | 30.2 | 40.0 | 11-Aug | 0.0 | 0.0 | 1.7 |
| Triumph | s878HO | High Oleic | 1171 | 43.9 | 10745 | 5.9 | 31.7 | 36.9 | 14-Aug | 0.0 | 4.3 | 4.3 |
| Triumph | 664 | NuSun | 1160 | 44.4 | 10571 | 5.7 | 29.9 | 48.0 | 12-Aug | 0.7 | 0.7 | 3.3 |
| Dekalb | 37-31 | NuSun | 1154 | 44.1 | 11500 | 5.5 | 31.8 | 46.2 | 10-Aug | 2.3 | 7.0 | 2.7 |
| Triumph | 820HO | High Oleic | 1104 | 45.4 | 13707 | 5.3 | 31.5 | 45.9 | 5-Aug | 2.3 | 1.7 | 10.7 |
| Mycogen | 8N187 | NuSun | 1099 | 42.4 | 11848 | 5.5 | 29.9 | 38.9 | 9-Aug | 0.0 | 4.3 | 9.3 |
| Mycogen | 8N433DM | NuSun | 1098 | 45.8 | 12894 | 5.5 | 29.8 | 43.7 | 8-Aug | 0.7 | 0.0 | 2.0 |
| Pioneer | 64H41 | High Oleic | 1032 | 42.9 | 12197 | 5.6 | 30.4 | 50.3 | 10-Aug | 0.0 | 0.0 | 6.0 |
| Triumph | s671 | NuSun | 1027 | 45.1 | 12661 | 5.4 | 32.4 | 30.8 | 13-Aug | 1.7 | 4.7 | 8.0 |
| Mycogen | 8H419CL | High Oleic | 1002 | 42.6 | 11790 | 5.7 | 29.3 | 41.4 | 10-Aug | 3.3 | 2.7 | 2.0 |
| Triumph | 845HO | High Oleic | 996 | 44.7 | 11326 | 5.7 | 28.8 | 42.2 | 10-Aug | 1.7 | 0.3 | 0.7 |
| Mycogen | 8H288CLDM | High Oleic | 952 | 44.8 | 10512 | 5.4 | 31.0 | 43.4 | 6-Aug | 5.0 | 2.0 | 7.7 |
| Triumph | s655 | NuSun | 637 | 44.2 | 11442 | 5.5 | 31.4 | 32.3 | 13-Aug | 0.0 | 19.3 | 16.3 |
| | | **Average** | **1116** | **44.6** | **12181** | **5.6** | **30.9** | **42.9** | | **1.4** | **2.9** | **5.4** |
| | | $LSD_{.05}$ | 211 | | | | | | | | | |

[1] CL = Clearfield; DM = Downy mildew resistant

[2] NS = NuSun (mid-oleic); HO = High-oleic

Experimental Design: randomized complete block design with 3 replications

Plot size: 10' x 170'

**Site Information**

Trial conducted at the Southwestern Colorado Research Center in Yellow Jacket, CO

Soil type: Weatherhill silty clay loam

Previous crop: Summer fallow

Planting Date: 6/2/2009

Seeding rate: Target 15,563 seeds/ac

Rain (Jun-Oct): 3.29 in (gross amount) or 43% of normal

Fertilization: N-P-K (50-20-0) on 5/1/2009

Herbicide: Sonalan @ 2.0 pt/ac on 5/6/2009

Deer repellant: PlantSkydd on 7/17, 8/04, and 8/18/09

Harvest Date: 11/4 & 11/5/2009

Seed yields corrected to 10% moisture

Comments: Summer precipitation was well below average but good soil moisture at planting helped achieve decent seed yields. Triumph hybrid s655 incurred substantial deer, elk, and bird damage.

# 2009 Dryland Safflower Variety Performance Trial at Yellow Jacket

| Entry | Company | Primary oil type | Seed yield[2] (lb/ac) | Oil content (%)[3] | Test weight (lb/bu) | Seed moisture (%) | Plant height (in.) | 50% bloom Julian day |
|---|---|---|---|---|---|---|---|---|
| **STI 01** | STI[4] | | 1218 | 37.3 | 41.4 | 5.8 | 25.0 | 207.8 |
| **CW88OL** | Cal/West Seeds | Oleic | 1208 | 41.0 | 39.3 | 5.5 | 22.5 | 210.5 |
| **3151*** | SeedTec | Oleic | 1137 | 40.0 | 41.0 | 5.7 | 22.4 | 208.5 |
| **MT3538** | STI | | 1109 | 36.9 | 41.7 | 5.9 | 23.8 | 210.5 |
| **7313*** | SeedTec | Oleic | 1063 | 37.8 | 43.4 | 6.6 | 25.1 | 212.8 |
| **CW99OL** | Cal/West Seeds | Oleic | 1050 | 41.3 | 39.3 | 5.6 | 24.6 | 209.0 |
| **STI 90** | STI | | 997 | 34.0 | 43.1 | 6.1 | 23.0 | 208.0 |
| **CW1221** | Cal/West Seeds | Linoleic | 994 | 41.9 | 39.7 | 5.7 | 23.4 | 208.5 |
| **MT7446** | STI | | 979 | 37.3 | 41.5 | 5.7 | 23.3 | 209.0 |
| **S-345** | SeedTec | Oleic | 940 | 41.5 | 39.9 | 5.6 | 25.3 | 209.5 |
| **STI 50** | STI | | 923 | 44.6 | 35.8 | 4.9 | 23.6 | 208.5 |
| **3125*** | SeedTec | Oleic | 900 | 41.8 | 41.8 | 6.2 | 23.4 | 210.5 |
| **2106*** | SeedTec | Oleic | 861 | 42.8 | 40.6 | 5.3 | 21.9 | 206.5 |
| | **Average** | | **1029** | **39.9** | **40.6** | **5.7** | **23.6** | **209.2** |
| | **CV (%)** | | 11 | 1.0 | 2.7 | 4.6 | 5.9 | 0.6 |
| | **$LSD_{.05}$** | | 161 | 0.6 | 1.5 | 0.4 | 2.0 | 1.8 |

[1]Trial conducted at Colorado State University's Southwestern Colorado Research Center

[2] Adjusted to 10% moisture

[3] Oil content at 0% moisture/Oil analysis courtesy of Art Weisker of SeedTec

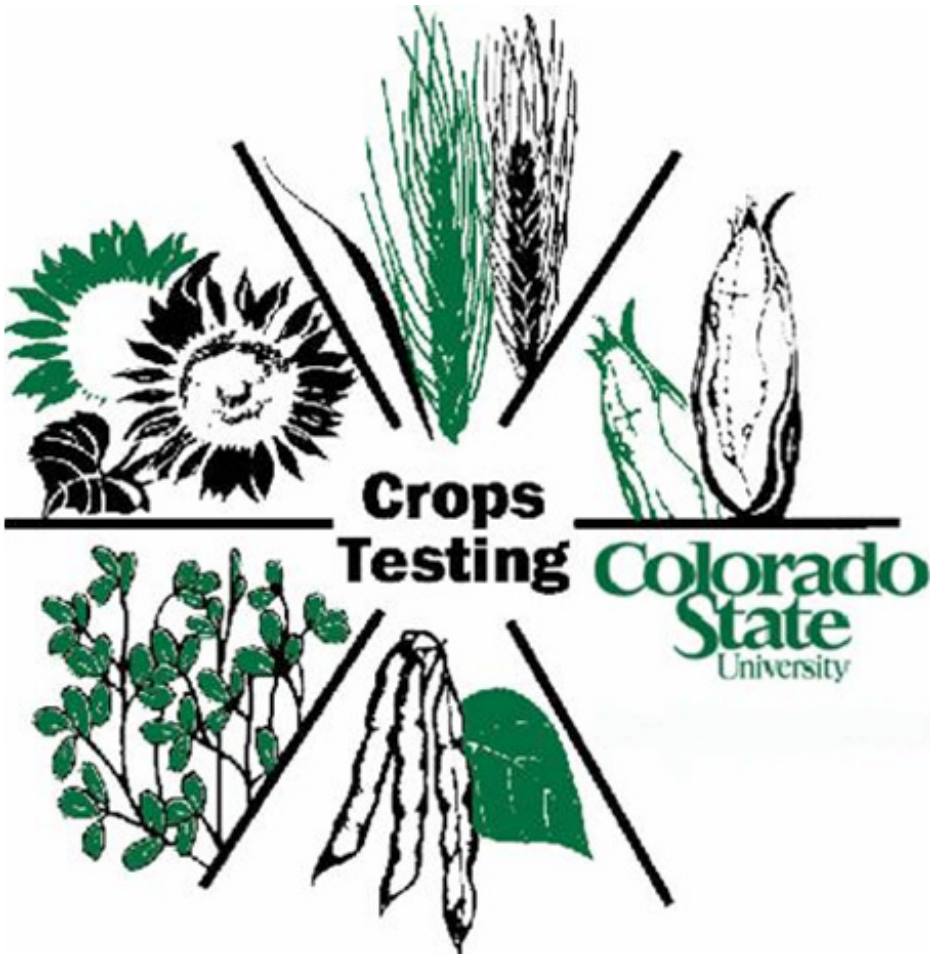
[4] Safflower Technologies International, LLC

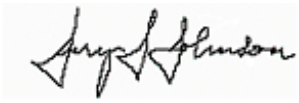
* Not available for sale

Planted: May 7, 2009
Harvested: September 25, 2009
Seeding rate: 25 lb/ac in 12" row spacing
Previous crop: Summer-fallowed in 2007 and 2008
Fertilizer: 50 lbs N/ac + 20 lb $P_2O_5$/ac on 5/1/09

Herbicide: Sonalan @ 2 pt/ac PPI on 5/6/09
Precipitation (rain + snow):
Jan.-Apr.: 1.8 in. (40% of normal)
May-Sept.: 4.4 in. (67% of normal)
Planting to harvest: 4.1 in. (65% of normal)

Comments: Soil moisture at planting was excellent, partly because the ground was summer-fallowed for two consecutive years. Pre-season precipitation was below average as was July and August rainfall. Seed yields were comparable to last year's. None of the entries lodged. Seed shattering was negligible. Grasshoppers were plentiful in the area but did not seem to cause much damage to safflowers.



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