

Agronomic & Test Information:  
Hidalgo County, TX Oilseed-Confectionary Hybrid Sunflower Trial, 2011

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|----------------------|---|
| TEST:                | <b>2011 Rainfed Oilseed &amp; Confectionary Sunflower Hybrid Trial</b>  |
| LOCATION:            | Near McCook, Hidalgo County, Texas  |
| COOPERATOR:          | HK Ranch II, Mike and Rick Hudsonpillar   |
| TEST COORDINATORS:   | Brad Cowan, County Extension Agent- Agriculture<br>Hidalgo County   |
| SOIL TYPE:           | 72% Brennan Fine Sandy Loam<br>25% McAllen Fine Sandy Loam  |
| ROW WIDTH:           | 30"   |
| PREVIOUS CROP:       | Grain Sorghum   |
| LAND PREPARATION:    | Chiseled, no disking, furrow dikes  |
| DATE PLANTED:        | February 15, 2011   |
| SEEDING RATE:        | 16,000 plants/A oilseed and 14,000 plants/A confectionary<br>Resulting plant populations were 13,000 plants/A for oilseed, and<br>10,200 plants/A for confectionary.              |
| PLANTED AREA:        | 24 rows x ~1,176 to 1,320'  |
| FERTILIZER:          | None  |
| HERBICIDE:           | Granular trifluralin at planting  |
| INSECTICIDE:         | Head moth: When 25% of plants showed first sign of yellow<br>bloom, Baythroid (1 to 60+ 1 qt cottonseed oil) followed 7 days<br>later by Karate, both by air.                     |
| RAINFALL:            | Deep moisture from previous summer rainfall; January = 0.6";<br>February = 0"; March = 0"; April = 0"; May = 0"; June = 0"; Total =<br>0.6"; soil profile moisture was very good. |
| DATE HARVESTED:      | Three hybrids on 6/24/2011, remaining test on 7/6/2011  |
| SIZE HARVESTED PLOT: | Same as planted area  |
| TEST DESIGN:         | Randomized block (by rep)   |

NUMBER ENTRIES: 17

NUMBER REPLICATIONS: 3

TEST MEAN: Oilseed, 1,086 lbs./A with average oil content of 47.1% (average crop value based on flat rate price, \$304/A)  
Confectionary, 1,123 lbs./A with average large seed size of 75% (average crop value based on flat rate price, \$337/A)

TEST YIELD C.V.: 16.6% (Though higher than desired for field data, which suggests there is significant amount of variability in the field data, this statistic is likely higher due to 3 replications rather than 4. Under 15% is preferred, and less than 10% is excellent.)

COMMENTS: Include comments and observations here that you need. Drought, head moth control worked (or didn't), any troubles with initial stand, etc.

Both oilseed and confectionary hybrids were grown randomly but together in this trial. Comparisons of yield, height, crop value are valid for this test even though the oilseed and confectionary hybrids are grouped. Oilseed oil content is outstanding, 7% above the grading standard of 40%. Because oilseed sunflower outside South Texas is usually sold based on yield plus percentage of oil content above and below 40%, a comparable pricing is noted if an oil premium was available (but if it were, then the base price of \$28/cwt. would likely be somewhat lower). Excellent test weights reflect the high oil content. Short stature hybrids averaged about 37" tall vs. 50" for conventional height sunflower.

Confectionary seed size overall was good. Again, like the oilseed noted above, confectionary sunflower in South Texas is bought at a flat rate though in other areas it is usually contracted on a two-tiered pricing scenario. This added significant value to four of six hybrids in the trial. Test weights were also good for confectionary hybrids.

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For further information about this test contact Brad Cowan, County Extension Agent-Agriculture, Hidalgo County, (956) 383-1026, [b-cowan@tamu.edu](mailto:b-cowan@tamu.edu)

For other sunflower hybrid and other variety test results please visit the Crop Testing webpage at <http://varietytesting.tamu.edu>

For additional sunflower production resources for Texas contact your county Extension Ag. agent; Extension agronomist and state sunflower specialist Dr. Calvin Trostle, Texas AgriLife Extension Service, Lubbock, (806) 746-6101, [ctrostle@ag.tamu.edu](mailto:ctrostle@ag.tamu.edu); or visit <http://lubbock.tamu.edu/sunflower>

# Sunflower Oilseed & Confectionary Hybrid Trial, 2011

HK Ranch II/Mike Hudsonpillar, Hidalgo Co., Texas

Conducted by Brad Cowan, Texas AgriLife Extension county agricultural extension agent, Hidalgo Co.



Planted February 15, 2011; harvested June 24 & July 6, 2011; January-June rainfall, 0.6" but very good subsoil moisture.

| Oilseed Hybrids              |             |              | Plant Height (inches) | Avg. Plants/acre | Lodging % | Test Weight (lbs./bu) | Seed Yield ,@10% H2O (lbs./A) | % Oil Content | Oil Yield (lbs./A) | Crop Value/Acre |                    |
|------------------------------|-------------|--------------|-----------------------|------------------|-----------|-----------------------|-------------------------------|---------------|--------------------|-----------------|--------------------|
| Company                      | Hybrid      | Hybrid Type† |                       |                  |           |                       |                               |               |                    | Base‡ Value     | Adjusted¶ for %Oil |
| Red River                    | RR378DMR,ns | Nu           | 54                    | 11,900           | 0         | 31.2                  | 1,304                         | 46.1          | 601                | \$ 365          | \$ 410             |
| Triumph                      | S671        | Nu, SS       | 37                    | 15,000           | 0         | 33.4                  | 1,254                         | 47.5          | 595                | \$ 351          | \$ 404             |
| Triumph                      | S674        | Nu, SS       | 37                    | 13,000           | 0         | 33.5                  | 1,191                         | 48.6          | 579                | \$ 334          | \$ 391             |
| Triumph                      | S673        | Nu, SS       | 40                    | 13,700           | 0         | 32.8                  | 1,134                         | 47.7          | 541                | \$ 317          | \$ 366             |
| Triumph                      | S668        | Nu, SS       | 37                    | 13,300           | 0         | 32.5                  | 1,124                         | 48.7          | 547                | \$ 315          | \$ 369             |
| Triumph                      | S678        | Nu, SS       | 45                    | 11,400           | 0         | 32.1                  | 1,104                         | 49.1          | 542                | \$ 309          | \$ 365             |
| Triumph                      | 845         | HO           | 44                    | 14,800           | 0         | 30.2                  | 1,088                         | 48.4          | 527                | \$ 305          | \$ 356             |
| Triumph                      | 660CL       | Nu, CL       | 48                    | 11,900           | 0         | 33.4                  | 979                           | 46.1          | 451                | \$ 274          | \$ 307             |
| Triumph                      | 664         | Nu           | 49                    | 13,000           | 0         | 32.9                  | 966                           | 46.5          | 448                | \$ 270          | \$ 305             |
| Triumph                      | S870CL      | HO, SS, CL   | 30                    | 13,400           | 0         | 32.3                  | 941                           | 47.3          | 446                | \$ 264          | \$ 303             |
| Triumph                      | 859CL       | HO, CL       | 53                    | 12,300           | 0         | 32.0                  | 857                           | 42.1          | 361                | \$ 240          | \$ 250             |
| <b>Oilseed Average</b>       |             |              | 43                    | 13,000           | 0         | 32.4                  | 1,086                         | 47.1          | 513                | \$ 304          | \$ 348             |
| Oilseed statistical measures |             |              |                       |                  |           | See p. 2              |                               | See p. 2      | See p. 2           |                 |                    |

| Confectionary Hybrids              |          |             | Plant Height (inches) | Avg. Plants/acre | Lodging % | Test Weight (lbs./bu) | Seed Yield ,@10% H2O (lbs./A) | %Seed Retained Over Screen§ |          | Crop Value/Acre |                      |
|------------------------------------|----------|-------------|-----------------------|------------------|-----------|-----------------------|-------------------------------|-----------------------------|----------|-----------------|----------------------|
| Company                            | Hybrid   | Hybrid Type |                       |                  |           |                       |                               | >22/64"                     | >20/64"  | Base‡‡ Value    | Adjusted¶¶ for Grade |
| Dahlgren                           | 9530     |             | 49                    | 12,800           | 0         | 22.1                  | 1,326                         | 21                          | 59       | \$ 398          | \$ 385               |
| Red River                          | RR2216   |             | 50                    | 10,400           | 3         | 22.2                  | 1,256                         | 36                          | 71       | \$ 377          | \$ 383               |
| Triumph                            | 777C     |             | 50                    | 9,600            | 3         | 21.8                  | 1,172                         | 57                          | 83       | \$ 352          | \$ 374               |
| Triumph                            | 770CL    | CL          | 56                    | 10,900           | 0         | 22.7                  | 1,096                         | 73                          | 90       | \$ 329          | \$ 360               |
| Triumph                            | 768C     |             | 49                    | 10,200           | 1         | 22.0                  | 1,061                         | 31                          | 63       | \$ 318          | \$ 314               |
| Triumph                            | TRX9350C |             | 54                    | 7,300            | 0         | 21.9                  | 825                           | 74                          | 86       | \$ 247          | \$ 267               |
| <b>Confectionary Average</b>       |          |             | 51                    | 10,200           | 1         | 22.1                  | 1,123                         | 49                          | 75       | \$ 337          | \$ 347               |
| Confectionary statistical measures |          |             |                       |                  |           | See p. 2              |                               | See p. 2                    | See p. 2 |                 |                      |

|   |         |         |  |         |  |         |         |         |         |
|---|---------|---------|--|---------|--|---------|---------|---------|---------|
| P-Value, <b>All Hybrids</b>               | <0.0001 | <0.0001 |  | <0.0001 |  | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Fisher's Least Signif. Difference (0.05)# | 4       | 2,100   |  | 145     |  | \$ 42   | \$ 49   |         |         |
| Coefficient of Variation (%CV)            | 16.4    | 19.2    |  | 16.3    |  | 17.0    | 16.6    |         |         |

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| Additional Statistical Measures Specific to Either Oilseed or Confectionary |                       |                  |           |                       |                               |               |                    |                 |                     |
|---|-----------------------|------------------|-----------|-----------------------|-------------------------------|---------------|--------------------|-----------------|---------------------|
| Oilseed Hybrids   | Plant Height (inches) | Avg. Plants/acre | Lodging % | Test Weight (lbs./bu) | Seed Yield ,@10% H2O (lbs./A) | % Oil Content | Oil Yield (lbs./A) | Crop Value/Acre |                     |
|   |                       |                  |           |                       |                               |               |                    | Base‡ Value     | Adjusted¶ for Grade |
| P-Value, <b>Oilseed Hybrids</b>   |                       |                  |           | <0.0001               |                               | <0.0001       | <0.0001            |                 |                     |
| Fisher's Least Signif. Difference (0.05)#                                   |                       |                  |           | 0.6                   |                               | 1.2           | 62                 |                 |                     |
| Coefficient of Variation (%CV)  |                       |                  |           | 3.2                   |                               | 4.2           | 17.7               |                 |                     |

| Confectionary Hybrids                     | Plant Height (inches) | Avg. Plants/acre | Lodging % | Test Weight (lbs./bu) | Seed Yield ,@10% H2O (lbs./A) | %Seed Retained Over Screen§ |         | Crop Value/Acre |                     |
|---|-----------------------|------------------|-----------|-----------------------|-------------------------------|-----------------------------|---------|-----------------|---------------------|
|   |                       |                  |           |                       |                               | >22/64"                     | >20/64" | Base‡ Value     | Adjusted¶ for Grade |
| P-Value, <b>Confectionary Hybrids</b>     |                       |                  |           | 0.0599                |                               | <0.0001                     | <0.0001 |                 |                     |
| Fisher's Least Signif. Difference (0.05)# |                       |                  |           | NS‡                   |                               | 8.3                         | 6.1     |                 |                     |
| Coefficient of Variation (%CV)            |                       |                  |           | 1.9                   |                               | 44.7                        | 16.8    |                 |                     |

†Nu = NuSun mid-oleic, HO = high oleic, SS = short stature, CL = Clearfield herbicide tolerant.

§NS, not significant at 95% confidence level.

‡Pricing for 2011 Texas Lower Rio Grande Valley oilseed @ \$28/cwt. with no adjustment for oil (birdfood).

¶In other areas of Texas oilseed sunflower is contracted at a 2:1 premium/discount relative to 40% oil content. In this trial each 1% oil above/below 40.0% adjusts price ± \$0.56/cwt. This example demonstrates how oil-based pricing might affect crop value.

§Confectionary is graded for seed size even if priced at a flat rate. Most pricing in other areas will pay a higher price for seed retained over a 20/64" screen.

‡‡Pricing for 2011 Texas Lower Rio Grande Valley confectionary @ \$30/cwt. (after trash, which averaged 4.8%) with no adjustment for seed size.

¶¶Beyond South Texas, confectionary is contracted on a two-tiered scale based on seed size, or in 2011, at \$34/cwt. for large seed (>20/64"), \$22/cwt. for seed <20/64", which reflects 2/3 of seed being graded large. This example demonstrates how pricing based on seed size may affect crop value.

#Numbers in same column that vary by more than the least significant difference (PLSD) are significantly different at 95% confidence level.

‡NS, not significant.

Trial Notes: Brad's comments on rainfall, weather, stand, etc. This trial was a replicated on-farm trial with 3 plots of each of ~1.8 acre for every hybrid, Oil content was exceptionally high at 46 to 49%. Overall populations were somewhat low for each market type. Pricing reflecting oil content added enough crop value to be equal to or better than confectionary.

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