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Agronomic & Test Information:

Lubbock, TX Confectionary Hybrid Sunflower Trial, 2010

TEST:	**2010 Irrigated Confectionary Sunflower Hybrid Trial**
LOCATION:	Texas AgriLife Research & Extension Center, Lubbock, Texas
TEST COORDINATORS:	Dr. Calvin Trostle, Texas AgriLife Extension Service agronomist, and Mr. Sean Wallace, Extension assistant, Lubbock; Mr. Dennis Pietsch, Texas AgriLife Research Crop Testing Program, College Station
SOIL TYPE:	Amarillo fine sandy loam
ROW WIDTH:	40”
PREVIOUS CROP:	Soybean
LAND PREPARATION:	Limited tillage (disk and field cultivator)
DATE PLANTED:	June 30, 2010
SEEDING RATE:	Overplanted at ~30,000 seeds/A then thinned in late July (6-10” tall) to about 1.5 plants per foot; all doubles were thinned to singles; the resulting stand was still thicker than desired as a better target would have been ~15,000 plants per acre.
PLANTED AREA:	2 rows x 25’
FERTILIZER:	109 lbs. N/A as urea, 32-0-0 (60 N preplant June 28, 40 N on July 26, and 9 N from P fertilizer), 30 lbs./A P_2O_5 as 10-34-0 June 28.
HERBICIDE:	Treflan (pre-emerge). Extreme levels of pigweed emerged after the large rains on July 7-8, and hand weeding continued until mid-August.
INSECTICIDE:	Three complete sprays with Hero at full rate. In addition, two early blooming hybrids were sprayed on Aug. 17 in advance of the first full spray on August 19.
RAINFALL:	June = 1.3"; July = 6.2”; August = 0.4; September = 1.6”; Total = 9.5"
IRRIGATION:	Four furrow irrigations (the first applied ~June 20 to provide planting moisture) averaging ~4” each; 16” total.

DATE HARVESTED:	October 8, 2010 (by hand, then threshed with stationary thresher in November)
SIZE HARVESTED PLOT:	Two 40” rows X 22’ (65 square ft.)
TEST DESIGN:	Randomized block (by rep)
NUMBER ENTRIES:	9
NUMBER REPLICATIONS:	4
TEST MEAN:	2,008 lbs./A yield (corrected to 10% moisture) with 62% large seed (see note below). Average crop value = $450/A.
TEST YIELD C.V.:	11.3%

COMMENTS: This trial was initially planted in mid-May then planted again in early June as an apparent unknown herbicide issue led to ~25% stand establishment. The trial was moved to a smaller test site (hence the 2-row plots rather than four row tests) and planted thick then thinned by hand.

Sunflower head moth pressure was moderate. Early blooming hybrids were sprayed by hand on August 17, and the first full spray occurred August 19th (four-row back pack sprayer, 15 gal/A). Two additional sprays occurred on 5-day intervals.

Good yields were obtained. Significant differences were obtained in yield, however, due to the range of seed >20/64” from 33% to 82%, major differences in crop value were based more on seed size than on yield.

An adjacent oilseed sunflower hybrid trial (22 hybrids) yielded 2,262 lbs./A (40.6% oil content) with an average crop value of $354/A.

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For further information about this report or for sunflower production in Texas, contact Dr. Calvin Trostle, extension agronomist, Lubbock, (806) 746-6101, ctrostle@ag.tamu.edu or visit http://lubbock.tamu.edu/sunflower

For further information about the Texas AgriLife Research Crop Testing Program, contact Mr. Dennis Pietsch, Crop Testing director, Texas AgriLife Research, College Station, TX, (979) 845-8505, dpietsch@ag.tamu.edu

Please visit the Texas AgriLife Crop Testing Program webpage at http://varietytesting.tamu.edu

2010 Confectionary Sunflower Hybrid Trial
Lubbock, Texas

Planted June 30, 2010; harvested October 8, 2010; June-September rainfall, 9.5"

Company or Brand	Hybrid	Hybrid Type†	Days to Half Bloom	Plant Height (inches)	Avg. Plants/ acre	Test Weight (lbs./bu)	%Seed Retained Over Screen		Seed Yield ,@10% H2O (lbs./A)	Crop Value ($/Acre)‡
							>22/64"	>20/64"		
Red River	2215		52	68	18,800	23.0	28.5	58.2	2,169	$ 477
Red River	2215CL	CL	54	71	20,800	22.8	30.4	61.8	2,366	$ 533
Red River	2217		54	70	19,500	20.7	42.8	71.0	2,111	$ 497
Red River	8015		54	68	19,400	18.5	47.5	74.6	1,865	$ 447
Seeds 2000	Jaguar	CL	51	56	20,100	21.3	24.1	51.7	1,742	$ 369
Seeds 2000	Panther II		53	63	18,900	22.1	39.0	64.7	1,981	$ 451
Triumph	768C		55	74	19,300	22.1	30.4	58.5	2,056	$ 453
Triumph	770CL	CL	56	75	23,300	22.1	63.9	82.3	1,848	$ 459
Croplan	CG 179		52	63	20,500	21.9	11.6	33.2	1,933	$ 367
		Average	*53*	*67*	*20,100*	*21.6*	*35.3*	*61.8*	*2,008*	*$ 450*

P-Value (Hybrid)	<0.0001	<0.0001	0.0919	<0.0001	<0.0001	<0.0001	0.0007	0.0017
Fisher's Protected LSD (0.05)¶	1.5	4	NS§	0.9	11.2	10.9	230	$ 67
Coefficient of Variation, CV (%)	3.1	9.7	9.8	6.2	42.3	22.9	11.3	14.5

†CL = Clearfield herbicide tolerant

§NS, not significant.

‡Average pricing for 2010 Texas High Plains at $27/cwt. large seed (>20/64"), $15/cwt. small seed.

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

Trial Notes: This trial was moved to a smaller test site after 2009 residual herbicide led to a poor stand in our mid-May planting (hence the two-row plots). About 6" of rainfall occurred on July 7-8 triggering excessive pigweed, which was hand weeded. Trial received four 4" furrow irrigations. Confectionary seed size was highly variable among hybrids, and the effect of higher pricing of large seed had more influence on crop value than yield per acre. Head moth pressure was moderate and sprays were effective.

An adjacent oilseed sunflower hybrid trial (22 hybrids) yielded 2,262 lbs./A (40.6% oil content) with an average crop value of $354/acre.

For further info. about this test and and for sunflower production resources for Texas contact Extension agronomist Dr. Calvin Trostle, Lubbock, (806) 746-6101, ctrostle@ag.tamu.edu, or visit http://lubbock.tamu.edu/sunflower

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