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Agronomic & Test Information:

Lubbock, TX Oilseed Hybrid Sunflower Trial, 2010

TEST:	**2010 Irrigated Oilseed 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.
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, three 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 11, 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:	22
NUMBER REPLICATIONS:	3 (reduced land area available due to replanting; a few hybrids were planted with the fourth rep.)
TEST MEAN:	2,262 lbs./A yield (corrected to 10% moisture) with 40.6% oil content. Average crop value = $354/A.
TEST YIELD C.V.:	15.9%

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, oil content, and crop value. Short stature hybrids (Triumph) were only a few inches shorter than several other hybrids in the trial. Overall, NuSun and high oleic sunflowers were similar in trial average yield, oil content, and crop value; however, hybrids advertised as short stature had moderately higher average for yield, oil content, and crop value.

An adjacent confectionary sunflower hybrid trial (9 hybrids) yielded 2,008 lbs./A (61.8% seed >20/64”) with an average crop value of $450/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

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Lubbock, Texas

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Planted June 30, 2010; harvested October 11, 2010; June-September rainfall, 9.5"

Company or Brand	Hybrid	Oil Type†	Price per Cwt.‡	Days to Half Bloom	Plant Height (inches)	Avg. Plants/ acre	Test Weight (lbs./bu)	Seed Yield ,@10% H2O (lbs./A)	Oil Content %	Oil Yield (lbs./A)	Crop Value¶ ($/Acre)
Advanta	AP462NS	Nu	15.25	53	71	20,500	32.3	2,611	40.9	1,068	$ 405
Advanta	F51122NS,CL	Nu, CL	15.25	50	58	18,700	29.0	1,483	38.6	573	$ 220
Croplan	CG 356A NS	Nu	15.25	51	61	20,000	30.6	2,048	42.1	864	$ 326
Croplan	CG 378 DMR NS	Nu	15.25	55	67	20,200	29.8	2,132	40.2	855	$ 326
Croplan	CG 460 E NS	Nu, Ex	15.25	56	74	19,000	30.4	2,524	41.4	1,043	$ 395
Croplan	CG 559 CL DMR NS	Nu, CL	15.25	54	72	19,300	33.5	2,590	40.4	1,045	$ 398
Check	Pioneer 63N82	Nu, Ex	15.25	53	64	16,100	33.3	2,446	39.5	966	$ 369
Seeds 2000	Blazer CL	Nu, CL	15.25	54	61	12,000	30.4	2,404	40.3	971	$ 370
Seeds 2000	Firebird	Nu, Ex	15.25	54	63	21,900	29.9	2,071	37.0	766	$ 297
Seeds 2000	Sierra	HO	16.25	54	71	19,900	28.7	2,191	39.4	863	$ 352
Seeds 2000	X6816	Trad.	15.25	54	57	19,400	30.9	2,344	40.5	948	$ 361
Seeds 2000	X9464	HO, CL	16.25	52	69	20,500	30.6	2,343	38.0	890	$ 365
Seeds 2000	X9866	Nu, CL	15.25	54	62	19,200	31.0	2,119	39.8	844	$ 322
Syngenta	3732NS	Nu	15.25	52	58	19,600	30.4	2,056	41.9	859	$ 325
Syngenta	3845HO	HO	16.25	51	60	17,600	32.9	1,742	43.2	751	$ 301
Syngenta	3875NS	Nu	15.25	51	54	16,900	32.0	2,019	41.4	841	$ 318
Syngenta	4651 NS/DM	Nu	15.25	55	65	18,700	30.7	2,276	40.1	913	$ 348
Triumph	664	Nu	15.25	53	64	18,400	32.6	2,333	41.2	963	$ 365
Triumph	s668	Nu, SS	15.25	52	54	19,100	33.5	2,634	42.6	1,123	$ 423
Triumph	s673 (TRXs8420)	Nu, SS	15.25	53	57	20,100	31.3	2,767	42.0	1,163	$ 439
Triumph	s870HCL	HO, CL, SS	16.25	55	54	19,500	31.8	2,104	41.8	878	$ 354
Triumph	s878H	HO, SS	15.25	54	57	17,300	32.7	2,529	41.4	1,047	$ 416
			NuSun Average		63		31.3	2,282	40.6	929	$ 353
			High Oleic Average		62		31.4	2,182	40.7	886	$ 358
			Short Stature Average		56		32.3	2,508	42.0	1,053	$ 408
			Overall Average	*53*	*62*	*18,800*	*31.3*	*2,262*	*40.6*	*920*	*$ 354*

P-Value (Hybrid)	<0.0001	<0.0001	0.0501	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fisher's Protected LSD (0.05)§	1.0	8.5	NS	1.0	388	1.7	164	$ 62
Coefficient of Variation, CV (%)	2.8	11.8	15.8	4.8	15.9	5.4	17.0	16.4

†Nu = NuSun mid-oleic, HO = high oleic, CL = Clearfield herbicide tolerant, Ex = Express herbicide tolerant, SS = short stature
‡Typical market pricing in 2010 for Texas High Plains. ¶Oilseed--2:1 premium/discount vs. 40% oil.
§Numbers in same column that vary by more than least sig. difference are significantly different at 95% confidence level (NS, not significant).

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.
Head moth pressure was moderate and sprays were effective.

An adjacent confectionary sunflower hybrid trial (9 hybrids) yielded 2,008 lbs./A with an average crop value of $450/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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