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Agronomic & Test Information:

Ellis County (Bardwell), TX Oilseed Hybrid Sunflower Trial, 2010

TEST:	**2010 Rainfed Oilseed Sunflower Hybrid Trial**
LOCATION:	Near Bardwell, Ellis Co., Texas
COOPERATORS:	Bob & Steven Beakley
TEST COORDINATORS:	Mr. Dennis Pietsch, Texas AgriLife Research Crop Testing Program, College Station; Mr. Glen Moore, Ellis-Navarro Co. Extension IPM agent; Dr. Calvin Trostle, Texas AgriLife Extension Service agronomist, Lubbock
SOIL TYPE:	Houston black clay
ROW WIDTH:	30”
PREVIOUS CROP:	Corn
LAND PREPARATION:	Limited tillage (disk and field cultivator)
DATE PLANTED:	April 1, 2010
SEEDING RATE:	Overplanted at ~25,000 seeds/A then thinned on April 29 (6-10” tall) to 1 plant every 10” (21,800 seeds/A); all doubles were thinned to singles
PLANTED AREA:	4 rows x 30’
FERTILIZER:	200 lbs./A of 32-0-0 pre-emerge (64N) 7 gallons of 9-18-9 at planting (equivalent to 7/14/7 lbs./A) Total N = ~71 lbs. N per acre
HERBICIDE:	Spartan (pre-emerge)
INSECTICIDE:	Sprayed four times with different pyrethroids (control was poor hence 3rd & 4th spray) at full rate. Concerns exist that aerial spray was possibly less than the labeled minimum of 2 gal/A (whereas 3 gal/A would definitely provide improved coverage)
RAINFALL:	March = 3.5"; April = 5.0"; May = 2.5"; June = 1.0"; July = 0.0”; Total = 12.0"
IRRIGATION:	None

DATE HARVESTED:	August 9, 2010 (by hand, then threshed with stationary thresher on August 10, 2010)
SIZE HARVESTED PLOT:	One 30” row X 26’ (65 square ft.)
TEST DESIGN:	Randomized block (by rep)
NUMBER ENTRIES:	13
NUMBER REPLICATIONS:	4
TEST MEAN:	1,478 lbs./A yield (corrected to 10% moisture) with 42.1% oil content (oil content >40% nets a price premium)
TEST YIELD C.V.:	18.4%

COMMENTS: Early season production conditions were favorable for sunflower as the season started with a full profile of moisture from fall and winter rains though wet soil conditions prevailed through late March. Timely rains occurred in April and early-May. No appreciable moisture was received after bloom (mid-June), thus probably reducing potential yield. The test block received 8.5” of rainfall from planting until physiological maturity. Basically, the crop was produced from subsoil moisture in addition to early-season rainfall.

Sunflower head moth control was poor, and the field was sprayed four times. Low gallonage per acre from the aerial applicator may have contributed to reduced moth control.

A companion confectionary sunflower hybrid trial adjacent to the oilseed test averaged 1,543 lbs./A with an average crop value of $343/acre.

Crop value was calculated using a different price depending on the oilseed type ($1.50 higher for high oleic). If oilseed hybrids were viewed in terms of biodiesel production then calculated oil yield ranged from 58 to 113 gallons per acre.

Appreciation is expressed to Mr. Russell Sutton, assistant research scientist, Texas AgriLife Research, Commerce, for providing the threshing equipment.

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For further information about this report or for 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

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

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

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Ellis Co., Texas (Bob & Steven Beakley Farm)

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Planted April 1, 2010; harvested August 9, 2010; March-July rainfall, 12.0"

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	AP462	Nu	$ 16.75	74	74	19,900	31.7	1,448	42.8	619	$ 256
Advanta	F30008	Nu, CL	$ 16.75	73	68	18,400	28.7	1,665	40.0	665	$ 279
Advanta	F30294	Nu	$ 16.75	77	78	20,400	29.1	1,565	39.3	615	$ 259
Advanta	F51137	NS, CL	$ 16.75	74	67	20,100	29.1	1,699	43.3	737	$ 304
Seeds 2000	Blazer CL	Nu, CL	$ 16.75	75	73	20,100	31.7	1,622	44.4	721	$ 296
Seeds 2000	Firebird Ex	Nu, Ex	$ 16.75	76	68	21,300	28.2	1,419	39.6	562	$ 236
Seeds 2000	Sierra	HO	$ 18.25	76	71	20,300	27.7	1,540	39.9	614	$ 280
Seeds 2000	X9464CL	HO, CL	$ 18.25	76	70	18,900	28.6	1,074	40.8	440	$ 200
Triumph	664	Nu	$ 16.75	73	78	18,400	31.3	1,895	45.2	857	$ 351
Triumph	s668	Nu, SS	$ 16.75	74	55	20,600	31.4	1,444	44.9	648	$ 265
Triumph	s673 (TRXs8420)	Nu, SS	$ 16.75	75	56	19,900	27.5	1,074	43.2	466	$ 192
Croplan	378 DMR,NS	Nu	$ 16.75	74	79	20,300	28.8	1,508	43.0	648	$ 268
Croplan	460 E,NS	Nu, Ex	$ 16.75	76	74	20,100	28.3	1,263	41.6	524	$ 218
			Average	*75*	*70*	*19,900*	*29.4*	*1,478*	*42.1*	*624*	*$ 262*

P-Value (Hybrid)	<0.0001	<0.0001	0.7914	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fisher's Protected LSD (0.05)§	0.9	3.3	NS	1.3	231	1.7	108	$ 45
Coefficient of Variation, CV (%)	2.0	10.7	9.8	5.9	18.4	5.4	20.5	19.4

†Nu = NuSun mid-oleic, HO = high oleic, CL = Clearfield herbicide tolerant, Ex = Express herbicide tolerant, SS = short stature
‡Typical market pricing in 2010 for Central Texas; high oleic (HO) often $1.00-1.50/cwt. ¶Oilseed--2:1 premium/discount vs. 40% oil.
§Numbers in the same column that vary by more than the least sig. difference are significantly different at a 95% confidence level.

Trial Notes: Early conditions were favorable as the season started with a full profile of moisture. Timely rains occurred in April and early May. No appreciable moisture was received at/after bloom (mid-June) thus limiting potential yield. Sunflower head moth control was poor. Field was sprayed four times. Low gallonage per acre from aerial applicator may have contributed to reduced moth control.

An adjacent confectionary sunflower hybrid trial (9 hybrids) yielded 1,543 lbs./A with an average crop value of $343/acre.

For further info. about this test and 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

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For further 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