

Agronomic & Test Information:
Etter, Moore Co., TX Oilseed Hybrid Sunflower Trial, 2010

TEST:	2010 Irrigated Oilseed Sunflower Hybrid Trial
LOCATION:	Texas AgriLife Research North Plains Research Field, Etter, Texas (Moore County, 10 miles north of Dumas)
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:	Sherm clay loam
ROW WIDTH:	30"
PREVIOUS CROP:	Wheat (2009 harvest)
LAND PREPARATION:	Field cultivator, rolling cultivator (for listing)
DATE PLANTED:	June 29, 2010
SEEDING RATE:	Overplanted at ~30,000 seeds/A then thinned in mid July (4-6" tall) to about 1.25 plants per foot; all doubles were thinned to singles; the resulting stand was still thicker than desired as a better target would have been ~15,000-17,000 plants per acre (1 plant per foot or slightly less).
PLANTED AREA:	4 rows x 25'
FERTILIZER:	100 N—30 P ₂ O ₅ —0 K ₂ O, applied pre-plant
HERBICIDE:	Treflan (pre-emerge).
INSECTICIDE:	Two sprays (Aug. 20 & 25) with Hero at full rate for agronomic purposes using a 4-row backpack sprayer (~15 gal/A).
RAINFALL:	June = 6.1"; July = 1.9"; August = 4.0"; September = 0.3"; Total = 12.3"
IRRIGATION:	Three furrow irrigations averaging ~5" each; 15" total.
DATE HARVESTED:	October 27, 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: 26

NUMBER REPLICATIONS: 4

TEST MEAN: 2,498 lbs./A yield (corrected to 10% moisture) with 41.1% average oil content. Average crop value = \$396/A.

TEST YIELD C.V.: 13.2%

COMMENTS: Stands were thick due to overplanting, but should have been thinned an additional 10-25% from final plant population. The trial was fenced after planting to protect from jack and cottontail rabbits.

Sunflower head moth pressure was moderate. At the point of determining whether to spray the field a third time to cover a few plots that were just completing bloom (~3 days after 50% bloom) no moths were found in the field so a third spray was not conducted. Little evidence of sunflower moth larvae damage was observed at harvest, and there were no *Rhizopus* infection.

Good yields were obtained with yields that were similar on average to 2009 (though planted later on July 8). Statistical analysis separated out major differences among hybrids in yield (range 1,800 to 2,900 lbs./A) and in oil content (38 to 44% among commercial hybrids). Also, two-year averages (2,629 lbs./A) for several hybrids note above average yield and oil content among fourteen hybrids. As a whole, Clearfield and ExpressSun herbicide tolerant hybrids had yields that were slightly reduced from non-herbicide tolerant lines. Any possible significant differences may gradually disappear as companies improve the yield of these herbicide trait hybrids.

Hybrids advertised as short stature were about 12 to 24" shorter than conventional height hybrids, however, the differential in height appears to be less than in past years. The height of some short stature hybrids was less relative to conventional height hybrids compared to differences noted in past trials.

An adjacent confectionary sunflower hybrid trial (10 hybrids) yielded 2,012 lbs./A (66% large seed >20/64") with an average crop value of \$463/A.

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 Oilseed Sunflower Hybrid Trial
Etter, Moore County, Texas

Planted June 29, 2010; harvested October 27, 2010; June-September rainfall, 12.3"

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% H ₂ O (Lbs./A)	%Oil Content	Oil Yield (Lbs./A)	Crop Value¶ (\$/Acre)	Two-Year Average	
												% Oil Content	Yield (Lbs./A)
Advanta	AP462NS	Nu	\$ 15.25	56	77	23,000	29.0	2,736	41.0	1,124	\$ 426	43.3	2,598
Advanta	F51122NS,CL	Nu, CL	\$ 15.25	53	63	21,900	25.0	2,335	38.3	893	\$ 344		
Check	Pioneer 63N82	Nu, EX	\$ 15.25	55	71	22,300	30.1	2,364	41.0	970	\$ 368	42.6	2,329
Croplan	CG 356A NS	Nu	\$ 15.25	54	63	22,500	28.7	2,819	42.2	1,190	\$ 449	43.7	2,963
Croplan	CG 378 DMR NS	Nu	\$ 15.25	57	75	21,200	27.7	2,308	40.0	923	\$ 352	41.7	2,312
Croplan	CG 460 E NS	Nu, EX	\$ 15.25	58	74	23,200	28.7	2,570	41.7	1,071	\$ 405	43.0	2,483
Croplan	CG 559 CL DMR NS	Nu, CL	\$ 15.25	56	75	20,700	29.0	2,655	40.9	1,088	\$ 413		
Mycogen	8H449DM	HO	\$ 16.25	55	74	23,800	29.7	2,778	43.5	1,209	\$ 483	45.1	2,833
Mycogen	8N433DM	Nu	\$ 15.25	54	67	23,900	26.0	2,816	42.6	1,199	\$ 452		
Mycogen	8N453DM	Nu	\$ 15.25	55	73	22,600	29.1	2,922	43.2	1,262	\$ 474	45.8	2,959
Mycogen	8N510	Nu	\$ 15.25	55	70	24,000	27.2	2,443	40.2	982	\$ 374	42.1	2,753
Seeds 2000	Blazer CL	Nu, CL	\$ 15.25	56	74	23,900	27.9	2,506	40.8	1,019	\$ 387	41.9	2,424
Seeds 2000	Firebird	Nu, EX	\$ 15.25	57	68	22,400	26.5	2,092	37.9	794	\$ 306		
Seeds 2000	Sierra	HO	\$ 16.25	59	73	23,200	25.8	1,829	38.0	695	\$ 285	38.6	2,194
Seeds 2000	X6816	Trad.	\$ 15.25	57	74	23,300	27.3	2,096	39.9	835	\$ 319		
Seeds 2000	X9464	HO, CL	\$ 16.25	55	73	23,400	26.5	2,336	38.0	887	\$ 364		
Seeds 2000	X9866	Nu, CL	\$ 15.25	55	70	21,800	27.8	2,505	38.7	969	\$ 372		
Syngenta	3732NS	Nu	\$ 15.25	54	64	22,200	27.9	2,604	41.5	1,082	\$ 410	43.8	2,782
Syngenta	3845HO	HO	\$ 16.25	54	65	20,800	27.2	2,683	42.4	1,136	\$ 456	45.3	2,776
Syngenta	3875NS	Nu	\$ 15.25	54	65	24,800	27.6	2,799	39.7	1,112	\$ 425		
Syngenta	4651 NS/DM	Nu	\$ 15.25	56	77	23,500	28.2	2,311	41.3	955	\$ 362		
Triumph	664	Nu	\$ 15.25	55	77	22,800	30.0	2,818	43.6	1,226	\$ 460	45.5	2,836
Triumph	s668	Nu, SS	\$ 15.25	55	56	23,800	30.1	2,578	44.0	1,136	\$ 425		
Triumph	s673	Nu, SS	\$ 15.25	56	54	23,400	28.6	2,329	42.0	979	\$ 370		
Triumph	s870HCL	HO,CL,SS	\$ 16.25	57	51	20,000	29.8	2,112	43.0	908	\$ 364		
Triumph	s878H	HO, SS	\$ 16.25	56	59	22,700	31.3	2,609	43.2	1,129	\$ 452	45.2	2,561
NuSun Average							28.2	2,553	41.1	1,051	\$ 399	43.3	2,644
High Oleic Average							28.4	2,391	41.3	994	\$ 401	43.5	2,591
Short Stature Average					55		29.9	2,407	43.1	1,038	\$ 403		
Overall Average				56	68	22,800	28.2	2,498	41.1	1,030	\$ 396	43.4	2,629

P-Value (Hybrid)	<0.0001	0.8003	0.0501	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fisher's Protected LSD (0.05)	1.0	NS	NS	0.7	293	1.2	126	\$ 48
Coefficient of Variation, CV (%)	2.9	13.9	15.8	5.6	13.2	5.0	15.9	15.3

†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 the least significant difference are significantly different at 95% confidence level (NS, not significant).

Trial Notes: The trial was planted in late June, delayed by ~6" of rainfall earlier in June. Stands were thinned by hand in mid-July although population should have been thinned another 2-4K per acre. Yields were comparable to 2009 but with reduce % oil. Trial received three 5" furrow irrigations. Crop values were similar for NuSun, high oleic, and short stature. Head moth pressure was low to moderate; sprays (2) were effective.

An adjacent confectionary sunflower hybrid trial (10 hybrids) yielded 2,012 lbs./A with an average crop value of \$463/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>

For further info. 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 Crop Testing webpage at <http://varietytesting.tamu.edu>