

Sunflower

**A Double Cropping Option in the
South Eastern US**

Why Sunflower

- **Asian Soy Bean Rust**
- **Health Issues Related to Trans Fats**
- **Global Demand For Vegetable Oil**

Oil Yield Per Acre

- Assume 33.3 bu/acre soybeans, 20% raw oil content and 100% extraction; Oil Yield=400lbs which equals approx **53.3** US gallons per acre.
- Assume 40 bu/acre canola, 40% raw oil content and 100% extraction; Oil Yield =750lbs which equals approx **106** US gallons per acre.
- Assume 71.42 bu/acre sunflowers, 42% raw oil content and 100% extraction; Oil Yield=800lbs which equals **112** US gallons per acre

Miles Enterprises Research and Development



2005 Results

		Yield (lbs/ac.)	
1	CHS (Agway) RH3738; Confection	976	
2	Croplan 130; Confection	758	
3	Croplan 3080DMR,NS; Oil; NuSun	1864	
4	Croplan 343DMR,HO; Oil; High Oleic	1028	
5	Dekalb DKF 29-90; Oil	1420	
6	Dekalb DKF 33-33; Oil; NuSun	950	
7	Dekalb DKF 35-10; Oil; Nusun	1211	
11	Kaystar 9404; Oil	1446	
12	Mycogen 8C416; Confection	784	
13	Mycogen 8D310; Oil/Dehull; NuSun	1202	
14	Mycogen 8N270; Oil; NuSun	2178	
15	Pioneer 63A21; Oil	645	
16	Pioneer 63M80; Oil; NuSun	1586	
17	Pioneer 63M91; Oil; NuSun	1438	
18	Proseed 9405; Oil; NuSun	1350	
19	Red River Commodities 7015M	645	
20	Seeds 2000 Bigfoot; Confection	950	
21	Seeds 2000 Grizzly; Confection	1176	
22	Triumph 700CLS; Confection	976	
23	Triumph 757C; Confection	1037	
24	Triumph 777C; Confection	1080	
25	Seeds 2000 X978CL; Oil	2039	
26	Triumph 660CL; Oil; NuSun	2073	
LSD (P=.05)		353.0	
Standard Deviation		249.6	
CV		20.3	
Grand Mean		1231.3	

2006 Yield (lbs/acre)

1	SEEDS 2000 X978CL; OIL	2415.6
2	TRIUMPH 660CL; OIL; NUSUN	2761
3	TRIUMPH S672	1550.1
4	CROPLAN 803	1682
5	CROPLAN 3080DMR,NS; OIL; NUSUN	1767.8
6	DEKALB DKF29-90; OIL	1769.9
7	DEKALB DKF35-10; OIL; NUSUN	2228.3
8	DEKALB DKF37-31	2318.3
9	DEKALB DKF38-68	2015.6
10	DEKALB DKF38-30	2623
11	KAYSTAR 8303; OIL; DEHULL	1842.1
12	KAYSTAR 9404; OIL	2332.3
13	KAYSTAR 9501	2536.2
14	MYCOGEN 8N270; OIL; NUSUN	2606.5
15	MYCOGEN 8N510	2292.3
16	MYCOGEN 8N453DM	2463
	LSD (P=.05)	459.56
	Standard Deviation	275.64
	CV	12.53
	Grand Mean	2200.26

2007 Yields

		Moisture	Test Wt	Yield
1	TRIUMPH 636	6.6	33.5	355
2	TRIUMPH SEEDS 660CL	6.9	36.5	462
3	TRIUMPH 845HO	6.7	34.0	311
4	TRIUMPH 859HOCL	7.2	36.5	407
5	TRIUMPH S678	7.0	35.5	473
6	TRIUMPH TRX7447	7.0	36.0	373
7	SEEDS 2000 BLAZER	6.8	37.0	272
8	SEEDS 2000 DEFENDER PLUS	6.4	35.5	257
9	SEEDS 2000 SIERRA	6.8	36.5	375
10	SEEDS 2000 X4239	6.8	36.0	354
11	SEEDS 2000 X4744SU	7.1	36.5	374
12	MYCOGEN 8N270	6.8	35.5	379
13	MYCOGEN 8N337DM	6.5	35.5	330
14	MYCOGEN 8N453DM	6.9	37.0	468
15	MYCOGEN E86423	6.6	33.5	494
16	MYCOGEN E86426	6.8	35.5	351
17	MYCOGEN E86524	6.9	36.5	468
18	DEKALB 37-31	6.8	35.5	398
19	DEKALB 38-30	6.9	34.5	394
20	DEKALB 38-45	6.6	34.5	428
21	DEKALB MH6638	6.7	37.0	311
22	DEKALB MH6639	6.8	35.0	296
23	DEKALB MH6640	6.6	36.5	341
24	PIONEER 63M80	6.6	36.0	400
25	PIONEER 63M91	6.6	37.0	365
26	SUN KING 4404 NS/CL	6.8	35.5	428
27	SUN KING 4500 NS	6.9	36.5	510
28	SUN KING XF0721 NS/CL	6.8	36.0	359
29	SUN KING XF0731 NS/CL/DM	7.0	37.0	452
30	SUN KING XF0741 NS	6.7	35.0	277
	LSD (P=.05)	0.381	.	175.04
	Standard Deviation	0.269	.	123.77
	CV	3.98	.	32.4
	Grand Mean			382

2008 Yields

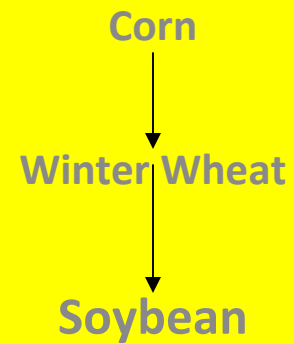
		Moisture	Yield	Oil %
1	Seeds 2000 - Barracuda	16.8	2443	44.70
2	Seeds 2000 - Blazer	16.1	2370	43.00
3	Seeds 2000 - Firebird	13.4	2505	42.60
4	GRI - 001	9.5	1907	42.30
5	GRI - 003	11.5	2119	44.30
6	GRI - 005	9.3	2066	42.70
7	GRI - 007	10.5	1931	43.50
8	GRI - King Seed	10.8	2087	40.00
9	Interstate Seed - DKF 29-30	8.0	1771	43.30
10	Interstate Seed - DKF 34-33	8.7	2061	45.50
11	Interstate Seed - DKF 34-80CL	8.0	1790	44.30
12	Interstate Seed - DKF 37-31	7.7	1855	43.80
13	Pioneer - 63M80	9.3	2571	45.80
14	Pioneer - 63M91	8.9	2139	44.90
15	Pioneer - 63N82	12.5	2545	43.70
16	Mycogen - 8N270	11.0	2403	44.20
17	Mycogen - 8N453DM	9.1	2346	49.40
LSD (P=.05)		1.455	447.68	
Standard Deviation		0.873	268.51	
CV		8.2	12.37	
Grand Mean		10.65	2171	

Commercial Sunflower Production in the South East



Current Rotation

3 Harvests/2 Years



Sunflower KY 2007



Sunflower MO, 2007



Sunflower Establishment into Winter Wheat Stubble 2008



Sunflower Pre-Flower Hopkinsville KY 2008



Sunflower: Early Bloom, Franklin KY, August 2008



**Key Challenges Identified to
Expansion of Sunflower
Production in the South- East**

Handling of Crop

- **Planter Retrofitting**
- **Harvesting: Corn Head or Bean Head**
- **Header attachments**

Production Agronomy

- **Fertility**
- **Weeds**
- **Diseases**
- **Insects**

Markets

- **Crushing**
- **Bird Seed market**

Future

- **500,000 to 1,000,000 acres**
- **Research- Local/Regional**
- **Competency of Agronomists**
- **Crop Insurance**
- **Market Development**

Kentucky September 2008



Thank You!

