EVALUATION OF SUMMER OILSEED VARIETIES FOR ADAPTABILITY AND BIODIESEL PRODUCTION

Kenneth Hanslik & Dr. Leon Clement, Sorghum Partners, Cooperators (2008)
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SUMMARY:

Summer oil seed crops may be a potential for farm production. Further investigation will help to establish the validity of these as a farm produced commodity. Yields of Caster beans ranged from 1556 – 2737 pounds/acre with the latter planting date showing some advantage. Sunflowers produced the highest yield per acre ranging from 3155 to 3198 pounds per acre. Safflower yields were 582 – 755 pounds per acre and sesame yielded 1273 – 1431 pounds of seed per acre. Further processing of this seed (not completed at this time) will extrude the oil, yielding oil for biodiesel produced per acre.

OBJECTIVE:

To evaluate various types of summer oilseed crops and varieties for their adaptability to our environment and yield for the potential production of biodiesel.

MATERIALS and METHODS:

Two varieties each of caster, sunflower, safflower and sesame were planted March 31, 2008 and May 13, 2008 using a research cone planter on a 7100 Max Emerge on 38" rows. The seeding rate was as follows:

Caster bean – 2 seeds/foot
Sunflower – 3 seeds/foot
Safflower – 23 seeds/foot
Sesame – 50 seeds/foot

Fertilizer applied at planting included 425 lbs/ac of 24-4-2 plus micro mix. Harvest was by hand sampling taken on July 28, 2008 for all crops except the sesame was harvested on September 9, 2008.

RESULTS and DISCUSSIONS:

Only 3.19 inches of rain fell after planting and prior July 28, 2008 or harvest of the castor beans, sunflowers and safflowers. Thirty-five rainfall events happened from the May 13, 2008 planting until the September 9, 2008 harvest but rainfall totaled only 7.46 inches (four being approximately one inch and four slightly above one-half inch and most less than one-quarter inch).

In spite of the dry weather production season, the summer oil seed crops grew well. Yields were generally in line with what was expected except the sesame yields were higher than typically raised sesame yields south of Victoria near Corpus Christi. Further evaluation will help to substantiate these numbers. Castor beans are very poisonous until processed for oil thus separation from food and feed sources needs to be noted for humans and livestock. The oil seeds will be further processed to extrude the oil and measure oil volume per acre.

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Table 1. Evaluation of summer annual oilseed varieties, Kenneth Hanslik & Dr. Leon Clement, Sorghum Partners, Cooperators. Victoria County, Texas, 2008

PLANT TYPE	VARIETY	HARVEST DATE	YIELD Lbs/Acre		SIGNIFICANCE [4/]
Planting Date			3/31/08	5/13/08	
Caster bean	Brigham	July 28	1556 a	2411 a	
	Hale	July 28	1923 a	2737 b	
					LSD (P=.05) 846.6
Sunflower	8N453M	July 28	3155 a	0 b [1/]	
	R664	July 28	3198 a	0 b [1/]	
					LSD (P=.05) 427.9
Safflower	CW 1221	July 28	755 a	0 b [2/]	
	CW 99-OL	July 28	582 a	0 b [2/]	
			-		LSD (P=.05) 245.3
			-		
Sesame	S-26	Sept 9	- [3/]	1273 a	
	S-32	Sept 9	- [3/]	1431 a	
					LSD (P=.05) 1014.8

[1/] Not harvested due to severe bird damage.
[2/] No seed production with May 13, 2008 planting
[3/] Not planted on March 31, 2008
[4/] Yields followed by the same letter within the variety planted are not statistically different.