TITLE:

Sesame Variety Trial, AGCARES, 2003

AUTHOR:

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METHODS AND PROCEDURES (for guar planting):

Soil Type:	Amarillo fine sandy loam
Planting:	June 12, 2002
Previous Crop:	Cotton
Seeding Rate:	~30 seeds per foot, or 2.5 lbs./A using 'low rate' sorghum disc in JD air-vacuum planter
Plot Set-up:	Four replicated plots, 4-40" rows X 50'
Harvest Area:	2 rows X 5'
Fertilizer:	None
Herbicide:	None; plots were weeded by hand in August
Insecticide:	None
Rainfall:	See summary in AGCARES report; 1.6" for June 3-9 prior to planting; 4.4" from June 12 to October 1 (period of physiological growth)
Date Harvested:	December 2, 2003

PURPOSE OF THIS WORK:

Small acreages of sesame production in the Texas South Plains have existed for many years, but historical production has sometimes been limited by the late maturity of the varieties as well as shattering of seed from the capsules. Recent varietal improvements from Sesaco Corp., Paris, TX, have both shortened maturity and reduced shattering.

Sesame is of interest because it is, along with guar perhaps the most drought tolerant and heat tolerant crops that may be grown on the South Plains. Sesame is also insect resistant. The primary production limitation for sesame for many producers is the lack of any labeled herbicide. Producers considering sesame should note that sesame is not for weedy ground.

This trial tests the current recommended sesame variety for the Texas South Plains, S-26, as well as three experimental lines for adaptability and yield in West Texas.

RESULTS AND DISCUSSION:

The currently recommended commercial sesame variety for West Texas, S-26, had the highest yield at 645 lbs./A although there was no statistical difference among yields of the four entries.

Additional plant characteristics were measured to help evaluate sesame growth. Agronomically, there were some key comparisons of interest when correlations were calculated. We note that there was a slight negative correlation between plant population and yield ($r = -0.29$). This suggests that high plant populations might have a slight drag on yield (and branch number, $r = -0.32$; and mainstem nodes per plant, $r = -.0.17$). Advice on target seeding rates and subsequent plant populations for sesame sometimes leans toward maintaining a higher seeding rate so that the small

shallow-planted sesame seeds can work together to push against possible crusts at emergence. Emergence observations in this trial did not indicate difficulty with stand establishment. In contrast branches per plant (r = 0.56) and number of nodes on the mainstem (r = 0.63) were positively correlated with yield.

Sesame Variety	Yield (lbs./A)	Population (plants/A)	Plant height (in.)	First capsule height (in.)	Branches per plant	First branch height (in.)	Main stem nodes
S-26	645 a	127,100 a	35.3 a	15.5 a	2.8 a	12.3 a	22.8 a
Ex 1	573 a	120,600 a	34.0 a	16.3 a	2.3 a	12.3 a	20.0 b
Ex 2	607 a	103,600 a	34.5 a	12.5 b	2.5 a	9.8 a	20.0 b
Ex 3	565 a	125,800 a	34.3 a	15.3 a	2.8 a	11.8 a	18.8 b
F	1.11	0.79	0.43	2.84	0.52	2.52	4.64
P-Value	0.384	0.525	0.735	0.083	0.674	0.108	0.022
PLSD (0.10)	NS*	NS	NS	2.5	NS	NS	2.0
Mean	598	119,200	34.5	14.9	2.6	11.5	20.7
CV (%)	11.7	20.1	4.5	15.3	24.6	14.9	10.1

*NS, not statistically significant at 0.10; numbers in column followed by same letter are not different at 0.10.

Economic considerations: Crop value should be based on 2003 contract prices of $0.22/lb. for a first-time grower and $0.23/lb. for a repeat grower. Sesame pricing also includes premiums and deductions based on test weight, color, foreign matter, and breakage. As long as a combine is set properly, producers are probably more likely to receive premiums rather than discounts. Approximate gross value of this crop at the average per acre yield was $131/A. Input costs were minimal for one tillage pass, planting, one cultivation, hoeing, and combining. Contract growers receive assistance for trucking costs set at the time of contracting.

For more information about sesame check with Calvin Trostle, the Texas A&M—Lubbock website at http://lubbock.tamu.edu, or call Sesaco Corporation, (800) 737-2260.