

PROJECT TITLE: Safflower variety trials, dryland and irrigated,  
SARC, Huntley MT 1989.

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PROJECT LOCATION: MSU - Southern Agricultural Research Center,  
Huntley MT 59037

OBJECTIVES:

To evaluate safflower varieties and breeder selections for adaptability, yield, test weight, oil content and quality, and disease resistance for production in south-central Montana.

SUMMARY AND RESULTS:

Safflower yields were significantly below average for both the irrigated and dryland sites at SARC (Tables 1, 2). Low yields on the irrigated site was due primarily to irrigation problems, whereas we are unsure of the reasons for the low dryland yields. The dryland yields were at least 50 percent of what we harvest on a normal year.

FUTURE PLANS:

This is a continuing study for evaluation of potential variety release.

TABLE 1 . 1989 DRYLAND SAFFLOWER VARIETY TRIAL, SARC, HUNTLEY, MT.

	VARIETY	YIELD LBS/AC	TEST WT LBS/BU
7	87B 1298	618.50	38.50
5	85B 4431	555.20	36.40
12	FINCH	552.23	35.63
2	83B 1954	551.43	36.97
1	82B 3555	547.63	36.87
6	85B 4829	526.83	36.30
14	MT 3697	513.23	36.60
16	OKER	508.97	36.03
15	SAFFIRE	499.93	37.07
11	S-208	478.37	36.20
3	85B 1837	473.27	36.30
4	85B 3918	436.90	35.53
10	S-541	428.87	38.57
9	87B 4311	406.00	39.33
13	GIRARD	357.70	37.70
8	87B 1650*	327.20	35.10

## \*\*\*\*\* STATISTICAL TABLE \*\*\*\*\*

EXPERIMENTAL MEANS	486.39	36.82
TOTAL OBSERVATIONS	48.00	48.00
NO. OF REPLICATIONS	3.00	3.00
NO. OF VARIETIES	16.00	16.00
REP. MEAN SQUARE	*****	.01
VAR. MEAN SQUARE	*****	4.17
ERROR MEAN SQUARE	8036.89	1.48
ERROR DEGREES OF FREEDOM	30.00	30.00
F TEST FOR REPS.	20.85	.01
F TEST FOR VAR.	2.29	2.82
STANDARD ERROR	89.65	1.22
STANDARD ERROR OF THE MEAN	51.76	.70
C.V. 1: (S/MEAN)*100	18.43	3.30
C.V. 2: (S OF MEAN/MEAN)*100	10.64	1.91
LSD (0.05)	149.49	2.03

\*NOTE: 1 rep of 87B 1650 yielded 1020#/Acre, but was far out of line with the other reps, so we arbitrarily took an average of the other 2 reps for analysis.

TABLE 2 . 1989 IRRIGATED SAFFLOWER VARIETY TRIAL, SARC, HUNTLEY, MT.

	VARIETY	YIELD LBS/AC	TEST WT LBS/BU
16	OKER	1736.00	31.83
5	85B 4431	1430.47	27.67
12	FINCH	1409.70	32.37
3	85B 1837	1324.93	28.90
4	85B 3918	1184.80	27.73
2	83B 1954	1132.17	29.57
8	87B 1650	1097.73	23.80
15	SAFFIRE	973.57	36.07
11	S-208	953.13	29.20
6	85B 4829	840.13	26.30
14	MT 3697	839.90	24.50
7	87B 1298	782.97	25.70
9	87B 4311	629.33	25.37
13	GIRARD	521.07	24.13
1	82B 3555	305.70	23.53
10	S-541	289.90	23.80

## \*\*\*\*\* STATISTICAL TABLE \*\*\*\*\*

EXPERIMENTAL MEANS	965.72	27.53
TOTAL OBSERVATIONS	48.00	48.00
NO. OF REPLICATIONS	3.00	3.00
NO. OF VARIETIES	16.00	16.00
REP. MEAN SQUARE	*****	18.28
VAR. MEAN SQUARE	*****	39.54
ERROR MEAN SQUARE	*****	1.99
ERROR DEGREES OF FREEDOM	30.00	30.00
F TEST FOR REPS.	.52	9.17
F TEST FOR VAR.	22.04	19.83
STANDARD ERROR	150.53	1.41
STANDARD ERROR OF THE MEAN	86.91	.82
C.V. 1: (S/MEAN)*100	15.59	5.13
C.V. 2: (S OF MEAN/MEAN)*100	9.00	2.96
LSD (0.05)	251.02	2.35