

PROJECT TITLE: Safflower variety trials, dryland and irrigated, SARC, Huntley, MT 59037 1990.

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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 about average for both the irrigated and dryland sites at SARC (Table 1,2). Under irrigation, selection 87B 1650 was highest in yield, Finch had the highest test weight, and 88A3697 had the highest oil content. While on dryland Saffire was highest yielding, and S-541 had the highest test weight and oil content.

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

TABLE 1 . 1990 IRRIGATED SAFFLOWER VARIETY TRIAL, SARC, HUNTLEY, MT.

VARIETY	YIELD LBS/AC	TEST WT LBS/BU	PLANT HT INCHES	OIL* %
87B 1650	2589.00	38.77	26.00	46.20
S-208	2550.80	40.73	25.00	44.20
83B 1954	2544.64	36.50	27.00	44.67
S-317	2512.36	37.53	27.00	47.30
85B 4431	2266.80	39.77	27.00	42.93
82B 1277	2144.00	39.10	23.00	46.00
85B 1837	2140.12	37.53	25.00	43.77
88A 3697	2128.08	40.40	24.00	48.90
CENTENNIAL	2117.44	38.37	26.00	47.80
87B 1298	2114.20	40.17	28.00	44.97
GIRARD	2057.84	40.13	27.00	44.03
MONTOLO 2000	2050.04	39.60	23.00	47.70
OKER	2046.68	38.40	27.00	44.13
S-541	1967.84	38.23	27.00	48.17
85B 3918	1959.36	34.97	26.00	47.67
FINCH	1931.24	42.90	27.00	42.63
82B 3555	1806.04	37.80	26.00	47.10
SAFFIRE	1748.16	41.00	26.00	34.90

***** STATISTICAL TABLE *****

EXPERIMENTAL MEANS	2148.59	38.99	.00	45.17
TOTAL OBSERVATIONS	54.00	54.00	.00	54.00
NO. OF REPLICATIONS	3.00	3.00	.00	3.00
NO. OF VARIETIES	18.00	18.00	.00	18.00
REP. MEAN SQUARE	*****	1.15	.00	1.47
VAR. MEAN SQUARE	*****	10.14	.00	30.87
ERROR MEAN SQUARE	*****	1.34	.00	.23
ERROR DEGREES OF FREEDOM	34.00	34.00	.00	34.00
F TEST FOR REPS.	5.15	.86	.00	6.37
F TEST FOR VAR.	3.90	7.59	.00	133.87
STANDARD ERROR	221.52	1.16	.00	.48
STANDARD ERROR OF THE MEAN	127.89	.67	.00	.28
C.V. 1: (S/MEAN)*100	10.31	2.96	.00	1.06
C.V. 2: (S OF MEAN/MEAN)*100	5.95	1.71	.00	.61
LSD (0.05)	367.57	1.92	.00	.80

*Oil % is based on 8% seed moisture.

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TABLE 2 . 1990 DRYLAND SAFFLOWER VARIETY TRIAL, SARC, HUNTLEY, MT.

VARIETY	YIELD LBS/AC	TEST WT LBS/BU	PLANT HT INCHES	OIL* %
SAFFIRE	1362.32	39.07	28.00	32.47
S-317	1273.16	37.60	29.00	43.60
88A 3697	1225.16	37.67	26.00	43.90
GIRARD	1217.44	39.23	30.00	41.47
FINCH	1214.36	39.43	30.00	38.60
S-208	1203.48	37.43	30.00	41.93
CENTENNIAL	1199.08	37.57	27.00	43.83
S-541	1183.20	39.97	33.00	46.10
83B 1954	1179.00	37.53	26.00	42.87
87B 1298	1137.76	38.27	29.00	42.63
82B 1277	1131.16	36.60	26.00	39.67
MONTOLA 2000	1073.88	35.90	28.00	43.20
85B 4431	1024.24	38.07	27.00	37.37
85B 1837	983.52	37.97	27.00	39.40
82B 3555	968.00	38.43	28.00	43.43
87B 1650	965.08	33.63	27.00	40.50
OKER	904.08	35.97	29.00	40.70
85B 3918	832.36	32.93	28.00	43.83

***** STATISTICAL TABLE *****

EXPERIMENTAL MEANS	1115.40	37.40	.00	41.42
TOTAL OBSERVATIONS	54.00	54.00	.00	54.00
NO. OF REPLICATIONS	3.00	3.00	.00	3.00
NO. OF VARIETIES	18.00	18.00	.00	18.00
REP. MEAN SQUARE	*****	15.97	.00	19.12
VAR. MEAN SQUARE	*****	10.36	.00	29.75
ERROR MEAN SQUARE	*****	3.59	.00	1.13
ERROR DEGREES OF FREEDOM	34.00	34.00	.00	34.00
F TEST FOR REPS.	18.58	4.45	.00	16.90
F TEST FOR VAR.	.89	2.89	.00	26.30
STANDARD ERROR	258.75	1.89	.00	1.06
STANDARD ERROR OF THE MEAN	149.39	1.09	.00	.61
C.V. 1: (S/MEAN)*100	23.20	5.07	.00	2.57
C.V. 2: (S OF MEAN/MEAN)*100	13.39	2.92	.00	1.48
LSD (0.05)	429.36	3.14	.00	1.76

*Oil % is based on 8% seed moisture

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