

PROJECT TITLE: Evaluation of food and specialty oil safflower varieties under dryland conditions at Geraldine.

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OBJECTIVES:

To evaluate the performance of safflower varieties and test lines under recrop environments in the Geraldine area. The Geraldine area traditionally produces some of the highest safflower yields and quality in Montana.

RESULTS:

The 1995 variety trial was recropped on tilled winter wheat residue. Soil conditions were very wet at planting, with much seed left on the surface. Germination was good, as stands were excellent. Yields ranged from 1918 to 1399 lbs/a with 91B 1130 producing the high seed and oil yield. Test weights averaged 40.9 lbs/bu while oil content averaged 40.9%. Mont2000 and 88B 3006 were other high seed yielders. Centennial and S-541 had high oil contents. Data for the 1995 variety trial are presented in Table 1.

SUMMARY:

Trials were planted under fallow and recrop conditions in 1990-1992, with both yields figured into the longterm average. S-541 has the high long term average yield. Centennial and Mont 2000, which have been in this trial since 1990, have average yields similar to S-541, in comparable years. Seed yield multi-year summaries are presented in Table 2.

FUTURE PLANS:

Future plans have not been determined at this time.

Table 1 1995 Safflower Variety Performance at Geraldine
Exp. 7707 Central Agricultural Research Center, Moccasin, MT.

Variety	Pedigree	Plant Ht.	Test Wt.	Seed Yield	Oil Content	Oil Yield
		"	lbs/bu	lbs/a	%	lbs/a
91B 1130	94DLI3 #108,EARC	33	39.7	1918	42.4	813
MONT2000	MT Cert.#911-906	24	40.6	1798	42.7	769
88B 3006	94MTDSVT #114,EARC	30	40.0	1793	41.8	745
90B 6011	94MTDSVT #115,EARC	34	40.2	1735	40.1	695
MORLIN	MT 911-880	29	39.9	1727	40.8	704
91B 1712	94DLI4 #315/109,EARC	28	40.4	1708	42.7	730
CENTENNL	HV Cert.#901-1925	28	41.4	1604	43.3	697
STIRLING	94MTDSVT #213/112,EARC	25	42.1	1596	36.1	577
S-541	SeedTec Lot# 02061	28	41.5	1588	43.1	682
S-208	SeedTec 83WW045-8	27	41.7	1583	39.4	622
FINCH	ND Lot# FS 2003&2004	30	45.0	1568	38.2	600
91B 1126	94DLI3 #327/107,EARC	31	44.0	1550	40.8	631
GIRARD	ND Lot# GS 2006	32	41.6	1546	39.8	617
91B 6668	94MTDSVT #117,EARC	26	41.2	1499	41.3	619
ERLIN	94MTDSVT #214/116,EARC	29	39.5	1493	41.0	610
OKER	Cert.# 841-1670	30	39.6	1417	39.7	560
MONT2001	Cert.# 941-1780,SARC	25	39.4	1401	41.4	580
91B 2676	94DLI2 #327/107,EARC	30	38.9	1399	41.9	586
EXPERIMENTAL MEANS			40.93	1606.96	40.93	657.73
F TEST FOR VAR. df=34			32.22	1.07	35.28	1.67
C.V. 1: (S/MEAN)*100			1.19	15.24	1.31	15.06
LSD (0.05)			.81	406.41	.89	164.34

Soil conditions were very wet at seeding with much seed left on top of ground.
Germination was good, as stands were excellent.

Planted: 5-3-1995 on recrop winter wheat ground.
Fertilizer: 55 units N as Anhydrous applied Oct. 1994, 50# 18-46-0 w/seed.
Harvested: 10-9-1995.
Producer: Roger Van Voast, Geraldine.

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Table 2 Geraldine Safflower Multi-Year Summary
Central Agricultural Research Center, Moccasin, MT.

Variety	1986*	1987	1989	1990 Fallow	1990	1991 Fallow	1991#	1992 Fallow	1992	1994*	1995	Ave.	S-541 Same Yrs
-----lbs/a-----													
S-541	1331	1477	694	1189	888	1384	442	1451	946	1124	1588	1138	----
Finch	1378	1237	1131	1165	754	1291	296	1317	816	1045	1568	1091	1138
Girard	1158	1316	391	1583	1058	1464	510	1167	787	1002	1546	1089	1138
S-208	1180	1450	1062	1139	863	1438	426	1021	768	1001	1583	1085	1138
Oker	1264	1060	977	1196	879	1328	348	1090	679	789	1417	1002	1138
Centennial				1354	783	1313	449	1707	982	1014	1604	1151	1126
Mont 2000				1582	1033	1332	387	1173	864	879	1798	1131	1126
88B 3006						1129	214	1640	1039	969	1793	1131	1156
Morlin								1074	945	1088	1727	1208	1277
Stirling								1743	1158	1014	1596	1378	1277
90B 6011								1603	1378	965	1735	1420	1277
Mont 2001										797	1401	1099	1356
ERLIN										884	1493	1188	1356
91B 6668M										1060	1499	1279	1356
Mean	1207	1269	845	1276	873	1310	398	1370	955	977	1607		

*Means adjusted for stand percent.

#Weather related disease infection is suspected to have resulted in low yields.

Trials were planted on recrop ground, except where noted.

1988 trial was abandoned due to poor stand as a result of crusting after seeding.

1993 trial did not produce mature seed due to cool summer temperatures, along with hail damage.

Trials were located on Paul Dostal farm, 16 miles east of Geraldine, from 1986-1990.

Trials were located on Roger Van Voast farm, 2 miles east of Geraldine, since 1991.