

PROJECT TITLE: Evaluation of oilseed crop species/varieties in central Montana on dryland recrop.

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OBJECTIVES:

To determine yield potential of oilseed crops in central Montana and evaluate variety performance.

METHODS:

Entries are seeded in RCB arrangement in 4-5' x20' plots with 1' row spacing. Plots are typically harvested with a self-propelled 4' wide plot combine. Fertilizer is typically applied at 50-60 lbs/a of N for safflower and 70-90 units per acre for canola.

RESULTS:

1998 Crop year droughty conditions, from September 1997 through May 1998, severely reduced yield potentials of crops on shallow soils and/or recrop.

Moccasin safflower had marginal stands in part due to seeding later than desirable and droughty conditions. The crop was able to recover due to good moisture in June and delayed fall frost couple with above average temperatures July through September. Seed and Oil yields came near long term averages for Moccasin which at 4300' elevation is often too cool to mature safflower (Table 1). **Geraldine safflower** yields were below average due to low precipitation in the first two-thirds of the crop year (Table 2). Oil contents were near average.

SUMMARY:

Droughty conditions persisting from September of 1997 through May of 1998 severely hindered seedling establishment and growth at Moccasin and Geraldine. Safflower at Moccasin had the benefit of a long frost free season and above average temperatures in July through September which provided sufficient heat units for the safflower to mature following a cool June. Moccasin yields were near or above expectations. Safflower at Geraldine experienced late season moisture stress which limited yields. Much of the recrop safflower around Geraldine experienced similar conditions.

FUTURE PLANS:

Safflower variety evaluations will be continued for one more year. Evaluation of safflower varieties beyond 1999 will be dependent on producer interest in safflower production.

Table 1 1998 Safflower variety evaluation on dryland recrop at CARC.
Exp7707 Central Agricultural Research Center, Moccasin, Montana

VARIETY	Source	Seed Yield lbs/a	Test Weight lbs/bu	Oil Content %	Oil Yield lbs/a
FINCH	ND FSF #95/21W	1129	44.6	33.14	375
S-518	97 Williston	1001	41.4	38.11	381
95B 7348	96 DOL5 #310/130	940	41.2	35.36	333
95B 3538	97 DLi1 #126	934	43.3	31.82	297
MONT2000	CA #97A-6911-7081	926	40.2	37.00	343
95B 7174	96 DOL5 #114	910	41.9	36.46	332
95B 7181	96 DOL5 #115	890	44.0	34.91	311
91B 6429	94 DOL1 #218/128	858	40.3	35.71	307
CENTENNIALMT	Cert. #901-1925	832	42.2	37.92	315
96B*7007	97B 7192	814	41.3	35.79	292
95B 2896	97 WLO4 #105	808	40.2	36.80	297
95B 2898	97 DLi1 #125	803	40.2	35.96	289
96B 7018	97B 7201	799	44.6	34.32	274
96B 6798	97 DOL6 #110	774	42.0	37.42	290
MORLIN	MT Cert. #971-916	769	40.0	34.16	262
GW 9024	97 California	763	41.4	32.12	245
GW 9023	97 California	742	43.4	28.25	209
91B 3842	96 DLi2 #216/113	737	38.7	39.26	290
GW 9022	97 California	733	42.1	28.36	208
GW 9025	97 California	729	42.3	31.98	233
96B 6333	97 DOL3 #109	706	39.2	35.46	250
ERLIN	MT Cert. #951-900	697	39.4	33.64	234
MONT2001	MT Cert. #971-912	648	40.2	32.44	210
91B 2166	97MTDSVT#313/105	622	40.1	33.60	209
96B 6757	97 DO14 #125	570	39.7	36.28	207
96B 6158	97 IO15 #102	562	41.2	39.94	225
96B 6999	97 DOL7 #123	555	39.6	36.69	203
96B*6430	97 DOL4 #102	484	36.3	42.83	209
96B 6662	97 IO12 #120	481	38.9	34.72	167
96B6731W	97 WO15 #121	420	38.0	32.94	138
Means		754.5	40.9	35.11	264.6
C.V. 1: (S/MEAN)*100		15.68	1.23	1.59	15.95
LSD (0.05)		193.4*	.82*	.91*	69.0*
Planting date:	4-27-98	Emergence:	erratic-drought	Harvest:	9-18-98
Seeding Rate:	20 lbs/a	Gro. Season Prcp:	11.03"	Fertilizer:	80-0-0-24 broadcast
Weed Control:	No-till, pp Roundup, pe Poast.			Bird Damage:	Finch

Table 2 1998 Safflower variety evaluation on dryland recrop at Geraldine.
Exp7707 Central Agricultural Research Center, Moccasin, Montana

VARIETY	Source	Plant Ht.	Seed Yield	Test Weight	Oil Content	Oil Yield
		"	lbs/a	lbs/bu	%	lbs/a
95B 7174	96 DOL5 #114	25	1359	41.9	39.41	537
GW 9022	97 California	23	1351	41.8	31.63	433
95B 7181	96 DOL5 #115	22	1286	44.9	37.65	482
95B 3538	97 DLi1 #126	27	1221	43.1	35.49	434
95B 7348	96 DOL5 #310/130	22	1198	42.0	40.33	483
91B 6429	94 DOL1 #218/128	24	1188	40.9	39.83	473
95B 2896	97 WLO4 #105	22	1183	40.3	40.22	476
96B*7018	97 DOL7 #130	21	1167	41.2	39.08	458
CENTENNL	MTCert #901-1925	24	1136	41.0	40.05	454
S-518	97 Williston	24	1134	40.8	39.28	446
MONT2000	CA #97A-6911-7081	22	1131	40.8	39.89	452
96B 6798	97 DOL6 #110	20	1121	42.5	41.06	460
95B 2898	97 DLi1 #125	23	1115	39.7	38.09	425
96B*7007	97B 7192	22	1110	40.4	38.39	426
96B 6999	97 DOL7 #123	22	1099	40.4	39.56	435
GW 9025	97 California	26	1094	43.1	35.45	389
GW 9023	97 California	25	1083	42.8	33.04	358
MORLIN	MT Cert. #971-916	22	1078	40.2	36.65	397
91B 2166	97MTDSVT#313/105	25	1065	40.1	37.12	395
FINCH	ND FSF #95/21W	24	1054	45.5	36.51	386
96B*6731	97B 6822	24	1036	40.7	41.00	425
96B*6757	97B 6859	22	1023	41.5	37.59	386
96B 6158	97 IO15 #102	24	987	41.0	44.96	444
GW 9024	97 California	22	973	42.8	35.34	344
96B 6333	97 DOL3 #109	24	957	41.0	38.81	372
MONT2001	MT Cert. #971-912	23	917	40.7	39.16	360
ERLIN	MT Cert. #951-900	21	865	38.0	37.53	326
96B 6662	97 IO12 #120	21	843	40.7	39.01	329
96B*6430	97 DOL4 #102	24	813	36.5	46.31	376
91B 3842	96 DLi2 #216/113	25	796	38.5	42.78	341
EXPERIMENTAL MEANS		--	1079.5	41.17	38.71	416.7
LSD (0.05)			311.7ns	1.00	1.68	123.3ns

Planting date: 4-26-98 on cc wheat stubble. Some drill problems. Harvest: 9-20-98
 Seeding Rate: 20 lbs/a Emergence: generally good. Barley invaded plots 28-30
 Fertilizer: 50-0-0 preplant Unique Conditions: Precipitation was lower than average.
 Weed Control: pre-plant tillage, post emerge Poast.