PROJECT TITLE: Evaluation of agronomic performance of spring durum varieties under no-till, recrop after lentils near Moccasin.

PROJECT LEADER: D.M Wichman - Res. Agronomist, Moccasin, MT.

PROJECT PERSONNEL: J.L. Eckhoff – Durum breeder EARC, Sidney, MT.
J. Vavrovsky – Res Specialist, CARC, Moccasin, MT.

OBJECTIVES:
Evaluate the agronomic performance of spring durum varieties in continuous crop environment following a lentil crop.

RESULTS:
The establishment of the durum nursery after lentils did not work out as planned. An alternative nursery was established on no-till recrop after winter wheat in a sawfly area near Moore. The field has been seeded to wheat for several years.

The durum yield and test weight levels were quite low (see Table 1). Avonlea had the top mean yield at 18 bu/a. The average test weight was 52.8 lbs per bushel. Low precipitation was a major factor in low yield and low test weight performance. However, the lack of diversity in crop species in recent years may have further suppressed yields. Winter and spring wheat are the only crops to have been raised on this land in several years.

Sawfly was present at the nursery site. However, the infestation was not high in this trial or an adjacent spring wheat variety trial. Eight out 24 durum entries did not experience any stem cutting. Only one entry, MT02DH32, had more than 2.5% stems cut off.

SUMMARY:
The stem cutting in the durum nursery was well below that of the adjacent spring wheat nursery. This re-affirms previous findings that in general durum is less attractive to sawfly than are the hard red wheat varieties.

FUTURE PLANS:
The 2007 nursery will be established following lentils at CARC.

Table 1 2006 No-till continuous crop durum near Moore.
Exp 987406 Central Agriculutral Research Center. Moccasin, Montana

Variety/ID	Entry	Plant Height	Grain Yield	Test Weight	Sawfly Cutting 1/	Grain Protein
	#	cm	bu/a	lbs/bu	%	%
Avonlea	12	66	**18.0**	53.1	0.3	18.8
MT02DH82	18	72	17.2	54.0	1.2	19.8
MT01649	14	65	17.1	51.7	0.7	18.9
Alkabo	6	75	17.0	54.2	0.8	19.0
MT01617	13	63	17.0	49.6	0.0	19.1
Mountrail	1	63	16.6	52.0	1.0	19.8
Alzada	9	75	16.5	52.6	0.3	17.4
MT03012	22	61	16.2	53.8	0.0	18.8
MT02525	15	75	16.0	55.3	0.0	18.2
Divide	4	81	16.0	53.2	0.0	19.5
MT01695	23	59	15.9	**57.3**	0.0	16.2
Maier	10	**88**	15.9	53.3	0.3	20.0
Grenora	7	75	15.8	52.6	0.3	19.3
MT02DH55	17	76	15.5	51.8	0.0	19.2
Pierce	5	79	15.3	52.9	0.7	20.1
Strongfield	3	76	15.3	50.8	0.0	21.2
Dilse	8	72	15.1	53.9	1.2	18.9
MT02302	20	58	14.8	49.3	0.3	19.0
Plaza	2	74	14.7	53.3	0.3	19.2
MT03108	21	64	14.5	50.5	0.8	19.8
MT02DH71	19	62	14.4	54.3	0.8	20.3
MT02298	24	64	14.0	53.1	0.0	19.1
Kyle	11	85	13.8	52.1	0.7	19.8
MT02DH32	16	71	13.0	52.2	**2.5**	19.9
Mean		70.8	15.7	52.8	0.5	19.2
CV1			7.5	1.2	131.9	
LSD(0.05)			1.9	1.4	1.1	

Seeded: 12-Apr-06 No-till recrop after winter wheat.
Fertilizer: 10+10+10+5 w/seed 90 lbs N as top dress urea
Harvest: 11-Aug-06
1/ : Stem cutting is a visual estimate rather than actual stem count.