

Title: Durum variety evaluations in the Western Triangle Area.

Year: 2006

Location: Western Triangle Research Center, Conrad, MT.

Personnel: Dr. Gregory Kushnak, Ag Research Center, Conrad; and  
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Dryland and irrigated durum variety trials were grown on fallow at Conrad, and included a set of experimental lines from the Sidney durum breeding project in addition to varieties already in commercial production.

Results: Moisture conditions were favorable for durum growth and ripening at Conrad in 2006. The dryland trial had rain-free conditions for the two-week ripening period up to harvest and color of harvest samples was excellent. The irrigated trial received one-half inch of rain within three days of harvest. Data for the durum trials are presented in Tables 1-4, and include the 2006 and multi-year averages.

Among the durum varieties, 'Alzada', 'Avonlea', 'Maier', and 'Strongfield' had above-average yield in the dryland trials over the past five years (Table 2). Maier, 'Pierce' and 'Dilse' had above-average average test weight. Strongfield and Avonlea had the highest protein. Alzada had the earliest head date among varieties, although two experimental lines were earlier (Table 1).

In the irrigated trial, Alzada, Avonlea, Mountrail, Pierce and 'Plaza' ranked above average for yield (Table 4). Avonlea and Dilse had the highest protein. Strongfield was grown in the irrigated trial only one year (2006), and therefore is not included in the five-year averages. The 2006 data indicates Strongfield to be more suited to dryland production (Tables 1 and 3).

Future Plans: Variety trials will be repeated in 2007 at this location.

Table 1. 2006 dryland Durum variety trial, Conrad, MT.

Variety	Yield bu/a	Test Wt lb/bu	Height in.	Head date	Protein %	HAVC	Color	100-seed wt, gm
MT01695	71.9	63.0	26	176	12.2	94.3	18.1	3.39
MT01649	69.9	58.6	25	174	13.8	93.6	20.0	3.54
<b>Avonlea</b>	65.9	60.2	37	178	13.9	100.0	19.8	3.68
MT02525	65.8	61.8	26	175	12.9	91.0	18.9	3.41
MT03012	65.0	61.9	27	172	13.4	97.5	19.1	3.36
<b>Strongfield</b>	64.8	60.5	38	180	14.9	92.2	20.1	3.23
<b>Alzada</b>	64.2	60.1	29	175	12.4	91.1	19.2	4.53
<b>Alkabo</b>	64.1	61.1	36	178	13.2	97.9	18.0	3.42
MT02DH82	63.6	62.1	38	177	12.7	92.0	17.5	4.08
<b>Pierce</b>	63.4	61.1	39	178	12.9	97.0	17.8	3.72
<b>Mountrail</b>	63.2	59.4	38	179	14.4	82.7	22.0	3.12
<b>Grenora</b>	63.0	59.9	36	178	13.4	100.0	17.8	4.04
<b>Divide</b>	62.7	60.9	37	179	13.1	93.3	19.1	3.69
MT02302	62.3	57.9	28	177	13.7	92.7	20.7	3.30
MT02DH32	61.7	61.3	37	175	14.0	87.6	19.3	3.34
<b>Kyle</b>	61.1	60.3	45	180	14.1	93.2	19.7	3.44
<b>Dilse</b>	60.7	61.3	36	179	12.9	89.2	19.4	3.87
MT02DH71	60.6	60.3	37	178	14.1	92.5	18.8	3.24
MT02DH55	60.3	58.9	36	178	13.0	92.7	20.3	3.21
<b>Maier</b>	60.1	60.6	35	178	14.0	89.5	20.1	3.21
MT01617	60.0	57.0	28	179	13.3	76.8	21.3	2.85
<b>Plaza</b>	58.3	58.0	28	179	13.1	81.0	19.8	3.14
MT02298	58.1	58.5	26	178	13.4	88.5	19.2	3.33
MT03108	53.5	55.7	27	178	14.9	82.9	21.1	3.17
Mean	62.7	60.0	33.1	177.4	13.5	91.3	19.5	3.47

LSD (.05) = 10.8 bu. C.V.1&2 = 10.5 & 6.1

Planted April 19, 2006 on fallow.

Fertilizer, actual: 71-52-0

Harvested Aug 9, 2006.

Location: MSU Western Triangle Ag Research Ctr, Conrad, MT

Table 2. Five-year averages, **dryland Durum** varieties, Conrad area, Pondera Co. 2002 - 06.

Variety	Source	5-Year Average				
		Yield bu/a	Test weight	Height in.	Head date	Protein %
Alzada	WestBred	55.1	60.2	31	181	13.6
Avonlea	Can	54.8	60.2	37	183	14.9
Strongfield	Can	54.7	60.1	37	185	15.0
Maier	ND	52.4	61.0	34	183	14.3
Mountrail	ND	52.3	59.7	36	184	14.2
McNeal Wheat	MSU	52.3	59.0	34	183	13.9
Pierce	ND	50.8	61.0	37	183	14.1
Kyle	Can	50.5	60.1	41	185	14.7
Plaza	ND	50.3	59.0	29	184	13.8
Dilse	ND	49.2	60.9	35	184	14.6
nursery mean		52.2	60.1	34.8	183.4	14.3

Location: MSU Western Triangle Agr Research Center, Conrad, MT.

Table 3. 2006 Irrigated Durum variety trial, Conrad, MT.

Variety	Yield bu/a	Test Wt lb/bu	Height in.	Head date	Protein %	HAVC	Color	100-seed wt, gm
MT01695	101.9	64.8	30	174	11.7	89.1	15.9	4.23
MT02525	90.4	63.1	28	173	12.5	87.1	18.1	4.12
MT01649	87.7	59.8	28	173	13.3	77.5	19.1	4.17
MT02298	87.0	61.6	28	175	12.1	87.0	17.3	4.44
<b>Plaza</b>	85.7	59.2	30	176	12.6	85.4	18.7	3.78
<b>Avonlea</b>	85.1	61.6	37	175	12.8	96.0	18.4	4.51
<b>Pierce</b>	84.9	62.6	40	177	13.4	90.7	20.0	3.64
<b>Grenora</b>	83.7	60.4	36	176	13.6	82.8	20.4	3.78
<b>Divide</b>	83.0	61.6	39	176	13.5	82.8	20.1	4.14
MT02DH55	82.8	60.1	34	177	13.6	83.4	19.2	3.35
MT02DH71	81.9	61.3	33	175	13.4	82.5	18.0	4.17
MT02DH82	81.5	61.3	39	176	13.7	81.1	17.9	4.10
<b>Alzada</b>	81.1	61.5	31	173	12.7	85.3	20.4	4.50
MT03108	81.1	59.5	30	176	13.4	90.5	19.5	4.15
MT02302	81.0	60.0	28	175	13.0	84.6	19.9	4.32
MT01617	80.4	58.3	30	176	12.8	77.6	20.2	3.27
MT02DH32	79.5	61.8	37	174	13.3	91.3	16.0	4.24
<b>Mountrail</b>	79.3	60.3	39	176	12.9	87.4	20.6	3.79
<b>Kyle</b>	79.1	61.5	40	177	12.6	91.7	17.3	4.21
<b>Maier</b>	78.2	61.9	35	174	13.5	87.8	18.1	4.02
MT03012	77.5	62.7	29	172	12.0	94.6	18.8	4.08
<b>Strongfield</b>	76.6	61.1	39	178	13.5	93.2	20.0	3.83
<b>Dilse</b>	75.9	61.1	37	177	13.9	85.7	19.9	3.68
<b>Alkabo</b>	75.1	61.3	37	177	13.2	83.9	19.2	3.86
Mean	82.5	61.2	33.9	175.3	13.0	86.6	18.9	4.02

LSD (.05) = 9.8 bu. C.V.1&2 = 7.2 & 4.2

Planted April 19, 2006 on fallow.

Fertilizer, actual: 100-52-0

Harvested Aug 14, 2006.

Location: MSU Western Triangle Ag Research Ctr, Conrad, MT

Table 4. Five-year average, irrigated Durum varieties, Conrad area, Pondera Co. 2002 - 06.

Variety	Source	5-Year Average				
		Yield bu/a	Test weight	Height in.	Head date	Protein %
Plaza	ND	81.3	61.1	31	183	13.4
Mountrail	ND	81.0	61.7	38	183	13.1
Alzada	WestBred	80.7	62.3	33	180	13.6
Avonlea	Can	79.7	61.8	38	181	14.2
Pierce	ND	79.7	62.6	40	184	13.4
Maier	ND	77.3	62.5	36	182	13.9
McNeal Wheat	MSU	75.1	60.4	36	183	13.5
Dilse	ND	74.6	62.2	38	184	14.1
Kyle	Can	68.8	61.4	43	184	13.9
nursery mean		77.6	61.7	36.8	182.5	13.7

Location: MSU Western Triangle Agr Research Center, Conrad, MT.