

PROJECT TITLE: Statewide Durum Variety Performance - 2006

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OBJECTIVE: To evaluate new and existing varieties and experimental lines of durum under various growing conditions and environments in Montana.

RESULTS: The 2006 Statewide durum yield trial was grown at two irrigated and eight rain-fed sites across Montana. Irrigated sites were at Sidney and Conrad. Replicated multiple-row plots were established at all locations using standard research techniques. Summaries of heading, height, test weight, protein content, seed weight, hard vitreous amber color (HVAC), sawfly damage, disease and yield are in Tables 1-9. A summary of all characters across sites is shown in Table 10.

Highest yielding varieties at each site were MT02DH82 at **Havre**, Grenora at **Moccasin**, Avonlea at **Moore**, MT01695 at **Conrad irrigated** and **Conrad dryland**, MT01695 at **Sidney dryland**, Pierce at **Sidney irrigated**, Mountrail at **Huntley**, MT02DH55 at **Bozeman**, and MT01695 at **Williston**. Highest yielding line on a statewide basis was MT01695 (Table 9).

Earliest blooming line across sites was MT01649, latest blooming line was Kyle (Table 1). Shortest line across sites was MT01649, tallest line was Kyle (Table 2). MT01695 had the greatest test weight across sites (Table 3). Strongfield had the highest protein across sites (Table 4). Alzada had the heaviest seed across sites (Table 5). Avonlea had the highest percent hard vitreous amber color across sites (Table 6).

SUMMARY: Highest yielding varieties at each site were MT02DH82 at **Havre**, Grenora at **Moccasin**, Avonlea at **Moore**, MT01695 at **Conrad irrigated** and **Conrad dryland**, MT01695 at **Sidney dryland**, Pierce at **Sidney irrigated**, Mountrail at **Huntley**, MT02DH55 at **Bozeman**, and MT01695 at **Williston**. Highest yielding line on a statewide basis was MT01695.

FUTURE PLANS: New and existing varieties and experimental lines will continue to be evaluated at Bozeman and the Research Centers in Montana, so that breeders can release improved varieties and producers can have information on varieties best adapted to conditions in their areas.

Table 1. Heading (days from planting) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Moccasin	Huntley	Bozeman	Average
Alkabo	52.0	51.7	51.3	68	69	64.3	73.3	63.3	60	61.4
Alzada	49.0	47.3	53.0	64	66	60.3	71.0	59.3	57	58.6
Avonlea	51.0	49.7	51.0	66	69	64.3	72.3	61.7	60	60.6
Dilse	53.0	52.3	51.7	68	70	67.3	74.7	63.3	62	62.5
Divide	56.0	54.0	54.0	67	70	66.3	74.0	63.3	61	62.9
Grenora	51.3	51.3	52.3	67	69	65.7	72.7	62.7	60	61.3
Kyle	54.7	54.7	51.3	68	71	68.3	76.7	66.7	63	63.8
Maier	52.7	51.3	49.7	65	69	65.7	73.3	63.3	61	61.2
Mountrail	53.0	53.0	49.7	67	70	67.7	73.7	63.3	61	62.0
MT01617	54.3	53.3	48.3	67	70	65.7	75.3	63.3	61	62.0
MT01649	48.0	47.3	51.3	64	65	61.0	71.0	60.3	57	58.3
MT01695	51.3	49.7	51.0	65	67	64.0	73.7	62.3	60	60.4
MT02298	53.3	52.0	51.0	66	69	67.0	72.3	63.0	60	61.5
MT02302	50.7	50.7	50.3	66	68	63.3	73.0	62.3	60	60.5
MT02525	51.3	48.3	54.7	64	66	60.7	71.0	60.7	58	59.4
MT02DH32	50.7	50.3	52.0	65	66	61.7	71.0	59.3	58	59.3
MT02DH55	51.3	51.0	53.3	68	69	67.3	74.7	63.7	60	62.0
MT02DH71	52.3	51.0	48.0	66	69	65.3	72.3	62.0	59	60.6
MT02DH82	51.3	51.0	47.3	67	68	65.3	73.3	63.0	59	60.6
MT03012	53.0	48.0	53.3	63	63	60.0	70.3	59.0	57	58.5
MT03108	57.7	53.0	53.7	67	69	64.7	75.0	63.0	61	62.7
Pierce	52.0	51.3	53.0	68	69	66.3	72.7	63.0	61	61.8
Plaza	54.0	53.7	47.3	67	70	67.3	75.7	64.7	62	62.4
Strongfield	53.7	53.3	50.7	69	71	66.3	75.3	65.7	61	62.9
Site average	52.4	51.0	51.0	66.3	68.4	64.8	73.3	62.6	60.0	61.1
Probability	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001		
CV (S/mean)	1.0	1.6	1.6			1.9	0.7	0.9		
CV (SE/mean)		0.9	0.9			1.1	0.4	0.5		
LSD 5%	0.9	1.4	1.4			2.0	0.9	1.0		

Table 2. Height (cm) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Moccasin	Moore	Huntley	Bozeman	Average
Alkabo	62.0	88.7	89.0	94.0	91.4	68.8	83.7	75	76.9	90.2	82.0
Alzada	58.7	71.7	82.7	78.7	73.7	66.6	73.3	75	66.6	70.3	71.7
Avonlea	70.7	91.7	85.7	94.0	94.0	67.7	86.7	66	87.7	93.2	83.7
Dilse	64.0	88.7	88.7	94.0	91.4	74.0	82.3	72	80.2	91.3	82.7
Divide	62.3	92.7	92.7	99.1	94.0	61.8	89.3	81	82.0	95.2	85.0
Grenora	59.0	82.7	88.7	91.4	91.4	60.2	80.0	75	73.2	84.7	78.6
Kyle	67.3	112.7	82.7	101.6	114.3	80.3	94.0	85	91.6	109.8	93.9
Maier	62.0	90.0	91.7	88.9	88.9	66.5	74.0	88	78.1	89.8	81.8
Mountrail	65.3	82.7	65.0	99.1	96.5	65.0	81.0	63	82.2	89.7	78.9
MT01617	57.3	76.7	69.7	76.2	71.1	55.4	68.7	63	64.3	67.3	67.0
MT01649	45.3	56.7	90.0	71.1	63.5	52.1	58.7	65	60.6	55.7	61.9
MT01695	49.0	65.0	90.0	76.2	66.0	57.9	65.7	59	62.1	67.2	65.8
MT02298	45.0	77.0	84.7	71.1	66.0	58.0	60.3	64	64.1	65.3	65.6
MT02302	54.3	70.0	88.3	71.1	71.1	54.1	78.7	58	59.8	65.0	67.0
MT02525	51.7	69.7	112.7	71.1	66.0	50.2	61.3	75	62.2	72.7	69.3
MT02DH32	68.3	88.3	77.0	94.0	94.0	63.7	84.3	71	79.9	93.3	81.4
MT02DH55	60.3	85.7	76.7	86.4	91.4	67.4	83.7	76	75.9	89.2	79.3
MT02DH71	64.0	84.7	71.3	83.8	94.0	67.9	82.3	62	77.0	90.0	77.7
MT02DH82	66.7	90.0	56.7	99.1	96.5	70.2	85.3	72	82.9	94.2	81.4
MT03012	55.7	71.3	86.7	73.7	68.6	57.7	70.0	61	69.4	67.8	68.2
MT03108	44.7	72.0	75.3	76.2	68.6	64.3	62.0	64	62.6	60.5	65.0
Pierce	70.0	89.0	72.0	101.6	99.1	62.1	89.3	79	79.7	96.8	83.9
Plaza	53.3	75.3	71.7	76.2	71.1	58.8	70.0	74	67.7	68.0	68.6
Strongfield	61.3	86.7	70.0	99.1	96.5	71.1	86.7	76	78.5	88.8	81.5
Site average	59.1	80.3	80.3	86.1	84.1	63.4	77.1	70.8	73.6	81.5	81.5
Probability	<0.001	<0.001	<0.001			<0.001	<0.001		<0.001		
CV (S/mean)	6.3	6.9	6.9			9.5	9.3		3.5	4.39	
CV (SE/mean)		4.0	4.0			5.5	5.4		2.0		
LSD 5%	6.1	9.1	9.1			9.9	11.8		4.2	5.88	

Table 3. Test weight (lb/bu) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Moccasin	Moore	Huntley	Bozeman	Average
Alkabo	58.8	57.5	60.8	61.3	61.1	54.6	61.5	54.2	59.9	59.7	58.9
Alzada	57.8	58.0	59.8	61.5	60.1	53.8	59.2	52.6	59.7	60.0	58.2
Avonlea	57.5	58.2	60.8	61.6	60.2	56.2	59.1	53.1	60.2	59.2	58.6
Dilse	57.7	57.0	61.5	61.1	61.3	55.4	61.0	53.9	59.9	62.7	59.1
Divide	57.1	57.0	60.7	61.6	60.9	55.5	59.6	53.2	60.6	59.2	58.5
Grenora	57.0	56.7	60.2	60.4	59.9	55.7	60.2	52.6	59.8	59.7	58.2
Kyle	58.0	57.8	60.8	61.5	60.3	55.2	58.5	52.1	59.7	59.3	58.3
Maier	57.8	56.7	61.2	61.9	60.6	55.8	59.5	53.3	59.0	59.9	58.6
Mountrail	56.6	57.3	61.0	60.3	59.4	55.0	58.4	52.0	59.5	58.0	57.8
MT01617	55.9	56.2	59.3	58.3	57.0	54.4	56.1	49.6	56.9	55.9	56.0
MT01649	55.0	57.0	57.7	59.8	58.6	54.6	56.7	51.7	57.5	57.1	56.6
MT01695	60.3	60.7	63.2	64.8	63.0	55.0	61.4	57.3	61.4	62.0	60.9
MT02298	56.5	58.8	61.2	61.6	58.5	55.1	57.9	53.1	60.3	59.6	58.3
MT02302	55.8	56.5	57.3	60.0	57.9	54.6	58.3	49.3	57.1	58.3	56.5
MT02525	57.5	57.7	61.7	63.1	61.8	55.4	59.1	55.3	60.8	60.4	59.3
MT02DH32	56.5	57.5	60.3	61.8	61.3	54.3	58.6	52.2	60.4	59.1	58.2
MT02DH55	55.5	55.7	59.7	60.1	58.9	56.0	56.7	51.8	57.8	56.8	56.9
MT02DH71	57.9	58.3	60.7	61.3	60.3	55.8	60.1	54.3	59.9	59.5	58.8
MT02DH82	57.7	57.5	61.0	61.3	62.1	54.7	59.9	54.0	60.1	60.1	58.8
MT03012	58.3	57.8	60.0	62.7	61.9	55.4	58.5	53.8	59.8	60.3	58.8
MT03108	54.2	55.8	59.7	59.5	55.7	54.7	56.6	50.5	58.2	57.5	56.2
Pierce	58.0	57.8	60.8	62.6	61.1	54.6	59.9	52.9	60.9	59.8	58.8
Plaza	57.7	56.7	59.8	59.2	58.0	56.1	56.9	53.3	59.0	57.9	57.5
Strongfield	56.6	54.8	61.0	61.1	60.5	57.3	59.2	50.8	58.3	59.0	57.9
Average	57.2	57.3	60.4	61.2	60.0	55.2	58.8	52.8	59.3	59.2	58.2
Probability	<0.001	<0.001	<0.001			0.828	<0.001	<0.001	<0.001		
CV (S/mean)	0.6	1.8	0.9			2.8	1.1	1.2	1.3		
CV (SE/mean)		1.0	0.5			1.6	0.8	0.9	0.8		
LSD 5%	0.7	1.7	0.9			2.6	1.4	1.4	1.3		

Table 4. Grain protein (percent) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Moccasin	Moore	Huntley	Bozeman	Average
Alkabo	15.86	14.89	11.91	13.20	13.25	17.76	13.70	18.95	14.84	14.22	14.86
Alzada	14.69	13.23	12.09	12.71	12.42	16.02	13.43	17.41	14.29	13.05	13.93
Avonlea	15.43	14.13	12.05	12.82	13.94	17.03	14.50	18.78	14.51	14.33	14.75
Dilse	15.77	14.37	12.35	13.93	12.89	18.00	13.47	18.88	14.80	13.68	14.81
Divide	15.92	14.12	11.72	13.52	13.12	17.65	15.73	19.46	13.87	14.28	14.94
Grenora	15.29	13.63	12.10	13.62	13.39	17.56	13.21	19.33	14.39	13.93	14.65
Kyle	15.81	13.76	12.22	12.60	14.09	17.59	14.45	19.78	13.86	14.07	14.82
Maier	15.89	14.70	11.75	13.46	13.97	17.95	13.71	20.04	15.64	14.09	15.12
Mountrail	16.11	14.35	11.59	12.86	14.39	18.28	14.67	19.81	14.88	14.23	15.12
MT01617	15.80	13.85	12.10	12.85	13.34	17.85	14.80	19.12	14.66	14.08	14.85
MT01649	16.13	14.13	12.55	13.33	13.78	17.47	13.82	18.86	14.89	14.84	14.98
MT01695	13.76	12.53	11.69	11.67	12.21	15.24	13.57	16.16	13.53	12.69	13.30
MT02298	15.00	13.74	12.10	12.06	13.39	16.87	14.03	19.11	14.47	13.50	14.43
MT02302	15.94	13.89	12.85	12.98	13.73	17.42	14.13	19.03	15.38	14.11	14.95
MT02525	14.69	13.92	12.09	12.46	12.88	17.49	14.27	18.15	13.89	13.23	14.31
MT02DH32	15.64	14.07	12.60	13.30	14.01	17.51	14.21	19.92	14.11	14.41	14.98
MT02DH55	15.69	14.13	12.12	13.64	13.01	18.10	14.54	19.17	15.04	14.63	15.01
MT02DH71	15.60	13.78	11.46	13.37	14.11	17.79	14.54	20.31	14.92	14.27	15.01
MT02DH82	15.01	14.32	11.64	13.68	12.70	17.13	14.80	19.78	14.64	13.82	14.75
MT03012	16.07	14.06	12.33	11.95	13.44	16.63	15.44	18.75	14.88	13.83	14.74
MT03108	16.37	14.34	12.12	13.38	14.93	17.24	15.35	19.84	14.39	13.99	15.19
Pierce	16.00	14.07	11.95	13.40	12.87	17.79	15.16	20.09	14.01	14.42	14.98
Plaza	16.29	14.21	11.52	12.65	13.08	17.68	14.56	19.15	13.72	14.38	14.72
Strongfield	16.52	15.95	12.34	13.51	14.95	19.03	16.36	21.23	16.15	14.75	16.08
Average	15.64	14.10	12.01	13.0	13.50	17.46	14.44	19.21	14.57	14.03	14.80
Probability		0.006	0.008								
CV (S/mean)		4.9	3.8								
CV (SE/mean)		2.9	2.2								
LSD 5%		1.14	0.75								

Table 5. Weight of 100 seed (gm) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Huntley	Bozeman	Average
Alkabo	2.93	3.51	4.78	3.86	3.42	2.8	3.16	3.88	3.54
Alzada	3.44	3.79	4.53	4.50	4.53	3.2	3.76	4.26	4.00
Avonlea	2.91	3.60	4.39	4.51	3.68	3.1	3.39	4.02	3.70
Dilse	2.74	3.37	4.73	3.68	3.87	2.9	2.98	3.54	3.48
Divide	2.76	3.25	4.54	4.14	3.69	2.8	3.25	3.74	3.52
Grenora	2.80	3.35	4.65	3.78	4.04	2.6	3.12	3.71	3.51
Kyle	2.74	3.21	4.15	4.21	3.44	2.6	3.02	3.61	3.37
Maier	2.88	3.35	4.57	4.02	3.21	2.7	2.91	3.92	3.44
Mountrail	2.56	3.21	4.34	3.79	3.12	2.6	2.93	3.37	3.24
MT01617	3.13	3.37	4.01	3.27	2.85	2.3	2.96	3.14	3.13
MT01649	2.64	3.56	3.82	4.17	3.54	2.8	3.11	3.48	3.39
MT01695	2.83	3.50	4.10	4.23	3.39	2.6	3.11	3.64	3.43
MT02298	2.85	3.55	4.35	4.44	3.33	2.7	3.2	3.53	3.49
MT02302	2.86	3.54	4.12	4.32	3.30	2.5	3.14	3.31	3.39
MT02525	2.69	3.26	4.25	4.12	3.41	2.9	3.21	3.74	3.45
MT02DH32	2.60	3.27	4.16	4.24	3.34	2.5	3.1	3.59	3.35
MT02DH55	2.47	2.90	3.86	3.35	3.21	2.3	2.75	3.17	3.00
MT02DH71	2.95	3.45	4.64	4.17	3.24	2.7	3.04	3.86	3.51
MT02DH82	2.88	3.52	4.85	4.10	4.08	2.5	3.34	4.15	3.68
MT03012	2.65	3.37	3.71	4.08	3.36	2.8	3.12	3.55	3.33
MT03108	3.20	3.22	4.14	4.15	3.17	2.8	3.12	3.63	3.43
Pierce	2.61	3.08	4.00	3.64	3.72	2.4	3.19	3.24	3.23
Plaza	2.66	2.96	3.94	3.78	3.14	2.3	2.63	3.38	3.10
Strongfield	2.74	3.003	4.30	3.83	3.23	2.6	2.91	3.77	3.30
Average	2.81	3.34	4.27	4.02	3.47	2.67	3.10	3.63	3.42
Probability		<0.001	<0.001						
CV (S/mean)		6.1	5.0						
CV (SE/mean)		3.5	2.9						
LSD 5%		0.34	0.35						

Table 6. Hard vitreous amber color (percent) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Huntley	Bozeman	Average
Alkabo	80.6	83.1	64.7	83.9	97.9	90.8	83.5	94.3	84.8
Alzada	79.4	80.9	83.0	85.3	91.1	70.8	79.3	87.5	82.2
Avonlea	82.8	86.0	89.0	96.0	102.0	88.3	84.9	100.2	91.1
Dilse	83.6	83.2	85.4	85.7	89.2	82.0	80.8	92.3	85.3
Divide	82.4	71.9	77.1	82.8	93.3	79.6	77.7	89.3	81.8
Grenora	76.1	76.2	65.2	82.8	100.7	78.6	81.7	93.3	81.8
Kyle	78.4	80.3	87.0	91.7	93.2	83.3	81.0	85.3	85.0
Maier	80.4	80.1	77.9	87.8	89.5	83.4	78.4	91.7	83.7
Mountrail	76.1	76.2	79.6	87.4	82.7	81.5	72.4	84.2	80.0
MT01617	73.4	72.8	80.0	77.6	76.8	67.5	73.5	79.0	75.1
MT01649	72.4	75.0	62.0	77.5	93.6	75.2	76.7	82.9	76.9
MT01695	73.4	77.7	74.4	89.1	94.3	83.5	77.7	82.2	81.5
MT02298	79.1	88.7	88.9	87.0	88.5	77.5	79.4	89.6	84.8
MT02302	81.6	81.8	79.6	84.6	92.7	74.4	73.0	88.6	82.0
MT02525	79.5	79.7	71.2	87.1	91.0	77.4	80.8	82.5	81.1
MT02DH32	69.5	72.4	80.6	91.3	87.6	76.9	75.1	80.7	79.3
MT02DH55	73.9	75.9	76.5	83.4	92.7	79.3	81.5	87.5	81.3
MT02DH71	79.2	76.6	68.4	82.5	92.5	84.5	84.1	91.6	82.4
MT02DH82	69.0	75.7	72.0	81.1	92.0	78.0	76.3	84.4	78.6
MT03012	89.2	84.0	79.0	94.6	97.5	84.0	81.4	91.6	87.6
MT03108	72.1	81.6	86.5	90.5	82.9	72.9	77.3	83.6	80.9
Pierce	78.9	79.4	82.7	90.7	97.0	82.9	87.3	87.9	85.8
Plaza	79.2	74.7	65.5	85.4	81.0	74.3	83.8	79.6	77.9
Strongfield	81.4	86.6	85.6	93.2	92.2	83.3	83.9	91.9	87.3
Average	78.0	78.6	77.3	86.6	91.3	79.6	79.7	87.6	82.4
Probability		<0.001	<0.001						
CV (S/mean)		4.2	7.7						
CV (SE/mean)		2.4	4.4						
LSD 5%		5.4	9.7						

Table 7. Sawfly damage (percent cut) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Havre	Moore	Average
Alkabo	2.3	0.8	1.6
Alzada	1.0	0.3	0.7
Avonlea	1.0	0.3	0.7
Dilse	2.3	1.2	1.8
Divide	0.7	0.0	0.3
Grenora	2.3	0.3	1.3
Kyle	5.3	0.7	3.0
Maier	2.3	0.3	1.3
Mountrail	2.3	1.0	1.7
MT01617	1.0	0.0	0.5
MT01649	0.7	0.7	0.7
MT01695	1.0	0.0	0.5
MT02298	0.7	0.0	0.3
MT02302	0.7	0.3	0.5
MT02525	1.0	0.0	0.5
MT02DH32	1.0	2.5	1.8
MT02DH55	1.0	0.0	0.5
MT02DH71	2.3	0.8	1.6
MT02DH82	2.3	1.2	1.8
MT03012	1.0	0.0	0.5
MT03108	1.0	0.8	0.9
Pierce	1.0	0.7	0.8
Plaza	1.0	0.3	0.7
Strongfield	0.7	0.0	0.3
Average	1.5	0.5	1.0
Probability	0.071	0.011	
CV (S/mean)	95.1	131.9	
CV (SE/mean)	54.9	76.2	
LSD 5%	2.3	1.1	

Table 8. Leaf-spotting disease (percent of flag leaf spotted) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Sidney dry	Sidney irr	Average
Alkabo	2.0	0.0	1.0
Alzada	2.3	2.0	2.2
Avonlea	3.0	0.0	1.5
Dilse	0.7	0.0	0.3
Divide	0.0	0.0	0.0
Grenora	0.0	0.0	0.0
Kyle	0.0	0.0	0.0
Maier	0.7	0.0	0.3
Mountrail	1.3	0.0	0.7
MT01617	0.0	0.0	0.0
MT01649	3.0	0.0	1.5
MT01695	2.0	0.0	1.0
MT02298	0.7	0.0	0.3
MT02302	0.7	0.0	0.3
MT02525	2.3	0.0	1.2
MT02DH32	3.0	2.0	2.5
MT02DH55	0.0	0.0	0.0
MT02DH71	0.7	0.0	0.3
MT02DH82	1.3	0.0	0.7
MT03012	3.0	0.0	1.5
MT03108	2.3	0.0	1.2
Pierce	1.3	0.0	0.7
Plaza	0.0	0.0	0.0
Strongfield	0.0	0.0	0.0
Average	1.7	0.2	0.9
Probability	<0.001		
CV (S/mean)	93.3		
CV (SE/mean)	53.9		
LSD 5%	2.6		

Table 9. Yield (bu/ac) of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Williston	Sidney, Dry	Sidney, Irr	Conrad, Irr	Conrad, Dry	Havre	Moccasin	Moore	Huntley	Bozeman	Average
Alkabo	25.5	35.8	87.2	75.1	64.1	27.1	37.0	17.0	31.5	55.6	45.6
Alzada	25.2	33.3	63.1	81.1	64.2	30.6	31.8	16.5	31.2	54.4	43.1
Avonlea	24.5	33.8	81.5	85.1	65.9	31.2	33.0	18.0	38.3	56.1	46.7
Dilse	22.9	34.2	84.4	75.9	60.7	25.2	31.9	15.1	31.2	57.6	43.9
Divide	21.8	32.9	86.1	83.0	62.7	27.1	37.1	16.0	37.4	56.6	46.1
Grenora	25.7	32.4	83.4	83.7	63.0	29.7	39.0	15.8	35.3	58.4	46.6
Kyle	21.5	29.5	73.5	79.1	61.1	30.2	34.4	13.8	30.8	55.8	43.0
Maier	23.9	32.2	78.5	78.2	60.1	29.9	32.7	15.9	33.2	57.0	44.2
Mountrail	25.5	34.4	88.3	79.3	63.2	25.8	31.5	16.6	39.0	57.1	46.1
MT01617	20.0	31.6	70.9	80.4	60.0	28.0	30.0	17.0	30.9	54.4	42.3
MT01649	23.7	27.6	69.6	87.7	69.9	31.0	31.8	17.1	35.1	56.6	45.0
MT01695	25.9	36.4	80.7	101.9	71.9	32.1	33.5	15.9	32.5	59.1	49.0
MT02298	23.0	31.9	72.4	87.0	58.1	31.5	32.2	14.0	32.0	56.2	43.8
MT02302	22.6	31.9	62.8	81.0	62.3	31.8	37.0	14.8	31.4	53.7	42.9
MT02525	23.0	35.4	80.0	90.4	65.8	29.2	29.9	16.0	33.4	59.0	46.2
MT02DH32	23.1	30.7	74.7	79.5	61.7	26.5	27.6	13.0	32.5	57.1	42.6
MT02DH55	23.1	33.6	88.2	82.8	60.3	28.6	34.3	15.5	33.0	59.7	45.9
MT02DH71	23.5	30.8	77.2	81.9	60.6	29.0	31.9	14.4	31.3	57.9	43.9
MT02DH82	24.5	36.1	78.2	81.5	63.6	32.2	33.6	17.2	33.4	59.2	45.9
MT03012	23.1	32.3	70.1	77.5	65.0	29.9	29.4	16.2	36.6	59.5	44.0
MT03108	16.3	31.4	65.0	81.1	53.5	28.0	28.0	14.5	27.3	51.7	39.7
Pierce	23.8	34.4	88.4	84.9	63.4	25.3	33.5	15.3	34.5	59.1	46.3
Plaza	22.0	28.8	67.6	85.7	58.3	29.6	35.5	14.7	34.5	50.7	42.7
Strongfield	21.7	31.6	69.3	76.6	64.8	31.2	38.7	15.3	31.8	55.9	43.7
Average	23.2	32.8	76.7	82.5	62.7	29.2	33.1	15.7	33.3	56.6	44.6
Probability	<0.001	0.017	<0.001	0.002	0.498	0.349	<0.001	<0.001	0.016		
CV (S/mean)	6.0	8.6	5.3	7.2	10.5	12.0	9.0	7.5	9.7	4.56	
CV (SE/mean)		5.0	3.1	4.2	6.1	6.9	5.2	4.4	5.6		
LSD 5%	2.3	4.6	6.7	9.8	ns	5.8	4.9	1.9	5.3	4.24	

Table 10. Across sites summary of durum lines and varieties in the 2006 statewide durum yield trial.

entry	Heading*	Height, cm	Test wt, lb/bu	Grain protein, %	100-seed wt, gm	HVAC	sawfly damage, %**	Disease rating, %**	Yield, bu/ac
Alkabo	61.4	82.0	58.9	14.86	3.54	84.8	1.6	1.0	45.6
Alzada	58.6	71.7	58.2	13.93	4.00	82.2	0.7	2.2	43.1
Avonlea	60.6	83.7	58.6	14.75	3.70	91.1	0.7	1.5	46.7
Dilse	62.5	82.7	59.1	14.81	3.48	85.3	1.8	0.3	43.9
Divide	62.9	85.0	58.5	14.94	3.52	81.8	0.3	0.0	46.1
Grenora	61.3	78.6	58.2	14.65	3.51	81.8	1.3	0.0	46.6
Kyle	63.8	93.9	58.3	14.82	3.37	85.0	3.0	0.0	43.0
Maier	61.2	81.8	58.6	15.12	3.44	83.7	1.3	0.3	44.2
Mountrail	62.0	78.9	57.8	15.12	3.24	80.0	1.7	0.7	46.1
MT01617	62.0	67.0	56.0	14.85	3.13	75.1	0.5	0.0	42.3
MT01649	58.3	61.9	56.6	14.98	3.39	76.9	0.7	1.5	45.0
MT01695	60.4	65.8	60.9	13.30	3.43	81.5	0.5	1.0	49.0
MT02298	61.5	65.6	58.3	14.43	3.49	84.8	0.3	0.3	43.8
MT02302	60.5	67.0	56.5	14.95	3.39	82.0	0.5	0.3	42.9
MT02525	59.4	69.3	59.3	14.31	3.45	81.1	0.5	1.2	46.2
MT02DH32	59.3	81.4	58.2	14.98	3.35	79.3	1.8	2.5	42.6
MT02DH55	62.0	79.3	56.9	15.01	3.00	81.3	0.5	0.0	45.9
MT02DH71	60.6	77.7	58.8	15.01	3.51	82.4	1.6	0.3	43.9
MT02DH82	60.6	81.4	58.8	14.75	3.68	78.6	1.8	0.7	45.9
MT03012	58.5	68.2	58.8	14.74	3.33	87.6	0.5	1.5	44.0
MT03108	62.7	65.0	56.2	15.19	3.43	80.9	0.9	1.2	39.7
Pierce	61.8	83.9	58.8	14.98	3.23	85.8	0.8	0.7	46.3
Plaza	62.4	68.6	57.5	14.72	3.10	77.9	0.7	0.0	42.7
Strongfield	62.9	81.5	57.9	16.08	3.30	87.3	0.3	0.0	43.7
Average	61.1	81.5	58.2	14.80	3.42	82.4	1.0	0.9	44.6

*days from planting

**two sites only