	Days	Seeds					(	Grain Yield	db		Averag	ge Yield
	to	per	Plant	Test		%				_	2	3
Variety	Head	Pound	Height	Weight	Protein	Plump	2002	2003	2004	Returns	Year	Year
			in	lbs/bu	%	>6/64		bu/ac		\$/ac	bu	/ac
Six Row												
Drummond	82	12,909	18	44.6	17.4	84	74.4	110.4	47.8	59.70	79.1	77.5
Excel	87	12,529	20	47.5	17.0	85	74.1	110.6	57.5	74.81	84.1	80.7
Foster	87	12,981	20	43.9	17.1	87	80.8	116.3	45.2	56.26	80.8	80.8
Lacey	83	11,981	21	45.9	16.7	88	76.5	111.3	46.2	58.80	78.8	78.0
Legacy	86	12,584	22	45.0	16.6	90	72.9	107.8	57.2	72.67	82.5	79.3
Morex	88	13,220	20	42.8	18.8	71	72.7	104.1	35.7	41.63	69.9	70.8
Robust	88	12,224	20	45.5	17.7	80	75.0	106.2	40.4	50.91	73.3	73.9
Stander	82	12,458	18	46.4	16.9	76	72.8	113.0	49.7	64.41	81.4	78.5
Tradition	79	12,779	20	45.8	16.9	87		116.4	52.1	67.28	84.2	
Two Row												
AC Metcalfe	84	11,438	21	49.5	18.2	93			57.6	74.86		
Barke	89	11,154	21	50.2	18.5	93			44.0	57.21		
Bowman	78	9,804	24	51.6	17.0	97	83.6	98.0	62.9	81.75	80.4	81.5
Conlon	75	9,615	20	50.8	16.4	97	78.1	93.6	34.4	44.76	64.0	68.7
Eslick	86	11,398	20	50.7	16.5	88			63.1	82.04		
Harrington	86	11,404	20	48.7	18.3	87	77.8	95.0	45.0	58.45	70.0	72.6
Haxby	81	10,848	23	51.6	16.8	91			72.5	94.22		
Logan	80	10,223	22	49.0	16.9	93	86.9	112.6	60.3	78.40	86.5	86.6
Prestige	86	11,988	18	49.0	17.8	93			40.5	52.60		
Scarlett	89	12,817	17	49.7	17.1	83			56.8	73.90		
Stark	80	9,692	24	51.8	17.2	96	82.3	116.3	60.5	78.65	88.4	86.4
Valier	89	12,383	18	49.7	18.2	76	80.4	100.9	44.9	58.41	72.9	75.4
Trial Maan	0.4	11 001	20	47.7	16.0	00	77.4	106.0	50 C	6E 10		
Trial Mean CV %	84 3.4	11,821	20	47.7 2.7	16.9 3.0	88 6.5	77.4 5.0	106.9 9.5	50.6 18.6	65.10 19.7		
		4.5 741	11.4	3.7		6.5 8			NS	19.7 NS		
LSD 0.05	4	741	3	2.5	1.0	Ö	5.4	14.3	INO.	INO		

Planting Date: April 13, 2004 Harvest Date: August 10, 2004 Previous Crop: Alfalfa burn down Seeding Rate: 1.2 million live seeds/ac

Returns were calculated by multiplying the 2004 yields by the price paid for feed barley minus the test weight discount paid at the Southwest Grain Terminal located at Gladstone on October 18. The price paid on this date was \$1.30/bu, assuming that the test weight was heavier than 45 lb/bu. Grain with a test weight of 45 lb/bu was discounted \$.03/bu, with an additional discount of \$.04/bu per pound down to 42 lb/bu. Below 42 lb/bu, an additional discount of \$.05/bu occurred per pound.

Dickinson, ND

		Harvest	DM				
Variety	Height	Moisture	Yield	CP <sup>1</sup>	ADF	TDN	Nitrates
		%	Ton/ac	%			ppm
Bestford barley	22	68	1.1	19.5	33	64	1402
Harrington barley	23	67	1.2	16.9	28	68	411
Haybet barley	21	66	1.4	18.6	29	66	546
Hays barley	18	67	1.2	19.8	32	65	580
Logan barley	24	66	1.0	17.2	27	69	321
Moravain 37 barley	17	64	1.3	16.8	27	68	297
Valier barley	22	66	1.6	18.6	27	68	649
Westford barley	22	69	1.1	18.7	35	62	1204
Everleaf 114 oat	27	63	1.4	13.2	39	59	2465
Everleaf 126 oat	25	65	1.4	15.0	36	61	2400
Maverick oat	20	56	1.4	9.6	38	60	2552
Monico oat	24	54	1.3	7.8	41	58	2277
Otana oat	30	59	1.2	9.7	40	58	2601
Paul oat	28	58	1.5	10.3	39	59	2345
Lucile emmer	30	59	1.1	14.2	39	60	497
Red 1 triticale	31	53	1.5	7.4	44	55	353
SK3P speltz	34	52	1.7	9.2	42	57	474
Trial Mean	24	61	1.3	14.1	35	62	1130
C.V. %	10.5	3.3	15.5	6.2	7.8	3.2	32.9
LSD .05	4	3	0.3	1.8	6	4	777

Growth Stage at harvest: Soft Dough. 

¹CP=Crude Protein, ADF=Acid Detergent Fiber, TDN =Total Digestible Nutrients.

2004 Durum - Recrop Dickinson, ND

	Days	Seeds					Grain Yield		Average Yield		
	to	per	Plant	Test					•	2	3
Variety	Head	Pound	Height	Weight	Protein	2002	2003	2004	Returns	Year	Year
-			in	lbs/bu	%		bu/ac		\$/ac	bu	/ac
AC Avonlea	74	11,131	22	61.6	16.0	34.1	61.4	30.0	111.02	45.7	41.8
AC Navigator	74	10,430	20	62.4	15.3			27.1	100.17		
AC Pathfinder	75	11,540	24	62.1	14.6			30.9	114.15		
Alzada	72	10,431	21	62.5	14.8			23.2	85.84		
Belzer	75	11,330	22	59.9	15.7	34.3	55.9	26.9	99.38	41.4	39.0
Ben	74	10,730	22	62.5	15.7	31.3	55.6	28.6	105.73	42.1	38.5
Dilse	76	11,906	23	62.1	15.7	36.5	55.5	35.4	131.14	45.5	42.5
Lebsock	74	11,210	21	62.0	15.8	36.4	56.0	28.7	106.29	42.4	40.4
Maier	75	11,381	20	61.9	16.3	35.5	60.6	28.1	103.81	44.3	41.4
Monroe	74	12,780	23	61.6	15.4	34.7	54.2	29.8	110.36	42.0	39.6
Mountrail	75	12,341	23	61.0	14.6	35.1	56.2	32.1	118.90	44.2	41.1
Munich	74	12,277	21	61.5	15.8	31.1	56.6	30.5	112.89	43.6	39.4
Pierce	75	12,071	20	62.1	15.3	34.5	58.0	31.0	114.56	44.5	41.2
Plaza	74	11,796	19	62.1	16.0	33.4	56.4	28.0	103.74	42.2	39.3
Primo D'Oro	73	11,308	24	61.8	15.8			30.1	111.38		
Renville	72	9,829	23	61.4	15.9	31.0	48.9	28.1	103.79	38.5	36.0
Rugby	74	11,661	22	62.1	15.8	32.8	53.3	29.9	110.48	41.6	38.7
Trial Mean	74	11,423	22	61.6	15.5	34.2	56.7	28.8	106.44		
CV %	1.0	5.6	11.1	1.0	1.7	10.0	8.0	14.3	14.4		
LSD 0.05	1	888	NS	0.8	0.5	4.8	6.4	5.8	21.35		

Planting Date: April 12, 2004 Harvest Date: August 16, 2004 Previous Crop: Field Pea

Seeding Rate: 1.2 million live seeds/ac

Returns were calculated by multiplying the 2004 yield by the test weight discount paid at the Southwest Grain Terminal located at Gladstone on October 18. The price paid on this date was \$3.70/bu, assuming a minimum test weight of 60 lb/bu. Grain was discounted \$.01/bu for each 0.5 lb reduction in test weight between 60 and 59 lb/bu,\$.03/bu per 0.5 lb reduction between 59 and 58 lb/bu, \$0.04/bu between 58 and 55 lb/bu, and \$0.05/bu per 0.5 lb/bu reduction between 55 and 50 lb/bu.

	Seeds					
	per	Plant	Test			Grain
Variety	Pound	Height	Weight	Protein	Returns	Yield
		in	lbs/bu	%	\$/ac	bu/ac
Alsen	19,011	27	56.3	18.2	115.37	24.6
Amazon	13,510	35	57.8	16.7	139.17	29.8
Briggs	17,319	33	58.3	16.9	144.29	30.7
Dapps	17,406	28	57.1	17.6	114.22	24.2
Freyr	18,656	30	58.0	16.8	135.36	28.8
Granite	19,771	26	59.6	19.1	147.58	31.2
Gunner	22,428	28	57.4	18.0	139.71	29.6
Hanna	17,881	30	58.8	15.4	126.17	28.1
Knudson	18,361	27	57.8	17.4	126.29	26.7
Mercury	17,862	25	57.5	15.3	70.76	15.9
Parshall	18,143	29	57.9	17.1	135.75	28.7
Reeder	22,202	27	57.8	18.6	140.48	29.7
Russ	18,557	30	56.6	17.3	150.25	31.9
Steele-ND	19,615	31	56.9	16.0	140.90	30.9
Trial Mean	18,645	29	57.7	17.5	129.84	27.8
CV %	9.0	8.9	2.0	4.2		12.5
LSD 0.05	2,400	4	1.6	1.6		5.0

Planting Date: April 28, 2004
Harvest Date: August 26, 2004
Seeding Rate: 1.2 million live seeds/ac

Returns were calculated by multiplying the 2004 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on October 18. The price paid on this date was \$3.53/bu, assuming that grain protein concentration was 14%. An additional \$.09/bu was paid for each additional 0.2% increase in grain protein up to 15%, 15% protein received an additional \$.45/bu. \$.03/bu was paid for each additional 0.2% increase in grain protein from 15% to 17% protein, above which an additional premium was not paid. Grain was discounted \$0.11/bu for each 0.2% reduction in grain protein from 14% to 13%, an additional discount of \$.07/bu for each 0.2% reduction in grain protein from 13% to 11%, below which no additional discount was not assigned. Returns factored in discounts for grain with a test weight <58 lb/bu [-\$0.01/bu for 0.5 lb/bu between 58 and 57 lb/bu; -\$0.02/bu for 0.5 lb/bu between 57 and 55 lb/bu; -\$0.03/bu for 0.5 lb/bu between 50 and 46 lb/bu].

	Seeds					
	per	Plant	Test			Grain
Variety	Pound	Height	Weight	Protein	Returns	Yield
		in	lbs/bu	%	\$/ac	bu/ac
Alsen	15,722	31.7	58.0	17.1	188.25	39.8
Amazon	13,747	38.4	58.5	17.0	163.19	34.5
Briggs	15,758	36.2	58.3	17.4	162.71	34.4
Dapps	16,352	38.8	58.3	17.6	171.23	36.2
Freyr	17,096	35.7	58.3	17.3	195.35	41.3
Granite	17,239	32.3	60.7	17.2	224.20	47.4
Gunner	18,232	37.8	59.5	17.8	196.30	41.5
Hanna	15,416	39.6	59.2	15.3	171.71	38.5
Knudson	14,223	32.3	59.7	15.1	202.01	45.6
Mercury	15,246	29.8	57.2	15.5	205.18	45.8
Parshall	15,594	40.9	59.8	15.8	238.42	52.4
Reeder	18,661	35.2	59.0	17.3	213.80	45.2
Russ	16,455	38.4	58.3	16.3	165.96	36.0
Steele-ND	17,179	33.2	56.8	15.4	190.87	42.7
Trial Mean	16,224	36	58.7	16.6	192.25	41.6
CV %	6.8	6.9	2.2	6.2		15.6
LSD 0.05	1,832	4	2.1	NS		NS

Planting Date: April 28, 2004 Harvest Date: August 26, 2004 Seeding Rate: 1.2 million live seeds/ac

Returns were calculated by multiplying the 2004 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on October 18. The price paid on this date was \$3.53/bu, assuming that grain protein concentration was 14%. An additional \$.09/bu was paid for each additional 0.2% increase in grain protein up to 15%, 15% protein received an additional \$.45/bu. \$.03/bu was paid for each additional 0.2% increase in grain protein from 15% to 17% protein, above which an additional premium was not paid. Grain was discounted \$0.11/bu for each 0.2% reduction in grain protein from 14% to 13%, an additional discount of \$.07/bu for each 0.2% reduction in grain protein from 13% to 11%, below which no additional discount was not assigned. Returns factored in discounts for grain with a test weight <58 lb/bu [-\$0.01/bu for 0.5 lb/bu between 58 and 57 lb/bu; -\$0.02/bu for 0.5 lb/bu between 57 and 55 lb/bu; -\$0.03/bu for 0.5 lb/bu between 55 and 50 lb/bu; and -\$0.04/bu for 0.5 lb/bu between 50 and 46 lb/bu].

	Days	Seeds					Grain Yield			Averaç	ge Yield
	to	per	Plant	Test					<u>-</u>	2	3
Variety	Head	Pound	Height	Weight	Protein	2002	2003	2004	Returns	Year	Year
			in	lbs/bu	%		bu/ac		\$/ac	bu	/ac
AC Glenavon	77	11,874	22	61.0	17.2	38.6	63.7	15.2	72.09	39.5	39.2
AC Superb	78	14,680	19	62.0	16.8	47.7	60.8	26.5	123.54	43.6	45.0
Alsen	77	15,273	21	61.5	17.4	45.7	61.4	27.5	130.01	44.4	44.9
Amazon	81	12,923	23	59.5	17.9	40.9	54.5	14.1	66.91	34.3	36.5
Banton	76	14,446	18	63.0	17.6			14.9	70.41		
Briggs	76	14,824	22	61.0	17.5	44.9	57.3	24.1	113.92	40.7	42.1
Choteau	76	14,921	15	61.0	18.1			18.3	86.70		
Dapps	76	14,446	18	60.0	18.4	42.7	60.6	11.5	54.32	36.0	38.3
ES 54	81	13,581	18	61.0	18.6		55.6	7.6	35.91	31.6	
Freyr	76	13,829	20	61.0	17.3			29.7	140.34		
Granger	75	13,829	20	63.0	17.5		68.9	26.7	126.41	47.8	
Granite	79	18,144	18	63.0	18.0	41.5	56.4	29.7	140.55	43.1	42.5
Gunner	78	15,120	20	61.0	18.1	43.8	58.8	27.5	130.27	43.2	43.4
Hanna	77	16,200	22	62.0	16.7	45.4	60.9	31.9	148.89	46.4	46.1
Ingot	74	15,750	22	63.0	17.7	45.9	64.1	25.8	122.02	44.9	45.3
Keene	78	17,053	18	61.0	17.5	47.2	61.3	30.2	142.61	45.7	46.2
Keystone	76	15,972	21	61.5	17.2	43.9	55.0	23.7	111.90	39.3	40.9
Knudson	77	14,775	18	62.5	17.2	44.6	62.8	23.6	111.48	43.2	43.7
McKenzie	76	14,632	18	59.0	18.4	43.4	63.6	14.2	67.28	38.9	40.4
Mercury	76	18,072	19	59.0	17.7	44.2	61.6	30.2	142.96	45.9	45.3
Norpro	78	14,000	19	62.0	17.4	45.9	63.0	27.6	130.38	45.3	45.5
Oklee	75	15,376	18	61.5	18.5		57.7	24.7	116.97	41.2	
Outlook	77	15,221	18	60.5	17.1	45.0	62.1	30.3	143.12	46.2	45.8
Oxen	75	14,585	19	62.0	17.2	45.2	66.1	28.3	133.65	47.2	46.5
Parshall	75	15,481	18	62.0	17.6	44.9	62.5	21.2	100.25	41.8	42.9
Polaris	80	17,117	17	62.0	17.3			20.1	94.96		
Reeder	78	19,220	19	59.0	18.5	47.1	65.4	28.4	134.21	46.9	47.0
Russ	76	14,872	20	62.5	17.3	40.0	64.4	25.7	121.77	45.1	43.4
Saturn	79	14,872	18	59.0	18.1			30.5	144.23		
Steele-ND	76	14,354	21	62.0	17.5	46.1	63.9	26.5	125.30	45.2	45.5
Trooper	75	13,072	17	63.0	16.8			22.6	105.54		
Trial Mean	76	14,969	20	61.6	17.5	44.1	60.8	24.0	113.25		
CV %	1.2		10.3			7.1	6.0	17.8			
LSD 0.05	1		3			4.4	5.1	NS			

Planting Date: April 12, 2004 Harvest Date: August 16, 2004 Previous Crop: Alfalfa burn down Seeding Rate: 1.2 million live seeds/ac

Returns were calculated by multiplying the 2004 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on October 18. The price paid on this date was \$3.53/bu, assuming that grain protein concentration was 14%. An additional \$.09/bu was paid for each additional 0.2% increase in grain protein up to 15%, 15% protein received an additional \$.45/bu. \$.03/bu was paid for each additional 0.2% increase in grain protein from 15% to 17% protein, above which an additional premium was not paid. Grain was discounted \$0.11/bu for each 0.2% reduction in grain protein from 14% to 13%, an additional discount of \$.07/bu for each 0.2% reduction in grain protein from 14% to 13%, an additional discount of \$.07/bu for each 0.2% reduction in grain protein from 13% to 11%, below which no additional discount was not assigned. Returns factored in discounts for grain with a test weight <58 lb/bu [-\$0.01/bu for 0.5 lb/bu between 58 and 57 lb/bu; -\$0.02/bu for 0.5 lb/bu between 57 and 55 lb/bu; -\$0.03/bu for 0.5 lb/bu between 50 and 46 lb/bu].

Dickinson, ND

		Harvest	DM				
Variety	Height	Moisture	Yield	CP <sup>1</sup>	ADF	TDN	
	inches	%	Ton/ac		%		
Haybet barley	20	65	1.3	17.6	31	65	
Hays barley	17	66	1.2	18.5	31	65	
AC Assiniboia oat	26	53	1.1	11.0	37	61	
AC Ronald oat <sup>2</sup>	25	73	0.9	17.1	34	63	
Ebeltoft oat	25	57	1.1	12.6	38	59	
Ensiler oat	29	68	1.2	14.2	40	58	
Forage Plus oat	28	56	1.3	12.5	38	60	
HiFi oat	26	65	1.2	14.1	38	59	
Jerry oat	26	63	1.1	11.3	44	55	
Killdeer oat	22	54	1.3	10.0	42	56	
Morton oat	29	66	1.3	13.5	39	59	
Paul oat	28	50	1.2	10.0	40	58	
Stark oat	29	52	1.3	9.7	39	59	
Trial Mean	24	58	1.2	12.7	38	60	
C.V. %	9.1	3.3	18.0	12.1	5.5	2.7	
LSD .05	3	3	0.3	3.2	4	3	

Growth Stage at harvest: Soft Dough. 

CP=Crude Protein, ADF=Acid Detergent Fiber, TDN =Total Digestible Nutrients.

<sup>&</sup>lt;sup>2</sup>Harvested at Late Milk stage.

Dickinson, ND

	Harvest	12%	DM yield					
Variety	Moisture	Moisture	2002	2003	2004	2 yr avg		
	-%-	-Tons/ac-						
Haybet barley	65	1.5	2.0	2.1	1.3	1.7		
Hays barley	66	1.4		2.2	1.2	1.7		
AC Assiniboia oat	53	1.3		1.7	1.1	1.4		
AC Ronald oat	73	1.0			0.9			
Ebeltoft oat	57	1.2		1.7	1.1	1.4		
Ensiler oat	68	1.4		1.9	1.2	1.6		
Forage Plus oat	56	1.5	1.8	2.2	1.3	1.8		
HiFi oat	65	1.4		1.5	1.2	1.4		
Jerry oat	63	1.2		2.0	1.1	1.6		
Killdeer oat	54	1.5		2.3	1.3	1.8		
Morton oat	66	1.5		1.9	1.3	1.6		
Paul oat	50	1.4	2.0	1.8	1.2	1.5		
Stark oat	52	1.4			1.3			
Trial Mean	58	1.4	2.0	1.9	1.2			
C.V. %	3.3	18.0	15.3	18.2	18.0			
LSD .05	3	0.4	NS	NS	0.3			

2004 Oat - Alfalfa burn down Dickinson, ND

	Days	Seeds					Grain Yield	]		Averag	Average Yield	
	to	per	Plant	Test					-	2	3	
Variety	Head	Pound	Height	Weight	Protein	2002	2003	2004	Returns	Year	Year	
			in	lbs/bu	%		bu/ac		\$/ac	bu	/ac	
AC Assiniboia	80	12,609	24	35.9	14.8	68.6	103.8	55.9	63.12	79.9	76.1	
AC Gwen	82	14,580	27	39.9	14.2			44.3	53.20			
AC Kaufman	81	12,307	23	33.5	12.9		112.3	41.5	42.41	76.9		
AC Medallion	82	13,186	23	31.9	14.5	68.1	107.1	40.7	39.56	73.9	72.0	
AC Pinnacle	82	13,327	24	36.2	13.4		124.8	60.1	69.04	92.4	92.4	
AC Ronald	82	14,433	24	35.0	14.5	76.2	120.1	48.3	52.71	84.2	81.5	
Beach	79	14,371	26	37.6	15.5	73.6	120.1	46.2	54.40	83.2	80.0	
Buff*	76	17,223	23	42.4	18.4		103.5	37.3	44.72	70.4		
CDC Dancer	79	14,056	25	36.4	14.7			52.1	59.77			
CDC Pacer	82	12,175	25	34.7	14.6	84.4	125.2	54.4	58.42	89.8	88.0	
Ebeltoft	82	12,442	24	31.6	15.7	78.8	109.1	53.5	52.78	81.3	80.5	
HiFi	79	15,690	24	35.2	15.8	63.4	121.6	49.4	54.71	85.5	78.1	
Hytest	76	13,568	26	39.4	18.3	69.1	122.9	51.6	61.38	87.2	81.2	
Jerry	73	13,908	25	36.9	15.7	68.8	124.2	46.1	52.97	85.1	79.7	
Killdeer	78	14,803	22	35.9	14.5	78.4	127.7	56.8	63.90	92.2	87.6	
Leonard	81	15,876	23	35.2	17.7			58.0	61.51			
Monida	82	16,065	24	34.7	14.3	75.7	127.5	56.0	60.50	91.7	86.4	
Morton	79	15,473	25	36.5	17.2	67.8	114.7	49.8	56.97	82.2	77.4	
Otana	79	15,606	26	37.7	16.0	78.5	130.3	62.9	73.13	96.6	90.6	
Paul*	80	16,678	27	45.0	21.0	39.9	73.5	42.0	50.44	57.8	51.8	
Reeves	75	15,466	27	36.9	16.9		109.8	47.7	55.13	78.7		
Sesqui	81	15,663	22	37.0	18.7	77.3	131.6	57.7	66.92	94.6	88.9	
Stark*	81	16,892	27	43.2	18.3	66.1	106.9	43.8	52.72	75.4	72.3	
Youngs	80	11,755	27	33.8	15.6	75.8	119.3	52.8	55.44	86.1	82.6	
Trial Mean	79	14,226	25	36.7	15.8	70.5	118.0	51.1	57.77			
CV %	1.4	5.8	9.3	4.0		10.4	4.4	17.9	19.8			
LSD 0.05	2	1,159	3	2.0		10.3	7.4	NS	NS			

Planting Date: April 13, 2004 Harvest Date: August 19, 2004

\* Hulless

Previous Crop: Alfalfa burn down Seeding Rate: 1 million live seeds/ac

Returns were calculated by multiplying the 2004 yield by the test weight discount paid at the Southwest Grain Terminal located in Gladstone on October 18. The price paid was \$1.20/bu, assuming that the test weight was heavier than 37 lb/bu. Grain with a test weight of 37 lb/bu was discounted \$.04/bu, with an additional discount of \$.04/bu per pound down to 30 lb/bu. Below 30 lb/bu, an additional discount of \$.07/bu occurred per pound.