

Wheat Economics for 2006

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Higher priced inputs for 2006

- Will the total bill be higher?
- Do we change crop mix?
- Do we change production practices?

What is the impact of market price changes?

- Offset cost of input increases?
- Magnify cost of input increases?

North Valley HRS Wheat Budget, 2005-2006

	2005	2006
Yield	40	43
Price	3.42	3.58
Market Income	136.80	153.94

North Valley HRS Wheat Budget, 2005-2006

Direct Costs	2005	2006
Seed	11.60	12.60
Herbicides	12.00	13.20
Fungicides	1.50	1.50
Fertilizer	30.32	39.26
Crop insurance	5.20	6.30
Fuel & Lub.	10.96	13.85
Repairs	11.60	11.67
Misc.	1.00	1.00
Operating Int.	2.74	3.85
Total Direct Costs	86.91	103.24

North Valley HRS Wheat Return Over Variable Costs

	2005	2006
Market Income	136.80	153.94
Direct Costs	86.91	103.24
RODC	49.89	50.70

North Central HRS Wheat Budget, 2005-2006

	2005	2006
Yield	28	30
Price	3.29	3.44
Market Income	92.12	103.20

North Central HRS Wheat Budget, 2005-2006

Direct Costs	2005	2006
Seed	7.95	8.70
Herbicides	10.30	12.10
Fungicides	1.50	1.50
Fertilizer	18.61	23.20
Crop Insurance	3.90	4.70
Fuel & Lub.	8.35	10.36
Repairs	9.52	9.79
Misc.	1.00	1.00
Operating Int.	1.99	2.77
Total Direct Costs	63.11	74.12

North Central HRS Wheat Return Over Direct Costs

	2005	2006
Market Income	92.12	103.20
Direct Costs	63.11	74.12
RODC	29.01	29.08

Objective is to maximize return over variable costs ROVC is available to pay:

- Land costs
- Machinery ownership
- Labor and management (family living)

Change in Variable Costs, 2005-2006 North Valley

<u>Crop</u>	<u>2005</u>	<u>2006</u>	<u>Change</u>	<u>Yield</u>	<u>Per Unit</u>
Conf Snflr	\$98.75	\$116.07	\$17.32	1260	\$1.37
Sp Wheat	\$86.91	\$103.24	\$16.33	43	\$0.38
Oil Snflr	\$82.65	\$97.92	\$15.27	1380	\$1.11
Corn grn	\$139.90	\$153.76	\$13.86	100	\$0.14
M Barley	\$75.72	\$87.58	\$11.86	59	\$0.20
Durum	\$75.01	\$86.26	\$11.25	32	\$0.35
Canola	\$100.05	\$109.69	\$9.64	1310	\$0.74
Dry beans	\$116.98	\$125.97	\$8.99	1470	\$0.61
Oats	\$61.08	\$69.89	\$8.81	63	\$0.14
Field Peas	\$70.70	\$75.54	\$4.84	40	\$0.12
Buckwheat	\$44.58	\$48.88	\$4.30	1000	\$0.43
Y Mustard	\$54.80	\$58.34	\$3.54	1000	\$0.35
Flax	\$73.26	\$75.01	\$1.75	23	\$0.08
Soybeans	\$72.24	\$72.87	\$0.63	30	\$0.02

Return Over Variable Costs, North Valley

<u>Crop</u>	<u>Income</u>	<u>Var. Cost</u>	<u>ROVC</u>
Dry beans	\$227.85	\$125.97	\$101.88
Soybeans	\$162.90	\$72.87	\$90.03
Conf Snflr	\$192.78	\$116.07	\$76.71
Y Mustard	\$133.00	\$58.34	\$74.66
Buckwheat	\$118.00	\$48.88	\$69.12
Field Peas	\$140.00	\$75.54	\$64.46
Oil Snflr	\$158.70	\$97.92	\$60.78
Flax	\$126.96	\$75.01	\$51.95
Sp Wheat	\$153.94	\$103.24	\$50.70
M Barley	\$130.98	\$87.58	\$43.40
Corn grn	\$185.00	\$153.76	\$31.24
Durum	\$115.52	\$86.26	\$29.26
Canola	\$129.69	\$109.69	\$20.00
Oats	\$89.46	\$69.89	\$19.57

Change in Variable Costs, 2005-2006 North Central

Crop	2005	2006	Change	Yield	Per Unit
Conf Snflr	\$94.31	\$107.86	\$13.55	1280	\$1.06
W Wheat	\$61.99	\$75.36	\$13.37	42	\$0.32
Oil Snflr	\$77.39	\$90.09	\$12.70	1360	\$0.93
Sp Wheat	\$63.11	\$74.12	\$11.01	30	\$0.37
Canola	\$99.95	\$109.75	\$9.80	1360	\$0.72
Durum	\$65.29	\$74.54	\$9.25	29	\$0.32
Corn grn	\$108.58	\$117.34	\$8.76	75	\$0.12
M Barley	\$65.29	\$73.90	\$8.61	55	\$0.16
Oats	\$56.01	\$64.07	\$8.06	59	\$0.14
Rye	\$57.19	\$64.47	\$7.28	36	\$0.20
Drybeans	\$110.30	\$117.40	\$7.10	1400	\$0.51
Lentils	\$73.88	\$80.79	\$6.91	1200	\$0.58
Field Peas	\$65.71	\$71.06	\$5.35	34	\$0.16
Millet	\$36.29	\$39.28	\$2.99	1300	\$0.23
Buckwheat	\$42.28	\$44.63	\$2.35	900	\$0.26
Y Mustard	\$60.18	\$61.35	\$1.17	950	\$0.12
Soybeans	\$71.53	\$71.87	\$0.34	25	\$0.01
Flax	\$64.60	\$61.71	-\$2.89	20	-\$0.14

Return Over Variable Costs, North Central

Crop	Income	Var. Cost	ROVC
Drybeans	\$217.00	\$117.40	\$99.60
Conf Snflr	\$190.72	\$107.86	\$82.86
Oil Snflr	\$152.32	\$90.09	\$62.23
Y Mustard	\$122.55	\$61.35	\$61.20
Lentils	\$140.40	\$80.79	\$59.61
Soybeans	\$130.75	\$71.87	\$58.88
Buckwht	\$101.70	\$44.63	\$57.07
W Wheat	\$128.10	\$75.36	\$52.74
Field Peas	\$119.00	\$71.06	\$47.94
M Barley	\$121.55	\$73.90	\$47.65
Flax	\$107.00	\$61.71	\$45.29
Millet	\$84.50	\$39.28	\$45.22
Sp Wheat	\$103.20	\$74.12	\$29.08
Canola	\$138.72	\$109.75	\$28.97
Durum	\$99.18	\$74.54	\$24.64
Corn grain	\$140.25	\$117.34	\$22.91
Oats	\$82.60	\$64.07	\$18.53
Rye	\$72.72	\$64.47	\$8.25

Grand Forks County Average Yields

Year	HRSW	Drybeans	Barley	Soybeans	Sunfl	Corn	Sugarbt	Potatoes
2004	53.9	983	69.8	16.5	897	62.4	20.1	212
2003	52.6	1570	65.5	29.8	1566	111.8	21.8	182
2002	34.1	1439	43.8	31.0	1388	88.9	18.5	196
2001	37.0	1451	60.3	32.0	1488	106.9	18.6	185
2000	42.0	1116	50.5	27.4	1207	90.3	22.7	162
1999	33.1	1362	38.6	28.2	1091	98.5	20.9	187
1998	42.6	1426	58.7	28.6	1466	108.9	26.0	190
1997	31.3	1213	48.5	25.5	1013	76.4	20.3	156
1996	40.4	1263	58.7	25.0	1289	87.7	18.4	182
1995	32.2	1262	51.2	27.8	1166	79.6	20.6	171
1994	34.0	1244	61.0	30.3	1248	96.9	22.4	190
1993	33.0	708	58.5	18.1	821	52.5	18.1	210
1992	54.7	1245	81.1	21.6	1493	58.7	17.7	210
1991	39.5	1630	58.0	31.2	1642	101.2	19.3	205
1990	49.5	860	61.5	19.5	1310	70.3	14.6	150
1989	36.0	500	49.0	13.7	980	44.6	14.5	120
1988	26.7	1070	37.0	22.0	1270	68.9	15.4	150
1987	43.0	1350	61.0	29.0	1580	95.4	21.0	190
1986	39.2	1550	59.5	32.5	1470	101.1	18.7	185
1985	51.5	1350	67.0	17.0	860	44.7	16.7	180
1984	50.0	1370	66.0	23.4	1110	60.2	16.8	155
1983	36.0	1000	55.5	24.7	1140	61.0	18.8	160
1982	41.0	1130	60.0	17.3	1170	65.9	16.3	155
AVG	40.6	1221	57.4	24.9	1246	79.7	19.1	178
STD	8.1	276	10.0	5.7	239	21.1	2.8	23
CV	0.20	0.23	0.17	0.23	0.19	0.26	0.15	0.13
5-Yr AVG	43.9	1312	58.0	27.3	1309	92.1	20.3	187

Probability of Crop Yields for Grand Forks County

Percent Probability	HRSW	Drybns	Barley	Soybns	Sunflr	Corn	Sugarbts	Potatoes
	-----yield above-----							
10%	57.2	1768	74.5	36.7	1704	126.8	24.9	226
20%	50.7	1544	66.4	32.1	1510	109.8	22.7	207
30%	48.2	1458	63.3	30.3	1436	103.2	21.8	200
40%	45.9	1381	60.5	28.8	1369	97.3	21.0	193
50%	43.9	1312	58.0	27.3	1309	92.1	20.3	187
60%	41.9	1243	55.5	25.9	1249	86.8	19.6	182
70%	39.7	1165	52.7	24.3	1182	80.9	18.9	175
80%	37.2	1080	49.6	22.6	1108	74.4	18.0	168
90%	30.6	856	41.4	18.0	914	57.3	15.8	149

Expected Marginal Return for Wheat from 2.5 Additional Pounds of Nitrogen for Grand Forks County

Percent Probability	HRSW Yield	Fertility Yld Goal % of Ave	Wheat @ \$2.50	Wheat @ \$3.00	Wheat @ \$3.50	Wheat @ \$4.00	Wheat @ \$4.50
10%	57.2	130%	\$0.25	\$0.30	\$0.35	\$0.40	\$0.45
20%	50.7	115%	\$0.50	\$0.60	\$0.70	\$0.80	\$0.90
30%	48.2	110%	\$0.75	\$0.90	\$1.05	\$1.20	\$1.35
40%	45.9	105%	\$1.00	\$1.20	\$1.40	\$1.60	\$1.80
50%	43.9	100%	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25
60%	41.9	95%	\$1.50	\$1.80	\$2.10	\$2.40	\$2.70
70%	39.7	90%	\$1.75	\$2.10	\$2.45	\$2.80	\$3.15
80%	37.2	85%	\$2.00	\$2.40	\$2.80	\$3.20	\$3.60
90%	30.6	70%	\$2.25	\$2.70	\$3.15	\$3.60	\$4.05

Nitrogen recommendation for wheat = 2.5 YG-STN-PCC

\$/lb of N	\$/bu	\$/T-NH3	\$/T-Urea
\$0.28	\$0.70	\$459	\$258
\$0.30	\$0.75	\$492	\$276
\$0.32	\$0.80	\$525	\$294
\$0.34	\$0.85	\$558	\$313
\$0.36	\$0.90	\$590	\$331

Renville County Average Yields

Year	HRSW	Durum	Barley	Oil Snfl	Oats	Flax
2004	39.6	39.2	61.2	828	56.7	25.4
2003	33.2	34.9	58.2	1448	72.5	16.0
2002	27.3	26.0	46.1	1413	48.7	17.5
2001	23.7	17.2	54.1	1651	56.2	21.1
2000	31.1	27.3	53.9	1340	62.8	19.4
1999	27.9	22.3	42.9	1270	37.1	25.1
1998	27.9	30.2	55.6	1548	52.2	22.4
1997	23.3	20.4	41.9	1382	49.9	15.2
1996	30.9	30.2	58.0	1452	55.2	24.1
1995	27.0	29.7	44.8	1301	56.9	21.5
1994	36.0	38.5	59.4	1483	76.1	21.7
1993	38.5	39.5	52.1	866	85.7	30.0
1992	42.5	39.3	58.9	898	68.7	19.0
1991	31.5	30.0	41.2	1058	44.3	14.7
1990	36.0	39.5	49.0	900	58.0	13.5
1989	22.0	25.0	32.7	920	30.5	7.5
1988	17.0	17.0	20.0	910	23.0	9.0
1987	25.0	21.5	31.5	1570	44.8	18.0
1986	39.0	34.5	51.0	1400	73.5	22.0
1985	44.0	43.2	56.5	580	74.0	17.3
1984	33.5	30.0	46.5	800	52.5	10.0
1983	29.0	29.0	47.0	1180	62.0	13.0
AVG	31.2	30.2	48.3	1191	56.4	18.3
STD	7.0	7.7	10.4	307	15.3	5.7
CV	0.23	0.26	0.22	0.26	0.27	0.31
5-Yr AVG	31.0	28.9	54.7	1336	59.4	19.9

Probability of Crop Yields for Renville County

Percent Probability	HRSW	Durum	Barley	Oil Snfl	Oats	Flax
	-----yield above-----					
10%	42.6	41.6	71.9	1842	84.6	29.3
20%	36.8	35.3	63.3	1591	72.1	24.6
30%	34.7	33.0	60.2	1499	67.5	22.9
40%	32.7	30.8	57.3	1413	63.2	21.3
50%	31.0	28.9	54.7	1336	59.4	19.9
60%	29.2	27.0	52.1	1259	55.6	18.5
70%	27.3	24.8	49.2	1173	51.3	16.9
80%	25.1	22.4	46.0	1078	46.5	15.1
90%	19.4	16.2	37.5	830	34.1	10.5

Expected Marginal Return for Wheat from 2.5 Additional Pounds of Nitrogen for Renville County

Percent Probability	HRSW Yield	Fertility Yld Goal % of Ave	Wheat @ \$2.50	Wheat @ \$3.00	Wheat @ \$3.50	Wheat @ \$4.00	Wheat @ \$4.50
10%	42.6	137%	\$0.25	\$0.30	\$0.35	\$0.40	\$0.45
20%	36.8	119%	\$0.50	\$0.60	\$0.70	\$0.80	\$0.90
30%	34.7	112%	\$0.75	\$0.90	\$1.05	\$1.20	\$1.35
40%	32.7	106%	\$1.00	\$1.20	\$1.40	\$1.60	\$1.80
50%	31.0	100%	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25
60%	29.2	94%	\$1.50	\$1.80	\$2.10	\$2.40	\$2.70
70%	27.3	88%	\$1.75	\$2.10	\$2.45	\$2.80	\$3.15
80%	25.1	81%	\$2.00	\$2.40	\$2.80	\$3.20	\$3.60
90%	19.4	63%	\$2.25	\$2.70	\$3.15	\$3.60	\$4.05

Nitrogen recommendation for wheat = 2.5 YG-STN-PCC

\$/lb of N	\$N/bu	\$/T-NH3	\$/T-Urea
\$0.28	\$0.70	\$459	\$258
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