

APPENDICES

Machinery Detailed Cost per Harvested Acre, Farm Management Association, NW, 2002							
Farm Type Comparison							
	Average	Crop	Irrigated	Cow Herd	Crop Cow Herd	Crop Livestock	Crop Beef
Number of Farms	223	121	43	8	34	5	5
Harvested Acres	1274	1487	1495	109	784	340	1112
Machinery Repairs	\$12.52	\$11.70	\$13.52	\$47.58	\$13.13	\$18.32	\$18.06
Irrigation Repairs	\$1.79	\$1.23	\$4.59		\$0.27	\$0.82	\$1.46
Total Repairs	\$14.31	\$12.93	\$18.11	\$47.58	\$13.40	\$19.14	\$19.52
Machine Hire	\$10.25	\$8.89	\$18.23	\$16.24	\$5.34	\$9.35	\$7.25
Gas-Fuel-Oil	\$7.36	\$5.84	\$11.23	\$20.95	\$7.40	\$11.56	\$10.05
Fam Auto Expense	\$0.79	\$0.72	\$0.61	\$5.03	\$1.33	\$1.65	\$1.36
Total Operating Expense	\$18.40	\$15.45	\$30.07	\$42.22	\$14.07	\$22.56	\$18.66
Depreciation, Motorized	\$5.15	\$4.93	\$6.69	\$23.69	\$3.77	\$6.57	\$4.08
Depreciation, Machinery	\$6.22	\$5.53	\$10.33	\$7.91	\$4.15	\$5.24	\$5.14
Total Depreciation	\$11.37	\$10.46	\$17.02	\$31.60	\$7.92	\$11.81	\$9.22
Total Machinery Cost	\$44.08	\$38.84	\$65.20	\$121.40	\$35.39	\$53.51	\$47.40

Machinery Detailed Cost per Harvested Acre, by County Farm Management Association, NW, 2002								
County	Cheyenne	Decatur	Gove	Graham	Logan	Ness	Norton	Phillips
Number of Farms	15	10	6	8	16	5	14	7
Harvested Acres	1150	1622	1088	1404	1283	704	1113	916
Machinery Repairs	\$16.51	\$16.18	\$15.02	\$14.67	\$11.26	\$12.56	\$15.37	\$11.07
Irrigation Repairs	\$2.40	\$0.67	\$2.21	\$0.01	\$0.20	\$0.00	\$1.77	\$0.55
Total Repairs	\$18.91	\$16.85	\$17.23	\$14.68	\$11.46	\$12.56	\$17.14	\$11.62
Machine Hire	\$13.32	\$17.55	\$8.80	\$8.10	\$5.94	\$12.56	\$4.45	\$7.57
Gas-Fuel-Oil	\$6.16	\$6.14	\$4.57	\$4.37	\$5.51	\$7.62	\$7.20	\$5.71
Fam Auto Expense	\$0.59	\$0.46	\$1.13	\$1.35	\$0.49	\$1.28	\$1.31	\$2.08
Total Operating Expense	\$20.07	\$24.15	\$14.50	\$13.82	\$11.94	\$21.46	\$12.96	\$15.36
Depreciation, Motorized	\$5.02	\$3.46	\$3.24	\$4.20	\$3.40	\$12.28	\$5.69	\$3.74
Depreciation, Machinery	\$7.96	\$4.49	\$5.15	\$4.28	\$5.20	\$5.21	\$4.83	\$4.09
Total Depreciation	\$12.98	\$7.95	\$8.39	\$8.48	\$8.60	\$17.49	\$10.52	\$7.83
Total Machinery Cost	\$51.96	\$48.95	\$40.12	\$36.98	\$32.00	\$51.51	\$40.62	\$34.81

County	Rawlins	Rooks	Sheridan	Sherman	Thomas	Trego	Wallace
Number of Farms	19	6	13	32	24	5	41
Harvested Acres	1236	763	1221	1430	1805	688	1199
Machinery Repairs	\$8.31	\$15.87	\$21.32	\$11.64	\$8.43	\$18.14	\$11.44
Irrigation Repairs	\$0.43	\$0.10	\$2.84	\$2.85	\$1.50	\$0.00	\$3.08
Total Repairs	\$8.74	\$15.97	\$24.16	\$14.49	\$9.93	\$18.14	\$14.52
Machine Hire	\$6.51	\$8.14	\$13.96	\$11.88	\$9.94	\$6.59	\$1.26
Gas-Fuel-Oil	\$5.57	\$7.35	\$10.86	\$7.72	\$5.43	\$7.40	\$11.28
Fam Auto Expense	\$0.78	\$0.94	\$1.23	\$0.70	\$0.51	\$1.96	\$0.61
Total Operating Expense	\$12.86	\$16.43	\$26.05	\$20.30	\$15.88	\$15.95	\$13.15
Depreciation, Motorized	\$4.02	\$6.71	\$7.53	\$4.64	\$5.66	\$6.97	\$5.54
Depreciation, Machinery	\$4.58	\$2.06	\$6.62	\$6.60	\$6.89	\$1.92	\$8.61
Total Depreciation	\$8.60	\$8.77	\$14.15	\$11.24	\$12.55	\$8.89	\$14.15
Total Machinery Cost	\$30.20	\$41.17	\$64.36	\$46.03	\$38.36	\$42.98	\$41.82

Table 2, Coefficients Estimate table :

Parameter	Estimate	Std Err	t Value	Pr > t
a_{IW}	60.77	11.4134	5.32	<.0001
a_{NIW}	40.02	2.9033	13.78	<.0001
a_{IC}	117.52	5.1517	22.81	<.0001
a_{NIC}	47.01	2.0607	22.81	<.0001
a_{ISg}	57.00	8.6192	6.61	<.0001
a_{NISg}	28.50	4.3096	6.61	<.0001
a_{ISy}	52.47	10.1773	5.6	<.0001
a_{NISy}	41.37	2.9462	14.04	<.0001
a_{IA}	91.57	20.2942	4.51	<.0001
a_{NIA}	47.80	10.7959	4.43	<.0001
a_{IOH}	22.92	38.0084	0.60	0.5468
a_{NIOH}	20.00	0	-	-
a_{IOCC}	40.00	1.59 E-15	2.52 E16	<.0001
a_{NIOCC}	20.00	3.22 E-16	6.21 E16	<.0001
a_{MWI}	.88	0.0410	21.37	<.0001
a_{ISA}	1568.6	286.9	5.47	<.0001

Machinery Cost Model:

$$\begin{aligned}
 \text{CropMachCost} = & a_{IW} \times \text{IrrWheat} + a_{NIW} \times \text{NIrrWheat} + a_{IC} \times \text{IrrCorn} + a_{NIC} \times \text{NIrrCorn} + \\
 & a_{ISg} \times \text{IrrSorg} + a_{NISg} \times \text{NIrrSorg} + a_{ISy} \times \text{IrrSoy} + a_{NISy} \times \text{NIrrSoy} + a_{IA} \times \text{IrrAlfalfa} + \\
 & a_{NIA} \times \text{NIrrAlfalfa} + a_{IOH} \times \text{IrrOtherHay} + a_{NIOH} \times \text{NIrrOtherHay} + a_{IOCC} \times \text{IrrOtherCashCrop} + \\
 & a_{NIOCC} \times \text{NIrrOtherCashCrop} + a_{MWI} \times \text{MachWorkIn} + a_{ISA} \times \ln(\text{SumAcres})
 \end{aligned}$$



