

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... SOUTHERN HIGH PLAINS, LEA COU^{NTY} Projected 2006.
FARM SIZE..... 1,600.00 ACRES
IRRIGATION TYPE..... DRYLAND
NUMBER OF CROPS..... 2

VERSION 1.0

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TABLE 1. Acreage Summary, Lea County, Projected 2006.

BUDGET AREA.....	SOUTHERN HIGH PLAINS, LEA COUNTY
FARM SIZE.....	1600 ACRES
IRRIGATION TYPE.....	DRYLAND
NUMBER OF CROPS.....	2

ACREAGE SUMMARY:	LAND USE (ACRES)
WHEAT	680.00
ARP	0.00
FLEX IN WHEAT	120.00
GRAIN SORGHUM	646.00
ARP	0.00
FLEX IN WHEAT	114.00
FALLOW	0.00
ROADS, HOMESTEAD	40.00
TOTAL	1,600.00

TABLE 2. Basic cost information for Lea County, Projected 2006.

Item		
Labor Wage Rate:		
Equipment operators	\$/hour	\$7.45
General & Irrigators	\$/hour	\$6.60
Purchased Inputs:		
Fertilizer:		
Nitrogen (N)	\$/pound	\$0.52
Phosphate (P205)	\$/pound	\$0.40
Seed:		
Wheat	\$/pound	\$0.28
Grain Sorghum	\$/pound	\$1.22
Fuel:		
Diesel fuel	\$/gallon	\$2.10
Gasoline	\$/gallon	\$2.05
Employee Liability Insurance	\$/ \$1,000 wages	\$20.00
Employee Benefits	percent/wages	18.00%
Labor Downtime	percent	25.00%
Financial Rates:		
Operating Capital Interest Rate	percent	8.00%
Land Interest Rate	percent	8.00%
Equipment Interest Rate	percent	8.00%
Real Interest Rate	percent	3.00%
Land Taxes	\$40.00 /acre (full value)	\$0.35
Personal Property Tax Rate	- NR - R	\$/ \$1,000 (Assessed Value) \$25.93 \$22.33
Supervision Factor	\$/labor hour	\$0.50
Management Rate	percent	7.00%

TABLE 3. Overhead cost information for Lea County, Projected 2006.

Item			
Electricity (Domestic & Shop)		\$212.00 per month	\$2,544
Telephone		\$106.00 per month	\$1,272
Accounting & Legal			\$1,548
Misc. Supplies & Hand Tools			\$2,327
Pickup and Auto			
miles	32,860	@ \$0.415 per mile	\$13,637
Insurance			
- general liability (non-employee)			\$1,627
- fire/theft			\$1,288
Property Taxes			
- non-planted land			\$0
- other than land & machinery			\$6,010
Building repairs and maintenance			\$1,235
Dues, fees, publications			\$371
Farmstead Equipment			\$159
		Total	\$32,017
		Total per planted acre	\$20.52

TABLE 4. Equipment summary for a 1600 acre dryland farm with above average management, Lea County, Projected 2006.

EQUIPMENT ITEM & SIZE	ANNUAL HOURS OF USE	NUMBER	TOTAL VALUE	VARIABLE COSTS				FIXED COSTS		
				FUEL, OIL, LUBRICANT	REPAIR	FUEL, OIL, PER HR	REPAIR PER HR	DEPRECIATION	TAXES	TOTAL PER HR
TRACTOR 226 HP	344	1	\$67,171	\$8,141	\$2,690	\$23.68	\$7.83	\$8,694	\$564	\$26.93
TRUCK 2 TON	218	1	\$22,000	\$2,914	\$1,759	\$13.34	\$8.05	\$4,400	\$190	\$21.02
COMBINE 145 HP	218	1	\$50,057	\$3,831	\$5,392	\$17.54	\$24.69	\$8,886	\$575	\$43.23
GRAIN HEAD 22 FT	218	1	\$3,600		\$513	\$2.35		\$501	\$32	\$2.44
CULTIVATOR 12 ROW	78	1	\$5,000		\$481	\$6.20		\$667	\$43	\$9.16
CHISEL 40 FT	91	1	\$6,750		\$761	\$8.37		\$900	\$58	\$10.54
SPRAYER 12 ROW	45	1	\$2,250		\$49	\$1.08		\$300	\$19	\$7.06
PLANTER 12 ROW	52	1	\$8,500		\$211	\$4.08		\$1,700	\$73	\$34.32
DRILL 40 FT	46	1	\$7,750		\$170	\$3.72		\$1,550	\$67	\$35.38
FERT SPREADER DEALER FURNISHED	78	1								
			\$173,078	\$14,885	\$12,026			\$27,579	\$1,622	

EQUIPMENT LIST

ITEM	NEW VALUE	USED VALUE	YEARS LIFE	EQUIP CODE	MAX HOURS	FUEL UNIT/HR	LUBE COEF	ACCUM HOURS	INTEREST EXPENSE
TRACTOR 226 HP	130,417	67,171	15	1	800	10.25	0.10	2062.92	6 5,216.68
TRUCK 2 TON	44,000	22,000	10	6	800	6.05	0.05	2839.20	13 1,760.00
COMBINE 145 HP	132,995	50,057	15	2	300	6.96	0.20	2839.20	13 5,319.80
GRAIN HEAD 22 FT	7,520	3,600	15	2	300			2839.20	13 300.80
CULTIVATOR 12 ROW	10,000	5,000	15	3	500			1240.32	16 400.00
CHISEL 40 FT	13,500	6,750	15	3	300			1363.80	15 540.00
SPRAYER 12 ROW	4,500	2,250	15	8	250			678.30	15 180.00
PLANTER 12 ROW	17,000	8,500	10	8	250			671.84	13 680.00
DRILL 40 FT	15,500	7,750	10	8	100			594.10	13 620.00
FERT SPREADER DEALER FURNISHED					100			1404.00	18

USAGE LIST

WHEAT	MILO	PER ACRE TOTALS
-----hours per acre-----		
	0.15	0.32 0.47
	0.14	0.14 0.28
	0.14	0.14 0.28
	0.14	0.14 0.28
	0.00	0.12 0.12
	0.05	0.07 0.12
	0.00	0.07 0.07
	0.00	0.08 0.08
	0.05	0.00 0.05
	0.05	0.05 0.10

INTEREST PRORATION

WHEAT	MILO
-----dollars per acre-----	
2.28	4.98
1.13	1.13
3.41	3.41
0.19	0.19
0.00	0.62
0.30	0.42
0.00	0.28
0.00	1.05
0.68	0.00
7.98	11.95

WHEAT

MACHINE		POWER UNIT	TIMES OVER	RATE	TOTAL	CUSTOM
ACRES: 914 PUMP WATER:						
-----ACCOMPLISHMENT-----						
CHISEL	225 HP	1.00	0.05	0.05		
DRILL	225 HP	1.00	0.05	0.05		
FERT SPREADER	225 HP	1.00	0.05	0.05		
COMBINE HAUL	2 TON	1.00	0.14	0.14		

GRAIN SORGHUM

MACHINE		POWER UNIT	TIMES OVER	RATE	TOTAL	CUSTOM
ACRES: 646 PUMP WATER:						
-----ACCOMPLISHMENT-----						
FERT SPREADER	225 HP	1.00	0.05	0.05		
CHISEL & SPRAY	225 HP	1.00	0.07	0.07		
PLANTER	225 HP	1.00	0.08	0.08		
CULTIVATOR (2X)	225 HP	2.00	0.06	0.12		
COMBINE HAUL	2 TON	1.00	0.14	0.14		

ANNUAL REPAIR COSTS AS A PERCENT OF NEW VALUE

Hours of Use	1	2	3	4	5	6	7	8	9
0	0.00060	0.00020	0.00620	0.00020	0.00080	0.00140	0.00040	0.00240	0.00200
50	0.00060	0.00020	0.00620	0.00020	0.00080	0.00140	0.00040	0.00240	0.00200
100	0.00060	0.00020	0.00650	0.00020	0.00140	0.00220	0.00100	0.00380	0.00300
200	0.00030	0.00030	0.00430	0.00040	0.00180	0.00260	0.00110	0.00510	0.00280
300	0.00030	0.00050	0.00390	0.00060	0.00230	0.00210	0.00140	0.00440	0.00400
400	0.00030	0.00060	0.00370	0.00090	0.00260	0.00340	0.00150	0.00710	0.00450
500	0.00030	0.00070	0.00360	0.00100	0.00280	0.00370	0.00170	0.00800	0.00630
600	0.00030	0.00090	0.00340	0.00120	0.00310	0.00390	0.00190	0.00860	0.00530
700	0.00030	0.00100	0.00340	0.00130	0.00330	0.00410	0.00200	0.00910	0.00560
800	0.00030	0.00110	0.00320	0.00150	0.00350	0.00430	0.00210	0.00980	0.00590
900	0.00030	0.00120	0.00320	0.00160	0.00370	0.00450	0.00230	0.01020	0.00650
1000	0.00030	0.00130	0.00310	0.00180	0.00390	0.00460	0.00230	0.01070	0.00650
1200	0.00045	0.00145	0.00305	0.00205	0.00405	0.00480	0.00245	0.01135	0.00710
1400	0.00045	0.00170	0.00300	0.00230	0.00435	0.00510	0.00410	0.01260	0.00765
1500	0.00150	0.00170	0.00300	0.00230	0.00435	0.00510	0.00410	0.01260	0.00765
1600	0.00150	0.00190	0.00285	0.00255	0.00465	0.00525	0.00135	0.01235	0.00805
1800	0.00075	0.00170	0.00285	0.00285	0.00485	0.00560	0.00295		
2000	0.00110	0.00285	0.00280	0.00305	0.00505	0.00565	0.00310		
2500	0.00056								
3000	0.00070								
3500	0.00082								
4000	0.00096								
4500	0.00108								
5000	0.00122								
5500	0.00136								
6000	0.00148								
6500	0.00162								
7000	0.00176								
7500	0.00188								
8000	0.00204								

* Based on unpublished data of D. R. Hunt, Department of Agricultural Engineering, University of Illinois.

** Based on "Agricultural Machinery Data" in Agricultural Engineers Yearbook, 1983.

Codes

- 1 tractors
- 2 balers, combines, forage harvesters, windrowers, pickups
- 3 rotary hoes, disks, moldboard plows, chisels, field cultivators row cultivators, laser plane
- 4 harrows, wagons, floats, roto buck, drag, roller, water furrow, bed shaper
- 5 balewagons, cotton pickers, cotton strippers, corn pickers corn heads, forage equipment, rotary mowers, stalk choppers, feed wagons, farm trucks
- 6 rakes, cutterbar mower
- 7 baler w/ engine, manure spreader
- 8 planters, drills, seeding equipment, mounted sprayers
- 9 fertilizer distributing equipment

TABLE 5. Wheat, dryland, budgeted per acre costs and returns for a 1600 acre farm with above average management, Lea County
 Projected 2006.
 Planting dates: August 15 - September 30
 Harvest dates: June 15 - July 5

ITEM	PRICE	YIELD	BASE					TOTAL
GROSS RETURNS								
WHEAT	\$3.75	20.00 BUSHEL						\$75.00
DIRECT PAYMENT	\$0.00	20.00 BUSHEL	0.85					\$0.00
COUNTER CYCLICAL PAYMENT	\$0.00							\$0.00
TOTAL								\$75.00
PURCHASED INPUTS								
	PRICE	QUANTITY	PURCHASED INPUTS					TOTAL
SEED	\$0.28	30 LBS	\$8.40					\$8.40
NITROGEN (N)	\$0.52	16 LBS	\$8.32					\$8.32
PHOSPHATE (P205)	\$0.40	20 LBS	\$8.00					\$8.00
INSECTICIDE	\$16.99	1 X/ACRE	\$16.99					\$16.99
CROP INSURANCE	\$0.05		\$0.05					\$0.05
SUBTOTAL								\$41.76
PREHARVEST OPERATIONS								
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
CHISEL	225 HP	0.05 HR		\$0.37	\$1.18	\$0.81	\$1.87	\$4.24
DRILL	225 HP	0.05 HR		\$0.37	\$1.18	\$0.58	\$3.12	\$5.25
FERT SPREADER	225 HP	0.05 HR		\$0.37	\$1.18	\$0.39	\$1.35	\$3.29
SUBTOTAL		0.15 HR	\$0.00	\$1.12	\$3.55	\$1.78	\$6.34	\$12.78
HARVEST OPERATIONS								
COMBINE		0.14 HR		\$1.04	\$2.46	\$3.56	\$6.39	\$13.45
HAUL	2 TON	0.14 HR		\$1.04	\$1.87	\$0.96	\$2.94	\$6.81
SUBTOTAL		0.28 HR	\$0.00	\$2.09	\$4.32	\$4.52	\$9.34	\$20.27
OVERHEAD EXPENSES								
DOWNTIME		0.11 HR		\$0.80				\$0.80
EMPLOYEE BENEFITS				\$0.58				\$0.58
INSURANCE			\$0.06					\$0.06
LAND TAXES							\$0.35	\$0.35
SUPERVISION AND MANAGEMENT				\$8.09				\$8.09
OTHER EXPENSES			\$20.52					\$20.52
SUBTOTAL		0.11 HR	\$20.59	\$9.47			\$0.35	\$30.40
TOTAL OPERATING EXPENSES		0.54 HR	\$62.35	\$12.67	\$7.87	\$6.30	\$16.02	\$105.21
NET OPERATING PROFIT								(\$30.21)
INTEREST ON OPERATING CAPITAL (\$22.95 @ 8.00%)								\$1.84
INTEREST ON EQUIPMENT INVESTMENT								\$7.98
RETURN TO LAND AND RISK								(\$40.03)
BUDGET SUMMARY								
GROSS RETURN		\$75.00						
VARIABLE OPERATING EXPENSES	\$76.52							
RETURN OVER VARIABLE EXPENSES		(\$1.52)	(GROSS MARGIN)					
FIXED EXPENSES	\$16.02							
NET FARM INCOME		(\$17.54)	(RETURN TO CAPITAL, LABOR, LAND & RISK)					
LABOR AND MANAGEMENT COST	\$12.67							
NET OPERATING PROFIT		(\$30.21)	(RETURN TO CAPITAL, LAND & RISK)					
CAPITAL COSTS	\$9.82							
RETURN TO LAND AND RISK		(\$40.03)						

TABLE 6. Grain sorghum, dryland, budgeted per acre costs and returns for a 1,600 acre farm with above average management, Lea County
 Projected 2006.
 Planting dates: May 15 - June 10
 Harvest dates: October 15 - November 15

ITEM	PRICE	YIELD	BASE						TOTAL
GROSS RETURNS									
GRAIN SORGHUM	\$3.70	12.00 CWT							\$44.36
COUNTER CYCLICAL PAYMENT	\$0.00	0.00 CWT							\$0.00
DIRECT PAYMENT	\$0.00	12.00 CWT	0.85						\$0.00
TOTAL									\$44.36
PURCHASED INPUTS									
PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS						TOTAL
SEED	\$1.22	3 LBS	\$3.66						\$3.66
NITROGEN (N)	\$0.52	16 LBS	\$8.32						\$8.32
PHOSPHATE (P205)	\$0.40	20 LBS	\$8.00						\$8.00
HERBICIDE	\$18.82	1 X/ACRE	\$18.82						\$18.82
CROP INSURANCE	\$0.08		\$0.08						\$0.08
SUBTOTAL			\$38.87						\$38.87
PREHARVEST OPERATIONS									
PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL	
FERT SPREADER	225 HP	0.05 HR		\$0.37	\$1.18	\$0.39	\$1.35	\$3.29	
CHISEL & SPRAY	225 HP	0.07 HR		\$0.52	\$1.66	\$1.21	\$3.12	\$6.51	
PLANTER	225 HP	0.08 HR		\$0.60	\$1.89	\$0.95	\$4.90	\$8.34	
CULTIVATOR (2X)	225 HP	0.12 HR		\$0.89	\$2.84	\$1.68	\$4.33	\$9.75	
SUBTOTAL		0.32 HR		\$2.38	\$7.58	\$4.24	\$13.69	\$27.89	
HARVEST OPERATIONS									
COMBINE		0.14 HR		\$1.04	\$2.46	\$3.89	\$6.39	\$13.78	
HAUL	2 TON	0.14 HR		\$1.04	\$1.87	\$1.09	\$2.94	\$6.94	
SUBTOTAL		0.28 HR		\$2.09	\$4.32	\$4.98	\$9.34	\$20.73	
OVERHEAD EXPENSES									
DOWNTIME		0.15 HR		\$1.12				\$1.12	
EMPLOYEE BENEFITS				\$0.80				\$0.80	
INSURANCE			\$0.09					\$0.09	
LAND TAXES							\$0.35	\$0.35	
SUPERVISION AND MANAGEMENT				\$7.07				\$7.07	
OTHER EXPENSES			\$20.52					\$20.52	
SUBTOTAL		0.15 HR	\$20.61	\$8.99			\$0.35	\$29.95	
TOTAL OPERATING EXPENSES		0.75 HR	\$59.49	\$13.46	\$11.90	\$9.22	\$23.38	\$117.43	
NET OPERATING PROFIT								(\$73.08)	
INTEREST ON OPERATING CAPITAL		(\$23.17 @	8.00%)				\$1.85	
INTEREST ON EQUIPMENT INVESTMENT								\$11.95	
RETURN TO LAND AND RISK								(\$86.88)	

BUDGET SUMMARY

GROSS RETURN		\$44.36	
VARIABLE OPERATING EXPENSES	\$80.60		
RETURN OVER VARIABLE EXPENSES		(\$36.25)	(GROSS MARGIN)
FIXED EXPENSES	\$23.38		
NET FARM INCOME		(\$59.62)	(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$13.46		
NET OPERATING PROFIT		(\$73.08)	(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$13.81		
RETURN TO LAND AND RISK		(\$86.88)	

TABLE 7. Summary of per acre costs and returns for a 1,600 acre farm with above average management, Lea County, Projected 2006.

	WHEAT	GRAIN SORGHUM
	BU	CWT
PRIMARY YIELD	20.00	12.00
PRIMARY PRICE	\$3.75	\$3.70
GOVERNMENT PAYMENTS	\$0.00	\$0.00
SECOND INCOME	\$0.00	\$0.00
GROSS RETURN	\$75.00	\$44.36
VARIABLE OPERATING EXPENSES		
SEED	\$8.40	\$3.66
FERTILIZER	\$16.32	\$16.32
CHEMICALS	\$16.99	\$18.82
CROP INSURANCE	\$0.05	\$0.08
OTHER PURCHASED INPUTS		
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$7.87	\$11.90
FUEL-IRRIGATION		
REPAIRS	\$6.30	\$9.22
CUSTOM CHARGES	\$0.00	\$0.00
LAND TAXES	\$0.35	\$0.35
OTHER EXPENSES	\$20.59	\$20.61
TOTAL VARIABLE EXPENSES	\$76.87	\$80.95
RETURN OVER VARIABLE EXPENSES	(\$1.87)	(\$36.59)
FIXED EXPENSES	\$15.67	\$23.03
TOTAL EXPENSES	\$92.54	\$103.98
RETURNS TO CAPITAL, LABOR, LAND & RISK	(\$17.54)	(\$59.62)
LABOR AND MANAGEMENT COSTS	\$12.67	\$13.46
RETURNS TO CAPITAL, LAND & RISK	(\$30.21)	(\$73.08)
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL	\$1.84	\$1.85
INTEREST ON EQUIPMENT INVESTMENT	\$7.98	\$11.95
TOTAL CAPITAL COSTS	\$9.82	\$13.81
RETURN TO LAND AND RISK	(\$40.03)	(\$86.88)

TABLE 8. Whole farm summary, Lea County,
Projected 2006.

GROSS RETURNS		
WHEAT	914.00 ACRES	
CROP		\$68,550
DIRECT PAYMENT		\$0
COUNTER CYCLICAL PAYMENT		\$0
GRAIN SORGHUM	646.00 ACRES	
CROP		\$28,655
DIRECT PAYMENT		\$0
GROSS RETURN		<u>\$97,205</u>
VARIABLE OPERATING EXPENSES		
SEED		\$10,042
FERTILIZER		\$25,459
CHEMICALS		\$27,680
CROP INSURANCE		\$100
OTHER PURCHASED INPUTS		\$0
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$14,885
FUEL-IRRIGATION		\$0
REPAIRS		\$11,710
CUSTOM CHARGES		\$0
LAND TAXES		\$539
OTHER EXPENSES		\$32,133
TOTAL VARIABLE EXPENSES		<u>\$122,549</u>
RETURN OVER VARIABLE EXPENSES		(\$25,344)
FIXED EXPENSES		\$29,201
TOTAL EXPENSES		\$151,750
NET FARM INCOME		(\$54,545)
LABOR AND MANAGEMENT COSTS		\$20,273
NET OPERATING PROFIT		(\$74,818)
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$2,875
INTEREST ON EQUIPMENT INVESTMENT		\$15,017
TOTAL CAPITAL COSTS		<u>\$17,893</u>
RETURN TO LAND AND RISK		<u>(\$92,710)</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$150 /ACRE	(\$99,910)	-18.11%
\$200 /ACRE	(\$102,310)	-15.17%
\$250 /ACRE	(\$104,710)	-13.06%
\$300 /ACRE	(\$107,110)	-11.46%
\$350 /ACRE	(\$109,510)	-10.21%

* RETURN TO LAND AND RISK MINUS (INTEREST RATE TIMES LAND VALUE TIMES ACREAGE)

** NET OPERATING PROFIT DIVIDED BY (MACHINERY AND EQUIPMENT VALUE PLUS LAND VALUE)