

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... CURRY COUNTY 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, Curry County,
Projected 2006.

BUDGET AREA.....	CURRY COUNTY		
FARM SIZE.....	640 ACRES		
IRRIGATION TYPE.....	SPRINKLER		
NUMBER OF CROPS.....	1		
	WATER USE		
ACREAGE SUMMARY:	LAND USE (ACRES)	AC. IN. PER ACRE	TOTAL AC. IN.
ALFALFA ESTABLISHMEN*	100	5	500
ALFALFA HAY	500	25	12,500
CORNERS, ROADS, HOMESTEAD	140		
TOTAL	640		13,000
ACRE FEET PER ACRE OF WATER RIGHTS			1.69

* DOUBLE-CROPPED

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

Item		
Labor Wage Rate:		
Equipment operators	\$/hour	\$7.45
General & Irrigators	\$/hour	\$6.65
Purchased Inputs:		
Fertilizer:		
Nitrogen (N)	\$/pound	\$0.52
Phosphate (P205)	\$/pound	\$0.40
Seed:		
Alfalfa	\$/pound	\$3.20
Diesel fuel	\$/gallon	\$2.10
Gasoline	\$/gallon	\$2.00
Electricity (SWPS)	cents/KwHr	6.53
LP Gas	\$/gallon	\$2.00
Natural Gas (Gas NM)	\$/MCF	\$3.27
Plastic Twine	\$/pound	\$0.21
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	\$109.00 /acre (full value)	\$0.82
Personal Property Tax Rate	- NR - R	\$/1,000 (Assessed Value) \$22.57 \$22.57
Supervision Factors		
Field Crop-Irrigation	\$/labor hour	\$1.00
Field Crop-Equipment & General	\$/labor hour	\$0.50
Management Rate	percent	7.00%

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

Item		
Electricity (Domestic & Shop)	\$212.00 per month	\$2,544
Telephone	\$106.00 per month	\$1,272
Accounting & Legal		\$1,553
Misc. Supplies & Hand Tools		\$2,327
Pickup and Auto		
miles	21,200 @	\$0.415 per mile
Insurance		
- general liability (non-employee)		\$2,088
- fire/theft		\$1,675
Property Taxes		
- non-planted land		\$0
- other than land & machinery		\$0
Building repairs and maintenance		\$1,383
Dues, fees, publications		\$382
Farmstead Equipment		\$155
	Total	\$22,176
	Total Per Planted Acre	\$44.35

TABLE 4. Pumping costs and data for Curry County
Projected 2006.

INPUT DATA	
DELIVERY PSI:	DEPTH CHARACTERISTICS
SPRINKLER	40
	STATIC..... 300
	DRAW DOWN..... 35
	TOTAL HEAD..... 335
	CASING..... 350
GALLONS PER MINUTE (GPM)	800
WORK HORSEPOWER	86
EFFICIENCY FACTOR:	
ELECTRICITY	0.92
NATURAL GAS	0.156
LP GAS	0.156
DIESEL	0.180
FUEL COST PER HOUR	
ELECTRICITY	6.53 CENTS/KWH
NATURAL GAS	\$3.27 \$MCF
LP GAS	\$2.00 \$GAL
DIESEL	\$2.10 \$GAL
PUMPING COSTS	
ELECTRIC WELL:	
COST PER HOUR	\$7.14
COST PER ACRE INCH	\$4.04
NATURAL GAS:	
COST PER HOUR	\$5.08
COST PER ACRE INCH	\$2.87
LP GAS WELL:	
COST PER HOUR	\$30.70
COST PER ACRE INCH	\$17.37
DIESEL WELL:	
COST PER HOUR	\$20.40
COST PER ACRE INCH	\$11.54

TABLE 5. Equipment summary for a 640 acre sprinkler-irrigated hay farm with above average management, Curry 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 90 HP	300	1	\$8,857	\$3,838	\$822	\$12.79	\$2.07	\$1,152	\$130	\$4.27
TRACTOR 140 HP	262	1	\$28,828	\$4,628	\$1,227	\$16.41	\$4.35	\$4,834	\$273	\$16.11
TRACTOR 180 HP	150	1	\$42,416	\$3,459	\$601	\$21.75	\$5.79	\$6,428	\$363	\$42.71
SWATHER 16 FT	275	1	\$21,350	\$2,162	\$388	\$7.86	\$1.45	\$3,821	\$272	\$14.16
DISC 14 FT	14	1	\$3,000		\$52			\$400	\$23	\$30.18
FERT SPREADER DEALER FURNISHES	0									
CHESEL 7 FT	1	1	\$1,200		\$30		\$1.49	\$160	\$9	\$8.45
FLOAT 14 FT	32	1	\$600		\$1		\$0.02	\$80	\$3	\$1.98
BALEW 1 TON	152	1	\$41,720		\$818		\$1.14	\$5,812	\$308	\$46.12
RAKE	300	1	\$1,550		\$130		\$0.43	\$155	\$12	\$5.56
FRONT END LOADER	250	1	\$2,550		\$291		\$1.16	\$355	\$19	\$1.10
SPRINKLER	7,354	1	\$15,000		\$52,493		\$7.14	\$2,000	\$113	\$6.29
ELECTRIC WELL	7,354	1	\$1,000					\$1,040	\$98	\$9.15
TOTAL			\$179,868	\$86,576	\$4,388			\$25,918	\$1,642	

EQUIPMENT LIST

ITEM	NEW VALUE	USED VALUE	YEARS LIFE	EQUIP CODE	MAX HOURS	FUEL LINT/HR	LUBE COEF	ACCOM HOURS	INTEREST EXPENSE
TRACTOR 90 HP	34,550	8,857	30	1	800	5.54	0.10	8900.00	23
TRACTOR 140 HP	72,515	28,828	15	1	800	7.10	0.10	3948.00	14
TRACTOR 180 HP	86,403	42,416	15	1	800	9.42	0.10	1749.00	11
SWATHER 16 FT	72,410	21,350	20	2	800	3.12	0.20	1650.00	6
DISC 14 FT	6,000	3,000	15	3	300			224.00	16
FERT SPREADER DEALER FURNISHES	2,400	1,200	15	3	300			320.00	18
CHESEL 7 FT	900	900	15	4	300			96.00	16
FLOAT 14 FT	81.75	41,720	15	2	500			480.00	15
BALEW 1 TON	81,715	41,720	15	2	500			2,500.00	2
RAKE	3,100	1,550	20	6	500			4500.00	15
FRONT END LOADER	5,100	2,550	20	3	300			3750.00	15
SPRINKLER	30,000	15,000	15	0	8,742			110313.13	15
ELECTRIC WELL	26,000	13,000	20	0	6,742			110313.13	16

USAGE LIST

ALFALFA EST.	ALFALFA HKY	PER ACRE TOTALS
---hours per acre		
	0.50	0.60
	0.32	0.50
	0.34	0.25
	0.00	0.55
	0.14	0.00
	0.20	0.00
	0.00	0.00
	0.20	0.00
	0.32	0.33
	0.00	0.25
	0.00	0.60
	0.00	0.50
	2.83	14.14
	16.97	16.97

ALFALFA

HKY	ACRES	POWER UNIT	TIMES OVER	RATE	ACCOMPLISHMENT TOTAL	CUSTOM
2.76	5.14	180 HP	1.00	0.20	0.20	
6.06	5.79	180 HP	1.00	0.14	0.14	
0.00	0.00	FLOAT (20)	1.00	0.08	0.40	
0.00	0.00	PRE-IRRIGATE	6.00	0.48	2.42	9.00
0.00	0.00	SEED (CUSTOM)				
0.00	0.00	IRRIGATE (BX)				

ALFALFA HAY

ACRES	POWER UNIT	TIMES OVER	RATE	ACCOMPLISHMENT TOTAL	CUSTOM
500	180 HP	1.00	0.57	14.14	
20.00					

ANNUAL REPAIR COSTS AS A PERCENT OF NEW VALUE

Hours of Use	1	2	3	4	5	6	7	8	9
0	0.000000	0.000020	0.000020	0.000020	0.000080	0.000140	0.000040	0.000240	0.000200
50	0.000000	0.000020	0.000020	0.000020	0.000080	0.000140	0.000040	0.000240	0.000200
100	0.000000	0.000020	0.000020	0.000020	0.000080	0.000140	0.000020	0.000100	0.000380
200	0.000000	0.000020	0.000040	0.000040	0.000080	0.000180	0.000020	0.000110	0.000510
300	0.000000	0.000050	0.000030	0.000060	0.000200	0.000310	0.000140	0.000030	0.000400
400	0.000000	0.000060	0.000070	0.000090	0.000260	0.000340	0.000150	0.000170	0.000450
500	0.000000	0.000070	0.000080	0.000100	0.000280	0.000370	0.000170	0.000200	0.000500
600	0.000000	0.000090	0.000040	0.000120	0.000310	0.000390	0.000190	0.000260	0.000580
700	0.000000	0.000100	0.000040	0.000150	0.000330	0.000410	0.000200	0.000210	0.000590
800	0.000000	0.000110	0.000050	0.000160	0.000350	0.000430	0.000210	0.000220	0.000600
900	0.000000	0.000120	0.000050	0.000160	0.000370	0.000450	0.000220	0.001020	0.000600
1000	0.000000	0.000130	0.000050	0.000160	0.000380	0.000460	0.000230	0.001070	0.000600
1200	0.000045	0.000145	0.000036	0.000205	0.000405	0.000480	0.000245	0.001135	0.000710
1400	0.000045	0.000170	0.000030	0.000230	0.000435	0.000510	0.000410	0.001260	0.000765
1500	0.000150	0.000170	0.000030	0.000230	0.000435	0.000510	0.000410	0.001260	0.000765
1600	0.000150	0.000190	0.000026	0.000255	0.000465	0.000525	0.000415	0.001255	0.000865
1800	0.000175	0.000170	0.000026	0.000265	0.000465	0.000550	0.000425	0.001295	
2000	0.000175	0.000265	0.000026	0.000265	0.000505	0.000565	0.000430		
2500	0.000066								
3000	0.000070								
3500	0.000082								
4000	0.000086								
4500	0.000108								
5000	0.000122								
5500	0.000138								
6000	0.000148								
6500	0.000162								
7000	0.000176								
7500	0.000188								
8000	0.000204								

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

Based on "Agricultural Machinery Data" in Agriculture
Engineers Yearbook, 1953.

Codes

- 1 tractors
- 2 balers, combines, forage harvesters, windrowers, pickups
- 3 rotary hoes, disks, moldboard plows, chisels, field cultivators
- 4 harrows, wagons, flails, row bush, drag, roller, water furrow, feed auger
- 5 balerwagons, cotton pickers, cotton strippers, corn pickers
- 6 corn heads, forage equipment, rotary mowers, slash choppers, feed wagons, farm trucks
- 7 baler w/ engine, manure spreader
- 8 graders, lifts, leveling equipment, rotary sprayer
- 9 fertilizer distributing equipment

TABLE 6. Alfalfa establishment, sprinkler-irrigated, budgeted per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2006.
Planting Dates: August 1 - September 1

ITEM	PRICE	QUANTITY	PURCHASED INPUTS						TOTAL	
PURCHASED INPUTS										
SEED	\$3.20	30.00 LBS		\$96.00					\$96.00	
NITROGEN (N)	\$0.52	20.00 LBS		\$10.40					\$10.40	
PHOSPHATE (P2O5)	\$0.40	50.00 LBS		\$20.00					\$20.00	
PUMP WATER*		5.00 AC. IN.								
SUBTOTAL				\$126.40					\$126.40	
PREHARVEST OPERATIONS										
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL		
CHISEL	185 HP	0.20 HR		\$1.49	\$4.35	\$1.45	\$10.23	\$17.53		
DISC	185 HP	0.14 HR		\$1.04	\$3.05	\$1.33	\$10.20	\$15.62		
FLOAT (2X)	140 HP	0.32 HR		\$2.38	\$5.25	\$1.40	\$6.43	\$15.46		
PRE-IRRIGATE		0.10 HR		\$0.75	\$2.88	\$0.00	\$0.18	\$3.81		
SEED (CUSTOM)			\$9.00							\$9.00
IRRIGATE (6X)		0.60 HR		\$3.99	\$17.31	\$0.00	\$1.07	\$22.37		
SUBTOTAL		1.36 HR	\$9.00	\$9.65	\$32.84	\$4.18	\$28.12	\$83.79		
OVERHEAD EXPENSES										
DOWNTIME		0.09 HR		\$0.63					\$0.63	
EMPLOYEE BENEFITS				\$1.74					\$1.74	
INSURANCE			\$0.03					\$0.03		
SUPERVISION AND MANAGEMENT				\$15.69					\$15.69	
SUBTOTAL		0.09 HR	\$0.03	\$18.06					\$18.09	
TOTAL OPERATING EXPENSES		1.45 HR	\$135.43	\$27.72	\$32.84	\$4.18	\$28.12	\$228.28		

TABLE 7. Alfalfa hay, sprinkler-irrigated, budgeted per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2006.
Harvesting Dates: May 15 - September 15

ITEM	PRICE	YIELD	TOTAL
GROSS RETURNS			
ALFALFA HAY	\$130.00	6.50 TONS (STACKED)	\$845.00
TOTAL			\$845.00

PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS	FIXED COST	TOTAL
NITROGEN (N)	\$0.52	100 LBS	\$52.00		\$52.00
PHOSPHATE (P205)	\$0.40	200 LBS	\$80.00		\$80.00
TRACE ELEMENTS	\$14.25	1 ACRE	\$14.25		\$14.25
HERBICIDE (CUSTOM)	\$20.54	1 ACRE	\$20.54		\$20.54
INSECTICIDE (CUSTOM)	\$14.39	1 ACRE	\$14.39		\$14.39
PLASTIC TWINE	\$0.21	170 FT/TON	\$0.06		\$0.06
ESTABLISHMENT: Principal		6 YEARS		\$38.05	\$38.05
: Interest				\$9.94	\$9.94
PUMP WATER*		25 AC. IN.			
SUBTOTAL			\$181.24	\$47.98	\$229.22

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
IRRIGATE		2.00 HR		\$13.30	\$100.95	\$0.00	\$6.25	\$120.50
SUBTOTAL		2.00 HR		\$13.30	\$100.95	\$0.00	\$6.25	\$120.50

HARVEST OPERATIONS

SWATHER (5X)	16 FT	0.55 HR		\$4.10	\$4.32	\$0.80	\$7.79	\$17.00
RAKE (5X)	96 HP	0.60 HR		\$4.47	\$7.67	\$1.50	\$2.90	\$16.54
BALER (5X)	185 HP	0.25 HR		\$1.86	\$5.44	\$1.88	\$22.96	\$32.14
FRONT END LOADER (5X)	140 HP	0.50 HR		\$3.73	\$8.21	\$3.76	\$9.60	\$25.29
SUBTOTAL		1.90 HR		\$14.16	\$25.64	\$7.94	\$43.24	\$90.98

OVERHEAD EXPENSES

DOWNTIME		0.48 HR		\$3.54				\$3.54
EMPLOYEE BENEFITS				\$4.94				\$4.94
INSURANCE			\$0.55					\$0.55
LAND TAXES							\$0.82	\$0.82
SUPERVISION AND MANAGEMENT*				\$62.10				\$62.10
OTHER EXPENSES			\$44.35					\$44.35
SUBTOTAL		0.48 HR	\$44.90	\$70.58			\$0.82	\$116.30

TOTAL OPERATING EXPENSES 4.38 HR \$226.14 \$98.04 \$126.59 \$7.94 \$98.30 \$557.00

NET OPERATING PROFIT \$288.00

INTEREST ON OPERATING CAPITAL (\$123.62 @ 8.00%) \$9.89
INTEREST ON EQUIPMENT INVESTMENT \$31.70

RETURN TO LAND AND RISK \$246.41

* Pump water costs are shown under irrigation in the preharvest operations section.

BUDGET SUMMARY

GROSS RETURN		\$845.00	
VARIABLE OPERATING EXPENSES	\$360.66		
RETURN OVER VARIABLE EXPENSES		\$484.34	(GROSS MARGIN)
FIXED EXPENSES	\$98.30		
NET FARM INCOME		\$386.04	(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$98.04		
NET OPERATING PROFIT		\$288.00	(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$41.59		
RETURN TO LAND AND RISK		\$246.41	

TABLE 8. Summary of per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2006.

	ALFALFA ESTABLISHMENT	ALFALFA HAY
		TONS
PRIMARY YIELD		6.50
PRIMARY PRICE		\$130.00
GOVERNMENT PAYMENTS		\$0.00
SECOND INCOME		\$0.00
GROSS RETURN		\$845.00
CASH OPERATING EXPENSES		
SEED	\$96.00	
FERTILIZER	\$30.40	\$146.25
CHEMICALS		\$34.93
CROP INSURANCE		
OTHER PURCHASED INPUTS		\$0.06
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$12.65	\$25.64
FUEL-IRRIGATION	\$20.19	\$100.95
REPAIRS	\$4.18	\$7.94
CUSTOM CHARGES	\$9.00	\$0.00
LAND TAXES		\$0.82
OTHER EXPENSES	\$0.03	\$44.90
TOTAL CASH EXPENSES	\$172.45	\$361.48
RETURN OVER CASH EXPENSES	(\$172.45)	\$483.52
FIXED EXPENSES	\$28.12	\$97.48
TOTAL EXPENSES	\$200.56	\$458.96
NET FARM INCOME	(\$200.56)	\$386.04
LABOR AND MANAGEMENT COSTS	\$27.72	\$98.04
NET OPERATING PROFIT	(\$228.28)	\$288.00
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$9.89
INTEREST ON EQUIPMENT INVESTMENT		\$31.70
TOTAL CAPITAL COSTS	\$0.00	\$41.59
RETURN TO LAND AND RISK	(\$228.28)	\$246.41

TABLE 9. Whole farm summary, Curry County,
Projected 2006.

GROSS RETURNS		
ALFALFA HAY	500 ACRES	
CROP		\$422,500
GROSS RETURN		<u>\$422,500</u>
CASH OPERATING EXPENSES		
		\$9,600
		\$76,163
CHEMICALS		\$17,466
CROP INSURANCE		\$0
OTHER PURCHASED INPUTS		\$29
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$14,085
FUEL-IRRIGATION		\$52,493
REPAIRS		\$4,388
CUSTOM CHARGES		\$900
LAND TAXES		\$410
OTHER EXPENSES		\$22,453
TOTAL CASH EXPENSES		<u>\$197,987</u>
RETURN OVER CASH EXPENSES		\$224,513
FIXED EXPENSES		\$32,528
TOTAL EXPENSES		\$230,515
NET FARM INCOME		\$191,985
LABOR AND MANAGEMENT COSTS		\$51,789
NET OPERATING PROFIT		\$140,196
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$4,945
INTEREST ON EQUIPMENT INVESTMENT		\$15,851
TOTAL CAPITAL COSTS		<u>\$20,796</u>
RETURN TO LAND AND RISK		<u>\$119,400</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$500 /ACRE	\$109,800	28.05%
\$1,000 /ACRE	\$100,200	17.10%
\$1,500 /ACRE	\$90,600	12.30%
\$2,000 /ACRE	\$81,000	9.60%
\$2,500 /ACRE	\$71,400	7.88%

* 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)