

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... CURRY COUNTY Projected 2008.
FARM SIZE..... 640.00 ACRES
IRRIGATION TYPE.....SPRINKLER
NUMBER OF CROPS..... 1

VERSION 1.0

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TABLE 1. Acreage Summary, Curry County,
Projected 2008.

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 2008.

Item		
Labor Wage Rate:		
Equipment operators	\$/hour	\$7.45
General & Irrigators	\$/hour	\$6.65
Purchased Inputs:		
Fertilizer:		
Nitrogen (N)	\$/pound	\$0.63
Phosphate (P205)	\$/pound	\$0.55
Seed:		
Alfalfa	\$/pound	\$3.45
Diesel fuel	\$/gallon	\$3.05
Gasoline	\$/gallon	\$2.80
Electricity (SWPS)	cents/KwHr	6.71
LP Gas	\$/gallon	\$2.60
Natural Gas (Gas NM)	\$/MCF	\$3.24
Plastic Twine	\$/pound	\$0.29
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	7.75%
Land Interest Rate	percent	7.75%
Equipment Interest Rate	percent	7.75%
Real Interest Rate	percent	3.00%
Land Taxes	\$109.00 /acre (full value)	\$0.74
Personal Property Tax Rate	- NR - R	\$/1,000 (Assessed Value) \$20.49 \$20.73
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 2008.

Item		
Electricity (Domestic & Shop)	\$224.00 per month	\$2,688
Telephone	\$112.00 per month	\$1,344
Accounting & Legal		\$1,641
Misc. Supplies & Hand Tools		\$2,458
Pickup and Auto		
miles	22,400 @	\$0.415 per mile
Insurance		
- general liability (non-employee)		\$2,206
- fire/theft		\$1,770
Property Taxes		
- non-planted land		\$0
- other than land & machinery		\$0
Building repairs and maintenance		\$1,462
Dues, fees, publications		\$403
Farmstead Equipment		\$159
	Total	\$23,427
	Total Per Planted Acre	\$46.85

TABLE 4. Pumping costs and data for Curry County
Projected 2008.

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	6.71 CENTS/KWH
NATURAL GAS	\$3.24 \$/MCF
LP GAS	\$2.60 \$/GAL
DIESEL	\$3.05 \$/GAL
PUMPING COSTS	
ELECTRIC WELL:	
COST PER HOUR	\$7.33
COST PER ACRE INCH	\$4.15
NATURAL GAS:	
COST PER HOUR	\$5.03
COST PER ACRE INCH	\$2.66
LP GAS WELL:	
COST PER HOUR	\$39.91
COST PER ACRE INCH	\$22.07
DIESEL WELL:	
COST PER HOUR	\$29.62
COST PER ACRE INCH	\$16.38

TABLE 5. Equipment summary for a 640 acre sprinkler-irrigated hay farm with above average management, Curry County
Projected 2008.

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	\$16,534	\$5,572	\$822	\$18.57	\$2.07	\$1,152	\$118	\$4.23
TRACTOR 140 HP	262	1	\$38,279	\$6,721	\$1,227	\$23.83	\$4.35	\$4,834	\$248	\$16.02
TRACTOR 180 HP	159	1	\$38,274	\$5,023	\$601	\$31.59	\$5.79	\$6,428	\$329	\$42.50
SWATHER 16 FT	275	1	\$21,350	\$3,140	\$338	\$11.42	\$1.45	\$3,821	\$247	\$14.06
DISC 14 FT	14	1	\$3,000		\$52			\$400	\$20	\$30.04
FERT SPREADER DEALER FURNISHES	0									
CHESEL 7 FT	30	1	\$1,200		\$30		\$1.49	\$160	\$8	\$8.41
FLOAT 14 FT	32	1	\$600		\$1		\$0.02	\$80	\$3	\$1.97
BALEER 1 TON	152	1	\$4,720		\$818		\$1.14	\$3,812	\$208	\$48.57
RAKE	300	1	\$1,550		\$130		\$0.43	\$155	\$11	\$5.55
FRONT END LOADER	250	1	\$2,550		\$291		\$3.16	\$355	\$17	\$1.09
SPRINKLER	7,354	1	\$15,000	\$53,934		\$7.33		\$2,000	\$102	\$0.29
ELECTRIC WELL	7,354	1	\$15,000					\$1,040	\$69	\$0.15
TOTAL			\$191,507	\$74,391	\$4,388			\$25,918	\$1,491	

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	16,534	30	1	800	5.54	0.10	8900.00	23 1,338.81
TRACTOR 140 HP	72,515	36,279	15	1	800	7.10	0.10	3668.00	13 2,809.98
TRACTOR 180 HP	38,460	39,214	15	1	800	9.42	0.10	1749.00	11 2,796.28
SWATHER 16 FT	72,410	21,350	20	2	800	3.12	0.20	1650.00	6 2,835.69
DISC 14 FT	6,000	3,000	15	3	300			224.00	16 232.50
FERT SPREADER DEALER FURNISHES	2,400	1,200	15	3	300			320.00	16 82.00
CHESEL 7 FT	900	600	15	4	300			480.00	15 34.88
FLOAT 14 FT	61,175	41,720	15	2	500			250.00	2 3,376.03
BALEER 1 TON	3,100	1,550	20	6	500			4500.00	15 120.13
RAKE	5,100	2,550	20	3	300			3750.00	15 187.63
FRONT END LOADER	30,000	15,000	15	0	8,742			11033.13	15 1,162.50
SPRINKLER	26,000	13,000	25	0	8,742			11033.13	15 1,007.50
ELECTRIC WELL									

USAGE LIST

ALFALFA EST.	ALFALFA HKY	PER ACRE TOTALS
---hours per acre---		
	0.50	0.60
	0.32	0.50
	0.34	0.25
	0.09	0.55
	0.14	0.14
	0.20	0.20
	0.00	0.00
	0.25	0.25
	0.00	0.60
	0.00	0.50
	2.83	14.14
	16.97	16.97

ALFALFA

HKY
4.98
2.88
5.87
5.81
0.00
0.00
6.76
0.24
0.40
2.24
1.54

ALFALFA ESTABLISHMENT	ACRES:	100	PUMP WATER:	5.00			
ACCOMPLISHMENT							
CROP	MACHINE	POWER UNIT	TIMES OVER	RATE	TOTAL	CUSTOM	
	CHESEL	18 HP	1.00	0.20	0.20		
	DISC	18 HP	1.00	0.14	0.14		
	FLOAT (20)	140 HP	2	0.18	0.32		
	PRE-IRRIGATE		1.00	0.08	0.40		
	SEED (CUSTOM)					9.00	
	IRRIGATE (BX)		6.00	0.48	2.42		
ALFALFA HAY					500	PUMP WATER:	25.00
ACCOMPLISHMENT							
CROP	MACHINE	POWER UNIT	TIMES OVER	RATE	TOTAL	CUSTOM	
	IRRIGATE (20X)		20.00	0.57	14.14		
	SWATHER (SX)	16 FT	5.00	0.11	0.55		
	RAKE (BX)	90 HP	5.00	0.12	0.60		
	BALEER (20)	180 HP	5.00	0.05	0.25		
	FRONT END LOADER (SX)	140 HP	5.00	0.10	0.50		

ANNUAL REPAIR COSTS AS A PERCENT OF NEW VALUE

Hours of Use	1	2	3	4	5	6	7	8	9
0	0.00000	0.00020	0.00020	0.00020	0.00080	0.00140	0.00040	0.00240	0.00200
50	0.00000	0.00020	0.00020	0.00020	0.00080	0.00140	0.00040	0.00240	0.00200
100	0.00000	0.00020	0.00050	0.00020	0.00140	0.00220	0.00150	0.00380	0.00300
200	0.00000	0.00030	0.00040	0.00040	0.00180	0.00260	0.00190	0.00510	0.00400
300	0.00000	0.00050	0.00030	0.00060	0.00220	0.00310	0.00140	0.00630	0.00450
400	0.00000	0.00060	0.00070	0.00060	0.00260	0.00360	0.00150	0.00710	0.00540
500	0.00000	0.00070	0.00080	0.00100	0.00280	0.00370	0.00170	0.00800	0.00630
600	0.00000	0.00090	0.00040	0.00120	0.00310	0.00390	0.00190	0.00860	0.00650
700	0.00000	0.00100	0.00040	0.00150	0.00330	0.00410	0.00220	0.00910	0.00690
800	0.00000	0.00110	0.00050	0.00160	0.00350	0.00430	0.00230	0.00960	0.00700
900	0.00000	0.00120	0.00050	0.00160	0.00370	0.00450	0.00230	0.01020	0.00760
1000	0.00000	0.00130	0.00070	0.00160	0.00380	0.00460	0.00230	0.01070	0.00800
1200	0.00045	0.00145	0.00030	0.00205	0.00405	0.00480	0.00245	0.01135	0.00870
1400	0.00045	0.00170	0.00030	0.00220	0.00435	0.00510	0.00245	0.01180	0.00910
1500	0.000150	0.00170	0.00030	0.00220	0.00435	0.00510	0.00245	0.01180	0.00910
1600	0.000150	0.00190	0.00030	0.00225	0.00465	0.00525	0.00245	0.01215	0.00935
1800	0.00015	0.00170	0.00028	0.00285	0.00485	0.00550	0.00225	0.01225	0.00965
2000	0.00015	0.00285	0.00028	0.00285	0.00505	0.00565	0.00210	0.01270	0.00965
2500	0.00066								
3000	0.00070								
3500	0.00082								
4000	0.00096								
4500	0.00108								
5000	0.00122								
5500	0.00138								
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 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, flares, stub blads, drag, roller, water furrow, feed auger
- 5 balerwagons, cotton pickers, cotton strippers, corn pickers
- 6 corn heads, forage equipment, rotary mowers, disk choppers, feed wagons, farm trucks
- 7 baler w/ engine, manure spreader
- 8 planters, drills, seeding equipment, mounted 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 2008.
Planting Dates: August 1 - September 1

ITEM	PRICE	QUANTITY	PURCHASED INPUTS						TOTAL
PURCHASED INPUTS									
SEED	\$3.45	30.00 LBS		\$103.50					\$103.50
NITROGEN (N)	\$0.63	20.00 LBS		\$12.60					\$12.60
PHOSPHATE (P2O5)	\$0.55	50.00 LBS		\$27.50					\$27.50
PUMP WATER*		5.00 AC. IN.							
SUBTOTAL				\$143.60					\$143.60
PREHARVEST OPERATIONS									
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL	
CHISEL	185 HP	0.20 HR		\$1.49	\$6.32	\$1.45	\$10.18	\$19.45	
DISC	185 HP	0.14 HR		\$1.04	\$4.42	\$1.33	\$10.15	\$16.95	
FLOAT (2X)	140 HP	0.32 HR		\$2.38	\$7.63	\$1.40	\$6.40	\$17.81	
PRE-IRRIGATE		0.10 HR		\$0.75	\$2.96	\$0.00	\$0.18	\$3.89	
SEED (CUSTOM)			\$9.00					\$9.00	
IRRIGATE (6X)		0.60 HR		\$3.99	\$17.78	\$0.00	\$1.07	\$22.84	
SUBTOTAL		1.36 HR	\$9.00	\$9.65	\$39.11	\$4.18	\$27.98	\$89.92	
OVERHEAD EXPENSES									
DOWNTIME		0.09 HR		\$0.63				\$0.63	
EMPLOYEE BENEFITS				\$1.74				\$1.74	
INSURANCE			\$0.03					\$0.03	
SUPERVISION AND MANAGEMENT				\$17.33				\$17.33	
SUBTOTAL		0.09 HR	\$0.03	\$19.70				\$19.72	
TOTAL OPERATING EXPENSES		1.45 HR	\$152.63	\$29.35	\$39.11	\$4.18	\$27.98	\$253.25	

TABLE 7. Alfalfa hay, sprinkler-irrigated, budgeted per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2008.
Harvesting Dates: May 15 - September 15

ITEM	PRICE	YIELD	TOTAL
GROSS RETURNS			
ALFALFA HAY	\$140.00	6.50 TONS (STACKED)	\$910.00
TOTAL			\$910.00

PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS	FIXED COST	TOTAL
NITROGEN (N)	\$0.63	100 LBS	\$63.00		\$63.00
PHOSPHATE (P205)	\$0.55	200 LBS	\$110.00		\$110.00
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	\$0.29	170 FT/TON	\$0.08		\$0.08
ESTABLISHMENT: Principal		6 YEARS		\$42.21	\$42.21
: Interest				\$10.82	\$10.82
PUMP WATER*		25 AC. IN.			
SUBTOTAL			\$222.26	\$53.02	\$275.28

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
IRRIGATE		2.00 HR		\$13.30	\$103.72	\$0.00	\$6.21	\$123.23
SUBTOTAL		2.00 HR		\$13.30	\$103.72	\$0.00	\$6.21	\$123.23

HARVEST OPERATIONS

SWATHER (5X)	16 FT	0.55 HR		\$4.10	\$6.28	\$0.80	\$7.74	\$18.91
RAKE (5X)	96 HP	0.60 HR		\$4.47	\$11.14	\$1.50	\$2.87	\$19.99
BALER (5X)	185 HP	0.25 HR		\$1.86	\$7.90	\$1.88	\$22.84	\$34.49
FRONT END LOADER (5X)	140 HP	0.50 HR		\$3.73	\$11.92	\$3.76	\$9.56	\$28.95
SUBTOTAL		1.90 HR		\$14.16	\$37.24	\$7.94	\$43.00	\$102.34

OVERHEAD EXPENSES

DOWNTIME		0.48 HR		\$3.54				\$3.54
EMPLOYEE BENEFITS				\$4.94				\$4.94
INSURANCE			\$0.55					\$0.55
LAND TAXES							\$0.74	\$0.74
SUPERVISION AND MANAGEMENT*				\$66.65				\$66.65
OTHER EXPENSES			\$46.85					\$46.85
SUBTOTAL		0.48 HR	\$47.40	\$75.13			\$0.74	\$123.28

TOTAL OPERATING EXPENSES 4.38 HR \$269.66 \$102.59 \$140.96 \$7.94 \$102.99 \$624.13

NET OPERATING PROFIT \$285.87

INTEREST ON OPERATING CAPITAL (\$146.23 @ 7.75%) \$11.33
INTEREST ON EQUIPMENT INVESTMENT \$30.71

RETURN TO LAND AND RISK \$243.82

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

BUDGET SUMMARY

GROSS RETURN		\$910.00	
VARIABLE OPERATING EXPENSES	\$418.56		
RETURN OVER VARIABLE EXPENSES	\$491.44	(GROSS MARGIN)	
FIXED EXPENSES	\$102.99		
NET FARM INCOME	\$388.45	(RETURN TO CAPITAL, LABOR, LAND & RISK)	
LABOR AND MANAGEMENT COST	\$102.59		
NET OPERATING PROFIT	\$285.87	(RETURN TO CAPITAL, LAND & RISK)	
CAPITAL COSTS	\$42.04		
RETURN TO LAND AND RISK	\$243.82		

TABLE 8. Summary of per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2008.

	ALFALFA ESTABLISHMENT	ALFALFA HAY
		TONS
PRIMARY YIELD		6.50
PRIMARY PRICE		\$140.00
GOVERNMENT PAYMENTS		\$0.00
SECOND INCOME		\$0.00
GROSS RETURN		\$910.00
CASH OPERATING EXPENSES		
SEED	\$103.50	
FERTILIZER	\$40.10	\$187.25
CHEMICALS		\$34.93
CROP INSURANCE		
OTHER PURCHASED INPUTS		\$0.08
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$18.37	\$37.24
FUEL-IRRIGATION	\$20.74	\$103.72
REPAIRS	\$4.18	\$7.94
CUSTOM CHARGES	\$9.00	\$0.00
LAND TAXES		\$0.74
OTHER EXPENSES	\$0.03	\$47.40
TOTAL CASH EXPENSES	\$195.92	\$419.30
RETURN OVER CASH EXPENSES	(\$195.92)	\$490.70
FIXED EXPENSES	\$27.98	\$102.24
TOTAL EXPENSES	\$223.90	\$521.55
NET FARM INCOME	(\$223.90)	\$388.45
LABOR AND MANAGEMENT COSTS	\$29.35	\$102.59
NET OPERATING PROFIT	(\$253.25)	\$285.87
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$11.33
INTEREST ON EQUIPMENT INVESTMENT		\$30.71
TOTAL CAPITAL COSTS	\$0.00	\$42.04
RETURN TO LAND AND RISK	(\$253.25)	\$243.82

TABLE 9. Whole farm summary, Curry County,
Projected 2008.

GROSS RETURNS		
ALFALFA HAY	500 ACRES	
CROP		\$455,000
GROSS RETURN		<u>\$455,000</u>
CASH OPERATING EXPENSES		
		\$10,350
		\$97,633
CHEMICALS		\$17,466
CROP INSURANCE		\$0
OTHER PURCHASED INPUTS		\$40
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$20,457
FUEL-IRRIGATION		\$53,934
REPAIRS		\$4,388
CUSTOM CHARGES		\$900
LAND TAXES		\$372
OTHER EXPENSES		\$23,704
TOTAL CASH EXPENSES		<u>\$229,244</u>
RETURN OVER CASH EXPENSES		\$225,756
FIXED EXPENSES		\$32,815
TOTAL EXPENSES		\$262,059
NET FARM INCOME		\$192,941
LABOR AND MANAGEMENT COSTS		\$54,228
NET OPERATING PROFIT		\$138,713
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$5,666
INTEREST ON EQUIPMENT INVESTMENT		\$15,355
TOTAL CAPITAL COSTS		<u>\$21,022</u>
RETURN TO LAND AND RISK		<u>\$117,691</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$500 /ACRE	\$108,091	27.09%
\$1,000 /ACRE	\$98,491	16.67%
\$1,500 /ACRE	\$88,891	12.04%
\$2,000 /ACRE	\$79,291	9.42%
\$2,500 /ACRE	\$69,691	7.74%

* 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)