

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... CURRY COUNTY, Projected 2010.
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 2010.

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 2010.

Item		
Labor Wage Rate:		
Equipment operators	\$/hour	\$7.45
General & Irrigators	\$/hour	\$7.25
Purchased Inputs:		
Fertilizer:		
Nitrogen (N)	\$/pound	\$0.58
Phosphate (P205)	\$/pound	\$0.51
Seed:		
Alfalfa	\$/pound	\$3.75
Diesel fuel	\$/gallon	\$2.75
Gasoline	\$/gallon	\$2.50
Electricity (SWPS)	cents/KwHr	6.52
LP Gas	\$/gallon	\$2.45
Natural Gas (Gas NM)	\$/MCF	\$5.89
Plastic Twine	\$/pound	\$0.31
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	7.50%
Land Interest Rate	percent	7.00%
Equipment Interest Rate	percent	7.50%
Real Interest Rate	percent	3.00%
Land Taxes	\$109.00 /acre (full value)	\$0.79
Personal Property Tax Rate	- NR - R	\$/ \$1,000 (Assessed Value) \$21.81 \$21.93
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 2010.

Item		
Electricity (Domestic & Shop)	\$236.00 per month	\$2,832
Telephone	\$118.00 per month	\$1,416
Accounting & Legal		\$1,729
Misc. Supplies & Hand Tools		\$2,590
Pickup and Auto		
miles	23,600 @	\$0.415 per mile
Insurance		
- general liability (non-employee)		\$2,325
- fire/theft		\$1,864
Property Taxes		
- non-planted land		\$0
- other than land & machinery		\$0
Building repairs and maintenance		\$1,540
Dues, fees, publications		\$425
Farmstead Equipment		\$159
	Total	\$24,674
	Total Per Planted Acre	\$49.35

TABLE 4. Pumping costs and data for Curry County, Projected 2010.

INPUT DATA	
DELIVERY PSI:	40
DEPTH CHARACTERISTICS:	300
SPRINKLER:	STATIC..... 35
	DRAW DOWN..... 35
	TOTAL HEAD..... 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	6.52 CENTS/KWH
NATURAL GAS	\$5.89 \$/MCF
LP GAS	\$2.46 \$/GAL
DIESEL	\$2.75 \$/GAL
PUMPING COSTS	
ELECTRIC WELL:	
COST PER HOUR	\$7.13
COST PER ACRE INCH	\$4.03
NATURAL GAS:	
COST PER HOUR	\$5.13
COST PER ACRE INCH	\$5.16
LP GAS WELL:	
COST PER HOUR	\$37.50
COST PER ACRE INCH	\$17.27
DIESEL WELL:	
COST PER HOUR	\$26.71
COST PER ACRE INCH	\$15.11

TABLE 5. Equipment summary for a 640 acre sprinker-irrigated hay farm with above average management, Curry County, Projected 2010.

EQUIPMENT ITEM & SIZE	ANNUAL HOURS OF USE	NUMBER	TOTAL VALUE	VARIABLE COSTS				FIXED COSTS		TOTAL PER HR	
				FUEL, OIL, LUBRICANT	REPAIR	FUEL, OIL PER HR	REPAIR PER HR	DEPRECIATION	TAXES		
TRACTOR 90 HP	300	1	\$15,980	\$5,024	\$822	\$16.75	\$2.07	\$1,152	\$1.26	\$4.28	
TRACTOR 140 HP	262	1	\$43,245	\$6,060	\$1,227	\$21.49	\$4.35	\$4,834	\$264	\$18.08	
TRACTOR 180 HP	159	1	\$39,025	\$4,629	\$601	\$28.49	\$2.79	\$6,428	\$350	\$42.63	
SWATHER 16 FT	275	1	\$21,350	\$2,831	\$338	\$10.30	\$1.45	\$3,421	\$263	\$14.12	
DISC 14 FT	14	1	\$3,000		\$52			\$400	\$22	\$30.13	
FERT SPREADER DEALER FURNISHED	0	1	\$1,200		\$30		\$1.49	\$160	\$9	\$8.44	
CHISEL 7 FT	32	1	\$600		\$1		\$0.02	\$80	\$3	\$1.98	
FLOAT 14 FT	152	1	\$41,750		\$816		\$1.14	\$5,812	\$317	\$46.03	
BAKER 1 TON	300	1	\$1,550		\$130		\$0.43	\$155	\$11	\$5.55	
RAME	250	1	\$2,550		\$291		\$3.16	\$355	\$19	\$11.09	
FRONT END LOADER	7,354	1	\$15,000		\$62.413		\$7.13	\$2,000	\$109	\$20.29	
SPRINKLER	7,354	1	\$13,000		\$52.413		\$7.13	\$1,040	\$95	\$9.15	
ELECTRIC WELL											
TOTAL			\$203,200		\$10,886		\$4,386		\$25,916		\$1,567

EQUIPMENT LIST

ITEM	NEW VALUE	USED VALUE	YEARS LIFE	EQUIP CODE	MAX HOURS	FUEL LINT/HR	LUBE COEF	ACCM HOURS	INTEREST AGE	EXPENSE
TRACTOR 90 HP	34,550	15,980	30	1	800	5.54	0.10	8900.00	23	1,295.63
TRACTOR 140 HP	72,515	45,245	15	1	800	7.10	0.10	3668.00	13	2,719.31
TRACTOR 180 HP	86,403	39,025	15	1	800	9.42	0.10	1749.00	11	2,615.75
SWATHER 16 FT	72,410	21,350	20	2	800	3.12	0.20	1650.00	6	2,715.38
DISC 14 FT	6,000	3,000	15	3	300			224.00	16	252.00
FERT SPREADER DEALER FURNISHED	2,400	1,200	15	3	300			320.00	18	0.00
CHISEL 7 FT	900	600	15	4	300			90.00	16	90.00
FLOAT 14 FT	81,715	41,750	15	2	500			480.00	15	33.75
BAKER 1 TON	1,550	1,550	20	6	500			250.00	2	3,289.98
RAME	2,550	2,550	20	3	300			450.00	15	116.25
FRONT END LOADER	15,000	15,000	15	0	8,742			3750.00	15	191.25
SPRINKLER	30,000	13,000	15	0	8,742			110313.13	15	1,125.00
ELECTRIC WELL	26,000	13,000	25	0	8,742			110313.13	15	975.00

USAGE LIST

ALFALFA EST.	ALFALFA HKY	PER ACRE TOTALS
---hours per acre---		
TRACTOR 90 HP	0.50	0.50
TRACTOR 140 HP	0.32	0.50
TRACTOR 180 HP	0.34	0.25
SWATHER 16 FT	0.09	0.55
DISC 14 FT	0.14	0.00
FERT SPREADER DEALER FURNISHED	0.00	0.00
CHISEL 7 FT	0.20	0.20
FLOAT 14 FT	0.32	0.32
BAKER 1 TON	0.00	0.25
RAME	0.00	0.60
FRONT END LOADER	0.00	0.50
SPRINKLER	2.83	14.14
ELECTRIC WELL	2.83	14.14

ALFALFA

ACRES	POWER HP	TIMES OVER	RATE	ACCOMPLISHMENT TOTAL	CUSTOM
29.77					

ALFALFA ESTABLISHMENT	ACRES	POWER HP	TIMES OVER	RATE	ACCOMPLISHMENT TOTAL	CUSTOM
ALFALFA PUMP WATER	100					5.00
CHISEL 7 FT	16 HP	1.00	0.20	0.20		
DISC 14 FT	14 HP	1.00	0.14	0.14		
FLOAT (20)	14 HP	2	0.18	0.32		
PRE-IRRIGATE		1.00	0.08	0.40		9.00
SEED (CUSTOM)						
IRRIGATE (5X)		6.00	0.48	2.42		
ALFALFA HAY	500					25.00
IRRIGATE (20X)		20.00	0.57	14.14		
SWATHER (5X)	16 FT	5.00	0.11	0.55		
RAME (5X)	90 HP	5.00	0.12	0.60		
BAKER (5X)	180 HP	5.00	0.05	0.25		
FRONT END LOADER (5X)	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	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
50	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
100	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
200	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
300	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
400	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
500	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
600	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
700	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
800	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
900	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
1000	0.000000	0.000020	0.000620	0.002020	0.003620	0.005220	0.006820	0.008420	0.010020
1200	0.000045	0.000145	0.000345	0.000545	0.000745	0.000945	0.001145	0.001345	0.001545
1400	0.000045	0.000145	0.000345	0.000545	0.000745	0.000945	0.001145	0.001345	0.001545
1500	0.000150	0.000170	0.000330	0.000530	0.000730	0.000930	0.001130	0.001330	0.001530
1600	0.000150	0.000190	0.000350	0.000550	0.000750	0.000950	0.001150	0.001350	0.001550
1800	0.000175	0.000170	0.000285	0.000485	0.000685	0.000885	0.001085	0.001285	0.001485
2000	0.000175	0.000285	0.000485	0.000685	0.000885	0.001085	0.001285	0.001485	0.001685
2500	0.000266								
3000	0.000370								
3500	0.000482								
4000	0.000596								
4500	0.000718								
5000	0.000844								
5500	0.000974								
6000	0.001108								
6500	0.001246								
7000	0.001388								
7500	0.001534								
8000	0.001684								

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

Based on "Agricultural Machinery Data" in Agricultural 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, rakes, roller, water furrow, field drier
- 5 balers/gens, cotton pickers, cotton strippers, corn pickers
- 6 corn heads, forage equipment, rotary mowers, slash choppers, feed wagons, farm trucks
- 7 tractors, combine mowers
- 8 baler w/ engine, manure spreader
- 9 pumps, chills, seeding equipment, mounted sprayers
- 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 2010.
Planting Dates: August 1 - September 1

ITEM	PRICE	QUANTITY	PURCHASED INPUTS					TOTAL
PURCHASED INPUTS								
SEED	\$3.75	30.00 LBS		\$112.50				\$112.50
NITROGEN (N)	\$0.58	20.00 LBS		\$11.60				\$11.60
PHOSPHATE (P2O5)	\$0.51	50.00 LBS		\$25.50				\$25.50
PUMP WATER*		5.00 AC. IN.						
SUBTOTAL				\$149.60				\$149.60
PREHARVEST OPERATIONS								
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
CHISEL	185 HP	0.20 HR		\$1.49	\$5.70	\$1.45	\$10.21	\$18.86
DISC	185 HP	0.14 HR		\$1.04	\$3.99	\$1.33	\$10.19	\$16.55
FLOAT (2X)	140 HP	0.32 HR		\$2.38	\$6.88	\$1.40	\$6.42	\$17.08
PRE-IRRIGATE		0.10 HR		\$0.75	\$2.88	\$0.00	\$0.18	\$3.80
SEED (CUSTOM)			\$9.00					\$9.00
IRRIGATE (6X)		0.60 HR		\$4.35	\$17.28	\$0.00	\$1.07	\$22.70
SUBTOTAL		1.36 HR	\$9.00	\$10.01	\$36.72	\$4.18	\$28.07	\$87.98
OVERHEAD EXPENSES								
DOWNTIME		0.09 HR		\$0.63				\$0.63
EMPLOYEE BENEFITS				\$1.80				\$1.80
INSURANCE			\$0.03					\$0.03
SUPERVISION AND MANAGEMENT				\$17.61				\$17.61
SUBTOTAL		0.09 HR	\$0.03	\$20.05				\$20.07
TOTAL OPERATING EXPENSES		1.45 HR	\$158.63	\$30.06	\$36.72	\$4.18	\$28.07	\$257.66

TABLE 7. Alfalfa hay, sprinkler-irrigated, budgeted per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2010.
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)	\$0.58	100 LBS	\$58.00		\$58.00
PHOSPHATE (P205)	\$0.51	200 LBS	\$102.00		\$102.00
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	\$0.31	170 FT/TON	\$0.09		\$0.09
ESTABLISHMENT: Principal		6 YEARS		\$42.94	\$42.94
: Interest				\$10.65	\$10.65
PUMP WATER*		25 AC. IN.			
SUBTOTAL			\$209.26	\$53.59	\$262.85

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
IRRIGATE		2.00 HR		\$14.50	\$100.79	\$0.00	\$6.24	\$121.53
SUBTOTAL		2.00 HR		\$14.50	\$100.79	\$0.00	\$6.24	\$121.53

HARVEST OPERATIONS

SWATHER (5X)	16 FT	0.55 HR		\$4.10	\$5.66	\$0.80	\$7.77	\$18.32
RAKE (5X)	96 HP	0.60 HR		\$4.47	\$10.05	\$1.50	\$2.89	\$18.91
BALER (5X)	185 HP	0.25 HR		\$1.86	\$7.12	\$1.88	\$22.92	\$33.78
FRONT END LOADER (5X)	140 HP	0.50 HR		\$3.73	\$10.75	\$3.76	\$9.59	\$27.81
SUBTOTAL		1.90 HR		\$14.16	\$33.58	\$7.94	\$43.16	\$98.83

OVERHEAD EXPENSES

DOWNTIME		0.48 HR		\$3.54				\$3.54
EMPLOYEE BENEFITS				\$5.16				\$5.16
INSURANCE			\$0.57					\$0.57
LAND TAXES							\$0.79	\$0.79
SUPERVISION AND MANAGEMENT*				\$66.65				\$66.65
OTHER EXPENSES			\$49.35					\$49.35
SUBTOTAL		0.48 HR	\$49.92	\$75.35			\$0.79	\$126.06

TOTAL OPERATING EXPENSES 4.38 HR \$259.18 \$104.00 \$134.37 \$7.94 \$103.78 \$609.27

NET OPERATING PROFIT \$300.73

INTEREST ON OPERATING CAPITAL (\$138.61 @ 7.50%) \$10.40
INTEREST ON EQUIPMENT INVESTMENT \$29.72

RETURN TO LAND AND RISK \$260.61

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

BUDGET SUMMARY

GROSS RETURN		\$910.00	
VARIABLE OPERATING EXPENSES	\$401.49		
RETURN OVER VARIABLE EXPENSES	\$508.51		(GROSS MARGIN)
FIXED EXPENSES	\$103.78		
NET FARM INCOME	\$404.73		(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$104.00		
NET OPERATING PROFIT	\$300.73		(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$40.12		
RETURN TO LAND AND RISK		\$260.61	

TABLE 8. Summary of per acre costs and returns for a 640 acre farm with above average management, Curry County, Projected 2010.

	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	\$112.50	
FERTILIZER	\$37.10	\$174.25
CHEMICALS		\$34.93
CROP INSURANCE		
OTHER PURCHASED INPUTS		\$0.09
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$16.56	\$33.58
FUEL-IRRIGATION	\$20.16	\$100.79
REPAIRS	\$4.18	\$7.94
CUSTOM CHARGES	\$9.00	\$0.00
LAND TAXES		\$0.79
OTHER EXPENSES	\$0.03	\$49.92
TOTAL CASH EXPENSES	\$199.53	\$402.29
RETURN OVER CASH EXPENSES	(\$199.53)	\$507.71
FIXED EXPENSES	\$28.07	\$102.98
TOTAL EXPENSES	\$227.60	\$505.27
NET FARM INCOME	(\$227.60)	\$404.73
LABOR AND MANAGEMENT COSTS	\$30.06	\$104.00
NET OPERATING PROFIT	(\$257.66)	\$300.73
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$10.40
INTEREST ON EQUIPMENT INVESTMENT		\$29.72
TOTAL CAPITAL COSTS	\$0.00	\$40.12
RETURN TO LAND AND RISK	(\$257.66)	\$260.61

TABLE 9. Whole farm summary, Curry County,
Projected 2010.

GROSS RETURNS		
ALFALFA HAY	500 ACRES	
CROP		\$455,000
GROSS RETURN		<u>\$455,000</u>
CASH OPERATING EXPENSES		
		\$11,250
		\$90,833
CHEMICALS		\$17,466
CROP INSURANCE		\$0
OTHER PURCHASED INPUTS		\$43
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$18,445
FUEL-IRRIGATION		\$52,413
REPAIRS		\$4,388
CUSTOM CHARGES		\$900
LAND TAXES		\$396
OTHER EXPENSES		\$24,963
TOTAL CASH EXPENSES		<u>\$221,096</u>
RETURN OVER CASH EXPENSES		\$233,904
FIXED EXPENSES		\$32,827
TOTAL EXPENSES		\$253,923
NET FARM INCOME		\$201,077
LABOR AND MANAGEMENT COSTS		\$55,007
NET OPERATING PROFIT		\$146,070
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$5,198
INTEREST ON EQUIPMENT INVESTMENT		\$14,860
TOTAL CAPITAL COSTS		<u>\$20,058</u>
RETURN TO LAND AND RISK		<u>\$126,012</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$500 /ACRE	\$116,412	28.08%
\$1,000 /ACRE	\$106,812	17.39%
\$1,500 /ACRE	\$97,212	12.59%
\$2,000 /ACRE	\$87,612	9.87%
\$2,500 /ACRE	\$78,012	8.11%

* 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)