

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... CURRY COUNTY Projected 2018
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 2018

BUDGET AREA.....	CURRY COUNTY
FARM SIZE.....	1600 ACRES
IRRIGATION TYPE.....	DRYLAND
NUMBER OF CROPS...	2

ACREAGE SUMMARY:	LAND USE (ACRES)
WHEAT	450.50
ARP	0.00
FLEX IN WHEAT	79.50
GRAIN SORGHUM	450.50
ARP	0.00
FLEX IN WHEAT	79.50
FALLOW	530.00
ROADS, HOMESTEAD	10.00
TOTAL	1,600.00

TABLE 2. Basic cost information for Curry County,
Projected 2018

Item			
Labor Wage Rate:			
Equipment operators	\$/hour		\$7.75
General & Irrigators	\$/hour		\$7.50
Purchased Inputs:			
Fertilizer:			
Anhydrous Ammonia	\$/ton		\$420.00
Seed:			
Wheat	\$/pound		\$0.44
Grain Sorghum	\$/pound		\$1.32
Diesel fuel	\$/gallon		\$2.70
Gasoline	\$/gallon		\$2.40
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		5.50%
Land Interest Rate	percent		5.00%
Equipment Interest Rate	percent		5.50%
Real Interest Rate	percent		3.00%
Land Taxes	\$40.00 /acre (full value)		\$40.00
Personal Property Tax Rate	- NR	\$/ \$1,000 (Assessed Value)	\$21.53
	- R		\$20.59
Supervision Factors			
Field Crop-Equipment & General	\$/labor hour		\$1.00
Management Rate	percent		7.00%

TABLE 3. Overhead cost information for Curry County,
Projected 2018

Item			
Electricity (Domestic & Shop)	\$254.00	per month	\$3,048
Telephone	\$127.00	per month	\$1,524
Accounting & Legal			\$1,861
Misc. Supplies & Hand Tools			\$2,819
Pickup and Auto			
miles	38,100	@	\$0.500 per mile
			\$19,050
Insurance			
- general liability (non-employee)			\$2,508
- fire/theft			\$2,007
Property Taxes			
- non-planted land			\$0
- other than land & machinery			\$0
Building repairs and maintenance			\$1,651
Dues, fees, publications			\$457
Farmstead Equipment			\$191
		Total	\$35,116
		Total Per Planted Acre	\$22.09

TABLE 4. Equipment summary for a 1,600 acre dryland farm with above average management, Curry County, Projected 2018

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 155 HP	180	1	\$40,865	\$4,363	\$971	\$24.21	\$5.39	\$5,985	\$322	\$35.00
TRACTOR 330 HP	189	1	\$75,975	\$8,174	\$1,959	\$43.14	\$10.34	\$11,485	\$618	\$63.88
DRILL 40 FT	53	1	\$7,750		\$197		\$3.72	\$1,550	\$56	\$30.29
SWEEPS 45 FT	106	1	\$6,750		\$887		\$8.37	\$900	\$48	\$8.95
ROTARY HOE 24 FT	23	1	\$1,900		\$53		\$2.36	\$253	\$14	\$11.85
ROD WEEDER 40 FT	53	1	\$1,200		\$79		\$1.49	\$160	\$9	\$3.18
CULTIVATOR 6 ROW	59	1	\$5,000		\$363		\$6.20	\$667	\$36	\$12.00
FERT SPREADER DEALER FURNISHED	77	1								
TOTAL			\$139,439	\$12,536	\$4,509			\$21,000	\$1,103	

EQUIPMENT LIST

ITEM	NEW VALUE	USED VALUE	YEARS LIFE	EQUIP CODE	MAX HOURS	FUEL UNIT/HR	LUBE COEF	ACCUM HOURS	INTEREST AGE	EXPENSE
TRACTOR 155 HP	89,775	40,865	15	1	800	8.15	0.10	1982.20	11	2,468.81
TRACTOR 330 HP	172,280	75,975	15	1	800	14.53	0.10	757.90	4	4,737.70
DRILL 40 FT	15,500	7,750	10	8	100			689.00	13	426.25
SWEEPS 45 FT	13,500	6,750	15	3	200			1696.00	16	371.25
ROTARY HOE 24 FT	3,800	1,900	15	3	300			337.88	15	104.50
ROD WEEDER 40 FT	2,400	1,200	15	3	300			795.00	15	86.00
CULTIVATOR 6 ROW	10,000	5,000	15	3	500			937.04	16	276.00
FERT SPREADER DEALER FURNISHED					300			1301.95	17	0.00

USAGE LIST

GRAIN	PER ACRE	
WHEAT	SORGHUM	TOTALS
---hours per acre---		
0.40	0.40	
0.20	0.15	0.35
0.05	0.05	0.10
0.10	0.10	0.20
0.00	0.05	0.05
0.05	0.05	0.10
0.00	0.13	0.13
0.00	0.17	0.17

INTEREST PRORATION

GRAIN	PER ACRE	
WHEAT	SORGHUM	TOTALS
---dollars/acre---		
0.00	5.48	
5.00	3.75	
0.40	0.40	
0.35	0.35	
0.00	0.23	
0.06	0.06	
0.00	0.61	
5.82	10.89	

WHEAT ACRES: 609.5

MACHINE	POWER UNIT	TIMES OVER	ACCOMPLISHMENT		
			RATE	TOTAL	CUSTOM
SWEEP (2X)	300 HP	2.00	0.05	0.10	
ROD WEEDER	300 HP	1.00	0.05	0.05	
DRILL	300 HP	1.00	0.05	0.05	
COMBINE GRAIN (CUSTOM) BASE RATE				9.25	
EXTRA CHARGE PER BUSHEL OVER			20.00		0.18
HAUL (CUSTOM) PER BUSHEL					0.16

GRAIN SORGHUM ACRES: 450.5

MACHINE	POWER UNIT	TIMES OVER	ACCOMPLISHMENT		
			RATE	TOTAL	CUSTOM
SWEEP (2X)	300 HP	2.00	0.05	0.10	
ROD WEEDER	300 HP	1.00	0.05	0.05	
ANHYDROUS APPL	155 HP	1.00	0.17	0.17	
DRILL	155 HP	1.00	0.05	0.05	
ROTARY HOE	155 HP	1.00	0.05	0.05	
CULTIVATOR	155 HP	1.00	0.13	0.13	
COMBINE (CUSTOM) BASE RATE				9.67	
EXTRA CHARGE PER CWT OVER			36.67		0.28
HAUL (CUSTOM) PER CWT					0.19

ANNUAL REPAIR COSTS AS A PERCENT OF NEW VALUE

Hours of Use	1	2	3	4	5	6	7	8	9
0	0.000060	0.000020	0.000020	0.000020	0.000080	0.000140	0.000040	0.000240	0.000200
50	0.000060	0.000020	0.000020	0.000020	0.000080	0.000140	0.000040	0.000240	0.000200
100	0.000060	0.000020	0.000020	0.000020	0.000140	0.000220	0.000100	0.000380	0.000300
200	0.000030	0.000030	0.000430	0.000040	0.000180	0.000260	0.000110	0.000510	0.000260
300	0.000030	0.000060	0.000380	0.000060	0.000230	0.000310	0.000140	0.000430	0.000400
400	0.000030	0.000060	0.000370	0.000090	0.000260	0.000340	0.000150	0.000710	0.000450
500	0.000030	0.000070	0.000360	0.000100	0.000280	0.000370	0.000170	0.000800	0.000630
600	0.000030	0.000090	0.000340	0.000120	0.000310	0.000390	0.000190	0.000860	0.000530
700	0.000030	0.000100	0.000340	0.000130	0.000330	0.000410	0.000200	0.000910	0.000560
800	0.000030	0.000110	0.000320	0.000150	0.000350	0.000430	0.000210	0.000980	0.000590
900	0.000030	0.000120	0.000320	0.000160	0.000370	0.000450	0.000230	0.001020	0.000600
1000	0.000030	0.000130	0.000310	0.000180	0.000380	0.000460	0.000230	0.001070	0.000630
1200	0.000045	0.000145	0.000305	0.000205	0.000405	0.000480	0.000245	0.001135	0.000710
1400	0.000045	0.000170	0.000300	0.000230	0.000435	0.000510	0.000410	0.001260	0.000765
1500	0.000150	0.000170	0.000300	0.000230	0.000435	0.000510	0.000410	0.001260	0.000765
1600	0.000150	0.000190	0.000285	0.000255	0.000465	0.000525	0.000135	0.001235	0.000805
1800	0.000075	0.000170	0.000285	0.000285	0.000485	0.000560	0.000295		
2000	0.000110	0.000265	0.000280	0.000305	0.000505	0.000565	0.000310		
2500	0.000056								
3000	0.000070								
3500	0.000062								
4000	0.000086								
4500	0.000108								
5000	0.000122								
5500	0.000136								
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 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 beltewagons, 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 6. Grain sorghum, dryland, budgeted per acre costs and returns for a 1,600 acre farm with aboveaverage management, Curry County,
 Projected 2018
 Planting Dates: May 15 - June 20
 Harvesting Dates: October 15 - November 15

ITEM	PRICE	YIELD	BASE	TOTAL
GROSS RETURNS				
GRAIN SORGHUM	\$6.08	18.00 CWT		\$109.41
DIRECT PAYMENT	\$0.00	18.00 CWT	0.85	\$0.00
COUNTER CYCLICAL PAYMENT	\$0.00	0.00 CWT		\$0.00
GRAZING	\$4.00	1.00 ACRE		\$4.00
TOTAL				\$113.41

PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS	FIXED COST	TOTAL
SEED	\$1.32	2 LBS	\$1.98		\$1.98
ANHYDROUS	\$0.21	50 LBS	\$10.50		\$10.50
HERBICIDE	\$13.22	1 X/ACRE	\$13.22		\$13.22
INSECTICIDE	\$13.22	1 X/ACRE	\$13.22		\$13.22
CROP INSURANCE	\$0.11		\$0.11		\$0.11
SUBTOTAL			\$39.04		\$39.04

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
SWEEP (2X)	300 HP	0.10 HR		\$0.78	\$4.31	\$1.87	\$7.28	\$14.24
ROD WEEDER	300 HP	0.05 HR		\$0.39	\$2.16	\$0.59	\$3.35	\$6.49
ANHYDROUS APPL	155 HP	0.17 HR		\$1.32	\$4.12	\$0.92	\$5.95	\$12.30
DRILL	155 HP	0.05 HR		\$0.39	\$1.21	\$0.46	\$3.26	\$5.32
ROTARY HOE	155 HP	0.05 HR		\$0.39	\$1.21	\$0.39	\$2.34	\$4.33
CULTIVATOR	155 HP	0.13 HR		\$1.01	\$3.15	\$1.51	\$6.11	\$11.77
SUBTOTAL		0.55 HR		\$4.26	\$16.15	\$5.73	\$28.30	\$54.45

HARVEST OPERATIONS				
COMBINE (CUSTOM)			\$9.67	\$9.67
HAUL (CUSTOM)			\$3.42	\$3.42
SUBTOTAL			\$13.09	\$13.09

OVERHEAD EXPENSES							
DOWNTIME		0.10 HR		\$0.78			\$0.78
EMPLOYEE BENEFITS				\$0.77			\$0.77
INSURANCE			\$0.09				\$0.09
LAND TAXES						\$40.00	\$40.00
SUPERVISION AND MANAGEMENT				\$8.49			\$8.49
OTHER EXPENSES			\$22.09				\$22.09
SUBTOTAL		0.10 HR	\$22.17	\$10.03		\$40.00	\$72.20

TOTAL OPERATING EXPENSES 0.65 HR \$74.30 \$14.29 \$16.15 \$5.73 \$68.30 \$178.77

NET OPERATING PROFIT (\$65.36)

INTEREST ON OPERATING CAPITAL (\$26.08 @ 5.50%) \$1.43
 INTEREST ON EQUIPMENT INVESTMENT \$10.89

RETURN TO LAND AND RISK (\$77.68)

BUDGET SUMMARY

GROSS RETURN		\$113.41	
VARIABLE OPERATING EXPENSES	\$96.18		
RETURN OVER VARIABLE EXPENSES		\$17.24	(GROSS MARGIN)
FIXED EXPENSES	\$68.30		
NET FARM INCOME		(\$51.07)	(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$14.29		
NET OPERATING PROFIT		(\$65.36)	(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$12.32		
RETURN TO LAND AND RISK		(\$77.68)	

TABLE 7. Summary of per acre costs and returns for a 1,600 acre farm with above average management, Curry County, Projected 2018

	WHEAT	GRAIN SORGHUM
	BUSHEL	CWT
PRIMARY YIELD	18.00	18.00
PRIMARY PRICE	\$4.40	\$6.08
GOVERNMENT PAYMENTS	\$0.00	\$0.00
SECOND INCOME	\$12.00 ACRE	\$4.00 ACRE
GROSS RETURN	\$91.20	\$113.41
CASH OPERATING EXPENSES		
SEED	\$13.20	\$1.98
FERTILIZER		\$10.50
CHEMICALS	\$7.05	\$26.44
CROP INSURANCE	\$0.08	\$0.11
OTHER PURCHASED INPUTS		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$8.63	\$16.15
REPAIRS	\$3.16	\$5.73
CUSTOM CHARGES	\$12.13	\$13.09
LAND TAXES	\$40.00	\$40.00
OTHER EXPENSES	\$22.12	\$22.17
TOTAL CASH EXPENSES	\$106.37	\$136.18
RETURN OVER CASH EXPENSES	(\$15.17)	(\$22.76)
FIXED EXPENSES	\$15.34	\$28.30
TOTAL EXPENSES	\$121.72	\$164.48
NET FARM INCOME	(\$30.52)	(\$51.07)
LABOR AND MANAGEMENT COSTS	\$8.80	\$14.29
NET OPERATING PROFIT	(\$39.32)	(\$65.36)
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL	\$0.58	\$1.43
INTEREST ON EQUIPMENT INVESTMENT	\$5.82	\$10.89
TOTAL CAPITAL COSTS	\$6.40	\$12.32
RETURN TO LAND AND RISK	<u>(\$45.71)</u>	<u>(\$77.68)</u>
Flex Computation	-24.55	-38.49

TABLE 8. Whole farm summary, Curry County,
Projected 2018

GROSS RETURNS		
WHEAT	530 acres	
CROP		\$41,976
GRAZING		\$6,360
DIRECT PAYMENT		\$0
COUNTER CYCLICAL PAYMENT		\$0
GRAIN SORGHUM	530 acres	
CROP		\$57,990
GRAZING		\$2,120
DIRECT PAYMENT		\$0
COUNTER CYCLICAL PAYMENT		\$0
GROSS RETURN		<u>\$108,446</u>
CASH OPERATING EXPENSES		
SEED		\$8,937
FERTILIZER		\$4,730
CHEMICALS		\$16,212
CROP INSURANCE		\$100
OTHER PURCHASED INPUTS		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$12,536
REPAIRS		\$4,509
CUSTOM CHARGES		\$13,290
LAND TAXES		\$42,400
OTHER EXPENSES		\$23,468
TOTAL CASH EXPENSES		<u>\$126,183</u>
RETURN OVER CASH EXPENSES		(\$17,737)
FIXED EXPENSES		\$22,103
TOTAL EXPENSES		\$148,285
NET FARM INCOME		(\$39,840)
LABOR AND MANAGEMENT COSTS		\$11,803
NET OPERATING PROFIT		(\$51,643)
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$1,000
INTEREST ON EQUIPMENT INVESTMENT		\$8,450
TOTAL CAPITAL COSTS		<u>\$9,450</u>
RETURN TO LAND AND RISK		<u>(\$61,093)</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$150 /ACRE	(\$68,293)	-13.61%
\$200 /ACRE	(\$70,693)	-11.24%
\$250 /ACRE	(\$73,093)	-9.57%
\$300 /ACRE	(\$75,493)	-8.34%

* 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)