

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... SOUTHERN QUAY COUNT` Projected 2018
FARM SIZE..... 1,000.00 ACRES
IRRIGATION TYPE..... SPRINKLER/DRYLAND
NUMBER OF CROPS..... 2

VERSION 1.0

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TABLE 1. Acreage Summary, Quay County,
Projected 2018

BUDGET AREA.....	SOUTHERN QUAY COUNTY
FARM SIZE.....	1,000 ACRES
IRRIGATION TYPE.....	SPRINKLER/DRYLAND
NUMBER OF CROPS.....	2

ACREAGE SUMMARY:	LAND USE (ACRES)	WATER USE	
		AC.IN. PER AC.	TOTAL AC.IN.
WHEAT	607.75	0	0
ARP	0.00		
FLEX IN GRAIN SORGHUM	107.25	0	0
GRAIN SORGHUM	212.50	12	2,550
ARP	0.00		
FLEX IN GRAIN SORGHUM	37.50	12	450
ROADS, HOMESTEAD, FALLOW	35.00		
TOTAL	1,000.00		3,000

TABLE 2. Basic cost information for Southern Quay County,
Projected 2018

Item			
Labor Wage Rate:			
Equipment operators		\$/hour	\$8.55
General & Irrigators		\$/hour	\$7.50
Purchased Inputs:			
Fertilizer:			
Nitrogen (N)		\$/pound	\$0.31
Phosphate (P205)		\$/pound	\$0.24
Seed:			
Wheat		\$/pound	\$0.44
Grain Sorghum		\$/pound	\$1.32
Energy Costs:			
Diesel fuel		\$/gallon	\$2.70
Gasoline		\$/gallon	\$2.40
Electricity (Farmers Elec Coop)		cents/KwHr	8.27
LP Gas		\$/gallon	\$2.75
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			
Irrigated	\$96.00 /acre (full value)		\$0.82
Dryland	\$38.00 /acre (full value)		\$0.33
Personal Property Tax Rate	- NR	\$/1,000 (Assessed Value)	\$25.73
	- R		\$20.14
Supervision Factors			
Field Crop-Irrigation		\$/acre	\$1.00
Field Crop-Equipment & General		\$/acre	\$0.50
Management Rate		percent	7.00%

TABLE 3. Overhead cost information for Southern Quay County,
Projected 2018

Item			
Electricity (Domestic & Shop)		\$254.00 per month	\$3,048
Telephone		\$127.00 per month	\$1,524
Accounting & Legal			\$1,867
Misc. Supplies & Hand Tools			\$2,800
Pickup and Auto			
miles	26,162	@ \$0.500 per mile	\$13,081
Insurance			
- general liability (non-employee)			\$2,007
- fire/theft			\$1,588
Property Taxes			
- non-planted land			\$0
- other than land & machinery			\$6,010
Building repairs and maintenance			\$1,524
Dues, fees, publications			\$457
Farmstead Equipment			\$191
		Total	\$34,096
		Total per planted acre	\$35.33
		Total per dryland acre	\$19.09

TABLE 6. Wheat, dryland, budgeted per acre costs and returns for a 1,000 acre farm with above average management, Southern Quay County, Projected 2018
Planting dates: August 20 - September 15
Harvesting dates: June 15 - July 10

ITEM	PRICE	YIELD	BASE	TOTAL
GROSS RETURNS				
WHEAT	\$4.40	20.00 BUSHELS		\$88.00
DIRECT PAYMENT	\$0.00	20.00 BUSHELS	0.85	\$0.00
COUNTER CYCLICAL PAYMENT	\$0.00			\$0.00
GRAZING	\$5.00	1.00 ACRE		\$5.00
TOTAL				\$93.00

PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS	FIXED COST	TOTAL
SEED	\$0.44	25 LBS	\$11.00		\$11.00
CROP INSURANCE	\$0.08		\$0.08		\$0.08
SUBTOTAL			\$11.08		\$11.08

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
SWEEP (2X)	185 HP	0.16 HR		\$1.37	\$4.47	\$1.77	\$3.76	\$11.37
STUBBLE MULCHER	185 HP	0.08 HR		\$0.68	\$2.24	\$1.21	\$3.27	\$7.40
RODWEEED (2X)	126 HP	0.16 HR		\$1.37	\$3.56	\$0.76	\$1.74	\$7.43
DRILL	126 HP	0.12 HR		\$1.03	\$2.67	\$0.79	\$3.12	\$7.62
SUBTOTAL		0.52 HR		\$4.45	\$12.95	\$4.53	\$11.89	\$33.81

HARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
COMBINE	22 FT	0.14 HR		\$1.20	\$3.12	\$0.58	\$3.41	\$8.30
HAUL	2 TON	0.14 HR		\$1.20	\$2.40	\$0.90	\$4.72	\$9.22
SUBTOTAL		0.28 HR		\$2.39	\$5.52	\$1.48	\$8.13	\$17.52

OVERHEAD EXPENSES	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
DOWNTIME	0.20 HR		\$1.71				\$1.71
EMPLOYEE BENEFITS			\$1.23				\$1.23
INSURANCE		\$0.14					\$0.14
LAND TAXES						\$0.33	\$0.33
SUPERVISION AND MANAGEMENT			\$7.51				\$7.51
OTHER EXPENSES		\$19.09					\$19.09
SUBTOTAL	0.20 HR	\$19.22	\$10.45			\$0.33	\$30.00

TOTAL OPERATING EXPENSES	1.00 HR	\$30.31	\$17.29	\$18.47	\$6.01	\$20.35	\$92.42
NET OPERATING PROFIT							\$0.58
INTEREST ON OPERATING CAPITAL	(\$10.49 @	5.50%)				\$0.58
INTEREST ON EQUIPMENT INVESTMENT							\$8.29
RETURN TO LAND AND RISK							(\$8.29)

BUDGET SUMMARY			
GROSS RETURN		\$93.00	
VARIABLE OPERATING EXPENSES	\$54.79		
RETURN OVER VARIABLE EXPENSES		\$38.21	(GROSS MARGIN)
FIXED EXPENSES	\$20.35		
NET FARM INCOME		\$17.87	(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$17.29		
NET OPERATING PROFIT		\$0.58	(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$8.86		
RETURN TO LAND AND RISK		(\$8.29)	

TABLE 7. Grain sorghum, sprinkler-irrigated, budgeted per acre costs and returns for a 1,000 acre farm with above average management, Southern Quay County, Projected 2018
 Planting dates: June 15 - July 15
 Harvesting dates: September 20 - October 30

ITEM	PRICE	YIELD	BASE	TOTAL
GROSS RETURNS				
GRAIN SORGHUM	\$6.08	50.00 CWT		\$303.93
COUNTER CYCLICAL PAYMENT	\$0.00	0.00 CWT		\$0.00
DIRECT PAYMENT	\$0.00	50.00 CWT	0.85	\$0.00
TOTAL				\$303.93

PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS	FIXED COST	TOTAL
SEED	\$1.32	5 LBS	\$6.60		\$6.60
NITROGEN (N)	\$0.31	80 LBS	\$24.80		\$24.80
PHOSPHATE (P205)	\$0.24	40 LBS	\$9.60		\$9.60
HERBICIDE	\$16.99	1 ACRE	\$16.99		\$16.99
PUMP WATER		12 AC. IN.			
CROP INSURANCE	\$0.14		\$0.14		\$0.14
SUBTOTAL			\$58.13		\$58.13

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
SWEEP	185 HP	0.08 HR		\$0.68	\$2.24	\$0.88	\$1.88	\$5.68
DISC (2X)	185 HP	0.22 HR		\$1.88	\$6.15	\$3.29	\$7.06	\$18.39
SPRAYER	126 HP	0.06 HR		\$0.51	\$1.34	\$0.28	\$1.17	\$3.30
LISTER	185 HP	0.12 HR		\$1.03	\$3.36	\$1.00	\$3.08	\$8.46
ROD WEED & PLANTER	185 HP	0.18 HR		\$1.54	\$5.03	\$1.52	\$5.92	\$14.02
CULTIVATOR (2X)	126 HP	0.26 HR		\$2.22	\$5.79	\$2.00	\$3.87	\$13.88
IRRIGATE (12X)		1.20 HR		\$9.00	\$49.98	\$0.00	\$10.32	\$69.30
SUBTOTAL		2.12 HR		\$16.87	\$73.89	\$8.98	\$33.32	\$133.04

HARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
COMBINE	22 FT	0.16		\$1.37	\$3.56	\$0.66	\$3.90	\$9.49
HAUL	2 TON	0.16		\$1.37	\$2.74	\$1.03	\$5.40	\$10.54
SUBTOTAL		0.32 HR		\$2.74	\$6.31	\$1.69	\$9.29	\$20.03

OVERHEAD EXPENSES	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
DOWNTIME	0.61 HR		\$5.22				\$5.22
EMPLOYEE BENEFITS			\$3.53				\$3.53
INSURANCE		\$0.39					\$0.39
LAND TAXES						\$0.82	\$0.82
SUPERVISION AND MANAGEMENT			\$22.28				\$22.28
OTHER EXPENSES		\$35.33					\$35.33
SUBTOTAL	0.61 HR	\$35.72	\$31.02			\$0.82	\$67.57

TOTAL OPERATING EXPENSES	2.73 HR	\$93.85	\$50.62	\$80.19	\$10.67	\$43.43	\$278.76
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NET OPERATING PROFIT							\$25.17
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INTEREST ON OPERATING CAPITAL	(\$50.44	@	5.50%)		\$2.77
INTEREST ON EQUIPMENT INVESTMENT							\$17.89

RETURN TO LAND AND RISK							\$4.50
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* Pump water costs are shown under irrigation in the preharvest operations section.

BUDGET SUMMARY

GROSS RETURN		\$303.93	
VARIABLE OPERATING EXPENSES	\$184.71		
RETURN OVER VARIABLE EXPENSES		\$119.22	(GROSS MARGIN)
FIXED EXPENSES	\$43.43		
NET FARM INCOME		\$75.79	(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$50.62		
NET OPERATING PROFIT		\$25.17	(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$20.66		
RETURN TO LAND AND RISK		\$4.50	

TABLE 8. Summary of per acre costs and returns for a 1,000 acre farm, Southern Quay County, Projected 2018

	WHEAT (Dryland)	GRAIN SORGHUM (Sprinkler)
	BU	CWT
PRIMARY YIELD	20.00	50.00
PRIMARY PRICE	\$4.40	\$6.08
GOVERNMENT PAYMENTS	\$0.00	\$0.00
SECOND INCOME	\$5.00	\$0.00
GROSS RETURN	\$93.00	\$303.93
CASH OPERATING EXPENSES		
SEED	\$11.00	\$6.60
FERTILIZER		\$34.40
CHEMICALS		\$16.99
CROP INSURANCE	\$0.08	\$0.14
OTHER PURCHASED INPUTS		
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$18.47	\$30.22
FUEL-IRRIGATION		\$49.98
REPAIRS	\$6.01	\$10.67
CUSTOM CHARGES		
LAND TAXES	\$0.33	\$0.82
OTHER EXPENSES	\$19.22	\$35.72
TOTAL CASH EXPENSES	\$55.11	\$185.53
RETURN OVER CASH EXPENSES	\$37.89	\$118.40
FIXED EXPENSES	\$20.02	\$42.61
TOTAL EXPENSES	\$75.13	\$228.14
NET FARM INCOME	\$17.87	\$75.79
LABOR AND MANAGEMENT COSTS	\$17.29	\$50.62
NET OPERATING PROFIT	\$0.58	\$25.17
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL	\$0.58	\$2.77
INTEREST ON EQUIPMENT INVESTMENT	\$8.29	\$17.89
TOTAL CAPITAL COSTS	\$8.86	\$20.66
RETURN TO LAND AND RISK	(\$8.29)	\$4.50

TABLE 9. Whole farm summary, Southern Quay County,
Projected 2018

GROSS RETURNS		
WHEAT	607.75 ACRES	
CROP		\$53,482
GRAZING		\$3,039
DIRECT PAYMENT		\$0
COUNTER CYCLICAL PAYMENT		\$0
GRAIN SORGHUM	357.25 ACRES	
CROP		\$108,578
COUNTER CYCLICAL PAYMENT		\$0
DIRECT PAYMENT		\$0
GROSS RETURN		<u>\$165,099</u>
CASH OPERATING EXPENSES		
SEED		\$9,043
FERTILIZER		\$12,289
CHEMICALS		\$6,068
CROP INSURANCE		\$100
OTHER PURCHASED INPUTS		\$0
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$22,019
FUEL-IRRIGATION		\$17,854
REPAIRS		\$7,463
CUSTOM CHARGES		\$0
LAND TAXES		\$492
OTHER EXPENSES		\$24,447
TOTAL CASH EXPENSES		<u>\$99,776</u>
RETURN OVER CASH EXPENSES		\$65,323
FIXED EXPENSES		\$27,389
TOTAL EXPENSES		\$127,165
NET FARM INCOME		\$37,934
LABOR AND MANAGEMENT COSTS		\$28,593
NET OPERATING PROFIT		\$9,341
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$1,342
INTEREST ON EQUIPMENT INVESTMENT		\$11,426
TOTAL CAPITAL COSTS		<u>\$12,768</u>
RETURN TO LAND AND RISK		<u>(\$3,427)</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$150 /ACRE	(\$7,927)	2.63%
\$300 /ACRE	(\$12,427)	1.85%
\$450 /ACRE	(\$16,927)	1.43%
\$600 /ACRE	(\$21,427)	1.16%
\$750 /ACRE	(\$25,927)	0.98%
\$900 /ACRE	(\$30,427)	0.85%

* 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)