

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... SAN JUAN COUNTY Projected 2008.  
FARM SIZE..... 80.00 ACRES  
IRRIGATION TYPE..... SPRINKLER  
NUMBER OF CROPS..... 1

VERSION 1.0

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TABLE 1. Acreage Summary, San Juan County,  
Projected 2008.

BUDGET AREA.....	SAN JUAN COUNTY, 2002.		
FARM SIZE.....	80 ACRES		
IRRIGATION TYPE.....	SPRINKLER		
NUMBER OF CROPS...	1		
	<u>WATER USE</u>		
ACREAGE SUMMARY:	LAND USE (ACRES)	AC.IN. PER AC.	TOTAL AC.IN.
ALFALFA ESTABLISHMENT	11.00	39	429
ALFALFA	69.00	46	3,174
TOTAL	80.00		3,603
ACRE FEET PER ACRE OF WATER RIGHTS			3.75

TABLE 2. Basic cost information for San Juan County,  
Projected 2008.

Item			
<b>Labor Wage Rate:</b>			
Equipment operators		\$/hour	\$6.65
General & Irrigators		\$/hour	\$6.35
<b>Purchased Inputs:</b>			
<b>Fertilizer:</b>			
Phosphate (P205)		\$/pound	\$0.55
<b>Seed:</b>			
Alfalfa		\$/pound	\$3.45
Oats		\$/pound	\$0.30
Wire		\$/pound	\$0.55
Canal Water		\$/acre foot	\$30.50
<b>Energy:</b>			
Diesel fuel		\$/gallon	\$3.05
Gasoline		\$/gallon	\$2.80
Electricity		cents/KwHr	11.04
LP Gas		\$/gallon	\$2.60
Natural Gas		\$/MCF	\$3.25
(service charge)		\$/month	\$10.00
Employee Liability Insurance		\$/ \$1,000 wages	\$20.00
Employee Benefits		percent/wages	18.00%
Labor Downtime		percent	25.00%
<b>Financial Rates:</b>			
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		\$253.00 /acre (full value)	\$2.00
Personal Property Tax Rate	- NR - R	\$/ \$1,000 (Assessed Value)	\$23.66 \$18.18
<b>Supervision Factors</b>			
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 San Juan County,  
Projected 2008.

Item			
Electricity (Domestic & Shop)		\$117.60 per month	\$1,411
Telephone		\$84.00 per month	\$1,008
Accounting & Legal			\$498
Misc. Supplies & Hand Tools			\$840
Pickup and Auto			
miles	11,536	@ \$0.415 per mile	\$4,787
<b>Insurance</b>			
- general liability (non-employee)			\$1,042
- fire/theft			\$678
<b>Property Taxes</b>			
- non-farm land			\$0
- other than land & machinery			\$6,010
Building repairs and maintenance			\$521
Dues, fees, publications			\$258
Farmstead Equipment			\$168
Total			\$17,221
Total per planted acre			\$249.57



TABLE 6. Alfalfa establishment, sprinkler-irrigated, budgeted per acre costs and returns for an 80 acre farm, San Juan County, Projected 2008.  
 Planting dates: April 15 - June 1  
 Harvesting dates: June 15 - July 1

ITEM	PRICE	YIELD						TOTAL	
<b>GROSS RETURNS</b>									
OAT HAY	\$130.00	2.25 TONS (STACKED)						\$292.50	
GRAZING	\$10.00	1.00 AUM						\$10.00	
<b>TOTAL</b>							<b>\$302.50</b>		
<b>PURCHASED INPUTS</b>									
	PRICE	QUANTITY	PURCHASED INPUTS				FIXED COST	TOTAL	
ALFALFA SEED	\$3.45	20 LBS	\$69.00					\$69.00	
OAT SEED	\$0.30	45 LBS	\$13.50					\$13.50	
PHOSPHATE (P2O5)	\$0.55	45 LBS	\$24.75					\$24.75	
WIRE	\$0.55	19 LBS	\$10.61					\$10.61	
CANAL WATER		39 AC. IN.					\$99.13	\$99.13	
CANAL WATER (MAINTENANCE)		1 ACRE					\$8.00	\$8.00	
<b>SUBTOTAL</b>			<b>\$117.86</b>				<b>\$107.13</b>	<b>\$224.98</b>	
<b>PREHARVEST OPERATIONS</b>									
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL	
PLOW	96 HP	0.67 HR		\$4.46	\$12.44	\$4.17	\$56.20	\$77.27	
DISC (2X)	96 HP	0.34 HR		\$2.26	\$6.31	\$1.65	\$35.58	\$45.81	
HARROW	96 HP	0.19 HR		\$1.26	\$3.53	\$0.40	\$7.59	\$12.78	
FERTILIZE	96 HP	0.05 HR		\$0.33	\$0.93	\$0.10	\$0.98	\$2.35	
DRILL	96 HP	0.21 HR		\$1.40	\$3.90	\$0.66	\$45.71	\$51.67	
DITCHER (2X)	40 HP	0.10 HR		\$0.67	\$1.05	\$0.11	\$3.04	\$4.87	
IRRIGATE (9X)		2.25 HR		\$14.29	\$43.10	\$0.00	\$8.94	\$66.33	
<b>SUBTOTAL</b>	<b>3.81 HR</b>			<b>\$24.66</b>	<b>\$71.26</b>	<b>\$7.10</b>	<b>\$158.05</b>	<b>\$261.07</b>	
<b>HARVEST OPERATIONS</b>									
SWATHER	14 FT	0.16 HR		\$1.06	\$1.83	\$0.09	\$7.18	\$10.16	
BALER	96 HP	0.21 HR		\$1.40	\$3.90	\$0.47	\$6.04	\$11.80	
BALE WAGON	96 HP	0.20 HR		\$1.33	\$3.71	\$0.67	\$7.90	\$13.61	
<b>SUBTOTAL</b>	<b>0.57 HR</b>			<b>\$3.79</b>	<b>\$9.44</b>	<b>\$1.23</b>	<b>\$21.11</b>	<b>\$35.58</b>	
<b>OVERHEAD EXPENSES</b>									
DOWNTIME		1.74 HR		\$11.54				\$11.54	
EMPLOYEE BENEFITS				\$5.12				\$5.12	
INSURANCE			\$0.57					\$0.57	
LAND TAXES							\$2.00	\$2.00	
SUPERVISION AND MANAGEMENT				\$37.34				\$37.34	
<b>SUBTOTAL</b>	<b>1.74 HR</b>		<b>\$0.57</b>	<b>\$54.00</b>				<b>\$2.00</b>	<b>\$56.56</b>
<b>TOTAL OPERATING EXPENSES</b>	<b>6.12 HR</b>		<b>\$118.42</b>	<b>\$82.45</b>	<b>\$80.70</b>	<b>\$8.33</b>	<b>\$288.28</b>	<b>\$578.19</b>	
<b>NET OPERATING PROFIT</b>								<b>(\$275.69)</b>	
INTEREST ON OPERATING CAPITAL		( \$79.41 @ 7.75% )						\$6.15	
INTEREST ON EQUIPMENT INVESTMENT								\$111.46	
<b>RETURN TO LAND AND RISK</b>								<b>(\$393.30)</b>	

TABLE 7. Alfalfa hay, sprinkler-irrigated, budgeted per acre costs and returns for an 80 acre farm, San Juan County, Projected 2008.  
Harvesting dates: June 1 - October 15

ITEM	PRICE	YIELD						TOTAL
<b>GROSS RETURNS</b>								
ALFALFA HAY	\$140.00	5.00 TONS (STACKED)						\$700.00
GRAZING	\$10.00	2.00 AUM						\$20.00
<b>TOTAL</b>								<b>\$720.00</b>
<b>PURCHASED INPUTS</b>								
PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS				FIXED COST	TOTAL
PHOSPHATE (P2O5)	\$0.55	40.00 LBS	\$22.00					\$22.00
INSECTICIDE (AERIAL)	\$19.20	1.00 ACRE	\$19.20					\$19.20
WIRE	\$0.55	43.00 LBS	\$23.65					\$23.65
LIVESTOCK FAC & EQUIP ESTABLISHMENT: Principal		6.00 YEARS					\$5.00	\$5.00
: Interest							\$65.55	\$65.55
CANAL WATER		46.00 AC. IN.					\$32.72	\$32.72
CANAL WATER (MAINTENANCE)		1 ACRE					\$116.92	\$116.92
							\$8.00	\$8.00
<b>SUBTOTAL</b>			<b>\$64.85</b>				<b>\$228.19</b>	<b>\$293.04</b>
<b>PREHARVEST OPERATIONS</b>								
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
FERTILIZE	96 HP	0.05 HR		\$0.33	\$0.93	\$0.10	\$0.98	\$2.35
DITCHER (2X)	40 HP	0.10 HR		\$0.67	\$1.05	\$0.11	\$3.04	\$4.87
IRRIGATE (13X)		3.25 HR		\$20.64	\$50.83	\$0.00	\$10.55	\$82.02
<b>SUBTOTAL</b>		<b>3.40 HR</b>		<b>\$21.64</b>	<b>\$52.81</b>	<b>\$0.22</b>	<b>\$14.57</b>	<b>\$89.23</b>
<b>HARVEST OPERATIONS</b>								
SWATHER (3X)	14 FT	0.48 HR		\$3.19	\$5.48	\$0.28	\$21.53	\$30.48
BALER (3X)	40 HP	0.63 HR		\$4.19	\$6.60	\$0.78	\$10.98	\$22.55
BALE WAGON (3X)	96 HP	0.60 HR		\$3.99	\$11.14	\$2.01	\$23.69	\$40.84
<b>SUBTOTAL</b>		<b>1.71 HR</b>		<b>\$11.37</b>	<b>\$23.22</b>	<b>\$3.07</b>	<b>\$56.20</b>	<b>\$93.86</b>
<b>OVERHEAD EXPENSES</b>								
DOWNTIME		0.44 HR		\$2.93				\$2.93
EMPLOYEE BENEFITS				\$5.94				\$5.94
INSURANCE			\$0.66					\$0.66
LAND TAXES							\$2.00	\$2.00
SUPERVISION AND MANAGEMENT				\$54.53				\$54.53
OTHER EXPENSES			\$249.57					\$249.57
<b>SUBTOTAL</b>		<b>0.44 HR</b>	<b>\$250.23</b>	<b>\$63.40</b>			<b>\$2.00</b>	<b>\$315.63</b>
<b>TOTAL OPERATING EXPENSES</b>		<b>5.55 HR</b>	<b>\$315.08</b>	<b>\$96.40</b>	<b>\$76.03</b>	<b>\$3.28</b>	<b>\$300.96</b>	<b>\$791.76</b>
<b>NET OPERATING PROFIT</b>								<b>(\$71.76)</b>
INTEREST ON OPERATING CAPITAL		(	\$47.87	@	7.75%	)		\$3.71
INTEREST ON EQUIPMENT INVESTMENT								\$57.44
<b>RETURN TO LAND AND RISK</b>								<b>(\$132.92)</b>
<b>BUDGET SUMMARY</b>								
GROSS RETURN		\$720.00						
VARIABLE OPERATING EXPENSES	\$394.40							
RETURN OVER VARIABLE EXPENSES	\$325.60	(GROSS MARGIN)						
FIXED EXPENSES	\$300.96							
NET FARM INCOME	\$24.64	(RETURN TO CAPITAL, LABOR, LAND & RISK)						
LABOR AND MANAGEMENT COST	\$96.40							
NET OPERATING PROFIT	(\$71.76)	(RETURN TO CAPITAL, LAND & RISK)						
CAPITAL COSTS	\$61.15							
RETURN TO LAND AND RISK		(\$132.92)						

TABLE 8. Summary of per acre costs and returns for an 80 acre farm, San Juan County,  
Projected 2008.

	ALFALFA ESTABLISHMENT	ALFALFA HAY
	TONS	TONS
PRIMARY YIELD	2.25	5.00
PRIMARY PRICE	\$130.00	\$140.00
GOVERNMENT PAYMENTS	\$0.00	\$0.00
SECOND INCOME	\$10.00	\$20.00
GROSS RETURN	\$302.50	\$720.00
CASH OPERATING EXPENSES		
SEED	\$82.50	
FERTILIZER	\$24.75	\$22.00
CHEMICALS		\$19.20
CROP INSURANCE		
OTHER PURCHASED INPUTS	\$10.61	\$23.65
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$37.61	\$25.20
FUEL-IRRIGATION	\$43.10	\$50.83
REPAIRS	\$8.33	\$3.28
CUSTOM CHARGES		
LAND TAXES	\$2.00	\$2.00
OTHER EXPENSES	\$0.57	\$250.23
TOTAL CASH EXPENSES	\$209.45	\$396.39
RETURN OVER CASH EXPENSES	\$93.05	\$323.61
FIXED EXPENSES	\$286.29	\$298.97
TOTAL EXPENSES	\$495.74	\$695.36
NET FARM INCOME	(\$193.24)	\$24.64
LABOR AND MANAGEMENT COSTS	\$82.45	\$96.40
NET OPERATING PROFIT	(\$275.69)	(\$71.76)
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL	\$6.15	\$3.71
INTEREST ON EQUIPMENT INVESTMENT	\$111.46	\$57.44
TOTAL CAPITAL COSTS	\$117.62	\$61.15
RETURN TO LAND AND RISK	(\$393.30)	(\$132.92)

TABLE 9. Whole farm summary, San Juan County,  
Projected 2008.

GROSS RETURNS		
OAT HAY	11.00 ACRES	
CROP		\$3,328
ALFALFA HAY	69.00 ACRES	
CROP		\$48,300
GRAZING		\$1,380
GROSS RETURN		<u>\$53,008</u>
CASH OPERATING EXPENSES		
SEED		\$908
FERTILIZER		\$1,790
CHEMICALS		\$1,325
CROP INSURANCE		\$0
OTHER PURCHASED INPUTS		\$1,749
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$2,152
FUEL-IRRIGATION		\$3,982
REPAIRS		\$318
CUSTOM CHARGES		\$0
LAND TAXES		\$160
OTHER EXPENSES		\$17,272
TOTAL CASH EXPENSES		<u>\$29,655</u>
RETURN OVER CASH EXPENSES		\$23,352
FIXED EXPENSES		\$19,255
TOTAL EXPENSES		\$48,910
NET FARM INCOME		\$4,097
LABOR AND MANAGEMENT COSTS		\$7,559
NET OPERATING PROFIT		(\$3,461)
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$324
INTEREST ON EQUIPMENT INVESTMENT		\$5,190
TOTAL CAPITAL COSTS		<u>\$5,513</u>
RETURN TO LAND AND RISK		<u>(\$8,975)</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$1,000 /ACRE	(\$11,375)	-2.78%
\$2,500 /ACRE	(\$14,975)	-1.42%
\$4,000 /ACRE	(\$18,575)	-0.95%
\$5,500 /ACRE	(\$22,175)	-0.71%
\$7,000 /ACRE	(\$25,775)	-0.57%
\$8,500 /ACRE	(\$29,375)	-0.48%

\* 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)