

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... OTERO COUNTY Projected 2018
FARM SIZE..... 320.00 ACRES
IRRIGATION TYPE..... SPRINKLER
NUMBER OF CROPS..... 4

VERSION 1.0

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TABLE 1. Acreage Summary, Otero County,
Projected 2018

BUDGET AREA.....	TULAROSA BASIN, OTERO COUNTY
FARM SIZE.....	50 ACRES
IRRIGATION TYPE.....	SPRINKLER
NUMBER OF CROPS....	3

ACREAGE SUMMARY:	WATER USE		
	LAND USE (ACRES)	AC.IN. PER AC.	TOTAL AC.IN.
ALFALFA ESTABLISHMENT	4.00 *	8	32
ALFALFA HAY	40.00	45	1,800
OAT HAY	5.00	18	90
SORGHUM/SUDAN	5.00 *	16	80
ROADS, DITCHES, HOMESTEAD	5.00		
TOTAL	50.00		2,002
ACRE FEET PER ACRE OF WATER RIGHTS			3.34

* DOUBLE-CROPPED

TABLE 2. Basic cost information for Tularosa Basin, Otero County,
Projected 2018

Item		
Labor Wage Rate:		
Equipment operators	\$/hour	\$7.50
General & Irrigators	\$/hour	\$7.50
Purchased Inputs:		
Fertilizer:		
Nitrogen (N)	\$/pound	\$0.31
Seed:		
Alfalfa	\$/pound	\$4.00
Oats for Hay	\$/pound	\$0.44
Natural Gas (Gas NM)	\$/MCF	\$4.01
(service charge)	\$/month	\$10.00
Diesel fuel	\$/gallon	\$2.70
Gasoline	\$/gallon	\$2.40
Electricity (Otero Coop)	cents/KwHr	7.34
Employee Liability Insurance	\$/ \$1,000 wages	\$12.00
Employee Benefits	percent/wages	12.00%
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%
Expected Inflation Rate	percent	3.00%
Land Taxes	\$300.00 /acre (full value)	\$3.20
Personal Property Tax Rate	- NR \$/ \$1,000 (Assessed Value)	\$31.99
	- R	\$24.12
Supervision Factors		
Field Crop-Irrigation	\$/acre	\$1.00
Field Crop-Equipment & General	\$/acre	\$0.50
Management Rate	percent	4.00%

TABLE 3. Overhead cost information for Tularosa Basin, Otero County,
Projected 2018

Item			
Electricity (Domestic & Shop)		\$82.55 per month	\$991
Telephone		\$88.90 per month	\$1,067
Accounting & Legal			\$191
Misc. Supplies & Hand Tools			\$660
Pickup and Auto			
miles	6,541 @	\$0.500 per mile	\$3,270
Insurance			
- general liability (non-employee)			\$305
- fire/theft			\$203
Property Taxes			
- non-planted land			\$0
- other than land & machinery			\$6,010
Building repairs and maintenance			\$305
Dues, fees, publications			\$165
Farmstead Equipment			\$203
Total			\$13,370
Total per planted acre			\$297.10

TABLE 6. Alfalfa establishment, sprinkler-irrigated, budgeted per acre costs and returns for a 50 acre part-time farm, Tularosa Basin, Otero County,
 Projected 2018
 Planting dates: September 1 - November 1

ITEM	PRICE	QUANTITY	PURCHASED INPUTS					TOTAL
PURCHASED INPUTS								
ALFALFA SEED	\$4.00	30 LBS	\$120.00					\$120.00
PUMP WATER*		8 AC. IN.						
SUBTOTAL			\$120.00					\$120.00
PREHARVEST OPERATIONS								
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
DISC	50 HP	0.39 HR		\$2.93	\$3.50	\$0.42	\$3.23	\$10.07
PLOW	50 HP	1.05 HR		\$7.88	\$9.42	\$1.46	\$17.56	\$36.32
DISC (2X)	50 HP	0.78 HR		\$5.85	\$7.00	\$1.52	\$12.66	\$27.03
FLOAT (2X)	50 HP	0.64 HR		\$4.80	\$5.74	\$0.70	\$8.30	\$19.55
DRILL	50 HP	0.21 HR		\$1.58	\$1.88	\$0.45	\$34.82	\$38.72
IRRIGATE (4X)		2.00 HR		\$15.00	\$18.81	\$0.00	\$6.64	\$40.45
SUBTOTAL		5.07 HR		\$38.03	\$46.37	\$4.54	\$83.20	\$172.14
OVERHEAD EXPENSES								
DOWNTIME		0.77 HR		\$5.76				\$5.76
EMPLOYEE BENEFITS				\$4.56				\$4.56
FARM INSURANCE			\$0.46					\$0.46
SUPERVISION AND MANAGEMENT				\$15.22				\$15.22
SUBTOTAL		0.77 HR	\$0.46	\$25.54				\$26.00
TOTAL OPERATING EXPENSES		5.84 HR	\$120.46	\$63.56	\$46.37	\$4.54	\$83.20	\$318.14

TABLE 7. Alfalfa hay, sprinkler-irrigated, budgeted per acre costs and returns for a 50 acre part-time farm, Tularosa Basin, Otero County, Projected 2018
Harvesting dates: May 10 - October 15

ITEM	PRICE	YIELD						TOTAL	
GROSS RETURNS									
ALFALFA HAY	\$185.00	6.00 TONS (STACKED)						\$1,110.00	
TOTAL							\$1,110.00		
PURCHASED INPUTS									
	PRICE	QUANTITY	PURCHASED INPUTS					FIXED COST	TOTAL
FERT. (ALFALFA MIX)	\$0.16	250 LBS	\$40.00						\$40.00
INSECTICIDE	\$23.97	1 ACRE	\$23.97						\$23.97
WIRE	\$0.36	56 LBS	\$20.16						\$20.16
ESTABLISHMENT: Principal		10 YEARS						\$31.81	\$31.81
: Interest								\$7.67	\$7.67
PUMP WATER*		45 AC. IN.							
SUBTOTAL			\$84.13					\$39.49	\$123.62
PREHARVEST OPERATIONS									
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL	
IRRIGATE (11X)		5.50 HR		\$41.25	\$105.83	\$0.00	\$37.33	\$184.41	
SUBTOTAL		5.50 HR		\$41.25	\$105.83	\$0.00	\$37.33	\$184.41	
HARVEST OPERATIONS									
SWATHER (5X)	14 FT	0.80 HR		\$6.00	\$0.00	\$0.22	\$18.01	\$24.24	
BALER, PTO (5X)	50 HP	1.05 HR		\$7.88	\$9.42	\$1.29	\$18.47	\$37.06	
BALEWAGON, PTO (5X)	50 HP	1.00 HR		\$7.50	\$8.98	\$2.36	\$28.74	\$47.58	
SUBTOTAL		2.85 HR		\$21.38	\$18.40	\$3.88	\$65.23	\$108.88	
OVERHEAD EXPENSES									
DOWNTIME		0.71 HR		\$5.34				\$5.34	
EMPLOYEE BENEFITS				\$7.52				\$7.52	
FARM INSURANCE			\$0.75					\$0.75	
LAND TAXES							\$3.20	\$3.20	
SUPERVISION AND MANAGEMENT				\$51.33				\$51.33	
OTHER EXPENSES			\$297.10					\$297.10	
SUBTOTAL		0.71 HR	\$297.85	\$64.18				\$3.20	\$365.24
TOTAL OPERATING EXPENSES		9.06 HR	\$381.99	\$126.81	\$124.23	\$3.88	\$145.24	\$782.15	
NET OPERATING PROFIT								\$327.85	
INTEREST ON OPERATING CAPITAL		(\$70.38 @ 5.50%)						\$3.87	
INTEREST ON EQUIPMENT INVESTMENT								\$51.61	
RETURN TO LAND AND RISK							\$272.37		

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

BUDGET SUMMARY

GROSS RETURN		\$1,110.00	
VARIABLE OPERATING EXPENSES	\$513.97		
RETURN OVER VARIABLE EXPENSES	\$596.03		(GROSS MARGINS)
FIXED EXPENSES	\$145.24		
NET FARM INCOME	\$450.79		(RETURNS TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$126.81		
NET OPERATING PROFIT	\$323.98		(RETURNS TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$51.61		
RETURN TO LAND AND RISK		\$272.37	

TABLE 8. Oats for hay, sprinkler-irrigated, budgeted per acre costs and returns for a 50 acre part-time farm, Tularosa Basin, Otero County, Projected 2018
 Planting dates: September 1 - November 1
 Harvesting dates: April 15 - May 15

ITEM	PRICE	YIELD							TOTAL
GROSS RETURNS									
OATS FOR HAY	\$150.00	3.00 TONS (STACKED)							\$450.00
TOTAL									\$450.00
<hr/>									
PURCHASED INPUTS		PRICE	QUANTITY	PURCHASED INPUTS		FIXED COST		TOTAL	
OAT SEED	\$0.44	100 LBS	\$44.00					\$44.00	
NITROGEN (N)	\$0.31	100 LBS	\$31.00					\$31.00	
PUMP WATER*		18 AC. IN.							
SUBTOTAL			\$75.00					\$75.00	
<hr/>									
PREHARVEST OPERATIONS		POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
DISC	50 HP	0.39 HR			\$2.93	\$3.50	\$0.76	\$6.33	\$13.51
PLOW	50 HP	1.05 HR			\$7.88	\$9.42	\$1.46	\$17.56	\$36.32
DISC (2X)	50 HP	0.78 HR			\$5.85	\$7.00	\$1.52	\$12.66	\$27.03
FLOAT (2X)	50 HP	0.64 HR			\$4.80	\$5.74	\$0.70	\$8.30	\$19.55
DRILL	50 HP	0.21 HR			\$1.58	\$1.88	\$0.45	\$34.82	\$38.72
IRRIGATE (4X)		2.00 HR			\$15.00	\$42.33	\$0.00	\$14.93	\$72.27
SUBTOTAL			5.07 HR		\$38.03	\$69.89	\$4.88	\$94.60	\$207.40
<hr/>									
HARVEST OPERATIONS									
SWATHER	14 FT	0.16 HR			\$1.20	\$0.00	\$0.04	\$3.60	\$4.85
BALER, PTO	50 HP	0.21 HR			\$1.58	\$1.88	\$0.26	\$3.69	\$7.41
BALE WAGON	50 HP	0.20 HR			\$1.50	\$1.80	\$0.47	\$5.75	\$9.52
SUBTOTAL			0.57 HR		\$4.28	\$3.68	\$0.78	\$13.05	\$21.78
<hr/>									
OVERHEAD EXPENSES									
DOWNTIME		0.91 HR			\$6.83				\$6.83
EMPLOYEE BENEFITS					\$5.08				\$5.08
FARM INSURANCE				\$0.51					\$0.51
LAND TAXES							\$1.60		\$1.60
SUPERVISION AND MANAGEMENT					\$21.82				\$21.82
OTHER EXPENSES				\$148.55					\$148.55
SUBTOTAL			0.91 HR		\$149.06	\$33.72		\$1.60	\$184.38
TOTAL OPERATING EXPENSES			6.55 HR		\$224.06	\$76.02	\$73.57	\$5.66	\$109.25
NET OPERATING PROFIT									(\$38.55)
INTEREST ON OPERATING CAPITAL (\$56.56 @ 5.50%)									\$3.11
INTEREST ON EQUIPMENT INVESTMENT									\$40.03
RETURN TO LAND AND RISK									(\$81.70)

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

GROSS RETURN		\$450.00	
VARIABLE OPERATING EXPENSES	\$306.40		
RETURN OVER VARIABLE EXPENSES		\$143.60	(GROSS MARGINS)
FIXED EXPENSES	\$109.25		
NET FARM INCOME		\$34.36	(RETURNS TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$76.02		
NET OPERATING PROFIT		(\$41.67)	(RETURNS TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$40.03		
RETURN TO LAND AND RISK		(\$81.70)	

TABLE 9. Sorghum-sudan hay, sprinkler-irrigated, budgeted per acre costs and returns for a 50 acre part-time farm, Tularosa Basin, Otero County, Projected 2018
 Planting dates: May 1 - June 1
 Harvesting dates: June 1 - August 1

ITEM	PRICE	YIELD						TOTAL
GROSS RETURNS								
SORGHUM/SUDAN HAY	\$170.00	5.00 TONS (STACKED)						\$850.00
TOTAL							\$850.00	
PURCHASED INPUTS								
PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS			FIXED COST	TOTAL	
SEED	\$1.04	50 LBS	\$52.00				\$52.00	
NITROGEN (N)	\$0.31	100 LBS	\$31.00				\$31.00	
PUMP WATER*		16 AC. IN.						
SUBTOTAL			\$83.00				\$83.00	
PREHARVEST OPERATIONS								
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
DISC	50 HP	0.39 HR		\$2.93	\$3.50	\$0.76	\$6.33	\$13.51
FLOAT (2X)	50 HP	0.64 HR		\$4.80	\$5.74	\$0.70	\$8.30	\$19.55
DRILL	50 HP	0.21 HR		\$1.58	\$1.88	\$0.45	\$34.82	\$38.72
IRRIGATE (4X)		2.00 HR		\$15.00	\$37.63	\$0.00	\$13.27	\$65.90
SUBTOTAL		3.24 HR		\$24.30	\$48.76	\$1.91	\$62.72	\$137.69
HARVEST OPERATIONS								
SWATHER (2X)	14 FT	0.32 HR		\$2.40	\$0.00	\$0.09	\$7.21	\$9.70
BALER, PTO (2X)	50 HP	0.42 HR		\$3.15	\$3.77	\$0.52	\$7.39	\$14.83
BALE WAGON (2X)	50 HP	0.40 HR		\$3.00	\$3.59	\$0.94	\$11.50	\$19.03
SUBTOTAL		1.14 HR		\$8.55	\$7.36	\$1.55	\$26.09	\$43.55
OVERHEAD EXPENSES								
DOWNTIME		0.60 HR		\$4.46				\$4.46
EMPLOYEE BENEFITS				\$3.94				\$3.94
FARM INSURANCE			\$0.39					\$0.39
LAND TAXES						\$1.60		\$1.60
SUPERVISION AND MANAGEMENT				\$37.19				\$37.19
OTHER EXPENSES			\$148.55					\$148.55
SUBTOTAL		0.60 HR	\$148.95	\$45.59		\$1.60		\$196.14
TOTAL OPERATING EXPENSES		4.98 HR	\$231.95	\$78.44	\$56.12	\$3.46	\$90.41	\$460.38
NET OPERATING PROFIT							\$389.62	
INTEREST ON OPERATING CAPITAL		(\$54.91 @ 5.50%)						\$3.02
INTEREST ON EQUIPMENT INVESTMENT								\$35.84
RETURN TO LAND AND RISK							\$350.76	

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

BUDGET SUMMARY

GROSS RETURN		\$850.00	
VARIABLE OPERATING EXPENSES	\$294.54		
RETURN OVER VARIABLE EXPENSES	\$555.46		(GROSS MARGINS)
FIXED EXPENSES	\$90.41		
NET FARM INCOME	\$465.05		(RETURNS TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$78.44		
NET OPERATING PROFIT	\$386.60		(RETURNS TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$35.84		
RETURN TO LAND AND RISK	\$350.76		

TABLE 10. Summary of per acre costs and returns, 50-acre part-time farm, Tularosa Basin, Otero County,
Projected 2018

	ALFALFA ESTABLISHMENT	ALFALFA HAY	OATS FOR HAY	SORGHUM SUDAY HAY
		TONS	TONS	TONS
PRIMARY YIELD		6.00	3.00	5.00
PRIMARY PRICE		\$185.00	\$150.00	\$170.00
GOVERNMENT PAYMENTS		\$0.00	\$0.00	\$0.00
SECOND INCOME		\$0.00	\$0.00	\$0.00
GROSS RETURN		\$1,110.00	\$450.00	\$850.00
CASH OPERATING EXPENSES				
SEED	\$120.00		\$44.00	\$52.00
FERTILIZER		\$40.00	\$31.00	\$31.00
CHEMICALS		\$23.97		
CROP INSURANCE				
OTHER PURCHASED INPUTS		\$20.16		
CANAL WATER				
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$27.56	\$18.40	\$31.24	\$18.49
FUEL-IRRIGATION	\$18.81	\$105.83	\$42.33	\$37.63
REPAIRS	\$4.54	\$3.88	\$5.66	\$3.46
CUSTOM CHARGES				
LAND TAXES		\$3.20	\$1.60	\$1.60
OTHER EXPENSES	\$0.46	\$297.85	\$149.06	\$148.95
TOTAL CASH EXPENSES	\$171.37	\$513.30	\$304.89	\$293.12
RETURN OVER CASH EXPENSES	(\$171.37)	\$596.70	\$145.11	\$556.88
FIXED EXPENSES	\$83.20	\$142.04	\$107.65	\$88.81
TOTAL EXPENSES	\$254.57	\$655.34	\$412.53	\$381.93
NET FARM INCOME	(\$254.57)	\$454.66	\$37.47	\$468.07
LABOR AND MANAGEMENT COSTS	\$63.56	\$126.81	\$76.02	\$78.44
NET OPERATING PROFIT	(\$318.14)	\$327.85	(\$38.55)	\$389.62
CAPITAL COSTS				
INTEREST ON OPERATING CAPITAL		\$3.87	\$3.11	\$3.02
INTEREST ON EQUIPMENT INVESTMENT		\$51.61	\$40.03	\$35.84
TOTAL CAPITAL COSTS	\$0.00	\$55.48	\$43.14	\$38.86
RETURN TO LAND AND RISK	(\$318.14)	\$272.37	(\$81.70)	\$350.76

TABLE 11. Whole farm summary, Tularosa Basin, Otero County,
Projected 2018

GROSS RETURNS		
ALFALFA HAY	40.00 ACRES	
CROP		\$44,400
OATS FOR HAY	5.00 ACRES	
CROP		\$2,250
SORGHUM/SUDAN	5.00 ACRES	
CROP		\$4,250
GROSS RETURN		<u>\$50,900</u>
CASH OPERATING EXPENSES		
SEED		\$960
FERTILIZER		\$1,910
CHEMICALS		\$959
CROP INSURANCE		\$0
OTHER PURCHASED INPUTS		\$806
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$1,095
FUEL-IRRIGATION		\$4,708
REPAIRS		\$219
CUSTOM CHARGES		\$0
LAND TAXES		\$144
OTHER EXPENSES		\$13,406
TOTAL CASH EXPENSES		<u>\$24,207</u>
RETURN OVER CASH EXPENSES		\$26,693
FIXED EXPENSES		\$5,280
TOTAL EXPENSES		\$29,488
NET FARM INCOME		\$21,412
LABOR AND MANAGEMENT COSTS		\$6,099
NET OPERATING PROFIT		\$15,313
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$185
INTEREST ON EQUIPMENT INVESTMENT		\$2,444
TOTAL CAPITAL COSTS		<u>\$2,629</u>
RETURN TO LAND AND RISK		<u>\$12,684</u>

LAND VALUE	RETURNS TO RISK*	RETURN ON INVESTMENT**
\$700 /ACRE	\$11,634	23.11%
\$900 /ACRE	\$11,334	20.08%
\$1,100 /ACRE	\$11,034	17.75%
\$1,300 /ACRE	\$10,734	15.91%
\$1,500 /ACRE	\$10,434	14.41%
\$1,700 /ACRE	\$10,134	13.17%
\$1,900 /ACRE	\$9,834	12.13%
\$2,100 /ACRE	\$9,534	11.24%

* 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)