

TABLE 1. Acreage Summary, San Juan County, Projected 2013.

BUDGET AREA..... SAN JUAN COUNTY, 2002.	
FARM SIZE.....	80 ACRES
IRRIGATION TYPE.....	SPRINKLER
NUMBER OF CROPS...	1

ACREAGE SUMMARY:	WATER USE		
	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 2013.

Item		
Labor Wage Rate:		
Equipment operators	\$/hour	\$7.80
General & Irrigators	\$/hour	\$7.50
Purchased Inputs:		
Fertilizer:		
Phosphate (P205)	\$/pound	\$0.60
Seed:		
Alfalfa	\$/pound	\$6.50
Oats	\$/pound	\$0.61
Wire	\$/pound	\$0.91
Canal Water	\$/acre foot	\$30.50
Energy:		
Diesel fuel	\$/gallon	\$3.00
Gasoline	\$/gallon	\$3.80
Electricity	cents/KwHr	12.31
LP Gas	\$/gallon	\$2.80
Natural Gas	\$/MCF	\$4.00
(service charge)	\$/month	\$10.00
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	5.00%
Land Interest Rate	percent	5.00%
Equipment Interest Rate	percent	5.00%
Real Interest Rate	percent	3.00%
Land Taxes	\$253.00 /acre (full value)	\$1.94
Personal Property Tax Rate	- NR \$/ \$1,000 (Assessed Value)	\$22.95
	- R	\$27.96
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 San Juan County, Projected 2013.

Item		
Electricity (Domestic & Shop)	\$127.05 per month	\$1,525
Telephone	\$90.75 per month	\$1,089
Accounting & Legal		\$538
Misc. Supplies & Hand Tools		\$908
Pickup and Auto		
miles	12,463 @ \$0.500 per mile	\$6,232
Insurance		
- general liability (non-employee)		\$1,125
- fire/theft		\$732
Property Taxes		
- non-farm land		\$0
- other than land & machinery		\$6,010
Building repairs and maintenance		\$563
Dues, fees, publications		\$278
Farmstead Equipment		\$182
		Total
		\$19,181
Total per planted acre		\$277.98

Table 4. Pumping costs and data for irrigation, San Juan County, Projected 2013.

INPUT DATA	
DELIVERY PSI	70
BOOSTER PUMP	
GALLONS PER MINUTE (GPM)	
WORK HORSEPOWER	800
EFFICIENCY FACTOR:	
ELECTRICITY	0.540
NATURAL GAS	0.154
LP GAS	0.154
DIESEL	0.160
FUEL COST PER UNIT:	
ELECTRICITY	12.31 CENTS/KWH
NATURAL GAS	\$4.00 \$/MCF
LP GAS	\$2.80 \$/GAL
DIESEL	\$3.00 \$/GAL
PUMPING COSTS	
ELECTRIC WELL:	
COST PER HOUR	\$5.59
COST PER ACRE INCH	\$3.16
NATURAL GAS WELL:	
COST PER HOUR	\$2.40
COST PER ACRE INCH	\$1.36
LP GAS WELL:	
COST PER HOUR	\$18.48
COST PER ACRE INCH	\$9.32
DIESEL WELL:	
COST PER HOUR	\$11.03
COST PER ACRE INCH	\$6.24

TABLE 5. Equipment summary for an 80 acre sprinkler-irrigated farm, San Juan County, Projected 2013.

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	40 HP	51	1	\$7,000	\$731	\$56	\$14.21	\$1.08	\$360	\$69	\$8.32
TRACTOR	95 HP	65	1	\$17,335	\$1,195	\$62	\$18.27	\$0.94	\$525	\$60	\$8.94
SWATHER	14 FT	35	1	\$3,900	\$392	\$20	\$11.23	\$0.58	\$1,450	\$111	\$44.75
BALER, PTO	2 WIRE	46	1	\$1,600	\$7	\$7	\$0.15	\$0.15	\$365	\$29	\$9.05
BALE WAGON, PTO	44	1	1	\$1,500	\$56	\$128	\$1.28	\$1.28	\$800	\$61	\$19.75
DISC	12 FT	4	1	\$2,250	\$10	\$279	\$4.15	\$4.15	\$300	\$17	\$84.62
FLOW	3-14 IN	7	1	\$3,350	\$31	\$47	\$4.15	\$4.15	\$447	\$26	\$64.08
DITCHER (DOUBLE MOLDBOARD)	8	1	1	\$1,250	\$0	\$0.05	\$0.05	\$0.05	\$167	\$10	\$22.03
HARROW	12 FT	2	1	\$300	\$0	\$0.01	\$0.01	\$0.01	\$40	\$2	\$20.24
DRILL	12 FT	2	1	\$2,200	\$2	\$1.06	\$1.06	\$1.06	\$440	\$17	\$197.76
FERT SPREADER	DEALER FURNISHED	4									
SIDEROLL SPRINKLER	2,038	1	1	\$2,500	\$0	\$0.00	\$0.00	\$0.00	\$333	\$19	\$0.17
NATURAL GAS BOOSTER PUMP	2,038	1	1	\$2,500	\$4,886	\$0	\$2.40	\$0.00	\$333	\$19	\$0.23
					\$45,685	\$7,205	\$244		\$5,579	\$440	

EQUIPMENT LIST

ITEM	NEW VALUE	USED VALUE	YEARS LIFE	EQUIP CODE	MAX HOURS	FUEL LINT/HR	LUBE COEF	ACCUH HOURS	INTEREST EXPENSE
TRACTOR	17975.00	7000.00	50.00	1.00	800.00	3.40	0.10	772.05	15.00
TRACTOR	15735.00	17334.50	30.00	1.00	800.00	5.54	0.10	1504.66	23.00
SWATHER	29000.00	3900.00	20.00	2.00	800.00	3.12	0.20	488.32	14.00
BALER, PTO	7700.00	1600.00	20.00	2.00	500.00			824.04	18.00
BALE WAGON, PTO	16000.00	1500.00	20.00	5.00	800.00			261.60	6.00
DISC	4500.00	2250.00	15.00	3.00	300.00			59.84	16.00
FLOW	6700.00	3350.00	15.00	3.00	300.00			117.92	16.00
DITCHER (DOUBLE MOLDBOARD)	2500.00	1250.00	15.00	4.00	300.00			120.00	15.00
HARROW	600.00	300.00	15.00	4.00	300.00			33.44	16.00
DRILL	4400.00	2200.00	10.00	8.00	100.00			30.03	13.00
FERT SPREADER	DEALER FURNISHED								
SIDEROLL SPRINKLER	5000.00	2500.00	15.00	0.00	8742.00			30573.71	15.00
NATURAL GAS BOOSTER PUMP	5000.00	2500.00	15.00	0.00	8742.00			30573.71	15.00

USAGE LIST

ALFALFA EST.	ALFALFA HAY	PER ACRE TOTALS
-----hours per acre-----		
0.10	0.73	0.83
1.87	0.65	2.52
0.16	0.48	0.64
0.21	0.63	0.84
0.07	0.00	0.07
0.20	0.60	0.80
0.34	0.00	0.34
0.16	0.00	0.16
0.67	0.00	0.67
0.10	0.10	0.20
0.19	0.00	0.19
0.21	0.00	0.21
0.05	0.05	0.10
22.06	26.02	48.09
22.06	26.02	48.09

INTEREST PRORATION

OAT HAY	ALFALFA HAY
0.87	6.37
11.24	3.91
3.33	9.98
0.88	2.85
1.83	5.50
10.23	0.00
15.23	0.00
0.78	0.78
1.36	0.00
10.00	0.00
0.00	0.00
1.35	1.60
1.35	1.60
58.47	32.39

ALFALFA ESTABLISHMENT

MACHINE	POWER UNIT	TIMES OVER	RATE	TOTAL	CUSTOM
PLow	96 HP	1.00	0.67	0.67	
DISC	96 HP	2.00	0.17	0.34	
HARROW	96 HP	1.00	0.19	0.19	
FERTILIZE	96 HP	1.00	0.05	0.05	
DRILL	96 HP	1.00	0.21	0.21	
DITCHER	40 HP	2.00	0.05	0.10	
IRRIGATE		9.00	0.57	22.06	
SWATHER	14 FT	1.00	0.16	0.16	
BALER	96 HP	1.00	0.21	0.21	
BALE WAGON	96 HP	1.00	0.20	0.20	

ALFALFA HAY

MACHINE	POWER UNIT	TIMES OVER	RATE	TOTAL	CUSTOM
FERTILIZE	96 HP	1.00	0.05	0.05	
DITCHER	40 HP	2.00	0.05	0.10	
IRRIGATE		13.00	0.57	26.02	
SWATHER	14 FT	3.00	0.16	0.48	
BALER	40 HP	3.00	0.21	0.63	
BALE WAGON	96 HP	3.00	0.20	0.60	

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	0.000620	0.000020	0.000080	0.000140	0.000040	0.000240	0.000200
50	0.000060	0.000020	0.000620	0.000020	0.000080	0.000140	0.000040	0.000240	0.000200
100	0.000060	0.000020	0.000620	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	0.000050	0.000390	0.000060	0.000230	0.000310	0.000140	0.000630	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	0.000180	0.000860	0.000650
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	0.000220	0.001020	0.000600
1000	0.000090	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	0.000240	0.001260	0.000765
1500	0.000150	0.000170	0.000300	0.000230	0.000435	0.000510	0.000240	0.001260	0.000765
1600	0.000150	0.000190	0.000285	0.000285	0.000465	0.000525	0.000135	0.001235	0.000805
1800	0.000075	0.000210	0.000285	0.000285	0.000465	0.000550	0.000285		
2000	0.000110	0.000265	0.000280	0.000305	0.000505	0.000565	0.000310		
2500	0.000056								
3000	0.000070								
3500	0.000082								
4000	0.000096								
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 baleswagons, 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. Alfalfa establishment, sprinkler-irrigated, budgeted per acre costs and returns for an 80 acre farm, San Juan County, Projected 2013.
 Planting dates: April 15 - June 1
 Harvesting dates: June 15 - July 1

ITEM	PRICE	YIELD						TOTAL
GROSS RETURNS								
OAT HAY	\$225.00	2.25 TONS (STACKED)						\$506.25
GRAZING	\$10.00	1.00 AUM						\$10.00
TOTAL								\$516.25

PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS				FIXED COST	TOTAL
ALFALFA SEED	\$6.50	20 LBS	\$130.00					\$130.00
OAT SEED	\$0.61	45 LBS	\$27.45					\$27.45
PHOSPHATE (P2O5)	\$0.60	45 LBS	\$27.00					\$27.00
WIRE	\$0.91	19 LBS	\$17.55					\$17.55
CANAL WATER		39 AC. IN.					\$99.13	\$99.13
CANAL WATER (MAINTENANCE)		1 ACRE					\$8.00	\$8.00
SUBTOTAL			\$202.00				\$107.13	\$309.12

PREHARVEST OPERATIONS	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
PLOW	96 HP	0.67 HR		\$5.23	\$12.24	\$3.42	\$48.92	\$69.81
DISC (2X)	96 HP	0.34 HR		\$2.65	\$6.21	\$1.27	\$31.88	\$42.01
HARROW	96 HP	0.19 HR		\$1.48	\$3.47	\$0.18	\$5.54	\$10.68
FERTILIZE	96 HP	0.05 HR		\$0.39	\$0.91	\$0.05	\$0.45	\$1.80
DRILL	96 HP	0.21 HR		\$1.64	\$3.84	\$0.42	\$43.41	\$49.30
DITCHER (2X)	40 HP	0.10 HR		\$0.78	\$1.42	\$0.11	\$3.03	\$5.35
IRRIGATE (9X)		2.25 HR		\$16.88	\$52.89	\$0.00	\$8.93	\$78.69
SUBTOTAL		3.81 HR		\$29.04	\$80.98	\$5.45	\$142.16	\$257.64

HARVEST OPERATIONS								
SWATHER	14 FT	0.16 HR		\$1.25	\$1.80	\$0.09	\$7.16	\$10.30
BALER	96 HP	0.21 HR		\$1.64	\$3.84	\$0.23	\$3.78	\$9.48
BALE WAGON	96 HP	0.20 HR		\$1.56	\$3.65	\$0.44	\$5.74	\$11.40
SUBTOTAL		0.57 HR		\$4.45	\$9.29	\$0.77	\$16.68	\$31.18

OVERHEAD EXPENSES								
DOWNTIME		1.74 HR		\$13.53				\$13.53
EMPLOYEE BENEFITS				\$6.03				\$6.03
INSURANCE			\$0.67					\$0.67
LAND TAXES							\$1.94	\$1.94
SUPERVISION AND MANAGEMENT				\$42.99				\$42.99
SUBTOTAL		1.74 HR	\$0.67	\$62.55				\$1.94

TOTAL OPERATING EXPENSES		6.12 HR	\$202.67	\$96.04	\$90.27	\$6.22	\$267.90	\$663.09
NET OPERATING PROFIT								(\$146.84)
INTEREST ON OPERATING CAPITAL	(\$123.44	@	5.00%)			\$6.17
INTEREST ON EQUIPMENT INVESTMENT								\$58.47
RETURN TO LAND AND RISK								(\$211.48)

TABLE 7. Alfalfa hay, sprinkler-irrigated, budgeted per acre costs and returns for an 80 acre farm, San Juan County, Projected 2013.
Harvesting dates: June 1 - October 15

ITEM	PRICE	YIELD						TOTAL
GROSS RETURNS								
ALFALFA HAY	\$245.00	5.00 TONS (STACKED)						\$1,225.00
GRAZING	\$10.00	2.00 AUM						\$20.00
TOTAL								\$1,245.00
PURCHASED INPUTS								
PURCHASED INPUTS	PRICE	QUANTITY	PURCHASED INPUTS				FIXED COST	TOTAL
PHOSPHATE (P2O5)	\$0.60	40.00 LBS	\$24.00					\$24.00
INSECTICIDE (AERIAL)	\$19.20	1.00 ACRE	\$19.20					\$19.20
WIRE	\$0.91	43.00 LBS	\$39.13					\$39.13
LIVESTOCK FAC & EQUIP ESTABLISHMENT: Principal		6.00 YEARS					\$5.00	\$5.00
: Interest							\$35.25	\$35.25
							\$14.55	\$14.55
CANAL WATER		46.00 AC. IN.					\$116.92	\$116.92
CANAL WATER (MAINTENANCE)		1 ACRE					\$8.00	\$8.00
SUBTOTAL			\$82.33				\$179.71	\$262.04
PREHARVEST OPERATIONS								
	POWER UNIT	ACCOMPLISHMENT RATE	PURCHASED INPUTS	LABOR	FUEL & LUBE	REPAIRS	FIXED COST	TOTAL
FERTILIZE	96 HP	0.05 HR		\$0.39	\$0.91	\$0.05	\$0.45	\$1.80
DITCHER (2X)	40 HP	0.10 HR		\$0.78	\$1.42	\$0.11	\$3.03	\$5.35
IRRIGATE (13X)		3.25 HR		\$24.38	\$62.38	\$0.00	\$10.53	\$97.29
SUBTOTAL		3.40 HR		\$25.55	\$64.72	\$0.16	\$14.01	\$104.44
HARVEST OPERATIONS								
SWATHER (3X)	14 FT	0.48 HR		\$3.74	\$5.39	\$0.28	\$21.48	\$30.89
BALER (3X)	40 HP	0.63 HR		\$4.91	\$8.95	\$0.78	\$10.95	\$25.59
BALE WAGON (3X)	96 HP	0.60 HR		\$4.68	\$10.96	\$1.33	\$17.21	\$34.19
SUBTOTAL		1.71 HR		\$13.34	\$25.31	\$2.39	\$49.64	\$90.67
OVERHEAD EXPENSES								
DOWNTIME		0.44 HR		\$3.43				\$3.43
EMPLOYEE BENEFITS				\$7.00				\$7.00
INSURANCE			\$0.78					\$0.78
LAND TAXES							\$1.94	\$1.94
SUPERVISION AND MANAGEMENT				\$91.28				\$91.28
OTHER EXPENSES			\$277.98					\$277.98
SUBTOTAL		0.44 HR		\$278.76	\$101.71		\$1.94	\$382.41
TOTAL OPERATING EXPENSES		5.55 HR		\$361.09	\$140.59	\$90.02	\$245.30	\$839.56
NET OPERATING PROFIT								\$405.44
INTEREST ON OPERATING CAPITAL (\$59.69 @ 5.00%)								\$2.98
INTEREST ON EQUIPMENT INVESTMENT								\$32.39
RETURN TO LAND AND RISK								\$370.07

BUDGET SUMMARY		
GROSS RETURN		\$1,245.00
VARIABLE OPERATING EXPENSES	\$453.66	
RETURN OVER VARIABLE EXPENSES	\$791.34	(GROSS MARGIN)
FIXED EXPENSES	\$245.30	
NET FARM INCOME	\$546.03	(RETURN TO CAPITAL, LABOR, LAND & RISK)
LABOR AND MANAGEMENT COST	\$140.59	
NET OPERATING PROFIT	\$405.44	(RETURN TO CAPITAL, LAND & RISK)
CAPITAL COSTS	\$35.37	
RETURN TO LAND AND RISK		\$370.07

TABLE 8. Summary of per acre costs and returns for an 80 acre farm, San Juan County,
Projected 2013.

	ALFALFA ESTABLISHMENT	ALFALFA HAY
	TONS	TONS
PRIMARY YIELD	2.25	5.00
PRIMARY PRICE	\$225.00	\$245.00
GOVERNMENT PAYMENTS	\$0.00	\$0.00
SECOND INCOME	\$10.00	\$20.00
GROSS RETURN	\$516.25	\$1,245.00
CASH OPERATING EXPENSES		
SEED	\$157.45	
FERTILIZER	\$27.00	\$24.00
CHEMICALS		\$19.20
CROP INSURANCE		
OTHER PURCHASED INPUTS	\$17.55	\$39.13
CANAL WATER		
FUEL, OIL & LUBRICANTS-EQUIPMENT	\$37.38	\$27.64
FUEL-IRRIGATION	\$52.89	\$62.38
REPAIRS	\$6.22	\$2.55
CUSTOM CHARGES		
LAND TAXES	\$1.94	\$1.94
OTHER EXPENSES	\$0.67	\$278.76
TOTAL CASH EXPENSES	\$301.09	\$455.60
RETURN OVER CASH EXPENSES	\$215.16	\$789.40
FIXED EXPENSES	\$265.96	\$243.37
TOTAL EXPENSES	\$567.05	\$698.97
NET FARM INCOME	(\$50.80)	\$546.03
LABOR AND MANAGEMENT COSTS	\$96.04	\$140.59
NET OPERATING PROFIT	(\$146.84)	\$405.44
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL	\$6.17	\$2.98
INTEREST ON EQUIPMENT INVESTMENT	\$58.47	\$32.39
TOTAL CAPITAL COSTS	\$64.64	\$35.37
RETURN TO LAND AND RISK	(\$211.48)	\$370.07

TABLE 9. Whole farm summary, San Juan County,
Projected 2013.

GROSS RETURNS		
OAT HAY	11.00 ACRES	
CROP		\$5,679
ALFALFA HAY	69.00 ACRES	
CROP		\$84,525
GRAZING		\$1,380
GROSS RETURN		<u>\$91,584</u>
CASH OPERATING EXPENSES		
SEED		\$1,732
FERTILIZER		\$1,953
CHEMICALS		\$1,325
CROP INSURANCE		\$0
OTHER PURCHASED INPUTS		\$2,893
CANAL WATER		\$0
FUEL, OIL & LUBRICANTS-EQUIPMENT		\$2,318
FUEL-IRRIGATION		\$4,886
REPAIRS		\$244
CUSTOM CHARGES		\$0
LAND TAXES		\$155
OTHER EXPENSES		\$19,242
TOTAL CASH EXPENSES		<u>\$34,748</u>
RETURN OVER CASH EXPENSES		\$56,835
FIXED EXPENSES		\$17,286
TOTAL EXPENSES		\$52,034
NET FARM INCOME		\$39,550
LABOR AND MANAGEMENT COSTS		\$10,757
NET OPERATING PROFIT		\$28,792
CAPITAL COSTS		
INTEREST ON OPERATING CAPITAL		\$274
INTEREST ON EQUIPMENT INVESTMENT		\$2,878
TOTAL CAPITAL COSTS		<u>\$3,152</u>
RETURN TO LAND AND RISK		<u>\$25,641</u>

LAND VALUE	RETURN TO RISK*	RETURN ON INVESTMENT**
\$1,000 /ACRE	\$23,241	22.91%
\$2,500 /ACRE	\$19,641	11.72%
\$4,000 /ACRE	\$16,041	7.87%
\$5,500 /ACRE	\$12,441	5.93%
\$7,000 /ACRE	\$8,841	4.75%
\$8,500 /ACRE	\$5,241	3.97%

* 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)