

Table 4A. Income and Cash Operating Summary; Alfalfa Hay, 1998

COUNTY: Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional
 CROP: Alfalfa Hay w/Graze ACRES: 1.0 IRRIGATION SYSTEM: Flood Basin SOIL: Sandy-Loam
 AREA: Marana YIELD: 8.2 Tn / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/5/99

Item	Unit	Quantity	Price/ Unit	Budgeted /Acre	Total /Acre	Your Farm Budget	
INCOME	Alfalfa	Ton	8.20	\$96.70	\$792.94	\$792.94	_____
CASH LAND PREPARATION AND GROWING EXPENSES (including sales tax)							
Paid Labor (including benefits)					24.57	24.57	_____
Irrigation					24.57		_____
Chemicals and Custom Applications					7.71	7.71	_____
Insecticide					7.71		_____
Irrigation Water (excluding labor)						180.00	_____
Water Assessment (See Note Below) **							_____
TOTAL CASH LAND PREPARATION AND GROWING EXPENSES					212.27	212.27	_____
CASH HARVEST AND POST HARVEST EXPENSES							
Paid Labor (including benefits)						30.71	_____
Tractor/Self Propelled					17.77		_____
Other/Contract					12.95		_____
Farm Machinery and Vehicles						90.19	_____
Diesel Fuel					9.69		_____
Repairs and Maintenance					80.50		_____
Other Materials						23.66	_____
TOTAL HARVEST AND POST HARVEST EXPENSE					144.57	144.57	_____
OPERATING OVERHEAD	PICKUP USE					9.88	_____
OPERATING INTEREST AT 10.0%						18.03	_____
TOTAL CASH OPERATING EXPENSES					\$384.76	\$384.76	=====
RETURNS OVER CASH OPERATING EXPENSES					\$408.18	\$408.18	_____

Notes: The above figures do not include ownership costs, see table B for detailed cost allocation.
 ** A water assessment charge of \$40.00 per Acre is included as an ownership cost in Table B.

Table 4B. Allocations of Ownership Costs; Alfalfa Hay, 1998

COUNTY: Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional
 CROP: Alfalfa Hay w/Graze ACRES: 1.0 IRRIGATION SYSTEM: Flood Basin SOIL: Sandy-Loam
 AREA: Marana YIELD: 8.2 Tn / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/5/99

Item	-- CASH COST BASIS (\$/ACRE) --		-- TOTAL COST BASIS (\$/ACRE) --	
	Income and Costs	Net Returns	Income and Costs	Net Returns
TOTAL INCOME at \$96.70 / Tn	\$792.94		\$792.94	
TOTAL OPERATING EXPENSES	\$384.76		\$384.76	
RETURN OVER CASH OPERATING EXPENSES		\$408.18		\$408.18
CASH OVERHEAD EXPENSES				
Taxes, Housing and Insurance, Farm Machinery	9.37		9.37	
General and Office Overhead (5.0% of Total Operating Exp.)	19.24		19.24	
General Farm Maintenance (3.0% of Total Operating Exp.)	11.54		11.54	
Total Cash Overhead Expenses	40.16		40.16	
Total Cash Operating and Overhead Cost	424.91		424.91	
RETURNS OVER CASH OPER. AND OVER. EXPENSES		\$368.03		\$368.03
CAPITAL ALLOCATIONS (100% Equity)				
Capital Replacement, Machinery and Vehicles			65.17	
Interest on Equity, Machinery and Vehicles			4.02	
Stand Establishment (3 year crop)	102.88		102.88	
Total Capital Allocations	102.88		172.08	
RETURNS TO LAND, CAPITAL, MANAGEMENT AND RISK ----->		\$265.14		
RETURNS TO LAND, MANAGEMENT AND RISK ----->				\$195.95
Land Cost / Ownership (100% Equity)				
Property Taxes (\$540.00 X 16.0% X 0.183)	15.87		15.87	
Opportunity Interest on Land (100% X 6.0 X \$540.00)			32.40	
Water Assessment	40.00		40.00	
Total Land Costs	55.87		88.27	
RETURNS TO CAPITAL, MANAGEMENT AND RISK ----->		\$209.27		
RETURNS TO MANAGEMENT AND RISK ----->				\$107.68
Management Services (8% of Total Operation Expenses)			30.78	
TOTAL OWNERSHIP COST	198.91		331.28	
TOTAL COST	\$583.67		\$716.04	
RETURNS TO CAPITAL, MANAGEMENT AND RISK ----->		\$209.27		
RETURNS TO RISK (PROFITS) ----->				\$76.90
BREAK-EVEN PRICE TO COVER OPERATING COST (PER Lb)		\$46.92		\$46.92
BREAK-EVEN PRICE TO COVER OWNERSHIP COST		\$24.26		\$40.40
BREAK-EVEN PRICE TO COVER TOTAL COST		\$71.18		\$87.32

Table 4C. Variable Operating Costs; Alfalfa Hay, 1998

COUNTY:Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional
 CROP: Alfalfa Hay w/Graze ACRES: 1.0 IRRIGATION SYSTEM: Flood Basin SOIL: Sandy-Loam
 AREA: Marana YIELD: 8.2 Tn / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/5/99

No.	First Month Operation	---- Hours * ----		---- Operating Costs (\$/ACRE *) Per Operation ----					Tot. Cash Expenses	Class			
		Machine	Labor	Fuel/Rps.	Labor	Cust/Serv.	Materials	Total			Times		
1	Mar	Irrigate		0.300				2.05	15.00	17.05	12.0	204.57	G
2	Apr	Swathing	0.180	0.200	2.61	1.36				3.98	7.0	27.84	H
3	Apr	Raking	0.150	0.167	1.16	1.37				2.53	7.0	17.69	H
4	Apr	Baling	0.129	0.143	3.54	1.17		3.38		8.09	7.0	56.65	H
5	Apr	Roadsiding	0.064	0.071	5.57	0.48				6.06	7.0	42.39	H
6	Aug	Apply Insecticide/Air Pickup Use40 Mi/Acre	1.333		9.88			4.23	3.48	7.71	1.0	7.71	G
		Operating Interest at 10.0						18.03				18.03	
TOTAL CASH OPERATING EXPENSES (includes all times over):											=====	384.76	T

*NOTES: Machine and labor hours and operating cost are for one time over the designated acreage. The "Tot. Cash Expense" column and the "TOTAL CASH OPERATING EXPENSES" row include all operations, all times over. Classes are defined below.
 A water assessment charge of \$40.00 per Acre is included as an ownership cost in Table B.

OPERATING COST SUMMARY BY CLASS		SENSITIVITY OF THE NET REVENUES OVER TOTAL CASH EXPENSES (\$/ACRE)						
		Prices	- 25%	- 10%	Budgeted	+ 10%	+ 25%	
Land Preparation (L)	0.00							
Growing (G)	212.27	Yields	\$72.52	\$87.03	\$96.70	\$106.37	\$120.88	Break-even Price
Harvest (H)	144.57							
Post Harvest (P)	0.00	- 25%	6.1	94.99	184.19	243.66	303.13	392.34
Marketing (M)	0.00	- 10%	7.4	162.51	269.55	340.92	412.28	519.33
Operating Overhead (O)	27.91	Budgeted	8.2	207.52	326.46	405.75	485.05	603.99
	=====	+ 10%	9.0	252.53	383.37	470.59	557.82	688.65
Total (T)	\$384.76	+ 25%	10.3	320.05	468.73	567.85	666.96	815.64
		Break-even Yield		4.42	3.50	3.07	2.73	2.35

Table 4D. Resource and Cash Flow Requirements; Alfalfa Hay, 1998

COUNTY:Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional
 CROP: Alfalfa Hay w/Graze ACRES: 1.0 IRRIGATION SYSTEM: Flood Basin SOIL: Sandy-Loam
 AREA: Marana YIELD: 8.2 Tn / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/5/99

Month *	Number Irrigations	Water Applied (inches)	Total Labor (Hrs)	Operating Costs (\$/ACRE *)							
				Purchased Water	Fuel, Oil and Repairs	Labor	Chemicals	Other Purchases	Services	Total	
MAR C	1.0	6.0	0.30	15.00		2.05					17.05
APR C	1.0	6.0	0.88	15.00	12.88	6.43		3.38			37.70
MAY C	2.0	12.0	1.18	30.00	12.88	8.48		3.38			54.75
JUN C	2.0	12.0	1.18	30.00	12.88	8.48		3.38			54.75
JUL C	2.0	12.0	1.18	30.00	12.88	8.48		3.38			54.75
AUG C	2.0	12.0	1.18	30.00	12.88	8.48	3.48	3.38	4.23		62.46
SEP C	1.0	6.0	0.88	15.00	12.88	6.43		3.38			37.70
OCT C	1.0	6.0	0.88	15.00	12.88	6.43		3.38			37.70
Pickup Use40 Mi/Acre					9.88						9.88
Operating Interest at 10.0									18.03		18.03
Water Assessment				**							
Total	12.0	72.0	7.67	180.00	100.08	55.28	3.48	23.66	22.26	384.76	
%				46.78	26.01	14.37	0.90	6.15	5.79	100.00	

TOTAL RESOURCE REQUIREMENTS (per Acre)	TOTAL ENERGY REQUIREMENTS (per Acre)
Total N 0.0	Diesel Fuel 14.3 Gal
Total P 0.0	Unleaded Gas 4.0 Gal
Total K 0.0	All Direct Energy 2.5 M BTU
Total Labor 7.7	
Total Water 72.0	

EQUIPMENT REQUIREMENTS (per Acre)			
Bale Wagon, SP PRC 0.45 Hr	Baler, 3 wire w/motor 0.90 Hr	Pickup Truck, 1/2 Ton 1.33 Hr	
Rake, 9.5' LH AND RH 1.05 Hr	Tractor, 50 PTO HP, 1.05 Hr	Tractor, 70 PTO HP, 0.90 Hr	
Windrower, 14.0', HS, SC 1.26 Hr			

MATERIALS REQUIREMENT (per Acre)			
Baling Twine (6500') 3.43 TF	Dimethoate 1.00 Pt	Water, District 72.00 AI	

LABOR REQUIREMENT (per Acre)			
Harvest 1.90 Hr	Irrigators 3.60 Hr	Tractor 2.17 Hr	

*NOTE: P = Previous Year C = Current Year N = Next Year

** A water assessment charge of \$40.00 per Acre is included as an ownership cost in Table B.

Table 4E. Schedule of Operations; Alfalfa Hay, 1998

COUNTY:Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional
 CROP: Alfalfa Hay w/Graze ACRES: 1.0 IRRIGATION SYSTEM: Flood Basin SOIL: Sandy-Loam
 AREA: Marana YIELD: 8.2 Tn / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/5/99

First No.	Month	Times	Operation	Equipment/ Custom Oper		Job Rate Acres/Hr	Material Use Name	Material Use and Cost			Service Cost \$ / Unit	Labor Type
				HP	Self-Prop./ Implement			Appl. Rate	\$ / Unit	\$ / Unit		
1	Mar	12.0	Irrigate			3.33	Water, District	6.00	AI	30.00	AF	Irrigators
2	Apr	7.0	Swathing		Windrower, 14.0', HS, SC	5.00						Harvest
3	Apr	7.0	Raking		50 Rake, 9.5' LH AND RH	6.00						Tractor
4	Apr	7.0	Baling		70 Baler, 3 wire w/motor	7.00	Baling Twine (6500')	0.49	TF	6.57	TF	Tractor
5	Apr	7.0	Roadsiding		Bale Wagon, SP PRC	14.00						Harvest
6	Aug	1.0	Apply Insecticide/Air		CST Air Spray, 3 Gal Mix		Dimethoate	1.00	Pt	26.50	Ga	4.23 Ac
			Pickup use 40 Mi/Ac		Pickup Truck, 1/2 Ton	0.75						

*NOTES: Machine times, labor times, and material rates are for one time over the designated acreage.

ARIZONA COOPERATIVE EXTENSION
 Department of Ag and Resource Economics
 University of Arizona F 6 / 2