

**Table 9A. Income and Cash Operating Summary; Solum Barley, 1998**

COUNTY: Pima                      FARM: Pima County 98                      WATER SOURCE: Cortaro-Marana                      TILLAGE: Conventional  
 CROP: Solum Barley                      ACRES: 1.0                      IRRIGATION SYSTEM: Flood Furrow                      SOIL: Sandy-Loam  
 AREA: Marana                      YIELD: 3,000.0 Lb / Acre                      PREVIOUS CROP: Cotton, Upland                      DATE: 2/17/99

Item	Unit	Quantity	Price/ Unit	Budgeted /Acre	Total /Acre	Your Farm Budget	
INCOME	Grain	Pound	3,000.00	\$0.06	\$189.00	\$189.00	_____
CASH LAND PREPARATION AND GROWING EXPENSES (including sales tax)							
Paid Labor (including benefits)					19.45	_____	
Tractor/Self Propelled				9.18		_____	
Irrigation				10.26		_____	
Chemicals and Custom Applications					14.71	_____	
Fertilizer				14.71		_____	
Farm Machinery and Vehicles					12.27	_____	
Diesel Fuel				4.07		_____	
Repairs and Maintenance				8.20		_____	
Irrigation Water (excluding labor)					40.00	_____	
Water Assessment (See Note Below) **						_____	
Other Purchased Inputs & Seed/Transplants				7.98	7.98	_____	
TOTAL CASH LAND PREPARATION AND GROWING EXPENSES					94.40	_____	
CASH HARVEST AND POST HARVEST EXPENSES							
Paid Labor (including benefits)					0.20	_____	
Tractor/Self Propelled				0.20		_____	
Farm Machinery and Vehicles					0.22	_____	
Diesel Fuel				0.08		_____	
Repairs and Maintenance				0.15		_____	
Custom Harvest/Post Harvest					38.10	_____	
TOTAL HARVEST AND POST HARVEST EXPENSE					38.53	_____	
OPERATING OVERHEAD PICKUP USE					7.41	_____	
OPERATING INTEREST AT 10.0%					1.86	_____	
TOTAL CASH OPERATING EXPENSES					\$142.20	=====	
RETURNS OVER CASH OPERATING EXPENSES					\$46.80	_____	

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

**Table 9B. Allocations of Ownership Costs; Solum Barley, 1998**

COUNTY: Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional  
 CROP: Solum Barley ACRES: 1.0 IRRIGATION SYSTEM: Flood Furrow SOIL: Sandy-Loam  
 AREA: Marana YIELD: 3,000.0 Lb / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/17/99

Item	-- CASH COST BASIS (\$/ACRE) --		-- TOTAL COST BASIS (\$/ACRE) --	
	Income and Costs	Net Returns	Income and Costs	Net Returns
TOTAL INCOME at \$0.06 / Lb	\$189.00		\$189.00	
TOTAL OPERATING EXPENSES	\$142.20		\$142.20	
RETURN OVER CASH OPERATING EXPENSES		\$46.80		\$46.80
CASH OVERHEAD EXPENSES				
Taxes, Housing and Insurance, Farm Machinery	1.48		1.48	
General and Office Overhead (5.0% of Total Operating Exp.)	7.11		7.11	
General Farm Maintenance (3.0% of Total Operating Exp.)	4.27		4.27	
Total Cash Overhead Expenses	12.86		12.86	
Total Cash Operating and Overhead Cost	155.06		155.06	
RETURNS OVER CASH OPER. AND OVER. EXPENSES		\$33.94		\$33.94
CAPITAL ALLOCATIONS (100% Equity)				
Capital Replacement, Machinery and Vehicles			8.44	
Interest on Equity, Machinery and Vehicles			4.44	
Total Capital Allocations			12.88	
RETURNS TO LAND, CAPITAL, MANAGEMENT AND RISK ----->		\$33.94		
RETURNS TO LAND, MANAGEMENT AND RISK ----->				\$21.06
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 ----->		(\$21.93)		
RETURNS TO MANAGEMENT AND RISK ----->				(\$67.21)
Management Services (8% of Total Operation Expenses)			11.38	
TOTAL OWNERSHIP COST	68.73		125.38	
TOTAL COST	\$210.93		\$267.59	
RETURNS TO CAPITAL, MANAGEMENT AND RISK ----->		(\$21.93)		
RETURNS TO RISK (PROFITS) ----->				(\$78.59)
BREAK-EVEN PRICE TO COVER OPERATING COST ( PER Lb )		\$0.05		\$0.05
BREAK-EVEN PRICE TO COVER OWNERSHIP COST		\$0.02		\$0.04
BREAK-EVEN PRICE TO COVER TOTAL COST		\$0.07		\$0.09

**Table 9C. Variable Operating Costs; Solum Barley, 1998**

COUNTY:Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional  
 CROP: Solum Barley ACRES: 1.0 IRRIGATION SYSTEM: Flood Furrow SOIL: Sandy-Loam  
 AREA: Marana YIELD: 3,000.0 Lb / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/17/99

No.	First Month	Operation	---- Hours * ----		---- Operating Costs (\$/ACRE *) Per Operation ----					Tot. Cash	Class	
			Machine	Labor	Fuel/Rps.	Labor	Cust/Serv.	Materials	Total			Times
1	Nov	Apply Fert/Ground	0.075	0.083	0.53	0.68		14.71	15.92	1.0	15.92	G
2	Nov	Disk	0.225	0.250	3.78	2.05			5.82	1.0	5.82	L
3	Nov	List	0.237	0.263	1.92	2.15			4.08	1.0	4.08	L
4	Dec	Plant	0.225	0.250	2.15	2.05		7.98	12.18	1.0	12.18	L
5	Dec	Buck Rows	0.023	0.025	0.11	0.20			0.32	1.0	0.32	G
6	Dec	Irrigate		0.752		5.13		20.00	25.13	2.0	50.26	G
7	Apr	Prepare Ends	0.023	0.025	0.22	0.20			0.43	1.0	0.43	H
8	May	Harvest						37.85	37.85	1.0	37.85	H
9	May	Haul 0						0.25	0.25	1.0	0.25	H
10	May	Disk Residue 1 CW	0.225	0.250	3.78	2.05			5.82	1.0	5.82	L
		Pickup Use30 Mi/Acre	1.000		7.41						7.41	
		Operating Interest at 10.0						1.86			1.86	
TOTAL CASH OPERATING EXPENSES (includes all times over):										=====	142.20	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%	Break-even Price	
Land Preparation (L)	27.90	Yields	\$0.05	\$0.06	\$0.06	\$0.07	\$0.08		
Growing (G)	66.50								
Harvest (H)	38.53								
Post Harvest (P)	0.00	- 25%	2,250.0	-27.22	-5.96	8.21	22.39	43.65	0.06
Marketing (M)	0.00	- 10%	2,700.0	-11.74	13.77	30.78	47.79	73.31	0.05
Operating Overhead (O)	9.27	Budgeted	3,000.0	-1.42	26.93	45.83	64.73	93.08	0.05
	=====	+ 10%	3,300.0	8.90	40.09	60.88	81.67	112.85	0.04
Total (T)	\$142.20	+ 25%	3,750.0	24.39	59.82	83.45	107.07	142.51	0.04
		Break-even Yield	3,041.24	2,385.95	2,086.26	1,853.46	1,587.71		

**Table 9D. Resource and Cash Flow Requirements; Solum Barley, 1998**

COUNTY:Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional  
 CROP: Solum Barley ACRES: 1.0 IRRIGATION SYSTEM: Flood Furrow SOIL: Sandy-Loam  
 AREA: Marana YIELD: 3,000.0 Lb / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/17/99

Month *	Number Irrigations	Water Applied (inches)	Total Labor (Hrs)	Operating Costs (\$/ACRE *)							
				Purchased Water	Fuel, Oil and Repairs	Labor	Chemicals	Other Purchases	Services	Total	
NOV P			0.60		6.23	4.88	14.71				25.82
DEC P	1.0	8.0	1.03	20.00	2.27	7.38		7.98			37.63
MAR C	1.0	8.0	0.75	20.00		5.13					25.13
APR C			0.03		0.22	0.20					0.43
MAY C			0.25		3.78	2.05				38.10	43.57
Pickup Use30 Mi/Acre					7.41						7.41
Operating Interest at 10.0										1.86	1.86
Water Assessment				**							
<b>Total</b>	<b>2.0</b>	<b>16.0</b>	<b>2.65</b>	<b>40.00</b>	<b>19.91</b>	<b>19.65</b>	<b>14.71</b>	<b>7.98</b>	<b>39.96</b>	<b>142.20</b>	
<b>%</b>				<b>28.13</b>	<b>14.00</b>	<b>13.82</b>	<b>10.34</b>	<b>5.61</b>	<b>28.10</b>	<b>100.00</b>	

TOTAL RESOURCE REQUIREMENTS ( per Acre)		TOTAL ENERGY REQUIREMENTS ( per Acre)	
Total N	50.1	Diesel Fuel	6.1 Gal
Total P	0.0	Unleaded Gas	3.0 Gal
Total K	0.0	All Direct Energy	1.2 M BTU
Total Labor	2.7		
Total Water	16.0		

EQUIPMENT REQUIREMENTS ( per Acre)			
Fertilizer Broadcaster,	0.08 Hr	Grain Drill, 14'	0.22 Hr
Offset Disk, 13.5'	0.02 Hr	Offset Disk, 16.5'	0.45 Hr
Rowbuck, 10'	0.02 Hr	Tractor, 70 PTO HP,	0.25 Hr
Tractor, 150 PTO HP	0.45 Hr	Lister, 5 Bottom	0.24 Hr
		Pickup Truck, 1/2 Ton	1.00 Hr
		Tractor, 100 PTO HP,	0.33 Hr

MATERIALS REQUIREMENT ( per Acre)			
46-00-00, Urea 46	109.00 Lb	Solum Barley	40.00 Lb
		Water, District	16.00 AI

LABOR REQUIREMENT ( per Acre)			
Irrigators	1.50 Hr	Tractor	1.15 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 9E. Schedule of Operations; Solum Barley, 1998**

COUNTY:Pima FARM: Pima County 98 WATER SOURCE: Cortaro-Marana TILLAGE: Conventional  
 CROP: Solum Barley ACRES: 1.0 IRRIGATION SYSTEM: Flood Furrow SOIL: Sandy-Loam  
 AREA: Marana YIELD: 3,000.0 Lb / Acre PREVIOUS CROP: Cotton, Upland DATE: 2/17/99

First No.	Month	Times	Operation	Equipment/ Custom Oper		Job Rate Acres/Hr	----- Material Use and Cost Name	----- Appl. Rate \$ / Unit	----- Service Cost \$ / Unit	Labor Type
				HP	Self-Prop./ Implement					
1	Nov	1.0	Apply Fert/Ground	100	Fertilizer Broadcaster,	12.00	46-00-00, Urea 46	109.00 Lb 257.00	Tn	Tractor
2	Nov	1.0	Disk	150	Offset Disk, 16.5'	4.00				Tractor
3	Nov	1.0	List	100	Lister, 5 Bottom	3.80				Tractor
4	Dec	1.0	Plant	70	Grain Drill, 14'	4.00	Solum Barley	40.00 Lb 19.00	CW	Tractor
5	Dec	1.0	Buck Rows	70	Rowbuck, 10'	40.00				Tractor
6	Dec	2.0	Irrigate	1.33	Water, District	8.00	AI 30.00	AF		Irrigators
7	Apr	1.0	Prepare Ends	100	Offset Disk, 13.5'	40.00				Tractor
8	May	1.0	Harvest		CST Combine Barley				37.50	Ac
9	May	1.0	Haul		CST Haul Grain				0.25	C
10	May	1.0	Disk Residue	150	Offset Disk, 16.5'	4.00				Tractor
			Pickup use 30 Mi/Ac		Pickup Truck, 1/2 Ton	1.00				

\*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 / 228