

and tubes, and 45 percent gated pipe (plastic and aluminum, 50 percent each). This method was employed because crops will normally be rotated onto all farmed land over time. Table 2 estimates the cost per acre-inch for providing irrigation water with each irrigation system.

OPERATIONS

Operations related to sugar beet production are listed in chronological order in the enterprise budget. The ground is prepared in early March, including fertilization. The beets are usually planted early in the following month. Irrigation is started in early July, with a total of seven irrigations per growing season. A total of 31 acre-inches of water is delivered per acre of sugar beets.

One hundred percent of the beet crop is insured against weather damage/loss. Because the crop is assumed to be thick-planted, it is thinned and weeded once by migrant laborers. Beet harvest begins in late September with defoliation. The beets are then pulled and hauled using equipment owned by the farm. The budgeted yield is 20 tons per acre at 19 percent sugar.

ENTERPRISE BUDGET

Economic costs and returns for sugar beet production are summarized by operation in the enterprise budget. Costs are broken down by stage of production. General overhead and operator management has been calculated at 5 percent and 10 percent of all cash costs, respectively.

Costs and returns for the crop share-lease arrangement are also summarized in the budget. Costs paid in whole or in part by the landowner are listed in the landowner column. The tenant column describes the tenant's share of the appropriate cost and return items. The far right column has been provided to calculate changes from this base budget for your operation.

SUMMARY

Gross income for the sugar beet enterprise is estimated at \$1,000 per acre. Total variable costs are estimated at \$532.21 per acre, with total fixed costs at \$213.18 per acre. The total of all costs for sugar beets is estimated at \$745.39 per acre, leaving a net projected return of \$254.61 per acre. The net projected returns for the share-lease arrangement are \$50.48 per acre for the landowner and \$204.13 per acre for the tenant.

Sugar Beets, Thick-Planted

TABLE 1. Machinery, Equipment, and Building Value and Use Assumptions

Resource Name	Current List Price	Current Market Value	Salvage Value	Total Defined Annual Use	Useful Life	Remaining Life
100 HP TRACTOR 2WD	\$45,054	\$26,562	\$8,070	635 Hours	10,160 Hours	5,080 Hours
140 HP TRACTOR MFD	\$59,492	\$33,563	\$7,634	496 Hours	9,920 Hours	4,960 Hours
70 HP TRACTOR 2WD	\$27,245	\$15,370	\$3,496	323 Hours	6,460 Hours	3,230 Hours
6-ROW CULTIVATOR	\$7,253	\$4,552	\$1,850	284 Hours	1,988 Hours	994 Hours
6-ROW PLANTER	\$6,785	\$3,862	\$940	94 Hours	1,128 Hours	564 Hours
BEET DEFOLIATOR 6-ROW	\$12,652	\$6,656	\$659	50 Hours	1,000 Hours	500 Hours
BEET PULLER 3-ROW	\$27,233	\$14,002	\$771	67 Hours	1,675 Hours	838 Hours
FERTILIZER SPREDRLEASED	-----	-----	-----	42 Hours	504 Hours	252 Hours
LEVELER 12 FT	\$6,832	\$3,594	\$356	48 Hours	960 Hours	480 Hours
PIPE TRAILER 30 FT	\$1,416	\$745	\$74	47 Hours	940 Hours	470 Hours
PLOW 2-WAY 5-18'S	\$6,860	\$3,632	\$404	114 Hours	2,166 Hours	1,083 Hours
RIPPER BAR 18 FT	\$2,846	\$1,497	\$148	22 Hours	440 Hours	220 Hours
ROLLER HARROW	\$7,973	\$4,369	\$765	134 Hours	2,010 Hours	1,005 Hours
SPRAYER 12-ROW PULL	\$2,509	\$1,367	\$225	75 Hours	1,125 Hours	563 Hours
TANDEM DISK 21 FT	\$11,959	\$6,291	\$623	68 Hours	1,360 Hours	680 Hours
WEED BURNER	\$53	\$28	\$3	10 Hours	200 Hours	100 Hours
1/2 TON PICKUP 2WD	\$14,279	\$8,967	\$3,656	10,000 Miles	75,000 Miles	37,500 Miles
1/2 TON PICKUP 4WD	\$16,190	\$10,167	\$4,145	10,000 Miles	75,000 Miles	37,500 Miles
2 TON TRUCK #1	\$11,605	\$6,055	\$505	2,276 Miles	50,072 Miles	25,036 Miles
2 TON TRUCK #2	\$9,494	\$4,890	\$287	2,250 Miles	56,250 Miles	28,125 Miles
CENTER PIVOT	\$29,337	\$16,171	\$3,004	2,929 AcIns	43,935 AcIns	21,968 AcIns
CONCRETE DITCH	\$21,814	\$10,907	\$0	3,975 AcIns	99,375 AcIns	49,688 AcIns
GATED PIPE	\$21,422	\$11,808	\$2,194	7,233 AcIns	108,495 AcIns	54,248 AcIns
GRND WATER WELL	\$10,530	\$5,424	\$318	969 AcIns	24,225 AcIns	12,113 AcIns
METAL SHOP 20 X 20		\$10,000	\$1,000		30 Years	15 Years
POLE BARN 40 X 80		\$16,500	\$1,650		30 Years	15 Years

TABLE 2. Irrigation System Costs per Acre-Inch Delivered

	Center Pivot	Concrete Ditch	Gated Pipe	Ground Water Well
VARIABLE COSTS				
Fuel Cost	\$0.81	\$----	\$----	\$2.22
Repair and Maintenance (off-farm)	0.69	----	0.06	0.27
Owner Operation Labor	0.05	----	----	----
Hired Operation Labor	----	0.29	0.09	----
Purchased Water	----	0.64	0.64	----
FIXED COSTS				
Taxes	0.07	0.03	0.04	0.11
Interest on Investment	0.54	0.24	0.28	0.95
Depreciation	0.68	0.24	0.32	0.55
Insurance	0.05	0.02	0.02	0.07
TOTAL COST PER ACRE-INCH DELIVERED	\$2.89	\$1.46	\$1.45	\$4.17

Sugar Beets, Thick-Planted

Enterprise Budget Economic Costs and Returns per Acre Sugar Beets, Thick-Planted - Wheatland Area 100-Acre Enterprise

RETURNS SECTION

GROSS INCOME Description	Quantity	Unit	\$/Unit	Crop-Share			Your Return
				Owner-Operator 100% Total	Land-owner 20% Total	Tenant 80% Total	
SUGAR BEETS	20.00	TON	50.00	\$1,000.00	\$200.00	\$800.00	
Total GROSS Income				\$1,000.00	\$200.00	\$800.00	

VARIABLE COSTS SECTION

VARIABLE COST Description	Dollars per Acre		M a t e r i a l s			Materials Total Cost Per Acre	Owner-Operator	Crop-Share		Your Cost
	LABOR	MACHINERY	Description	# Units Per Acre	Unit Type			\$/unit	Land-owner	
ANNUAL										
METAL SHOP - 20 X 20							2.66	----	2.66	
POLE BARN - 40 X 80							1.54	----	1.54	
1/2 TON PICKUP - 2WD	6.19	5.38					11.57	----	11.57	
1/2 TON PICKUP - 4WD	6.19	6.04					12.23	----	12.23	
GENERAL OVERHEAD							21.95	----	21.95	
OPERATOR MANAGEMENT							43.91	----	43.91	
Total ANNUAL							93.86	0.00	93.86	
PRE-PLANT										
CLEAN DITCHES Operation	0.26	0.02					0.28	----	0.28	
SPREAD FERTILIZER Operation	0.59	0.40	FERTILIZER SPREDR	1.000	Acre	0.50	39.50	7.90	32.59	
			11-52-0	0.100	TON	264.00				
			46-0-0	0.050	TON	252.00				
DISK Operation	0.74	2.02					2.76	----	2.76	
PLOW Operation	1.97	6.41					8.38	----	8.38	
ROLLER HARROW Operation	1.18	2.31					3.49	----	3.49	
ROLLER HARROW Operation	1.18	2.31					3.49	----	3.49	
LEVEL Operation	1.32	4.12					5.44	----	5.44	
Total PRE-PLANT							64.33	7.90	56.43	
PLANT										
PLANT BEETS Operation	1.97	3.80	BEET SEED	1.500	LBS	27.50	41.98	47.75	47.75	
			ANTOR	0.015	GAL	48.42				
CROP INSURANCE BEETS							8.00	8.00	8.00	
Total PLANT							55.75	0.00	55.75	
GROW BEETS										
CULTIVATE 6-ROWS Operation	2.96	6.07					9.03	----	9.03	
SPRAY BEETS Operation	0.99	1.00	BETAMIX	0.750	GAL	89.17	66.88	13.38	55.49	
THIN BEETS LABOR							30.00	----	30.00	
CULTIVATE 6-ROWS Operation	2.96	6.07					9.03	----	9.03	
SPRAY BEETS Operation	0.99	1.00	POAST	0.187	GAL	131.97	52.72	10.54	44.17	
			STINGER	0.057	GAL	492.00				
CULTIVATE 6-ROWS Operation	1.97	4.05					6.02	----	6.02	
LAY GATED PIPE Operation	0.41	0.15					0.56	----	0.56	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
WEED CROP LABOR						30.00	30.00	----	30.00	
CULTIVATE 6-ROWS Operation	1.48	3.41					4.89	----	4.89	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	

Sugar Beets, Thick-Planted

VARIABLE COSTS SECTION

VARIABLE COST Description	Dollars per Acre		M a t e r i a l s			Materials Total Cost Per Acre	Owner- Operator	Crop-Share		Your Cost
	LABOR	MACHINERY	Description	# Units Per Acre	Unit Type			\$/unit	Land- owner	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
CENTER PIVOT	0.04	1.44					1.48	----	1.48	
GRND WATER WELL		0.81					0.81	----	0.81	
CONCRETE DITCH	0.35	0.00	Purchased Water			0.79	1.14	0.79	0.35	
GATED PIPE	0.21	0.13	Purchased Water			1.45	1.79	1.45	0.34	
PIKUP GATED PIPE Operation	0.41	0.15					0.56	----	0.56	
Total GROW BEETS							250.21	39.60	210.61	
HARVEST BEETS										
DEFOLIATE BEETS Operation	2.96	5.99					8.95	----	8.95	
PULL AND LOAD Operation	3.95	11.54					15.49	----	15.49	
HAUL CROP 8TN/LD Operation	6.28	7.72					14.00	----	14.00	
HAUL CROP 8TN/LD Operation	6.28	7.76					14.04	----	14.04	
Total HARVEST BEETS							52.48	0.00	52.48	
POST HARVEST										
RIP GROUND Operation	0.74	1.76					2.50	----	2.50	
BEET ASSOCIATION DUES						2.00	2.00	----	2.00	
Total POST HARVEST							4.50	0.00	4.50	
Operating Interest							11.08	----	11.08	
Total VARIABLE COST							\$532.21	\$47.50	\$484.71	
GROSS INCOME minus VARIABLE COST							\$467.79	\$152.50	\$315.29	

FIXED COSTS SECTION

FIXED COST Description	Unit	Crop-Share			Your Cost
		Owner- Operator	Land- owner	Tenant	
Machinery and Equipment:					
Taxes	Acre	7.41	----	7.41	
Insurance	Acre	13.73	----	13.73	
Long-term Interest	Acre	45.56	----	45.56	
Depreciation	Acre	44.45	----	44.45	
Buildings and Improvements:					
Taxes	Acre	0.87	0.87	----	
Insurance	Acre	0.55	0.55	----	
Long-term Interest	Acre	7.77	7.77	----	
Depreciation	Acre	4.93	4.93	----	
Irrigation:					
Taxes	Acre	1.21	1.21	----	
Insurance	Acre	0.66	0.66	----	
Long-term Interest	Acre	12.21	12.21	----	
Depreciation	Acre	12.91	12.91	----	
Land:					
Taxes	Acre	8.78	8.78	----	
Long-term Interest	Acre	52.13	52.13	----	
Total FIXED Cost		\$213.18	\$102.02	\$111.16	
Total of ALL Cost		\$745.39	\$149.52	\$595.87	
NET PROJECTED RETURNS		\$254.61	\$50.48	\$204.13	

E 3. Machinery, Equipment, and Building Cost Calculations

Machine/Vehicle	Unit	RESOURCE COST PER UNIT OF USE										ENTERPRISE		TOTAL COST	Resource Use per Acre	Resource Fixed	TOTAL
		Fuel and Lube	Operation and Labor Inputs	Repair and Maint.	Hourly Lease	Deprec. and Interest	Taxes and Insurance	Variable	Fixed	Variable	Fixed						
35 HP TRACTOR	2WD	\$5.17	\$0.00	\$4.86	\$0.00	\$4.48	\$0.72	\$15.23	2.8166	\$28.25	\$14.65	\$42.90	2.8166	\$14.65	\$42.90		
40 HP TRACTOR	MFD	7.24	0.00	6.20	0.00	6.66	1.17	21.27	1.4722	19.79	11.53	31.32	1.4722	11.53	31.32		
35 HP TRACTOR	2WD	3.62	0.00	1.85	0.00	4.69	0.82	10.98	1.5048	2.76	2.78	5.54	1.5048	2.78	5.54		
3-ROW CULTIVATOR		0.00	0.00	3.63	0.00	2.46	0.28	6.37	1.3333	4.84	3.65	8.49	1.3333	3.65	8.49		
3-ROW PLANTER		0.00	0.00	4.48	0.00	5.08	0.71	10.27	0.3333	1.49	1.93	3.42	0.3333	1.93	3.42		
6-ROW DEFOLLATOR	6-ROW	0.00	0.00	3.15	0.00	13.13	2.30	18.58	0.5000	1.58	7.72	9.30	0.5000	7.72	9.30		
FEET PULLER	3-ROW	0.00	0.00	6.85	0.00	18.65	3.61	29.11	0.6667	4.57	14.84	19.41	0.6667	14.84	19.41		
FERTILIZER SPREDR	LEASED	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00	5.00		
LEVELER	12 FT	0.00	0.00	1.64	0.00	7.39	1.29	10.32	0.2222	0.36	1.93	2.29	0.2222	1.93	2.29		
PIPE TRAILER	30 FT	0.00	0.00	0.33	0.00	1.56	0.27	2.16	0.0714	0.02	0.13	0.15	0.0714	0.13	0.15		
PLOW 2-WAY	5-18'S	0.00	0.00	5.90	0.00	3.04	0.52	9.46	0.3333	1.97	1.19	3.16	0.3333	1.19	3.16		
RIPPER HARROW	18 FT	0.00	0.00	0.67	0.00	6.71	1.18	8.56	0.1250	0.08	0.99	1.07	0.1250	0.99	1.07		
ROLLER HARROW	\$/Hour	0.00	0.00	1.69	0.00	3.66	0.56	5.91	0.4000	0.68	1.69	2.37	0.4000	1.69	2.37		
SPRAYER 12-ROW	PULL	0.00	0.00	1.15	0.00	2.05	0.32	3.52	0.3334	0.38	0.79	1.17	0.3334	0.79	1.17		
TANDEM DISK	21 FT	0.00	0.00	2.89	0.00	9.12	1.60	13.61	0.1250	0.36	1.34	1.70	0.1250	1.34	1.70		
WEED BURNER	\$/Hour	0.93	0.00	0.00	0.00	0.53	0.05	1.51	0.0240	0.02	0.01	0.03	0.0240	0.01	0.03		
1/2 TON PICKUP	2WD	0.10	0.00	0.06	0.00	0.26	0.07	0.49	34.4828	5.52	11.38	16.90	34.4828	11.38	16.90		
1/2 TON PICKUP	4WD	0.10	0.00	0.07	0.00	0.29	0.08	0.54	34.4828	5.86	12.76	18.62	34.4828	12.76	18.62		
2 TON TRUCK	#1	0.24	0.00	0.20	0.00	0.48	0.21	1.13	17.5000	7.70	12.08	19.78	17.5000	12.08	19.78		
2 TON TRUCK	#2	0.24	0.00	0.20	0.00	0.37	0.17	0.98	17.5000	7.70	9.45	17.15	17.5000	9.45	17.15		
CENTER PIVOT	\$/AC-In	0.81	0.05	0.87	0.00	1.76	0.12	3.61	6.4400	11.14	12.11	23.25	6.4400	12.11	23.25		
CONCRETE DITCH	\$/AC-In	0.00	0.93	0.00	0.00	0.91	0.06	1.90	8.7500	8.14	8.49	16.63	8.7500	8.49	16.63		
GATED PIPE	\$/AC-In	0.00	0.73	0.08	0.00	0.99	0.08	1.88	15.9600	12.93	17.08	30.01	15.9600	17.08	30.01		
GRND WATER WELL	\$/AC-In	2.22	0.00	0.52	0.00	2.58	0.23	5.55	2.1000	5.75	5.90	11.65	2.1000	5.90	11.65		
METAL SHOP	20 X 20	720.00	0.00	140.37	0.00	1,545.75	131.63	2,537.75	0.0020	1.72	3.35	5.07	0.0020	3.35	5.07		
POLE BARN	40 X 80	360.00	0.00	140.37	0.00	2,550.49	217.20	3,268.06	0.0020	1.00	5.54	6.54	0.0020	5.54	6.54		



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