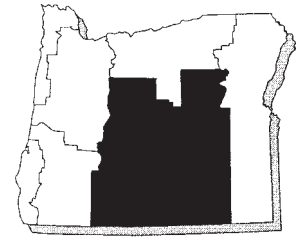


Enterprise Budget

Sugarbeets, South Central Region



Kerry Locke, Extension agent, Klamath County, and
Brenda Turner, graduate research assistant,
Oregon State University

EM 8593, April 1995

This enterprise budget estimates the typical costs and returns of producing sugarbeets in the Klamath Falls area of South Central Oregon. While efforts were made to reflect common practices, it is not representative of any particular farm and should thus be used only as a guide to estimating actual costs. The major assumptions used in constructing this budget are discussed below. Assistance provided by area producers and agricultural suppliers is greatly appreciated.

Cropping Pattern

This budget is based on a 500-acre farm with 100 acres in production of sugarbeets following grain. The budget includes production costs for 1 acre. Other rotation crops include potatoes and alfalfa.

Land and Irrigation

A land lease charge of \$150 per acre is included to represent the cost of leasing or owning land. This charge is based on the cost of leasing good quality land and includes irrigation pumps and mainlines. Wheel-line irrigation systems are used to apply 20 acre-inches of water annually. The wheel line is valued at \$325 per acre with a 20-year useful life and 15 percent salvage value. Irrigation depreciation is estimated using the straight-line method, resulting in an annual cost of \$13.80 per acre. Interest is charged on the average value of the system at 9 percent, which yields \$16.80 per acre. Total irrigation system depreciation and interest is \$31 per acre.

Labor

Hired labor costs \$7 per hour including worker's compensation, social security taxes, and other payroll expenses. Owner/operator labor is valued at \$12 per hour for this study. All labor is assumed to be a cash cost.

Capital

Opportunity costs of capital are charged at a rate of 9 percent for current and intermediate capital provided by the owner/operator.

Machinery and Equipment

The machinery complement is sufficient to farm 500 production acres. A detailed breakdown of machinery values used in this budget is shown in Table 1. November 1994 replacement costs are used. Estimated machinery costs are shown in Table 2 assuming the machinery is half depreciated.

The machinery costs per hour are estimated based on the total farm use of the machinery. Costs per acre then are estimated based on the hours of annual use in sugarbeet production shown in Table 1.

Operations

In the fall, the previous crop residue and weeds are disked, subsoiled, and rototilled. A cover crop of rye is planted. Preplant fertilizer, herbicide, and insecticide are applied, and the seedbed is marked out prior to planting in the spring. Two-pounds of sugarbeet seed is planted per acre and later custom thinned at \$100 per acre.

In addition to a water charge of \$25, irrigation costs included electricity and/or diesel at \$20 per acre, and repair and maintenance is estimated to be \$4 per acre. A total of 14 irrigation sets apply 20 inches of water.

A postemergence fertilizer is top dressed, and the field is cultivated twice. An additional insecticide is custom aerial applied before harvest. The sugarbeet harvest and hauling are custom hired. A harvest cost of \$2.50 per ton covers all costs associated with beet harvest. Hauling is charged at \$1.90 per ton plus \$0.10 per mile. The sugarbeets are hauled 10 miles one way to the processor. Although the custom harvest and hauling costs as well as the gross income received by the grower are all based on different sugarbeet weights, this budget assumes all the above are based on a 22 ton per acre yield.

A pickup is included for monitoring the irrigation system, hauling supplies and general farm work. Of the 12,000 miles annually driven, one-fifth are allocated to sugarbeet production.

Results

Sugarbeet income is based on a net selling price of \$23 per cwt. At 18 percent sugar, the sugar bonus is \$3.50. A hauling allowance of \$0.07 per mi per ton (\$0.70 per ton total) also is included as income.

The total variable cost is \$859 per ton resulting in a break-even price over variable cost of \$39 per ton. Total of all costs is \$1,077 per ton, resulting in a net projected return of -\$47 per ton.

In Table 3, net returns are presented for varying yields and percent sugar based on a \$23 per cwt net selling price. The net selling price is varied from \$22 to \$25 per cwt in Table 4 as net projected returns are shown based on an 18 percent sugar content.



OREGON STATE UNIVERSITY EXTENSION SERVICE

EM 8593 Enterprise Budget

ECONOMIC COSTS AND RETURNS SOUTH CENTRAL REGION Sugarbeets, \$/acre (100 acres)

<u>GROSS INCOME Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>\$/Unit</u>	<u>Total</u>	<u>Your Income</u>
Sugarbeets (\$23 net selling price at 18% sugar)	22.00	ton	42.61	937.42	_____
Sugar Bonus	22.00	ton	3.50	77.00	_____
Sugarbeet Hauling Allowance	22.00	ton	0.70	15.40	_____
Total GROSS Income				1,029.82	_____
<u>VARIABLE COST Description</u>	<u>Labor</u>	<u>Machinery</u>	<u>Materials</u>	<u>Total</u>	<u>Your Cost</u>
Disk (2x)	4.84	7.27	0.00	12.11	_____
Subsoil	2.82	6.76	0.00	9.58	_____
Rotary Tiller	5.65	17.67	0.00	23.32	_____
Plant Cover Crop	0.84	1.20	7.20	9.24	_____
Rye Seed	60 lb x 0.12 = 7.20				
Preplant Fertilizer	0.00	0.00	64.50	64.50	_____
15-15-15	0.25 tn x 240.00 = 60.00				
Custom Application	1 ac x 4.50 = 4.50				
Mark-out	3.63	3.63	0.00	7.26	_____
Preplant Herbicide	0.00	0.00	15.63	15.63	_____
Herbicide	0.25 gal x 42.50 = 10.62				
Custom Application	1 ac x 5.00 = 5.00				
Preplant Insecticide	4.84	5.80	25.90	36.54	_____
Insecticide	7 lb x 3.70 = 25.90				
Plant Sugarbeets	4.84	5.75	36.00	46.59	_____
Sugarbeet Seed	2 lb x 18.00 = 36.00				
Irrigation	16.99	0.00	49.00	65.99	_____
Elect./Diesel	1 ac x 20.00 = 20.00				
Irrig. Repair Maint.	1 ac x 4.00 = 4.00				
Water	1 ac x 25.00 = 25.00				
Postemergence Herbicide	0.00	0.00	39.69	39.69	_____
Herbicide	0.375 gal x 92.50 = 34.68				
Custom Application	1 ac x 5.00 = 5.00				
Postplant Fertilizer	0.85	1.66	36.00	38.51	_____
Ammonium Sulfate	0.15 tn x 240.00 = 36.00				
Postemergence Herbicide	0.00	0.00	51.25	51.25	_____
Herbicide	0.5 gal x 92.50 = 46.25				
Custom Application	1 ac x 5.00 = 5.00				
Cultivate (2x)	9.68	8.00	0.00	17.68	_____
Custom Thinning	0.00	0.00	100.00	100.00	_____
Postplant Insecticide (2x)	0.00	0.00	18.13	18.13	_____
Insecticide	0.25 gal x 28.50 = 7.12				
Custom Application	2 ac x 5.50 = 11.00				
Harvest	0.00	0.00	55.00	55.00	_____
Custom Harvest	22 tn x 2.50 = 55.00				
Haul	0.00	0.00	63.80	63.80	_____
Custom Haul	22 tn x 2.90 = 63.80				
Rail Freight	0.00	0.00	82.94	82.94	_____
Contribution	22 tn x 3.77 = 82.94				
Operating Capital Interest	0.00	0.00	40.41	40.41	_____
Pickup	7.92	2.60	0.00	10.52	_____
Crop Insurance (Catastrophic)	0.00	0.00	50.00	50.00	_____
Total VARIABLE COST				858.69	_____
GROSS INCOME minus VARIABLE COST				171.13	_____

EM 8593 Enterprise Budget

ECONOMIC COSTS AND RETURNS SOUTH CENTRAL REGION Sugarbeets, \$/acre (100 acres)

FIXED COST Description	Unit	Total	Your Cost
CASH Cost			
Machinery & Equipment Insurance	acre	3.50	_____
Land Lease	acre	150.00	_____
Total CASH Cost		153.50	_____
NONCASH Cost			
Irrigation System Interest & Depreciation	acre	31.00	_____
Machinery & Equipment Interest & Depreciation	acre	33.77	_____
Total NONCASH Cost		64.77	_____
Total FIXED Cost		218.27	_____
Total of ALL Cost		1,076.96	_____
NET PROJECTED RETURNS (gross income - total cost)		-47.14	_____
Break-even Price, Total Variable Cost (Including Bonus and Hauling Allowance)		\$39.03 per ton	_____
Break-even Price, Total Cost (Including Bonus and Hauling Allowance)		\$48.95 per ton	_____

Table 1. Machinery Cost Assumptions

Item	Size	List Price	Current Market Value	Salvage Value	Useful Life	Remaining Life	Annual Use
Tractor	160 hp	\$88,000	\$57,200	\$26,400	12,000 hr	6,000 hr	147 hr
Tractor	120 hp	70,000	45,500	21,000	12,000 hr	6,000 hr	112 hr
Tractor	80 hp	58,000	34,800	11,600	12,000 hr	6,000 hr	73 hr
Tractor	60 hp	41,000	24,600	8,200	12,000 hr	6,000 hr	11 hr
Disk	12 ft	14,000	8,400	2,800	2,000 hr	1,000 hr	33 hr
Beet Planter		6,600	3,960	1,320	1,500 hr	750 hr	67 hr
Cultivator	4 row	3,500	2,100	700	2,000 hr	1,000 hr	67 hr
Mark-out Bar	4 row	1,200	720	240	2,000 hr	1,000 hr	25 hr
Rotary Tiller	10 ft	11,000	6,600	2,200	2,000 hr	1,000 hr	67 hr
Spin Spreader	16 ft	6,000	3,600	1,200	2,000 hr	1,000 hr	20 hr
Subsoiler		2,750	1,650	550	2,000 hr	1,000 hr	33 hr
Appl. Boxes	4 row	950	570	190	2,000 hr	1,000 hr	35 hr
Pickup		15,000	9,000	3,000	100,000 mi	50,000 mi	2,400 mi

Table 2. Machinery & Equipment Cost Calculations

Machine	Size	Costs per Hour or Mile				Total Cost	Hours or Miles per Acre	Costs per Acre		
		Variable		Fixed				Variable	Fixed	Total
		Fuel & Repair & Lube	Maint.	Depr. & Interest	Insurance					
Tractor	160 hp	\$6.19	\$8.93	\$3.74	\$0.23	\$19.09	1.38 hr	\$22.18	\$5.82	\$28.00
Tractor	120 hp	4.65	7.10	2.71	0.18	14.64	1.12 hr	13.14	3.23	16.37
Tractor	80 hp	3.10	5.11	8.79	0.63	17.63	0.73 hr	6.02	6.90	12.92
Tractor	60 hp	2.32	3.56	8.82	0.67	15.37	0.11 hr	0.65	1.04	1.69
Disk	12 ft	0.00	4.51	7.16	0.56	12.23	0.33 hr	1.50	2.57	4.07
Beet Planter		0.00	3.32	6.96	0.57	10.85	0.67 hr	2.21	5.02	7.23
Cultivator	4 row	0.00	1.34	1.03	0.08	2.45	0.67 hr	0.89	0.75	1.64
Mark-out Bar	4 row	0.00	0.60	1.77	0.14	2.51	0.25 hr	0.15	0.48	0.63
Rotary Tiller	10 ft	0.00	7.43	2.30	0.18	9.91	0.67 hr	4.95	1.65	6.60
Spin Spreader	16 ft	0.00	4.27	9.59	0.72	14.58	0.20 hr	0.85	2.06	2.91
Subsoiler		0.00	1.20	1.08	0.08	2.36	0.33 hr	0.40	0.39	0.79
Appl. Boxes	4 row	0.00	0.14	1.90	0.16	2.20	0.35 hr	0.05	0.72	0.77
Pickup		0.08	0.03	0.22	0.06	0.39	24.00 mi	2.59	6.65	9.24
Total								\$55.57	\$37.27	\$92.84

EM 8593 Enterprise Budget

**Table 3. Net Projected Returns with Varying Yield and Percent Sugar
Based on a \$23 Net Selling Price (\$/acre)**

Sugarbeet Yield (ton/acre)	18	20	22	24	26	28	30
17%	-\$251	-\$181	-\$111	-\$42	\$27	\$97	\$166
18%	-198	-122	-47	28	103	178	254
19%	-145	-64	17	98	179	260	341
20%	-92	-5	82	168	255	342	429

**Table 4. Net Projected Returns with Varying Yield and Net Selling Price
Based on 18 Percent Sugar Level (\$/acre)**

Sugarbeet Yield (ton/acre)	18	20	22	24	26	28	30
\$22.00	-\$231	-\$159	-\$87	-\$15	\$58	\$130	\$200
\$23.00	-198	-123	-47	28	104	179	254
\$24.00	-165	-86	-8	71	150	229	308
\$25.00	-133	-50	32	114	197	279	362



Extension Service, Oregon State University, Corvallis, Lyla Houghlum, interim director. This publication was produced and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Extension work is a cooperative program of Oregon State University, the U.S. Department of Agriculture, and Oregon counties.

Oregon State University Extension Service offers educational programs, activities, and materials—*without regard to race, color, religion, sex, sexual orientation, national origin, age, marital status, disability, and disabled veteran or Vietnam-era veteran status*—as required by Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. Oregon State University Extension Service is an Equal Opportunity Employer.
