



Center-Pivot-Irrigated Oil-Type Sunflowers Cost-Return Budget

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Irrigated oil-type and confectionary sunflower production are similar in many respects to irrigated grain sorghum production in terms of tillage, fertilization, and water requirements. The sunflower moth is a problem in sunflower production, but can be managed or controlled by attention to planting dates and timely pesticide application. The state of Kansas ranked third in the nation in oil type sunflower production during 1998.

Cost Return Projections

Any land preparation costs are included with the land charge. Other investments are shown in Table 1. Price of the energy source and Total Dynamic Head are the important factors affecting pumping costs. For instance, with 500 feet of TDH, \$1 change in gas price results in \$14.83 change in costs for each acre foot of water pumped.

The choice of a flood or center pivot system depends on: (1) available capital; (2) labor availability during the growing season; (3) the terrain, which may require a center pivot system; and (4) soil type. Capital requirements will run \$20,000 to \$40,000 higher for sprinkler over flood. However, labor requirements can be as much as 1 hour/acre less for the sprinkler system. MF-836, *Irrigation Capital Requirements and Energy Costs*, shows the irrigation costs and energy input amounts used in this budget.

Expected Yields and Enterprise Returns

Cost per hundredweight (cwt.) and net returns in crop production are highly dependent on yields. The following estimated budget includes three different yield levels. The three yield levels are intended to represent expected yields of varying land quality for a given level of management. Land values, government payments, and various inputs vary as yield levels vary. Crop insurance was not included in this budget as an input expense because yields reflect an average of all years (good and bad). If crop insurance is included as an input expense, than an expected value for indemnity payments should be included in the returns section. Historically, MPCI indemnity payments have exceeded premiums due to government subsidies.

Budgeting for alternative expected yields can help producers compare the profitability of crop enterprises on

farmland tracts with varying yield potentials. In customizing this budget to fit your farm, attention should be given to using land values representative of your farm's productive capacity. Projections of net percentage return on investment permit comparisons to be made among alternative enterprises or other investments.

Table 1. Factors Used for Cost-Return Budget

Item	Yield Level (lbs)			
	1,800	2,200	2,600	
Water, 325 TDH	8 in	10 in	12 in	\$2.72/inch
Fertilizer:				
N (Anhy.)	60	80	100	\$0.11/lb
N (Dry)	0	0	0	\$0.20/lb
P	40	40	40	\$0.22/lb
K	0	0	0	\$0.14/lb
Lime	0	0	0	\$0.01/lb
Seed,				
seeds/acre	23,400	23,400	23,400	
Seed price,				
\$/1,000 seeds	\$0.78	\$0.78	\$0.78	
Labor hours	1.87	1.90	1.93	
Labor price/hour				\$10.80
Land value/acre	\$550	\$687	\$824	
Land interest rate				6.00%
Land real estate tax				0.50%
Machinery investment				\$197
Machinery life				10 yrs
Salvage value				35%
Well, pump and gearhead value				\$317.42
Well, pump and gearhead life				15 yrs
Power unit and meter value				\$41.27
Power unit and meter life				7 yrs
Irrigation system value				\$359.00
Irrigation system life				10 yrs
Interest rate on machinery and equipment				9.00%
Insurance rate on machinery and equipment				0.25%
Interest on variable costs				9.00%

COST-RETURN PROJECTION — CENTER-PIVOT-IRRIGATED OIL-TYPE SUNFLOWERS

	Yield Level (lbs)			Your Farm
	1,800	2,200	2,600	
VARIABLE COSTS PER ACRE: ¹				
1. Labor	\$ 20.15	\$ 20.52	\$ 20.89	
2. Seed	18.25	18.25	18.25	
3. Herbicide	11.76	11.76	11.76	
4. Insecticide	13.01	13.01	13.01	
5. Fertilizer and Lime	15.40	17.60	19.80	
6. Fuel and Oil — Crop	5.86	5.97	6.08	
7. Fuel and Oil — Pumping ²	21.76	27.20	32.64	
8. Machinery and Equipment Repairs	13.85	14.10	14.35	
9. Irrigation Repairs and Maintenance	2.40	3.00	3.60	
10. Crop Insurance				
11. Drying				
12. Custom Hire ³				
13. Crop Consulting	5.75	5.75	5.75	
14. Miscellaneous	8.00	8.00	8.00	
15. Interest on 1/2 Variable Costs	6.13	6.53	6.94	
A. TOTAL VARIABLE COSTS	\$ 142.32	\$ 151.70	\$ 161.07	
FIXED COSTS PER ACRE: ¹				
16. Real Estate Taxes (including well)	4.34	5.02	5.71	
17. Interest on Land and Well ⁴	52.05	60.27	68.49	
18. Rent for Rented Land ⁵				
19. Depreciation on Crop Machinery	12.81	12.81	12.81	
20. Interest on Crop Machinery ⁶	11.97	11.97	11.97	
21. Depreciation on Irrigation Equipment and Well	62.96	62.96	62.96	
22. Interest on Irrigation Equipment ⁶	18.01	18.01	18.01	
23. Insurance on Machinery and Equipment	1.49	1.49	1.49	
B. TOTAL FIXED COSTS	\$ 163.62	\$ 172.52	\$ 181.43	
C. TOTAL COSTS (A + B)	\$ 305.94	\$ 324.22	\$ 342.50	
D. YIELD PER ACRE	1,800	2,200	2,600	
E. PRICE PER CWT ⁷	\$ 9.93	\$ 9.93	\$ 9.93	
F. NET GOVERNMENT PAYMENT ⁷	\$ 10.72	\$ 11.65	\$ 12.58	
G. INDEMNITY PAYMENTS	\$	\$	\$	
H. MISCELLANEOUS INCOME	\$	\$	\$	
I. RETURNS PER ACRE [(D × E) + F + G + H]	\$ 189.46	\$ 230.11	\$ 270.76	
J. RETURNS OVER VARIABLE COSTS (I – A)	\$ 47.14	\$ 78.41	\$ 109.69	
K. RETURNS OVER TOTAL COSTS (I – C)	\$ -116.48	\$ -94.11	\$ -71.74	
L. VARIABLE COSTS PER CWT ((A ÷ D) × 100)	\$ 7.91	\$ 6.90	\$ 6.20	
M. TOTAL COSTS PER CWT ((C ÷ D) × 100)	\$ 17.00	\$ 14.74	\$ 13.17	
N. NET RETURN ON INVESTMENT				
[(K+15+17+20+22) ÷ INVESTMENT] ⁸	-1.93%	0.17%	1.94%	

¹Totals were derived using information listed in Table 1. ²See MF-836, "Irrigation Capital Requirements and Energy Costs." ³If using custom hire, adjust lines 6, 8, 19, and 20. ⁴Assumes interest rate shown in Table 1. ⁵If cash rented, insert zero in lines 16 and 17. ⁶Assumes one-half the average investment [(initial investment + salvage value) ÷ 2] at the interest rate shown in Table 1. ⁷See MF-1013 "Prices for Crop and Livestock Cost-Return Budgets" and MF-2236 "Government Program Payments for Crop Cost Return Budgets" for additional information on crop prices and program payments. ⁸Investment equals total value of all fixed assets shown in Table 1.

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