

PRODUCTION COSTS

SF-SV-92

FOR SUNFLOWER SEED

TENANT
LANDOWNER
BASIS



Glenn

Butte

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UC COOPERATIVE EXTENSION

1992
**U.C. COOPERATIVE EXTENSION
SAMPLE COSTS TO PRODUCE SUNFLOWER SEED
IN GLENN & BUTTE COUNTIES**

by

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The detailed costs for sunflower seed production in Glenn and Butte Counties are presented in this study. The hypothetical farm used in this report consists of 1500 acres of which 150 acres are in sunflower seed production. The remainder of the farm is planted to different field crops.

Practices described are based on those production procedures considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on current figures. Some costs and practices detailed in this study may not be applicable to your situation. This study is only intended as a guide and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans. A blank *Your Costs* column is provided to enter your actual costs on Table 1, **Costs Per Acre To Produce Sunflower Seed**.

This study consists of **General Assumptions for Producing Sunflower Seed** and six tables.

Table 1.	Costs Per Acre To Produce Sunflower Seed
Table 2.	Monthly Cash Costs Per Acre To Produce Sunflower Seed
Table 3.	Annual Equipment, Investment And Business Overhead Costs
Table 4.	Hourly Equipment Costs
Table 5.	Ranging Analysis
Table 6.	Costs And Returns / Breakeven Analysis.

For an explanation of calculations used for the study refer to the attached **General Assumptions**, call the Department of Agricultural Economics, Cooperative Extension, University of California, Davis, California, (916) 752-3589 or call the Farm Advisor in the county of interest.

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GENERAL ASSUMPTIONS FOR PRODUCING SUNFLOWER SEED
Glenn & Butte Counties - 1992
U.C. Cooperative Extension

The following is a description of some general assumptions pertaining to sample costs of sunflower seed production in Glenn and Butte Counties. These costs are represented on an annual, per acre basis.

1. LAND:

This cost of production study is based on a 1500 acre field and row crop farm of which 150 acres are dedicated to growing sunflower seed. Other crops grown on the same acreage in rotation with sunflower seed might include small grains, safflower, alfalfa hay, ladino clover seed, sugar beets, grain sorghum, field corn, rice, etc.

2. RENT AGREEMENT:

Land used for sunflower seed production can be rented on a tenant-landowner or cash rent basis. Although the share rent may vary, in this study the landowner receives 20% of the crop receipts from the sale of 1300 pounds per acre of clean sunflower seed. The tenant pays all cash costs to produce the crop. Interest cost for land is incurred by the landowner.

3. CULTURAL PRACTICES:

The cultural, pesticide and fertilizer inputs for the production of sunflower seed may vary from grower to grower and field to field. The practices and inputs used in this cost study serve only as a sample or a guide. Following isolation requirements when growing certified seed is critical. Cooperation between contractors and growers is essential. Questions regarding isolation requirements can be directed to a seed contractor or University of California farm advisor.

4. YIELDS & RETURNS:

The crop yield used in this study is 1750 gross pounds per acre. Twenty six percent of the gross yield is lost in clean out leaving a net yield of 1300 pounds of sunflower seed per acre. To estimate the returns to the sunflower enterprise a price of a \$0.45 per net pound of seed is used. Since prices for sunflower seed fluctuate, consult contracting seed companies should you have interest in the price outlook for sunflower seed.

5. HARVEST:

The grower harvests the sunflower seed with his own equipment in this study. The harvested seed is custom hauled to the seed company at a rate of \$0.30 per cwt. A scalping charge of \$.0225 per pound of uncleaned seed covers the cost of initial cleaning the seed. If a grower has his crop custom harvested, the harvest equipment and its appropriate costs should be subtracted from the harvest costs in Table 1 and the custom charges would then be added to harvest and equipment costs in Table 1.

6. LABOR:

Basic hourly wages for workers are \$7.09 and \$5.00 per hour for machine operators and non-machine (irrigators) workers respectively. Adding 34% for SDI, FICA, insurance and other benefits gives the labor rates shown of \$9.50 per hour for machine operators and \$6.70 per hour for non-machine labor. The labor for operations involving machinery are 10% higher than the machine hours to account for the extra labor involved in equipment set-up, moving, maintenance and repair.

7. INVESTMENT:

The investments shown in Table 3 are those that are partially allocated to sunflower seed production. Investments such as shop buildings and shop tools can be used by the whole farm so only a portion of the costs can be assigned to the sunflower seed operation and the rest of the costs are distributed to the other farm enterprises. Annual investments shown in Table 1 represent the depreciation and opportunity cost for each investment on an annual per acre basis.

8. OVERHEAD:

County taxes are calculated as 1% of the average of the land, equipment, buildings and improvements. Insurance is charged at 0.5% of the average value of the equipment over its useful life. In this study the equipment insurance and investment repairs are less than one dollar per acre so they do not appear in the cash overhead sections of Tables 1 and 2. Office and business costs are estimated at \$20 per acre for the ranch. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, road preparation and maintenance, etc.

9. INTEREST:

Interest on operating capital is based on cash costs and is calculated monthly for nine months until harvest at the rate of 11.75% per year. Interest is also charged on investment at 12.05% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is based on the average value of the buildings and equipment.

10. EQUIPMENT COSTS:

In allocating the equipment costs per acre, the following calculations were made and shown in Table 3 and Table 7: (a) **Original Cost** of equipment is the cost of the new equipment plus sales tax. (b) **Depreciation** is straight line with a 10% salvage value. (c) **Interest on investment** is calculated as the average value per acre of the new cost of the equipment during its useful life (average value = (new cost + salvage value)/2 on a per acre basis) multiplied by an interest rate of 12.05%. (d) The total investment costs are also calculated as 60% of the depreciation and the interest costs for all new equipment to reflect a mix of the new and used equipment. These values are also used in Table 1. Most of this equipment is used on the entire 1500 acre ranch.

11. FUEL & REPAIR:

The fuel and repair cost per acre for each operation in Table 1 is determined by multiplying the total hourly operating cost for each piece of equipment in Table 4 by the number of hours per acre for that operation. Prices for on-farm delivery of gasoline and diesel are \$0.79 per gallon and \$1.00 per gallon, respectively

11. ACKNOWLEDGEMENT:

Several Glenn County sunflower seed producers assisted in furnishing information for this study. Appreciation is expressed to those growers and other individuals who provided assistance.

Table 1.

COSTS PER ACRE TO PRODUCE SUNFLOWER SEED

GLENN & BUTTE COUNTIES - 1992

Labor Rate: \$ 9.50/hr. machine labor
 \$ 6.70/hr. non-machine labor

Interest Rate: 11.75%
 Yield per Acre: 1300.00 lb

Operation	Operation Time (Hrs/A)	Cash and Labor Costs per Acre					Total Cost	Yield Cost
		Labor Cost	Fuel & Repairs	Material Cost	Custom/ Rent			
Cultural:								
Stubble disc	0.25	3	6	0	0	8		
Disc 2X	0.20	2	5	0	0	7		
Chisel	0.16	2	3	0	0	5		
Land plane field 2X	0.30	3	6	0	0	9		
List beds	0.20	2	2	0	0	5		
Weed control	0.20	2	3	4	0	9		
Cultivate & starter fertilizer	0.20	2	3	26	0	31		
Plant & incorporate herbicide	0.33	4	8	8	0	20		
Make ditches	0.01	0	0	0	0	0		
Irrigate up	0.60	4	0	13	0	17		
Cultivate	0.25	3	3	0	0	6		
Irrigate	1.50	10	0	40	0	50		
Cultivate & apply N	0.20	2	3	26	0	31		
Pollinate	0.00	0	0	24	0	24		
Moth control	0.00	0	0	16	8	24		
Close ditches	0.01	0	0	0	0	0		
Defoliate 2/3 of acreage	0.00	0	0	6	4	10		
Pickup use	0.18	2	4	0	0	6		
TOTAL CULTURAL COSTS	4.59	42	45	163	12	263		
Harvest:								
Harvest	0.33	4	15	0	0	19		
Haul - custom	0.00	0	0	0	5	5		
Scalping	0.00	0	0	39	0	39		
TOTAL HARVEST COSTS	0.33	4	15	39	5	63		
Postharvest:								
Post harvest irrigation	0.30	2	0	8	0	10		
Stubble disc	0.20	2	5	0	0	7		
TOTAL POSTHARVEST COSTS	0.50	4	5	8	0	17		
Interest on operating capital @ 11.75%							16	
TOTAL OPERATING COSTS/ACRE		51	65	210	17	359		
TOTAL OPERATING COSTS/LB						0.28		
CASH OVERHEAD:								
Land rent							117	
Office expense							20	
Property Taxes							3	
Equipment Insurance							2	
Investment Repairs							0	
TOTAL CASH OVERHEAD COSTS							143	
TOTAL CASH COSTS/ACRE							502	
TOTAL CASH COSTS/LB							0.39	

U.C. COOPERATIVE EXTENSION
Table 1. continued

NON-CASH OVERHEAD:

Investment	Per producing Acre	Annual Cost		
		Depreciation	Interest @ 12.05%	
Shop Building	25	1	1	3
Shop tools	7	0	0	1
Fuel tanks & pumps	5	0	0	1
Tool carrier	8	0	1	1
Equipment	590	46	39	85
TOTAL NON-CASH OVERHEAD COSTS	635	49	42	90
TOTAL COSTS/ACRE				592
TOTAL COSTS/LB				0.46

Table 2.

U.C. COOPERATIVE EXTENSION
MONTHLY CASH COSTS PER ACRE TO PRODUCE SUNFLOWER SEED
GLENN & BUTTE COUNTIES - 1992

Beginning OCT 91	OCT 91	NOV 91	DEC 91	JAN 92	FEB 92	MAR 92	APR 92	MAY 92	JUN 92	JUL 92	AUG 92	SEP 92	OCT 92	TOTAL
Ending OCT 92														
Cultural:														
Stubble disc	8													8
Disc 2X	7													7
Chisel	5													5
Land plane field 2X	9													9
List beds		5												5
Weed control						9								9
Cultivate & starter fert.						31								31
Plant & incorporate herb.							20							20
Irrigate up							17							17
Cultivate								6						6
Irrigate								10	20	20				50
Cultivate & apply N								31						31
Pollinate									24					24
Moth control									12	12				24
Defoliate 2/3 of acreage											5	5		10
Pickup use											6			6
TOTAL CULTURAL COSTS	30	5				40	37	47	56	32	11	5		263
Harvest:														
Harvest											10	10		19
Haul - custom											3	3		5
Scalping											19	19		39
TOTAL HARVEST COSTS											32	32		63
Postharvest:														
Post harvest irrigation												10		10
Stubble disc													7	7
TOTAL POSTHAREVST COSTS												10	7	17
Interest on oper. capital	0	0	0	0	0	1	1	2	2	2	3	3		16
TOTAL OPERATING COSTS/ACRE	30	5	0	0	0	41	38	49	58	34	45	50	3	359
TOTAL OPERATING COSTS/LB	0.02	0.00	0.00	0.00	0.00	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.01	0.28
OVERHEAD:														
Land rent				117										117
Office expense				20										20
Property Taxes				3										3
Equipment Insurance				2										2
TOTAL CASH OVERHEAD COSTS	0	0	0	142	0	0	0	0	0	0	0	0	0	143
TOTAL CASH COSTS/ACRE	30	5	0	143	0	41	39	49	58	34	45	50	7	502
TOTAL CASH COSTS/LB	0.02	0.00	0.00	0.11	0.00	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.01	0.39

Table 3.

U.C. COOPERATIVE EXTENSION
ANNUAL EQUIPMENT, INVESTMENT AND BUSINESS OVERHEAD COSTS
GLENN & BUTTE COUNTIES - 1992

ANNUAL EQUIPMENT COSTS

Yr	Description	Price	- Non-Cash Over. -			- Cash Overhead -		Total
			Yrs Life	Depre- ciation	Interest	Insur- ance	Taxes	
91	100 hp crawler	63600	12	4770	4215	175	350	9510
91	120 hp 2wd tractor	57000	17	3018	3778	157	313	7266
91	200 hp 4wd tractor	94000	12	7050	6230	258	517	14055
91	Chisel HD 16'	7500	15	450	497	21	41	1009
91	Combine no header	130000	10	11700	8616	358	715	21388
91	Cultivator rolling	7200	15	432	477	20	40	969
91	Cultivator sled	4500	15	270	298	12	25	605
91	Disc offset 21'	26500	15	1590	1756	73	146	3565
91	Disc stbl 16'	20000	15	1200	1326	55	110	2691
91	Ditcher - 5 ft	11200	20	504	742	31	62	1339
91	Header 6 row	24553	10	2210	1627	68	135	4040
91	Incorporator - 15'	21800	15	1308	1445	60	120	2933
91	Lister - 6 row	4500	15	270	298	12	25	605
91	Pickup - new	16500	7	2121	1094	45	91	3351
85	Pickup - used	8000	7	1029	530	22	44	1625
91	Planter - 6 row	14300	10	1287	948	39	79	2353
91	Saddle tank #1	1500	10	135	99	4	8	247
91	Scraper 3pt. 10'	2450	15	147	162	7	13	330
91	Triplane 16'	22500	15	1350	1491	62	124	3027
91	Truck - 2 ton	31800	10	2862	2108	87	175	5232
TOTAL		569403		43703	37737	1566	3132	86137
60% of New Cost *		341642		26222	22642	940	1879	51682

* Used to reflect a mix of new and used equipment.

ANNUAL INVESTMENT COSTS

Yr	Description	Price	- Non-Cash Over. -			- Cash Overhead -			Total
			Yrs Life	Depre- ciation	Interest	Insur- ance	Taxes	Repairs	
INVESTMENT									
	Fuel tanks & pumps	8050	20	403	485	20	40	125	1073
	Shop Building	37000	20	1850	2229	93	185	250	4607
	Shop tools	10000	15	600	663	28	55	100	1445
	Tool carrier	12200	20	549	809	34	67	100	1558
TOTAL INVESTMENT		67250		3401	4186	174	347	575	8683

Table 3. continued
ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Land rent	150.00	acre	117.00	17550
Office expense	1500.00	acre	20.00	30000

U.C. COOPERATIVE EXTENSION
 HOURLY EQUIPMENT COSTS
 GLENN & BUTTE COUNTIES - 1992

Table 4.

Yr Description	Actual Hours Used	COSTS PER HOUR							Total Oper.	Total Costs/Hr.
		-Non-Cash Depre- ciation	Over.- Interest	- Cash Insur- ance	Overhead - Taxes	Repairs	Operating Fuel & Lube			
91 100 hp crawler	1098.9	2.60	2.30	0.10	0.19	3.18	4.46	7.64	12.83	
91 120 hp 2wd tractor	746.9	2.42	3.03	0.13	0.25	3.41	6.33	9.74	15.57	
91 200 hp 4wd tractor	1168.7	3.62	3.20	0.13	0.27	4.70	10.55	15.25	22.46	
91 Chisel HD 16'	166.0	1.63	1.80	0.07	0.15	2.15	0.00	2.15	5.80	
91 Combine no header	214.5	32.73	24.10	1.00	2.00	23.62	11.86	35.48	95.31	
91 Cultivator rolling	166.0	1.56	1.72	0.07	0.14	2.07	0.00	2.07	5.57	
91 Cultivator sled	165.5	0.98	1.08	0.04	0.09	1.29	0.00	1.29	3.48	
91 Disc offset 21'	166.0	5.75	6.35	0.26	0.53	7.61	0.00	7.61	20.50	
91 Disc stbl 16'	165.5	4.35	4.81	0.20	0.40	5.74	0.00	5.74	15.50	
91 Ditcher - 5 ft	124.5	2.43	3.58	0.15	0.30	3.22	0.00	3.22	9.67	
91 Header 6 row	195.0	6.80	5.01	0.21	0.42	7.39	0.00	7.39	19.82	
91 Incorporator - 15'	165.5	4.74	5.24	0.22	0.43	6.26	0.00	6.26	16.90	
91 Lister - 6 row	166.0	0.98	1.08	0.04	0.09	1.29	0.00	1.29	3.48	
91 Pickup - new	190.7	6.67	3.44	0.14	0.29	2.92	3.35	6.27	16.81	
85 Pickup - used	147.7	4.18	2.15	0.09	0.18	1.45	2.88	4.33	10.93	
91 Planter - 6 row	119.5	6.46	4.76	0.20	0.39	7.18	0.00	7.18	18.99	
91 Saddle tank #1	139.5	0.58	0.43	0.02	0.04	0.75	0.00	0.75	1.81	
91 Scraper 3pt. 10'	165.5	0.53	0.59	0.02	0.05	0.70	0.00	0.70	1.90	
91 Triplane 16'	166.0	4.88	5.39	0.22	0.45	3.26	0.00	3.26	14.20	
91 Truck - 2 ton	26.7	64.31	47.36	1.97	3.93	7.64	3.45	11.09	128.66	

Table 5.

U.C. COOPERATIVE EXTENSION
RANGING ANALYSIS
GLENN & BUTTE COUNTIES - 1992

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE SUNFLOWER SEED

	YIELD (LB/ACRE)						
	400	700	1000	1300	1600	1900	2200
OPERATING COSTS/ACRE:							
Cultural Cost	263	263	263	263	263	263	263
Harvest Cost	20	34	49	63	78	93	107
Postharvest Cost	17	17	17	17	17	17	17
Interest on operating capital	15	15	16	16	16	16	16
TOTAL OPERATING COSTS/ACRE	315	329	345	359	374	389	403
TOTAL OPERATING COSTS/LB	.79	.47	.35	.28	.23	.20	.18
CASH OVERHEAD COSTS/ACRE	62	89	116	143	170	197	224
TOTAL CASH COSTS/ACRE	377	418	461	502	544	586	627
TOTAL CASH COSTS/LB	.94	.60	.46	.39	.34	.31	.28
NON-CASH OVERHEAD COSTS/ACRE	75	81	86	91	95	98	101
TOTAL COSTS/ACRE	452	499	547	593	639	684	728
TOTAL COSTS/LB	1.13	.71	.55	.46	.40	.36	.33

U.C. COOPERATIVE EXTENSION
RANGING ANALYSIS Table 5. continued

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR SUNFLOWER SEED

PRICE (DOLLARS PER LB)	YIELD (LB/ACRE)						
	400	700	1000	1300	1600	1900	2200
.30	-195	-119	-45	31	106	181	257
.35	-175	-84	5	96	186	276	367
.40	-155	-49	55	161	266	371	477
.45	-135	-14	105	226	346	466	587
.50	-115	21	155	291	426	561	697
.55	-95	56	205	356	506	656	807
.60	-75	91	255	421	586	751	917

NET RETURNS PER ACRE ABOVE CASH COSTS FOR SUNFLOWER SEED

PRICE (DOLLARS PER LB)	YIELD (LB/ACRE)						
	400	700	1000	1300	1600	1900	2200
.30	-257	-208	-161	-112	-64	-16	34
.35	-237	-173	-111	-47	17	80	144
.40	-217	-138	-61	19	97	175	254
.45	-197	-103	-11	84	177	270	364
.50	-177	-68	40	149	257	365	474
.55	-157	-33	90	214	337	460	584
.60	-137	3	140	279	417	555	694

NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR SUNFLOWER SEED

PRICE (DOLLARS PER LB)	YIELD (LB/ACRE)						
	400	700	1000	1300	1600	1900	2200
.30	-332	-289	-247	-203	-159	-114	-68
.35	-312	-254	-197	-138	-79	-19	43
.40	-292	-219	-147	-73	2	77	153
.45	-272	-184	-97	-8	82	172	263
.50	-252	-149	-47	58	162	267	373
.55	-232	-114	4	123	242	362	483
.60	-212	-79	54	188	322	457	593

Table 6.

U.C. COOPERATIVE EXTENSION
 COSTS AND RETURNS / BREKEVEN ANALYSIS -
 GLENN & BUTTE COUNTIES - 1992

COSTS AND RETURNS - PER ACRE BASIS

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Sunflower seed	585	359	226	502	83	592	-7

COSTS AND RETURNS - TOTAL ACREAGE

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Sunflower seed	87750	53838	33912	75227	12523	88791	-1041
TOTAL	87750	53838	33912	75227	12523	88791	-1041

BREAKEVEN PRICES PER YIELD UNIT

CROP	Base Yield (Units/Acre)	Yield Units	Breakeven Price To Cover		
			Operating Costs	Cash Costs	Total Costs
Sunflower seed	1300.0	lb	0.28	0.39	0.46

BREAKEVEN YIELDS PER ACRE

CROP	Yield Units	Base Price (\$/Unit)	Breakeven Yield To Cover		
			Operating Costs	Cash Costs	Total Costs
Sunflower seed	lb	0.45	797.6	1114.5	1315.4