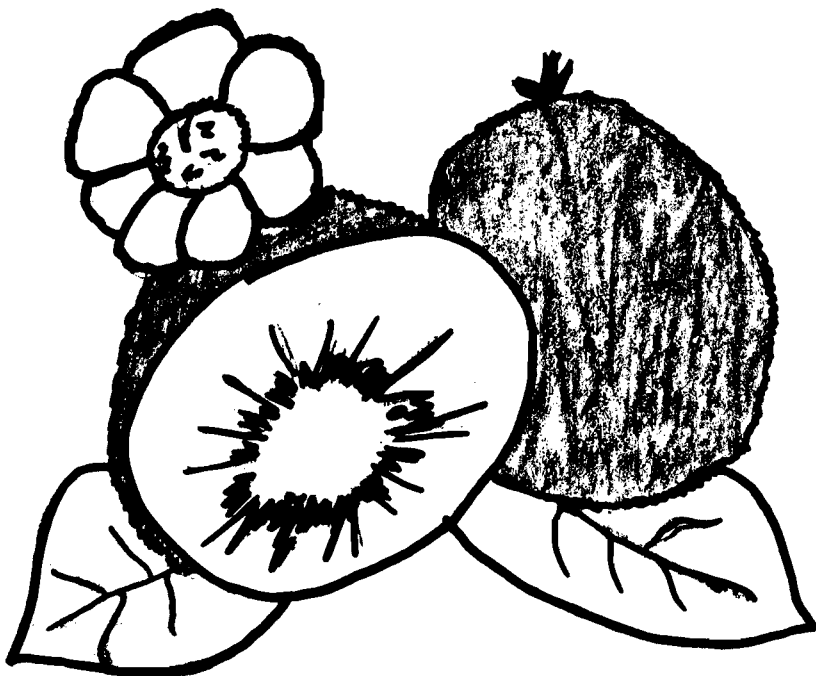


**KIWIFRUIT**

**ESTABLISHMENT**

**AND**



**PRODUCTION COSTS**

**SACRAMENTO VALLEY**

Farm Advisor's Office  
Glenn County  
March 1982  
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Cooperative Extension Work in Agriculture and Home Economics, U. S. Department of Agriculture, University of California and County of Glenn cooperating.

# COSTS OF ESTABLISHING AND PRODUCING KIWIFRUIT

SACRAMENTO VALLEY - 1982

*Bill Olson & Kathleen Kelley, Butte County*

*Bill Krueger, Glenn County*

*David Chaney & Janine Sabaloni, Sutter-Yuba County*

*Joe Osgood, Tehama County*

*James Beutel, Extension Pomologist, UCD*

*Lynn Horel, Staff Research Assoc., Ag. Econ. Dept., UCD*

This study is based on a 10-acre kiwifruit vineyard, 15' x 20' (145 vines per acre). The 10 acres of actual kiwifruit are assumed to be 660' x 660' square with a total of 1,452 plants, 44 rows with 33 vines per row. The vineyard is assumed to be owner-operated and to consist of 12 total acres allowing for 10 acres of actual plants with the remainder used for roads, farm shop, etc. The following assumptions will help to explain the study:

1. All labor costs \$5.00/hr, which includes fringe benefits.
2. The T-bar trellis system is used. The cost for the trellis is detailed on a separate page.
3. Hired management may be required for absentee owners and large vineyards. For a 10-acre vineyard it is assumed that the owner is the manager and supplies part of the labor. Costs are shown as if all labor were hired.
4. Windbreaks are assumed to be used in some vineyards. If they are desired, they may consist of poplar trees planted 3 feet apart as an outside row on the windward side or sides of the vineyard. The cost is about \$100 for planting a single row of poplar cuttings on one side of a 10-acre vineyard. A windbreak may be needed in the center if the wind is severe or on more than one side. Each 660 feet of windbreak would cost about \$100. Using bare root or container grown trees from a nursery could cost from \$400 to \$600 per row.
5. Although cash receipts are displayed and used for calculations in the same year as the crop is harvested, it should be noted that payment is usually not received until the following year.
6. The irrigation system is a dual system using overhead sprinklers for frost control and drip irrigation for irrigating young vines. Cost details are on a separate page. The cost of pumping water is \$25/acre foot. Water is applied as follows:

4 ac. ft. in year 1

5 ac. ft. in year 2

6 ac. ft. in year 3 and following years

7. Pruning and training is performed as follows: dormant pruning in December and January; summer pruning, training and tying canes during June-September.

	<u>Per Acre</u>		
	<u>Dormant Prune</u>	<u>Train &amp; Tie</u>	<u>Materials</u>
Year 1	-----	20 hrs.	\$10
Year 2	5 hrs.	25 hrs.	\$10
Year 3	24 hrs.	40 hrs.	\$15
Year 4	48 hrs.	50 hrs.	\$20
Full Bearing	145 hrs.	150 hrs.	\$30

8. Mowing for weed control is performed as follows:

Years 1, 2, 3, 4: 10 times -- Each time takes 4 hrs./10 ac.  
or 4 hrs./ac. of man and tractor per year.

Full production: 8 hrs./ac. with addition of swing mowing.

9. Fertilizer -- Cost of 35¢/lb. for nitrogen -- urea or equivalent.  
Application requires 1 hour per acre of labor.

Year 1 -- None

Year 2 -- 1/4 lb. nitrogen/vine split in 3 applications

Year 3 -- 1/2 lb. nitrogen/vine split in 2 applications

Year 4 -- 1 lb. nitrogen/vine split in 2 applications

Mature -- 200 lbs. nitrogen/acre split in 2 applications

This study represents typical costs and operations for the Sacramento Valley area. Industry averages have not been used. In particular, trellis and irrigation systems and their associated investment costs vary widely. It is extremely important to point out that the costs for these two items will be incurred in the first year of establishing the vineyard. In this study these two items were assumed to be financed. Costs associated with the purchase of them is represented as investment costs of depreciation and interest. It is possible, and may be more appropriate in some cases, to include these costs as pre-harvest cash costs.

SAMPLE COSTS TO PRODUCE Kiwifruit

500, 1700

Sacramento Valley

County - Date 1982

Labor @ \$5.00/hr

Production data: Yield: 8 tons (2285 trays) of packed fruit per acre. including fringes

Operation	Hours Per Acre	Cash and labor cost per acre			Your Costs
		Labor	Fuel and repairs	Materials Kind and Quantity Cost	
Cultural costs					
Pre-emergence herbicide	1.0	5.00		materials 55.00	60.00
Hand weed	7.0	35.00			35.00
Pest control				materials&appl. 50.00	50.00
Fertilize	1.0	5.00		200 lbs N @ 35¢ 70.00	75.00
Dormant prune	145.00	725.00			725.00
Summer prune and tie	50.00	250.00		materials 30.00	280.00
Brush removal		2.00	3.00		5.00
Mow	8.00	40.00	48.00		88.00
Irrigate & frost control	5.00	25.00		power to pump 6 ac. ft. @ \$25 150.00	175.00
Bees: 2 hives @ \$10				20.00	20.00
Repairs				40.00	40.00
Misc. labor & materials				35.00	35.00
Interest on operating capital (1/2 yr @ 16%)				127.00	127.00
<b>TOTAL CULTURAL COSTS</b>		1087.00	51.00	577.00	1715.00
Harvest Costs					
Pick (75-80% packout)				20,000 lbs @ 2-1/2¢ 500.00	500.00
Haul				10 tons @\$5.00 50.00	50.00
Pack and store				2,285 trays @ \$3.30 7540.00	7540.00
Forklift	3.0	15.00	18.00		33.00
Selling charges				2,285 trays @ \$1.00 2285.00	2285.00
<b>TOTAL HARVEST COSTS</b>		15.00	18.00	10375.50	10408.50
Cash overhead					
Misc., office, etc.				962.50	962.50
Taxes				252.00	252.00
<b>TOTAL CASH OVERHEAD</b>				1214.50	1214.50
<b>TOTAL CASH COST</b>		1102.00	69.00	12167.00	13338.00
<b>INVESTMENT</b>	<b>Per Acre</b>	<b>Annual Cost</b>			
Land	\$ 8500	<b>Depreciation</b>	<b>Interest @14%</b>		
4-yr-old vines	21716			1190	
Irrigation system	4200	724		1520	
Pump, OH sprinkler&drip		280		294	
Equipment & buildings	5742	591		402	
Trellis	1612	107		113	
<b>Total</b>	<b>\$41770</b>	<b>1702</b>		<b>3519</b>	<b>5221.00</b>
<b>TOTAL COST PER ACRE</b>					<b>\$18459.00</b>

COSTS TO ESTABLISH KIWI FRUIT VINEYARD

Sacramento Valley - 1982

Costs Per Acre

	1st Year	2nd Year	3rd Year	4th Year
Yield: 7-Lb. Trays Per Acre	--	--	--	500
<b>Pre-Harvest Cash Cost:</b>				
Contract Land Level	110.00	--	--	--
Contract Ripping	300.00	--	--	--
Fumigation: Materials & Appl.	400.00	--	--	--
Pre-Emergence Herbicide, 5' wide	--	60.00	60.00	60.00
Stake & Layout	100.00	--	--	--
Install Trellis: (see p.7 for materials cost), \$1.50/Post	225.00	--	--	--
Install Wire: 24 Hrs. Labor	120.00	--	--	--
Vines: 145 @ \$10 (7 replants, 2nd Yr.)	1,450.00	70.00	--	--
Contract Plant: @ 50¢/Vine (\$1.00/vine 2nd Yr.)	72.50	7.00	--	--
Handweed 3x: 36 Hrs., 1st Yr.	180.00	--	--	35.00
Dormant Prune:	12.50	25.00	120.00	240.00
Train, Tie, Sucker	110.00	135.00	215.00	270.00
Brush Removal	--	--	--	5.00
Mow	44.00	44.00	44.00	44.00
Irrigation (Frost Control):				
Pumping Power	100.00	125.00	150.00	150.00
Labor	25.00	25.00	25.00	25.00
Fertilize: Materials and application	--	17.60	30.20	55.75
Bees: 2 Hives @ \$10	--	--	20.00	20.00
Misc. Labor & Materials	30.00	30.00	30.00	30.00
Taxes, Real & Pers. Property	185.00	185.00	185.00	185.00
Repairs	40.00	40.00	40.00	40.00
Office & Business Costs	280.00	61.00	74.00	93.00
Interest on Operating Capital	303.00	66.00	80.00	100.00
<b>Pre-Harvest Cash Costs</b>	<b>4,087.00</b>	<b>890.60</b>	<b>1,073.20</b>	<b>1,352.75</b>
<b>Harvesting Costs:</b>				
Pick	--	--	--	87.50
Haul	--	--	--	22.50
Forklift Use:	--	--	--	16.50
Pack and Store	--	--	--	1,650.00
Selling Charges	--	--	--	500.00
<b>Total Harvesting Costs</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2,276.50</b>
<b>TOTAL CASH COSTS</b>	<b>4,087.00</b>	<b>890.60</b>	<b>1,073.20</b>	<b>3,629.25</b>
<b>Depreciation:</b>				
Trellis	107.00	107.00	107.00	107.00
Irrigation System	280.00	280.00	280.00	280.00
Buildings & Equipment	591.00	591.00	591.00	591.00
<b>TOTAL DEPRECIATION</b>	<b>978.00</b>	<b>978.00</b>	<b>978.00</b>	<b>978.00</b>
<b>Interest on Investment @ 14%</b>				
Trellis	113.00	113.00	113.00	113.00
Irrigation System	294.00	294.00	294.00	294.00
Buildings & Equipment	402.00	402.00	402.00	402.00
Land	1,190.00	1,190.00	1,190.00	1,190.00
Interest on Accumulated Costs	--	989.00	1,669.00	2,470.00
<b>Total Interest on Investment</b>	<b>1,999.00</b>	<b>2,988.00</b>	<b>3,668.00</b>	<b>4,469.00</b>
<b>TOTAL COST FOR THE YEAR</b>	<b>7,064.00</b>	<b>4,856.60</b>	<b>5,719.20</b>	<b>9,076.25</b>
Credit for Fruit @ \$10/Tray	--	--	--	5,000.00
<b>NET COST FOR THE YEAR</b>	<b>7,064.00</b>	<b>4,856.60</b>	<b>5,719.20</b>	<b>4,076.25</b>
<b>ACCUMULATED NET COST</b>	<b>7,064.00</b>	<b>11,920.60</b>	<b>17,639.80</b>	<b>21,716.05</b>

EQUIPMENT INVESTMENT FOR KIWIFRUIT PRODUCTION

Sacramento Valley - 1982

Item	Cost	Years Life	Annual Depreciation
Tractor, 50 HPWD *	\$16,000	10	\$1,600
Mower, Rotary	6,000	10	600
Weed Sprayer, PTO used	2,000	10	200
Front End Forklift Attachment	4,000	10	400
Tape Guns, 2 @ \$40 each	80	5	16
Picking Bags, 6 @ \$20 each	120	5	24
Farm Shop	15,000	20	750
Pickup	9,000	5	1,800
Misc. Equipment	5,220	10	522
			<u>5,912</u>

*20 Ac*  
*10 or 40 Ac*  
TOTAL INVESTMENT \$57,420

Per Acre on 10 Acres \$ 5,742

Depreciation per Acre \$ 591

Interest per Acre \$ 402

\* For smaller acreages, a smaller tractor could suffice.

FIRST YEAR IRRIGATION SYSTEM AND TRELLIS INVESTMENT - KIWIFRUIT

Sacramento Valley - 1982

Item	Cost	Cost Per Acre	Years Life	Depre- ciation	Interest
<u>IRRIGATION SYSTEM:</u>					
(dual system)					
(1) Sprinkler (overhead frost control system)					
Pump 30 hp turbine (installed)	9,000.00	900			
Well	6,000.00	600			
PVC, mainline, etc. (installed)	18,000.00	1,800			
(2) Drip	5,000.00	500			
Pump 4 hp submersible	4,000.00	400	15	280	294
TOTAL COST	42,000.00	4,200			
<u>TRELLIS: (for 10 Acres)</u>					
(1) Treated Posts: 5", 9' notched 1,496 @ \$5.85 each   Ⓢ 4 +	8,751.60				
(2) Bolts, Nut & Washers, Drill Holes: 1,496 @ 60¢ each	897.60				
(3) Deadman Assembly: <u>either</u> rebar, cement & anchor OR, post & earth anchor 88 @ \$10 (installed)	880.00				
(4) Crossarms: 6', 2" x 6" treated with end crossarms doubled <sup>80 2"</sup> 1,584 @ \$2.25 each   Ⓢ 1	3,564.00				
(5) Braces: 1" x 4" wood OR wire twisted from 2 x 6 to lag screw on post 1,496 @ 60¢ each (installed)	897.60				
(6) Vine Stakes: 6', 1,496 @ 60¢ each	871.20				
(7) Wire: 13 gauge, high tensil, 4 wire (3 top, 1 on post) 30 rolls for 10 acres (3 rolls/acre) @ \$40/roll	120.00				
(8) Staples: 100 lbs. @ 75¢/lb.	75.00				
(9) Chain Grab Puller: \$65	65.00				
TOTAL COST	\$16,122.00	\$1,612.20	15	\$107.48	\$112.85