

1986
SAMPLE PRODUCTION & ESTABLISHMENT COSTS FOR FANTASIA NECTARINES
Tulare, Fresno & Kings Counties

by

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Costs given in this sample study are for those of a typical well managed orchard and are not intended to reflect an average of all orchards in Tulare, Fresno and Kings Counties.

This study is based upon a 10 acre block out of a 40 acre total fruit orchard. The same machinery, pump and some other costs are shared on the whole orchard.

Practices listed are based on those considered typical production procedures. Sample costs given for labor, materials, equipment and contract services are based on 1986 figures. Interest and depreciation are based upon the cost of new equipment and recent land purchases. Some costs or practices listed in this study may not be applicable to your situation. The study is intended as a guide only.

For explanation of calculations used for the study refer to the attached cost estimate assumptions or call Agriculture Economics Extension, University of California, Davis, California (916) 752-3563.

ESTABLISHMENT COST ASSUMPTIONS:

108 trees/acre

Furrow irrigation: 50% district water, 50% well water

Land owner basis

1. Land Preparation in October:

Contract land leveling (laser) \$125.00/acre
Contract chiseling \$ 60.00/acre

2. Fumigate soil for nematodes in October:

Fumigation often done at the same time as chiseling.

Materials: soil fumigant 40 gal/ac @ \$7.50/gal = \$350/acre

Application - contract \$17.00/acre

3. Disc in October and November:

Year 1: Disc and float- .63 hours of labor and machinery
4 times per year = \$40.00/acre

Years 2-4: Disc only- .63 hours of labor and machinery
3 times per year = \$25.00/acre

4. Plant in February:

Year 1:

Trees, non-patented variety (1/2 inch) 108 trees/acre
@\$3.50/tree = \$378.00/acre

(Add approximately \$1.75/tree for royalty is patented variety)

Contract labor, 108 trees/acre @ \$.75/tree = \$81.00/acre
hand done (not machine planting)

Painting: Materials- \$5.00/acre, Labor- 1 hr/acre @
\$5.50/hr = \$10.50/acre

Year 2:

Replant in February 2 trees/acre @ \$3.50/acre = \$7.00/acre

Contract labor, \$2.00/acre

5. Prune and Train:

Calculated for 108 trees/acre with a labor rate of \$5.50/hr

Year	Minutes/Tree	Hrs/Acre	Cost/Acre
2	2	3.6	\$19.80
3	5	9.0	\$49.50
4	15	27.0	\$148.50

6. Brush Disposal:

Years 3 and 4: Contract @ \$12.50/acre

7. Furrow in March, May, July:

3 times each year, for .57 hour each time = \$20/acre

8. Fertilize:

Calculated for 108 trees/acre, with N @ \$.40/lb and a contract application cost of \$4.25/acre per application.

Year	Lbs of N Per Tree	Material Cost/Acre	# Appli- cations	Total Material Cost/Acre	Application Cost/acre
1	.125	\$5.40	May(1)	\$5.40	\$4.25
2	.250	\$10.80	May&Dec(2)	\$21.60	\$8.50
3	.375	\$16.20	May&Dec(2)	\$32.40	\$8.50
4	.340	\$14.69	May(1)	\$14.69	\$4.25
4	.660	\$28.51	Oct(1)	\$28.51	\$4.25

9. Irrigation:

Furrow irrigation system includes:

Pipeline \$300/acre x 40 acres	\$12,000
Well - 120 ft, 10" gauge casing	2,300
	\$14,300

Pump: 15 hp, 70 ft lift, 450 gal/min = 1.0 ac.in./hr,	\$7,900
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irrigation labor - 1 hr/applicaition/acre 9 x per year
District water cost: \$15.00/acre 100% rights

Year	Acre Inches
1	10
2	14
3	28
4	36

10. Pest Control:

Materials:

July: Miticide - @ \$25.00/lb

Jan.: dormant spray materials to control San Jose scale, peach twig borer, peach leaf curl, mealy plum aphid, zinc deficiency and over wintering mite eggs.

Basic Zinc: 3 lb/100 gal of water @ \$.70

Spray oil: 1 gal/100 gal of water @ \$2.70

Parathion (25wp): 2 lb/100 gal of water @ \$1.00/lb

Basic copper: 4 lb/100 gal of water @ \$1.35/lb

Year	Season	Materials	Amounts/Acre	Cost/acre	Applic. Cost/Ac
1	July	Miticide	.25 lbs	\$6.25	\$7.00
2	Dormant	Basic Zinc	3 lbs/100 gal water x 1.25 (125 gal/ac)	\$2.63	
		Spray Oil	1 gal/100 gal water x 1.25 (125 gal/ac)	\$3.38	
		Parathion	2 lbs/100 gal water x 1.25 (125 gal/ac)	\$2.50	
		Basic Copper	4 lbs/100 gal water x 1.25 (125 gal/ac)	\$6.75	
	July TOTALS:	Miticide	.25 lbs	<u>6.25</u>	
				\$21.51	\$12.00
3	Dormant	Basic Zinc	3 lbs/100 gal water x 2.50 (250 gal/ac)	\$5.25	
		Spray Oil	1 gal/100 gal water x 2.50 (250 gal/ac)	\$6.75	
		Parathion	2 lbs/100 gal water x 2.50 (250 gal/ac)	\$5.00	
		Basic Copper	4 lbs/100 gal water x 2.50 (250 gal/ac)	\$13.50	
	July TOTALS:	Miticide	.5 lbs	<u>12.50</u>	
				\$43.00	\$12.00
4	Dormant	Basic Zinc	3 lbs/100 gal water x 4.0 (400 gal/ac)	\$8.40	
		Spray Oil	1 gal/100 gal water x 4.0 (400 gal/ac)	\$10.80	
		Parathion	2 lbs/100 gal water x 4.0 (400 gal/ac)	\$8.00	
		Basic Copper	4 lbs/100 gal water x 4.0 (400 gal/ac)	\$21.60	
	July TOTALS:	Miticide	.8 lbs	<u>20.00</u>	
				\$68.80	\$24.00

11. Weed Control

Labor: \$5.50/hr Materials: Roundup or Paraquat

Year	Season	Labor and Appli- Cation Costs/acre	Material Cost/acre	Total Cost/acre
1	May-Sep	3 hrs = \$16.50	\$7.50	\$24.00
2	May-Sep	1 hr = \$5.50	\$7.50	\$13.00
	Dec	contract = \$7.00	\$12.00	\$19.00
3	May-Sep	1 hr = \$5.50	5.00	\$10.50
	Dec	contract = \$7.00	\$12.00	\$19.00
4	May-Sep	1 hr = \$5.50	7.50	\$13.00
	Dec	contract - \$7.00	12.00	\$19.00

12. Labor Rates include benefits

Machinery Operators \$6.50/hr
 Irrigators \$6.50/hr
 Field Labor \$5.50/hr

13. Buildings and Equipment:

	40 Acres	Per Acre
Farm shop 1500 sq ft. @ \$12/sq ft. =	\$18,000	\$450.00
Tools and shop equipment	12,285	\$307.13

14. Land owned:

Land value \$5500/acre Land tax \$55/acre
 County taxes: \$71.34 (1% of land and equipment costs)

15. Bookkeeping and misc. office: \$100/acre

16. Machinery costs:

PRODUCTION COST ASSUMPTIONS FOR FANTASIA NECTARINES:

1. Prune in January:

Labor - 36 min/tree x 108 trees/acre (/60 min/hr) = 64.8 hrs/acre
64.8 hrs/acre @ \$5.50/hr = \$356.40/acre

Brush shredding - contract \$12.50/acre

2. Pest Control:

Jan: Basic zinc

3 lbs/100 gals of water x 5 (for 500 gals/acre) = \$10.50/acre

Spray oil

1 gal/100 gals of water x 5 (for 500 gals/acre) = \$13.50/acre

Parathion

2 lbs/100 gals of water x 5 (for 500 gals/acre) = \$15.00/acre

Basic copper

4 lbs/100 gals of water x 5 (for 500 gals/acre) = \$27.00/acre

Total dormant materials (1 application) = \$66.00/acre

Dormant spray to control San Jose scale, peach twig borer, peach leaf curl, zinc deficiency and overwintering mite eggs.

Feb: Fungicide (benomyl) for brown rot 1.5 lbs/ac @ \$14.5/lb = \$21.75/ac

Mar: Insecticide, petal fall, for thrips 1.25 lb/ac = \$28.44/ac

July: Fungicide (benomyl) for brown rot 1.5 lbs/ac @ \$14.5/lb = \$21.75/ac

Insecticide, pre-harvest for thrips 1.25 lb/ac = \$28.44/ac

Miticide 1 lb/acre @ \$25/lb = \$25.00/ac

Application - speed sprayer, 500 gals pulled by 65 hp diesel tractor, 1 pass in orchard each application. Contract @ \$25/acre.

3. Tie limbs in February:

Labor and materials, 108 tree/acre @ \$.80/tree = \$86.40

4. Furrow in March, May, July:

Furrower, 2 shovel pulled by 65 hp diesel tractor - 1 pass in orchard each month.

March prior to frost

May after thinning

July after discing

5. Thin fruit in May:

Labor - 43.2 hrs/acre @ \$5.50/hr = \$237.60/acre

11. Pickup: 300 miles/acre/year

12. Harvest in July:

Contract harvest, 1300 lugs/acre

Pick: \$.75/lug = \$975/acre

Haul: \$.10/lug = \$130/acre

Packing charges: \$2.45/lug = \$3185/acre

Selling charges: \$.55/lug = \$715/acre

Misc. Labor: \$15/acre

13. Labor rates include benefits:

Machinery operators: \$6.50/hr

Irrigators: 6.50/hr

Misc. Labor: 5.50/hr

14. Buildings and equipment

	<u>40 acres</u>	<u>Per acre</u>
Farm shop = 1,500 sq.ft. @ \$12/sq.ft.	\$18,000	\$450.00
Tools and shop equipment	12,285	\$307.13

15. Land owned:

Land value \$5,500/acre Land Tax = \$55

County tax = \$71.34 (1% of land plus equipment costs)

16. Bookkeeping and misc office: \$100/acre

17. Equipment costs:

In allocating the equipment costs per acre, the following calculations were made: (a) "Original Cost" of equipment is the new cost including sales tax. (b) "Depreciation" is the new cost per acre divided by the years of life. (c) "Interest" on investment is figured as one-half of the new cost per acre multiplied by the interest rate. One-half of the new cost is the average value of the equipment during its useful life. (d) The investment per acre used in the cost study is calculated at 60% of the depreciation and interest costs for all new equipment to reflect a mix of new and used equipment.

18. Establishment costs per acre:

20 year life of trees assumed.

Establishment	Year 1	\$2451	
	Year 2	1602	
	Year 3	1741	
	Year 4	<u>1347</u>	adjusted for credit from pro-
		\$7141	duction

The establishment costs are divided by 20 years. Interest on investment is calculated at 13%. The annual costs of investment in the trees are:

depreciation: \$114.07

interest: \$106.21