

WALNUT
ORCHARD

COSTS
FROM
PLANTING TO PICKING
1960

Agric. Reference Service

UNIVERSITY OF CALIFORNIA
AGRICULTURAL EXTENSION SERVICE
TEHAMA COUNTY

Prepared by:

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Red Bluff, California**

ESTABLISHING A WALNUT ORCHARD IN TEHAMA COUNTY - 1960

This cost study was designed to give an idea of expected costs per acre involved in establishing a walnut orchard. The figures represent typical costs under assumed conditions. These conditions are as follows: 40 acres of level land, valued at \$1,000.00 an acre, \$130.00 per acre for buildings (this does not include a dwelling), \$80.00 for an irrigation system, and 38 acres in trees planted at 60 foot centers with 12 trees to the acre.

All labor is figured at \$1.50 an hour.

Irrigation water is figured at a cost of \$6.00 per acre per year.

A wheel tractor, 100 gallon spray rig and all other needed tilling and digging implements were computed at retail value the first year. The cost of a fertilizer spreader was added in the third year and a 400 gallon speed sprayer the seventh year. No harvest, hulling, or drying equipment has been considered.

Major variations from these per acre costs will occur with variation of size of planting, utilization of machinery already on hand, incidence of disease and insect pest infestation, and land value.

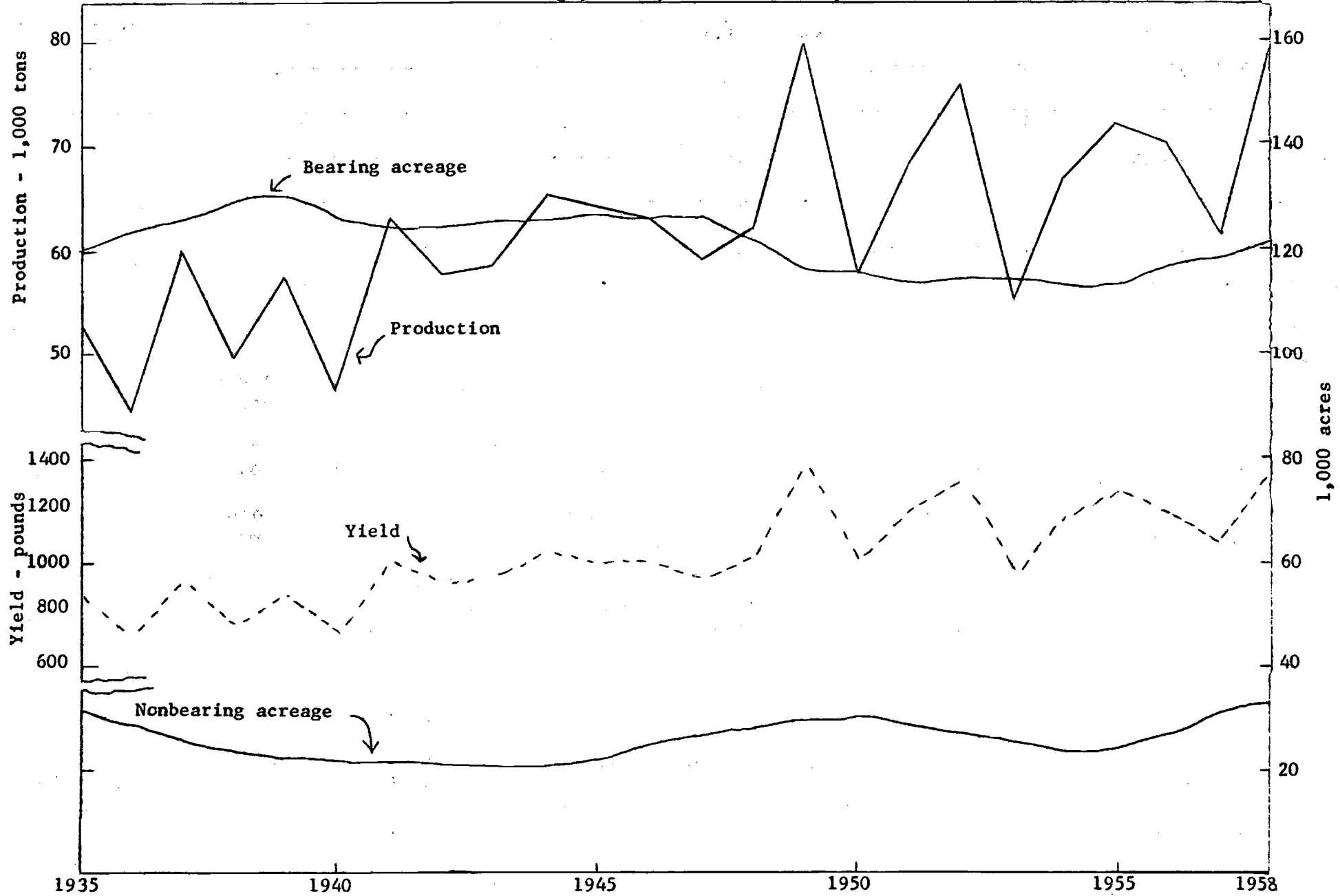
No effort was made to determine the relationship of an intercrop to these costs, however, the 60 foot centers were designed for such a combination enterprise.

The total cost per acre will remain about constant from the seventh year until self-sustaining, between the seventh to tenth year, depending on variety, vigor, and other factors.

SUMMARY OF FIRST SEVEN YEARS

| YEAR | LABOR | EQUIPMENT | MATERIALS | TOTAL CASH COSTS | INTEREST | Depreciation | TOTAL FIXED COSTS | TOTAL ALL COSTS | TOTAL INVEST. |
|------|-------|-----------|-----------|------------------|----------|--------------|-------------------|-----------------|---------------|
| 1st | 30.00 | 5.00 | 60.00 | 95.00 | 71.50 | 19.50 | 91.00 | 186.00 | 1,380.00 |
| 2nd | 25.00 | 4.00 | 20.00 | 50.00 | 83.00 | 19.50 | 102.50 | 157.50 | 1,566.00 |
| 3rd | 22.00 | 6.00 | 17.00 | 45.00 | 92.00 | 19.50 | 111.50 | 156.50 | 1,723.50 |
| 4th | 25.00 | 6.00 | 19.00 | 50.00 | 101.50 | 19.50 | 121.00 | 171.00 | 1,880.00 |
| 5th | 24.00 | 6.00 | 20.00 | 50.00 | 112.00 | 19.50 | 131.50 | 181.50 | 2,051.00 |
| 6th | 25.00 | 6.00 | 23.00 | 54.00 | 120.00 | 19.50 | 139.50 | 193.50 | 2,232.50 |
| 7th | 22.00 | 7.00 | 23.00 | 52.00 | 137.00 | 23.50 | 160.50 | 212.50 | 2,526.00 |

WALNUTS: Acreage, Yield, and Production, California



SAMPLE COSTS TO ESTABLISH WALNUT ORCHARD
First Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | Total | Your Cost Per Acre |
|--------------------|------------|-------------------|----------------------|-------------|--------------------|--------------|-----------------------|
| | | | Labor | Equipment | Materials | | |
| Disc | Nov. | .5 | .75 | .50 | | 1.25 | |
| Layout | Jan. | 1.0 | 1.50 | | 12 Markers .60 | 2.10 | |
| Dig Holes | Jan.-Feb. | .5 | .75 | .30 | | 1.05 | |
| Plant & Prune | Jan.-Feb. | 1.5 | 2.25 | | 12 Trees 36.00 | 38.25 | |
| Whitewash | Jan.-Feb. | 1.0 | 1.00 | | .50 | 1.50 | |
| Stake | Jan.-Feb. | 1.5 | 2.25 | | 12 Stakes 6.00 | 8.25 | |
| Watering | Jan.-Feb. | 1.5 | 2.25 | .75 | | 3.00 | |
| Disc 2 times | April | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Furrow 3 times | March-Aug. | .6 | .90 | .60 | | 1.50 | |
| Disc Furrows twice | May-July | .5 | .75 | .50 | | 1.25 | |
| Irrigate 6 times | April-Aug. | 3.0 | 4.50 | .50 | Water 6.00 | 11.00 | |
| Hoe | May | 2.0 | 3.00 | | | 3.00 | |
| Spray 1 time | June-Sept. | .5 | .75 | .50 | Miticide .25 | 1.50 | |
| Tie - 2 times | | 2.0 | 3.00 | | | 3.00 | |
| Taxes | | | | | 8.00 | 8.00 | |
| Misc. | | | 4.85 | .35 | 2.65 | 7.85 | |
| | | Total | 30.00 | 5.00 | 60.00 | 95.00 | |
| | | Investment | Per Acre | | Annual Cost | | |
| | | Land | \$1,000.00 | | Depreciation | Interest 6% | |
| | | Bldgs. | 130.00 | \$ | 4.33 | \$60.00 | |
| | | Irrigation | 90.00 | | 4.50 | 3.90 | |
| | | Equipment | 160.00 | | 10.67 | 2.70 | |
| | | Total | \$1,380.00 | | \$19.50 | 4.90 | |
| | | | | | | 91.00 | |

Total Cost Per Acre 186.00

SAMPLE COSTS TO ESTABLISH WALNUT ORCHARD
Second Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | Total | Your Cost Per Acre |
|----------------------|-------------------|----------------|----------------------|----------------|---------------------|--------------|--------------------|
| | | | Labor | Equipment | Materials | | |
| Fertilize | Dec.-Feb. | 1.0 | 1.50 | | 6 lbs. Nitrogen .90 | 2.40 | |
| Replant | Dec.-Feb. | 1.0 | 1.50 | | 1 Tree 3.00 | 4.50 | |
| Prune & Train | March | 1.0 | 1.50 | | | 1.50 | |
| Hoe | Feb. & June | 4.0 | 6.00 | | | 6.00 | |
| Disc cover crop | April | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Furrow 3 times | March-July | .6 | .90 | .60 | | 1.50 | |
| Irrigate 6 times | March-Aug. | 3.0 | 4.50 | .50 | Water 6.00 | 11.00 | |
| Disc furrows | | | | | | | |
| 2 times | May-July | .5 | .75 | .50 | | 1.25 | |
| Spray 1 time | June-Sept. | .5 | .75 | .50 | Miticide .50 | 1.75 | |
| Retie & Summer Prune | May-Aug. | 3.0 | 4.50 | | | 4.50 | |
| Taxes | | | | | 8.00 | 8.00 | |
| Misc. | | | 2.60 | .90 | 1.60 | 5.10 | |
| Total | | | 26.00 | 4.00 | 20.00 | 50.00 | |
| | | | Annual Cost | | | | |
| Investment | Per Acre | | Depreciation | Interest 6% | | | |
| Land | \$1,000.00 | | \$ | \$60.00 | | | |
| Bldgs. | 130.00 | | 4.33 | 3.90 | | | |
| Irrigation | 90.00 | | 4.50 | 2.70 | | | |
| Equipment | 160.00 | | 10.67 | 4.80 | | | |
| Trees | 186.00 | | <u> </u> | <u>11.60</u> | | | |
| Total | \$1,566.00 | | \$19.50 | \$83.00 | | | 102.50 |

Total Cost Per Acre 152.50

SAMPLE COSTS TO ESTABLISH WALNUT ORCHARD
Third Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | Total | Your Cost Per Acre |
|--------------------|-------------------|----------------|----------------------|----------------|---------------------|---------------|--------------------|
| | | | Labor | Equipment | Materials | | |
| Fertilize | Dec.-Feb. | .3 | .45 | .25 | 6 lbs. Nitrogen .90 | 1.60 | |
| Prune & Train | March | 2.0 | 3.00 | | | 3.00 | |
| Hoe | June | 1.0 | 1.50 | | | 1.50 | |
| Disc cover crop | April | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Furrow 2 times | April & July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Irrigate 5 times | May-Aug. | 5.0 | 7.50 | .50 | Water 6.00 | 14.00 | |
| Disc furrows twice | May-July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Spray 1 time | June-Sept. | 1.0 | 1.50 | 1.00 | Miticide 1.00 | 3.50 | |
| Summer Prune | May-Aug. | .5 | .75 | | | .75 | |
| Taxes | | | | | 8.00 | 8.00 | |
| Misc. | | | 2.80 | 1.25 | 1.10 | 5.15 | |
| Total | | | 22.00 | 6.00 | 17.00 | 45.00 | |
| | | | Annual Cost | | | | |
| Investment | Per Acre | | Depreciation | Interest 6% | | | |
| Land | \$1,000.00 | | \$ | \$60.00 | | | |
| Bldgs. | 130.00 | | 4.33 | 3.90 | | | |
| Irrigation | 90.00 | | 4.50 | 2.70 | | | |
| Equipment | 160.00 | | 10.67 | 4.80 | | | |
| Trees | <u>343.50</u> | | | <u>20.60</u> | | | |
| Total | \$1,723.50 | | \$19.50 | \$92.00 | | 111.50 | |

Total Cost Per Acre 156.50

SAMPLE COSTS TO ESTABLISH WALNUT ORCHARD
Fourth Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | Total | Your Cost Per Acre |
|----------------------------|-------------------|----------------|----------------------|-----------------|-----------------------|---------------|--------------------|
| | | | Labor | Equipment | Materials | | |
| Fertilize | Dec.-Feb. | 1.0 | 1.50 | | 12 lbs. Nitrogen 1.80 | 3.30 | |
| Prune & Train | March | 4.0 | 6.00 | | | 6.00 | |
| Remove brush | March | .5 | .75 | .50 | | 1.25 | |
| Hoe | June | 1.0 | 1.50 | | | 1.50 | |
| Disc cover crop | April | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Furrow 2 times | April-July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Disc furrows twice | May-July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Irrigate 4 times | April-Aug. | 4.0 | 6.00 | .50 | Water 6.00 | 12.50 | |
| Spray 1 time | June-Sept. | 1.0 | 1.50 | 1.00 | Miticide 1.00 | 3.50 | |
| Summer Prune | May-Aug. | .5 | .75 | | | .75 | |
| Taxes | | | | | 8.00 | 8.00 | |
| Misc. | | | 2.50 | 1.00 | 2.20 | 5.70 | |
| Total | | | 25.00 | 6.00 | 19.00 | 50.00 | |
| | | | Annual Cost | | | | |
| Investment | Per Acre | | Depreciation | Interest 6% | | | |
| Land | \$1,000.00 | | \$ | \$60.00 | | | |
| Bldgs. | 130.00 | | 4.33 | 3.90 | | | |
| Irrigation | 90.00 | | 4.50 | 2.70 | | | |
| Equipment | 160.00 | | 10.67 | 4.80 | | | |
| Trees | 500.00 | | | 30.10 | | | |
| Total | \$1,880.00 | | \$19.50 | \$101.50 | | 121.00 | |
| Total Cost Per Acre | | | | | | 171.00 | |

SAMPLE COSTS TO ESTABLISH WALNUT ORCHARD
Fifth Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | Total | Your Cost Per Acre |
|--------------------|------------|----------------|----------------------|-------------|---------------------------|--------------|--------------------|
| | | | Labor | Equipment | Material | | |
| Fertilize | Dec.-Feb. | 1.0 | 1.50 | .25 | 18 lbs. Nitrogen 2.70 | 4.45 | |
| Prune & Train | March | 4.0 | 6.00 | | | 6.00 | |
| Remove brush | March | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Disc cover crop | April | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Furrow 2 times | May-July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Irrigate 4 times | April-Aug. | 4.0 | 6.00 | .50 | Water 6.00 | 12.50 | |
| Disc furrows twice | July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Spray | June-Sept. | 1.5 | 2.25 | .75 | Miticide or Aphicide 2.00 | 5.00 | |
| Summer Prune | May-Aug. | .5 | .75 | | | .75 | |
| Taxes | | | | | 8.00 | 8.00 | |
| Misc. | | | 1.50 | .50 | | 1.30 | 3.30 |
| Total | | | 24.00 | 6.00 | | 20.00 | 50.00 |

| Investment | Per Acre | Annual Cost | |
|--------------|-------------------|----------------|-----------------|
| | | Depreciation | Interest 6% |
| Land | \$1,000.00 | \$ | \$60.00 |
| Bldgs. | 130.00 | 4.33 | 3.90 |
| Irrigation | 90.00 | 4.50 | 2.70 |
| Equipment | 160.00 | 10.67 | 4.80 |
| Trees | 671.00 | | 40.60 |
| Total | \$2,051.00 | \$19.50 | \$112.00 |

Total Cost Per Acre 181.50

SAMPLE COSTS TO ESTABLISH WALNUT ORCHARD
Sixth Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | Total | Your Cost Per Acre |
|----------------------------|-------------------|-------------------|----------------------|--------------------|---------------------------|---------------|-----------------------|
| | | | Labor | Equipment | Materials | | |
| Fertilize | Dec.-Feb. | 1.0 | 1.50 | | 24 lbs. Nitrogen 3.60 | 5.10 | |
| Prune & Train | Feb.-March | 5.0 | 7.50 | | | 7.50 | |
| Remove brush | Feb.-March | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Disc cover crop | April | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Furrow 2 times | May & July | 1.0 | 1.50 | 1.00 | | 2.50 | |
| Irrigate 4 times | May-Aug. | 4.0 | 6.00 | .50 | Water 6.00 | 12.50 | |
| Disc | July | .5 | .75 | .50 | | 1.25 | |
| Spray | June-Sept. | 1.0 | 1.50 | 1.00 | Miticide or Aphicide 3.00 | 5.50 | |
| Summer Prune | May-Aug. | .5 | .75 | | | .75 | |
| Taxes | | | | | 8.00 | 8.00 | |
| Misc. | | | 2.50 | 1.00 | 2.40 | 5.90 | |
| Total | | | 25.00 | 6.00 | 23.00 | 54.00 | |
| | | | Annual Cost | | | | |
| Investment | Per Acre | | Depreciation | Interest 6% | | | |
| Land | \$1,000.00 | | \$ | \$60.00 | | | |
| Bldgs. | 130.00 | | 4.33 | 3.90 | | | |
| Irrigation | 90.00 | | 4.50 | 2.70 | | | |
| Equipment | 160.00 | | 10.67 | 4.80 | | | |
| Trees | 852.50 | | | 48.60 | | | |
| Total | \$2,232.50 | | \$19.50 | \$120.00 | | 139.50 | |
| Total Cost Per Acre | | | | | | 193.50 | |

SAMPLE COSTS TO ESTABLISH A WALNUT ORCHARD
Seventh Year

| Operation | Dates | Hours Per Acre | CASH AND LABOR COSTS | | | | Total | Your Cost Per Acre |
|------------------|------------|----------------|----------------------|-------------|------------------|--------------|---------------|--------------------|
| | | | Labor | Equipment | Material | | | |
| Prune & Train | Feb.-March | 6.0 | 9.00 | | | | 9.00 | |
| Remove brush | Feb.-March | 1.0 | 1.50 | 1.00 | | | 2.50 | |
| Fertilize | Dec.-Feb. | .3 | .45 | .25 | 24 lbs. Nitrogen | 3.60 | 4.30 | |
| Disc cover crop | April | 1.0 | 1.50 | 1.00 | | | 2.50 | |
| Furrow 2 times | May & July | 1.0 | 1.50 | 1.00 | | | 2.50 | |
| Irrigate 3 times | April-Aug. | 3.0 | 4.50 | .50 | Water | 6.00 | 11.00 | |
| Disc furrows | July | .5 | .75 | .50 | | | 1.25 | |
| Spray | June-Sept. | .7 | 1.05 | 1.80 | Miticide | 4.00 | 6.85 | |
| Taxes | | | | | | 8.00 | 8.00 | |
| Misc. | | | 1.75 | .95 | | 1.40 | 4.10 | |
| Total | | | 22.00 | 7.00 | | 23.00 | \$2.00 | |

| Investment | Per Acre | Annual Cost | |
|--------------|-------------------|----------------|-----------------|
| | | Depreciation | Interest 6% |
| Land | \$1,000.00 | \$ | \$ 60.00 |
| Bldgs. | 130.00 | 4.33 | 3.90 |
| Irrigation | 90.00 | 4.50 | 2.70 |
| Equipment | 260.00 | 14.67 | 7.80 |
| Trees | <u>1,046.00</u> | | <u>62.60</u> |
| Total | \$2,526.00 | \$23.50 | \$137.00 |

Total Cost Per Acre 212.50

3/60
100 Copies

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