

LEMONS
WESTERN RIVERSIDE COUNTY
SAMPLE COSTS OF PRODUCTION - 1968

Based upon a mature orchard, contract operated, frost protection by wind machine:

<i>CULTURAL COSTS</i>	Hrs/ Acre	Labor Cost	Equip. Cost	Materials Item	Cost	Total Cost/Acre
Cultivate and Furrow 5 X (Contract)						\$ 45.00
Fertilize 1 X (contract)				2½# N	\$35.00	37.50
Irrigate 10 X	18	\$36.00			90.00	126.00
Pest Control (contract)						90.00
Frost Protection - wind machines standing charges electricity						45.00
Prune and Brush Disposal (contract)						35.00
Remove and Replant Trees	7	12.22		2 trees	5.78	18.00
Miscellaneous						13.00
TOTAL CULTURAL COSTS						\$ 409.50

CASH OVERHEAD

Cash Overhead (office, insurance, etc.)						\$ 25.00
Taxes						150.00
TOTAL CASH OVERHEAD						\$ 175.00
TOTAL ON-TREE CASH COST						\$ 584.50

INVESTMENT OVERHEAD

	Investment/Acre	Depreciation	Interest
Land	\$5,000.00		\$300.00
Trees	1,800.00	\$ 72.00	108.00
Wind Machines	500.00	50.00	15.00
Irrigation System	150.00	15.00	4.50
	<u>\$7,450.00</u>	<u>\$137.00</u>	<u>\$427.50</u>
TOTAL DEPRECIATION AND INTEREST			\$ 564.50
TOTAL ON-TREE COST			\$1149.00

COST PER FIELD BOX AT VARYING YIELDS

Yield - Field Boxes/Acre	<u>300</u>	<u>400</u>	<u>500</u>	<u>600</u>	<u>700</u>	<u>800</u>	<u>900</u>
Total on-tree Cash Cost	\$1.95	\$1.46	\$1.17	\$0.97	\$0.84	\$0.73	\$0.65
Total on-tree Cost	3.83	2.87	2.30	1.91	1.64	1.44	1.28

Irrigation water costs vary from \$40 to \$100/acre/year. Pest Control costs vary from \$50 to \$100/acre/year.

The above sample costs are based primarily on contract rates which include interest and depreciation on equipment used.

LEMON PRODUCTION
WESTERN RIVERSIDE COUNTY

The acreage of lemons in Riverside County has for many years ranged from 3,000 to 4,000 acres. During the last few years, however, there have been few new plantings and the tree removals have reduced the acreage to a figure a little below 3,000 acres.

SOILS: Lemons do best on deep, well-drained soils. While the roots are usually concentrated in the upper two to three feet of the soil, in the more open, sandy soil they will go deeper.

IRRIGATION: This is one of the important operations in citrus culture. The area of soil occupied by roots should be supplied with moisture at all times, but excessive use of water may cause root decay, especially if drainage is poor. Test the soil for moisture at various depths as a regular practice. The moisture in the root zone is the only moisture available to the tree. The interval between irrigations in the summer usually ranges between 15 and 30 days. The amount of water applied at each irrigation is determined by both the capacity of the soil to hold water and the depth to which soil is occupied by roots. A good rule is "always irrigate dry soil, never irrigate wet soil."

FERTILIZER: Nitrogen is the element generally lacking in the soil. This is usually supplied by inorganic fertilizers and often supplemented with animal manures. Good production has been obtained where two and one-half to three pounds of actual nitrogen are applied per tree.

Sprays containing zinc and manganese should be applied where those elements are deficient. Zinc is deficient in most areas.

FROST PROTECTION: Lemons are more tender to frost than oranges or grapefruit. In many areas low winter temperatures make some form of frost protection desirable. Wind machines generally give adequate protection against light frosts. Orchard heaters are needed on nights of a severe freeze. Under most conditions a wind machine supplemented with 10 to 20 heaters per acre will give adequate protection.

SOIL MANAGEMENT: Cultivation is commonly used for weed control, but if excessive or poorly timed can be harmful. Work the soil as little as possible as all forms of tillage tend to destroy soil structure and cause water to penetrate less readily. Organic matter is often valuable where soil structure has deteriorated and water penetration is poor. The more often soil is tilled, the greater is the need for organic matter. Cover crops and animal manures are a good source of organic matter.

Non-tillage is followed in many orchards. Various herbicides are used to control weeds. Oil, monuron, diuron and simazine have been found to be effective and economical in preventing the growth of weeds when a non-tillage program is used.

PEST CONTROL: The principal pests requiring control are red spider and red scale. Fungicides are sometimes used to control brown rot both on the fruit and on the trunks of the trees.

BULLETINS: Bulletins on citrus production and marketing problems are available at the Agricultural Extension Service office.