

PRUNE PRODUCTION IN SANTA CLARA COUNTY

by

David E. Ramos, Farm Advisor
A. D. Reed, Extension Economist

Acreage

There are around 32,000 bearing acres of prunes in Santa Clara County at the present time. This represents about 31% of the 103,000 bearing acres throughout the state. There are also some 14,000 non-bearing acres in California, virtually all of which are in the Sacramento Valley. Within the county, approximately 17,000 acres are located south of Coyote. Most of this acreage should remain in production for some time, whereas the north county area is expected to lose practically all of its prune acreage within the next 10 years.

Yields

Production per acre averages 1.5 to 2 dry tons, but can vary considerably between orchards. Trees growing on deep, medium-textured soils may produce four or more dry tons per acre in years of good set. Many of these orchards will average 2.5 dry tons per acre or better. In contrast, trees growing on shallow or very heavy soil will tend to be small and the yield per acre will be relatively low. The smaller tree size in itself would not have as great an influence on yield if the number of bearing units per acre were increased. Some growers in this situation are interplanting their orchards. Care must be taken to provide extra irrigations and to minimize competition from the surrounding old trees.

Fruit Size--The following factors have a significant effect on fruit size:

1. Overcropping - In years of excessive crop, the fruit will generally be very small. A few growers have found it practical to use hand rakes early in the season to remove some of the crop. Pruning, which reduces more potential fruits than potential leaf area, should help increase fruit size. Dinitro blossom spray thinning, though risky, has been shown to be effective.
2. Potassium Deficiency - A deficiency of this element results in leaf scorch, dieback and small fruit. The problem is most severe when the trees have heavy crops. To correct a potassium deficiency, apply 25 pounds per tree of sulfate of potash, drilled into the soil to a depth of 6 to 8 inches. This massive application is needed to overcome fixation in the surface soil and maintain an available supply over several seasons. The trouble is often not eliminated, however, unless the crop is also reduced in years of heavy set.
3. Irrigation - Lack of available soil moisture while the fruit is growing causes an immediate check in growth. These fruits grow more rapidly after an irrigation, but they always remain smaller than similar fruits not allowed to suffer for water. For a discussion of prune irrigation see "Irrigating Prune Orchards in Santa Clara County".

Harvesting

Prunes in the Santa Clara Valley tend to drop easily when they are mature, whereas under interior valley conditions they tend to hang on the trees. The methods of harvest in the two areas are therefore quite different. Two or three light shakings are needed in this area compared to a single shaking in the interior valleys.

Tests have shown that mechanical shakers can selectively remove mature prunes in the coastal area. The use of mechanical shakers in the Santa Clara District should increase appreciably even with a continuation of the present practice of hand picking from the ground.

There are two approaches to a completely mechanized harvest--catching frames or a ground pickup machine. There are problems associated with both methods and it is difficult to predict which one will prove to be the most practical. There is a degree of risk involved with the use of catching equipment because of the tendency for prunes to drop when mature. A mechanical pickup operation eliminates the windfall problem. However, the pickup machine does require good land preparation, which is the biggest problem associated with its use.

SAMPLE COSTS TO PRODUCE PRUNES
SANTA CLARA COUNTY - 1964

Based on an 80-acre orchard with a yield of 2.5 dry tons per acre, trees 24' x 24' - 75 per acre. Labor at \$1.50 per hour including compensation insurance and social security.

Operation	Hours per Acre	Cash and Labor Cost per Acre			Total
		Labor	Fuel & Repairs	Materials	
Cultural Costs					
Pruning	25.0	\$37.50			\$ 37.50
Brush disposal	1.8	2.70	\$ 1.00		3.70
Cultivation & harvest preparation 10 times	5.0	7.50	8.50		16.00
Spray 3 times	1.5	2.25	5.35	\$18.00	25.60
Fertilize	.3	.45	.30	80 lb. N @ 12½¢	10.75
Irrigate					
4 times, sprinkler	4.0	6.00	2.00	Power for 20"	12.80
Prop, tie, etc.	5.0	7.50	1.00		8.50
Miscellaneous	5.0	7.50	2.00		11.00
Total Cultural	47.6	71.40	20.15	42.30	133.85
Harvest Costs					
Shake and pick 6½ tons @ \$12	60.0	75.00			75.00
Haul and box work	8.0	12.00	3.00		15.00
Dehydration				6½ tons @ \$12	75.00
Supervision	2.0	4.00			4.00
Total Harvest	70.0	91.00	3.00	75.00	169.00
Cash Overhead					
Misc., office, etc.				22.65	22.65
Taxes				50.00	50.00
Total Cash Overhead				<u>72.65</u>	<u>72.65</u>
Total Cash Cost		<i>162.40</i>	<i>23.15</i>	<i>189.95</i>	375.50
Management - 5% of 2.5 tons @ \$280					35.00
Annual Cost					
Investment	Per Acre	Depreciation		Interest	
Land	\$3,000			\$180.00	
Trees	3,055 (40 yrs.)	\$ 76.35		91.65	
Irrigation System	175	8.75		5.25	
Buildings	50	2.00		1.50	
Equipment	400	40.00		24.00	
Total Investment	\$6,680	\$127.10		\$302.40	429.50
Total Cost per Acre					840.00
Cost per ton at 2.5 ton yield					336.00

Equipment	Cost New
TD 40	\$11,000
W 30	3,750
Pickup	2,300
Truck, 2 ton	3,700
Disc 9'	1,200
Sprayer 300 gal.	4,200
Fertilizer Spreader 8'	300
Trailer	1,400
Misc.	4,150
Total	\$32,000
Per Acre (80 acres)	400

Cost per Ton at Various Yields	
Yield	Cost per Ton
1.5	\$506
2.0	400
2.5	336
3.0	294
3.5	263
4.0	240

Source: Ramos, David E. and A. DeBred. Prune Production in Santa Clara County. U.C. A.E.S. Memo. San Jose 1965