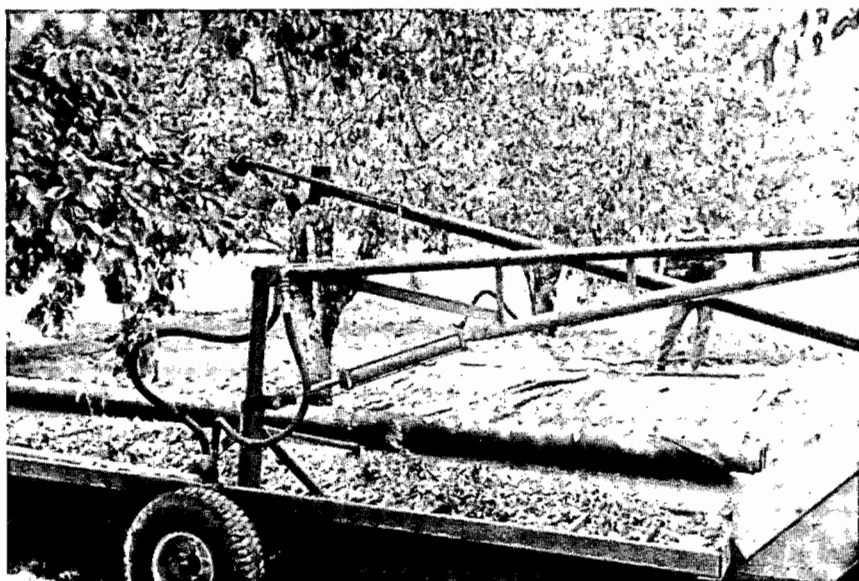


PU-NC-66-2

prune cost study



for
sonoma county

AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA

UC COOPERATIVE EXTENSION

INTRODUCTION

This cost study sets forth information to enable an understanding of the costs of producing a crop of dried prunes in Sonoma County. It may be used as a convenient guide in analyzing an individual orchard situation.

The figures in this publication resulted from grower's records. Fifty prune growers have reviewed the study and find both the operations and costs to be typical under the conditions set forth.

The value of this publication is mainly in its use as a guide to analyze a single orchard situation and for budgeting purposes. It is not intended that these data be used to establish averages for cultural practices, costs to perform a job or for price bargaining purposes. Price is a result of supply and demand rather than the cost to produce in any one year.

Two blank columns have been provided on the analysis sheet for your use for comparison purposes. Use the cost categories and existing figures in the study as a guide in calculating individual orchard profit or loss. Costs projected against a given sales price and productive level give this answer.

Growers who participated in this study supplied their actual costs on all practices, then through arbitration agreed that the figures used are a fair and honest appraisal. These are the usual practices under current costs. Orchards used for comparison are mature trees and for all practical purposes represent a complete stand. The 2.5 dry tons-per-acre yield, while slightly above the county average, is considered typical for commercial planting in Sonoma County. Abandoned orchards and trees not managed for commercial production are not included.

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TYPES OF COSTS

Three input categories are included in this study: (1) Cash Costs, (2) Depreciation Costs, and (3) Interest on Investment Cost. Each must be a part of the total picture as they are a true part of the cost of a ton of dried prunes.

Cash Costs are those annual expenditures sometimes called out-of-pocket costs--monies paid for the fertilizer, pruning, spraying, etc., where a flow of capital is obvious.

Depreciation Costs. Trees get old and must be replaced, irrigation equipment, tractors, trucks and other equipment wear out and must be replaced. These costs (which do not include regular maintenance such as gas, oil, repairs, etc.) too, are a real expense and must be accounted for annually.

Interest on Investment is, all too often, ignored as a cost except when interest is actually paid on borrowed capital. However, all capital whether invested in bonds or stocks, in fruit growing or any other business commands a return which is an important part of total production costs. For purposes of this study, a fair rate of interest is considered to be 6%. This is figured on one half the original cost of depreciable items and full value on land. Those using the cost table can substitute any interest rate which they think would be more appropriate for their purpose.

PROFIT OR LOSS

Yield (tons) per acre times price per ton less costs per acre equals profit or loss per acre. At any given price, the higher the yield, the higher the gross income and greater the opportunity for higher profit as long as costs of obtaining such yields are in line with good management practices.

Carl Reed

SAMPLE COSTS TO PRODUCE PRUNES IN SONOMA COUNTY-SPRINKLER IRRIGATED
1966

Based on an 80-acre orchard with a yield of 2.5 dry tons per acre. Drying ratio 2.5 to 1. Man labor at \$1.50 plus Social Security and Compensation Insurance, .14 = \$1.64 per hour and \$1.75 plus Social Security and Compensation Insurance, .16 = \$1.91 per hour. Cash costs per hour: 30-40 HP wheel and crawler tractors, \$1.20 & \$1.60, fork lift @ \$1, truck @ \$2, sprayer @ \$4.

	Sample Costs		Your Cost	
	Per Acre	Per Ton	Per Acre	Per Ton
PRE-HARVEST CASH COSTS:				
Prune: 75 trees @ 75¢	\$ 56.25			
Brush disposal: 1.5 man & 0.5 tractor hours	3.40			
Fertilize: 0.5 man and 0.4 tractor hours	1.60			
Fertilizer: 110 lbs. N @ 11¢ - 12.10 ÷ 1/5 K - 9.00	21.10			
Spraying: 4 times - 2 hrs.-man, tractor & sprayer	15.02			
Spray material	28.00			
Dust: once - by plane 2.00; material 1.70	3.70			
Irrigate: 3 times - 4½ man hours	7.38			
Water: power to apply 18 inches	6.00			
Cultivate: 4 hrs. - man and tractor	13.24			
Prop, tie & wire: 4 man & 2 truck hours	11.00			
Misc. labor: 6 man, 1½ tractor & 1 truck hours	14.45			
Misc. material	6.00			
County taxes	32.50			
Office, car, interest on oper. capital, etc.	21.00			
Repairs, except tractor, truck and sprayer	6.00			
TOTAL PRE-HARVEST CASH AND LABOR COSTS	\$246.64	\$ 98.65		
HARVESTING AND DEHYDRATION COSTS:				
Shake: twice & pole - 6 man & 3 tractor hours	14.25	5.70		
Pick: by hand - 6.25 T @ 12.25	76.56	30.62		
Move & Load bins: 2 man & 1 fork lift hours	4.82	1.93		
Bin rental @ 75¢/ton (fresh)	4.69	1.88		
Haul to dehydrator & return bins - 2 hrs. man & truck	7.82	3.13		
Dehydrate @ \$14 per fresh ton	87.50	35.00		
TOTAL HARVESTING AND DEHYDRATION COSTS	\$195.64	\$ 78.26		
TOTAL CASH AND LABOR COSTS	\$442.28	\$176.91		
DEPRECIATION COSTS: (Per acre on 80 acres)				
Trees: cost \$1050 - 35 year life	30.00			
Bldgs. for equip.: \$50-25 yrs.; housing \$100-30 yrs.	5.33			
Irrigation facil. (sprinkler): cost \$240 - Av. 16 yrs.	15.00			
Tractors, truck, pickup & fork lift: cost \$250 - 12½ yrs.	20.00			
Sprayer: cost \$70 - 14 yrs.	5.00			
Tillage & other equip.: cost \$100 - 10 yrs.	10.00			
TOTAL DEPRECIATION COSTS	\$ 85.33	\$34.13		
TOTAL CASH AND DEPRECIATION COSTS	\$527.61	\$211.04		
INTEREST ON INVESTMENT @ 6%: (per acre on 80 acres)				
Trees: on ½ cost (\$525)	31.50			
Bldgs. for equip. & housing: on ½ cost (\$75)	4.50			
Irrig. facil. (sprinkler): on ½ cost (\$120)	7.20			
Tractors, truck, pickup & fork lift: on ½ cost (\$125)	7.50			
Sprayer: on ½ cost (\$35)	2.10			
Tillage & other equip.: on ½ cost (\$50)	3.00			
Land at \$1,200	72.00			
TOTAL INTEREST ON INVESTMENT COST	\$127.80	\$ 51.12		
TOTAL COST OF PRODUCTION	\$655.41	\$262.16		

YIELD EFFECT ON COSTS

This cost study is based on 80 acres of orchard which uses the same types of equipment. A single crop or several types of fruit production share in costs proportionally to use, depending on the individual grower operation.

The 2.5 ton yield used in the study is typical of per-acre production of orchards studied. In the chart which follows, costs per ton at varying yields are compared when inputs and per-acre costs are held constant except for harvesting and dehydration which is figured at \$72.56 per ton, other than shaking & poling which is considered constant.

COSTS PER DRY TON AT VARYING YIELDS

	<u>Yield, dry tons per acre</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Total Cash & Labor Cost	\$333.45	\$203.01	\$159.52	\$137.78	\$124.74
Deprec. Cost	85.33	42.66	28.44	21.33	17.07
Int. Cost	127.80	63.90	42.60	31.95	25.56
Total Cost of Production	\$546.58	\$309.57	\$230.56	\$191.06	\$167.37

PRACTICE EFFECT ON COSTS

The prune industry today is changing from practices which are as old as the fruit tree to more modern methods which are increasing yields as well as reducing costs. In recent years, the prune growers in California have made more practice changes than any other group in the tree fruit industry. Mechanical harvesting equipment is replacing hand labor as rapidly as it can be perfected and the grower finds the dollars to buy. These practices are forcing changes in tree spacing, pruning method.

and fruit quality. With this investment to assure a successful rapid harvest operation, comes problems of tree injury and diseases which amplify the necessity for greater skills on the part of management to keep orchards alive and producing.

Orchards which do not have near total stands are a bad investment. Such orchards are forced to compete with not only young vigorous trees but with orchards which have many more trees per acre. This trend toward increasing tree numbers to increase yield has both research facts and grower performance to show that yields are increasing. The common spacing, 24x24 with 75 trees per acre, is in trouble and management needs to assess this situation and initiate programs to meet competition.

Spray costs are an expensive part of prune growing. Spray equipment has changed from the hand gun method of application to the speed sprayer and now to concentrate or low-volume sprayers to further reduce costs. Concentrate sprayers cover as much as six times the area from one tank load compared to the high-volume speed sprayer. Chemical costs can sometimes be reduced by as much as twenty-five per cent by using concentrate equipment.

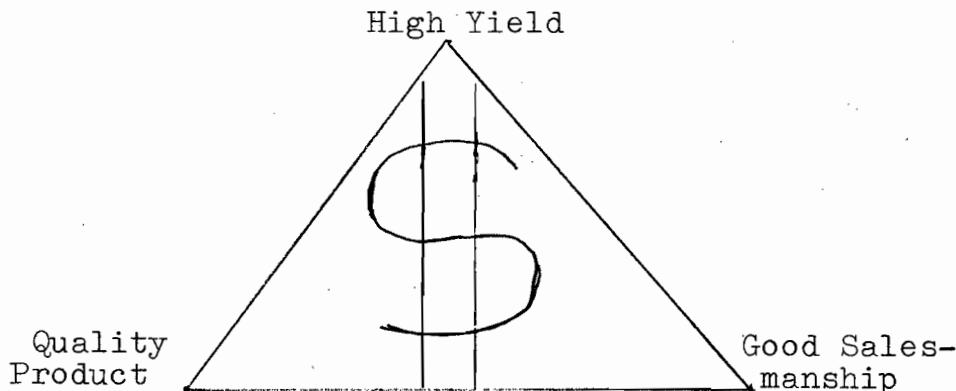
Growers who are fearful of concentrate spraying methods can be assured of satisfactory performance. The University of California has researched this practice and find it to be sound and have published recommendations. New equipment is available and high-volume, speed sprayers, can, also, be converted. (See Bulletin AXT 131)

Applying new methods to old orchards presents a far larger problem than starting out with all new methods and yet old orchards will have to compete with the total package of modern technology. All future developments should be geared to practices which will reduce costs.

WHAT IS A TON OF PRUNES WORTH?

The sale value of a crop is what the consumer is willing to pay for it. The cost to produce may remain the same but price can fluctuate widely depending on the quantity and quality of the product to be sold. The grower is faced with the problem of buying advertising to promote consumption, investing more dollars in research to get answers to unsolved problems and produce within the margins of profit or change to other crops which offer a more reasonable return on invested capital and management skills. Some growers will show profits by regulating input costs and reaching the needed yields while others will experience continued loss and neither can justify how much a crop sells for by how much it costs.

SOMETHING TO THINK ABOUT



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