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PRUNE ORCHARD
OUTLINE OF OPERATIONS AND COSTS

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This leaflet briefly outlines most of the work that has to be done in caring for a prune orchard and the approximate time and costs of the different operations on an acre basis. It is meant to be used as a guide to acquaint new or prospective prune growers with the overall requirements in the operation of a prune orchard.

We will assume a bearing French prune orchard, a little better than average, will produce two dry tons per acre. The size should be near 40 acres to give satisfactory returns.

There may be situations when a new owner would desire to have the spraying and cultivating done by a commercial operator. Tractor work would cost \$5 to \$6 per hour and spraying 2¢ to 3¢ per gallon applied plus cost of spray materials.

The equipment needed for working the soil will be a tractor, disc, harrow-float and culti-packer or roller.

For pest control -- a 400 gallon sprayer operated by power take-off from tractor. Present tendency is toward blower type sprayers. A well and tank to supply water.

A $1\frac{1}{2}$ to 2 ton capacity truck is needed for the many hauling jobs.

Miscellaneous equipment - pruning shears, saws, ladders, field boxes, props, shaking poles, platform scale, buck rake attachment, and if possible, a pruning platform.

An equipment shed to store equipment.

We have calculated all man hours of labor at \$1 per hour; TD3 size tractor hours at \$2.30, based on 400 hours use; 1/2 ton truck per hour \$1.50; and 1 1/2 ton truck at \$1.90 per hour. Other equipment has a depreciation charge. A general expense charge of 5% of the total labor and material cost is made to cover incidental costs not included.

W O R K S C H E D U L E

DORMANT PERIOD

PRUNING - It may start as trees go dormant, which is usually late November.

The recommended practice is to give a thorough pruning each year. However, some growers follow a practice of thorough pruning on a portion of the orchard one year and cutting out dead wood with a pole saw on the portion pruned thoroughly the previous year. The time required will vary according to the age and size of the trees. Thorough pruning will require at least 25 man hours per acre and pole saw work 13 hours. The work can often be done by contract labor at 60¢ to 90¢ per tree.

BRUSH DISPOSAL - Most growers use a buck rake attachment to the tractor to push the brush out to a burning area. The brush is commonly windrowed by hand before bucking. One grower has devised a windrow rake that speeds up the operation.

Brush disposal will require 2 - 3 man hours per acre and one tractor hour.

SPRAYING - This can start after trees have gone dormant and we have had enough rain to soak up the bark. To be effective in advancing bloom the job should be done by mid-January. The common practice is to use 3 gallons of dormant oil (98%) plus 1 lb. of Dinitro powder per 100 gallons of spray. The quantity to use per acre depends on tree size mostly, but should be approximately 400 gallons. The work will require 2 man and one tractor hour per acre at a cost of \$4.30. The material will cost \$1.75 per 100 gallons.

FERTILIZING - An annual application of nitrogen at 1 lb. of actual "N" per tree, applied in March a short while before the buds open, is recommended. Spreading fertilizer will take 1/2 to 1 man hour and half as much tractor time. Nitrogen fertilizer will cost about \$12.00 per acre alone, but more in complete mixtures.

Most growers depend upon a volunteer cover crop of grass, mustard, filaree, etc., but a few fall-seed vetch for this purpose.

BLOSSOM PERIOD

SPRAYING - At popcorn stage with some blossoms open to control thrips, caterpillars and brown rot. This calls for 2 lbs. of D.D.T. and 2 lbs. of Captan or other fungicide per 100 gallons of spray. The cost is \$2.52 per 100 for materials. It will require 1.5 man hours and .7 tractor hours and costs \$3.12 per acre. Another spray after petal fall may be needed in rainy season.

SAMPLE INPUTS AND COSTS FOR PRUNES IN SONOMA COUNTY - 1956
Based on Yield of 2 Dry Tons Per Acre

PRE-HARVEST	Hours Per Acre			Cost Per Acre		Your Costs
	Man	Tractor	Truck	Materials	Total	
Pruning	25.0				25.00	
Brush Disposal	2.5	1.0			4.80	
Dormant Spray	2.5	1.0		4.00	8.80	
Spring Spray (1 x)	1.5	.7		3.00	6.11	
Cover Crop	1.0	.5		1.00	3.15	
Fertilizing	1.0	.5		10.00	12.15	
Cultivation (4 x)	4.0	4.0			13.20	
Propping	3.0		2.0		6.80	
HARVESTING						
Hauling boxes, etc.	3.0		1.5		5.85	
Shaking	8.0				8.00	
Picking (Contract)					45.00	
Dehydration @ \$16 per green ton (5 T)					80.00	
Total Labor and Material	51.5	7.7	3.5	\$18.00	\$218.86	
OVERHEAD						
General Expenses (5% of above)					10.94	
Taxes					9.00	
Compensation and Lia.					7.00	
Fire Insurance					1.00	
Repairs					3.00	
Total Cash Overhead					<u>30.94</u>	
Total Cash Costs					<u>\$249.80</u>	

INVESTMENT - Based on
40 Acre Unit

Sprayer	\$3000.00	
Disc and Roller	600.00	
Fertilizer Distributor	100.00	
Ladders, Boxes, Props	1000.00	
Pruning Equip.		
Well, Tank and Pump	1500.00	
Building for Equipment	800.00	
Trees	20,000.00	
Land	40,000.00	
	<u>\$67,000.00</u>	
Annual Depreciation	582.00	14.55
5% Interest on Ave. Value of Equipment and Trees	675.00	16.87
5% Interest on Investment in land	<u>2,000.00</u>	<u>50.00</u>
Total Depreciation and Investment	\$3,257.00	\$81.42
Total Cost excpt. Management		<u>\$331.22</u>

CULTIVATION - The start will usually be made after petal fall, but in a dry year may start before bloom. The common practice is to disc twice within a 2 to 3 week interval to put the cover crop down. This is followed by a light discing and harrowing in May and a working down in June with cultipacker or float to leave the ground smooth for harvest. Late rains may make an extra cultivation necessary. Cultivation requires 3 - 4 man and tractor hours per acre, at a cost of \$3.30 per hour.

MID-SEASON PERIOD

SPRAYING - Where bud moth and spider mites are problems a spray in June, before propping, with 2 lbs. of D.D.D. and 1 lb. ovatran per 100 gallons of spray is suggested.

The time required is much the same as "popcorn" spray.

PROPPING - Prune limbs that have a heavy load of fruit need to be protected from breakage. The props are taken out into the orchard by truck or trailer and two men set the props under the limbs. After harvest, props are taken back to the storage place. This last job takes about 1/3 as much time as setting out. The time required is approximately 3 man hours per acre.

HARVESTING PERIOD

The common practice is to allow prunes to ripen on the tree and then fall to the ground. When enough prunes are down or can be dropped by a

light shake, picking starts. In most sections of the County, harvest will start near August 20. Families with children and migratory labor do much of the picking now. New methods of picking by mechanical means are gaining in acceptance. The basic prices for picking is 25¢ per field lug of 55 lbs. Where the crop is light the cost per box will be higher.

SHAKING PRUNES - Shaking prunes from the trees is done by hand with a long pole with a hook at one end. Provide one shaker for seven to ten pickers. Others allow the picking crew to do its own shaking and pay them an extra five cents per box. A few growers are now using pneumatic power shakers.

The cost will vary according to the crop size, but will range close to from \$50 to \$60 per acre for both jobs.

The amount picked each day will average 25 boxes per picker, but a good picker in mid-season can double that amount.

HAULING BOXES - Empty boxes must be hauled out and distributed to pickers and the filled boxes brought back to the dehydrator. Most buyers take delivery at the ranch or pay for hauling to delivery point. Hauling will require 3 man hours and 1.5 truck hours per acre on the ranch.

DEHYDRATION - Many growers have their own dehydrators but there are two large cooperative dehydrators and many growers do some custom drying. Most prunes are now dehydrated, but some sun drying is still done, especially on Imperial prunes.

The common charge for dehydration is \$16 per green ton. The drying ratio will vary as the season advances. We commonly figure $2\frac{1}{2}$ green tons to make one dry ton, although the ratio is frequently 2 to 1.

Irrigation is not a general practice in Sonoma County, at present, but some growers along the Russian River do irrigate and this would add to the costs included here.

Irrigation would keep the trees in good vigorous condition so that annual yield should be higher and the fruit size should be better.

Prunes of this district are of the highest quality and classified as "Santa Claras". There is a good demand for the prunes by independent buyers; however, many growers belong to the two Prune Growers' Associations that are a part of the California Prune and Apricot Growers Association which has a receiving plant in Healdsburg.

Dried prunes are graded according to size (number per pound) and blemishes, etc. Prices are generally quoted on a basic size of 80 prunes per pound and for prunes of larger size there is an increase of \$1 per ton. If the basic price is twelve cents per pound (it has been approximately this for several years) the prunes that tested 55 per pound would be worth \$240 a ton plus \$25 or \$265 per ton.

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Your Agricultural Extension Service represents the University of California in Sonoma County. The Agricultural Extension Service releases research findings and new varieties developed by the College of Agriculture to local farmers.

These are the ways by which you can use this free educational service of the University of California.

PHONE 4210 or 4211. Maybe your farm or home problem can be answered over the phone.

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RADIO Listen to your local Agricultural Extension program over K.S.R.O and K.A.F.P., Monday through Saturday.

FARM CALLS An important part of our work in Sonoma County.

George Bath - - - - - Dairying
Enoch Torpen - - - - - Fruits, Berries
Virgil Stratton - - - - - Poultry
Fred Price - - - - - Poultry
Robert Sisson - - - - - Grapes, Walnuts
George Stanley - - - - - Livestock, Pastures
Lloyd Harwood - - - - - Field Crops, Vegetables

4-H CLUB Ray Isle - - - - - Boys Work
WORK Harriet Polansky - - - - - Girls Work

HOME ADVISOR Mrs. Elizabeth Wiley