

2023

**SAMPLE COSTS TO ESTABLISH
AN ORCHARD AND PRODUCE PRUNES**



**French Variety (Dried Plums)
In the Southern San Joaquin Valley**

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UC AGRICULTURE AND NATURAL RESOURCES
COOPERATIVE EXTENSION
UC DAVIS DEPARTMENT OF AGRICULTURAL AND RESOURCE ECONOMICS
**SAMPLE COSTS TO ESTABLISH
A PRUNE ORCHARD and PRODUCE PRUNES**
French Variety (Dried Plums)
Southern San Joaquin Valley - 2023

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INTRODUCTION

Sample costs to establish a prune orchard and produce dried prunes, ‘Improved French’ variety, are presented in this study. It is intended as a guide only, and can be used to make production decisions, estimate potential returns, prepare budgets and evaluate production loans. Practices described are based on production practices considered typical for the crop and area, but these same practices will not apply to every farming operation. The sample costs for labor, materials, equipment and custom services are based on September 2023 figures. A blank column titled “Your Cost”, is provided in Tables 2 and 3 to enter your estimated costs.

For an explanation of calculations used in the study refer to the section titled Assumptions. For more information, contact University of California, Davis, Department of Agricultural and Resource Economics, at 530-752-4651 or jmmurdock@ucdavis.edu. You can contact the local UCCE Advisor through the county offices: http://ucanr.edu/County_Offices/

Costs and Returns Study Program/Acknowledgements. A cost and return study is a compilation of specific crop data collected from meetings with professionals working in production agriculture from the region the study is based. The authors thank the farmer cooperators, California Dried Plum Board, and other industry representatives who provided information, assistance, and expert advice. **The use of trade names and cultural practices in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products or cultural practices.** *The University of California, Division of Agriculture and Natural Resources (UC ANR) is an equal opportunity provider.*

ASSUMPTIONS

The assumptions refer to Tables 1 through 8 and pertain to sample costs to establish an orchard and produce prunes under flood irrigation in the Southern San Joaquin Valley. The cultural practices described represent production operations and materials considered typical for a well-managed farm in the region. Costs, materials, and practices will not apply to all farms. Timing of and types of cultural practices will vary among growers within the region and from season to season due to variables such as weather, soil, and insect and disease pressure.

Farm. The hypothetical farm consists of 40 contiguous acres farmed by the owner/manager. Prunes are being established on 40 acres. Smaller non-contiguous parcels may have additional costs for travel time and equipment re-calibration. The land requirement of a cement slab is minimal for the well head, drip system filters and main-line hookups. There are no access roads or farmstead on this property. This orchard would be part of a larger farming operation with additional acreage planted to other tree crops.

Establishment Cultural Practices and Material Inputs

Land Preparation. The orchard is established on ground previously planted to walnuts. Land preparation by a custom operator begins with tree removal of the previous orchard. The trees are knocked over and pushed to the edge of the field for chipping. Root ripping (2x), breaks the roots up and helps bring the roots to the soil surface. The field is chiseled (2x) to get the roots to the soil surface. Hand crews make three separate passes across the field between operations to pick up the roots.

After orchard removal is completed, the wood chips are spread and the entire field is deep ripped at a two to three foot depth in two opposite directions to break up underlying compaction. The ground is disced three times and floated two to three times to level and smooth the surface. The entire acreage is fumigated with Telone II. Berms on which the trees are planted are made by the grower.

Trees. Potted trees of the variety ‘Improved French’ on Viking rootstock are planted on an 18-foot X 16-foot spacing, 151 trees per acre. Orchard life is estimated to be 25 years.

Planting. The trees are planted in November. A planting contractor marks the tree sites, digs the holes, plants, paints and places tree wraps over the tree. Tree wraps are supplied by the nursery and the paint cost is included. In the second year, 2 percent or 4 trees per acre are replanted.

All pre-plant operations, planting, irrigation system installation and cultural practices for the first 15 months are shown in the first year of establishment costs (Refer to Table 1).

Prune/Train. New trees are pruned back to the main stem at planting. For the purposes of this publication, a November planting is considered a dormant planting (same timing as a Jan-March planting the next spring). Pruning and training begins in the first dormant season: January-March of the second year. Trees are treated with Topsin-M after pruning to protect pruning wounds from *Cytospora* and/or *Botryosphaeria* canker infection (see disease section). Mechanical topping begins in the sixth year. Prunings are placed in the row middles and chopped using a heavy flail mower.

Fertilizer. Nitrogen (N) and potassium (K), the major nutrients required for proper tree growth and yield, are custom banded along the tree rows. Nitrogen (UAN 32) is applied beginning in the first year. Annual rates of actual N per acre, assuming good crop set, are shown in Table A. Beginning in the fourth year, solution grade sulfate of potash (ultra-fine SOP) applications are solubilized and injected in equal amounts through the drip system, from April through June for a total of 300 pounds of material per acre per year. Crop load determines tree N and K demand and should therefore be considered before applying fertilizers.

Leaf Sampling. Beginning in year three, leaf samples are collected in July at one sample per 40 acres. The samples are collected by a pest control adviser (PCA) and the costs shown are for the lab analysis.

Table A.	Applied N	Table B.	Applied Water
<u>Year</u>	<u>Lbs./Ac</u>	<u>Year</u>	<u>AcIn/Yr.</u>
1	10	1	18
2	25	2	24
3	40	3	30
4	75	4+	42
5	100		
6	110		
7+	120		

Irrigation System. The orchard is flood irrigated.

Water Costs. Water charges will vary depending on the irrigation district, power source, well characteristics, and irrigation setup. Water in this study is provided by a combination of sources; pumped from a well and delivered from a water district. A cost of \$150 per acre-foot (\$12.50/acre inch) reflects the combined cost of both water sources. Applied water for each year is estimated in Table B. Water costs are expected to rise as the Sustainable Groundwater Management Act (SGMA) is implemented in areas with long-term ground water overdraft.

Chemical Buildup/Acid Flush. The drip system requires chemical flushing to retard chemical buildup and emitter clogging. The flushing is performed after harvest with N-pHuric acid applied through the drip system with 0.10 acre-inches of water.

Well Test/Water Analysis. An annual well test is performed during the winter to monitor pumping level and efficiency (gallons/minute). A water analysis should be done annually to determine nitrate availability and to maintain regulatory records. A water sample is taken and analyzed for nitrogen and other minerals. Costs for these tests are allocated over the entire acreage the pump can service.

Pest Management. The pesticides and rates mentioned are listed in UC Integrated Pest Management Guidelines, Prunes. For information on other pesticides available, pest identification, monitoring, and management visit the UC IPM website at ipm.ucanr.edu. For information and pesticide use permits, contact the local county agricultural commissioner's office.

Pest Control Adviser/Certified Crop Advisor (PCA/CCA). An individual who is licensed as a PCA and/or a CCA may monitor the orchard for pests and disease and collect samples for nutrient analyses. A CCA emphasizes nutrient, soil, water and crop management issues. If pest management advice is provided by a PCA, that individual is required to provide the grower written recommendations for pesticides that they advise a grower to use. In this region, a written recommendation by a CCA for applying fertilizers is currently not required. An independent PCA, who is not associated with a retail supplier of agricultural chemicals, is hired by the grower to monitor the orchard for disease and insect pests weekly for nine months. The annual per acre fee for monitoring the orchard is less during the establishment years.

Application Methods. Pesticide and fertilizer applications are made by either chemigation (pesticides and/or fertilizers applied through the irrigation water), by ATV-mounted ground or spot sprayer or foliar broadcast by tractor-pulled air-blast sprayer. Check individual pesticide labels for compatibility, mixing and usage.

Weeds. Roundup is applied to tree rows after planting. Beginning in the first year, Prowl H2O, Alion, Goal, and Chateau are applied in November as a dormant strip spray. Gramoxone is applied twice the first year to control broadleaf weeds. Beginning in the second year 3 summer strip sprays are applied. In May and August a strip spray of Roundup and Goal 2XL is applied, and in June Roundup plus Shark EW is applied. Vegetation in the row

middles is managed by mowing once per month, over the course of five months, from March through August.

NOTE: Nursery wraps or grow tubes are used to keep herbicide spray off of the green bark of young trees. Painting the trunks does not protect against herbicide damage. Growers should consult with their PCA regarding herbicide selection in young orchards.

Insects/Mites. Aphids, peach twig borer (PTB), and spider mites are the primary insects considered. Aphids and mites are treated as needed.

Beginning in the fourth year, the pest management program varies in response to pest pressure (Table D). Rotation of materials and selection of least toxic pesticides is encouraged. Supreme 440 oil plus Asana are applied as a dormant application in January to control aphids, scale, European red and brown almond mites, and PTB. An in-season (June) miticide spray of Agri- Mek (abamectin) is applied to control spider mites.

Diseases. Beginning in the second year, Topsin M is applied to protect pruning wounds from Cytospora and/or Botryosphaeria canker infection. Russet scab is not a disease, but a physiological condition affecting the fruit skin. Application of certain fungicides at full bloom can reduce russet scab, so scab management practices and costs are included with diseases. Treatments begin in the fourth year. Bloom sprays of Bravo and Tilt are applied at full bloom to control blossom brown rot and reduce the incidence of russet scab.

Vertebrate Pests. Beginning in the first year, gophers are managed in May and July using a carbon monoxide gas application. This service costs \$150 per acre for each treatment.

Endangered Species. It is important to know if your orchard is located in an area where endangered species reside. Trapping and killing endangered species can result in fines. Contact your County Agricultural Commissioner or visit this website for additional information.
<https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=CA>

Harvest. Prunes begin economic production in the fourth year and reach full production in the seventh year. The crop is harvested and hauled by a custom operator. Custom harvest operations are charged on a fresh or green ton basis. This study assumes a 3.2:1 dry ratio and the grower pays the drying costs.

Yields and Revenue. See Harvest/Yields/Revenue in the Production section. Typical yields from the fourth year of orchard establishment to maturity are shown in Table C.

Table C. Annual Yields (tons/ac)		
Year	*Green	Dry
4	2.40	0.75
5	4.00	1.25
6	8.00	2.50
7+	10.00	3.125
*3.2 tons green = 1 ton dry		

Production Cultural Practices and Material Inputs

Pruning. Trees are hand pruned every other year. This operation is performed during the winter months, (November - early March). One-half of this cost is charged to the orchard each year. Prunings are placed in the row middles and chopped using a heavy flail mower. Trees are treated with Topsin-M after pruning to protect pruning wounds from Cytospora and/or Botryosphaeria canker infection (see disease section).

Irrigation. The orchard is irrigated using flood irrigation from April through September. A total of 42 acre inches are applied annually. Total water use will vary year to year based on local conditions. The cost of monitoring with

a pressure chamber to provide water potential readings which helps determine irrigation timing, has been included in this study. Irrigation costs are based on grower pumping costs, district water prices, and estimated labor. Water costs will vary depending on the irrigation district, power source, well characteristics, and irrigation setup.

Fertilizer. Nitrogen (N) as (UAN 32) is applied in equal amounts, three times between April and June for a seasonal total of 120 pounds of N per acre. Adjustments for nitrogen contributions from groundwater should be accounted for in the season total. Potassium levels are maintained with solution grade sulfate of potash (ultra-fine SOP) applications, also from April through June/July for a total of 600 pounds of material per acre per year. Zinc is commonly applied annually as a tank mix in a foliar spray, either in the spring or fall. In this study, Zinc is applied in the spring.

Fruit Thinning. Fruit thinning is common in this region and has been included in this study at a cost of \$90/acre for shaking trees.

Prop Boards. Planks of wood are used to hold up branches with heavy loads of fruit. The planks are usually 1" x6" and 5' to 6' feet long. No costs are shown.

Pest Management. Pesticides and rates suggested are listed in *UC Integrated Pest Management Guidelines, Prunes*. Additional information on other pesticides, pest identification, monitoring, and management can be found at the UC IPM website ipm.ucanr.edu. Written recommendations are required for many pesticide applications and are made by licensed PCAs. For information and pesticide use permits, contact the local county agricultural commissioner's office. Pesticides mentioned in this study are used to calculate rates and costs. Although the pesticides mentioned are commonly used by growers, many other pesticides are available. Adjuvants or surfactants may be recommended for use with some pesticides, but the costs are not included.

Weeds. Alion, Prowl H2O, Goal 2XL, and Chateau are applied in November as a dormant strip spray. Roundup plus Goal2XL are applied in May and August as a summer strip spray. A third summer strip spray of Roundup plus Shark EW is applied in June. Vegetation in the row middles is managed by mowing five times, from March through August.

Insects/Mites. Aphids, peach twig borer (PTB), scale and spider mites are the primary insects considered. (Mites are not insects but are included in this section). Orchards should be monitored weekly and pests treated accordingly when levels exceed thresholds per UC IPM website. Supreme Oil and Asana are applied as a dormant application in January to control aphids, low levels of scale, European red and brown almond mites and PTB beginning in year 4. An in-season miticide spray of Agri-Mek (abamectin) in June is applied to control spider mites.

Diseases. Topsin M and Rally 40WSP are applied to protect pruning or hedging wounds from Cytospora and/or Botryosphaeria canker infection. Bloom sprays with Bravo and Tilt at full bloom controls blossom brown rot and reduces russet scab.

**Table D. Disease/Insect Spray Program
Production Years**

Month	Pest	Material
January	Aphids, PTB, Mites, Scale	Oil+Asana
January	Cytospora, BOT	Topsin+Rally‡
Mid-March	Blossom brown rot, Scab	Bravo+Tilt
June	Spider mites	Agri-Mek+Oil

‡Topsin = every year following pruning or hedging

Vertebrate Pests. Gophers are managed in May and July using a carbon monoxide treatment.

Harvest/Yields/Revenue

Harvest. The crop is harvested and hauled by custom operators. The custom operator charges \$59 per green ton to harvest and haul the fruit for yields that exceed 8 green tons per acre. The custom harvester shakes, catches and moves fruit into bins which are left in the field. The bins are picked up by self-propelled bin carriers that deliver fruit to the staging area where bins are fork lifted onto flatbed trucks and driven to dehydrators.

Yields/Drying. Dehydration reduces the weight of fresh prunes by approximately 3.2:1 (dry ratio). Drying costs are charged by the fresh ton, while growers are paid per dry ton. Annual yields for prunes are measured in dry tons per acre. This cost study assumes production over the life of the orchard to be 3.125 tons per acre. The cost for drying 10 green tons is \$1,850.

Revenue. A price of \$2,200 per dry ton is based on grower information and annual crop reports. The estimated return also provides a basis for a range of yields and prices shown in Table 5. Returns are based on prune size with large size prunes receiving a higher price than small prunes.

Ranging Analysis. Table 5 shows a range of yields, 1.63 to 4.63 tons per acre over a range of prices, \$1,600 – \$2,800 per ton. Dried fruit producers target yields and prices such that in general, lower yields tend to be associated with higher prices. Therefore, the ranging analysis does not show the cases of very high yields with very high return prices or very low yields with very low return prices.

Assessments. Under a state marketing order, the California Prune Board (California Dried Plum Board) <http://Californiadriedplums.org>, collects mandatory assessment fees. This assessment is charged to the grower to fund prune marketing, advertising, and research programs administered by the California Prune Board. The portion of the assessment paid by the grower is \$43.25 per dry ton.

Pickup/4WD All-Terrain Vehicle, (ATV). The study assumes business use of one and a half-hours per acre per year for the pickup. The ATV is used for weed spraying and is included in those costs. Additional ATV uses for checking the orchard, monitoring diseases and the irrigation system are shown as a line item. The travel is estimated and not taken from any specific data.

Labor, Equipment and Interest

Labor. Hourly wages for workers are \$17.50 for machine operators and \$15.50 per hour for non-machine labor. Adding 45 percent for the employer's share of federal and state payroll taxes, workers compensation insurance, for fruit crops and other possible benefits gives the labor rates shown of \$25.38 and \$22.48 per hour for machine labor and non-machine labor, respectively. Workers' compensation costs will vary among growers. The cost is based upon the average industry final rate as of September, 2023. Labor for operations involving machinery are 20 percent higher than the actual operation time given to account for the extra labor involved in equipment set up, moving, maintenance, work breaks, and field repair.

Supervisor/Management Salaries. Management salaries are not included as a cash cost. Any returns above total costs are considered returns on investment or management.

Equipment Operating Costs. Repair costs are based on purchase price, annual hours of use, total hours of life, and repair coefficients formulated by American Society of Agricultural and Biological Engineers (ASABE). Fuel and lubrication costs are also determined by ASABE equations based on maximum power takeoff (PTO) horsepower, and fuel type. Prices for on-farm delivery of diesel and gasoline are \$4.80 and \$4.40 per gallon, respectively. The cost includes a 13.0 percent local sales tax on diesel fuel and 10.17 percent sales tax on gasoline. Gasoline also includes federal and state excise tax, which may be refundable for on-farm use when filing your income tax.

Fuel/Lube/Repair. The fuel, lube, and repair cost per acre for each operation in Table 2 is determined by multiplying the total hourly operating cost in Table 7 for each piece of equipment used for the selected operation by the hours per acre. Tractor time is 10 percent higher than implement time for a given operation to account for setup, travel and down time.

Interest on Operating Capital. Interest on operating capital is based on cash operating costs and is calculated monthly until harvest at a nominal rate of 8.50 percent per year. A nominal interest rate is the typical market cost of borrowed funds. The interest cost of post-harvest operations is discounted back to the last harvest month using a negative interest charge. The rate will vary depending upon various factors, but the rate in this study is considered a typical lending rate by a farm lending agency as of September 2023.

Risk. The risks associated with crop production should not be minimized. While this study makes every effort to model a production system based on typical, real-world practices, it cannot fully represent financial, agronomic and market risks, which affect the profitability and economic viability of tree fruit production. Because of so many potential risk factors, effective risk management must combine specific tactics in a detailed manner, in various combinations for a sustainable operation. Moreover, Table 5 of this study reflects a ranging analysis of returns based on various assumptions which is therefore hypothetical in nature. It is important to realize that actual results may differ from the returns contained in this study. Any returns above total costs are considered returns on risk and investment to management (or owners).

Cash Overhead

Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm and not to a particular operation. These costs include property taxes, interest on operating capital, office expense, liability and property insurance, sanitation services, equipment repairs, and management.

Property Taxes. Counties charge a base property tax rate of 1 percent on the assessed value of the property. In some counties special assessment districts exist and charge additional taxes on property including equipment, buildings, and improvements. County taxes are calculated as 1 percent of the average value of the property. Average value equals new cost plus salvage value divided by 2 on a per acre basis.

Insurance. Insurance for farm investments varies depending on the assets included and the amount of coverage.

Property Insurance. This provides coverage for property loss and is charged at 0.710 percent of the average value of the assets over their useful life.

Liability Insurance. A standard farm liability insurance policy of \$621 is included as a cost for the 40-acre parcel. A standard farm liability insurance policy will help cover the expenses for which the grower becomes legally obligated to pay for bodily injury claims on owned property and damages to another person's property as a result of a covered accident. Common liability expenses covered under a policy include attorney fees and court costs, medical expenses for people injured on this farm, or injury or damage to another's property.

Crop Insurance. A significant number of growers purchase crop insurance in this region. Crop insurance is available to prune growers for any unavoidable loss of production, damage or poor quality resulting from adverse weather conditions such as cool wet weather, freeze, frost, hail, excessive heat, rain, wind and damage from birds, drought, earthquakes and fire. Coverage levels are from 50 to 85 percent of the approved average yield as established by verifiable production records from the farm. For this study, crop insurance is purchased at the 65% coverage level at a cost of \$114 per acre. Actual insurance coverage is by unit, not by acre. The prune crop insurance program is administered by the [USDA Risk Management Agency \(RMA\)](#).

Office Expense. Office and business expenses are estimated at \$100 per acre. These expenses include office

supplies, telephones/internet, bookkeeping, accounting, office utilities and miscellaneous administrative costs.

Sanitation Services. Sanitation services provide single portable toilets with wash basins for 5 months. The cost includes delivery and weekly cleaning service. The number of sanitation facilities will vary depending upon local regulations and size of labor force. In many cases labor contractors furnish the sanitation facilities for their crews and it is included in the contractor's labor overhead.

Non-Cash Overhead

Non-cash overhead, shown on an annual per acre basis is calculated as the capital recovery cost for equipment and other farm investments.

Capital Recovery Costs. Capital recovery cost is the annual depreciation and interest costs for a capital investment. It is the amount of money required each year to recover the difference between the purchase prices and salvage value (unrecovered capital). It is equivalent to the annual payment on a loan for the investment with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual costs of ownership because it takes the time value of money into account (Boehlje and Eidman). The formula for the calculation of the annual capital recovery costs is $((\text{Purchase Price} - \text{Salvage Value}) \times \text{Capital Recovery Factor}) + (\text{Salvage Value} \times \text{Interest Rate})$.

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (e.g., tractors and implements) the remaining value is a percentage of the new cost of the investment (Boehlje and Eidman). The percent remaining value is calculated from equations developed by the American Society of Agricultural and Biological Engineers (ASABE) based on equipment type and years of life. The life in years is estimated by dividing the wear-out life, as given by ASABE by the annual hours of use in this operation. For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero. The salvage value for land is the purchase price because land does not depreciate. The purchase price and salvage value for equipment and investments are shown in Table 6.

Capital Recovery Factor. Capital recovery factor is the amortization factor or annual payment whose present value at compound interest is 1. The amortization factor is a table value that corresponds to the interest rate used and the life of the machine.

Interest Rate. An interest rate of 7.0 percent is used to calculate capital recovery. The rate will vary depending upon loan amount and other lending agency conditions, but is the basic suggested rate by a farm lending agency as of September 2023.

Building. The 2,500 sqft metal shop building is on a cement slab with an attached pole barn that is used for equipment storage. The shop is located at another site and no charges are shown.

Irrigation System. The estimated costs are based on one 100 horsepower electric pump lifting 30 acre-inches from a water level depth of 250 feet. The well, pumps, and filter costs are included as a non-cash overhead cost and include a 500-foot deep well with a steel shaft. The cost of the irrigation system is for the filtration/fertilizer injection station, connectors, and main lines. The labor to install the system is included in these costs.

Fuel Tanks. Two fuel tanks, one for diesel and one for gasoline are placed on stands in cement containment areas that meet Federal, State, and local regulations.

Shop/Field Tools. Includes shop tools/equipment, hand tools and field tools such as pruning equipment. The cost is estimated and not based on any specific inventory.

Land. Prunes are grown on class I, II and III soils. Crop or bare land values of class I & II soils range from \$10,000 to \$30,000 per acre. The orchard site is assumed to be on previously farmed orchard ground. The basic land value used in this analysis is \$20,000 per acre. (TRENDS®).

Pressure Chamber Instrument. The instrument produces pressure in the chamber to take stem water potential readings. This provides data to determine timing of irrigation events. A separate pressure chamber monitoring cost has been included as an operating expense.

Establishment Cost. Costs to establish the orchard are used to determine the non-cash overhead expenses, capital recovery, and interest on investment for the production years. The establishment cost is the sum of cash costs for land preparation, planting, trees, production expenses, and cash overhead for growing prune trees through the first year fruit is harvested (Year 4) less returns from production. The *Accumulated Net Cash Cost* in the fourth year shown in Table 1 represents the establishment cost per acre. The cost is \$14,823 per acre or \$592,920 for the 40-acre orchard. The establishment costs added to the bare land value is consistent with the value of an established mature orchard, ($\$20,000 + \$14,823 = \$34,823$). Establishment cost is amortized beginning in the fifth year over the remaining 21 years of production.

Equipment. Farm equipment is purchased new or used, but the study shows the current purchase price for new equipment. The new purchase price is adjusted to 60 percent to indicate a mix of new and used equipment. Annual ownership costs for equipment and other investments are shown in Table 6. Equipment costs are composed of three parts: non-cash overhead, cash overhead, and operating costs. Both of the overhead factors have been discussed in previous sections. The operating costs consist of repairs, fuel, and lubrication and are discussed under operating costs.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

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Table 1. COSTS PER ACRE TO ESTABLISH A PRUNE ORCHARD

Southern San Joaquin Valley French Variety (Dried plums)-2023

	Year:	1st	2nd	3rd	4th	5th	6th
	Dry Tons Per Acre:	0	0	0	0.75	1.25	2.50
Pre-Planting Costs:							
Nematode Testing		4					
Orchard Removal/Grind/Spread		1,500					
Rip, Disk, Float		600					
Fumigate: Telone II (Full)		1,800					
Build Berms		79					
TOTAL PRE-PLANTING COSTS		3,983					
Planting Costs:							
Layout Orchard: Dig, Plant, Wrap, Paint		485	12				
Trees: 151 Per Acre, M-40 (2% replant in 2nd year)		1,661	44				
Weeds: Strip Spray post-planting (Roundup)		22					
TOTAL PLANTING COSTS		2,168	56				
Cultural Costs:							
Well Test/Water Analysis		6	6	6	6	6	6
Prune: Pruning and/or Suckering		142	354	528	562	562	562
Disease: Dormant-Cytospora, BOT (Topsin M)			73	73	73	73	73
Vertebrate Pests: CO		150	150	150	150	150	150
Fertilize: (UAN-32, custom banded)		18	30	42	80	100	108
Irrigate: (water & labor)		292	367	437	592	592	592
Irrigate: Acid Flush		13	13	13	13	13	13
Weeds: Mow Middles 5x		42	42	42	42	42	42
Monitoring with Pressure Chamber		15	15	15	15	15	15
Weeds: Summer Spray (Yr1 Gram 2x/Yr2+ RU+Goal 2X & RU+SharkEW 1X)		32	72	72	72	72	72
Weeds: Dormant Strip Spray (tank mix)		153	153	153	153	153	153
Fertilize: Leaf Sampling Analysis (1/40ac)				4	4	4	4
Prune: Brush Disposal (in field chopping)			15	15	20	20	25
Insects: Dormant-Scale, PTB, Mites (Oil, Asana)					59	59	59
Disease: Brown rot, Scab (Bravo, Tilt) @ bloom					66	66	66
Fertilize: (SOP, custom banded)					157	157	157
Insect: Mites (Agri-Mek + Oil)					54	54	54
PCA/CCA Services		25	25	25	35	35	35
Pickup Truck Use		61	61	61	68	68	68
ATV Use		69	69	69	69	69	69
TOTAL CULTURAL COSTS		1,017	1,445	1,704	2,291	2,309	2,322
Harvest Costs:							
Shake/Catch/Size/Haul					310	310	472
Dry Fruit					500	825	1,600
California Prune Board					32	54	108
TOTAL HARVEST COSTS					842	1,189	2,180
Interest On Operating Capital @ 8.5%		640	77	92	73	78	86
TOTAL OPERATING COSTS/ACRE		7,807	1,578	1,796	3,206	3,576	4,587

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Table 1. Continued

Southern San Joaquin Valley French Variety (Dried plums)-2023

	Year:	Cost Per Acre					
		1st	2nd	3rd	4th	5th	6th
	Dry Tons Per Acre:	0	0	0	0.75	1.25	2.50
Cash Overhead Costs:							
Office Expense		100	100	100	100	100	100
Liability Insurance		16	16	16	16	16	16
Field Sanitation Costs		9	9	9	9	9	9
Regulatory Fees		20	20	20	20	20	20
Property Taxes		237	237	237	237	311	311
Property Insurance		3	3	3	3	8	8
Investment Repairs		138	138	138	138	138	138
TOTAL CASH OVERHEAD COSTS		522	522	522	522	601	601
TOTAL CASH COSTS/ACRE		8,329	2,099	2,317	3,728	4,177	5,189
INCOME/ACRE FROM PRODUCTION		0	0	0	1,650	2,750	5,500
NET CASH COSTS/ACRE FOR THE YEAR		8,329	2,099	2,317	2,078	1,427	0
PROFIT/ACRE ABOVE CASH COSTS		0	0	0	0	0	311
ACCUMULATED NET CASH COSTS/ACRE		8,329	10,428	12,745	14,823	16,250	15,939
Non-Cash Overhead (Capital Recovery Cost):							
Fuel Storage Tanks and Pumps		22	22	22	22	22	22
Shop/Field Tools		35	35	35	35	35	35
Land		1,400	1,400	1,400	1,400	1,400	1,400
Well/Pumps/Filter- 40 Acres		501	501	501	501	501	501
Pressure Chamber Instrument		4	4	4	4	4	4
Orchard Establishment						1,368	1,368
Equipment		48	34	30	36	36	37
TOTAL CAPITAL RECOVERY COST		2,010	1,995	1,991	1,998	3,366	3,367
TOTAL COST/ACRE FOR THE YEAR		10,339	4,094	4,309	5,726	7,543	8,556
INCOME/ACRE FROM PRODUCTION		0	0	0	1,650	2,750	5,500
TOTAL NET COST/ACRE FOR THE YEAR		10,339	4,094	4,309	4,076	4,793	3,056
NET PROFIT/ACRE ABOVE TOTAL COST		0	0	0	0	0	0
TOTAL ACCUMULATED NET COST/ACRE		10,339	14,433	18,742	22,818	27,611	30,667

Table 2. COSTS PER ACRE TO PRODUCE PRUNES
Southern San Joaquin Valley French Variety (Dried plums)-2023

Operation	Operation	Labor Cost	Cash and Labor Costs per Acre				Total Cost	Your Cost
	Time (Hrs/A)		Fuel	Lube & Repairs	Material Cost	Custom/ Rent		
Cultural:								
Well Test/Water Analysis	0.00	0	0	0	0	6	6	
Pruning & Sucker (Alt. Yrs.)	0.00	0	0	0	0	600	600	
Brush Disposal	0.42	13	8	4	0	0	25	
Disease: Cytosporia/BOT Canker	0.00	0	0	0	38	35	73	
Insects/Disease: Aphids/Mites/Scale	0.00	0	0	0	23	35	58	
Disease: Bloom/Brown rot/Scab	0.00	0	0	0	31	35	66	
Fertilize: UAN-32 3X	0.00	0	0	0	96	30	126	
Fertilize: Potassium 3X	0.00	0	0	0	294	30	324	
Irrigate	0.00	67	0	0	525	0	592	
Weeds: Mow Middles 5x	0.86	26	9	7	0	0	42	
Micronutrient Foliar Spray	0.00	0	0	0	57	35	92	
Vertebrate Pests: CO	0.00	0	0	0	0	150	150	
Weeds: Summer Strip Spray 3X	0.75	23	2	2	46	0	72	
Pressure Chamber Monitoring	0.00	0	0	0	0	15	15	
Thin Fruit: Mechanical (Shake Trees)	0.00	0	0	0	0	90	90	
Insects: Mites	0.00	0	0	0	19	35	54	
Leaf Analysis (1/40Ac)	0.00	0	0	0	0	4	4	
Irrigate: Acid Flush	0.00	6	0	0	7	0	13	
Weeds: Dormant Strip Spray	0.25	8	1	1	144	0	153	
Pickup Truck Use	1.50	46	17	6	0	0	68	
ATV Use	2.00	61	6	2	0	0	69	
PCA/CCA Services	0.00	0	0	0	0	35	35	
TOTAL CULTURAL COSTS	5.78	249	42	22	1,279	1,135	2,727	
Harvest:								
Harvest & Haul	0.00	0	0	0	0	590	590	
Dry Fruit	0.00	0	0	0	0	1,850	1,850	
California Prune Board	0.00	0	0	0	135	0	135	
TOTAL HARVEST COSTS	0.00	0	0	0	135	2,440	2,575	
Interest on Operating Capital at 8.50%							98	
TOTAL OPERATING COSTS/ACRE	6	249	42	22	1,414	3,575	5,400	

Table 2. Continued
Southern San Joaquin Valley French Variety (Dried plums)-2023

Operation	Operation	Cash and Labor Costs per Acre					Total Cost	Your Cost
	Time (Hrs/A)	Labor Cost	Fuel	Lube & Repairs	Material Cost	Custom/ Rent		
CASH OVERHEAD:								
Liability Insurance							16	
Office Expense							100	
Sanitation Fee							9	
Regulatory Fees							20	
Crop Insurance (65% Coverage)							114	
Property Taxes							311	
Property Insurance							22	
Investment Repairs							138	
TOTAL CASH OVERHEAD COSTS/ACRE							729	
TOTAL CASH COSTS/ACRE							6,129	
NON-CASH OVERHEAD:		Per Producing Acre		Annual Cost Capital Recovery				
Fuel Storage Tanks & Pumps		274		22			22	
Well/Pumps/Filters		6,220		501			501	
Land		20,000		1,400			1,400	
Shop/Field Tools		375		35			35	
Orchard Establishment		14,823		1,368			1,368	
Pressure Chamber Instrument		40		4			4	
Equipment		286		37			37	
TOTAL NON-CASH OVERHEAD COSTS		42,018		3,367			3,367	
TOTAL COSTS/ACRE							9,496	

Table 3. COST AND RETURNS PER ACRE TO PRODUCE PRUNES

Southern San Joaquin Valley French Variety (Dried plums)-2023

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Dried Plums Year 7+	3.125	Ton	2200.00	6,875	
TOTAL GROSS RETURNS	3.125	Ton		6,875	
OPERATING COSTS					
Herbicide:				190	
Roundup PowerMax	4.50	Pt	6.50	29	
Shark EW	1.00	FlOz	10.56	11	
Goal 2 XL	12.00	FlOz	0.76	9	
Alion	3.50	FlOz	15.56	54	
Prowl H2O	8.00	Pt	7.35	59	
Chateau	4.00	Oz	6.85	27	
Insecticide:				41	
Supreme 440 Oil	2.00	gal	9.55	19	
Asana XL	4.00	floz	0.87	3	
Agri-Mek 0.15EC	2.50	FlOz	3.07	8	
Superior 415 Oil	1.00	Gal	11.00	11	
Fungicide:				69	
Topsin M70 WSB	1.50	LB	10.39	16	
Rally 40WSP	6.00	Oz	3.74	22	
Bravo Weather Stik	4.00	pt	6.74	27	
Tilt	4.00	FlOz	1.01	4	
Fertilizer:				447	
UAN 32	120.00	Lbs N	0.80	96	
SOPotashFine0-0-50	600.00	lb	0.49	294	
Neutral Zinc (50%)	5.00	LB	1.80	9	
NutriSync Calcium	2.00	Gal	24.05	48	
Water:				532	
Water - Ground/Surface Combination	42.10	AcIn	12.50	526	
N-pHuric Acid	0.12	Gal	47.54	6	
Custom:				3,575	
Well Test/Water Analysis	1.00	Acre	6.00	6	
Hand Pruning	0.50	Acre	1200.00	600	
Custom Air Blast Application	5.00	Acre	35.00	175	
Band Fertilizer	6.00	Acre	10.00	60	
Gopher CO Application	2.00	Acre	75.00	150	
Pressure Chamber Monitoring	1.00	Acre	15.00	15	
Thin Fruit- Mechanical	1.00	Acre	90.00	90	
Leaf Analysis	0.10	Each	40.00	4	
Harvest & Haul- Production Year	10.00	Ton	59.00	590	
Dry Fruit- Production Year	1.00	Acre	1850.00	1,850	
PCA/CCA Production	1.00	Acre	35.00	35	
Assessment:				135	
California Prune Board	3.13	Ton	43.25	135	
Labor				249	
Equipment Operator Labor	6.93	hrs	25.38	176	
Irrigation Labor	3.25	hrs	22.48	73	
Machinery				64	
Fuel-Gas	5.75	gal	4.40	25	
Fuel-Diesel	3.54	gal	4.80	17	
Lube				6	
Machinery Repair				15	
Interest on Operating Capital @ 8.50%				98	
TOTAL OPERATING COSTS/ACRE				5,400	
TOTAL OPERATING COSTS/TON				1,728	
NET RETURNS ABOVE OPERATING COSTS				1,475	

Table 3. Continued
Southern San Joaquin Valley French Variety (Dried plums)-2023

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
CASH OVERHEAD COSTS					
Liability Insurance				16	
Office Expense				100	
Sanitation Fee				9	
Regulatory Fees				20	
Crop Insurance (65% Coverage)				114	
Property Taxes				311	
Property Insurance				22	
Investment Repairs				138	
TOTAL CASH OVERHEAD COSTS/ACRE				729	
TOTAL CASH OVERHEAD COSTS/TON				233	
TOTAL CASH COSTS/ACRE				6,129	
TOTAL CASH COSTS/TON				1,961	
NET RETURNS ABOVE CASH COSTS				746	
NON-CASH OVERHEAD COSTS (Capital Recovery)					
Fuel Storage Tanks & Pumps				22	
Well/Pumps/Filters				501	
Land				1,400	
Shop/Field Tools				35	
Establishment				1,368	
Pressure Chamber Instrument				4	
Equipment				37	
TOTAL NON-CASH OVERHEAD COSTS/ACRE				3,367	
TOTAL NON-CASH OVERHEAD COSTS/TON				1,077	
TOTAL COST/ACRE				9,496	
TOTAL COST/TON				3,039	
NET RETURNS ABOVE TOTAL COST				-2,621	

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Table 4. MONTHLY CASH COSTS PER ACRE TO PRODUCE PRUNES

Southern San Joaquin Valley French Variety (Dried plums)-2023

	JAN 23	FEB 23	MAR 23	APR 23	MAY 23	JUN 23	JUL 23	AUG 23	SEP 23	OCT 23	NOV 23	Total
Cultural:												
Well Test/Water Analysis	6											6
Pruning & Sucker (Alt. Yrs.)	600											600
Brush Disposal	25											25
Disease: Cytosporia/BOT Canker	73											73
Insects/Disease: Aphids/Mites/Scale	58											58
Disease: Bloom/Brown rot/Scab			66									66
Fertilize: UAN-32 3X				42	42	42						126
Fertilize: Potassium 3X				108	108	108						324
Irrigate				55	86	117	124	111	99			592
Weeds: Mow Middles 5x			8		8	8	8	8				42
Micronutrient Foliar Spray				92								92
Vertebrate Pests: CO					75		75					150
Weeds: Summer Strip Spray 3X					29	22		22				72
Pressure Chamber Monitoring						15						15
Thin Fruit: Shake Trees						90						90
Insects Mites (Alt. Yrs.)						54						54
Leaf Analysis (1/40Ac)							4					4
Irrigate: Acid Flush									13			13
Weeds: Dormant Strip Spray											153	153
Pickup Truck Use	6	6	6	6	6	6	6	6	6	6	6	68
ATV Use	6	6	6	6	6	6	6	6	6	6	6	69
PCA/CCA Services									35			35
TOTAL CULTURAL COSTS	774	13	87	310	361	469	224	154	159	13	165	2,727
Harvest:												
Harvest & Haul								590				590
Dry Fruit								1,850				1,850
California Prune Board								135				135
TOTAL HARVEST COSTS	0	0	0	0	0	0	0	2,575	0	0	0	2,575
Interest on Operating Capital @8.50%	5	6	6	8	11	15	16	35	-2	-1	-1	98
TOTAL OPERATING COSTS/ACRE	780	18	93	318	372	483	239	2,764	156	11	164	5,400
CASH OVERHEAD												
Liability Insurance			16									16
Office Expense	9	9	9	9	9	9	9	9	9	9	9	100
Sanitation Fee									9			9
Regulatory Fees	2	2	2	2	2	2	2	2	2	2	2	20
Crop Insurance (65% Coverage)									114			114
Property Taxes		155				155						311
Property Insurance		11				11						22
Investment Repairs	13	13	13	13	13	13	13	13	13	13	13	138
TOTAL CASH OVERHEAD COSTS	23	190	39	23	23	190	23	23	146	23	23	729
TOTAL CASH COSTS/ACRE	803	208	132	341	396	673	263	2,788	303	35	187	6,129

Table 5. RANGING ANALYSIS

Southern San Joaquin Valley French Variety (Dried plums)-2023

COST PER ACRE PER TON AT VARYING YIELDS TO PRODUCE PRUNES

	YIELD (TON)						
	1.625	2.125	2.625	3.125	3.625	4.125	4.625
OPERATING COSTS/ACRE:							
Cultural	2,727	2,727	2,727	2,727	2,727	2,727	2,727
Harvest	1,339	1,751	2,163	2,575	2,987	3,399	3,811
Interest on Operating Capital @ 8.50%	89	92	95	98	100	103	106
TOTAL OPERATING COSTS/ACRE	4,155	4,570	4,985	5,400	5,814	6,230	6,645
TOTAL OPERATING COSTS/TON	2,556.85	2,150.51	1,898.96	1,727.84	1,603.92	1,510.21	1,436.66
CASH OVERHEAD COSTS/ACRE	729	729	729	729	729	729	729
TOTAL CASH COSTS/ACRE	4,884	5,299	5,714	6,129	6,543	6,959	7,374
TOTAL CASH COSTS/TON	3,005.62	2,493.68	2,176.77	1,961.20	1,805.09	1,686.99	1,594.33
NON-CASH OVERHEAD COSTS/ACRE	3,367	3,367	3,367	3,367	3,367	3,367	3,367
TOTAL COSTS/ACRE	8,251	8,666	9,081	9,496	9,911	10,326	10,741
TOTAL COSTS/TON	5,078.00	4,078.00	3,459.00	3,039.00	2,734.00	2,503.00	2,322.00

Net Return per Acre Above Operating Costs for Prunes

PRICE (\$/ton)	YIELD (ton/acre)						
Dried Plums	1.63	2.13	2.63	3.13	3.63	4.13	4.63
1600.00	-1,555	-1,170	-785	-400	-14	370	755
1800.00	-1,230	-745	-260	225	711	1,195	1,680
2000.00	-905	-320	265	850	1,436	2,020	2,605
2200.00	-580	105	790	1,475	2,161	2,845	3,530
2400.00	-255	530	1,315	2,100	2,886	3,670	4,455
2600.00	70	955	1,840	2,725	3,611	4,495	5,380
2800.00	395	1,380	2,365	3,350	4,336	5,320	6,305

Net Return per Acre Above Cash Costs for Prunes

PRICE (\$/ton)	YIELD (ton/acre)						
Dried Plums	1.63	2.13	2.63	3.13	3.63	4.13	4.63
1600.00	-2,284	-1,899	-1,514	-1,129	-743	-359	26
1800.00	-1,959	-1,474	-989	-504	-18	466	951
2000.00	-1,634	-1,049	-464	121	707	1,291	1,876
2200.00	-1,309	-624	61	746	1,432	2,116	2,801
2400.00	-984	-199	586	1,371	2,157	2,941	3,726
2600.00	-659	226	1,111	1,996	2,882	3,766	4,651
2800.00	-334	651	1,636	2,621	3,607	4,591	5,576

Net Return per Acre Above Total Costs for Prunes

PRICE (\$/ton)	YIELD (ton/acre)						
Dried Plums	1.63	2.13	2.63	3.13	3.63	4.13	4.63
1600.00	-5,651	-5,266	-4,881	-4,496	-4,111	-3,726	-3,341
1800.00	-5,326	-4,841	-4,356	-3,871	-3,386	-2,901	-2,416
2000.00	-5,001	-4,416	-3,831	-3,246	-2,661	-2,076	-1,491
2200.00	-4,676	-3,991	-3,306	-2,621	-1,936	-1,251	-566
2400.00	-4,351	-3,566	-2,781	-1,996	-1,211	-426	359
2600.00	-4,026	-3,141	-2,256	-1,371	-486	399	1,284
2800.00	-3,701	-2,716	-1,731	-746	239	1,224	2,209

UC COOPERATIVE EXTENSION-AGRICULTURAL AND RESOURCE ECONOMICS, UC DAVIS
Table 6. WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
 Southern San Joaquin Valley French Variety (Dried plums)-2023

ANNUALEQUIPMENT COSTS								
<hr/>								
						<u>Cash Overhead</u>		
Yr.	Description	Price	Yrs. Life	Salvage Value	Capital Recovery	Insurance	Taxes	Total
23	75HP 4WD Tractor	78,450	15	15,273	8,006	33	469	8,507
23	ATV 4WD	9,350	6	3,855	1,423	5	66	1,493
23	Weed Sprayer 100Gal	3,400	10	601	441	1	20	462
23	Pickup Truck 1/2 Ton	35,000	8	12,215	4,671	17	236	4,924
23	40 HP 4WD Tractor	32,000	15	6,230	3,266	14	191	3,470
23	Mower- Flail 12'	13,400	10	2,370	1,736	6	79	1,821
TOTAL		171,600	-	40,543	19,542	75	1,061	20,678
60% of New Cost*		102,960	-	24,326	11,725	45	636	12,407

*Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS								
Description	Price	Yrs. Life	Salvage Value	Capital Recovery	Cash Overhead			Total
					Insurance	Taxes	Repairs	
INVESTMENT								
Fuel Storage Tanks & Pumps	10,975	30	768	876	4	59	220	1,159
Well/Pumps/Filters- 100 Acres	248,800	30	0	20,050	88	1,244	4,976	26,358
Land-Prunes	800,000	30	800,000	56,000	568	8,000	0	64,568
Shop/Field Tools	15,000	20	1,050	1,390	6	80	300	1,776
Establishment	592,920	21	0	54,720	210	2,965	0	57,895
Pressure Chamber Instrument	1,600	20	112	148	1	9	32	189
TOTAL INVESTMENT	1,669,295	-	801,930	133,185	877	12,356	5,528	151,946

ANNUAL BUSINESS OVERHEAD COSTS				
Description	Farm	Unit	Price/Unit	Total Cost
Liability Insurance	40	acre	15.53	621
Office Expense	40	acre	100.00	4,000
Sanitation Fee	40	acre	8.75	350
Regulatory Fees	40	acre	20.00	800
Crop Insurance (65% Coverage)	40	acre	113.94	4,558

UC COOPERATIVE EXTENSION-AGRICULTURAL AND RESOURCE ECONOMICS, UC DAVIS
Table 7. HOURLY EQUIPMENT COSTS
 Southern San Joaquin Valley French Variety (Dried plums)-2023

Yr.	Description	Prunes Hours Used	Total Hours Used	Capital Recovery	Cash Overhead		Operating		Total Costs/Hr.
					Insurance	Taxes	Lube & Repairs	Fuel	
23	75HP 4WD Tractor	18	800	6.00	0.02	0.35	4.07	17.68	28.12
23	ATV 4WD	120	333	2.56	0.01	0.12	1.13	2.93	6.75
23	Weed Sprayer 100Gal	40	150	1.76	0.01	0.08	0.90	0.00	2.75
23	Pickup Truck 1/2 Ton	60	250	11.21	0.04	0.57	4.19	11.00	27.01
23	40 HP 4WD Tractor	38	1066	1.84	0.01	0.11	2.18	9.43	13.56
23	Mower- Flail 12'	51	200	5.21	0.02	0.24	5.49	0.00	10.95

Table 8. OPERATIONS WITH EQUIPMENT AND MATERIALS

Southern San Joaquin Valley French Variety (Dried plums)-2023

ATV Use	Nov	Southern San Joaquin Valley French Variety (Dried plums)-2023		ATV 4WD	Equipment Operator Labor	2.40	hours
Operation	Month	Tractor	Implement		Labor Type/ Material	Rate/ acre	Unit
Well Test/Water Analysis	Jan				Well Test/Water Analysis	1.00	Acre
Pruning & Sucker	Jan				Hand Pruning	0.50	Acre
Brush Disposal	Jan	75HP 4WD Tractor	Mower- Flail 12'		Equipment Operator Labor	0.50	hour
Disease: Cytosporia	Jan				Topsin M70 WSB	1.50	LB
					Rally 40WSP	6.00	Oz
					Custom Air Blast Application	1.00	Acre
Insects/Disease: Aphids	Jan				Supreme 440 Oil	2.00	gal
					Asana XL	4.00	floz
					Custom Air Blast Application	1.00	Acre
Disease:Bloom/Brot	Mar				Bravo Weather Stik	4.00	pt
					Tilt	4.00	FlOz
					Custom Air Blast Application	1.00	Acre
Fertilize: UAN-32 3X	Apr				UAN 32	40.00	Lbs N
	May				Band Fertilizer	1.00	Acre
					UAN 32	40.00	Lbs N
	June				Band Fertilizer	1.00	Acre
					UAN 32	40.00	Lbs N
Fertilize: Potassium	Apr				Band Fertilizer	1.00	Acre
					SOPotashFine0-0-50	200.00	lb
	May				Band Fertilizer	1.00	Acre
					SOPotashFine0-0-50	200.00	lb
	June				Band Fertilizer	1.00	Acre
					SOPotashFine0-0-50	200.00	lb
Irrigate	Apr				Band Fertilizer	1.00	Acre
					Irrigation Labor	0.50	hour
	May				Water - Ground/Surface Combinat	3i.50	AcIn
					Irrigation Labor	0.50	hour
	June				Water - Ground/Surface Combinat	6i.00	AcIn
					Irrigation Labor	0.50	hour
	July				Water - Ground/Surface Combinat	8i.50	AcIn
					Irrigation Labor	0.50	hour
	Aug				Water - Ground/Surface Combinat	9i.00	AcIn
					Irrigation Labor	0.50	hour
	Sept				Water - Ground/Surface Combinat	8i.00	AcIn
					Irrigation Labor	0.50	hour
					Water - Ground/Surface Combinat	7i.00	AcIn
Weeds: Mow Middles 5	Mar	40 HP 4WD Tractor	Mower- Flail 12'		Equipment Operator Labor	0.21	hour
	May	40 HP 4WD Tractor	Mower- Flail 12'		Equipment Operator Labor	0.21	hour
	June	40 HP 4WD Tractor	Mower- Flail 12'		Equipment Operator Labor	0.21	hour
	July	40 HP 4WD Tractor	Mower- Flail 12'		Equipment Operator Labor	0.21	hour
	Aug	40 HP 4WD Tractor	Mower- Flail 12'		Equipment Operator Labor	0.21	hour
Micronutrient Foliar	Apr				Neutral Zinc (50%)	5.00	LB
					Custom Air Blast Application	1.00	Acre
					NutriSync Calcium	2.00	Gal
Vertebrate Pests: CO	May				Gopher CO Application	1.00	Acre
	June				Gopher CO Application	1.00	Acre
Weeds: Summer Strip	May		ATV 4WD		Equipment Operator Labor	0.30	hour
					Roundup PowerMax	1.50	Pt
			Weed Sprayer 100Gal		Shark EW	1.00	FlOz
	June		ATV 4WD		Equipment Operator Labor	0.30	hour
					Roundup PowerMax	1.50	Pt
			Weed Sprayer 100Gal		Goal 2 XL	4.00	FlOz
	Aug		ATV 4WD		Equipment Operator Labor	0.30	hour
					Roundup PowerMax	1.50	Pt
			Weed Sprayer 100Gal		Goal 2 XL	4.00	FlOz
Pressure Chamber	June				Pressure Chamber Monitoring	1.00	Acre
Thin Fruit: Shake Trees	June				Thin Fruit- Mechanical	1.00	Acre
Insects Mites (AltYrs)	June				Agri-Mek 0.15EC	2.50	FlOz
					Superior 415 Oil	1.00	Gal
					Custom Air Blast Application	1.00	Acre
Leaf Analysis (1/40A)	July				Leaf Analysis	0.10	Each
Irrigate: Acid Flush	Sept				Irrigation Labor	0.25	hour
					Water - Ground/Surface Combinat	0i.10	AcIn
					N-pHuric Acid	0.12	Gal
Weeds: Dormant Strip	Nov		ATV 4WD		Equipment Operator Labor	0.30	hour
					Alion	3.50	FlOz
			Weed Sprayer 100Gal		Goal 2 XL	4.00	FlOz
					Prowl H2O	8.00	Pt
					Chateau	4.00	Oz
Pickup Truck Use	Nov		Pickup Truck 1/2 Ton		Equipment Operator Labor	1.80	hours
PCA/CCA Services	Sept				PCA/CCA Production Year	1.00	Acre
Harvest & Haul	Aug				Harvest & Haul	10.00	Ton
Dry Fruit	Aug				Dry Fruit- Production Year	1.00	Acre
California Prune Boa	Aug				California Prune Board	3.13	Ton