MSSP

Market Segment Specialization Program

The Wine Industry

The taxpayer names and addresses shown in this publication are hypothetical. They were chosen at random from a list of names of American colleges and universities as shown in Webster's Dictionary or from a list of names of counties in the United States as listed in the United States Government Printing Office Style Manual.

This material was designed specifically for training purposes only. Under no circumstances should the contents be used or cited as authority for setting or sustaining a technical position.

Department of the Treasury
Internal Revenue Service

Training 3149-113 (4/95)
TPDS 83919Y

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INTRODUCTION

The Sacramento District formed the Wine Industry Study (WIS) as part of the implementation of the Market Segment Specialization Program (MSSP). The wine industry was selected because of its relative uniqueness to, and overall economic impact on that district.

The wine industry, for purposes of the study, was defined as the wine making operations in Northern California. While the study focused on wineries, some vineyard operations were included. The information contained in this package represents information developed and issues raised during examinations within this industry.

The goals of the study were:

1. To determine the nature and extent of noncompliance within the industry

2. To develop an audit techniques guide for the industry

3. To promote voluntary compliance within the industry through consistent treatment of issues and taxpayer education.

Chapter 1

OVERVIEW OF WINERY/VINEYARD OPERATIONS

FARMING

The initial step in the making of wine is growing grapes. Specific varieties of grapes are used in making premium wines, but any grape with sugar content can be fermented. Successful wine grape farming is dependent upon proper soil and climatic conditions. These particular geographic regions (appellations) can be conducive to the quality of a particular varietal or to wine grapes in general.

The first step in the development of a vineyard is land clearing. This may be as simple as plowing under existing vegetation to removal of trees and leveling the dirt. Vineyards planted on hillsides must be terraced. Rocks may need to be removed. Typical water sources include wells, above ground storage (ponds), or some form of irrigation district supply. The water is then delivered through sprinkler or drip systems.

In certain cases, the soil may need to be fumigated (sterilized) prior to planting. Various viral, bacterial, and soil-borne pest problems can be minimized through this process. Fumigation consists of injecting chemicals into the soil and then sealing the vineyard with a plastic cover for a few days. The cost of this process can range from $300 to $600+ per acre, depending on the type of chemicals used and the difficulty in application. In addition to fumigation, the land may need some type of soil conditioning, such as the addition of fertilizers, lime, or minerals, to correct deficiencies in the soil.

Grapevines, like most commercial plants, have a disease-resistant rootstock, with a strong fruit-bearing varietal grafted on to it. This grafting process is usually done in the nursery (bench-grafting) prior to purchase by the vineyard, but can be done out in the field (field-budding) subsequent to planting. In either case, planting the vines is the next step. A trellis system is then built for the vines to grow upon. This trellis system allows the foliage to form an "umbrella" (canopy), under which the grape clusters will grow. The type of trellis system will have a major impact on vineyard yield (and hence profits). Therefore, many wineries are spending substantial amounts of money on complex trellis systems in the newer vineyards.

It takes a period of 2 to 3 years from the time of planting for the vines to produce a "commercially harvestable crop". This term generally means when the crop is substantial enough where sales proceeds will exceed the cost of harvest. This is an important factor in that it determines when the vines are "placed in service."

Once the vines are established, there are several cultural practices that occur seasonally. In the dormant season, generally December to February, the vines are pruned. In the spring, the new canes (vine growth) are trained along the trellis system. Weeding, pest control, fertilization, and mildew/mold control also occurs. Harvest time is August to October. Most premium wine grapes are hand picked, while bulk/generic wine grapes are machine harvested. A common practice for the vineyard owner is to contract out to a farm labor manager who will supply all the laborers throughout the year. The vineyard manager will pay a flat fee, with the labor manager responsible for any and all employment tax issues. The deduction will normally be listed as "contract labor."

When the grapes are harvested, they must be taken to a certified weigh station. Many wineries will have a weigh station at their facility. The winery is required to keep certain information about their grape supply (whether they grow their own grapes or buy them from others). This information is captured on a "weight ticket" as required by the Bureau of Alcohol Tobacco and Firearms (BATF). The weight ticket will show the tonnage of grapes, the variety of grapes and the vineyard of origin.

Audit Technique

These weight tickets can be very useful in verifying vineyard sales. Since accurate grape prices can be determined from the State Grape Crush Report (see Information Sources), the information is available to independently ascertain the gross receipts of a particular vineyard operation.

See Exhibit 1-1 for an overview of the timing of events in the development of a vineyard and the tax treatment of the various costs involved. Some items are currently deductible, some are capitalized and depreciated (either immediately or when the vines are "placed in service"), while some costs may not be deductible at all.

See Exhibit 1-2 for a review of vineyard development costs. (You may wish to use these estimates to verify the taxpayer's depreciable basis.)

MANUFACTURING

The process of making wine is a manufacturing process. The winery takes one product (grapes) and transforms it into another (wine). Since this is a manufacturing process, the wineries must account for their costs as a manufacturer, either under the old full-absorption rules or for years beginning after December 31, 1986, the Uniform Capitalization (Unicap) rules under IRC section 263A. The following discussion of the manufacturing process will also consider how Unicap comes into play.

Generally speaking, the wine making process has four cost centers: crush/fermentation, aging/storage, general and administrative (G&A), and marketing/sales. Under Unicap, the process of cost accounting should include the following steps. First, all costs must be assigned to the appropriate cost centers. Second, G&A costs must be allocated to all the cost centers. Finally, production costs (crush, fermentation, and aging costs) must be capitalized to inventory while the balance of costs (remaining G&A and marketing) are expensed currently.

Wine production can take several years, wineries make several different products using different techniques, and many of the people or other costs involved in the process cross cost center boundaries. This combination of factors can make cost accounting difficult.

Wineries can make several different products. Bulk wine is made in large quantities, usually of lesser quality grapes and using lesser quality techniques. Bulk wine is sometimes used for related products such as brandy, wine coolers or vinegar, but usually is sold as jug or generic wine. Premium varietals are the high quality, high priced wines that use the highest quality grapes. Sparkling wines, commonly known as champagne, need another step in processing to give them the effervescence. Brandy is made by distilling wine and aging it an additional 3 years.

The first step in the wine making process is the delivery of the grapes from the fields. The grapes go into a stemmer/crusher which both separates the individual grapes (berries) from the stems and leaves, and breaks open the skins to allow the juice to run free. This juice is then called the "free run." The grapes are then placed in a press and depending on the type of wine to be made, various degrees of pressure can be exerted on the grape skins/pulp to extract more juice. Generally, white wines are made from juice without the skins, while red wines are fermented with skins and seeds included.

The grape juice is then transferred to a container in which it will be fermented. White wine is often fermented in temperature controlled, stainless steel tanks. Some premium white varietals are fermented in the 55 gallon oak barrels in which they will be aged. Red wines are similarly fermented in stainless steel tanks as the normal practice, but are occasionally fermented in large open topped wood tanks.

Wines may remain in the tanks in which they were fermented for the balance of their aging prior to bottling. In this case, the tanks see duty as both fermentation and aging tanks. In other cases, the wines, after spending time in the fermentation tank, will be transferred to smaller oak barrels for further aging. In either case, the wine in the fermentation tank will be transferred prior to the next year's harvest, so that the fermentation tank will be available again.

All wines take about the same amount of time to ferment (change from grape juice to alcoholic beverage), but the processing after this step can vary dramatically. Bulk wines are generally not aged for any considerable amount of time. However, premium wines are often stored in oak barrels (barrel aging) and then bottle aged. For white wines, this aging process can take from 9 months to 3 years. For red wines, this process can take from 2 to 5 years. For sparkling wines, the wine must be processed again (yeast and sugar are added to produce the bubbles) and then stored (aged) for a period of time. The total period of time for some sparkling wines, from harvest to completion of the process, can take up to 5 years. The process for brandy is to distill wine into grape brandy designate (GBD) which must be aged in wood barrels for at least 3 years before it can be marketed as brandy.

The definition of "production period" is vital for Unicap purposes. All the costs associated with the manufacturing of the product during the production period must be capitalized. Any costs incurred after the production period may be expensed. Prior to Unicap, some wineries were taking the position, based on the *Heaven Hill* case, *Heaven Hill Distilleries, Inc. v. United States*, 476 F.2d 1327 (Ct. Cl. 1973), that the production period for wine stopped when the grape juice was changed into wine. This process takes less than a few weeks. The Service did not agree with this treatment prior to Unicap. Unicap requires that the production process include aging. One national accounting firm has promoted the concept that the production period should terminate at the "release date." The release date is when the wine is officially offered to the winery's distribution chain. The Service supports this determination of the end of the production period. Prior to the release date, the winery is purposely holding the wine for aging. After the release date, the wine remains unsold only due to sales or marketing restrictions. Often, a winery will have published release dates for its wines. Barring that, the first shipping invoice for general sales may be determinative. **NOTE:** Wineries will often pre-release wines to wine writers or for other promotional purposes. This is done for marketing reasons and does not terminate the aging process for that lot of wine. The Service has taken the position that the production period should be determined for each vintage (year the grapes were picked) and varietal (type of wine, based on the type of grape used). For example, the production period for a 1988 Chardonnay will be determined separately from a 1988 Cabernet Sauvignon.

NOTE: TAM 9327007 is an example of the Service's position that the end of the production period is the release date.

MARKETING/SALES

Once the product is ready for sale, the wineries have a variety of options on how to sell their product. Some wineries have tasting rooms where visitors can purchase the wine directly from the winery. The wineries may also sell directly to restaurants and "bottle shops." More commonly, the wineries will work through a broker or a distributor. A distributor will actually buy the product for resale. A broker, on the other hand, may take possession but not ownership of the wine. The broker is paid a commission based on sales. The wineries will still have their own sales force, even though working through a broker or a distributor.

Wine making has progressed to such an extent that most of the wines produced today are palatable. Few are of such consistently superior quality as to truly distinguish themselves from the competition.

Therefore, the key to success in the wine industry has fallen on the marketing/promotion side rather than that of production. To assist in marketing and publicizing their wines, the winemaker or owner of the winery will attend tastings or other promotional events. As will be discussed in Chapter 4 (Wine Industry Issues), this can cause cost accounting problems when people "wear more than one hat." An allocation of their salary, based on facts and circumstances, needs to be made.

Exhibit 1-1

Timing and Treatment of Vineyard Development Costs

Guidelines for capitalizing and expensing vineyard establishment costs when UNICAP does not apply. If UNICAP applies, all costs are capitalized until the vineyard starts producing a crop.

		1st	2nd	3rd
Cultural Costs	**Year**	**Year**	**Year**	
Pre-Plant Tillage: Man & Tractor	C			
Fumigation	C			
Layout and Mark	C			
Distribute and Set Stakes	C			
Stakes (7' – Treated)	C			
Rootstocks	C			
Plant Vines (Labor)	C			
Planting Supervision	C			
Bud and Cover, Including Rubber Ties	C	X	X	
Budwood (Certified)	C	X	X	
Uncover and Prune Rootstocks		C	X	
Cut Rubbers & Tops, Place Collars		C	X	
End Posts (Treated)	C	C	C	
End Post Set (Labor)	C	C	C	
String Trellis Wire (Labor)	C	C	C	
Trellis Wire	C	C	C	
Train & Prune (Labor)		X	X	
Mildew Control		X	X	
Irrigation Labor (After Planting)	X	X	X	
Water & Pumping Power (After Planting)	X	X	X	
Repairs on Irrigation Equipment	X	X	X	
Cultivation	C	X	X	
Frost Protection (Labor)		X	X	
T-Budding (Conversion)	C	C	C	

C = Capitalize
X = Expense

Sample Costs to Establish a Vineyard
and Produce Wine Grapes in

Sonoma County

1992

University of California
Cooperative Extension

Revised 12-9-93

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U.C. COOPERATIVE EXTENSION

SAMPLE COSTS TO
ESTABLISH A VINEYARD AND PRODUCE WINE GRAPES
IN SONOMA COUNTY — 1992

by

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The detailed costs for vineyard establishment and wine grape production in Sonoma County are presented in this study. The hypothetical farm used in this report consists of a total of 35 acres, 30 of which are in production each year.

The practices described in this cost study are considered typical for this crop and area. Sample costs given for labor, materials, equipment and contract services are based on current figures. Some costs and practices detailed in this study may not be applicable to your situation. The use of trade names is not an endorsement or a recommendation. A blank Your Cost column is also provided to enter your actual costs on Tables 2 and 3, Costs Per Acre To Produce Wine Grapes and Costs And Returns Per Acre To Produce Wine Grapes. This study is only intended as a guide and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans.

This study consists of General Assumptions for Establishing a Vineyard and Producing Wine Grapes and eight tables.

Table 1. Costs Per Acre To Establish A Vineyard.
Table 2. Costs Per Acre To Produce Wine Grapes
Table 3. Costs And Returns Per Acre To Produce Wine Grapes
Table 4. Monthly Cash Costs Per Acre To Produce Wine Grapes
Table 5. Whole Farm Annual Equipment, Investment And Business Overhead Costs
Table 6. Hourly Equipment Costs
Table 7. Ranging Analysis
Table 8. Costs And Returns / Breakeven Analysis

For an explanation of calculations used for the study refer to the attached General Assumptions, call the Department of Agricultural Economics, Cooperative Extension, University of California, Davis, California, (916) 752-3589 or call the Sonoma County Viticulture Farm Advisor.

Two companion studies entitled, "Sample Costs to Produce Organic Wine Grapes in The North Coast, With Annually Sown Cover Crop" and "Sample Costs to Produce Organic Wine Grapes in The North Coast, With Resident Vegetation" are available for those interested in organic wine grape production or as a comparison between the two systems.

GENERAL ASSUMPTIONS FOR
ESTABLISHING A VINEYARD AND PRODUCING WINE GRAPES
Sonoma County — 1992
U.C. Cooperative Extension

The following is a description of some general assumptions pertaining to sample costs of vineyard establishment and wine grape production in Sonoma County. The costs are based on typical practices used by many growers in this county, some of which may not be used during every production year. The costs are represented on an annual per acre basis. *The use of trade names in this report does not constitute an endorsement or recommendation nor is any criticism implied by omission of other similar products by the University of California:*

1. **LAND:**
   The vineyard is owned and not leased. It is managed and operated by the owner except where noted. The vineyard is located on a valley floor with very deep, well drained soil. Land is valued at $15,000 per acre. The farm is composed of 35 acres, 30 of which are planted with wine grapes. The other 5 acres are used for the farmstead, roads, reservoir and well. Since only 30 of the 35 total acres are in production, the land value per vineyard acre is shown as $17,500. Land is not depreciated.

2. **VINEYARD CONVERSION:**
   The land used in this study is assumed to have an existing vineyard on it. The existing grapevines will be removed following the land purchase. After the vines have been removed and burned the land will be ripped 3 times to a depth of 5 feet by a custom tillage company. The 30 acres used for the vineyard are then fumigated and tarped. This is done under contract by a fumigation company. The reservoir for frost protection will be excavated at this time. The well from the previous vineyard will be refurbished and a new pump and motor will be installed along with the drip irrigation system and the overhead sprinkler frost protection system, before the vineyard is planted.

3. **VINES:**
   Bench grafts of a certified chardonnay clone on a phylloxera resistant rootstock are planted on a 7' × 11' spacing with 566 vines per acre during the first year. In the second year, 2% or 11 vines per acre will be replanted. Vines will be trained to a bilateral cordon at 36 inches and spur pruned. The grapevines are expected to become mature in 3 years and then be productive for an additional 22 years.

4. **TRELLIS SYSTEM:**
   The trellis system is designed to support a bilateral cordon trained and spur pruned vineyard. The trellis system in this study utilizes tomato stakes, metal stakes for the sprinkler system and in-line lodgepole posts. A permanent cordon wire is attached to all stakes and posts and 2 pair of movable wires are hung on J nails attached to the lodgepoles. The trellis system is installed during the first 2 years of the vineyard establishment and is detailed as follows:

First Year: After the previous vineyard has been removed and the ground has been ripped and fumigated, sugar beet lime is applied at rate of 10 tons per acre and incorporated by discing. The entire vineyard is then laid out and the row ends and stake location within the rows are marked. Both the drip irrigation and frost protection systems are installed. Eight foot roll formed metal stakes are set at each sprinkler rise location and 4' tomato stakes are pounded into the ground where remaining grapevines are to be planted. Initially drip irrigation line is laid out on the ground along the vine row and turned on to make the ground soft for digging. After the holes are dug, the vines are then planted.

Second Year: The in-line lodgepoles and end posts are installed. The 4-5 inch diameter, 8 foot in-line posts are spaced 21 feet apart, but are not placed where a vine is sited. The end assembly consists of a 48 inch long screw anchor 6 with a 6 inch metal plate and a 6-7 inch diameter, 9 foot end post. Ten gauge anchor wires are strung from the screw anchor to the end post. A permanent, 12 gauge, high tensile, cordon wire is attached with a clamp to each tomato and metal stake. It is from this cordon wire that the drip irrigation line is suspended by short lengths of 14 gauge wire. A 14 gauge, high tensile wire is permanently attached to the tops of the in-line posts. Two pairs of movable, 14 gauge, high tensile wire are secured to each end post. J nails are tacked into the lodgepoles, above the cordon wire. The 4 movable wires are moved up the posts and held in position by the J nails.

5. **<u>IRRIGATION SYSTEM:</u>**

Water for the drip irrigation system is pumped from a depth of 150 feet in a 200 foot well using a 10 horsepower (HP) pump. Pressure at the discharge head is 35 pounds per square inch (psi) and produces a flow of 125 gallons per minute (gpm). The well, 10 HP pump, filtration station, drip line, fertilizer injector system and the labor to install each of these components is included in the irrigation system cost.

The irrigation system has a 25 year lifespan. The drip irrigation system is installed before the grapevines are planted in the first year, but is not shown as a cash establishment cost. It is instead treated as an improvement to the property and therefore, an investment and can be found in Table 5 under Annual Investment Costs.

Pumping costs for irrigation water vary during the establishment years due to the total volume of water pumped and electrical rates, some of which are flat rate fees. Starting in the fourth year the irrigations begin in May and end in August. An additional postharvest irrigation of 3 acre inches occurs in October. Irrigation rates and pumped water costs for the establishment and production years are shown in Table A.

Table A.

Year	Gal/Vine	Acft/Year	Cost/Acft
1	300	.51	$32.04
2	300	.51	$32.04
3	200	.34	$26.52
4+	100	.17	$29.04

6. **FROST PROTECTION SYSTEM:**

The frost protection system consists of a 12 acre foot reservoir, a 1500 gpm pump powered by a diesel engine, a permanent, underground pipeline and sprinklers. Water for frost protection is pumped from the well into the reservoir and stored there until needed. Though the frost protection system is installed during vineyard conversion and planting in the first year, it is not shown as a cash cost in vineyard establishment, but rather is considered as an improvement to the land. The cost for the frost protection system can be found in Table 5. under Annual Investment Costs. This system has an expected life of 2.5 years.

In this study, it is assumed that frost protection will be required for 6 hours per night for 6 nights in all years, except the first. Annual use of 9.9 acre feet of water for frost protection is presumed to occur throughout the life of the vineyard. In actual practice the amount of water used to protect the vineyard from frost will vary from year to year. The water for frost protection purposes costs $17.40 per acre foot in addition to the cost of pumped irrigation water as shown in Table A. The cost difference between water used for irrigation and frost protection purposes, is due to the extra pumping of water required from the reservoir through the overhead sprinklers.

7. **ESTABLISHMENT CULTURAL PRACTICES:**

The removal of the old vineyard, the planting of the new one and installation of the trellis system occur during the first and second year of vineyard establishment and are described, in the Trellis System section. The practices described below represent only the hypothetical vineyard in this study. These are typical practices for many vineyards in Sonoma County, but may not be appropriate to your circumstance.

A number of similar, but different cultural operations are performed during pruning, training vines and hand vine care operations. In the first year, the pruning operation starts by removing the dirt mounded over the vine and cutting off high rootstock roots. The vine is then pruned to a 2 bud spur, pulled over to the stake and secured. A milk carton is placed over the trunk for protection. All prunings are left in between the vine rows and are chopped by the tractor and mower.

The second year begins with training the vine and tying 1 shoot up the stake. The vine is topped and the lowest laterals are removed. During dormancy weaker vines are cut back while pruning. Any remaining lower laterals would also be pruned off and cordons cut back to the appropriate girth.

Training vines in the third year leads off by extending the cordons along the permanent cordon wire. Spur positions are selected at this time. Slower growing vines continue to be trained; however year 3 is the last year that the vines are trained in this study. Spur position selection may continue with this year's pruning operations. Canes from spurs are pruned appropriately.

After vines are trained, hand vine care activities such as shoot thinning and suckering trunks and cordons start in years 4 and 5. The number of hours per acre needed to prune declines from the previous year, but remains constant in the years thereafter.

The 2 pair of movable wires are not shifted during the first 2 years. Starting in the third year, 3 hours per acre are necessary to move the wires once; however, by the fourth year 9 hours per acre are needed to raise the wires up the lodgepoles on three separate occasions.

Insects and diseases are managed by using several different pesticides and management techniques beginning in the second year. Leafhoppers and mites can be controlled by various insecticides. The insecticide spray used in this study reflects an average of costs for either dimethoate or a mix of an insecticidal soap and Pyreflin EC (which does not contain piperonyl butoxide).

There are many pathogens that attack grapevines, but the two major diseases that are assumed to occur in this study are botrytis bunch rot and powdery mildew. Bunch rot would be controlled starting in the fourth year solely on the practice of leaf removal in the grape cluster area. A fungicide spray and dusting program for powdery mildew control would begin the second year. Thiolux, or another wettable sulfur, is applied once early in the season, followed by 4 applications of sulfur dust made up until bloom. After that time Rubigan, or another D.M.I. (demethylation inhibiting) fungicide is used to control powdery mildew until fruit ripening begins.

Weeds present in the vine row the year the vines are planted are controlled by a hand hoeing. The row centers between the vine rows are cultivated during spring and summer throughout the establishment years. The vineyard is stripped sprayed with a combination of preemergence and/or contact herbicides registered for young vines beginning in the late fall of the second year. Summer weed control from the second year on switches from hand hoeing the weeds in the vine row to spot spraying with Roundup.

A liquid nitrogen fertilizer is applied in all years of vineyard establishment. Both 6-3-9 and 2-4-10 are used in the first 3 years to apply 40 pounds of nitrogen, 35 pounds phosphorus and 95 pounds of potassium per acre through the drip line. Beginning in year 4, 6-3-9 alone is applied to deliver 30 pounds nitrogen, 15 pounds phosphorus and 45 pounds potassium per acre. Pounds of fertilizer are calculated assuming 10 pounds of material per gallon.

An establishment cost is the sum of the costs for land preparation, trellis system, planting, vines, cash overhead and production expenses for growing the vines through the first year that grapes are harvested. It is used to determine the non-cash overhead expenses, depreciation and interest on investment, during the production years. The Total Accumulated Net Cash Cost on Table 1, in the third year represents the establishment cost. For this study, this cost is $11,039 per acre or $331,170 for the 30 acre vineyard. The establishment cost is spread over the remaining 22 years of the 25 years the vineyard is in production.

8. **PRODUCTION CULTURAL PRACTICES:**

Pruning is done during the winter months and the prunings are chopped using the mower. Hand vine care activities such as shoot thinning and suckering trunks and cordons continue through all production years. Moving the wire pairs requires 9 hours per acre in order to make 3 relocations a year.

Nitrogen is applied at a rate of 30 pounds per acre during the production years, by injecting a total of 50 gallons of 6-3-9 through the drip irrigation system. Additionally, 15 pounds of phosphorus and 45 pounds of potassium is applied at this fertilization rate.

In practice, herbicide choice is a function of weed pressure which can change over time. In this vineyard, vine row weeds are controlled with a mix of Princep, Goal and Roundup and are applied as a strip spray during December. Resident vegetation in the row centers is managed with 4 mowings per year which includes chopping the prunings. A spot herbicide spray of Roundup is used to treat 5% of the acreage, primarily for field bindweed control.

Pest management techniques used to Control insect and disease problems in the last 2 years in establishing the vineyard are the same practices used in the production years. Leafhoppers and mites are controlled by a spray mix of either dimethoate or a mix of an insecticidal soap plus Pyrellin EC. The cost of the insecticide reflects an average of the two different treatments. Powdery mildew is treated in March with an application of Thiolux followed by 4 applications of dusting sulfur starting in April and continuing through mid-May. Rubigan is substituted for sulfur and 4 sprays occur from mid-May through early-July. Botrytis bunch rot is managed only by leaf removal around the grape clusters. Leaf removal usually starts in June.

The pesticides and rates mentioned in this cost study are a few of those that are listed in the UC IPM Grape Pest Management Guidelines. Cultural practices for the production of wine grapes vary from grower to grower and region to region. The practices and inputs used in this cost study serve only as a sample or guide. Variations can be significant. For additional information contact the Sonoma County Viticulture Farm Advisor.

9. **YIELDS & RETURNS:**

Grapes begin bearing an economic crop in the third year after planting. The annual yields are measured in tons as shown in Table B. These assumed yields are from the third year of vineyard establishment to maturity.

Table B.

Year	Yield (tons/ac)
3	1.5
4	3.5
5	5.0
6+	6.0

An estimated price of a $1250 per ton of chardonnay wine grapes is used in this study. Returns will vary and the yields and prices used in this cost study are an estimate taking into consideration current situations.

10. **HARVEST:**
Harvesting starts in the third year. As the yield increases the cost to harvest also increases until vineyard maturity is reached in the sixth year. In this cost study the vineyard contracts to have the grape crop custom harvested. The harvesting is done by hand. If growers do their own mechanical harvesting, then the equipment for harvest operations should be inventoried in Investment costs on Table 5, and operation costs would be calculated and placed in Harvesting costs in Tables 1 and 2. All custom charges would be subtracted from Harvesting costs in Tables 1 and 2.

11. **LABOR:**
Basic hourly wages for workers are $8.00 and $6.00 per hour for machine operators and field workers, respectively. Adding 34% for SDI, FICA, insurance and other benefits increases the labor rates shown to $10.72 per hour for machine labor and $8.04 per hour for non-machine labor. The labor hours for operations involving machinery are 20% higher than the operation time to account for extra labor involved in equipment set-up, moving, maintenance and repair. Wages for managers are not included as a cash cost. Any returns above total costs are considered returns to management and investment.

12. **INVESTMENT:**
The investments shown in Table 7 are those that are allocated to the vineyard. Annual investments shown in Tables 1 and 5 represent depreciation and opportunity cost for each investment on an annual per acre basis.

13. **OVERHEAD:**
County taxes are calculated as 1.1% of the average value of equipment, buildings, value of the grapevines and improvements. Insurance is charged at 0.5 % of the average value of the equipment over its useful life. Office and business costs are estimated at $180 per acre for the farm. These expenses include, but are not limited to office supplies, telephones, bookkeeping, accounting, legal fees, road preparation and maintenance. Consultant fees for pest, tissue and sod analyses are included at $20 per acre.

14. **INTEREST:**

Interest on operating capital is based on a short term interest rate charged against cash costs and is calculated monthly until harvest at the nominal rate of 9% per year. Interest is also charged on investment at a real interest rate of 4% per year to account for income foregone that could be received from an alternative investment (opportunity cost) and is calculated using a long term interest rate charged on the average value of the land, improvements to the property and equipment. A real interest rate indicates the return for the use of capital and does not include any adjustment for inflation. A nominal interest rate would include an inflation factor.

15. **EQUIPMENT COSTS:**

In allocating the equipment costs per acre, the following calculations were made and shown in Table 7: (a) Original Cost of equipment is the cost of the new equipment plus sales tax. (b) Depreciation is straight line with a 10% salvage value. (c) Interest on investment is calculated as the average value per acre of the equipment during its useful life multiplied by a real interest rate of 4%. Average value equals new cost plus salvage value divided by 2 divided by the number of acres. (d) The Total Investment Costs are calculated as 60% of the depreciation and the interest costs for all new equipment to reflect a mix of the new and used equipment. These values are also used in Tables 1 and 5. All of this equipment is used on the entire 30 acre vineyard.

16. **FUEL & REPAIR:**

The fuel and repair cost per acre for each operation in Tables 1 and 5 is determined by multiplying the total hourly operating cost for each piece of equipment in Table 8 by the number of hours per acre for that operation. Prices for on-farm delivery of gasoline and diesel are $0.98 and $0.71 per gallon, respectively.

17. **ACKNOWLEDGEMENT:**

Several Sonoma County wine grape producers assisted in furnishing information for this study. Appreciation is expressed to those growers and other individuals who provided assistance.

Table 1.

U.C. COOPERATIVE EXTENSION
COSTS PER ACRE TO ESTABLISH A WINE GRAPE VINEYARD
SONOMA COUNTY — 1992

Labor Rate: $10.72/Hr. machine labor; $8.04/Hr. non-machine labor
Interest rate: 9%
Vine per Acre: $66.00

	Costs per Vineyard Acre				
YEAR	1st	2nd	3rd	4th	5th
YIELD (Tons/acre)			1.5	3.5	6.0
Planting Costs					
Vine Removal and Ripping — Contract	$ 550				
Fumigation — Custom Methyl Bromide Application					
Apply Soil Amendments	1,400				
Preplant Discing	406				
Mark and Layout Vineyard	19				
Install Tomato Stakes	150				
Trim and Store Vines	220				
Plant Vines — 566 Vines (+11 replants in year 2)	80	2			
Layout and Install Trellis System					
	2313	45			
		2,393			
TOTAL PLANTING COSTS	$5,138	$2,440			
Cultural Costs:					
Hand Vine Care				$322	$322
Pruning	$150	$161	$240	161	161
Train Vine		281	375		
Chop Brush	6	6	6	6	6
Winter Weed Control	95	95	53	53	53
Hand Hoe Weeds	16				
Summer Weed Control on 5% of Acreage		12	12	12	12
Cultivation of Row Centers	38	38	38	38	38
Frost Protection		23	24	25	25
Mildew Control		103	103	103	103
Insect and Mite Management		35	35	35	35
Move Wires			24	72	72
Leaf Removal				217	217
Irrigate	49	49	42	38	38
Fertilize	90	90	90	48	48
Pickup Truck Use	165	165	165	165	165
TOTAL CULTURAL COSTS	$609	$1,058	$1,207	$1,295	$1,295
Harvest Costs:					
Harvest — Custom @ $120/Ton			180	420	720
TOTAL HARVEST COSTS			$180	$420	$720
Interest on Operating Capital @ 9%	220	129	47	45	47

U.C. COOPERATIVE EXTENSION
Table 1. continued

	Costs per Vineyard Acre				
YEAR	1st	2nd	3rd	4th	5th
Overhead Costs:					
Office Expense	$180	$180	$180	$180	$180
Pest Management Consultant Fees	20	20	20	20	20
Liability Insurance	8	8	8	8	8
Property Taxes	286	286	306	362	382
Equipment Insurance	105	105	105	105	105
Investment Repairs	23	23	23	23	23
TOTAL OVERHEAD COSTS	$622	$622	$642	$698	$718
TOTAL CASH COSTS	$6,589	$4,249	$2,076	$2,458	$2,780
INCOME FROM PRODUCTION			$1,875	$4,375	$7,500
NET CASH COSTS FOR THE YEAR	$6,589	$4,249	$201		
PROFIT ABOVE CASH COSTS				$1,917	$4,720
TOTAL ACCUMULATED NET CASH COSTS	$6,589	$10,838	$11,039	$9,122	$4,402
Depreciation:					
Buildings	$16	$16	$16	$16	$16
Drip Irrigation system	63	63	63	63	63
Frost Protection system	50	50	50	50	50
Reservoir — 12 Acre Feet	33	33	33	33	33
Pruning Equipment	4	4	4	4	4
ATV	39	39	39	39	39
Shop Tools	20	20	20	20	20
Equipment	118	118	118	118	118
TOTAL DEPRECIATION	$343	$343	$343	$343	$343
Interest on Investment @ 4%:	$700	$700	$700	$700	$700
Land @ $17,500/Acre	12	12	12	12	12
Buildings	38	38	38	38	38
Drip Irrigation system	31	31	31	31	31
Frost Protection system	20	20	20	20	20
Reservoir — 12 Acre Feet	1	1	1	1	1
Pruning Equipment	5	5	5	5	5
ATV	7	7	7	7	7
Shop Tools	30	30	30	30	30
Equipment					
TOTAL INTEREST ON INVESTMENT	$844	$844	$844	$844	$844
TOTAL COST FOR THE YEAR	$7,776	$5,436	$3,263	$3,645	$3,967
INCOME FROM PRODUCTION			$1,875	$4,375	$7,500
NET COST FOR THE YEAR	$7,776	$5,436	$1,388		
NET PROFIT FOR THE YEAR				$730	$3,533
TOTAL ACCUMULATED NET COST	$7,776	$13,212	$14,600	$13,870	$10,337

Table 2.

U.C. COOPERATIVE EXTENSION
COSTS PER ACRE TO PRODUCE WINE GRAPES
SONOMA COUNTY — 1992

Labor Rate: $10.72/Hr. machine labor — Interest rate: 9.00%
$8.04/Hr. non-machine labor — Yield per Acre: 6.00 ton

		Cash and Labor Costs per Acre					
Operation	Operation time (Hrs/A)	Labor Cost	Fuel,Lube & Repairs	Material Costs	Custom/ Rent	Total Cost	Your Cost
Cultural:							
Pruning	20.01	160.88	0.00	0.00	0.00	160.88	
Winter Weed Control	0.15	1.93	0.79	48.07	0.00	50.79	
Chop Brush and Mow Centers	0.65	8.36	3.82	0.00	0.00	12.18	
Frost Protection — 6×	1.20	9.65	0.00	16.48	0.00	26.13	
Mildew Control	2.24	28.82	13.76	56.91	0.00	99.49	
Hand Vine Care	40.00	321.60	0.00	0.00	0.00	321.60	
Move Wires — 3×	9.00	72.36	0.00	0.00	0.00	72.36	
Mow Row Centers — 3×	1.50	19.30	8.82	0.00	0.00	28.11	
Irrigate — 100 Gal/Vine/Year — 2×	4.00	32.16	0.00	2.80	0.00	34.96	
Fertigation — 30 lbs of W/Acre/Year — 2×	1.60	12.86	0.00	47.40	0.00	60.26	
Leaf Removal	27.00	217.08	0.00	0.00	0.00	217.08	
Summer Weed Control — 5% of Acreage	0.04	0.48	0.20	10.85	0.00	11.53	
Insect/Mite Pest Management	0.50	6.43	3.29	33.50	0.00	43.22	
Pickup Truck Use	9.50	122.21	42.98	0.00	0.00	165.19	
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TOTAL CULTURAL COSTS	117.39	1014.12	73.66	216.01	0.00	1303.79	
Harvest:							
Harvest — Contract 6 Tons/Acre	0.00	0.00	0.00	0.00	720.00	720.00	
	---------	---------	---------	---------	---------	---------	
TOTAL HARVEST COSTS	0.00	0.00	0.00	0.00	720.00	720.00	
Postharvest:							
Irrigate — Postharvest	0.40	3.22	0.00	8.01	0.00	11.23	
	---------	---------	---------	---------	---------	---------	
TOTAL POSTHARVEST COSTS	0.40	3.22	0.00	8.01	0.00	11.23	
Interest on operating capital @ 9.00%						48.06	
TOTAL OPERATING COSTS/ACRE		1017.33	73.66	224.02	720.00	2083.08	
TOTAL OPERATING COSTS/TON						347.18	
CASH OVERHEAD:							
Office Expense						180.00	
Pest Management Fee						20.00	
Liability Insurance						8.33	
Property Taxes						104.40	
Property Taxes						291.60	
Property Insurance						132.54	
Investment Repairs						24.17	

TOTAL CASH OVERHEAD COSTS						761.04	
TOTAL CASH COSTS/ACRE						2844.11	
TOTAL CASH COST/TON						474.02	

U.C. COOPERATIVE EXTENSION
Table 2. continued

NON-CASH OVERHEAD				
	Per producing Acre	Annual Cost		
Investment		Depreciation	Interest @ 4.00%	
Land	17500.00		700.00	700.00
Buildings	525.00	15.75	11.55	27.30
Drip Irrigation System	1746.67	62.88	38.43	101.31
Frost Protection System	1343.33	48.34	29.55	77.91
Pruning Equipment	40.00	3.60	0.88	4.48
Shop Tools	333.33	20.00	7.33	27.33
ATV — 4wd	216.67	39.00	4.77	43.77
Vineyard Establishment	11039.00	501.77	220.78	722.55
Reservoir — 12 Acre Foot	1000.00	33.33	20.00	53.33
Equipment	1229.88	105.48	27.06	132.54
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TOTAL NON-CASH OVERHEAD COSTS	34973.88	830.17	1060.35	1890.52
TOTAL COSTS/ACRE				4734.63
TOTAL COSTS/TON				789.11

Table 3.

U.C. COOPERATIVE EXTENSION
COSTS AND RETURNS PER ACRE TO PRODUCE WINE GRAPES
SONOMA COUNTY — 1992

Labor Rate: $10.72/Hr. machine labor; $8.04/Hr. non-machine labor

Interest rate: 9.00%

	Quantity/Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Wine Grapes	6.00	ton	1250.00	7500.00	

TOTAL GROSS RETURNS FOR WINE GRAPE				7500.00	
OPERATING COSTS					
Herbicide:					
Roundup	2.00	qt	10.85	21.70	
Princep 4L	2.00	qt	5.09	10.18	
Goal 16E	1.25	qt	21.63	27.04	
Water:					
Water Frost Protection	4.00	acin	4.12	16.48	
Water	4.05	acin	2.67	10.81	
Fungicide:					
Thiolux	6.00	lb	0.85	5.10	
Dusting Sulfur	60.00	lb	0.17	10.20	
Rubigan EC	19.00	oz	2.19	41.61	
Fertilizer:					
6-3-9	30.00	lb of M	1.58	47.40	
Pesticide:					
Pesticide Mix	1.00	appl	33.50	33.50	
Contract:					
Harvest	6.00	ton	120.00	720.00	
Labor (machine)	6.09	hrs	10.72	187.52	
Labor (non-machine)	103.21	hrs	8.04	829.81	
Fuel Diesel	34.24	gal	0.71	24.31	
Lube				3.65	
Machinery repair				45.67	
Interest on operating capital @ 9.00%				48.06	

TOTAL OPERATING COSTS/ACRE				2083.08	
TOTAL OPERATING COSTS/TON				347.18	
NET RETURNS ABOVE OPERATING COSTS				5416.92	
CASH OVERHEAD COSTS:					
Office Expense				180.00	
Pest Management Fee				20.00	
Liability Insurance				8.33	
Property Taxes				104.40	
Property Taxes				291.60	
Property Insurance				132.54	
Investment Repairs				24.17	

TOTAL CASH OVERHEAD COSTS/ACRE				761.04	
TOTAL CASH COSTS/ACRE				2844.11	
TOTAL CASH COSTS/TON				474.02	

U.C. COOPERATIVE EXTENSION
Table 3. continued

	Quantity/Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
NON-CASH OVERHEAD COSTS					
(DEPRECIATION & INTEREST)					
Land				700.00	
Buildings				27.30	
Drip Irrigation System				101.31	
Frost Protection System				77.91	
Pruning Equipment				4.48	
Shop Tools				27.33	
ATV — 4wd				43.77	
Vineyard Establishment				722.55	
Reservoir — 12 Acre Foot				53.33	
Equipment				132.54	

TOTAL NON-CASH OVERHEAD COSTS/ACRE				1890.52	
TOTAL COSTS/ACRE				4734.43	
TOTAL COSTS/TON				789.11	
NET RETURNS ABOVE TOTAL COSTS				2765.37	

Table 4. U.C. COOPERATIVE EXTENSION
MONTHLY CASH COSTS PER ACRE TO PRODUCE WINE GRAPES
SONOMA COUNTY — 1992

Beginning DEC 91 Ending NOV 92	DEC 91	JAN 92	FEB 92	MAR 92	APR 92	MAY 92	JUN 92	JUL 92	AUG 92	SEP 92	OCT 92	NOV 92	TOTAL
Cultural:													
Pruning	53.63	53.63	53.63										160.88
Winter Weed Control	50.79												50.79
Chop Brush and Mow Center			12.18										12.18
Frost Protection — 6×				13.06	13.06								26.13
Mildew Control				11.32	25.59	18.21	28.12	16.25					99.49
Hand Vine Care					53.63	107.17	107.17	53.63					321.60
Move Wires — 3×						48.24	24.12						72.36
Mow Row Centers — 3×						9.37	9.37	9.37					28.11
Irrigate — 5×						6.99	6.99	13.99	6.99				34.96
Fertigation — 2×						30.13	30.13						60.26
Leaf Removal							217.08						217.08
Summer Weed Control							11.53						11.53
Insect/Mite Pest Management							43.22						43.22
Pickup Truck Use	16.52	16.52	16.52	16.52	16.52	16.52	16.52	16.52	16.52	16.52			165.19
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TOTAL CULTURAL COSTS	120.94	70.15	82.33	40.90	108.79	236.64	494.26	109.75	23.51	16.52			1303.79
Harvest:													
Harvest Contract 6 Tons									720.00				720.00
									------				------
TOTAL HARVEST COSTS									720.00				720.00
Postharvest:													
Irrigate — Postharvest										11.23			11.23
										------			------
TOTAL POSTHARVEST COSTS										11.23			11.23
Interest on oper. capital	0.91	1.43	2.05	2.36	3.17	4.95	8.66	9.48	15.05				48.06
TOTAL OPERATING COSTS/ACRE	121.84	71.58	84.38	43.26	111.97	241.59	502.92	119.23	758.57	27.74			2083.08
TOTAL OPERATING COSTS/TON	20.31	11.93	14.06	7.21	18.66	40.26	83.82	19.87	126.43	4.62			347.18
OVERHEAD:													
Office Expense	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00			180.00
Pest Management Fee	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			20.00
Liability Insurance		8.33											8.33
Property Taxes	250.20				145.80								396.00
Property Taxes	250.20				145.80								396.00
Property Insurance		132.54											132.54
Investment Repairs	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42			24.17
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TOTAL CASH OVERHEAD COSTS	272.61	163.29	22.42	22.42	168.21	22.42	22.42	22.42	22.42	22.42			761.04
TOTAL CASH COSTS/ACRE	394.46	234.87	106.80	65.68	280.18	264.00	525.33	141.65	780.98	50.16			2844.11
TOTAL CASH COSTS/TON	65.74	39.14	17.80	10.95	46.70	44.00	87.56	23.61	130.16	8.36			474.02

Table 5. U.C. COOPERATIVE EXTENSION
WHOLE FARM ANNUAL EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD COSTS
SONOMA COUNTY — 1992

ANNUAL EQUIPMENT COSTS

			Non-Cash Over.		Cash Overhead		
Yr Description	Price	Yrs. Life	Depreciation	Interest	Insur-ance	Taxes	Total
92 60 hp 4wd Tractor	29900	15	1794.00	657.80	82.23	180.90	2714.93
92 Duster	3035	10	273.20	66.76	8.35	18.36	366.67
92 Flail Mower — 8'	5500	10	495.00	121.00	15.13	33.28	664.41
92 Orchard Sprayer	4560	10	410.40	100.32	12.54	27.59	550.85
92 Pickup Truck — ½ Ton	16500	7	2121.43	363.00	45.37	99.82	2629.62
92 Weed Sprayer — 50 Gal	2000	10	180.00	44.00	5.50	12.10	241.60
TOTAL	61495		5274.03	1352.88	169.12	372.05	7168.08
60% of New Cost*	36897		3164.42	811.73	101.47	223.23	4300.85

* Used to reflect a mix of new and used equipment

ANNUAL INVESTMENT COSTS

			Non-Cash Over.		Cash Overhead			
Yr Description	Price	Yrs. Life	Depreciation	Interest	Insur-ance	Taxes	Repairs	Total
INVESTMENT								
ATV — 4wd	6500	5	1170.00	143.00	17.88	39.33	50.00	1420.21
Buildings	15750	30	472.50	346.50	43.31	95.29	100.00	1057.60
Drip Irrigation System	52400	25	1886.40	1152.80	144.10	317.02	300.00	3800.32
Frost Protection System	40300	25	1450.80	886.60	110.83	243.82	150.00	2842.05
Land	525000			21000.00	2625.00	5775.00	0.00	29400.00
Pruning Equipment	1200	10	108.00	26.40	3.30	7.26	25.00	169.96
Reservoir — 12 Acre Foot	30000	30	1000.00	600.00	75.00	165.00	0.00	1840.00
Shop Tools	10000	15	600.00	220.00	27.50	60.50	100.00	1008.00
Vineyard Establishment	331170	22	15053.10	6623.40	827.92	1821.43	0.00	24325.85
TOTAL INVESTMENT	1012320		21740.80	30998.70	3874.84	8524.65	725.00	65863.99

ANNUAL BUSINESS OVERHEAD COSTS

Description	Units/ Farm	Unit	Price/ Unit	Total Cost
Liability Insurance	30.00	acre	8.33	249.90
Office Expense	30.00	acre	180.00	5400.00
Pest Management Fee	30.00	acre	20.00	600.00
Property Taxes	30.00	acre	104.40	3132.00

Table 6.

U.C. COOPERATIVE EXTENSION
HOURLY EQUIPMENT COSTS
SONOMA COUNTY — 1992

	COSTS PER HOUR								
	Actual Hours Used	Non-Cash Over.		Cash Overhead		Operating			
Yr Description		Depre-ciation	Interest	Insur-ance	Taxes	Repairs	Fuel & Lube	Total Oper.	Total Costs/Hr.
92 60 hp 4wd Tractor	167.6	6.42	2.36	0.29	0.65	1.49	2.41	3.90	13.63
92 Duster	38.4	4.27	1.04	0.13	0.29	1.52	0.00	1.52	7.25
92 Flail Mower — 8'	64.5	4.60	1.13	0.14	0.31	1.58	0.00	1.58	7.76
92 Orchard Sprayer	43.8	5.62	1.37	0.17	0.38	2.29	0.00	2.29	9.83
92 Pickup Truck — ½ Ton	285.0	4.47	0.76	0.10	0.21	2.99	1.53	4.52	10.06
92 Weed Sprayer — 50 Gal	5.6	19.18	4.69	0.59	1.29	1.00	0.00	1.00	26.75

Table 7.

U.C. COOPERATIVE EXTENSION
RANGING ANALYSIS
SONOMA COUNTY — 1992

COSTS PER ACRE AT VARYING YIELDS TO PRODUCE WINE GRAPE

	YIELD (TON/ACRE)						
	3	4	5	6	7	8	9
OPERATING COSTS/ACRE:							
Cultural Cost	1304	1304	1304	1304	1304	1304	1304
Harvest Cost	360	480	600	720	840	960	1080
Postharvest Cost	11	11	11	11	11	11	11
Interest on operating capital	45	46	47	48	49	50	51
TOTAL OPERATING COSTS/ACRE	1720	1841	1962	2083	2204	2325	2446
TOTAL OPERATING COSTS/TON	573	460	392	347	315	291	272
CASH OVERHEAD COSTS/ACRE	761	761	761	761	761	761	761
TOTAL CASH COSTS/ACRE	2481	2602	2723	2844	2965	3086	3207
TOTAL CASH COSTS/TON	827	651	545	474	424	386	356
NON-CASH OVERHEAD COSTS/ACRE	1891	1891	1891	1891	1891	1891	1891
TOTAL COSTS/ACRE	4372	4493	4614	4735	4856	4976	5097
TOTAL COSTS/TON	1457	1123	923	789	694	622	566

NET RETURNS PER ACRE ABOVE OPERATING COSTS FOR WINE GRAPES

PRICE	YIELD (TON/ACRE)						
(DOLLARS PER TON)	3	4	5	6	7	8	9
950.00	1130	1959	2788	3617	4446	5275	6104
1050.00	1430	2359	3288	4217	5146	6075	7004
1150.00	1730	2759	3788	4817	5846	6875	7904
1250.00	2030	3159	4288	5417	6546	7675	8804
1350.00	2330	3559	4788	6017	7246	8475	9704
1450.00	2630	3959	5288	6617	7946	9275	10604
1550.00	2930	4359	5788	7217	8646	10075	11504

U.C. COOPERATIVE EXTENSION
Table 7. continued

NET RETURNS PER ACRE ABOVE CASH COSTS FOR WINE GRAPES

PRICE (DOLLARS PER TON)	YIELD (TON/ACRE) 3	4	5	6	7	8	9
950.00	369	1198	2027	2856	3685	4514	5343
1050.00	669	1598	2527	3456	4385	5314	6243
1150.00	969	1998	3027	4056	5085	6114	7143
1250.00	1269	2398	3527	4656	5785	6914	8043
1350.00	1569	2798	4027	5256	6485	7714	8943
1450.00	1869	3198	4527	5856	7185	8514	9843
1550.00	2169	3598	5027	6456	7885	9314	10743

NET RETURNS PER ACRE ABOVE TOTAL COSTS FOR WINE GRAPES

PRICE (DOLLARS PER TON)	YIELD (TON/ACRE) 3	4	5	6	7	8	9
950.00	-1522	-693	136	965	1794	2624	3453
1050.00	-1222	-293	636	1565	2494	3424	4353
1150.00	-922	107	1136	2165	3194	4224	5253
1250.00	-622	507	1636	2765	3894	5024	6153
1350.00	-322	907	2136	3365	4594	5824	7053
1450.00	-22	1307	2636	3965	5294	6624	7953
1550.00	278	1707	3126	4565	5994	7424	8853

Table 8.

U.C. COOPERATIVE EXTENSION
COSTS AND RETURNS / BREAKEVEN ANALYSIS
SONOMA COUNTY — 1992

COSTS AND RETURNS — PER ACRE BASIS

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Cash Costs (1-6)
Wine Grapes	7500	2083	5417	2844	4656	4735	2765

COSTS AND RETURNS — TOTAL ACREAGE

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Cash Costs (1-6)
Wine Grapes	225000	62492	162508	85323	139677	142039	82961

BREAKEVEN PRICES PER YIELD UNIT

			Breakeven Price to Cover		
CROP	Base Yield (Units/Acre)	Yield Units	Operating Costs	Cash Costs	Total Costs
			$ per Yield Unit		
Wine Grapes	6.0	ton	347.18	474.02	789.11

BREAKEVEN YIELD PER ACRE

			Breakeven Price to Cover		
CROP	Yield Units	Base Price ($/Unit)	Operating Costs	Cash Costs	Total Costs
			$ per Yield Unit		
Wine Grapes	ton	1250.00	1.7	2.3	3.8

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Chapter 2

SELECTION AND CLASSIFICATION OF RETURNS

SELECTION OF RETURNS

There are several publications and trade journals which list wineries at the national, state and local levels. Starting with *The Wines and Vines Buyers Guide/Annual Directory* (see Sources of Information), an annual publication listing by state, provided virtually all wineries in business at the time of publication. The publication also provided additional information that is useful in securing returns. This information include:

1. the name, address, and telephone number of the winery
2. when the winery was founded
3. who the principals are, such as the owner, CFO, winemaker, etc.
4. vineyard holdings
5. crush and storage capacity
6. types of products (still wine, sparkling wine, brandy)
7. brand names (if different from the winery name)
8. bonded winery number — useful if requesting information from the Bureau of Alcohol, Tobacco and Firearms (BATF)
9. in some cases, the type of entity (proprietorship, partnership, corporate)
10. areas and methods of distribution.

With the names of wineries, the local BATF office should be able to supply Employer Identification Numbers (EIN) for almost all the wineries in that district, along with more information as to the wineries entity status. Utilizing transcripts to confirm the tax year and filing status, the returns should be requested through the Planning and Special Programs Branch.

Many wineries are subsidiaries of larger entities and file as part of the consolidated return. In addition, some entities may have been acquired by foreign parents.

Although tracking ownership can be difficult, the ownership of the various entities can be established. Research of industry periodicals may be required to assist in determining the parent company and where they are located. For wineries who underwent a recent change in ownership, information may be obtained directly from the winery, including a copy of their return.

CLASSIFICATION OF RETURNS

Selecting returns with high audit potential has always been a priority with the Service. Proper screening of winery returns is vital to the success of the program. Winery cost accounting systems are complex and require a significant amount of audit time for proper evaluation.

There are several factors to consider when evaluating a return for potential.

1. Find out as much information on that winery as you can. The *Wines and Vines Buyer's Guide* provides information such as type of products, annual production, and acres of vineyards owned or controlled by the winery. Industry periodicals provide a wealth of information. Details on sales of wineries, acquisitions of certain assets, introductions of new labels or products, etc. can all be useful in determining audit potential.

2. Who prepared the return? There are a handful of local CPA firms that specialize in the wine industry. A possible "flag" is a return prepared by anyone not specializing in wineries. A significant rate of substantial errors had been found in examinations of those returns.

3. Look for obvious omissions in the cost accounting system. Was all depreciation expensed? Was all interest expensed? In reviewing the Cost of Goods Sold section, does it appear that indirect costs, such as payroll tax expense, insurance, repairs, general and administrative costs, etc., have been included?

Chapter 3

AUDIT COMMENTS

SCOPE

This chapter provides information in conducting the pre-audit, initial interview, and comparative analysis of the balance sheet and income and expense statements.

INITIAL DOCUMENT REQUEST

The following is a pro forma initial Document Request that may be used for examination of wineries.

Form 4564 **Rev. Jan. 1984**	**Department of the Treasury** **Internal Revenue Service** **Information Document Request**	**Request Number**
TO: (Name of Taxpayer and Co. Div. or Branch	Subject SAIN No. / Submitted to: Dates of Previous Requests	

Description of Documents Requested

In addition to the general, common requests such as related party tax returns, employment tax returns, and other package audit items:

(1) Inventory costing workpapers, including

- physical inventory count sheets
- breakdown of vintages and varietals
- notes or discussion on application of UNICAP
- how do they allocate indirect costs such as officer's salary, depreciation, interest, G&A, etc.?
  - did they restate inventory in the first year of UNICAP?
  - did they recognize the Section 481(a) amount in income?
  - what is their definition of "production period"?

(2) Release date history

(3) Forms 702 and 2050 (BATF) for the period —

(4) Prior BATF audits/reports

(5) Depreciation Schedule

- looking for buildings at 5 year life and depreciation on production assets being expensed rather than capitalized to inventory.
- allocation of purchase price on vineyard properties
- vineyards being depreciated prior to first crop?

From:	Name and Title of Requester	Date
	Office Location	

INITIAL INTERVIEW AND WALK THROUGH

As with any examination, the initial interview can be crucial. One of the most difficult aspects of UNICAP is the allocation of certain costs, especially officer's and employee's salaries. The walk through of the facilities should be viewed as an opportunity to verify the overhead allocations made. Since the overhead allocations may be made asset by asset or by square footage, getting a firm understanding of the layout of the facility is essential.

The walk through is an excellent time for the taxpayer to tell you about their product line, what varietals they produce, what processes they use, and what the different assets are used for.

In addition to all your other standard questions, including those about internal control, you may wish to ask about:

Vineyard Operations:

1. Do you grow your own grapes? If so, do you sell any to outside parties? How do you account for grape growing costs (expensed versus capitalized to inventory)?

2. Do you purchase grapes from related parties? If so, what are the terms? FMV? Payment made in the year of sale or when the wine made from those grapes is sold?

3. Did you buy any vineyard properties recently? (Purchase price allocations — placed in service dates.)

4. Did you plant or convert (t-bud) any vineyards recently? (T-budding is the grafting in of a different type of wine grape to the trunk of an existing vine. The issues involve the capitalization of development costs, including fumigation, cost of vines and trellises, labor, etc.) See Exhibit 1-1.

5. How do you keep track of vineyard labor? (Expensed versus Capitalized)

6. Did you have any losses due to phylloxera disease? (Phylloxera is a root louse that feeds on the roots of vines. The disease kills the vines and the only effective treatment is to replace the vineyard.) See Chapter 4, Vineyard Operations, for discussion of this issue.

Manufacturing Operations:

1. Where are the production facilities? (Some wineries may have several crushing, bottling/warehousing locations.)

2. How do you account for winery labor? (How do they keep track of capitalized vs. expensed costs.)

3. What facilities are used for crush/ferment versus barrel/bottle aging versus post-production warehousing? (Some wineries have limited storage space and may use a coop of some sort for bottle aging — these costs should be capitalized.)

4. Do you do any custom crush or have any custom crush work done? (Custom crush refers to a winery, who has the idle production capacity doing the crush/ferment and even bottling/aging for someone who has grapes but not the equipment available. This should be reflected in other income, with an offsetting allocation of costs, by the winery doing the work. The amounts paid would be capitalized as part of the cost of the wine by the owner of the grapes.)

5. What exactly are the tasks of the highly compensated employees? (Since UNICAP requires officers' salaries to be capitalized if related to production, it seems that more and more of their time is accounted for in marketing!)

Cost Accounting System:

1. What method do you use? (Are they on UNICAP? Have they tried to avoid UNICAP by using lower of cost or market? Some wineries have used bulk wine spot prices or other estimates of fair market value?)

2. Did you have any write-downs of your inventory? (Sometimes a particular tank of wine might in fact go wrong, and the actual sales price might drop below cost. In other situations, a particular varietal may not be well received, but the sales price may not be reduced. It just takes longer to move the product.)

3. Is there a narrative or other documentation available that discusses how the cost accounting system works? (Often the larger wineries, who have adopted UNICAP will have a detailed analysis of how they implemented UNICAP — how they allocated the various costs between the cost centers.)

4. When UNICAP became applicable, was beginning inventory restated?

5. How do you account for interest expense? (UNICAP requires that interest expense be allocated to inventory having a production period in excess of 2 years, such as most red wines, sparkling wines and brandy, and to inventory with a production period of between 1 and 2 years if the value of the inventory exceeds $1 million. National Office has indicated that the $1 million limit applies to a salable unit. Since cases of wine do not cost more than the limit, interest will not be capitalized if the production period is less than 2 years.)

Marketing/Sales

1. Do you do direct sales, use a broker or a distributor or a combination thereof? Are sales limited to your state or do you sell nationwide or export?

2. Do you maintain your own sales force? Are shareholder/employees or owners involved? (Again, as it relates to UNICAP, the costs involved in marketing and sales are currently deductible. A principal shareholder/owner might wear the title of "winemaker" when in reality he or she spends a significant amount of time on the road promoting the wine, leaving the actual production process in the hands of an assistant. Conversely, a guest appearance at a promotional event does not turn a winemaker into a Vice President of Marketing.

3. Do you sell any of your wines on futures? (This was a common practice. A customer would buy wine half way through its production period at a set price and take delivery of the wine on release. The customary terms were half down, and the balance upon delivery. The customers would forfeit their deposit if they didn't complete their transaction within a short period of time after the release. The wineries invariably treated the down payments as a liability, rather than income. While this seems to have been a fad that quickly faded, you may still see substantial futures sales and wish to pursue the issue of recognition of income.)

BALANCE SHEET ACCOUNTS

During the pre-audit a comparison of the pre-UNICAP return to the return where UNICAP is first applicable should be performed to review the changes. There should be significant changes in certain expense items being capitalized for UNICAP. Depreciation, interest expense, officers' salaries, and an allocation of general and administrative expenses were not required to be capitalized under full absorption. Beginning inventory should be restated in the first year of UNICAP.

Inventories

Compare the balance sheet amounts with prior and subsequent year returns, Schedule A (Computation of Cost of Goods Sold) and the financial statements if available. Are there any discrepancies? In one examination, tasting room inventory was included per the financial statements but excluded from the tax returns. Has the taxpayer changed the inventory calculations between returns without making the necessary amendments? Compare the balance sheet amounts with the inventory workpapers. They do not always agree.

Other Assets

Does the taxpayer have construction in progress? This can be an indication that vineyards in the development stage are being properly accounted for.

Buildings and Other Depreciable Assets (Fixed Assets)

This industry is one of the most capital intensive industries in the United States. The assets to sales ratios normally run about 2 to 1. A lack of assets could be an indication that the taxpayer is renting assets from a related party. If production assets are being rented, this rent should be capitalized to inventory. The depreciation schedule should be scrutinized for (1) adequate capitalization of depreciation to inventory, (2) useful lives on buildings (sometimes claimed to be essentially equipment), (3) personal residences being depreciated, (4) all development costs being capitalized, and (5) placed in service dates. (Are the vineyards producing a crop?)

Land

Review the land/depreciable assets in the vineyard allocation. Did the taxpayer purchase the land with the vineyard already planted?

Interest Bearing Debt in General

Compare the amount of debt with the amount of interest expense. Is it reasonable? If the taxpayer produces products with a long production period (most red wines, sparkling wines and brandy), is a portion of the interest being capitalized? Under UNICAP, interest should be capitalized under the avoided cost method.

Other Liabilities

Sometimes the breakdown of this amount will indicate that there is an amount "due to affiliates" or "due on grape purchases" or some similar description. This should be investigated to determine if an accrual basis winery is purchasing grapes from a related cash basis vineyard. Often, the terms will state that the winery will voluntarily withhold payment to the vineyard until the wine produced from those grapes is sold. This can result in an unwarranted deferral of the recognition of income (at the vineyard level) for a period of up to 5 years. See Chapter 4 for further discussion.

INCOME AND EXPENSE ACCOUNTS

Other Income

Taxpayer was required to restate (increase) beginning inventory for the first year of UNICAP. This increase will be taken into income, generally, over a period of 4 years. Does the other income account include the IRC section 481(a) amount? Does the taxpayer do any custom crushing? Does the taxpayer sell any by-products? Some of the larger producers will sell their solid waste (skins, seeds, stems, and leaves) as a soil conditioner.

Compensation of Officers

Is any amount capitalized to inventory?

Salaries and Wages

Due to the changes required by UNICAP, a higher percentage of wages should be capitalized (reflected in the Cost of Goods Sold computation) than expensed directly. If you have the return prior to UNICAP, compare the percentages.

Repairs

Under UNICAP, repairs to production assets must be capitalized to inventory.

Rent

Under UNICAP or full-absorption, rent on production assets must be capitalized to inventory.

Taxes

There are four main categories of taxes for wineries. They are: Payroll taxes, real estate taxes, wine (excise) taxes, and income and miscellaneous other taxes. Payroll taxes should be capitalized to inventory in the same ratio as the wages to which they relate. Real estate taxes on production assets should be capitalized to inventory per UNICAP. The wine excise tax is administered by the BATF and is filed using a Form ATFF 5000.24. This tax is paid when the wine is transferred "out-of-bond." The term "bonded facility" means a specific geographic location that is under bond to the BATF. When alcoholic beverages are produced, excise tax must be paid when the product is transferred from that location, unless the new location is also a bonded facility. Generally, the wine is not transferred until the year of sale. Therefore, whether it is treated as an expense item or directly attached to the wine sold, the effect would be an allowance in the year of sale. However, if the wine is transferred in years prior to sale, and the excise tax is paid upon transfer, the tax should be included in the ending inventory calculation for UNICAP. Income taxes are specifically excluded from capitalization under UNICAP.

Interest Expense

Again, per UNICAP, interest expense needs to be capitalized to inventory if the production period exceeds 2 years, or, if the value (cost) exceeds $1 million and the production period exceeds 1 year.

Depreciation

See Buildings and Other Depreciable Assets section above.

Advertising

Generally, amounts expended for advertising and promotion are currently deductible. However, the account should be reviewed for label development costs and, in closely held entities, for personal expenses.

Pension/Profit Sharing Plans and Employee Benefits

These costs should be capitalized in the same ratio as the wages from which they came.

Other Deductions

Some preparers use this section to show the total capitalization of expenses to inventory, including amounts capitalized on the expenses listed above. In some cases, the amount of capitalization exceeds the total of "other expenses," resulting in a negative amount. Since this total amount of capitalization cannot be traced to any specific account, it is difficult to isolate any expenses in the pre-audit that appear to warrant attention. If that is the case, you will need to wait until you receive a breakdown from the taxpayer. Some preparers provide a schedule of capitalized costs, as an attachment to the return. This schedule shows the total amount of an expense, and an individual breakdown of the amount capitalized and the amount expensed. This type of schedule can be very helpful in your pre-audit to determine the scope of your review of the taxpayer's application of UNICAP.

In addition, this account should be reviewed for other items that should be capitalized to inventory, such as supplies, utilities, insurance, contract labor, production related consulting/professional fees, storage or warehousing costs, and other indirect production costs.

Professional fees should be reviewed for items such as label development costs and trademark costs (no longer deductible), legal fees associated with the acquisition of assets, and any other capitalizable costs.

Costs that would generally be currently deductible include indirect costs of the sales/marketing department, sales commissions to distributors, and other advertising, promotion, or marketing costs.

Department of the Treasury
Bureau of Alcohol, Tobacco and Firearms
WINE

Bottle Size	Equivalent Fluid Ounces	Bottles Per Case	Liters Per Case	U.S Gallons Per Case	Corresponds To
3 liters	101 Fl. Oz.	4	12.00	3.17004	4/5 Gallon
1.5 liters	50.7 Fl. Oz.	6	9.00	2.37753	2/5 Gallon
1 liter	33.8 Fl. Oz.	12	12.00	3.17004	1 Quart
750 milliliters	25.4 Fl. Oz.	12	9.00	2.37753	4/5 Quart
375 milliliters	12.7 Fl. Oz.	24	9.00	2.37753	4/5 Pint
187 milliliters	6.3 Fl. Oz.	48	8.976	2.37119	2/5 Pint
100 milliliters	3.4 Fl. Oz.	60	6.00	1.58502	2, 3, & 4 Oz.

Official Conversion Factor: 1 Liter = 0.26417 U.S. Gallon
Mandatory date for conversion: January 1, 1979

U.S. Government Printing Office: 1985 — 491-840/46360

ATF F 5100.10 (8-85)

Department of the Treasury
Bureau of Alcohol, Tobacco and Firearms
DISTILLED SPIRITS

Bottle Size	Equivalent Fluid Ounces	Bottles Per Case	Liters Per Case	U.S Gallons Per Case	Corresponds To
1.75 liters	59.2 Fl. Oz.	6	10.50	2.773806	½ Gallon
1.00 liters	33.8 Fl. Oz.	12	12.00	3.170064	1 Quart
750 milliliters	25.4 Fl. Oz.	12	9.00	2.377548	4/5 Quart
500 milliliters	16.9 Fl. Oz.	24	12.00	3.170064	1 Pint
375 milliliters	12.7 Fl. Oz.	24	9.00	2.377548	4/5 Pint
200 milliliters	6.8 Fl. Oz.	48	9.60	2.536051	½ Pint
100 milliliters	3.4 Fl. Oz.	60	6.00	1.585032	¼ Pint
50 milliliters	7.7 Fl. Oz	120	6.00	1.585032	1, 1.6, & 2 Oz.

Official Conversion Factor: 1 Liter = 0.264172 U.S. Gallon
Mandatory date for conversion: January 1, 1980

ATF F 5100.10 (8-85)

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Chapter 4

WINE INDUSTRY ISSUES

INVENTORY COSTING

For information on Full Absorption, see IRC section 471.

For information on Uniform Capitalization, see IRC section 263A.

General Discussion

Wineries are manufacturers and as such, must use the accrual method of accounting for their inventory using a cost method. Prior to the adoption of IRC section 263A (UNICAP), manufacturers were required to account for their inventories using the full-absorption rules under IRC section 471. Full-absorption required allocation of direct costs (grapes, bottles, corks, labels, direct labor) and certain indirect costs to inventory.

Indirect costs that were required to be allocated included certain repairs, maintenance, utilities, rent, indirect and supervisory labor, indirect materials and supplies, tools and equipment, and quality control, and inspection.

A second category of costs were specifically excluded from allocation to inventory and were allowed as current expenses. Examples of these costs included marketing, advertising, selling, distributing, the excess of tax depreciation over book, income taxes, and general and administrative costs, including officers' salaries attributable to the operation of the business as whole, rather than directly to the production activity.

A third category of costs was only allocated to inventory if these costs were allocated to inventory for financial accounting purposes. These items included taxes, book depreciation, employee benefits, scrap losses, rework, factory administrative costs, certain officers' salaries, and insurance.

Prior to UNICAP, some wineries used various interpretations of the practical capacity method, citing the *Heaven Hill* case, claiming that most of the winery assets were only used "for production" during the crush/fermentation process. The operations after turning the grape juice into wine were merely "storage." Therefore, the indirect costs (such as utilities, rents, etc.) attributable to that period were expensed, rather than allocated to inventory. However, any direct costs incurred were still capitalized. An example of this would be bottling costs.

The New Law

UNICAP became effective for returns whose fiscal year began after December 31, 1986. Therefore, the earliest returns to which UNICAP applies are calendar year 1987. Any fiscal year returns ending prior to that would have begun in 1986 and UNICAP would not apply. UNICAP is applicable for all manufacturers (including wineries) and vineyard operations. However, most vineyard operations can (and do) elect out of UNICAP. See Notice 88-24 as listed in Exhibit 4-1.

Two major changes were instituted by UNICAP. First, several new categories of costs are now required to be allocated, in part or in whole, to inventory. These additional costs to be allocated include all depreciation on production assets, insurance, certain taxes, employee benefits, officers' salaries, and general and administrative costs. Second, the definition of "production period" (that time frame during which appropriate costs must be allocated) was broadened and strengthened. See Exhibit 4-2. The Senate Finance Committee Report specifically addressed the *Heaven Hill* decision. The report indicates that in the case of the property such as wine that is aged before it is sold, the production period includes the aging period. The Service is taking the position that the aging period ends when the wine is "released for sale." Many wineries have a published release schedule, while others may have an informal arrangement.

Restatement of Beginning Inventory in the Year of Change

For Change of Accounting Methods see Rev. Proc. 92-20.

The change from full-absorption to UNICAP is a change in method of accounting. The legislative history of IRC section 263A makes it clear that the taxpayer must compute an IRC section 481(a) adjustment in the first year UNICAP applies and that the IRC section 481(a) adjustment will generally be taken into income over 4 years. See Conf. Rep. No. 841, 99th Cong., 2d Sess. II-308 (1986) reprinted in 1986-3 1986-3 C.B. (Vol. 4), p. 308; Temp. Treas. Reg. section 1.263A-1T(e)(2) and Temp. Treas. Reg. section 1.263A(e)(3). If the taxpayer should have been on UNICAP but was not, this constitutes a "Category A" method change. See Notice 88-78, 1988-2 C.B. 394.

Taxpayers have a choice in applying UNICAP. They can painstakingly review their prior years' costs to determine which specific items were previously treated as period costs that under UNICAP should have been capitalized. This difference, to the degree that those items are still in inventory, makes up the IRC section 481(a) amount. While this system is the most accurate (if the information is even available), it can be very time consuming and costly. A "simplified production method" is available. Essentially, the taxpayer would continue to use their pre-UNICAP accounting system, specifically identify additional UNICAP costs only for the current year, and then apply the percentage difference to the beginning year's inventory figure to calculate the IRC section 481(a) amount. For example, if a taxpayer calculated its ending inventory under full-absorption at $1,000 and determined that the additional costs to be capitalized for UNICAP totalled $250, then the percentage increase due to UNICAP is presumed to be 25 percent. Therefore, the beginning inventory would be increased by 25 percent to restate the inventory per UNICAP. This method, though decidedly easier, will result, in most circumstances, in a larger increase to beginning inventory than a specific identification method.

Definition of Production Period

As previously mentioned, production costs are only allocated to inventory during the production period. Generally, the production period will begin when the grapes are crushed. This date can be tied to the "weight tickets" the wineries are required to fill out for the BATF. The production period ends when the wine is "released for sale."

Exactly when the wine is released for sale is a determination that will vary depending on the facts and circumstances unique to each winery. Some wineries regularly and routinely produce wine for sale as bulk wine. This product can be sold immediately after the fermentation process. If this is the case, the production period would end when that vintage/varietal is offered for sale. Conversely, if the winery routinely ages the wine in tanks, barrels and/or bottles, the production period would not end until the winery decides that the wine has aged sufficiently and is ready to be sold. An actual "releasing" of the wine for sale to the customer would show the release date. Some wineries can verify this date by a printed schedule of release dates that they provide to their distributors. If this type of information is not available, ask for the earliest shipping tag for a vintage/varietal.

While every winery is going to differ, most premium white wines are released within 24 months. Most premium red wines are released after 24 months, with the possible exception of Pinot Noir. Bulk wine is normally sold within 12 months to free up the fermenting tanks for the next year's harvest.

Specific Allocation of Expenses/Departments to Inventory

When various costs are allocated to inventory, the deduction of those costs is delayed until the wine is sold. Since this delay can be several years, you may find some taxpayers trying to categorize costs as non-allocable, thereby gaining current deductibility. Under UNICAP, many costs are allocable in part or in full to inventory. The taxpayer's workpapers on the actual calculation of ending inventory should be reviewed to determine if costs were properly allocated and capitalized. The examiner should ensure that the ending inventory on Schedule A (calculation of cost of goods sold) includes an appropriate amount of allocable costs. If these costs are excluded in the calculation of ending inventory, the result is a current expensing of the costs.

The total direct and indirect costs (service costs) of an administrative, service, or support department or function (service department) that directly benefit particular production activities are allocable to those activities. The direct costs of a service department are the costs that are specifically identified with the services provided. The indirect costs of a service department are those costs that can't be identified, but are incurred because of a service department's direct costs. For example, a "purchases" department would be a service department to the extent that it purchased grapes and other supplies for the production process. The purchasing representative's salary would be a direct cost. Utilities associated with the purchasing office would be an indirect cost.

Mixed service costs (costs that benefit production activities as well as other functions) must be allocated to the particular activities.

With UNICAP, sales and marketing expenses are not allocable to inventory. Similarly, the tax and financial accounting departments are not part of inventory costing. Conversely, all direct costs and other costs associated with production (such as repairs to production assets, real estate taxes, insurance, depreciation, etc., on production assets, etc.) must be capitalized. While most of these costs are easily identifiable, the proper treatment of these costs is often an issue. Many of these costs require an allocation between production and other cost centers. For example, the winery building would have depreciation, utilities, insurance, real estate and various other expenses associated with it. If that building was used solely for the crushing/fermenting of grapes and the aging of wine in barrels, then all the associated costs would be allocated to inventory. This is rarely the case. Usually, the winery assets might house and/or serve several functions. There might be a tasting room, general and administrative office, sales office, and post-aging (post production period) storage facility. An allocation of the costs must be made to the various functions. The methodology used by the taxpayer should be reviewed. Some costs, such as those of a building, can be allocated easily by using square footage. Other costs, such as labor, might be most accurately allocated by reviewing the time spent. For example, the winemaker may spend 75 percent of his or her time actually in the cellar, while the other 25 percent may be spent in the tasting room, marketing the wine to customers. In such a case, the salary should be allocated between production and marketing, based on the relative time spent on each. Other costs, such as security services, might be most easily allocated based on relative value of the assets protected. See Exhibit 4-2.

Interest Expense — Avoided Cost Method

Interest expense must be allocated to inventory if the production period exceeds 2 years. The over 1 year and over $1 million definition applies to each salable unit. Therefore, interest will only be capitalized to wine that has a production period exceeding 2 years.

Interest is to be allocated to inventory using the avoided cost method. See Notice 88-99, as listed in Exhibit 4-1. The calculation is essentially a two-step process. First, interest expense is traced to its source. Interest that is directly attributable to production assets is allocated to inventory. Second, a calculation is made to determine the amount of interest expense that would have been avoided if debt would have been reduced (paid-off) rather than the funds expended on the costs of production. Note, the interest capitalization requirements will usually not apply to all the items in a winery's inventory, as not all items will have the requisite production period. Therefore, once the total amount of interest expense to be allocated to inventory is determined (based on the avoided cost method), a secondary determination must be made as to which items of inventory require interest capitalization.

LIFO

Many wineries have elected LIFO to enjoy the tax benefits of increasing inventory costs. When UNICAP came into effect, the LIFO layers were required to be restated as if UNICAP had been in effect since the time of election. There is also a simplified method available to restate the layers.

Most taxpayers use a dollar-value method, with double extension being the most popular. It is preferred because it will more accurately reflect income. Barring any compelling argument from the taxpayer, double extension should be used.

New Issue:

An issue has been raised, with concurrence from National Office, where the definition of an item has been expanded. In order to clearly reflect income, the grouping of like goods and the separation of dissimilar goods must be accomplished. Per *Amity Leather Products Co. v. Commissioner*, 82 T.C. 726, the more homogeneous each category is, the better it will screen out cost increases caused by non-inflationary factors, thus producing a clearer reflection of income. The LIFO method was not intended to permit taxpayers to include in cost of goods sold increases attributable to the replacement of goods with low cost characteristics with goods possessing higher cost characteristics. *Hamilton Industries, Inc. v. Commissioner*, 97 T.C. 120 (1991).

Wineries in general have been moving from generic/jug wines to more costly premium varietals. The cost differentials can be substantial, without considering inflation. If a taxpayer has changed their mix of product over the years and does not differentiate between low and high cost items, consider requiring a change in segregate items by varietal. This should more accurately reflect increases due to changing production methods and costs, rather than inflation.

Note: This type of change would be a change in method of accounting. Generally, Rev. Proc. 92-20 governs voluntary changes in methods of accounting.

Lower of Cost or Market

Manufacturers are allowed to elect to use the Lower of Cost or Market method (LCM) of determining their ending inventory. The intention of this method is to properly match a distinct loss in the value or utility of an inventory item with the period in which the loss is realized.

Some wineries have attempted to use LCM to accelerate cost of goods sold deductions by valuing their ending inventory at a market value that is substantially lower than cost.

The most common valuation is to use bulk wine spot prices, as quoted by a dealer in bulk wine. This method is used, even though the wines are often never sold as bulk wines, and never even offered for sale at the quoted prices. Other valuations have been noted, including using the county tax assessor's personal property tax valuation. It is the Service's position that, except for a few specific instances, the taxpayer must use cost to value their ending inventory.

There are times when a specific vintage/varietal of the taxpayer's wine may be unsuitable for sale at a price higher than cost. In those instances, whether because of spoilage, change in consumer demand, etc., where the taxpayer has attempted to sell the wine at a price lower than cost, a writedown to "market" should be allowed. However, an arbitrary writedown to a value lower than cost should not be allowed when the product has not been offered for sale at that lower price. See *Thor Power Tool Co. v. Commissioner*, 439 U.S. 522 (1979). TAM 9121003 is an example of the Service's position.

Under certain circumstances, a taxpayer can use replacement cost to value its inventory. However, the taxpayer has the burden of establishing a valuation below cost by presenting sufficient, objective evidence of prices of comparable goods in the same quantities the taxpayer would purchase if it were engaged in purchasing bulk wine rather than producing it.

VINEYARD OPERATIONS

Cash Basis Vineyards, Capitalized Costs, and Phylloxera Disease are discussed below.

Cash Basis Vineyards

These areas discussed under Cash Basis Vineyards are: 1) Deferring Recognition of Income; 2) Expensing of Grape Growing Cost; and 3) Consolidated Returns.

Deferring Recognition of Income

Issue: Sales to Related Winery -- Payments Deferred/Wineries Expensing Grapes.

It is a standard practice within the industry for a winery to own or control its own grape supply. This insures not only supply but quality control of grapes. In fact, many of the wineries started from vineyard operations.

It is also a standard practice that the form of ownership of the winery and vineyard might be different, even though controlled and owned by the same person(s). We have seen consolidated returns with both the vineyard and winery operations being corporations, and any combination of corporate, partnership, S-Corporation and individual ownership of the two operations. Another more extreme version is to expense growing costs and transfer the grapes to the winery at no cost or basis. (See the following section for discussion of single entity issue.)

The issue that should be addressed is the use of the cash method of accounting at the vineyard level and the voluntary deferral of payment on the grape purchases by the winery. Since wineries, as a manufacturer, must use the accrual basis of accounting the deferral of payment should make no tax difference at the winery level, since no deductions are claimed at the winery level until the wine is sold. However, if the payments by the winery are withheld for a period of time, this creates an unwarranted deferral of the recognition of income at the vineyard level.

The terms of payment in the grape purchase arrangements can vary greatly. In interviewing an independent grape grower, it was disclosed that the standard practice of most larger wineries is to make full payment within 30 days of the last harvest for white grapes and by mid-December for red grapes. Payment arrangements with smaller wineries are individually negotiated but range from 25-50 percent downpayment with full payment by March to May of the subsequent year, with possibly interest charged on any amounts unpaid as of the beginning of the calendar year. This appears to be the industry standard between unrelated vineyards selling grapes to wineries. Of course, price is set based on demand and quality, negotiated at arm's length.

The terms between related parties sometimes deviate from the above mentioned industry practices. The prices to be paid have ranged from cost to using the "Berryhill" report (the State Agriculture Department Grape Price Report) or other published prices for location and variety to using the "Berryhill" plus an additional percentage to account for higher quality grapes. There have been few issues raised regarding pricing policies as prices appear to be negotiated at arm's length and in accordance with IRC section 482. The terms (timing) of payment is what needs to be addressed.

Several vineyards have made arrangements to sell their grapes to the related winery and not receive payment until the wine made from those grapes is sold (or at least some derivative of this type of arrangement). The time frame of deferral can be up to 3 years for white grapes and 5 years for red grapes. In this way, the vineyard recognizes expenses up to 5 years prior to the recognition of income. The terms of such arrangements are sometimes formalized in fixed sales contracts that spell out purchase price and payment schedules and interest bearing notes for the unpaid balances. However, more often the terms are evidenced only by bookkeeping entries and flexible verbal agreements.

These arrangements, in conjunction with the cash basis method of accounting, distort, rather than clearly reflect the income of the vineyard operations. This creates artificial losses with which to offset other income of the vineyard owner.

Law and Argument. IRC section 446(c)(1) specifically allows for the cash receipts and disbursements method. IRC section 447 disbursements method. IRC section 447 requires the accrual method of accounting for determining taxable income for certain C-Corporations and partnerships engaged in the trade or business of farming (unless there is inadequate gross receipts or the C-Corporations are family corporations). IRC section 448 does not affect vineyard operations in that they are "farming businesses."

IRC section 446(b) indicates that a method of accounting must clearly reflect income.

IRC section 451(a) provides that income shall be included in the taxable year in which received, unless under the taxpayer's method of accounting, such income is includible in another period. In the case of a taxpayer using the cash receipts and disbursements method of accounting, Treas. Reg. section 1.451-2(a) provides, in pertinent part, that income although not actually reduced to a taxpayer's possession is constructively received by him or her in the taxable year during which it is credited to his or her account, set apart for him or her, otherwise made available so that he or she may draw upon it at any time, or so that he or she could have drawn upon it during the taxable year if notice of intention to withdraw had been given.

Various court cases and revenue rulings have addressed the issue of deferred payment arrangements similar to the types in question, but none were found that deal with vineyards. The court cases have found for both sides of this issue.

The main factor that runs through all of the cases and rulings seem to be that of the "arm's length transaction." The deferred payment arrangements are not at "arm's length," are volunteered on the part of the payee, and do not conform to industry practices for unrelated parties.

Revenue Ruling 58-162, 1958-1, 234; *J.B. Banek*, 56-1 U.S.T.C. 9175; *Kenneth McIntyre v. United States*, 58-1 U.S.T.C. 9355; and *Levno v. United States*, 77-2 U.S.T.C. 9687 dealt with grain farmers and cattle ranchers who entered into payment deferrals with unrelated parties. All allowed the deferral of income from the year of actual sale to the subsequent year when the sales contract legally bound the parties to such treatment in an arm's length transaction. In *Levno*, it was stated that the intent of the parties was to provide average income in any given year. In each case, the payee lost all control as to the timing of payment, the deferrals were standard industry practices, and appear reasonable.

In *Martin Malmberg v. Lamb*, 53-2 U.S.T.C. 9472, and *Mary Hineman v. Broderick*, 51-2 U.S.T.C. 9403, the courts found that the taxpayer constructively received income in the year of sale (not receipt) when the payment was voluntarily postponed. In Hineman, the deferral period was 2 years, while in Malmberg it was only one.

Revenue Ruling 72-317, 1972-1, 128, addresses the negative implications that "control" has when dealing with constructive receipt. This ruling cites several court cases that indicate due to the control of the taxpayer, constructive receipt was concluded.

Various arguments have been forwarded by taxpayers using these arrangements that include "the winery did not have the funds available" or that "it was a financing arrangement for the winery." No doubt these are valid in their own right, but funds in every case would have become available (either by winery borrowings or owner capital contributions), if the winery was forced to purchase grapes from unrelated parties. In fact, it is a wonderful financing arrangement for the winery to be awarded low interest or interest free loans. It makes perfect economic sense for the winery to never make payments on its grape purchases. But that shouldn't alter the tax treatment of sales at the vineyard level.

For constructive receipt to be successfully raised as an issue, there has to be funds available at the winery level to make the required payments. In some cases, the funds for vineyard operations were advanced by the winery and booked as intercompany accounts payable/ receivable. This shows that not only was the money available, it was actually released to the vineyard, but not recognized as income. If the winery actually has the funds available, but does not advance them to the vineyard, this still indicates availability. If the winery's cash reserves would not cover the required payment, constructive receipt cannot be used. However, looking to the financial position of the winery owner and the borrowing power of the winery can show that funds could have been available and thus add to the "substance over form" issue. In cases where constructive receipt is not appropriate, consider requiring a change of accounting method to the accrual method or consider whether the vineyard must use the installment method. A vineyard must use the installment method where a disposition occurs and at least one payment is to be received after the close of the taxable year of the disposition. Note, however, that a vineyard can elect out of the installment method under IRC section 453 (d).

Using the accrual method of accounting would require the recognition of the gross receipts in the year of sale (the same as constructive receipt). The installment method would delay the recognition of expenses until the income is received.

In the cases where actual notes have been drawn up, *A. Hurwitz,* 23 Tax Ct. Memo 2011, and *R.R. Ellis v. Commissioner*, 39-2 U.S.T.C. 9757, both address the issue of the FMV of the notes received being income if they are unrestricted as to use, disposition, or enjoyment. In the cases where no notes were received, this strengthens the argument that the sales were not at arm' s length.

In any case, whether the eventual sales proceeds are considered to be "constructively received," the accrual or installment methods of accounting are utilized, or the FMV of notes received are used to recognize income in the year of sale, the taxpayer should recognize income and expenses as if selling to an unrelated party. In no case should the deferral extend beyond the year subsequent to the sale.

In cases where constructive receipt cannot be raised, IRC section 482 can be employed. In *Central Bank of the South v. United States,* 88-1 U.S.T.C. 9114, income recognition was forced where no payment was made, in order to clearly reflect income in transactions between related parties. The goal of IRC section 482 is to put related taxpayers on the same footing as unrelated taxpayers.

Issue:

Expensing of Grape Growing Costs by the Winery -- taking the grapes into inventory at no basis.

When a winery owns its own vineyards, another issue may exist. Whether the winery is a sole-proprietorship, a partnership, or a corporation, the costs of growing grapes are expensed and the grapes are transferred from the vineyard to the winery at no basis.

Apparently, the rationale presented by the taxpayer has been that the vineyard part of the operation is a farming business. As such, the vineyard should be allowed to use the cash receipts method of accounting. The vineyard operations would then be reflected on the return using a Schedule F. Since there was no sale in this transaction, only expenses are listed and a loss results, which is used to offset other income.

The winery operation, since it paid nothing for the grapes, take them into inventory at $0 basis. The result of this transaction is that the taxpayer enjoys the recognition of the expenses in the year incurred, but does not recognize the income until the wine is sold. As such, the net effect is the same to the vineyard owner in the previous issue.

Taxpayers have argued that the winery facility is ancillary to the vineyard farming operation and cited *Maple Leaf Farms*, 64 T.C. 428 (1977). In that case, the taxpayer raised, slaughtered, and processed ducks. Some of the ducks were raised but a majority were purchased for slaughter. The taxpayer was significantly involved in the growing process of the purchased ducks. The court held that the taxpayer's business, as a whole, was significantly near the "grower" end of the spectrum (as compared to a processor/manufacturer) to be considered a farmer.

Several factors in the winery/vineyard scenario are distinguishable from *Maple Leaf Farms*. First, the wine processing operation can take up to several years as opposed to one week for the duck processing operation. Second, a substantial amount of time, expense and capital are expended on the wine processing operation as compared to the vineyard operation. It is the Service's position that the winery operation is in fact a manufacturing operation. When the grapes produced by the same entity are not sold, but rather used in the manufacturing process, the grape growing operations become part of the overall manufacturing cycle. See also Rev. Ruls. 64-148 and 58-581.

In two cases with this issue that have been resolved, the taxpayers agreed to the Service's position. The problem in settling the cases has been dealing with Rev. Proc. 84-74. Rev. Proc. 84-74 and now Rev. Proc. 92-20 provide various procedures regarding changes of accounting method and various spread forward periods. The Rev. Procs. indicate how to treat "Category A" changes (changes from a clearly unallowable method) and "Category B" changes (all other changes other than Category A). At the winery level, it can be argued that this would be a Category A method because the taxpayer does not include all direct costs in its inventory. At the vineyard level, it could be considered a Category B change because the cash basis is clearly available to farmers. Note, however, the for involuntary changes in methods of accounting, the taxpayer is not entitled to any spread and the full IRC section 481(a) adjustment should be included in the year of change.

Rev. Proc. 92-20 provides for different treatment during a "transition period" through September 18, 1992. The Industry Specialist for Motor Vehicles produced an analysis of Rev. Proc. 92-20 for the Motor Vehicle Industry. These charts listing the different treatments for Category A, B, and LIFO items during the various time frames have been included as Exhibit 4-2.

Consolidated Returns

IRC section 263A applies to vineyards. Although a "farmer" is generally not required to use the accrual method of accounting or to keep inventories (unless the provisions of IRC section 447 apply), the costs to produce the grapes sold must be included in determining the amount of gain to be deferred. Therefore, the cost of growing the grapes, as determined with reference to IRC section 263A, must be deferred along with the gross proceeds. TAM 9134001 is an example of Service position on this issue.

A similar issue was identified in a consolidated return setting. One of the subs, the vineyard, was selling grapes to another consolidated member. The taxpayer argued that all expenses at the vineyard level were period costs and should be currently expensed. Only the gross receipts should be part of the computation of deferred gain. Therefore, the taxpayer effectively deferred all the income and expensed all the costs. However, as noted above, the cost of growing the grapes must be deferred along with the income under IRC section 263A. Additionally, the gain or loss in an intercompany transaction must be deferred under Treas. Reg. section 1.502-13(c)(2).

Capitalized Costs

Issue: Capitalization of T-budding Expense.

"T-budding" is a popular method of converting a vineyard of an existing varietal grape to produce a different, more marketable type of varietal. The process is to cut off an existing vine at about 4 feet high and graft in two "buds" or branches from another type of grape in the shape of a T. This allows for a quick conversion from an unmarketable grape to a desired variety at minimal cost and loss of production. A minimal crop is often attained in the year of the conversion and maximum yields are attained in 2 or 3 years. "T-budding" is especially popular with growers wanting to convert to zinfandel grapes, which have been in short supply. The costs of converting a vineyard should be capitalized, as the "new" vines have a substantial useful life.

Issue: Capitalization of Development Costs.

See Exhibit 1-2 for a reference chart on the costs to develop a vineyard, when the costs are incurred, and the tax treatment of those costs.

Generally speaking, the direct costs of the vines (rootstock and trellis) as well as the labor and indirect costs to plant should be capitalized and depreciated when the vines start producing grapes. The cost of the irrigation system (including the labor to install it) should be depreciated starting when it first delivers water to the vines.

Issue: Capitalization of Fumigation.

Several soil-borne diseases and pests may be present at a proposed vineyard site. These diseases and pests can substantially reduce crop yield and quality. Prior to planting, the soil is tested to determine the extent of infestation. If the problem is severe enough, the soil may need to be sterilized prior to planting. This process (fumigation) entails injecting the soil with liquid chemicals, which then turn into a gas and permeate the soil. The soil is covered with plastic to trap the gas. The cost can range from a few hundred dollars per acre on up depending on the soil conditions. This process is only done prior to planting. While the benefits from fumigation will slowly wane over the life of the vineyard, it does provide benefit for a period longer than the ACRS useful life of the vineyard.

This cost is not deductible under IRC section 175 as a soil conservation expense, under IRC section 182 (repealed as of December 31, 1985) as a land clearing expense, or under IRC section 180 as a soil treatment expense. Treas. Reg. section 1.180-1(b) denies a deduction for costs incurred in the initial treatment of land. The intent of IRC section 180 was to allow a deduction for recurring soil treatments such as fertilizers and the like. Therefore, the Service has taken the position that the cost of fumigation should be capitalized. Since the benefits of fumigation are limited, it is reasonable that the costs be added to the cost of the vines and similarly depreciated.

Issue: Phylloxera -- Vine Replacement.

Phylloxera is a disease (a root louse) that attacks vineyards. This disease destroyed the American and European grape growing operations at the turn of the century, and it's back. Several positions have been promoted by individuals in the wine industry as to how to treat the $10,000 to $15,000 per acre costs to replace infected vineyards. A Napa Valley winery requested a Private Letter Ruling (PLR), and asked that they be allowed to 1) expense the basis of the old vineyard and the costs to remove it as an abandonment loss, and 2) expense all the costs associated with developing the new vineyard.

National Office indicated that the Service's position would be to capitalize certain costs, including:

1. The engineering and design of the new vineyard

2. Preparation of the land for replanting, including fumigation

3. Purchase of vines, irrigation equipment and trellis system

4. Planting and installation costs

5. Budding (grafting on varietal vines to rootstock).

Based on this response, the taxpayer withdrew their request.

DEPRECIATION/AMORTIZATION

Issue: Five Year Life on Buildings.

Winery operations require buildings for various phases of their operations. Generally, the fermenting tanks, aging barrels, and bottling lines are housed within buildings. In most cases, the aging facilities are temperature controlled. In many cases, white wine is fermented in temperature controlled tanks. In some cases, the facility might be humidity controlled. In some rare cases, the building housing the fermenting tanks might literally be built around the tank.

A number of years ago, when Investment Tax Credit (ITC) was allowed, it was popular to claim that certain tangible assets were not buildings, but were in fact "equipment." This equipment not only qualified for ITC, but as 5 year property for purposes of calculating depreciation. Wineries have been known to claim this treatment for the winery building as well as separate aging facilities. Since ITC is no longer allowable, and several court cases have more narrowly defined what type of property warrants the preferred treatment, this practice is no longer as prevalent as it once was. However, it still comes up from time to time.

Special Type Buildings versus Special Purpose Structures. Only Special Purpose Structures can qualify for the preferential treatment. There are many buildings built for special purposes. Almost all buildings are built in some way for a special purpose, that is, factory building, hotel, apartment house, restaurant, warehouse, office building, etc. However, a special purpose building is not a special purpose structure. Special purpose structures are structures (as defined in Rev. Proc. 62-21) which are an integral part of the production process and which, under normal practice, are replaced contemporaneously with the equipment that they house, support, or move. (Rev. Rul. 66-29 clarifies and supports this position.) General purpose buildings, such as warehouses, storage facilities, general factory buildings, and commercial buildings are not special purpose structures.

Bulk Storage Structures. Some taxpayers have attempted to classify their buildings as bulk storage structures. The Revenue Act of 1971 clearly states that, to qualify, the property must be used for bulk storage of fungible commodities. Bulk storage refers to the keeping of a commodity of a large mass prior to consumption or utilization. Commodities that are fungible in nature are of such nature that one part can be used in place of another. The tanks and barrels hold the commodity, not the building. The building holds the tanks and barrels, not a commodity. Refer also to Rev. Rul. 74-3 and Treas. Reg. section 1.48-1(d)(5).

Issue: Purchase Price Allocations.

When a going concern is purchased by a taxpayer, a common area of dispute is the allocation of purchase price between land, buildings and equipment for wineries and land, vines and other equipment for vineyards. These allocations are occasionally based on appraisals but more frequently are based on informal estimates.

These allocations need to be reviewed for reasonableness. Industry publications are available that reflect costs to develop vineyards. Information on the cost of planted vs. unplanted land is also generally available. If information is not available, or if the dollar amounts are significant, an engineering referral is recommended. In one examination, an engineering referral resulted in a significant adjustment in the allocation of purchase price to goodwill rather than depreciable assets (buildings).

Issue: Trade and Label Development.

Wineries incur substantial costs in the development of trademarks for their winery name. They will also procure a trademark to protect a proprietary wine name. They may also receive trademarks on label designs, vineyard designations, and unique manufacturing processes.

Prior to 1987, the costs incurred for the acquisition, protection, expansion, registration or defense of a trademark or trade name had to be capitalized. The taxpayer could elect, under IRC section 177, to amortize these costs over a not less than 60 month period. Generally, for costs incurred after 1986, this election has been repealed. Therefore, the taxpayer cannot expense directly or capitalize and then amortize these costs.

Since these costs generally show up as legal fees, the professional fees or legal fees account should be reviewed to see if any of these type of expenditures are present.

Wineries also incur substantial costs in the designing or developing of their labels and packaging designs. Usually this work is contracted out to a graphic arts company, but on occasion, wineries have connected with a well-known artist to do a label design. As mentioned above, these label designs, once developed, are trademarked. The costs can range from a few thousand dollars for a simple label, to over $200,000 for a complete line of label, case, box, corkscrew, T-shirt, etc. designs.

Rev. Rul. 89-23 was published and was applicable to costs incurred after 1986. These expenditures must be capitalized. This ruling originally stated that the cost of package designs may not be amortized under Treas. Reg. section 1.167(a)-3 because a useful life cannot be ascertained.

Rev. Proc. 90-63 was released December 31, 1990, and revokes Rev. Proc. 89-16 and Rev. Proc. 89-17, 1989-1 C.B. 827. Essentially, it provides the taxpayer with one of two options for capitalization and amortization. A design-by-design method will provide a 60 month amortization period, but a specific write-off of any design that ceases to be used. The pooling method allows for a 48 month amortization period, but no write-off for designs that are no longer being used.

These costs may show up in product development, promotion, advertising, purchases, or other accounts. Ask about these types of costs in your initial interview. Also, when touring the tasting room or wine library, keep an eye out for label changes. The costs may have been incurred in your year.

MISCELLANEOUS ISSUES

Issue: Personal Residence on Winery/Vineyard Property.

In the smaller, family owned and operated corporate enterprises, it is not uncommon for the owner to reside on or adjacent to the property. If the residence is owned by the shareholder, and no deductions for business use are claimed, no issue exists. However, if title is held by the corporation, depreciation and other associated deductions may have been claimed, while the shareholder/employee is allowed to live in the residence without recognizing any income from the transaction.

We have seen similar arrangements with partnerships and individuals having title to the property with the associated deductions being claimed. If the expenses are truly personal in nature, they should be disallowed under IRC section 262. The following discussion addresses the additional factors involved when a corporation furnishes lodging to its shareholder/employee.

IRC section 119 addresses lodging furnished by an employer. Three major factors are required:

1. The lodging must be on the business premises

2. The lodging must be furnished for the convenience of the employer

3. The employee is required to accept such lodging as a condition of his or her employment.

There are many valid reasons for having an employee "on the premises." Where vineyards are present, someone must be available to operate the frost protection systems. Another argument is that having someone on the premises is a deterrent to trespassers and vandals. In cases where the employee is involved in the entertainment aspect of marketing, many "off-hour" activities are conveniently arranged.

Cataran v. Commissioner, 442 F.2d 606 (1969) and DL *Johnson v. Commissioner*, Tax Ct. Memo 1985-175, are two cases addressing this issue. Both support the taxpayer, finding that the taxpayer met all three requirements of IRC section 119. Usually there will be no issue of the lodging being on the business premises. The taxpayer must have an employment contract that specifies that he or she will live on the property. The source of argument will be the "for the convenience of the employer" requirement. The major factor that the courts considered was the necessity for the employee to be available at all times. If the employee is away from the property for substantial periods of time (for business or personal reasons), this substantially weakens the taxpayer's arguments.

Other factors to look at include:

1. Does the employee actually do the work specified in the employment contract? Do they hire someone else to actually perform the tasks?

2. Is the residence one that would be provided to a non-shareholder employee? In some instances, the residences have been rather small, old farmhouses, substantially beneath the means of the taxpayer. This is an indication that it is for the convenience of the employer. In another case, the residence was a tremendous stonewalled mansion, valued in excess of $1 million. It is unlikely that a residence of this type would be made available to a non-shareholder.

While the court cases cited above indicate the court's willingness to allow this type of arrangement, the examiner must still pursue abuses of this Code section. Remember that there can be a substantial cost to the shareholder. Interest deductions on the residence are not deductible at the individual level and, further, neither the shareholder not the corporation would be able to avail themselves of the deferral and non-recognition provisions of IRC sections 1034 and 121.

Issue: Recognition of Income from Futures Sales.

There has been an active market for futures on prestigious French wines for many years. These futures are offered by retailers to the general public and are seen as a hedge against price increases.

Beginning in the mid-1980s, several California wineries with premium and ultra-premium red wines started offering futures directly to the public. The general terms of the agreements called for a 50 percent down payment on a guaranteed price, with the balance to be paid upon delivery when the wine is released. If the buyer failed to complete the transaction, he or she would forfeit the down payment. The time frame between the initial offering and the delivery date is usually 18-24 months.

In some cases, the potential investors have the opportunity to taste the wine while it is still in the barrel. However, this is a rare instance of being invited to relatively exclusive "barrel tasting" parties. Most of the futures are purchased solely on the basis of the quality of prior years' vintages. The wineries make no guarantees of the superior quality of a particular vintage being bought on a futures contract. Their only obligation is to deliver the wine at the release date.

Through future sales, the wineries enjoy an improved cash flow and can forecast their sales with greater reliability. Additionally, when the wineries make the sales directly, they avoid the revenue sharing with the distributors and retailers.

The wineries invariably treat the down payment as a deposit, booking the entry as a liability rather than revenue.

When a taxpayer receives an advance payment for goods or services or other income items over which the taxpayer has a present right and complete and unreduced control, the advance payment constitutes income. *Van Wagoner v. United States*, 368 F.2d 95, 98 (1966), and *Husch Improvement Co. v. Commissioner*, 143 F.2d 912, 915 (1944).

On the other hand, where the amount paid is intended to secure property of the taxpayer against damages or loss, or to secure the performance of a condition or other non-income producing covenants or a contract, and the sum is to be returned to the payor, the payment is a nontaxable security deposit, notwithstanding the fact that the taxpayer had temporary use of the money. *Commissioner v. Indianapolis Power & Light*, 439 U.S. 203 (1990), *Mantell v. Commissioner*, 17 T.C. at 1143, 1148 (1952), *Clinton Hotel Realty Corp. v. Commissioner*, 128 F.2d 968,969 (1952). An example would be where a lessor requires a lessee to deposit a sum to secure against damage to the rented premises and agrees to refund the deposit in full if no such damage occurs.

Treas. Reg. section 1.451-5 discusses the tax treatment for advance payments for goods and long-term contracts.

Treas. Reg. section 1.451-5(a)(1) defines an advance payment as any amount which is received in a taxable year by a taxpayer using an accrual method of accounting for purchases and sales or a long-term contract method of accounting (described in Treas. Reg. section 1-451-3) pursuant to and to be applied against an agreement for the sale or other disposition in a future taxable year of goods held by the taxpayer primarily for sale to customers in the ordinary course of his or her trade or business.

Under the conditions in most futures contracts, it appears these future contracts and the payments made under them constitute "advance payments" as defined above in the Treasury Regulations. The monies paid by the purchaser were made pursuant to the futures contract as part of their promise to take delivery of specific quantities of wine and were to be applied against the purchase price of the wine and their future delivery.

Extract

Treas. Reg. section 1.451-5(b)

*** Advance payments must be included in income either--

(i) In the taxable year of receipt or,

(ii) Except as provided in paragraph (c) of this section.

(a) In the taxable year in which properly accruable under the taxpayer's method of accounting for tax purposes if such method results in including advance payments into gross receipts no later than the time such advance payments are included in gross receipts for purposes of all his reports (including consolidated financial statements) to shareholders, partners, beneficiaries, other proprietors, and for credit purposes or,

(b) If the taxpayer's method of accounting for purposes of such reports results in advance payments (or any portion of such payments) being included in gross receipts earlier than for tax purposes, in the taxable year in which includible in gross receipts pursuant to his method of accounting for purposes of such reports.

* * * * * * *

The exception noted above in paragraph (c)(1)(i) of the Treas. Reg. section 1.451-5 provides an exception for inventoriable goods.

Extract

Treas. Reg. section 1.451-5(c)(1)(i)

*** If a taxpayer receives an advance payment in a taxable year with respect to an agreement for the sale of goods properly includible in his inventory, or with respect to an agreement (such as a gift certificate) which can be satisfied with goods or a type of goods that cannot be identified in such taxable year, and on the last day of such taxable year the taxpayer --

(a) Is accounting for advance payments pursuant to a method described in paragraph (b)(1)(ii) of this section for tax purposes,

(b) Has received "substantial advance payments" (as defined in subparagraph (3) of this paragraph) with respect to such agreement, and

(c) Has on hand (or available to him in such year through his normal source of supply) goods of substantially similar kind and in sufficient quantity to satisfy the agreement in such year, then all advance payments received with respect to such agreement by the last day of the

> second taxable year following the year in which such substantial advance payments are received, and not previously included in income in accordance with the taxpayer's accrual method of accounting, must be included in income in such second taxable year.

It appears that the wine futures are sold during the period in which the wine is being aged in the winery. The vintage of the wines being sold are several years prior to the release date and are not yet bottled or in a form to be sold. Thus, it would appear these goods are not "on hand."

Furthermore, it is the Service's position that each vintage of wine is a unique product and would not meet the definition of "substantially similar kind." Therefore, the wine futures would not come under the exception for inventoriable goods under Treas. Reg. section 1.451-5(c)(1)(i).

It is the Service's position that the advance payments are treated under the general provision of Treas. Reg. section 1.451-5(b). Treas. Reg. section 1.451-5(b) provides that advance payments are includible in income in the year of receipt or in the earlier of the taxable year the advance payments are recognized under the taxpayer's method of accounting for tax purposes or the taxable year the advanced receipts are recognized under the taxpayer's method of accounting for book purposes. Thus, the advance payments may be deferred by the wineries under Treas. Reg. section 1.451-5(b).

As a practical matter, the futures method of marketing appears to be limited, and for the most part has been terminated by the wineries. Some wineries still offer futures, but the majority of wineries do not. To the degree that a winery has ceased offering futures, and the amount still on the books is not material, it may not be an issue that warrants development.

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Exhibit 4-1

STATUTORY AUTHORITY REGARDING UNICAP (SECTION 263A)

IRC SECTION 263A

REGULATIONS 1.263-1T (TEMPORARY)

REV. PROC. 92-20 CHANGES IN METHODS OF ACCOUNTING

NOTICE #	DESCRIPTION
88-24	PROPERTY PRODUCED BY FARMERS – COSTS TO BE CAPITALIZED – ELECTING OUT OF THIS PROVISION
88-86	OTHER ISSUES IN THE FINAL REGULATIONS – SIMPLIFIED PRODUCTION COST METHOD – SIMPLIFIED SERVICE COST METHOD – ON-SITE STORAGE – DEFERRED INTERCOMPANY TRANSACTIONS – LIFO TAXPAYERS – STORAGE COSTS – LOWER OF COST OR MARKET
88-92	AUTOMATIC CHANGE IN METHOD TO COMPLY WITH 263A – PROCEDURE TO COMPLY – CHECKLIST & QUESTIONS TO ANSWER
88-99	INTEREST CAPITALIZATION – TRACING AND AVOIDED COST RULES – MECHANICS OF INTEREST CAPITALIZATION

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Exhibit 4-2

UNICAP GUIDELINES — CAPITALIZATION v. EXPENSE

The following listing reviews common indirect costs and the treatment required under UNICAP for costs directly associated with the production activities. Mixed Service Costs benefit the operation as a whole and must be allocated between the cost centers to which they apply.

Description	Capitalized	Not Capitalized	Mixed Service Cost
Repairs/Maintenance — Production	✓		
Repairs — not production		✓	
Utilities	✓		
Rent	✓		
Indirect Labor	✓		
Material & Supplies	✓		
Small Tools & Equipment	✓		
Quality Control	✓		
Excise Tax (Paid Prior to Sale)	✓		
Income Taxes		✓	
Real Estate Taxes	✓		
Depreciation	✓		
Amortization	✓		
Allocable Administration Costs	✓		
Officer's Salary (Production)	✓		
Insurance	✓		
Pension Plans	✓		
Employee Benefits	✓		
Bottling & Packaging Labor	✓		
Rework Labor (scrap, spoilage)	✓		
Warehousing	✓		
Purchasing Dept.	✓		
Shipping (Purchases)	✓		
Shipping (Sales)		✓	
Marketing & Promotion		✓	
Selling Expenses		✓	
Strikes		✓	
G&A — Directly for Production	✓		
Mixed Service Costs			
Personnel			✓
Data Processing			✓
Accounting			✓
Security Services			✓
Management — Overall Policy		✓	
Tax Department		✓	
Internal Audit		✓	

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CHART I
March 23, 1992 – September 18, 1992
Non-LIFO

	Category A Except for LIFO	Category B Except for LIFO
I. Under Examination on March 23, 1992 and issue is pending on March 2, 1992	No 3115 can be filed Sec. 14.02(1)	(See rules for issue pending before Form 3115 is filed.)
II. Under Examination and Taxpayer files 3115 before September 18, 1992:		
A. Regardless whether the issue is pending:		
1) Positive 481(a):		
a) Year of Change	First year of exam Sec. 14.02(2)(a) and 6.02(2)(a)	
b) 481(a) Spread	3 years Sec. 14.02(2)(a) and 6.02(2)(b)(1)	
2) Negative 481(a)		
a) Year of Change	Current year Sec. 14.02(2)(a) and 6.02(2)(a)	
b) 481(a) Spread	No Spread Sec. 14.02(2)(a) and 6.02(2)(b)(ii)	
B. Issue is pending **when** filed:		
1) Year of change		Last year Under Exam Except * Sec. 14.02(2)(b)(i)
2) 481(a) Spread		6 years Sec. 1402(2)(b)(ii)

* But not later than the last year filed as of the date the examination in which the issue is pending began.

CHART I (continued)
March 23, 1992 – September 18, 1992
Non-LIFO

	Category A Except for LIFO	Category B Except for LIFO
C. No Issue Pending:		
1) Year of change		Current Year Sec. 1402(2)(b)(i)
2) 481(a) Spread		6 years Sec. 1402(2)(b)(ii)
III. Contracted for Examination after March 23, 1992 and before September 19, 1992 and taxpayer files Form 3115 within the first 90 days of Examination and after September 18, 1992:		
A. Positive 481(a):		
1) Year of Change	First year of exam Sec. 14.02(1) and 6.02(2)(a)	Current Year Sec. 1402(1) and 6.02(3)(a)
2) 481(a) Spread	3 years Sec. 14.02(1) and 6.02(2)(b)(1)	No Spread Sec. 1402(1) and 6.02(3)(b)(i)
B. Negative 481(a):		
1) Year of Change	Current Year Sec. 14.02(1) and 6.02(2)(a)	Current Year Sec. 1402(1) and 6.02(3)(a)
2) 481(a) Spread	No Spread Sec. 14.02(1) and 6.02(2)(b)(ii)	6 years Sec. 1402(1) and 6.02(3)(b)(ii)
IV. No 3115 filed before September 19, 1992 or within first 90 days of Examination.		
Year of Change	First year of Exam	First year of Exam
481(a) Spread	No Spread	No Spread

CHART II
March 23, 1992 – September 18, 1992
LIFO

	LIFO Category A	LIFO Category B
I. Under Examination on March 23, 1992		
A. Issue pending on March 2, 1992	No 3115 can be filed Sec. 14.02(1)	(See rules for II.A. below.)
B. Issue **not** pending on March 2, 1992.		
1) 3115 filed before September 19, 1992 and issue is pending when 3115 is filed.		
a) Year of Change	Latest year under exam except ** Sec. 14.02(2)(c)	Latest year under exam except ** Sec. 14.02(2)(c)
b) 481(a) Spread	Cut-off* Sec. 14.02(2)(c)	Cut-off* Sec. 14.02(2)(c)
2) 3115 filed before September 19, 1992 and issue is **not** pending when 3115 is filed:		
a) Year of Change	Current Year Sec. 14.02(2)(c)	Current Year Sec. 14.02(2)(c)
b) 481(a) Spread	Cut-off* Sec. 14.02(2)(c)	Cut-off* Sec. 14.02(2)(c)
II. Contacted for Examination after March 23, 1992 and before September 19, 1992 and taxpayer files a Form 3115 before September 19, 1992.		

* Except for Hamilton type issues. See Sec. 9.01.
** But not later than the last year filed as of the date the examination in which the issue is pending began.

CHART II (continued)
March 23, 1992 – September 18, 1992
LIFO

	LIFO Category A	LIFO Category B
A. Issue pending when Form 3115 is filed.		
1) Year of Change	Latest year under exam except ** Sec. 14.02(2)(c)	Latest year under exam except ** Sec. 14.02(2)(c)
2) 481(a) Spread	Cut-off* Sec. 14.02(2)(c)	Cut-off* Sec. 14.02(2)(c)
B. Issue **not** pending when Form 3115 is filed.		
1) Year of Change	Current Year Sec. 14.02(2)(c)	Current Year Sec. 14.02(2)(c)
2) 481(a) Spread	Cut-off* Sec. 14.02(2)(c)	Cut-off* Sec. 14.02(2)(c)
III. Contacted for Examination March 23, 1992 and before September 19, 1992 and taxpayer files a Form 3115 after September 19, 1992 **and** within 90 days of examination.		
A. Positive 481(a)		
1) Year of Change	First year of Exam Sec. 1402(1) and 6.02(4)(a)	First year of Exam Sec. 1402(1) and 6.02(4)(a)
2) 481(a) Spread	6 Years Sec. 1402(1) and 6.02(4)(b)	6 Years Sec. 1402(1) and 6.02(4)(b)
	10 year lookback * Sec. 1402(1) and 6.02(4)(c)	10 year lookback * Sec. 1402(1) and 6.02(4)(c)

* Except for Hamilton type issues. See Sec. 9.01.

CHART II (continued)
March 23, 1992 – September 18, 1992
LIFO

	LIFO Category A	**LIFO Category B**
B. Negative 481(a)		
1) Year of Change	Current Year Sec. 14.02(1) and 6.02(4)(a)	Current Year Sec. 14.02(1) and 6.02(4)(a)
2) 481(a) Spread	Cut-off* Sec. 14.02(1), 6.02(4)(b) and 5.03(3)	Cut-off* Sec. 14.02(1), 6.02(4)(b) and 5.03(3)
III. Contacted for Examination after March 23, 1992 and before September 19, 1992 and taxpayer does **not** file a Form 3115 before September 19, 1992 or within the first 90 days of the Examination.		
A. Year of Change	First year under Exam	First year under Exam
B. 481(a) Spread	No Spread	No Spread

* Except for Hamilton type issues. See Sec. 9.01.

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CHART III
New Rules

	Category A	Category B	LIFO
I. Not under examination — taxpayer files Form 3115			
A. Year of Change:	Current Year Sec. 5.02	Current Year Sec. 5.02	Current Year Sec. 5.02
B. 481(a) Spread:	Positive 3 Years Sec. 5.03(1)(a) Negative No Spread Sec. 503(1)(b)	6 Years Sec. 5.03(2)	Cut-Off* Sec. 5.03(3)
II. Examination — taxpayer files Form 3115 in first 90 days.			
A. Positive 481(a)			
1) Year of Change	1st year of exam Sec. 6.02(2)(a)	Current Year Sec. 6.02(3)(a)	1st year of exam Sec. 6.02(4)(a)
2) 481(a) Spread	3 Years Sec. 6.02(2)(b)(i)	No Spread Sec. 6.03(3)(b)(i)	6 years, 10 year lookback * Sec. 6.02(4)(b) & Sec. 6.02(4)(c)
B. Negative 481(a)			
1) Year of Change	Current Year Sec. 6.02(2)(a)	Current Year Sec. 6.02(3)(a)	Current Year Sec. 6.02(4)(a)
2) 481(a) Spread	No Spread Sec. 6.02(2)(b)(ii)	No Spread Sec. 6.03(b)(ii)	Cut-off* Sec. 6.02(4)(b) and 502(3)

* Except for Hamilton type issues. See Sec. 9.01.

CHART III (continued)
New Rules

	Category A	Category B	LIFO
III. Under examination — taxpayer does **not** file 3115 in first 90 days.			
A. Year of Change	1st Year of Exam	1st Year of Exam	1st Year of Exam
B. 481(a) Spread	No Spread	No Spread	No Spread

Does not cover the following situations:

120 day window
60 day window
30 day window
Filed with the consent of the District Director
Newly affiliated corporations

Generally, the rules for taxpayers not under examination apply to these situations.

For Taxpayers not under examination, they must file Form 3115 within the First 180 days of the year, or the first 270 days with good cause. After the first 180 days the 3115 is considered filed early for the next year.

Cut-off: The LIFO cut-off method is a change made with no 481(a) adjustment for any year prior to the year of change and applies only to LIFO method changes.

GLOSSARY

Acid — A component of grape juice and wines. The most important acids present are malic, tartaric, succinic, lactic, and citric.

Aging — The final process in wine making of holding wines for a period of time to allow some of the components to mature and change beneficially.

Alcohol by Volume — The percentage of alcohol contained in a wine by volume, declared by law on the label. Table wines cannot contain more than 14 percent; dessert and fortified wines (legally the same) contain more than 14 percent but not more than 24 percent, although wines of more than 21 percent are not normally found on the market.

Amelioration — The legal addition of sugar, water, and/or acid to balance deficiencies in wine.

Appellation of Origin — In the United States, a general term for the label designations that indicate geographic origins of bottled wines that meet specific requirements. Any wine, at least 75 percent of which is made of grapes grown in the area designated on its label and conforms to the laws and regulations relevant there, is entitled to a country, state, or county appellation.

BATF — The Bureau of Alcohol, Tobacco, and Firearms (also ATF).

Balling — A system for measuring the sugar content of juice or wine, expressed as degrees Balling. Called after the man who devised it, the name is pronounced as in "balance." For all purposes, the same as Brix.

Barrel-Fermented — Wine that has undergone fermentation in small casks as opposed to very large tanks.

Bench-Crafted — Vines grafted to rootstock, then developed in greenhouses and field nurseries, and planted while still dormant.

Binning — Storing premium bottled wine (before its release for sale) for 6 months to several years to obtain the benefits of aging in the bottle.

Blanc de Blancs — Usually sparkling wine made entirely of Chardonnay (occasionally of other whites) rather than the more traditional blend of black and white grapes.

Blanc de Noirs — A white wine made from black grapes, with a blush, or deeper tone than a white wine from white grapes. Frequently used for sparkling wines.

Blend — To combine wines of different varieties or lots to add interest or harmony to the finished product; or a wine so made.

Bonded — Legal wine making or warehousing facilities under bond to the Government for payment of taxes on the wine made or stored there.

Bottle Age — The mature characteristics of a wine attributable to the length of its stay in the bottle.

Bottle-Aging — Keeping bottled wines for a period of time to allow some of the components to mature.

Bottle-Fermented — A champagne or sparkling wine made either by the method champenoise or the transfer method.

Boutique Wineries — Those making premium, generally expensive, varietal wines, often from designated vineyards, on a relatively small scale of production.

Brix — A measure of the sugar content. See Balling.

Brut — Champagne or sparkling wine that is very dry but may still contain a trace of sweetness.

Budwood — Well-developed canes bearing buds suitable for use in grafting or budding.

Bulk Process — In making sparkling wine, a technique (also called "Charmat process") that uses large, covered containers for the secondary fermentation, a less expensive method for production of large quantities.

Bulk Wine — Generally, less expensive wines sold in large containers or jugs. Some large producers buy bulk wines from other wineries and blend, bottle, and distribute them under their own labels.

Bung — A plug for stoppering a wine cask.

Bung Hole — A small opening in a cask through which wine can be put in or taken out.

Butt — A wine barrel or cask of moderately large capacity.

Candle — To test the clarity of wine by looking at it with a candle or other light held behind the bottle.

Cane — The woody, mature state of the shoot (new growth) of the vine.

Canopy — The "umbrella" formed by the foliage of the vine.

Cap — The crust consisting of skins that forms on top of the juice during fermentation. To extract the color and prevent spoilage, the cap must frequently be submerged by punching down or by covering with juice pumped from the bottom.

Carbonated — Wines infused with carbon dioxide to make them bubbly.

Carbonic Maceration — The fermentation of uncrushed whole grapes, which takes place partly inside the berries, some of which break down by their own weight, others by the action of the internal fermentation. The resulting light, intensely fruity, low tannin wines are mildly effervescent, an effect of the carbon dioxide produced in the process, and are meant for early drinking. Nouveau-style wines are made by this process.

Centrifuge — A machine used to clarify wine or must.

Chai(s) — A French term for above ground areas for wine storage.

Chapitalization — The addition of sugar to must, legal in such areas as Burgundy (France), but not permitted in California.

Charmat Process — The same as bulk process for making sparkling wines.

Clone — (1) The propagation of a group of plants from a single source to perpetuate selected characteristics or special attributes; (2) the variety so produced.

Cold-Fermented — White wines fermented in containers whose temperatures are controlled internally or with jackets.

Cold Stabilization — A technique of chilling wine before bottling to cause the precipitation of harmless potassium acid crystals or other sediment that might later cause haziness or deposits.

Concentrate — A reduction of grape juice by evaporation often used in home wine making or in areas where fresh grapes are not obtainable.

Controlled Fermentation — A fermentation whose progress is altered by adjustment of temperature or pressure.

Cooperage — Containers for storing wine, usually barrels, casks, and tanks of wood or steel.

Crush — The specific process of breaking the grape skins to begin fermentation. Used generally, as "the crush," it designates the total procedure of wine making steps preceding fermentation.

Crusher — Usually a stemmer-crusher, a machine that macerates the grapes after destemming them.

Culture — A growth of organisms such as yeast that may be use to inoculate crushed grapes to aid fermentation.

Cutting — A segment of a cane or shoot that will develop into a new plant when grown under favorable conditions.

Cuvee — A specific blend of wines, often of different varieties, combined in the final lot; generally used in making sparkling wine but occasionally also in producing table wine.

Dessert Wine — Wine of more than 14 percent but not more than 24 percent alcohol.

Diatomaceous Earth — A light, friable material derived from fossilized microscopic algae (diatoms) used as a filter in clarifying wine.

Disgorge — In the making of sparkling wine, to eliminate the accumulated sediment in the neck of the bottle by freezing it, uncorking the bottle, and using the pressure of the gas in the wine to eject the sediment.

Dosage — In the making of sparkling wine, usually brandy and wine, mixed with sugar, used to replace the wine lost in the disgorging of sediment.

Enology — The science of viniculture or wine making.

Estate Bottled — A wine produced solely from grapes grown on land owned or controlled by and in the same viticultural area as the winery making it, as well as being made entirely on the premises.

Extraction — In wine making, drawing out and dissolving the pigments and other solubles in the skins, seeds, pulp, and occasionally stems, which are kept in continuous contact with the juice.

Fermentation — The conversion by yeast enzymes of the grape sugar in the must or juice into alcohol and carbon dioxide.

Fermentor — A large container in which fermentation takes place.

Field-Budded — See Field-grafted.

Field-Grafted — Budwood grafted to rootstock in the vineyard in late summer or early fall. Also called field-budded.

Filter — To clarify wine after fermentation by removing suspended matter such as yeast cells with the aid of porous membranes; also, the porous material used in the process. Filtration is the process of clarifying wine with filters.

Fining — The process of clarifying wine by employing such agents as gelatin, egg whites, bentonite (clay), or isinglass, that absorb or carry along most of the other suspended matter with them as they settle to the bottom.

Finishing — The processes involved in clarifying wine before it is bottled.

Foil — The molded plastic or metallic material that fits over the cork and part of the neck of a wine bottle.

Fortified — Any wine, but most frequently sherry, port, and so-called dessert wine, in which, by the addition of spirits or brandy, the alcohol content has been increased to more than 14 percent and not more than 24 percent and the fermentation halted before all of the sugar has been converted. Normally, wines on the retail market are well below 24 percent.

Free-Run — In pressing, the crush juice that runs free from the press before force is used.

Fumigation — Chemically sterilizing the soil prior to planting.

Generic — wines named after general categories (red or while table wine) and place-names (Burgundy, Rhine, Champagne).

Graft — To splice a varietal vine to a rootstock of another type, usually one that is resistant to particular predators or diseases; sometimes used to change the variety. Also, the union or splice portion of a plant so treated.

Hardening — When applied to canes, the state of dormancy.

Hybrid — A new grape variety developed by crossing two or more varieties or species.

Hydrometer — An instrument used to measure the amount of sugar in grape juice.

Inoculation — The addition of yeast starter to wine must to begin fermentation; or of a bacterium to cause a malolactic fermentation.

Jug Wines — Generally less expensive, generic wines sold in large containers, although varietals are more and more frequently included.

Lees — The yeast residue that settles to the bottom during fermentation. Wines that are left too long before racking can pick up the odor of lees.

Made and Bottled By — Legally only designates that at least 10 percent of the wine in the bottle was fermented at the winery.

Malic Acid — The acid in wine that converts to lactic acid during a secondary, or malolactic fermentation.

Malolactic Fermentation — A secondary fermentation, often occurring naturally, that converts malic to lactic acid and carbon dioxide, adding complexity to red wines and to some Chardonnays; undesirable if it occurs or continues in the bottle, trapping gas and off-odors.

Marriage — A blending, or marrying, of two or more lots of still wine.

Methode Champenoise — The classic method of making Champagne by completing the second fermentation, clarification, and other processes in the same bottle in which it is marketed.

Microclimate — The climate within a small area that differs from the climate in the larger area around it.

Mildew — A fungus that is a major problem in quality vineyard control. The odor from heavily mildewed grapes is often transmitted to the wine.

Mold — A fungus growth usually detrimental to grapes.

Must — The juice and pulp produced by crushing or pressing grapes before fermentation.

Negociant — A shipper of wine.

Nematodes — Vineyard pests that in their larval form attack vine roots, stunting the growth of the plant. See Fumigation.

Overcropping — In viticulture, encouraging too large a yield per acre, thereby having a detrimental effect on quality.

Oxidation — The changes in wine caused by exposure to air, sometimes beneficial, but often undesirable, especially when excessive.

Phylloxera — A highly destructive root louse that infests Vitis Vinifera, but not some of the native American stock, most of which is resistant to it.

Pomace — The solid residue after pressing.

Press — To exert pressure on crushed grapes to extract their juices. Also, a hand-operated or mechanical device used in the process. The four common types are: 1) a vertical, hand-operated, wooden basket press; 2) a horizontal, mechanical, metal basket press; 3) a horizontal, pneumatic air-pressure (or bladder) press, including a lank press; and 4) a continuous press that allows uninterrupted feeding and juice removal.

Press Wine — The wine obtained by pressing in a machine.

Private Reserve — Because there is no legal definition, this term on a label generally, but not necessarily, indicates that the wine is of special quality, above the ordinary run. Same as Special Select or Proprietor's Reserve.

Produced and Bottled By — Legally designates that 75 percent or more of the wine was fermented and clarified at the winery named on the label.

Proprietary Wines — Those bearing fanciful names such as Rhine Castle, Rubion, or Ripple, usually registered as a trademark by the brand owner.

Pruning — Cutting back the vegetative part of the vine after it has become dormant, a process that affects the size, and, therefore, the quality of the next year's crop. In California, the three most frequently used systems are head training (with spurs), cane pruning, and cordon pruning.

Pulp — The flesh of the grape or other fruit.

Puncheon — A large wooden cask for storing wine.

Punt — The indentation in the bottom of some wine bottles. Also called the kick.

Racking — Siphoning or pumping wine from one container to another to clarify it by leaving the sediment behind.

Residual Sugar — Sugar that remains unconverted in the wine after fermentation.

Riddling — A method used at the end of the bottle fermentation of sparkling wine to encourage the yeast sediment toward the cork for later disgorgement. The process, which can take between a week and a month, consists of placing the bottles neck down in special racks and rotating them individually about one-eighth of a turn daily. This historically has been done by hand, but now is often done mechanically.

Rootstock — The part of the grapevine that is planted directly in the soil. A different bearing variety is often later grafted to rootstock resistant to disease.

Scion — a cutting used in grafting, containing a bud of the desired vine.

Secondary Fermentation — A fermentation that takes place either spontaneously or by design after the completion of the primary fermentation. In the making of sparkling wine, the gas produced gives the wine its bubbles.

Sediment — Particulates that form deposits in some wines stored in containers, or, with age, in some bottled wines.

Select — Generally implying something special about a wine, but meaningless since there is no precise legal definition.

Settling — The natural precipitation of the solid matter in wine.

Shoot — A new growth of the vine.

Skin Contact — The process of holding grapes and juice together for a period of time before pressing to obtain an extraction of color.

Sommelier — A wine steward.

Sparkling Wines — Wines whose effervescence is produced by carbon dioxide captured during a second fermentation in the bottle or container in which it is made. The term applies to all champagne-style wines made outside the Champagne district in France.

Split — A wine bottle containing 6.4 ounces.

Starter — Yeast used to start or ensure fermentation.

Stemmer — A machine that separates the stems from the grapes; when combined with a crusher, it is called a stemmer-crusher.

Still Wines — All wines made without effervescence.

Stuck Fermentation — An incomplete fermentation that stops before all the sugar has been converted to alcohol.

Sulfur — Used to dust vineyards as a control for powdery mildew.

Table Wine — In general, still, dry wine meant to accompany food, as opposed to special wines such as sparkling, appetizer, or dessert wines.

Tannin — A polyphenolic compound derived from the skins, seeds, and stems of grapes which gives young red wine an astringent, puckery quality, but contributes to its longevity and normally ameliorates as the wine ages. In excess, it causes a bitter taste.

T-Budding — A method of grafting a new variety to an existing plant.

Tirage — In making sparkling wine, the mixture of still or cuvee wine, yeast culture, and sugar drawn off into bottles or larger containers to undergo the secondary fermentation and allow the spent yeasts to settle out.

Topping — A technique to control oxidation in containers by replacing wine lost through evaporation.

Transfer Process — A champagne and sparkling wine process that removes the wine from the bottle after fermentation for filtering in pressurized tanks before rebottling. Such wines are labeled "bottle fermented" or "fermented in the bottle" as opposed to "fermented in this bottle," often used on the more expensive methode champenoise wines.

Ullage — Leakage or evaporation of wine from its container, resulting in oxidation and often spoilage.

Varietal Wine — Since January 1, 1983, any wine named after and containing 75 percent or more of a Vitis vinifera grape variety, and grown in the appellation of origin appearing on the label.

Vigneron — A French term for a vineyardist.

Vintage — Applied in the United States to wine in which at least 95 percent of the grapes come from the harvest of the year designated on the label. A vintage year is also one worthy of being specified on the label.

Vintner — A person who makes or sells wine.

Viticultural Area — Since January 1, 1983, a region described as having distinguishable geographic features and Governmentally recognized and defined boundaries. Wines bearing a viticultural area designation on their labels must contain 85 percent grapes grown from that area.

Viticulture — The science of growing grapes.

Vitis Vinifera — The European-Middle Eastern grapevine from which most of the world's fine table wine are made.

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INFORMATION SOURCES

The following is a non-inclusive listing of various sources of information found useful by the Sacramento Wine Industry Study group in conducting wine industry examinations. Consult with the state and local agencies/resources in your area for assistance.

GOVERNMENT AGENCIES

BATF Bureau of Alcohol, Tobacco and Firearms

ABC Department of Alcoholic Beverage Control

California Department of Food and Agriculture

Napa County Agricultural Commissioner

Napa County Agriculture Extension Advisor

University Extension -- University of California — Davis

UC Davis — Department of Viticulture & Enology
University of California

INDUSTRY PUBLICATIONS

Books

Book of California Wine
Authors — Muscatine, Amerine & Thompson
Publisher — University of California Press/Sotheby

Wines & Vines' Buyer's Guide/Annual Directory
1800 Lincoln Ave.
San Rafael, CA 94901-1298
(415) 453-9700

UC Davis — Department of Viticulture & Enology
Annual Report
University of California

Magazines

Wines & Vines
1800 Lincoln Ave.
San Rafael, CA 94901-1298
(415) 453-9700

The Wine Spectator
P.O. Box 1960
Marion, Ohio 43306-4060
(800) 347-6969

Wine Times
404 Irvington Street
P.O. Box 39
Pleasantville, NY 10570-0039
(800) 356-VINO

Wine & Spirits
P.O. Box 1548
Princeton, NJ 08540
(609) 921-2196