Sustainability in Practice (SIP)™

Vineyard Certification Program

Standards

2010

Sustainable agriculture is based on the three "E's" of sustainability. In the vineyard, farming managers must address these three "E's" - economic viability, environmental stewardship, and social equity.

An important theme of integrated farming is the ability for growers to evaluate their practices on a whole-farm level. Available throughout California, Sustainability in Practice (SIP) Certification is a measurable and recordable set of farming practices which encompass ten chapters comprised of Conservation and Enhancement of Biological Diversity, Vineyard Establishment and Management, Soil Conservation and Water Quality, Water Conservation, Energy Conservation and Efficiency, Air Quality, Social Equity, Pest Management, Continuing Education, and Product Assurance and Business Sustainability.

The Certification Standards include both Requirements and Management Enhancements. Requirements are practices which must be completed on a foundational level before acquiring Management Enhancement points. Requirements include a Prohibited Materials List (listed by active ingredient) based on the Department of Pesticide Regulation's following lists: Groundwater Protection, Cholinesterase Inhibiting, Toxic Air Contaminants, and California Restricted Materials. In order to achieve certification, a grower must not use any of the active ingredients on this list. Management Enhancement points are scores assigned to practices which allow growers to earn points based on additional, non-required, but suggested management strategies. Also included within the document is a farm plan which is required for certification – the farm plan includes documentation, reporting, and written examples of practices throughout the certification standards.

Certification will be awarded based on the applicant complying with all Requirements as well as achieving a minimum of 75% of the total available points. A grower's farming practices and documentation are verified through an independent audit and reviewed by an advisory committee. The purpose of certification is for growers to evaluate and substantiate their farming practices on a whole farm level. This allows for marketplace differentiation on many levels.

SIP Certification was developed by the Central Coast Vineyard Team (CCVT); a non-profit 501(c) 3 whose mission is to identify and promote the most environmentally safe, viticulturally and economically sustainable farming methods, while maintaining or improving the quality and flavor of wine grapes. CCVT will be a model for wine grape growers and will promote the public trust of stewardship for natural resources.

CCVT recognizes the need for continual improvement both in farming practices and certification standards. The SIP Standards are considered to be part of a living document; they will improve over time with advances in science and research.

Instructions

All Requirements are mandatory. Meeting all Requirements will result in being awarded 500 points. Failure to meet any one Requirement or provide proper documentation will result in automatically not achieving certification eligibility.

Read each Management Enhancement thoroughly and answer according to your current management practices. No partial points will be assigned. Zero points are given for all "no" answers. Check the appropriate points for "yes" answers. For example, read CONSERVATION AND ENHANCEMENT OF BIOLOGICAL DIVERSITY, Management Enhancement 1.1.2.3. If you answer no, please check the box next to "No". If you answer yes, please check the box for the number of points appropriate for your "Yes" answer. If you answer yes, you must complete and/or be able to provide documentation to support the management enhancement when documentation is required.

Some questions will not apply to your vineyard operation. Selecting a “Not Applicable” answer will require a statement explaining why the question is not applicable to your operation. Scores from “Not Applicable” questions will be subtracted from your total available points and the final score adjusted accordingly.

Some documentation can be referenced for multiple questions. CCVT recommends that an appendix be added at the end of the binder to eliminate the need for duplicate documentation. Reference the documentation in the appendix for each question that requires that document.

Opportunity is available at the end of each section to include additional comments and/or descriptions you would like the auditor to be aware of during an inspection.

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1 Conservation and Enhancement of Biological Diversity

"To conserve biodiversity is to maintain and enhance the capacity of the land to sustain a variety of native species and functioning ecosystems that support farms and wild communities." (www.wildfarmalliance.org) Sustainable agriculture is founded on the principal that farming practices impact not only the managed crop, but a much larger system referred to as the whole farm system. The whole farm system includes the vines, the rows between the vines, wildlife habitat, adjacent oak and riparian areas, wetlands impacted by farming practices, and other non-cropped areas.

As a vineyard manager works within the whole farm system, part of his/her responsibility is to promote and protect the balance of ecological resources in the vineyard. Conserving and enhancing biodiversity can support a pest management program by enhancing beneficial insect habitat that support increased populations or providing nest boxes for owls and raptors that prey on vertebrate pests. It can also protect water quality by keeping sediment on site and out of surface water by planting filter strips and maintaining covered soil.

Sustainable agriculture is based on the stewardship of natural resources. Biological diversity is a valuable resource and should be managed to benefit the natural ecosystems which support a wide variety of plant and animal species. Increased on-farm diversity is indicative of a healthy, balanced ecosystem where varied ecological processes thrive. The conservation and enhancement of biological diversity should be the goal of the vineyard manager.

Goal: To enhance and protect a biologically diverse agricultural ecosystem while maintaining productive vineyards.

1.1 Conservation and Enhancement of Biological Diversity

1.1.1 Requirement(s)

1.1.1.1 You must have a conservation plan based on the type(s) of habitat affected by new vineyard development and/or ongoing vineyard operations.

A Natural Resource Conservation Service Conservation Plan **or equivalent** qualifies.

Equivalent plans will address the following sections:

- Streams &/or waterbodies
- Wildlife areas
- Animals, fish, and wildlife
- Wetland areas
- Forest/Woodland areas
- Rare or endangered plant and animal species on your property
- Cover crops, filter strips, and vegetated buffers
- Skag and cavity trees
- Hedgerows and windbreak shelter trees
- Noxious or invasive plants

Identify habitat areas on your ranch map.

Document what sensitive species, if any, exist in your area. (http://www.cdpr.ca.gov/docs/endspec/prescint.htm)

1.1.1.2 Farming practices must allow for botanical diversity in and/or around the vineyard.

List species by habitat type(s) you are fostering or establishing on your property and include habitat type(s) on your farm map.

Habitat	Species

1.1.2 Management Enhancement(s)

1.1.2.1 Did you consult with your local agencies (i.e. NRCS, RCD, UCCE, Department of Fish & Game, or County Planning Department) or use agency resources (websites, etc.) to complete a conservation plan?

☐ YES: 6 ☐ NO: 0

If yes, list the following:

Agency(s)	Contact(s)/Resources

1.1.2.2 From the onset of your involvement with the vineyard, were existing oak habitat, riparian areas, wetlands, and other natural habitats conserved or restored when developing your vineyard site?

☐ YES: 6 ☐ NO: 0

If yes, list conserved or improved areas.

Document conserved or restored areas on the ranch map.

1.1.2.3 Do you alternately mow or till row middles for maximum biodiversity during the season?

☐ YES: 5 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach mowing and/or tillage records and photo documentation of practices. Not Applicable only if vineyard is located in a frost sensitive area. Provide written statement.

1.1.2.4 Are insectary rows maintained every 5 – 10 rows?

☐ YES: 5 ☐ NO: 0

If yes, indicate Insectary plantings on ranch map.

Provide documentation of insectary row species composition.

1.1.2.5 Do you have bat boxes as a means of insect pest control and/or raptor perches or owl boxes as a means of vertebrate pest control?

☐ YES: 5 ☐ NO: 0

Provide photo documentation of bat box, owl box, and/or raptor perch.

1.1.2.6 Do you avoid the spread of noxious weed species by using clean cover crop seed?

☐ YES: 3 ☐ NO: 0

If yes, include sample copy of cover crop seed bag tag indicating test results of cleaning process. Reference Pest Management, Weed Management, Management Enhancement 8.5.2.3

1.1.2.7 Do you manage adjacent habitat areas, outside the vineyard, to control the spread of noxious weed species?

☐ YES: 2 ☐ NO: 0

If yes, describe management practices. Reference Pest Management, Weed Management, Management Enhancement 8.5.2.2.

1.1.2.8 Are you participating in an agriculture preservation program including but not limited to the Williamson Act, Ag Preserves, or Ag Security Zones?

☐ YES: 4 ☐ NO: 0

If yes, provide documentation of your participation.

1.1.2.9 Have you established a conservation easement for a portion of your property?

☐ YES: 4 ☐ NO: 0

If yes, provide documentation of your easement agreement.

1. CONSERVATION AND ENHANCEMENT OF BIOLOGICAL DIVERSITY POINT SUMMARY				
	A Total Chapter Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
1.1 Conservation and Enhancement of Biological Diversity	40			
Total Points	40			

Additional chapter comments for auditor review:

2 Vineyard Acquisition, Establishment and Management

In order for growers to sustainably produce high quality fruit, they must understand that every aspect of viticultural management affects other components of the vineyard system. From identifying the optimal vineyard site to harvesting the fruit (and everything in between), there are many decisions that affect the vineyard's ability to sustainably produce high quality fruit with minimum inputs and manipulations. With an understanding of the farm's unique site characteristics, the viticulturist makes decisions about rootstock, clone, spacing, orientation, trellis system and irrigation, among other variables, that will support an environment which optimizes the production of quality fruit. Each decision affects many aspects of the grapevine's unique environment, and the viticulturist must be vigilantly aware of those interactions. The interrelated nature of all vineyard management practices creates an interconnected relationship from viticultural management to air quality to social equity.

In managing a vineyard, the grower manipulates an ecosystem dominated by vines and cover crops – this system is supported by a complex soil ecosystem and populated by a diverse group of organisms that are natural members of the agricultural ecosystem and the ecosystems surrounding it. Most of these organisms are beneficial, in fact essential, to the functions of a healthy vineyard. Sustainable farming requires that the vineyard system be managed to produce an optimum crop of consistently high quality fruit while minimizing adverse impacts to the environment and human health associated with vineyard operations.

Maintaining and enhancing this dynamic ecosystem is the heart of sustainable viticulture and should be the goal of the vineyard manager.

2.1 Rootstock, Scion, and Clone Selection

Goal: To select a rootstock and scion that will result in vine balance, improved water and disease management, and optimal wine quality while reducing the need for chemical or cultural intervention.

2.1.1 Requirement(s)

2.1.1.1 You must document rootstock, scion, and clone choices.

Indicate rootstock, scion, and clone combinations on the ranch map.

Document choices below or provide your own documentation with equivalent information.

Block	Rootstock	Scion	Clone

2.1.2 Management Enhancement(s)

2.1.2.1 Are blocks with a history of pest problems or a documented pest problem prior to planting planted with disease and/or pest resistant rootstocks?

☐ YES: 5 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, document disease and/or pest history and the subsequent resistant rootstocks planted. If Not Applicable, provide written explanation.

Disease/Pest History	Planted Rootstock(s)
Not Applicable explanation:	

2.1.2.2 Are (were) certified grapevine materials used?

Greater than 75% of grapevine materials	☐ YES: 3
Between 50% and 75% of grapevine materials	☐ YES: 2
Between 25% and 50% of grapevine materials	☐ YES: 1
Less than 25% of grapevine materials	☐ YES: 0
Not Applicable	☐ NA

If yes, provide documentation from grapevine supplier. Not applicable only if certified grapevine material was not available at time of planting. Provide written explanation.

2.1.2.3 Were the soil characteristics considered when rootstock(s) were chosen?

☐ YES: 2 ☐ NO: 0

Provide a written description of soil phase and the rationale for rootstock selections.

Block	Soil Phase	Rootstock	Rationale

2.1.2.4 Do you have a rootstock and/or clonal selection trial on your site (Note: This does not have to be a replicated trial.)?

☐ YES: 2 ☐ NO: 0

If yes, describe rootstock and/or clonal trial:

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
2.1 Rootstock, Scion, and Clone Selection	12			

Additional section comments for auditor review:

2.2 Spacing and Orientation Selection

Goal: To establish a vineyard which uses natural conditions to promote a healthy microclimate within the canopy, conserves soil and water resources, and enhances native habitats.

2.2.1 Requirement(s)

None

2.2.2 Management Enhancement(s)

2.2.2.1 Prior to planting or purchasing the vineyard, did you consider the slopes and the soil erosion potential at your site?

☐ YES: 2 ☐ NO: 0

Provide a written description of slope and soil erosion potential considerations.

2.2.2.2 Did you consider slope direction, aspect, and prevailing wind direction when laying out your row orientation?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe the slope direction, aspect, prevailing wind direction, and your row orientation decision. Not applicable only if current owner did not establish the vineyard; provide statement.

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
2.2 Spacing and Orientation Selection	4			

Additional section comments for auditor review:

2.3 Trellis Selection

Goal: To select a trellis design that optimizes balanced vines and wine quality and minimizes the need for chemical application.

2.3.1 Requirement(s)

None

2.3.2 Management Enhancement(s)

2.3.2.1 Was your trellis system designed to promote canopy microclimate, sunlight exposure, and minimize disease and insect pressure?

☐ YES: 2 ☐ NO: 0

Provide a written description of your trellis system(s) and how it addresses these issues.

Trellis system(s)	Selection Reason

2.3.2.2 Have you modified or retrofitted your existing trellis system in order to improve canopy microclimate and improve wine quality?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe modification(s) and/or retrofit(s). Include how the changes improved your canopy microclimate and wine quality. If Not Applicable, provide written explanation.

2.3.2.3 Do you have a trellis trial plot?

☐ YES: 2 ☐ NO: 0

If yes, describe trellis trial.

2.3.2.4 Does your trellis system allow for mechanization?

☐ YES: 2 ☐ NO: 0

Provide a written description of how your trellis system allows for mechanization.

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A – C)
2.3 Trellis Selection	8			

Additional section comments for auditor review:

2.4 Canopy Management

Goal: To have a canopy in place that insures quality fruit and reduces pesticide use.

2.4.1 Requirement(s)

None

2.4.2 Management Enhancement(s)

2.4.2.1 Is your canopy microclimate monitored with instrumentation?

☐ YES: 2 ☐ NO: 0

If yes, indicate monitoring method and/or instrumentation:

☐ Point Quadrant Method – Number of leaf layers, % gaps, % interior leaves, and % interior clusters

☐ Light bar/Ceptometer - % light penetration or degree of shading

☐ Datalogger – air temperature and/or humidity (relative to outside the canopy)

Other:

2.4.2.2 Is the fruit-to-pruning weight ratio between the ranges of 4-10:1?

☐ YES: 2 ☐ NO: 0

If yes, provide records of fruit-to-pruning ratios.

2.4.2.3 Is shoot density managed to promote fruit quality and reduce pest and disease pressure?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Provide a written description of how shoot density is managed to promote fruit quality and reduce pest and disease pressure. If Not Applicable, provide written explanation.

2.4.2.4 Are you removing leaves in the fruit zone to reduce disease and pests or improve wine quality?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Provide leaf removal records. If Not Applicable, provide written explanation.

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
2.4 Canopy Management	8			

Additional section comments for auditor review:

2.5 Tissue Analysis

2.5.1 Requirement(s)

None

2.5.2 Management Enhancement(s)

2.5.2.1 Do you take annual tissue samples?

☐ YES: 3 ☐ NO: 0

Provide results of the most recent tissue sample.

2.5.2.2 If your vines exhibit nutritional problems, have you correlated them with your leaf petiole or leaf blade tests and taken corrective action?

☐ YES: 5 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, document nutritional problems, leaf petiole or leaf blade tests, and your corrective action(s). If Not Applicable, provide written explanation.

Nutritional Problems	Leaf Petiole or Leaf Blade Tests	Corrective Action(s)
Not Applicable explanation:		

2.5.2.3 Do you take annual tissue samples within each rootstock/clone combination found in your vineyard?

☐ YES: 2 ☐ NO: 0

Provide sample tissue test results indicating rootstock/clone combination differentiations between samples.

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
2.5 Tissue Analysis	10			

Additional section comments for auditor review:

2.6 Fertilization

Goals: To manage nutrients in the most efficient manner possible to maintain optimum vine growth while limiting non-point source pollution of surface and groundwater. Sustainable agriculture is based, in part, on the premise that healthy vines are typically less vulnerable to plant diseases and pests.

To promote and maintain high levels of biodiversity in the soil microbiology. To correct deficiencies which may affect soil chemistry, organic matter content, water holding capacity or nutrient holding capacity. To divert agricultural, organic, or municipal green wastes into vineyard soil in order to benefit soil tilth and health.

2.6.1 Requirement(s)

2.6.1.1 You must provide well water quality analysis, soil analysis, and tissue samples from within the last five years.

Attach analysis results from within the last five years.

2.6.1.2 You must explain **nutrient** applications based on the vineyard's nutrient budget.

Attach nutrient budget and application records.

Provide a written description of how your nutrient applications correlate with your nutrient budget .

2.6.1.3 You must annually add organic matter to the soil, such as compost, manure, municipal green waste, green manure from your cover crop, and/or mulch. Organic matter must be managed in such a way to prevent the introduction of unwanted pests, pathogens, and weed species as well as to prevent nutrient leaching.

Attach organic matter application records.

Provide written description of management practices that prevent the introduction of unwanted pests, pathogens, and weed species as well as prevent nutrient leaching.

2.6.2 Management Enhancement(s)

2.6.2.1 If you are incorporating winery pomace, are you using effective composting techniques such as the National Organic Program compost standards to prevent the introduction of unwanted pests such as mealy bugs?

☐ YES: 3 ☐ NO: 0

Provide a written description of your green waste composting techniques.

2.6.2.2 Do you utilize any properly composted local green waste and incorporate it into your vineyard operation (i.e., municipal green waste or other crop or food processing residues)?

☐ YES: 2 ☐ NO: 0

Provide a written description of your local green waste diversion program.

2.6.2.3 If your vineyard has a nitrogen requirement, does your cover crop include a nitrogen-fixer (clovers, vetches, legumes, etc.)?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Provide a written description of nitrogen fixing cover crop and management practices. If Not Applicable, provide written explanation.

2.6.2.4 Are fertilizer applications timed to maximize nutrient uptake and to reduce the potential for non-point source water pollution?

☐ YES: 5 ☐ NO: 0

Attach fertilizer application records. Reference Requirement 2.6.1.2.

Provide written description of timing decisions to maximize nutrient uptake and to reduce the potential for non-point source water pollution.

2.6.2.5 Are winter cover crops employed to sequester (i.e., seize or grab hold of) nutrients and reduce leaching losses?

☐ YES: 2 ☐ NO: 0

Provide written description of winter cover cropping practices and how they sequester nutrients and reduce leaching losses.

2.6.2.6 Is irrigation managed to reduce moving nutrients out of the effective root zone?

☐ YES: 3 ☐ NO: 0

Attach irrigation scheduling records including quantity of water applied.

If yes, provide written description of irrigation timing and quantity in relation to reducing nutrient movement out of the root zone.

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
2.6 Fertilization	18			

Additional section comments for auditor review:

2 VINEYARD ACQUISITION/ESTABLISHMENT AND MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Available Points (A - C)
2.1 Rootstock, Scion, and Clone Selection	12			
2.2 Spacing and Orientation Selection	4			
2.3 Trellis Selection	8			
2.4 Canopy Management	8			
2.5 Tissue Analysis	10			
2.6 Fertilization	18			
Total Chapter Points	60			

3 Soil Conservation and Water Quality

In order to maintain a long-term and thriving vineyard, growers must protect the resources necessary for plant life including land, soil, and water. Healthy soils are vital for optimal vine growth, development, and production. They play a critical role in determining site suitability, ease of establishment, and in maintaining healthy, balanced vines throughout the vineyard life. It is essential that vineyard owners and managers steward their soil and water resources effectively and consider the effects of management decisions and vineyard practices on soil characteristics.

Soil Conservation - Premium wine grapes are cultivated in a diverse array of soil types throughout the world. In order to protect and enhance these soil resources, growers must be knowledgeable about the unique soil characteristics specific to a given site. These characteristics include, but are not limited to the following: soil texture, structure, pH, nutrient content, rooting depth, permeability, infiltration rate, and runoff rate. Soil structure and nutrient content affect vine health and vigor. In many cases, a healthy vine can tolerate more pest damage or compete better with weeds than a less healthy one; a vine is more likely to be "healthy" in healthy soils.

The objective of sustainable soil management is to understand soil characteristics as much as possible, to conserve and/or improve naturally occurring beneficial soil attributes, and use best management practices to correct any deficiencies in soil tilth, water, or nutrient status. In order to achieve this objective, growers and managers must take appropriate measures prior to planting a vineyard to reduce the need for avoidable soil management challenges later in the life of the vineyard. Once the vineyard is planted, it is necessary to monitor soil health routinely and correct deficiencies when necessary. Soil management can contribute significantly to vine health and premium wine grape production and should therefore be considered carefully when making vineyard management decisions.

Conserving and enhancing the wide range of soil properties should be the goal of the vineyard manager.

Water Quality – Sustainable growers who minimize their impacts beyond their fence line recognize that their farm is part of a larger, complex watershed. Almost every farming operation has consequences that can reverberate next door or even further downstream. Soil loosened by cultivation can escape with rainfall and add to stream sedimentation that affects aquatic populations. In addition, this soil can carry agricultural chemicals with it, transporting and depositing them downstream.

Farms no longer have just a street address. They now have a watershed address as well. A watershed address represents the growers' responsibility for eliminating off site movement of soil, chemicals, and pathogens, therefore eliminating impacts on downstream water bodies and ground water. Growers must understand that their farming decisions affect others in the watershed – they can no longer operate on the assumption that their practices only impact their property. Cultivation must be minimized or eliminated to reduce erosion. Cover crops must be present to help keep soils in place and promote biodiversity. The grower should select management practices that meet his/her management objectives with the least impact on the environment and human health. To the extent feasible, the grower should select a natural control mechanism. The grower should document the basis for his/her decision.

Soil and water are valuable resources that growers must respect and protect. They are intimately related parts of the planet's ecosystem and are directly responsible for sustaining all life. Sustainable growers make responsible choices that conserve soil resources -- choices based not just locally on their own farming operations, but holistically on the entire watershed of which they are a part.

Eliminating the risks of offsite movement of soil, water, and chemicals should be the goal of the vineyard manager.

3.1 Pre-Plant/Purchase

Goal: To ensure that vineyards are located on sites appropriate for sustainable farming.

3.1.1 Requirement(s)

3.1.1.1 You must have documentation of the soil series, permeability, and runoff rates of your soils, or have contacted your local USDA Natural Resource Conservation Service office to determine your soil series and its erosion hazard.

Document information below or provide your own record with equivalent information.

Soil Series	Permeability	Runoff Rates

3.1.2 Management Enhancement(s)

3.1.2.1 Before acquiring or developing the vineyard, did you have vineyard suitability soil test performed? This test should include: pH, salinity, toxic elements, Ca/Mg ratio, texture, and soil borne pathogens such as nematodes.

☐ YES: 2 ☐ NO: 0

Attach and provide description of soil suitability test results.

3.1.2.2 When conducting the vineyard suitability soil test prior to planting or purchasing, did you test each soil horizon separately?

☐ YES: 2 ☐ NO: 0

If yes, attach soil horizon test results and describe.

3.1.2.3 Did you examine the soil to the effective rooting depth prior to planting and/or purchasing to analyze the soil profile's physical and chemical characteristics?

☐ YES: 2 ☐ NO: 0

If yes, describe soil examination method(s) and date(s) performed. Provide written description of the soil physical and chemical characteristics.

Date (s)	Method	Soil Characteristics

3.1.2.4 If the soil was alkaline (Sodium Adsorption Ratio ≥ 13), did you take corrective action?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe corrective actions taken. If Not Applicable, reference soil test and provide written explanation.

3.1.2.5 If the soil was saline (Electrical Conductivity > 4 dS/m), did you take corrective action?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe corrective actions taken. If Not Applicable, reference soil test and provide written explanation.

3.1.2.6 If your soil was acidic (pH < 5.5), did you take corrective action?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe corrective actions taken. If Not Applicable, reference soil test and provide written explanation.

3.1.2.7 If the soil harbored vine pests, was it planted to a non-host crop or fallowed to reduce the pest populations prior to vineyard planting?

For 2+ years ☐ YES: 2

For 1 year ☐ YES: 1

For less than 1 year ☐ NO: 0

NOT APPLICABLE: ☐ NA

If yes, attach lab results listing vine pests and discuss actions. If Not Applicable, provide written explanation.

3.1.2.8 If there were physical impediments to root growth, did you deep-rip or slip plow to correct them?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach management records. If Not Applicable, provide written explanation.

3.1.2.9 Was organic matter incorporated into the soil prior to planting?

☐ YES: 2 ☐ NO: 0

If yes, provide documentation of organic matter incorporation.

3.1.2.10 Did you utilize aerial photographs (either infrared or standard film) or other GPS technologies in the development and mapping of your vineyard site?

☐ YES: 2 ☐ NO: 0

If yes, attach photographs or other mapping tool.

3 SOIL CONSERVATION AND WATER QUALITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
3.1 Pre-Plant/Purchase	20			

Additional section comments for auditor review:

3.2 Post-Plant/Purchase

Goal: To maintain or improve the tilth and fertility of the soil for sustainable production. To correct soil-related impediments to vine health and growth and to reduce farming practices that contribute to deterioration of soil structure.

3.2.1 Requirement(s)

3.2.1.1 The soil must be sampled and tested at least every three years for nutrient content and monitored for pH, Electrical Conductivity (EC), and toxicities.

Attach results of soil samples within the last three years.

If toxicities or deficiencies were detected, describe action taken.

3.2.2 Management Enhancement(s)

3.2.2.1 Do you use tractors and/or vineyard equipment that minimize soil compaction, such as high floatation tires, track-layers, or over the row equipment?

Greater than or equal to 75% of total equipment	☐ YES:2
Between 25% and 75% of total equipment	☐ YES:1
Less than 25% of total equipment	☐ NO:0

If yes, list equipment.

3.2.2.2 Is your soil amendment program based on visual, tissue, water, and soil sampling?

Based on a combination of three or four sample results	☐ YES: 2
Based on one or two sample results	☐ YES: 1
Based on none of the above	☐ NO: 0

If yes, attach soil, water, and/or tissue sample results.

Describe observed nutritional problems.

Describe how observed nutritional problems correlate with sample results and the corrective actions taken.

3.2.2.3 If there is a soil permeability problem, have management practices been used to improve water infiltration?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe soil permeability problem and implemented management practices. Attach management records supporting corrective actions. If Not Applicable, provide written explanation.

3.2.2.4 If soil tests reveal increases in salt content as measured by electrical conductivity (EC), have you taken corrective action?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach sample results and describe corrective actions.

3.2.2.5 Do you use GIS/GPS equipped pesticide application systems that enable variable rate pesticide application and/or do you use target-sensing pesticide application equipment that reduce pesticide use while preserving efficacy?

☐ YES: 2 ☐ NO: 0

If yes, describe equipment and how it relates to reduced pesticide use and efficacy.

3.2.2.6 Are chemical storage facilities locked and secured?

☐ YES: 2 ☐ NO: 0

If yes, attach photo documentation.

Indicate storage facilities on ranch map.

3.2.2.7 Are pesticide storage facilities designed for containment of spills?

☐ YES: 2 ☐ NO: 0

If yes, attach photo documentation.

Provide written description of spill containment design.

3.2.2.8 Do you store liquid materials separately from dry materials, and are dry materials elevated above the spill zone?

☐ YES: 2 ☐ NO: 0

If yes, provide photo documentation.

3.2.2.9 Is mixing and loading performed on sites with low runoff hazard?

☐ YES: 2 ☐ NO: 0

3.2.2.10 Are containment basins lined to prevent pesticide leaching?

☐ YES: 2 ☐ NO: 0

If yes, indicate containment basins on the ranch map. Provide photo documentation.

3 SOIL CONSERVATION AND WATER QUALITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
3.2 Post-Plant/Purchase	20			

Additional section comments for auditor review:

3.3 Erosion Control and Prevention of Offsite Movement

Goal: To conserve soil resources by eliminating erosion and the offsite movement of sediment. To have a well designed and maintained water runoff management system to reduce non-point source pollution of surface and ground water.

3.3.1 Requirement(s)

3.3.1.1 You must know the soil series, permeability, and runoff rates of your soils, or have contacted your local USDA Natural Resource Conservation Service office to determine your soil series and its respective erosion hazard.

Reference Pre-Plant/Purchase, Requirement 3.1.1.1

3.3.1.2 A winter cover crop (resident or planted) must be maintained.

Provide close-up photo and large scale photo from a block level.

Describe winter cover cropping practices.

3.3.1.3 You must have a minimum of two management practices in place to minimize the offsite movement of sediment and organic soil amendments and to minimize non-point source pollution of surface waters.

☐ Cover crop (resident or planted) ☐ Hay bales/straw ☐ Silt pond

☐ Filter Strip (resident or planted) ☐ Jute netting ☐ Waddles

☐ Mulching ☐ Other:

3.3.1.4 The grower must have vegetated perimeter buffers of no less than 25 feet from the edge of perennial and intermittent (containing water for only part of the year, but more than just after rainstorms and at snowmelt as per USGS definition) streams and wetland areas (lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface as per EPA definition).

Indicate perimeter buffers on ranch map. Not Applicable only if there are no perennial or intermittent streams and wetland areas on the property. Provide written statement.

3.3.2 Management Enhancement(s)

3.3.2.1 Did you develop an erosion plan to prevent the offsite movement of soil?

☐ YES: 4 ☐ NO: 0

If yes, provide written description of erosion plan and indicate any erosion prone locations on your ranch map.

3.3.2.2 Do you maintain a filter strip (planted or resident) on your vineyard operation to reduce erosion and silt movement?

Researched and implemented with the assistance of a technical resource provider	☐ YES:	2
Researched and implemented without technical assistance	☐ YES:	1
Do not maintain a filter strip	☐ NO:	0

Provide written description of filter strip determination and implementation.

3.3.2.3 Do you utilize water diversions on longer slopes to manage runoff?

Engineer recommended water diversions	☐ YES:	2
Researched and implemented without technical assistance	☐ YES:	1
	☐ NO:	0
	☐ NOT APPLICABLE:	NA

Provide photo documentation of water diversions and indicated their location(s) on your ranch map. If you are involved with an engineered project, attach brief project description in place of photo documentation.

If Not Applicable, provide written explanation.

3.3.2.4 What percentage of the non-cropped area, from the end-posts outward including roads, is covered with vegetation?

70% or more	☐ YES:	2
50% or more	☐ YES:	1
Less than 50%	☐ NO:	0

If yes, indicate covered areas on ranch map.

3.3.2.5 Is a cover crop or its residue maintained during the entire year?

Every row	☐ YES:	4
Every other row	☐ YES:	2
	☐ NO:	0

Provide written description of cover crop and/or cover crop residue maintenance.

3.3.2.6 Are devices in place to prevent water and associated contaminant transport to public roads?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Provide photo documentation of devices. Indicate placement on the ranch map. Not Applicable only if vineyard does not border any public roads. Provide statement.

3.3.2.7 If vegetation is excluded below the vines during winter, strip should not exceed:

< 30”	☐ YES:	4
30 – 48”	☐ YES:	2
> 48”	☐ NO:	0

3 SOIL CONSERVATION AND WATER QUALITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
3.2 Erosion Control and Prevention of Offsite Movement	20			

Additional section comments for auditor review:

3 SOIL CONSERVATION AND WATER QUALITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Available Points (A - C)
3.1 Pre-Plant/Purchase	20			
3.2. Post-Plant/Purchase	20			
3.3 Erosion Control and Prevention of Offsite Movement	20			
Total Chapter Points	60			

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4 Water Conservation

In order for growers to manage their water resources effectively and efficiently, they must understand the various issues affecting water use. Irrigation management is one of the most effective tools of quality wine grape production and is one of the few inputs that the grower has significant control over. Irrigation decisions are influenced by a number of often interrelated factors including energy conservation, water conservation, water quality, and their related environmental impacts and regulations.

Proper irrigation design must account for several issues: water availability, soil type, terrain, climate, variety, root stock, drainage, cultural practices, labor availability, fertilization requirements and backflow protection.

Optimizing irrigation operations requires not only an efficient design, but vigilant system maintenance, assessing pump characteristics, and ongoing consideration of soil water content and crop water requirements. Following installation, growers must maintain system hardware to achieve the highest distribution uniformity possible in order to ensure that vines receive equal amounts of water and to prevent the need for excessive run times. Using tools like pump efficiency and distribution uniformity tests on a regular basis will help identify problems within the system, which can then be addressed with the proper corrective actions.

Proper irrigation scheduling – matching the amount applied with the amount needed based on weather, soil capacity and water content, and plant requirements based on growth stage – is another important consideration when effectively and efficiently delivering water to the vines. There are many tools available to assist with irrigation scheduling, and each vineyard has different water requirements. Understanding these relationships allows the vineyard manager to apply water in the most effective manner possible, conserving water resources, while producing premium fruit.

4.1 Water Quality and Analysis

Goal: To monitor and protect the quality of the irrigation water.

4.1.1 Requirement(s)

4.1.1.1 You must have a backflow prevention device installed on your well(s) or water source(s).

Provide photo documentation.

4.1.1.2 Well heads must be protected from chemical contamination.

Provide photo documentation and a written description of well head protection from chemical contamination.

4.1.2 Management Enhancement(s)

4.1.2.1 Do you periodically have your irrigation water tested for pH, electrical conductivity (EC), sodium adsorption ratio (SAR), nitrate-nitrogen (NO3-N), sodium (Na), chlorides (Cl) bicarbonates (HCO3), and boron (B) levels?

Annually	☐ YES:	5
Every three years	☐ YES:	3
	☐ NO:	0

If yes, attach most recent test results.

4.1.2.2 If testing indicates your irrigation water has a pH problem, are you adjusting pH to optimal levels?

☐ YES: 4 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, reference water test results and document corrective actions. If Not Applicable, reference water test results and provide written statement.

4.1.2.3 Was irrigation water quality considered when determining well perforation levels to exclude poor quality water?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, provide written description of your considerations and perforation levels to exclude poor quality water. Not Applicable only if well was not dug by current owner. Provide written statement.

4 WATER CONSERVATION POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
4.1 Water Quality and Analysis	12			

Additional section comments for auditor review:

4.2 Water Use Efficiency

Goal: To use available water resources in the most efficient and uniform manner possible.

4.2.1 Requirement(s)

4.2.1.1 You must test the irrigation system for distribution uniformity at least every five years by monitoring emitter outflows and pressure differences across each irrigation set.

Attach records of distribution uniformity tests.

4.2.1.2 A low-volume irrigation system, drip or micro-sprinkler, must be used for growing season irrigation.

Provide a written statement of your low-volume irrigation system.

4.2.2 Management Enhancement(s)

4.2.2.1 Do you inspect and clean the water filters throughout the season?

☐ YES: 3 ☐ NO: 0

If yes, attach records of filter inspections and cleanings.

4.2.2.2 Do you flush the irrigation lines at least twice throughout the irrigation season?

☐ YES: 3 ☐ NO: 0

If yes, attach records of irrigation line flushes.

4.2.2.3 Do you have a system in place to communicate with your irrigators and field employees to identify and address issues affecting irrigation system performance?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Provide written statement of your reporting and communication system. Not Applicable only if you conduct all irrigation operations yourself. Provide written statement.

4.2.2.4 Is a low-volume (less than or equal to 30 gallons/acre/minute) watering system used for frost control?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, provide a written description of low-volume watering system used for frost control. Not Applicable only if no water is used for frost control. Provide written statement.

4.2.2.5 Is the distribution uniformity of your irrigation system greater than or equal to 85%?

DU is greater than or equal to 85%	☐ YES:	6
DU is greater than or equal to 75%, but less than 85%	☐ YES:	4
DU is less than 75%	☐ YES:	0

If yes, attach calculations. Reference Requirement 4.3.1.1.

4.2.2.6 If chemical maintenance of your irrigation system is used to prevent plugging, do you have documentation to justify use?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach the results from irrigation water quality test used to determine if chemical maintenance is required. Provide an explanation of chemical maintenance based on the test results.

Not Applicable only if chemical maintenance is not conducted. Provide written statement.

4.2.2.7 Are there flow meters on all the wells or other pumps to monitor water usage over the season?

☐ YES: 4 ☐ NO: 0

If yes, provide written description of flow meter locations.

4.2.2.8 Are irrigation applications occurring at night when evaporation losses are at their lowest?

☐ YES: 2 ☐ NO: 0

If yes, attach irrigation records which include time interval of application.

4.2.2.9 Was your drip irrigation system designed to allow direct pumping from the well?

☐ YES: 2 ☐ NO 0

Provide a written statement explaining how your irrigation system is designed to allow direct pumping from the well.

4 WATER CONSERVATION POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
4.2 Water Use Efficiency	28			

Additional section comments for auditor review:

4.3 Irrigation Scheduling

Goal: To achieve the most beneficial use of applied irrigation water while conserving water resources, reducing energy use and associated air pollution, and reducing or eliminating non-point source pollution of surface and groundwater.

4.3.1 Requirement(s)

4.3.1.1 You must have soil based monitoring devices to track soil moisture depletion, or plant based monitoring devices to monitor the moisture status of your vineyard, or use evapotranspiration (ET) calculations and an ET budget as one of the tools to determine irrigation requirements.

List monitoring devices, either soil- or plant-based, and data from the previous year or attach ET budget from previous year.

4.3.1.2 You must track total water the vineyard receives during the season from rainfall, frost protection, and irrigation.

Attach records of total water received.

4.3.2 Management Enhancement(s)

4.3.2.1 Have you measured the effective rooting depth of your soils and estimated the vineyard's soil water holding capacity?

☐ YES: 4 ☐ NO: 0

If yes, provide written description of method used to determine the effective rooting depth and the results.

4.3.2.2 Do you record on-site seasonal rainfall?

☐ YES: 3 ☐ NO: 0

If yes, attach seasonal rainfall records and list of on-site measurement devices.

4.3.2.3 Do you utilize aerial images in your long-term irrigation management decisions (either infrared or standard film)?

☐ YES: 3 ☐ NO: 0

If yes, attach sample of aerial images.

4 WATER CONSERVATION POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
4.3 Irrigation Scheduling	10			10

Additional section comments for auditor review:

4 WATER CONSERVATION POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Available Points (A - C)
4.1 Water Quality and Analysis	12			
4.2 Water Use Efficiency	28			
4.3 Irrigation Scheduling	10			10
Total Chapter Points	50			

5 Energy Conservation and Efficiency

On-farm energy usage is of critical importance in today's environment of increased and uncertain fuel costs, additional scrutiny of greenhouse gas emissions, and concerns around air quality from engines. Given this, vineyard operators must approach this situation with a rigorous and measured energy efficiency planning perspective. It makes good business sense to review all aspects of the vineyard operation to ensure that energy conservation is being practiced. This includes pursuing methods to increase the efficiency of equipment and modifying vineyard practices where appropriate to do so.

Equipment operation is the highest energy usage component in the vineyard. Simply put, minimizing the number of hours equipment is used and the type of fuel used are key elements of an on-farm energy plan. Note that this also relates to the air quality management plan as discussed in the next chapter. Alternatives to diesel should be evaluated both from an efficiency and emissions standpoint. Regular equipment maintenance schedules help ensure optimal operating efficiencies. Replacing older less efficient motors and equipment should be considered. Efficient and "greener" technologies (e.g., solar and wind) are being developed and are being used in an increasing number of farming operations.

Irrigation systems are another key energy consumer in the vineyard. Coupled with water conservation and efficiency practices described in the previous chapter, system designers should also target minimizing energy usage and air pollution. This can be achieved by collectively matching the designed water delivery system needs to the peak efficiencies of the pump/engine or pump/motor system. If an electric motor is used, a motor should be selected that will run at the desired speed or, if the pump speeds need to vary, the motor should include a programmable variable frequency drive (VFD).

For those vineyards with a shop or office facility, there are a number of ways to conserve energy in lighting and office equipment usage. Often local utility companies will provide energy auditing services (or direct you to companies that will) which can help individual operations identify and maximize opportunities to conserve and increase efficiency in the shop and office (if not also in the vineyard).

Striving for energy conservation and efficiency should be the goal of every vineyard manager.

5.1 Energy Conservation and Efficiency

Goal: To conserve energy through the most efficient technologies and management practices.

5.1.1 Requirement(s)

5.1.1.1 Well and pump performance must be tested at least every 5 years.

Attach most recent well and pump performance test results.

5.1.2 Management Enhancement(s)

5.1.2.1 Have you implemented a vineyard equipment energy efficiency plan which includes recording your total vineyard fuel use per year and conducted an annual per acre fuel usage analysis?

☐ YES: 5 ☐ NO: 0

If yes, provide documentation of your plan.

5.1.2.2 Have you implemented an irrigation equipment energy efficiency plan which includes recording your total vineyard irrigation energy use per year and conducted an annual per acre energy usage analysis?

☐ YES: 5 ☐ NO: 0

If yes, provide documentation of your plan.

5.1.2.3 Have you implemented a shop/office equipment energy efficiency plan which includes recording your total shop/office energy use per year and conducted an annual per acre energy usage analysis?

☐ YES: 5 ☐ NO: 0

If yes, provide documentation of your plan.

5.1.2.4 Do you periodically have your well tested for pump energy efficiency and monitored for changes in water yield (gallons per minute) and drawdown?

Every 2 years	☐ YES: 3
Every 3 years	☐ YES: 2
Less than every 3 years	☐ YES: 0

If yes, list date of most recent test result. This date must match that of the documentation provided for Requirement 5.1.1.1

5.1.2.5 Are irrigation applications occurring at night when energy demand is at its lowest?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach irrigation records that include time of day, which demonstrate irrigation applications occurred during non-peak energy demand periods. Not applicable only if vineyard is not running on the grid. Provide written statement.

5.1.2.6 Do you use alternate energy sources including solar, wind, or other alternative power for a portion of your vineyard energy needs?

☐ YES: 6 ☐ NO: 0

If yes, provide documentation of alternative energy use (photo documentation is sufficient).

5.1.2.7 Is the company(s) that provides shipping and transportation services for vineyard operations registered with the Environmental Protection Agency's SmartWay Program?

☐ YES: 3 ☐ NO: 0

Provide documentation showing the shipping and/or transportation services provider's involvement in the SmartWay Program.

5 ENERGY CONSERVATION AND EFFICIENCY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Available Points (A - C)
5.1 Energy Conservation and Efficiency	30			
Total Chapter Points	30			

Chapter comments for auditor review:

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6 Air Quality

In order for sustainable growers to minimize their effect on the environment, they must understand their potential contribution to air quality impairment. According to the San Luis Obispo County Air Pollution Control District, "The agricultural community has long since been recognized as advocating clean air." It is essential that vineyard owners and managers maintain this reputation through compliance with all levels of regulation and be proactive on issues relating to air quality. It is common for vineyard managers and owners to live in the regions, if not on the actual land, where they farm. As a result, they live in and breathe the air that is regulated and is of concern to community members. It is in the grower's best interest to reduce air pollution not only for the sake of the environment and surrounding community, but for themselves, their families, and their farms.

Agricultural air quality concerns generally focus on diesel particulate matter, dust production and sulfur dust use. One way growers can address diesel particulate matter is to exchange diesel engines for electric or clean burning engines. Programs exist to assist growers with exchanging polluting engines for ones that contribute to cleaner air. Growers can also change their cultivation practices, soil cover, and road maintenance to reduce dust production.

It is to the growers own benefit to stay up to date and alert regarding any and all air quality regulations. Growers can access air quality information through their local Air Pollution Control District.

Protecting air quality should be the goal of the vineyard manager.

Goal: To minimize the creation and offsite movement of dust, diesel particulate matter, and pesticide spray drift.

6.1 Air Quality

6.1.1 Requirement(s)

6.1.1.1 You must have a written spray program designed to eliminate offsite spray drift.

Provide written spray program.

6.1.2 Management Enhancement(s)

6.1.2.1 Have you sealed or do you regularly water your vineyard roads for dust abatement?

☐ YES: 3 ☐ NO: 0

If yes, indicate sealed and/or regularly watered vineyard roads on ranch map.

If roads are watered, provide records of watering dates.

6.1.2.2 Are all vineyard non-cropped areas managed for dust control?

☐ YES: 3 ☐ NO: 0

If yes, describe dust management practices.

6.1.2.3 Are all stationary and mobile engines on a documented maintenance program?

☐ YES: 3 ☐ NO: 0

If yes, attach maintenance program documentation.

6.1.2.4 Do you use alternate energy sources including bio-fuels, solar, or wind for your vineyard energy needs?

☐ YES: 3 ☐ NO: 0

If yes, provide documentation of alternative energy use. Documentation can include, but is not limited to, bio-fuel invoices and photo documentation. (Reference Management Enhancement 5.1.2.6)

6.1.2.5 Have you been able to eliminate the use of sulfur dust?

☐ YES: 4 ☐ NO: 0

If yes, provide pesticide use records.

6.1.2.6 Do you have management practices or technologies for reducing or eliminating tracked mud from the vineyard onto paved roads?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, describe management practices or technologies and include documentation (may include photos). Not Applicable only if there are no paved roads adjacent to the vineyard.

6.1.2.7 Do you utilize chipping or mulching instead of burning on more than 90% of your vineyard wood residue?

☐ YES: 6 ☐ NO: 0

If yes, provide a written description of vineyard wood residue management practices.

6.1.2.8 Do you have speed limit signs posted on vineyard roads to reduce dust?

☐ YES: 2 ☐ NO: 0

If yes, indicate speed limit signs on ranch map.

6.1.2.9 Do you use All Terrain Vehicles (ATVs) in your vineyard?

☐ YES: 3 ☐ NO: 0

If yes, provide photo documentation of ATVs and a list of practices which utilize ATVs.

6.1.2.10 If you have purchased new motors in the last five years, do they run on natural gas or electricity rather than diesel?

☐ YES: 6 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, list new engines and their power source. Not Applicable only applies if you have not purchased new engines in the last five years. Provide a written explanation.

New Engines	Power Source
Not Applicable explanation:	

6.1.2.11 Have you switched or added hybrid or ultra-low emission vehicles to your fleet?

Greater than 50% of fleet	☐ YES:	3
More than one vehicle, but less than 50% of fleet	☐ YES:	2
One vehicle	☐ YES:	1
	☐ NO:	0

If yes, provide photo documentation of hybrid or ultra low emission vehicle(s).

6.1.2.12 What percentage of your stationary power source equipment is electric?

Greater than 70%	☐ YES: 3
Between 30 – 70%	☐ YES: 2
Less than 30%, but at least one	☐ YES: 1
None	☐ NO: 0

If yes, provide documentation of your stationary power sources and whether or not it is electric.

6.1.2.13 Are your spray operators and foreman equipped with wind speed measurement devices?

☐ YES: 2 ☐ NO: 0

If yes, list wind speed measurement device(s):

6.1.2.14 Are pesticide applications prohibited when wind speeds exceed 8 mph?

☐ YES: 3 ☐ NO: 0

If yes, provide spray records including wind speed at initiation of work.

6.1.2.15 Have you combined tractor operations to reduce tillage?

☐ YES: 3 ☐ NO: 0

If yes, provide explanation of combined tractor operations.

6 AIR QUALITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Available Points (A - C)
6.1 Air Quality	50			
Total Chapter Points	50			

Chapter comments for auditor review:

7 Social Equity

In order for agricultural businesses to be truly sustainable, they must provide a safe and fair working environment for their employees and interact successfully with the surrounding community. These goals can be achieved only when agricultural businesses are realistic about the challenges they face, forthright in their communication with both groups, and progressive in their thought process.

A safe and fair work environment is particularly important in agricultural businesses where a heavy reliance has been placed on human labor. The interaction between agricultural business owners, community leaders, concerned citizens, and agricultural workers has been strained in the past, and it continues to be a potential area of conflict. In order to lessen this strain, progressive agricultural employers must continue to develop and continuously implement safety programs, effective communication with their employees, and fair employment practices that eliminate discrimination. Providing fair compensation, rewarding employees for superior performance and providing competitive benefits can promote a positive work environment where emphasis is on accomplishment. In order to promote a positive work environment, growers should understand cultural issues and emphasize an open dialogue between employee and employer.

Positive interaction between agricultural businesses and their urban and non-urban neighbors remains challenging primarily due to a general misunderstanding of issues facing both groups. An honest interchange of information is essential to lessen potential conflicts resulting from this misunderstanding. Educating surrounding communities regarding Integrated Pest Management (IPM) programs and general farming practices will help mitigate ag-urban interface issues. When growers provide a progressive response to complaints, they encourage mutual respect and understanding where confusion and distrust have existed in the past. Not only do vineyard managers need to practice good stewardship of their human and natural resources, they need to communicate these efforts to the community at large. A properly managed vineyard is a healthy sustainable ecosystem that provides both environmental and social benefits that reach well beyond the borders of that vineyard.

Addressing issues of social equity and community relationships should be the goal of the vineyard manager.

The Social Equity section is designed to be completed by the labor provider (i.e. vineyard manager, labor contractor or management company).

7.1 Human Resources

Goal: To promote the vineyard as a safe and desirable place to work where the employer is concerned about fair wages, benefits, and the health, safety, and continuing education of his/her employees. Human Resources applies to those who are directly involved with vineyard operations.

If you do not have vineyard employees or contract vineyard employees, 7.1 through 7.8 are Not Applicable. If Not Applicable, provide a written statement.

7.1.1 Requirement(s)

7.1.1.1 You must include the following within the Employee Handbook and Illness and Injury Prevention Program:

- Salary, Benefits, and Incentives
- Employee Orientation

- Ongoing Training
- Employee Safety Policies & Practices
- Employee Evaluations, Grievance Policy and Disciplinary Actions

Provide copy of Employee Handbook and Illness & Injury Prevention Program (IIPP).

7.1.1.2 All new employees must receive an introduction to the company and safety training prior to starting work.

Safety Training includes, but is not limited to:

- Personal Hygiene
- Daily change of clean clothing
- Recognizing and avoiding unsafe working environments or conditions
- Safe use and handling of pesticides for handlers and applicators
- Pesticide safety and awareness
- Pesticide use notification

Company introduction includes, but is not limited to:

- Long and short term work goals
- Benefits and eligibility requirements
- Policies
- Job descriptions

Provide documentation of employee orientation meeting and employee manual in a language understood by the employee(s).

7.1.1.3 Employee safety trainings must be given every time an employee enters a new working environment.

Training meetings include:

- Personal hygiene
- Daily change of clean clothing
- Recognizing and avoiding unsafe working environments or conditions
- Safe use and handling of pesticides for handlers and applicators
- Pesticide safety and awareness
- Pesticide use notification
- Equipment safety & ergonomics
- Other types of ergonomic/musculoskeletal safety issues (lifting, carrying, etc.)

Provide documentation of employee safety training meetings.

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)

7.1 Human Resources				

Additional section comments for auditor review:

7.2 Employee Ongoing Training

7.2.1 Requirements

None

7.2.2 Management Enhancement(s)

7.2.2.1 Do you hold meetings at least annually to include your employees in your growing philosophies and long- and short-term goals?

Meeting includes all employees ☐ YES: 3

Meeting includes managers & supervisors ☐ YES: 2

☐ NO: 0

Provide documentation of employee meetings on growing philosophies and long- and short-term goals.

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.2 Employee Ongoing Training	3			3

Additional section comments for auditor review:

7.3 Employee Salaries and Benefits

7.3.1 Requirement(s)

None

7.3.2 Management Enhancement(s)

7.3.2.1 Do you pay all employees competitive salaries at or above the average salary for your region?

☐ YES: 3 ☐ NO: 0

If yes, provide documentation of average salaries per job category benchmarked to the most recent salary survey results for vineyard employees in your region.

7.3.2.2 Do you offer medical insurance to all of your employees?

75% or more of employees are enrolled	☐ YES: 6
50% of employees are enrolled	☐ YES: 4
25% of employees are enrolled	☐ YES: 2
	☐ NO: 0

If yes, list insurance options.

7.3.2.3 If you offer medical insurance to all of your employees, how much of the premium do you cover?

100% premium coverage	☐ YES: 6
75% premium coverage	☐ YES: 4
50% premium coverage	☐ YES: 2
Less than 50% premium coverage	☐ YES: 0
I do not offer medical insurance.	☐ NA

7.3.2.4 Do you provide family support services for your employees?

Three or more services provided	☐ YES:	4
Two services provided	☐ YES:	2
One service provided	☐ YES:	1
	☐ NO:	0

If yes, select services:

☐ Housing opportunities referral information and resources

☐ Community resources referral information

☐ Childcare referral program

☐ Nutrition, health, and wellness resources and/or referrals

☐ Employer participation in community groups dedicated to increasing housing opportunities

☐ Employer donates money and other resources to local housing groups

☐ Other:

7.3.2.5 Do you offer retirement benefits to your employees?

Offered to 75% - 100% of employees	☐ YES: 6
Offered to 50% -75% of employees	☐ YES: 4
Offered to 25% - 50% of employees	☐ YES: 2
Offered to less than 25% of employees	☐ YES: 0

If yes, describe employee retirement benefits.

7.3.2.6 Do you offer bonuses and rewards to your employees?

Offered to 75% - 100% of employees	☐ YES: 3
Offered to 50% - 75% of employees	☐ YES: 2
Offered to 25% - 50% of employees	☐ YES: 1
Offered to less than 25% of employees	☐ YES: 0

If yes, describe employee bonuses and rewards.

7.3.2.7 Do you provide information for transportation alternatives, such as carpooling or vanpooling, to employees for their daily commute?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, provide sample of transportation information. Not applicable only if all vineyard employees live on-site; provide written statement.

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.3 Employee Salaries and Benefits	30			

Additional section comments for auditor review:

7.4 Employee Safety

7.4.1 Requirement(s)

All employees receive initial safety training at orientation as well as ongoing training – Reference Requirements 7.1.1.2 and 7.1.1.3.

7.4.2 Management Enhancement(s)

7.4.2.1 Do you have a written procedures plan in place for hazardous material and emergency situation management?

☐ YES: 3 ☐ NO: 0

If yes, attach hazardous material and emergency situation procedures plan.

7.4.2.2 Do you offer incentives or have an employee safety rewards program in place that recognizes and appreciates individuals for safe job performance?

☐ YES: 5 ☐ NO: 0

If yes, describe your incentive program for safe job performance.

7.4.2.3 Do you have regular safety training meetings for your employees?

Weekly ☐ YES: 3

Once every two weeks ☐ YES: 2

Less than once every two weeks ☐ NO: 0

If yes, provide sample documentation of regularly scheduled safety training meetings.

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.4 Employee Safety	11			11

Additional section comments for auditor review:

7.5 Employee Development

7.5.1 Requirement(s)

None

7.5.2 Management Enhancement(s)

7.5.2.1 Do you offer your employees new skills training programs?

☐ YES: 3 ☐ NO: 0

If yes, select offered training programs:

☐ ESL courses

☐ Sustainable agriculture practices courses

☐ Integrated Pest Management courses including, but not limited to, weed, insect and disease identification

☐ Equipment training courses

☐ Water conservation courses

☐ Energy conservation courses

☐ Other:

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.5 Employee Development	3			3

Additional section comments for auditor review:

7.6 Employee Evaluations, Grievance Policies, and Disciplinary Actions

7.6.1 Requirement(s)

None

7.6.2 Management Enhancement(s)

7.6.2.1 Do you have a formalized process for handling performance evaluations with your employees?

☐ YES: 3 ☐ NO: 0

If yes, describe formalized process for employee performance evaluations.

7.6.2.2 Do you have a written grievance and complaint process in place for your employees?

☐ YES: 3 ☐ NO: 0

If yes, provide written documentation of employee grievance and complaint process or provide your own equivalent documentation.

7.6.2.3 Do you have a written and uniformly implemented disciplinary program with stepped and progressive procedures in place? The program must describe a process to improve performance problems that includes opportunity for employee input.

☐ YES: 3 ☐ NO: 0

If yes, attach written disciplinary program.

7.6.2.4 Do you attend annual management training concerning workplace harassment and discrimination issues?

☐ YES: 2 ☐ NO: 0

If yes, attach verification form or other proof of attendance.

7 SOCIAL EQUITY SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.6 Employee Evaluations, Grievance Policies, and Disciplinary Actions	11			11

Additional section comments for auditor review:

7.7 Sustainable Practices and Employee Training Programs for Recycling, Water, and Energy

7.7.1 Requirement(s)

None

7.7.2 Management Enhancement(s)

7.7.2.1 Do you have a recycling program (oil containers, pesticide containers, etc.) in place for your farm operation and do you educate your employees on your program?

☐ YES: 2 ☐ NO: 0

If yes, provide written description. Provide documentation of employee training(s).

7.7.2.2 Do you have a water and energy conservation program in place for your farm operation, and do you educate your employees on your program?

☐ YES: 2 ☐ NO: 0

If yes, provide written description. Provide documentation of employee training(s).

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.7 Sustainable Practices and Employee Training Programs for Recycling, Water, and Energy	4			4

Additional section comments for auditor review:

7.8 Employee Involvement

7.8.1 Requirement(s)

None

7.8.2 Management Enhancement(s)

7.8.2.1 Do you have a system in place that encourages employees to submit suggestions for improving workplace conditions?

☐ YES: 2 ☐ NO: 0

If yes, provide written description.

7.8.2.2 Do you have a system in place that encourages employees to submit suggestions for improving job training and employee development opportunities?

☐ YES: 2 ☐ NO: 0

If yes, provide written description.

7.8.2.3 Do you have a system in place that encourages employees to submit suggestions for improving business performance and operational efficiencies?

☐ YES: 2 ☐ NO: 0

If yes, provide written description.

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.8 Employee Involvement	6			6

Additional section comments for auditor review:

7.9 Community Involvement

Goal: To actively engage with neighbors and the larger community to develop a common understanding of vineyard IPM and other sustainable farming practices.

7.9.1 Requirement(s)

7.9.1.1 You must have a plan in place that addresses neighbor and community communication. Plan must include:

- Participation in neighbor and community forums
- Notification of major changes to farming practices
- Procedures for neighbors to express their concerns regarding farming practices
- Program addressing the proper use of bird frightening devices including neighbor considerations
- Procedures to log and follow-up on neighbor and community complaints
- Employee training regarding the neighbor and community communications program

Provide written plan.

7.9.2 Management Enhancement

7.9.2.1 Have you participated in at least two events during the last 12 months that include community members on IPM and sustainability issues?

☐ YES: 4 ☐ NO: 0

If yes, list events you have participated in during the last 12 months.

7.9.2.2 Do you have a system in place to notify neighbors of major changes to farming practices?

☐ YES: 4 ☐ NO: 0

If yes, select notification system:

☐ Postcards or other mailings

☐ Notification board with regular postings at the property entrance or other convenient location for neighbors

☐ Website or blog

☐ Other:

7.9.2.3 Do you log neighbor complaints and document how each issue was resolved?

☐ YES: 4 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach neighbor complaint log including description of how complaints were resolved. Not Applicable only applies if you have not had any neighbor complaints. Provide written explanation.

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.9 Community Involvement	12			

Additional section comments for auditor review:

7 SOCIAL EQUITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
7.1 Human Resources				
7.2 Employee Ongoing Training	3			3
7.3 Employee Salaries and Benefits	30			
7.4 Employee Safety	11			11
7.5 Employee Development	3			3
7.6 Employee Evaluations, Grievance Policies, and Disciplinary Actions	11			11
7.7 Sustainable Practices and Employee Training Programs for Recycling, Water, and Energy	4			4
7.8 Employee Involvement	6			6
7.9 Community Involvement	12			
Total Chapter Points	80			

8 PEST MANAGEMENT

In order for growers to protect their crop, they must manage the dynamic pest complex to minimize economic damage. The use of pesticides is one of the major challenges facing agriculture today. Public perception, worker safety, as well as state and federal regulation provide challenges to growers managing pests using pesticides.

Rather than pest control, sustainable agriculture focuses on pest management. Integrated Pest Management (IPM) has been around since the 1960s and is a crucial part of pest management in the vineyard. Major advances have been made in the last 40 years to assist today's viticulturist in this arena.

The vineyard manager must consider several issues when deciding if and when a pest needs to be controlled. The stage in the pest's life cycle, presence/absence of beneficial insects, economic thresholds, potential crop injury, chemical alternatives, and potential impacts on non-target organisms are just a few factors to be considered when addressing pest management issues. The use of intensive field scouting, disease modeling, and insect trapping are necessary tools for managing vineyard pests.

Use of the proper equipment for management is also an important factor. Controlling weeds, root insects, canopy insects, and diseases all require different scouting approaches and have different equipment issues. The vineyard manager must be knowledgeable about all the facets of these unique challenges.

In addition, trellis type, plant material, canopy management, vineyard floor management, fertilization, and irrigation are all factors that must be taken into account to prevent, mitigate, or manage pest, weed, and disease outbreaks.

Sustainable vineyard management addresses overall balance, and dealing with pests is no different. Giving attention to the interactions of irrigation, soils, cover crop, and canopy factors with pests is key; it allows for a comprehensive approach to maintain the balance of the whole farm system.

Effectively managing pests, weeds, and disease using cultural practices and integrated pest management based on the biological system should be the goal of the vineyard manager.

The CCVT Standard Development Committee supports and encourages low-input farming practices. The standards are considered a "living document" meaning they will evolve over time as new science and technology develops and becomes available. Requirements include a Prohibited Materials List (listed by active ingredient) based on the Department of Pesticide Regulation's following lists: Groundwater Protection, Cholinesterase Inhibiting, Toxic Air Contaminants, and California Restricted Materials Lists. In order to achieve certification, a grower must not use any of the active ingredients on this list. In the area of chemical use, growers should strive to limit their inputs. The Committee anticipates restricting the total amount of chemicals applied on a per acre basis when a science-based pesticide accounting tool becomes available.

There may be extraordinary situations in which a grower may request a temporary exemption from a specific procedure or requirement. In these cases, the grower must contact program staff regarding their intent to request an exemption, provide written documentation justifying the request, and be prepared for an interview with the Certification Advisory Committee (CAC). Following the documentation review and grower interview, the CAC will give its decision within five business days of staff receipt of the written grower request.

8.1 Program Best Management Practices

8.1.1 Requirement(s)

8.1.1.1 No Active Ingredients (AI) on the Prohibited Materials List (PML) can be used. See attached Prohibited Materials List.

Attach pesticide use reports with trade names and active ingredients listed.

8.1.1.2 You must monitor and record the following:

- Presence and population dynamics of vineyard pests and insect/mite natural enemies at a minimum of every two weeks during the growing season
- Presence and severity levels of diseases or disease vectors at a minimum of every two weeks during the growing season
- Presence and severity levels of weeds at least once per month throughout the year
- Presence and identification of vertebrate pests at least once per month throughout the year

Attach Records.

Describe your monitoring program.

8.1.1.3 The sprayer must be calibrated annually, and the sprayer should be adjusted and recalibrated for changing vineyard conditions during the growing season; worn screens and nozzles must be replaced in order to insure the best coverage and efficacy of agricultural chemical applications.

Provide calibration records.

8.1.1.4 Pesticides (insecticides, fungicides, and herbicides) with different modes of action must be alternated within the seasonal spray program in order to minimize the risk of pesticide resistance development.

Attach Spray Records which include target pest, disease, or weed and pesticide mode of action.

Provide an example from your vineyard.

8.1.2 Management Enhancement(s)

8.1.2.1 Do you apply treatments over the smallest possible area to achieve control (spot sprays or hot spot sprays)?

☐ Insecticides ☐ Fungicides ☐ Herbicides

If spot sprays are used in three programs ☐ YES: 8

If spot sprays are used in two programs ☐ YES: 4

If spot sprays are used in one program ☐ YES: 2

☐ NO: 0

☐ NOT APPLICABLE: NA

Attach spray records that include applied acres and total acres. Not Applicable only if you do not spray insecticides, herbicides, or fungicides. Provide written statement..

8.1.2.2 Are sanitation practices used to prevent introduction or spread of insect pests, weeds, and diseases?

☐ YES: 4 ☐ NO: 0

If yes, attach sanitation records and describe sanitation practices.

8 PEST MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.1 Program Best Management Practices	12			

Additional section comments for auditor review:

8.2 Insect and Mite Pest Management

Goal: To use sustainable farming methods which minimize the need for pesticide inputs.

8.2.1 Requirement(s)

8.2.1.1 You must be knowledgeable about the insect and mite pests found in your vineyard, including understanding the pest's life cycle and natural enemies (predators, parasites, or pathogens).

List the most significant insect and/or mite pests found in your vineyard, and give a brief description or diagram of their lifecycle and an example of a natural enemy.

Insect/Mite Pest	Life Cycle	Natural Enemies

8.2.2 Management Enhancement(s)

8.2.2.1 Do your management practices, pest monitoring programs, and IPM practices allow you to avoid the use of insecticides?

If yes, take full points for 8.2.2 and proceed to Section 8.3 ☐ YES: 14 ☐ NO: 0

If yes, reference Pesticide Use Report.

8.2.2.2 Do you time treatments to control the appropriate insect/mite brood hatch for maximum effectiveness?

☐ YES: 5 ☐ NO: 0

If yes, reference scouting and spray records.

Provide brief example, based on your attached records, which demonstrates your spray timing.

8.2.2.3 Do you track or have access to weather data and degree days during the season?

☐ YES: 4 ☐ NO: 0

If yes, record use frequency and source of weather data. Provide reference for degree day model(s).

☐ On-site weather station ☐ Regional weather station

☐ Online weather service/data ☐ Degree Day model (specify):

8.2.2.4 Are leaf counts and cluster examinations used to monitor insects?

☐ YES: 5 ☐ NO: 0

If yes, provide records or other documentation.

8 PEST MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.2 Insect and Mite Pest Management	14			14

Additional section comments for auditor review:

8.3 Beneficial Insect Management

Goal: To promote environmentally sound pest management through the use of beneficial insects rather than pesticides; to maintain habitat that encourages the establishment and survival of a variety of beneficial insect species.

8.3.1 Requirement(s)

8.3.1.1 You must be knowledgeable about the life cycle and habitat requirements of, and environmental conditions favorable to, predators and parasitoids that are the natural enemies of pests.

Provide the following information on the natural enemies you listed in Insect Pest Management Requirement 8.2.1.1.

Natural Enemy	Life Cycle	Habitat Requirements

8.3.2 Management Enhancement(s)

8.3.2.1 Do you sample for the presence of beneficial insects and monitor for their activity in your vineyard?

☐ YES: 2 ☐ NO: 0

If yes, attach insect monitoring records including at least presence/absence of beneficial insects.

8.3.2.2 Do you provide year-round refuge other than your cover crop for beneficial insects and pollinators?

☐ YES: 2 ☐ NO: 0

If yes, select other year-round refuges and indicate the location on the ranch map.

☐ Oak woodlands ☐ Riparian areas ☐ Grasslands ☐ Hedgerows

☐ Insectary plantings ☐ Other (specify):

8.3.2.3 Are beneficial organisms released in your vineyard as a supplement to or in lieu of needed pesticide treatments?

☐ YES: 2 ☐ NO: 0

If yes, attach monitoring records for target pest and natural enemies (see Management Enhancement 8.1.1.2).

List beneficial organism(s) release date(s) and correlate with monitoring records.

Target Pest	Beneficial (s)	Date of Release	Correlation with Monitoring Records

8.3.2.4 Are selective pesticides used to minimize adverse impacts to beneficial insect/mite populations?

☐YES: 4 ☐NO: 0 ☐NOT APPLICABLE: NA

If yes, provide written explanation of selective pesticides including reference to pesticide use report. Not Applicable only if pesticides are not used. Provide written statement.

8 PEST MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.3 Beneficial Insect Management	10			

Additional section comments for auditor review:

8.4 Disease Management

Goal: To use sustainable farming methods which reduce the use of chemicals for disease control.

8.4.1 Requirement(s)

8.4.1.1 You must be knowledgeable about the diseases that are likely to be found in your vineyard, including knowledge of the life cycle and vectors of the causal agent, and predisposing factors for infection.

List the key diseases found in your vineyard. Provide a diagram or written description of the disease's life cycle, vectors, and other predisposing factors.

Disease	Life Cycle	Vectors	Predisposing Factors

8.4.2 Management Enhancement(s)

8.4.2.1 Are disease models used to help schedule spray applications?

☐ YES: 5 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Not Applicable only if you do not spray fungicides. Provide written statement.

Provide disease model reference:

8.4.2.2 Are canopy and fruit density managed to optimize air movement, light penetration, and spray coverage?

☐ YES: 5 ☐ NO: 0

If yes, attach canopy and fruit density management records (Reference Vineyard Acquisition/Establishment and Management 2.4.2.3 and 2.4.2.4)

8 PEST MAANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.4 Disease Management	10			

Additional section comments for auditor review:

8.5 Weed Management

Goal: To use sustainable farming methods that minimize weed growth.

8.5.1 Requirement(s)

8.5.1.1 You must be knowledgeable about the weed species common in your vineyard and their most susceptible life stage.

List key weed species found in your vineyard and their most susceptible life stage.

Weed Species	Most Susceptible Life Stage

8.5.2 Management Enhancement(s)

8.5.2.1 Are mechanical methods of in-row weed control or reduced rates of low risk contact herbicides used in lieu of pre-emergent herbicides?

☐ YES: 6 ☐ NO: 0

If yes, attach herbicide spray records.

8.5.2.2 Is the width of the swath under the vine throughout the growing season:

< 30”	☐ YES:	3
30 – 48”	☐ YES:	2
> 48”	☐ NO:	0

If yes, provide photo documentation of close-up with swath measurement shown and large scale photo from a block level during the growing season. This Management Enhancement expands on the Requirement found in Soil Conservation and Water Quality 3.3.1.2

8.5.2.3 Are there programs in place to help eliminate or prevent the introduction or spread of noxious weed species?

☐ YES: 3 ☐ NO: 0

Programs can include but are not limited to on-site detection and elimination, purchasing weed-free cover crop seed, hay, and mulch. (Reference Conservation & Enhancement of Biological Diversity 1.1.2.6 and 1.1.2.7)

If yes, describe program specifics and attach program records:

8.5.2.4 Are weed control programs implemented when the weeds are most susceptible?

☐ YES: 4 ☐ NO: 0

Provide pesticide use records and written statement describing the timing of your weed control program.

8 PEST MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.5 Weed Management	16			16

Additional section comments for auditor review:

8.6 Vertebrate Pest Management

8.6.1 Requirement(s)

None

8.6.2 Management Enhancement(s)

8.6.2.1 Do you identify and protect existing wildlife corridors to allow movement between habitats?

☐ YES: 3 ☐ NO: 0

If yes, indicate wildlife corridor on ranch map.

8.6.2.2 Are selective exclusion methods used for vertebrate pest control?

☐ YES: 2 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Selective exclusion methods include, but are not limited to, fencing that is used for targeted pest only and allows smaller animals to migrate through the fence, pest specific traps, and sound machines.

If yes, indicate selective exclusion methods on ranch map. If no exclusion methods are used, select “Not Applicable” and provide written explanation.

8.6.2.3 Do you use alternative methods in lieu of chemical vertebrate pest control?

☐ YES: 3 ☐ NO: 0

If yes, provide written description/documentation of alternative methods.

8 PEST MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.6 Vertebrate Pest Management	8			

Additional section comments for auditor review:

8 PEST MANAGEMENT POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
8.1 Program Best Management Practices	12			
8.2 Insect and Mite Management	14			14
8.3 Beneficial Insect Management	10			
8.4 Disease Management	10			
8.5 Weed Management	16			16
8.6 Vertebrate Pest Management	8			
Total Chapter Points	70			

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9 Continuing Education

The sustainable wine grape grower should capitalize on the latest information and technology, remaining current on local and industry wide issues. Continuing Education (CE) continues to be of utmost importance to both large and small vineyard owners and managers. CE educates and updates growers on safety procedures, innovations in pest, soil, water, viticultural, and personnel management, and regional and statewide laws and regulations, and distributes information concerning new research. CE is also a requirement for many license holders, such as Pest Control Advisors, Private Applicators, and Certified Crop Advisors.

Continuing Education is available through a variety of organizations including the Central Coast Vineyard Team (CCVT), local Vintner's and Grower's groups, and statewide groups such as the California Association of Winegrape Growers (CAWG) and the California Association of Pest Control Advisors (CAPCA). Growers must take advantage of opportunities to educate themselves over the length of their career and seek deeper knowledge of wine growing practices, from pre-plant habitat conservation to post harvest vineyard floor management, and everything in between. In addition, vineyard owners and managers who desire to improve must remain open to alternative and innovative practices being developed within the industry in order to compete aggressively in both the local and world markets.

Continually seeking new information and resources regarding every aspect of farming operations should be the goal of managers.

Goal: To remain aware of the latest developments in order to effectively manage a sustainable and environmentally sound vineyard operation.

9.1 Continuing Education

9.1.1 Requirement(s)

9.1.1.1 You must participate in at least 20 hours of Continuing Education each year.

Attach Continuing Education verification forms totaling 20 hours.

9.1.2 Management Enhancement(s)

9.1.2.1 Do you attend at least four CCVT, UCCE, CAWG, ASEV, CAPCA or other environmental, conservation or pest management related meetings, seminars, and symposia to keep up to date on grape growing and winemaking issues?

☐ YES: 3 ☐ NO: 0

If yes, provide documentation of meeting attendance.

9.1.2.2 Do you read farming, trade, university, and industry journals?

☐ YES: 3 ☐ NO: 0

If yes, list journals.

9.1.2.3 Do you have current membership in local growers' and vintners' associations and attend the meetings to keep informed on local issues?

☐ YES: 3 ☐ NO: 0

If yes, list associations of which you are a member.

9.1.2.4 Do you own and use a copy of Grape Pest Management, 2nd Edition, UC DANR Publication 3343, or the most recent edition; and the UC IPM Pest Management Guidelines: Grapes, UC DANR Publication 3448; or the UC Davis IPM website (www.ipm.ucdavis.edu); or the UC Year Round IPM Program (http://www.ipm.ucdavis.edu/PMG/C302/m302yi01.html)?

☐ YES: 3 ☐ NO: 0

9.1.2.5 Do you attend annual CA DPR-approved pesticide laws and regulations meetings?

☐ YES: 3 ☐ NO: 0

If yes, attach verification form or other proof of attendance.

9.1.2.6 Do you attend annual trainings on human resource issues?

☐ YES: 5 ☐ NO: 0 ☐ NOT APPLICABLE: NA

If yes, attach verification form or other proof of attendance. Not Applicable only if you have no employees; provide written statement.

9 CONTINUING EDUCATION POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
9.1 Continuing Education	20			
Total Chapter Points	20			

Additional section comments for auditor review:

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10 Product Assurance and Business Sustainability

Growing quality wine grapes is essential to a vineyard's long-term profitability. Practices such as vineyard development, soil and fertility management, viticulture practices, and fair treatment of employees have been addressed throughout the Standards. Each of these considerations contributes an additional layer to a quality product. Through whole farm system management, wine grape growers can produce flavorful fruit grown in a balanced, healthy ecosystem that encourages biologic diversity.

Fruit quality is determined over the course of many seasons and is affected by numerous factors. Quality is the result of viticultural practices such as pruning, leaf pulling, and fruit thinning; irrigation and water management; soil and fertility management; effective pest and disease management; harvest decisions, and more. It is important for growers to evaluate fruit quality indicators (including but not limited to Brix, pH, and TA). Evaluating product quality annually allows the producer to analyze maturity parameters and use those results to adjust the farming practices during the next season.

Fruit quality is one important piece of viability, but sound business practices are also important for economic sustainability. Budgets are a critical tool for every operation and are required for certification. Other issues related to the economic aspect of sustainability include succession planning for family owned operations, actual to budget comparisons, long-term financial planning, and crop insurance.

Product assurance and business sustainability are ultimately the goal of every vineyard manager.

10.1 Fruit Quality

Goal: To provide the winery with grapes in the best possible condition.

10.1.1 Requirement(s)

10.1.1.1 You must record fruit quality parameters on an annual basis, including Brix, pH, and TA.

Provide fruit quality parameter records from the previous year.

10.1.2 Management Enhancement(s)

10.1.2.1 Did you and your winery representative visit the vineyard pre-harvest?

Five or more visits	☐ YES:	3
Three to four visits	☐ YES:	2
Less than three visits	☐ NO:	0

If yes, include signature of winery representative:

Number of visits: ☐ Three visits ☐ Five visits

Winery Name	Print Name of Winery Representative	Signature of Winery Representative

10.1.2.2 Prior to harvest, are you able to provide the winery with a crop projection?

Within 10% of projection	☐ YES:	3
Within 20% of projection	☐ YES:	2
	☐ NO:	0

If yes, attach records of crop projection and crop actual.

10.1.2.3 Do you provide weekly maturity analysis to your winery customers?

☐ YES: 2 ☐ NO: 0

If yes, attach weekly maturity analysis reports.

10.1.2.4 Do you provide full pesticide use reporting to the winery upon their request?

☐ YES: 2 ☐ NO: 0

10.1.2.5 Do you know what block(s) each load of fruit was picked from?

☐ YES: 2 ☐ NO: 0

If yes, attach records.

10.1.2.6 Do you maintain and compare your yield and fruit maturity data on a multiple year basis?

☐ YES: 3 ☐ NO: 0

If yes, attach records for the last three years.

10.1.2.7 If your winery is providing objective analysis (Brix, TA, pH), do you maintain and correlate the data?

☐ YES: 3 ☐ NO: 0

The winery does not provide the grower with objective analysis ☐ NOT APPLICABLE: NA

If yes, attach objective analysis records including variety(s), parameters, and results.

10.1.2.8 Do you taste and evaluate the wines from your vineyard?

☐ YES: 3 ☐ NO: 0

If yes, list the date, location, and who attended the wine tasting.

Date	Location	Attendance

10.1.2.9 Have you identified which of your viticultural practices contribute to wine quality, both positively and negatively?

☐ YES: 2 ☐ NO: 0

If yes, list viticultural practices and their effect on wine quality.

10.1.2.10 Do you have documented trials in your vineyard assessing the effects of vineyard practices on wine quality?

☐ YES: 2 ☐ NO: 0

If yes, describe trial(s).

10 Product Assurance and Business Sustainability				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
10.1 Fruit Quality	25			

Additional section comments for auditor review:

10.2 Economic Viability

10.2.1 Requirement(s)

10.2.1.1 You must have an annual or multi-year farming budget.

Provide **sample** documentation of the budget. You do not need to disclose sensitive financial information.

10.2.2 Management Enhancement(s)

10.2.2.1 Do you meet with a financial or business advisor annually?

☐ YES: 3 ☐ NO: 0

Provide name and affiliation of financial or business advisor and date of most recent meeting:

Financial or Business Advisor and Affiliation	Date

10.2.2.2 Do you have a system in place to track, review, and compare your financial status over time?

☐ YES: 3 ☐ NO: 0

Provide a written description of your tracking and review system.

10.2.2.3 Do you review your budget to actual on a monthly basis?

☐ YES: 3 ☐ NO: 0

Provide sample documentation of monthly budget versus actual comparisons.

10.2.2.4 If you are family owned, do you have a succession plan in place?

☐ YES: 3 ☐ NO: 0 ☐ NOT APPLICABLE: NA

Not applicable only if not family owned. Provide statement:

10.2.2.5 Do you have crop insurance?

☐ YES: 3 ☐ NO: 0

Provide proof of current crop insurance.

10 PRODUCT ASSURANCE AND BUSINESS SUSTAINABILITY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
10.2 Economic Viability	15			

Additional section comments for auditor review:

10 PRODUCT ASSURANCE AND BUSINESS SUSTAINABILITY POINT SUMMARY				
	A Total Section Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
10.1 Fruit Quality	25			
10.2 Economic Viability	15			
Total Chapter Points	40			

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SIP™ VINEYARD CERTIFCATION STANDARDS POINT SUMMARY

MANAGEMENT ENHANCEMENT POINT SUMMARY				
	A Total Chapter Points	B Points Received	C Not Applicable Points	D Total Available Points (A - C)
1 Conservation and Enhancement of Biological Diversity	40			
2 Vineyard Acquisition/Establishment and Management	60			
3 Soil Conservation and Water Quality	60			
4 Water Conservation	50			
5 Energy Conservation and Efficiency	30			
6 Air Quality	50			
7 Social Equity	80			
8 Pest Management	70			
9 Continuing Education	20			
10 Product Assurance and Business Sustainability	40			
Total Management Enhancement Points	500			

STANDARDS POINT SUMMARY		
	E Received (Total from Column B above)	F Available (Total from Column D above)
Requirements (If all Requirements are met assign 500 points; all else 0)		500
Management Enhancements		
Total Points Score (Requirements + Management Enhancements)		
Total Percentage Score (E ÷ F)		

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PROHIBITED MATERIALS LIST (PML)

Information obtained from the Department of Pesticide Regulation sources based on flagged materials registered for use on grapes. Due to the fluctuating registrations of many materials, trade names are not listed. It is the responsibility of the applicant to list trade names and active ingredients on documentation.

Active Ingredient	Cholinesterase Inhibiting	Groundwater Protection	Toxic Air Contaminant	CA DPR Restricted
1,3-DICHLOROPROPENE			X	X
2,4-D			X	X
2,4-D, DIMETHYLAMINE SALT			X	X
4-AMINOPYRIDINE				X
ACEPHATE	X			
ALUMINUM PHOSPHIDE			X	X
AZINPHOS-METHYL	X			X
CAPTAN			X	
CAPTAN, OTHER RELATED			X	
CARBARYL	X		X	X
CARBOFURAN	X			X
CHLOROPICRIN				X
CHLORPYRIFOS	X			
DIAZINON	X			
DIMETHOATE	X			
DIURON		X		X
ENDOSULFAN				X
ETHEPHON	X			
FENAMIPHOS	X			X
HYDROGEN CHLORIDE			X	
MAGNESIUM PHOSPHIDE			X	X
MALATHION	X			
MANCOZEB			X	
MANEB			X	
META-CRESOL			X	
METAM-SODIUM			X	X
METHOMYL	X			X
METHYL BROMIDE			X	X
NALED	X			
NORFLURAZON		X		
OXYDEMETON-METHYL	X			X
PARAQUAT DICHLORIDE				X
PHOSMET	X			
SIMAZINE		X		X
SODIUM TETRATHIOCARBONATE			X	X
SULFURYL FLUORIDE			X	X
TRIFLURALIN			X	
ZINC PHOSPHIDE			X	X

