Freshcare
Code of Practice

Environmental Viticulture

The National
On-Farm Assurance Program
For Australian Growers

2nd Edition – June 2011

www.freshcare.com.au

Contents

Preface

Acknowledgments

Many individuals and organisations have been involved in the development of the second edition of the Freshcare Code of Practice Environmental Viticulture. Their contribution and support is much appreciated.

Freshcare also acknowledge the support and commitment of Horticulture Australia Limited (HAL) and SPC Ardmona for the development of the second edition of the Freshcare Code of Practice Environmental Viticulture.

Appreciation is also expressed to the original contributors to the first edition of the Freshcare Code of Practice Environmental Viticulture.

Disclaimer

Freshcare Limited accept no liability or responsibility whatsoever by reason of negligence or otherwise in relation to any use or reliance on the information in this Code of Practice.

Copyright © Freshcare Limited 2011

Code Review Process

The Freshcare Technical Committee (Environmental) in conjunction with the Winemakers' Federation of Australia is responsible for the review and amendment of this Code of Practice. Freshcare members are advised of all Code updates and should ensure that they are operating with the current edition of the Code of Practice at all times.

Suggestions for improvement to this Code of Practice are encouraged from all users. Suggestions should be submitted in writing to Freshcare Limited or the Winemakers' Federation of Australia.

Freshcare Limited	Phone:	1300 853 508
PO Box 247	Fax:	02 9764 2776
Sydney Markets	Email:	info@freshcare.com.au
NSW 2129	Web site:	www.freshcare.com.au
Winemakers' Federation of Australia	Phone:	08 8222 9255
PO Box 2414	Fax:	08 8222 9250
Kent Town	Email:	entwine@wfa.org.au
SA 5071	Web site:	www.wfa.org.au/entwineaustralia

Introduction

Purpose and scope

The Freshcare Code of Practice Environmental Viticulture is an industry owned standard, describing the practices required on farm to provide assurance that produce has been grown and packed with care for the environment. This Code of Practice together with the Freshcare Code of Practice Environmental Winery, can be used to meet the certification requirements for Entwine Australia membership.

The program offers benefits to suppliers, customers and other interested parties. It provides verification that an industry recognised environmental assurance program is followed. Certification to the program is achieved through independent auditing to this Code of Practice.

Freshcare continues to work closely with key customer groups and industry stakeholders, maintaining a level of awareness of program developments and ensuring continued compliance with market requirements and community expectations.

How the Code was developed

A team of quality, food safety and environmental facilitators, experienced in developing management systems, developed the original Freshcare Code of Practice Environmental. A risk assessment approach was used to identify environmental impacts in farm management and, where potential environmental harm may occur, the practices needed to minimise the impact.

The second edition Freshcare Code of Practice Environmental was developed in consideration of industry and wider stakeholder feedback, to ensure the Freshcare Code remains at the forefront of Environmental Assurance on farm.

The Freshcare Code of Practice Environmental Viticulture was developed from the Freshcare Code of Practice Environmental in collaboration with winegrape growers and the wine industry sector through the Wine Industry National Environment Committee (WINEC); the Code was trialled with winegrape growers across Australia.

The second edition of the Freshcare Code of Practice Environmental Viticulture has been developed in consideration of the changes to the Freshcare Code of Practice Environmental and incorporates feedback from both WINEC, trainers and winegrape growers directly.

The Freshcare Code of Practice Environmental Viticulture incorporates all elements of the Freshcare Code of Practice Environmental, excluding those not relevant to viticulture.

This publication has been produced in part with the assistance of the “Guidelines for Environmental Assurance in Australian Horticulture” from the Horticulture for Tomorrow program. Horticulture for Tomorrow was supported by the Australia Government through the Natural Heritage Trust Pathways to Industry EMS Program and the National Landcare Program Sustainable Industries Initiative. Its development and ongoing management is conducted by Horticulture Australia Limited (HAL) in partnership with industry.

The following publications were referenced when determining the practices required:

- Environmental Management Systems [ISO14001:2004]
- GlobalGAP Integrated Farm Assurance Fruit and Vegetables [2009]
- Freshcare Food Safety and Quality Code of Practice – 3rd Edition [2009]
- Environmental Assurance Recognition Framework for Australian Horticulture [2010]

An important criterion in developing the Freshcare Code of Practice Environmental Viticulture was the need for consistency, where possible, with the Freshcare Code of Practice Food Safety and Quality. This has been achieved through adopting a similar structure and some elements in common with this program. This consistency enables a single on farm audit to cover more than one program, where applicable.

This Code of Practice document indicates when elements are the same or similar to elements from the Freshcare Code of Practice Food Safety and Quality. This will help growers that are implementing both Codes of Practice avoid duplication.

Using the Code

The requirements of the Freshcare Code of Practice Environmental Viticulture, called elements, are grouped into two sections. The two sections of Freshcare Environmental Viticulture are Management and Environment. Some elements are common between Freshcare Environmental Viticulture and Freshcare Food Safety and Quality.

Each element describes the outcomes required and the practices necessary to ensure compliance.

More information on compliance is provided in the Freshcare Environmental Viticulture Compliance Criteria, a document which forms the basis of Freshcare Environmental Viticulture training. The Freshcare Environmental Viticulture Compliance Criteria together with the Freshcare Forms, provides the foundations for the effective implementation of the Freshcare Environmental Viticulture Program on farm.

Meeting the requirements of Freshcare Environmental Viticulture does not guarantee compliance with local, state or national legislation. Producers are responsible for ensuring that they comply with all applicable laws.

Freshcare structure

Freshcare is the horticultural industry's own on farm assurance program, developed by industry, for industry and operated as a 'not for profit' organisation.

Freshcare is 'owned' by twenty peak industry bodies:

- Apple & Pear Australia
- Australian Banana Growers Council
- Australian Chamber of Fruit & Vegetable Industries
- Australian Custard Apple Growers Association
- Australian Lychee Growers Association
- Australian Mango Industry Association
- Australian Melon Association
- Australian Mushroom Growers Association
- Australian Passionfruit Industry Association
- AUSVEG
- Avocados Australia
- Canned Fruits Industry Council of Australia
- Chestnuts Australia
- Growcom
- NSW Chamber of Fruit & Vegetable Industries
- NSW Farmers Association
- Potato Processors Association Australia
- South Australia Farmers Federation
- Summerfruit Australia
- Victorian Farmers Federation - Horticulture Group

The owner organisations provide a vital link and conduit for communications between Freshcare and their individual members.

Representatives from the owner organisations (both producer and non-producer groups) comprise the Board of Freshcare Ltd.

The Freshcare Office undertakes the day-to-day management of the Freshcare Program.

Definitions

Adjacent	Immediately adjoining, neighbouring, lying near or close by.
APVMA	Australian Pesticides and Veterinary Medicines Authority. Australian government authority responsible for the assessment and registration of agricultural and veterinary chemical products.
Audit	A systematic examination of compliance, to determine whether practices that have been introduced are being followed and to ensure that the system achieves its aims.
Beneficial organism	Any organism that benefits the growing process, including insects, arachnids, other animals, plants, bacteria, fungi, viruses, and nematodes. Benefits include pest control, pollination, and maintenance of soil health. The opposite of beneficial organisms are pests, which are organisms deemed detrimental to the growing process.
Biodiversity	The variety of species of plants, animals and microorganisms, their genes, and the ecosystems they comprise, often considered in relation to a particular area.
Business enterprise	An undertaking occurring on the property that may cause environmental harm. May include, but is not limited to, horticulture, broad acre, livestock and dairy operations.
Chemical	Products such as insecticides, acaricides, herbicides, fungicides, growth regulators, pheromones and other organic treatments applied on or around property, production areas and on harvested produce to control pest, disease, weeds and growth. It also includes other products used on-farm such as fruit waxes, sanitisers, cleaning agents and grease.
Chemical handling	Includes measuring and mixing chemicals.
Competent	Demonstration of knowledge and skills to complete tasks to specified performance criteria.
Conservation	The preservation, protection and management of the environment and natural resources.
Contamination	The introduction or occurrence of a hazard in the environment. In the case of soils, contamination may include, but is not limited to, persistent chemicals and heavy metals.
Controlled waste	A waste that, unless properly managed, can harm human health and the environment. It is the most hazardous category of waste and disposal of controlled wastes is closely regulated. Types of controlled waste include agricultural chemicals, chemical containers, tyres and oil.
Corrective Action Record (CAR)	A written record of an issue, or issues, which must be addressed to demonstrate compliance with this Code of Practice or Certification Rules. They may be raised during self-assessment, at initial assessment/annual audit, or during routine farm activities.
Customer	A commercial packer, marketing group, wholesaler, exporter, processor, retailer or consumer who receives produce from a supplier.
Ecological Communities	A unique group of plants, animals and micro-organisms that occupy, and interact within, the same geographical space. Each ecological community is adapted to occur in a particular habitat type, usually determined by factors such as soil type, position in the landscape, climate and water availability.
Environment	Surroundings in which an organisation or property operates, including landscape, soil, air, water, flora, fauna, humans and their interrelation.
Environmental harm of significance	Significant adverse (negative) change to the environment, wholly or partially resulting from the organisation/property's activities, products or services.
Environmental issue	The result of the negative impacts of human activity on the natural environment.

Environmental management	The management of the environment, particularly in relation to the balancing of the often conflicting requirements of natural and human-made resources, so that the maximum use of the land can be achieved without causing environmental harm of significance.
Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Australian Government legislation relating to the protection of the environment and the conservation of biodiversity. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places.
Environmental value	Worth that a community or society places on environmental resources or services for their life sustaining, recreational, aesthetic or intrinsic ecological aspects.
Environmental weeds	A plant that requires some form of action to reduce its effect on the environment. They can be an exotic or a native species that colonises and persists in an ecosystem in which it did not previously exist.
Feral animals	An introduced animal, formerly in domestication, with an established, self-supporting population in the wild.
Fertiliser and soil additives	Products that are added to the soil to improve fertility and structure and control weeds. Examples are inorganic (chemical) fertilisers, lime, gypsum and those of organic origin such as animal manure, sawdust, compost, compost tea, seaweed, fish-based products and other biological compounds.
Fuel	Petrol, diesel, LPG, kerosene, ethanol, oil, or any other gaseous, liquid or solid resource combusted for power or heat.
Hazard	A source of potential environmental harm or a situation with the potential to cause harm.
Heavy metal	Metals, such as lead and cadmium, having more than five times the weight of water.
Highly degraded soil	Soil with three or more degradation factors (see soil degradation).
Integrated pest management (IPM)	Combines several pest management strategies to provide effective, economical control of pests while minimising damage to the environment. An understanding of the lifecycle and biology of pests underpins the IPM approach. A pest can be an insect, mite, vertebrate (such as birds), disease, or weed.
Invasive species	A species occurring, as a result of human activities, beyond its accepted normal distribution and which threatens environmental or other resources by the damage it causes.
Irrigation	The application of water to cultivated land or open space, to promote the growth of vegetation.
Irrigation program	An approach to irrigation developed in consideration of the water resources available, crop water requirements, soil or substrate water holding capacity, soil moisture monitoring methods, irrigation system delivery efficiency and uniformity, nutrient management and potential off-target impacts from water use.
Material Safety Data Sheet (MSDS)	A reference document for chemicals, fuels and other hazardous products that includes information on the products: physical and chemical properties; safe handling, storage, transport and disposal procedures; first aid; health hazards; impacts on the environment; and what to do in accidents and emergencies.
Monitoring	A planned sequence of observations and measurements to assess whether control measures are effective.
Non compliance	A failure to comply with the requirements of the Freshcare Code of Practice Environmental Viticulture or Certification Rules.

Off-target	Any misplacement or movement away from the target to which the property activity is directed (for example, spray drift on to neighbouring area/crop or nutrient run-off into sensitive areas).
Persistent chemicals	Organochlorine pesticides and other chemicals that remain in the soil, water and surrounding environment form a significant time.
Phytosanitary specifications	The plant health status of products and compliance requirements for approved treatment protocols to control crop pest and disease for market access.
Property	The whole property/farm and/or areas leased from other landholders for the purpose of agricultural production. It includes all houses, buildings, paddocks, production areas, roads, fauna and flora, watercourses, etc, within the surveyed boundaries of the property title and/or leased areas specified.
Property activity	Movement, development, commercial cropping, stock management, residential and maintenance activities conducted within and around the surveyed boundaries of the property and/or other leased sites.
Property map	Aerial photographs, topographical maps, cadastral maps, self-drawn maps or overlays that document the required features, infrastructure and natural resources on or adjacent to the property.
Ramsar	A term adopted following an international conference, held in 1971 in Ramsar in Iran, to identify wetland sites of international importance.
Record	Documentary evidence to support compliance with this Code of Practice. The medium can be paper, photographic, magnetic and electronic or optical disc or any combination thereof.
Riparian vegetation	Vegetation on or near the banks of a waterway (creeks, streams, rivers, wetlands).
Risk	The chance of something happening that will have an impact upon objectives. It is measured in terms of likelihood and severity.
Salinity	The presence and level of soluble salts in soil or water. Salinity occurs both naturally and as a result of human activity. Its use here is taken to mean salinity increase, caused by property (human) activity.
Sensitive areas	Areas at high risk of environmental harm, caused by property activity. Sensitive areas may include, but are not limited to: Regionally Significant Vegetation, National Parks, World Heritage-listed areas, Ramsar-listed wetlands, biodiverse areas, other crops, livestock, watercourses, marine areas, wetlands, remnant native bushland, soils, neighbouring properties and public areas.
Sodicity	A relatively high proportion of Sodium ions adsorbed to clay particles in the soil. This causes soil structure decline and soil instability on wetting.
Soil	Ground or earth. Environmental harm to soil means the degradation of soil chemical, biological and physical characteristics in response to an additive or activity.
Soil acidity	Increasing the acidity of soil. This can occur naturally or be increased through prolonged heavy use of some nitrogenous fertilisers, the removal of alkaline soil materials and the leaching of calcium and magnesium. Soil acidity development can reduce soil productivity, soil biology and run-off water quality.
Soil carbon	Organic carbon stored within soil that is part of the soil organic matter (SOM). SOM is made up of plant and animal materials in various stages of decay and includes other important elements such as calcium, hydrogen, oxygen, and nitrogen. Materials on the surface of the soil, such as leaf litter, are not part of the organic matter until they start to decompose.

Soil degradation	Loss of soil structure or function. Degraded soil has poor structure and/or organic carbon, salinity, pH and nutrient levels that are outside the acceptable range for producing healthy crops in an economically and environmentally sustainable manner.
Soil fertility	A measure of the ability of soil to provide plants with sufficient amount of nutrients and water, and a suitable medium for root development to assure proper plant growth and maturity.
Target	The item or site to which property activity is directed. For example, the application of a chemical to a target crop for control of a target pest/disease or the application of a fertiliser to a target paddock for target crop nutrition.
Threatened species	Any native species (including animals, plants, fungi) that is listed as vulnerable, endangered or critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. Threatened species are also listed and recognised on a State by State basis under relevant State or Territory legislation.
Training	Provision of knowledge and skills to perform tasks to a specified competency. Training can be delivered on-the-job or through qualified external providers.
Verification	A set of procedures, processes and tests designed to ensure the system is working effectively.
Weed of National Significance (WONS)	Weeds that have been identified by Australian governments because of their invasiveness, impacts on primary production and the environment, potential for spread and socioeconomic impacts.
Workers	All people working in the business, including family members and contractors working on the property or in the business.
World Heritage listed	Properties forming part of the cultural and natural heritage which the World Heritage Committee considers as having outstanding universal value.

Freshcare Code of Practice Environmental Viticulture

Management

Code element		Compliance criteria	Food Safety and Quality element
M1	**Scope and commitment**		
M1.1	Define the business scope and the scope of Freshcare Environmental Viticulture Certification.	1. The business enterprises undertaken on the property are documented. 2. Flow charts are completed to identify the activities for which certification is required.	M1.1.2
M1.2	Identify property areas, infrastructure and neighbouring areas on a property map.	1. A property map is established that identifies: • property boundaries • production areas • farm houses, buildings, sheds, on-farm roads and access points • neighbouring public roads, public places (schools, sports fields, etc) and production areas • sensitive areas adjacent to the property boundary such as National Parks, World Heritage-listed areas, Ramsar-listed wetland areas, wildlife sanctuaries/corridors or other specified conservation areas • bulk fuel storage, including underground tanks • chemical storage areas, mixing areas, equipment clean-down areas • storage sites for controlled wastes, such as empty chemical containers awaiting collection • storage sites for other wastes, such as treated timber • fertiliser and soil additive storage areas • composting/ageing and mixing/loading areas • water sources and extraction points • drainage lines and discharge points • natural waterways, wetlands, riparian areas and lakes • areas that are, or are at risk of being, highly degraded, eroded or contaminated • significant stands of remnant native vegetation • threatened species • other sensitive areas with high conservation value	

Code element		Compliance criteria	Food Safety and Quality element
M1.3	Document the business commitment to the Freshcare Code of Practice Environmental Viticulture.	1. The owner or appropriate senior manager signs a commitment statement to support and comply with the Freshcare Code of Practice Environmental Viticulture, Freshcare Certification Rules and Environmental Action Plan (E1).	M1.2.1
		2. The commitment statement is communicated to all workers.	M1.2.2
		3. The commitment statement is reviewed annually in conjunction with the Environmental Action Plan (E1).	
		4. Entry to the property is granted to persons who are authorised for the purposes of auditing for Freshcare Environmental Viticulture certification.	M1.2.3

M2 Documentation

M2.1	Verify compliance to this Code of Practice through relevant documents and records.	1. The current editions of the Freshcare Code of Practice Environmental Viticulture and the Freshcare Certification Rules are kept.	M2.1.1
		2. Legible records and documentation required to verify compliance are kept.	M2.1.2
		3. Documents and records are identified by a version number or date of issue.	M2.1.3
		4. As documents and records change, out-of-date versions are replaced with the new version.	M2.1.4
		5. All records are signed and dated by the person completing the record.	M2.1.5
		6. All records are kept for a minimum of four (4) years (or longer if required by legislation, customers or this Code of Practice).	M2.1.6

M3 Training

M3.1	Train all workers who complete tasks relevant to this Code of Practice.	1. A management representative completes approved training for the Freshcare Code of Practice Environmental Viticulture.	M3.1.1
		2. Training is provided for workers who complete tasks relevant to the Freshcare Code of Practice Environmental Viticulture.	M3.1.2
		3. Training is provided in the relevant language or pictorially.	M3.1.3
		4. A record of training is kept and includes: • name of the worker trained • title or topic of the training • signature of the worker trained and date of the training • signature of the trainer (not required for external training)	M3.1.4 M3.1.5

Code element		Compliance criteria	Food Safety and Quality element
M4	**Internal audit and corrective action**		
M4.1	Conduct internal audits to verify on-going compliance with this Code of Practice.	1. An internal audit of all activities and records relevant to the Freshcare Code of Practice Environmental Viticulture is conducted at least annually. A record is kept. 2. Workers responsible for completing sections of the internal audit are identified and, where possible, independent of the practices being assessed.	M4.1.1 M4.1.2
M4.2	Complete corrective actions for any non-compliance or deficiency.	1. A Corrective Action Record (CAR) is completed when: • the requirements of the Freshcare Code of Practice Environmental Viticulture or Freshcare Certification Rules are not being met, as identified during internal audits, external audits, or routine property activities • a complaint relevant to the Freshcare Code of Practice Environmental Viticulture or Freshcare Certification Rules is received from a neighbour, customer or regulatory authority • environmental harm has occurred/may occur as a result of property activity, neighbouring activity or a natural event 2. A Corrective Action Record (CAR) includes: • description of the problem • cause of the problem • whether or not the problem has occurred before • short term fix (action taken to fix the problem) • long term fix (action taken to prevent the problem recurring) • date action completed and name and signature of the person responsible • verification that action has been effective • name and signature of the person reviewing that short term and long term actions are completed and effective • date of the review 3. A new Corrective Action Record (CAR) is implemented if short term or long term fixes have not been effective in addressing the problem. 4. Corrective Action Records (CARs) are retained for a minimum period of five (5) years (or longer if required by legislation or customers).	M4.2.1 M4.2.2

Environmental

Code element	Compliance criteria	Food Safety and Quality element
E1 Environmental action planning		
E1.1	Establish an Environmental Action Plan to identify actions completed and planned for improving the property's environmental values.	1. An Environmental Action Plan is established that documents the actions planned for improving the property's environmental values. The Plan includes: • date of Plan development • positive environmental actions already undertaken on the property • location on property of environmental issue or value • environmental issue or value being addressed • actions proposed to address the issue or value • estimated date of completion for each action • date when action was completed or reason for the action not being completed • name and signature of the person verifying action has been completed 2. The Environmental Action Plan is reviewed and updated at least annually. The name and signature of the person completing the review and the date of the review are documented.	
E2 Land and soil		
E2.1	Manage land and soil, and minimise degradation, erosion and contamination.	1. Soil conservation and crop production practices are chosen to: • minimise soil degradation, erosion and contamination • optimise soil organic matter and fertility relevant to the particular business enterprise. Records of these practices are kept.	
E2.2	Manage areas with highly degraded, eroded or contaminated soil.	1. Areas identified as being highly degraded, eroded or contaminated are: • managed to minimise further degradation, erosion or contamination • contained to minimise movement of contaminated soil, on and off-site 2. Remediation activities for areas identified in E2.2.1 are documented in the Environmental Action Plan.	

Code element		Compliance criteria	Food Safety and Quality element
E3	**Chemicals**		
E3.1	Select pest and disease control strategies to minimise risk to the environment.	1. Consideration is given to all available methods of pest and disease control (for example mechanical, biological, cultural and chemical) before a control program is chosen. A record of control methods used is kept. 2. When necessary to apply agricultural chemicals, those which are less hazardous to beneficial organisms and/or have a lower environmental impact are considered. 3. The decision to use agricultural chemicals is based on a combination of the following: • Crop and/or weather monitoring for pest and disease pressure. Records include: ▪ date ▪ area/crop and/or weather parameters monitored ▪ monitoring result and action recommended ▪ name of the person who carried out the monitoring activity • External agency pest and disease alerts. Records include: ▪ evidence of subscription alerts ▪ date of alert ▪ pest or disease the alert is issued for ▪ source/agency that issued the alert • Documented preventive pest and disease control programs. Records include: ▪ date the program was documented ▪ crop or area to be treated ▪ target pest/disease/weed ▪ chemical to be used ▪ frequency of use (including any limitations on the frequency of chemical use per crop/season) or the stage of crop development ▪ name of the worker/person/organisation that documented the control program • Industry preventive control programs or phytosanitary specifications. An up-to-date copy of the industry program or phytosanitary specification is kept.	
E3.2	Obtain chemicals.	1. Chemicals are purchased from Agsafe accredited suppliers (or similar). 2. Chemical containers, on receival, are adequately labelled and in acceptable condition.	F4.1.1 F4.1.2

Code element		Compliance criteria	Food Safety and Quality element
E3.3	Store, manage and dispose of chemicals to minimise the risk of environmental harm.	1. Chemical storage areas are: • located and constructed to minimise the risk of contaminating the site and surrounding environment • structurally sound, adequately lit and constructed to protect chemicals from direct sunlight and weather exposure • equipped with a spill kit to contain and manage chemical spills • secure, with access restricted to authorised workers	F4.2.1
		2. Chemicals are stored in designated separate areas for each category of chemical, and for chemicals awaiting disposal.	F4.2.2
		3. A current Material Safety Data Sheet (MSDS) is kept, for all chemicals stored in the chemical storage area.	
		4. Chemicals are stored in original containers according to directions on the container label. If a chemical is transferred to another container for storage purposes, the new container is a clean chemical container and a copy of the chemical label is transferred to the new container.	F4.2.3
		5. Deteriorating chemical labels are replaced immediately with a legible copy.	F4.1.3
		6. A check is conducted at least annually to identify and segregate chemicals for disposal that have: • exceeded the label expiry date • exceeded the permit expiry date • had their registration withdrawn • containers that are leaking or corroded or have illegible labels	F4.2.4
		7. A record of the check is kept, including: • date of the check • name and quantity of chemicals awaiting disposal	F4.2.5
		8. Unusable chemicals and empty chemical containers are legally disposed of i.e. through registered collection agencies or in approved off farm disposal areas.	F4.2.6

Code element		Compliance criteria	Food Safety and Quality element
E3.4	Train and authorise workers who store, handle, apply and/or dispose of chemicals.	1. Workers involved in the supervision of storage, handling, application and disposal of chemicals: • have successfully completed a recognised chemical users course or equivalent; and • are able to demonstrate competency in chemical storage, handling, application and disposal as specified by the Freshcare Code of Practice Environmental Viticulture. 2. Workers authorised to store, handle, apply and/or dispose of chemicals are trained in practices that minimise the risk of environmental contamination from chemicals and in actions to be taken in the event of potential contamination. 3. A register of workers authorised to store, handle, apply and/or dispose of chemicals is maintained and displayed in the chemical storage area.	F4.3.1 F4.3.2 F4.3.3
E3.5	Use chemicals according to regulatory and label requirements.	1. Chemicals are used and applied: • according to label directions; or • under 'off label permits' issued by the Australian Pesticides and Veterinary Medicines Authority (APVMA), with a current copy of the permit kept; or • in accordance with relevant state legislation for 'off label use'	F4.4.1
E3.6	Avoid potential for spray drift.	1. Chemical application is avoided when the risk of contaminating off-target areas with spray drift is high.	F4.5.1
E3.7	Maintain and calibrate chemical application equipment.	1. Chemical application equipment is maintained and checked for effective operation before and during each use. 2. Equipment is calibrated at least annually or as per manufacturer's instructions and immediately after spray nozzles are replaced. Equipment is calibrated using a recognised method and a record of calibration is kept, including: • description of method and calibration results • date of calibration • name and signature of person calibrating the equipment	F4.6.1 F4.6.2
E3.8	Manage mixing and disposal of chemical solutions to minimise risk to the environment.	1. Chemical mixing areas are located, constructed and equipped to minimise the risk of contaminating the site and surrounding environment. 2. Leftover chemical solutions are disposed of according to label directions where specified, or in a manner that minimises environmental harm.	F4.6.3 F4.6.4

Code element		Compliance criteria	Food Safety and Quality element
E3.9	Record all chemical applications.	1. Records of all pre-harvest chemical applications are kept, including: • application date • start and finish times, where required • location and crop • chemical used; including batch number if available • rate of application and/or quantity applied • equipment and/or method used to apply the chemical • wind speed and direction • method of disposal of leftover chemical solutions • name and signature of the person who carried out the application	F4.7.1

E4 Fertiliser and soil additives

E4.1	Select fertilisers and soil additives to minimise risk to the environment.	1. The decision to use fertilisers and soil additives is based on a combination of the following: • results of soil/leaf/sap testing • crop monitoring with monitoring records kept • a recognised nutrition program 2. Workers responsible for crop nutrition are competent to make recommendations relevant to the crops under their management. 3. Fertilisers and soil additives used have low or zero levels of heavy metals.	F5.1.2
E4.2	Store and manage fertilisers and soil additives to minimise risk to the environment.	1. Storage sites for fertilisers and soil additives are located, constructed and maintained to minimise harm to off-target and sensitive areas from nutrient run-off or leaching. 2. A current Material Safety Data Sheet (MSDS) (where available) is kept, for fertilisers stored on the property. 3. Workers are trained in practices that minimise the risk of environmental contamination from fertilisers and soil additives.	F5.1.3
E4.3	Maintain and calibrate fertiliser and soil additive application equipment.	1. Equipment used to apply fertilisers and soil additives is maintained and checked for effective operation before and during each use. 2. Equipment used to apply fertilisers and soil additives is calibrated at least annually or as per manufacturer's instructions. A record of calibration is kept, including: • description of method and calibration results • date of calibration • name and signature of person calibrating the equipment	F5.1.10 F5.1.11

Code element		Compliance criteria	Food Safety and Quality element
E4.4	Record all fertiliser and soil additive applications.	1. Records of all fertiliser and soil additive applications are kept, including: • application date • location and crop • product used • rate of application • wind speed and direction • method of application/incorporation • name and signature of the person applying the fertilisers and soil additives	F5.1.13

E5 Water

E5.1	Document a Water Management Program.	1. A Water Management Program is documented. The Program includes: • date developed • name of person documenting Program • water resources available • crop water requirements • water budget • irrigation method • irrigation program including crop water needs and schedule • contingency plans if water resources are unavailable 2. The Water Management Program is reviewed and updated at least annually. The name and signature of the person completing the review and the date of the review are documented.	
E5.2	Water harvesting, extraction, storage, use and discharge occur in accordance with licenses and permits.	1. Applicable licences and permits for infrastructure and activities in water harvesting, extraction, storage, use and discharge are current. 2. Water licences and permits are adhered to.	
E5.3	Measure crop water needs before irrigation.	1. Irrigation requirements are determined using soil/growing medium, crop or weather monitoring methods, or a combination thereof.	
E5.4	Measure and review water use.	1. Irrigation systems are checked and maintained for operational efficiency. 2. Irrigation records are kept for each crop and include: • date of irrigation • areas irrigated • volume of water used or duration of irrigation • name of the person who managed the irrigation activity	

Code element		Compliance criteria	Food Safety and Quality element
		3. Water use is measured and reviewed annually against the Water Management Program. 4. Water efficiency is considered in the selection and design of new irrigation systems.	
E5.5	Manage water to minimise environmental harm.	1. Water used for irrigation is assessed for risk of causing soil degradation by increasing soil salinity, soil acidity, soil alkalinity or soil sodicity. 2. Water that may cause soil degradation is, where possible, treated before use or managed to avoid soil degradation. 3. Water run-off or water discharge from property activities is managed or treated to minimise environmental harm on and off site. 4. Strategies are implemented to prevent contamination and sedimentation of water sources.	

E6 Biodiversity

E6.1	Manage biodiversity on the property.	1. A Biodiversity Management Program is established using strategies and practices to: • protect areas of biodiversity identified on the property map • manage feral animals, invasive species, pests, environmental weeds and diseases on the property 2. Strategies and practices are developed with consideration of regional biodiversity priorities. 3. The Biodiversity Management Program is documented. The Program includes: • date developed • name of person documenting the Program • biodiversity issues or values • strategies/practices • workers responsible 4. The Biodiversity Management Program is reviewed and updated annually. The name and signature of the person completing the review and the date of the review are documented.	

Code element		Compliance criteria	Food Safety and Quality element
E7	**Waste**		
E7.1	Manage waste on the property.	1. A Waste Management Program is documented. The Program includes: • date developed • name of person documenting the Program • waste type and location • management methods • workers responsible 2. Waste that will not be reused or recycled is disposed of in approved off-site facilities. 3. Records of disposal of controlled wastes are kept. 4. The Waste Management Program is reviewed and updated annually. The name and signature of the person completing the review and the date of the review are documented.	
E8	**Air**		
E8.1	Manage air quality.	1. An Air Quality Management Program is documented. The Program includes: • date developed • name of person documenting the Program • issues to be addressed • areas • management methods • workers responsible 2. The Air Quality Management Program is reviewed and updated annually. The name and signature of the person completing the review and the date of the review are documented.	
E9	**Energy**		
E9.1	Energy efficiency is optimised throughout the production system.	1. Electricity and fuel consumption is reviewed. 2. Efficient operating practices for machinery and equipment are identified and implemented. 3. Machinery and equipment servicing and maintenance records are kept. 4. Energy efficiency is considered in the selection and design of new machinery and equipment.	

Code element		Compliance criteria	Food Safety and Quality element
E10 Fuel			
E10.1	Bulk fuel is stored to minimise environmental harm.	1. Bulk fuel storages are located, constructed and maintained to minimise the risk of environmental contamination and contain spillage 2. A current Material Safety Data Sheet (MSDS) is kept for all bulk fuel stored on the property.	

www.freshcare.com.au