

WINE INDUSTRY
TASMANIA



TASMANIAN SUSTAINABLE VITICULTURE PROGRAMME

Pest and Disease Management Code of Conduct

Version 1.1

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Pest and Disease management code of conduct

1. Introduction

The Tasmanian Pest and Disease Management Code of Conduct?

This Tasmanian Pest and Disease Management Code of Conduct is a guide to developing and implementing the latest knowledge and practices in sustainable viticultural management. By summarising environmental concerns facing the Tasmanian wine industry and offering resources growers can take an essential step in formalising their environmental stewardship.

Whilst there are existing laws defining and restricting actions with regard to protecting the environment, this Code of Conduct allows the Tasmanian wine industry set benchmarks above what is acceptable by Act or Legislation, giving us greater ownership of our environmental stewardship.

The Tasmanian Pest and Disease Code of Conduct is designed to:

- Explain clearly and concisely a required standard of responsible and sustainable pest and disease management
- Identify and integrate relevant legislation and fruit purchaser (winery) requirements
- Formalise a philosophy of the production of exceptional quality wines whilst minimising environmental impacts and maximising sustainable land use
- Highlight the regard that the Tasmanian wine industry holds responsible land stewardship

1.1 Scope

This Code of Conduct is voluntary. It applies to all members of the Tasmanian Wine Industry and Wine Tasmania where the member carries out P&D M and application.

For growers seeking accreditation under the Tasmanian Sustainable Viticulture Programme this Code of Conduct is mandatory.

This is a living document and will be updated as required. A master is available on the Wine Tasmania website. This copy represents the most up-to-date Code of Conduct and may not be contradicted by any other copy.

1.2 Commencement

This Tasmanian Sustainable Viticulture Programme Pest and Disease Management Code of Conduct commenced on 01 September 2009

1.3 Version

This is version 1.1. Its publication date is 01 September 2009

1.4 Authority

This is a state industry Code of Conduct endorsed by

- The Wine Tasmania Technical Committee
- The Wine Tasmania Board

2. Pest & disease management and the environment

Tasmania is the smallest State in Australia with a small mostly urban population. The remainder of the island is a blend of primary industries and wilderness. The Tasmanian wine industry is small on the international stage but is renowned for producing exceptionally high quality wines. Modern winegrape production requires thoughtful and careful management, including the considered control of pest and disease organisms. This Code of Conduct outlines the current recommended practices for vineyards in Tasmania, integrated with legislative requirements and the expectations of fruit purchasers (wineries).

Sustainable vineyard management starts with a holistic approach. A population explosion of a vineyard pest or disease does not occur in isolation from all of the other components of the vineyard ecosystem. By identifying and managing different components of a vineyard with a mind to the whole of the vineyard most pest and disease issues can be mitigated. This style of vineyard management is known as Integrated Pest Management (IPM) (alternatives: Holistic Vineyard Management; Integrated Fruit Production; Sustainable Vineyard Management; Sustainable Winegrape Production). It involves incorporate conventional agricultural management with knowledge and skills in biology and ecology. There is a large body of resources to assist management decisions in these areas.

Practicing IPM can be as simple as leaf plucking in the fruit zone to promote air movement and reduce disease pressure, or using netting to prevent bird damage. By utilising IPM knowledge and skills external inputs, expenses and unnecessary polluting outputs can be minimised.

Commercial winegrape production without chemical inputs is very challenging and for this reason IPM does incorporate the use of pesticides in the event that a pest or disease population poses a risk of economic damage. Chemical use is an integral part of quality winegrape management for most growers in Tasmania. The Tasmanian wine industry recognises serious impacts from chemical use may include

- Chemical residues in fruit
- Chemical resistance in problem pests and diseases
- Community concerns
- Environmental damage.

Wine Tasmania promotes responsible pesticide use as part of a sustainable and effective pest and disease management solution.

2.1 The principles of Pest control

Integrated Pest Management (IPM) is the foundation of this Code of Conduct. IPM is a carefully planned strategy that combines management techniques to suppress pest populations,

2.1.1 Planning

IPM requires planning to be successful. By planning for when pesticides may be used as part of your management strategy decisions can be made easier and the more sustainable choices may be made. IPM planning includes:

- Identification of the pests and disease that do or could affect the quality and productivity of your vineyard;
- regular monitoring of pest and disease populations, and the systematic recording of their status;
- the identification of areas of environmental sensitivity (e.g. remnant bushland, waterways) both on and in close proximity to your vineyard, and planning appropriate management strategies to protect them
- Decide if pesticides will form part of your pest and disease management strategy and then incorporate them into your IPM system, ensuring careful consideration is given to correct application and resistance management strategies

This section should take into account Sections 1 and 6 in the self assessment Guidelines

2.1.2 **Pest Identification**

You must determine what your pest is and whether it is going to present a problem to the quality and productivity of the vineyard

- Assess visual symptoms to determine what is causing the problem
- Identify the pest type and stage of its life cycle
- Determine whether a single pest or a combination causes the problem
- Determine if the pest is causing, or threatening to cause, a problem to you, surrounding vineyards and the gardens
- Identify the appropriate stage within the pest's lifecycle for effective control of the pest.
- Develop thresholds for economic and quality damage at relevant growth stages of the vine
- Make sure you understand the impact of pesticides and other control measures on both the pests and other organisms
- If you have a significant pest problem, decide whether the benefits of control outweigh all of the costs. Consider methods that are environmentally and economically sustainable which are more permanent and cost effective in the long term, not just the short term.
- Develop an IPM plan for each potential pest with appropriate control measures

This section should take into account Section 2 in the self assessment Guidelines

2.1.3 **Method of control**

Many common pests and diseases can be controlled using a variety of methods, some more appropriate than others

- Effective, early prevention will often reduce the frequency and severity of pest problems and therefore reduce overall pesticide use
- Non-chemical or mixed control methods may provide the best outcomes
- Identify where and at what stage in the pest's development the pesticide application should be applied
- Only apply pesticides when your IPM plan triggers their use

This section should take into account Section 7 in the self assessment Guidelines

2.1.4 Pesticide selection

When selecting a pesticide, consideration should be given to the potential for contamination of your and neighbouring properties, both now and in the future.

- Pesticide selection should be appropriate to the situation. In most cases the choice of a selective pesticide is appropriate, but broad spectrum pesticides may be appropriate to manage a complex of pests or diseases.
- Never purchase any new product without receiving a Material Safety Data Sheet (MSDS)
- Always maintain a current MSDS register for each product stored and used on your property.
- Be familiar with the MSDS and incorporate the management of any potential risk into the IPM plan
- Have on hand all relevant MSDS for each pesticide applied on your vineyard by either yourself or contractors

This section should take into account Section 7 in the self assessment Guidelines

2.2 Environmental risk and legal obligation

The greatest environmental risk associated with pesticide use occur when applying them, as they are being deliberately released into the environment, albeit indirectly. Most off-target contamination occurs as spray drift, run-off or movement through soils.

As users of pesticides you have a duty of care not to elevate the risk of environmental harm and health risk for humans. Contaminating off-target land, plants or animals both within and outside your property may breach your legal obligations.

Agricultural and Veterinary Chemicals (Control of Use) Act, 1995

A person must not carry out or cause to be carried out agricultural spraying which adversely affects any person, plants, stock, agricultural produce, water bodies, groundwater or soil, on premises, or any premises, not owned or occupied by the person carrying out or causing to be carried out the agricultural spraying unless that person has obtained the permission of the owner or occupier of the premises.

SCHEDULE 1 - Objectives

1. To impose controls in relation to the handling of agricultural chemical products and veterinary chemical products for the purpose of –

- (a) protecting the health of the general public and the users of those products; and
- (b) protecting the environment; and
- (c) protecting the health and welfare of animals; and
- (d) protecting domestic and export trade in agricultural produce and stock; and
- (e) promoting the production of clean, high quality produce; and
- (f) promoting a clean and high quality lifestyle for this State; and
- (g) maintaining and enhancing economic viability of this State's agricultural and forest industries.

2. To impose controls in relation to agricultural spraying and to provide protection against loss caused by damage to, or detrimental effects on, plants and stock from agricultural spraying.

3. To impose controls in relation to the production of agricultural produce to avoid the presence of chemical products in food for human consumption, feed for animal consumption and drinking water supplies.

4. To impose controls over the conditions of storage for the sale, distribution or handling of agricultural chemical products and veterinary chemical products for the purpose of preventing or minimising the risks of –

- (a) contamination of stock and agricultural produce; and
- (b) the presence of chemical products in the environment; and
- (c) hazard to persons.

(1) A person must take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person.

(2) In determining whether a person has complied with the general environmental duty, regard must be had to all the circumstances of the conduct of the activity, including but not limited to –

- (a) the nature of the harm or nuisance or likely harm or nuisance; and
- (b) the sensitivity of the environment into which a pollutant is discharged, emitted or deposited; and
- (c) the current state of technical knowledge for the activity; and

(d) the likelihood and degree of success in preventing or minimising the harm or nuisance of each of the measures that might be taken; and

(e) the financial implications of taking each of those measures.

Environmental Management and Pollution Control Act 1994

5. Environmental harm

- (1) For the purposes of this Act, environmental harm is any adverse effect on the environment (of whatever degree or duration) and includes an environmental nuisance.
- (2) For the purposes of this Act, the following provisions are to be applied in determining whether environmental harm is material environmental harm or serious environmental harm:
 - (a) environmental harm is to be treated as **serious environmental harm** if –
 - (i) it involves an actual adverse effect on the health or safety of human beings that is of a high impact or on a wide scale; or
 - (ii) it involves an actual adverse effect on the environment that is of a high impact or on a wide scale; or
 - (iii) it results in actual loss or property damage of an amount, or amounts in aggregate, exceeding ten times the threshold amount;
 - (b) environmental harm is to be treated as **material environmental harm** if:
 - (i) it consists of an environmental nuisance of a high impact or on a wide scale; or
 - (ii) it involves an actual adverse effect on the health or safety of human beings that is not negligible; or
 - (iii) it involves an actual adverse effect on the environment that is not negligible; or
 - (iv) it results in actual loss or property damage of an amount, or amounts in aggregate, exceeding the threshold amount.
- (5) For the purposes of this Act, environmental harm is caused by pollution –
 - (a) whether the harm is a direct or indirect result of the pollution; and
 - (b) whether the harm results from the pollution alone or from the combined effects of the pollution and other factors.

PART 2A - Environmental duties 23A. General environmental duty

(1) A person must take such steps as are practicable or reasonable to prevent or minimise environmental harm or environmental nuisance caused, or likely to be caused, by an activity conducted by that person.

(2) In determining whether a person has complied with the general environmental duty, regard must be had to all the circumstances of the conduct of the activity, including but not limited to –

(a) the nature of the harm or nuisance or likely harm or nuisance; and

- (b) the sensitivity of the environment into which a pollutant is discharged, emitted or deposited; and
- (c) the current state of technical knowledge for the activity; and
- (d) the likelihood and degree of success in preventing or minimising the harm or nuisance of each of the measures that might be taken; and
- (e) the financial implications of taking each of those measures.

2.2.1 Application of Pesticide

Occasionally an IPM programme will trigger the requirement for a corrective action to prevent a pest or disease causing damage beyond a threshold of economic damage. This is the most likely time a pesticide is the planned response. There are a variety of methods of application for pesticides and it is imperative the negative impacts during any pesticide handling are minimised.

- **ALWAYS READ THE LABEL in conjunction with any winery restrictions**
- Decide the best method for delivering the pesticide to the target whilst minimising off-target impacts.
- Ensure that you are able to meet the withholding period following any application before proceeding.
- Check the environmental conditions and proceed with application only if they are suitable for your combination of pesticide, application method and pest.
- Time all applications to minimise impacts on surrounding areas
- When applying a pesticide consideration must be given to the impacts on neighbours, public places and the environment

This section should take into account Sections 4, 5 & 8 in the self assessment Guidelines

2.2.2 Record Keeping

Accurate record keeping of pesticide use is beneficial and the keeping of an annual Spray Diary is considered mandatory by this Code of Conduct. When applying pesticides it is important to record:

- The chosen label rate (per 100L)
- The application rate (per 100m for canopy sprays, per Hectare for ground sprays)
- Quantity applied per 100m or per Ha
- Growth stage of the vine (EL system)
- Block detail/s and area/s
- Target pest or disease

- Climate conditions including temperature, wind and rain
- The impacts on both target and off-target organisms and adjust management accordingly

There is an electronic spray diary in excel format available for free download from the WIT website

This section should take into account Section 6 in the self assessment Guidelines

2.2.3 Equipment

Poorly maintained and operated equipment can result in inefficient pesticide application.

- Ensure your equipment is accurately calibrated including all measuring devices
- Maintain your application equipment regularly to ensure it is in proper working order
- Minimise negative off-target impacts by selecting the appropriate application method

The electronic spray diary available from the WIT website contains calibration forms and tools to assist calibration and sprayer setup

This section should take into account Sections 4 & 5 in the self assessment Guidelines

2.2.4 Communication

Any application of pesticide to control pest and disease issues requires communication at a number of levels

Winery:

- Accurate completion and timely submission of spray diaries to the winery
- Familiarise yourself with any winery restriction on pesticide use

Neighbours:

- There is a duty of care to effectively communicate to your neighbours what pesticides you are applying.

Employees/contractors:

- Any employees or contractors should be notified of re-entry periods over any sections of the vineyards that have been treated
- Refer to product labels for re-entry periods

This section should take into account Section 7 in the self assessment Guidelines

2.2.5 Chemical Handling

Pesticides are potentially hazardous to humans.

- Wear the personal protective equipment outlined in the MSDS or product label
- Minimise waste at each stage of pesticide use
- Any person handling pesticides must be appropriately trained in the use of safety and clean up equipment as directed by the MSDS
- When purchasing pesticides in containers choose containers that will minimise waste and therefore disposal issues

2.2.6 Training and Certificates

It is considered best practice to undergo appropriate training and accreditation in the safe handling/use of pesticides

- Maintain current accreditation in the safe and effective use of pesticides through a nationally recognised programme such as ChemCert
- Integrate this training in the planning and implementation of all vineyard pest and disease management

Details on the courses and availability can be found on the ChemCert website www.chemcert.org.au

2.2.7 Transport

Prior to transporting any pesticide read the product label and MSDS. When transporting pesticide in a vehicle it is recommended you follow these guidelines:

- Only transport pesticides in a ute or trailer and never in the cabin or boot of a vehicle;
- Ensure all pesticides are safely secured on the vehicle;
- Ensure you have appropriate spill controls on board in case of a mishap. These should be chosen with regard to the quantity and type of chemical you are transporting.

2.2.8 Storage

The Tasmanian Sustainable Viticulture Programme recommends that the following requirements are met when storing pesticides:

- A full list of pesticides that are being stored.
- Only store pesticides in their original containers with the labels intact
- Always follow mandatory storage instruction outlined on the label
- Check all stored pesticides on a regular basis for leaks, spills or packaging damage.

- Choose to purchase pesticides in recyclable containers over non-recyclable containers.

The store or building where the pesticides are being stored should

- Have an impervious floor and good ventilation
- Be a safe distance from other buildings, watercourses and drains
- Have convenient access to running water and first aid equipment
- Have appropriate safety equipment installed (i.e. safety shower, fire extinguishers etc).
- Be appropriately bunded with the ability of the bunded area to retain at least 25% of the total volume of stored packaged products.
- Have appropriate hazardous pesticide signage
- Be able to be securely locked

This section should take into account Section 10 in the self assessment Guidelines

For further information see the DPIPWE guidelines for on-farm chemical storage

<http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/TTAR-62Q5Y2?open>

2.2.9 Clean-up and disposal

Equipment

Cleaning of equipment must be in a safe location where accidental spills can be contained. A dedicated wash-down area should be organised which has an impervious surface that drains into a collection area for wastewater and/or spills.

- Never clean up where there is a risk of contamination into a water body or storm water drain, drainage line or waterway
- Never dispose of wastes into areas that children, pets or animals have access to.

Pesticides

If you have unwanted pesticides then there is a service available to collect them. Chemclear is a national programme used to collect unwanted pesticides

If you have unwanted pesticides then you need to register a notification of interest in the collection and disposal of your pesticide. Collections occur when the quantity of booked pesticide reaches a threshold for your region.

Details on booking and notification can be found on the Chemclear website www.chemclear.com.au or by phoning 1800 008 182.

Containers

Disposal of empty containers poses a high risk of environmental contamination. A programme is in place to manage the disposal of empty pesticide containers – the DrumMUSTER programme.

Once a pesticide has been used the empty container must be cleaned to a standard that meets the Agsafe Cleanliness Standards. Each container should be triple rinsed and stored until the next available drum muster.

A copy of the Agsafe Standard for Effective Rinsing of Farm Pesticide Containers is available from your local reseller or the drumMUSTER website www.drummuster.com.au

Drum muster

The drumMUSTER programme was developed to solve the problem of what to do with empty pesticide containers. It has provided an avenue for users to dispose of unwanted containers knowing they will be turned into valuable resources.

As users you pay a levy of 4 cents per litre or kilogram on crop protection products that are packaged in non-returnable containers. A list of hazardous and non-hazardous products eligible for the drumMUSTER can be found on the drumMUSTER website.

2.2.10 Noise

Noise generated through pest and disease control must be monitored to ensure that it has minimal impact on both the environment and community.

In a horticultural zone higher levels of noise are allowed. There is still a duty of care to minimise the impacts of noise on others.

The region recommends that the grower makes all efforts possible to minimise the impacts of all pest and disease management activities.

Maximum acceptable noise levels and restrictions on bird scarers are outlined in Section 2.2.

2.3 Contractors

Wine Tasmania recommends that any contractors employed to apply chemicals or pesticides should follow the guidelines outlined in this Code of Conduct.

Prior to any grape grower employing the services of a contractor for the application of chemicals or pesticides they should ensure their chosen contractor agrees with the philosophy and complies with the Code of Conduct. They should also ensure that their chosen contractor holds all appropriate licences.

Licensing/Auditing

If you apply chemicals or pesticides for profit or reward then under the Controlled Substances (Pesticides) Regulations you are deemed to be running a pest control business. AS such you are required to have one of the following licences:

- Pest Controller Licence: *for the person operating the business (both ground and aerial spraying)*

- Pest Control Operator: *by people employed to apply chemicals or pesticides by the holder of the Pest Controllers Licence*

Note: if you apply chemical or pesticide by aerial spraying you must hold a commercial pilot's licence with a chemical rating endorsement.

If the primary role of your business is not the application of chemicals or pesticides you may be able to apply for an exemption. Contact Service Tasmania for further information.

2.4 Emergency Response Planning

It is important to have an Emergency Response Plan prepared should a situation occur during the transport, storage, application or disposal of a pesticide (or pesticide waste). Authorities such as the EPA legally require reporting of certain types of incidents to ensure the right controls are established to prevent the incident occurring again.

Should an incident occur, immediately ensure your own safety. Determine if you can control it or call emergency services.

- Remove people from the affected area, ensuring both theirs and your safety.
- If safe to do so contain the incident so the spill cannot spread
- If exposed to pesticide and/or potentially poisoned refer to the MSDS for advice and/or contact the Poisons Information Centre on 13 11 26.
- Only clean up the spill with appropriate safety equipment, consulting the label and MSDS for guidance
- If required, contact an appropriate contractor to further contain, clean up and dispose of contaminated materials.
- To report an incident that may cause environmental harm, call the Incident Response Number (available 24 hours, 7 days) of the Environment Division of the Department of Primary Industries, Parks Water & Environment – 1800 005 171 as soon as possible (at least within 24 hours).

2.5 Other Relevant Material

This Code of Conduct should be read in conjunction with the Self Assessment Guide. This guide provides individual pesticide users with an assessment of where users fail to meet the required standard considered acceptable.

2.6 Legislation Relevant to the Code of Conduct

This regional Code of Conduct provides practical guidance on compliance with a range of policy and legislation in relation to the use of pesticides for the control of pests and diseases.

The recommended procedures of this code should be observed unless an alternative course of action is implemented that achieves the same or better standard of pesticide management.

Legislation relevant to this Code of Conduct includes

- Agricultural and Veterinary Chemicals (Control of Use) Act, 1995
- Environmental Chemical and Pollution Control Act 1994

Glossary of Terms

Chemical	A contraction of agrochemical, encompassing all substances used in agricultural production, includes pesticides (insecticides, fungicides, herbicides, miticides, nematocides, molluscicides and various vertebrate toxins), nutrients, surfactants, adjuvants, solvents, fuels, baits, barriers, repellents...
Communication	Informing others of your activities willingly and openly, acknowledging their concerns (if any) and discussing ways to meet their needs.
Community	People living within the region including neighbours, townships and the rural areas.
Environment	This is a broad description of the MCL surroundings. It includes the natural elements of the soil, air, water and native vegetation. It also includes the attractiveness and enjoyment of the area by individuals and the community as well as personal property.
IPM	Integrated Pest Management. A practice of suppressing pests and diseases in an agricultural system, utilising cultural, biological and chemical means in concert. An IPM system aims to utilise beneficial organisms and microclimate to reduce likelihood of pest or disease levels rising to economically damaging levels.
Legislation	Local, State and Commonwealth government laws that contain enforceable requirements relevant to the activities of the Tasmanian wine industry and specifically this Code of Conduct
Lifecycle	The pattern of reproduction and development of an organism that represents the complete life of that organism, from creation to death
MSDS	Material Safety Data Sheet. A description of the nature of a substance, its chemistry, its toxicity and safety precautions to undertake when handling, mixing and using the substance. Also contains information on recommended medical response to exposure.
Pest	An umbrella term, describing any organism that may damage the productivity of a vineyard or the quality of fruit produced. Encompasses arthropods (insects, mites etc), diseases (fungi, bacteria, viri etc), nematodes, molluscs and vertebrates
Pesticide	An umbrella term, describing a substance that is used to kill a selected range of organisms. Encompasses insecticides, fungicides, herbicides, miticides, nematocides, molluscicides and various vertebrate toxins.
Re-entry period	A minimum time between application of a pesticide in a vineyard/agricultural system and the safe return of unprotected persons/livestock
Region	An area of land often bounded by geological features (hills, rivers etc) sharing many similar geological, environmental and cultural similarities. For Australian GI purposes Tasmania as an island is classified as a region. Various sub-regions exist as identified by discreet geographic and climatological factors: Tamar Valley; Pipers River, North-west; East Coast; Coal River Valley; Derwent Valley; Huon; Channel.
Residues	Traces of a substance or its by-products
Self Assessment Guide	A tool that provides a common description of local viticultural activities. Our particular tool has been designed by the Wine Tasmania Technical Committee and

enables an individual grower to make a quick assessment of their practices compared to those considered acceptable by the Code of Conduct.

Stewardship	Avoiding, minimising and addressing the impacts on the local environment and community through industry awareness, effort and appropriate practices.
Toxicity	The relative capacity of a substance (e.g. pesticide) to cause illness or death. Toxicity is often measured in terms of a Lethal Dose expressed as LD _x (e.g. LD ₅₀) for a particular organism. A Lethal Dose is a measure of how much of a substance (units/kg body mass) is required to kill that proportion of a test population (i.e. LD ₅₀ measures 50% of a test population).
Withholding Period	A minimum time between application of a pesticide and its harvest/use.

3. Endorsement

The Pest and Disease Management Code of Conduct is endorsed by the following:

Wine Tasmania