

project factsheet

October 2009

Biosecurity Management – Plant Disease

Introduction

The Sugarloaf Pipeline Alliance recognises the value of agriculture to the regions in which we are operating, particularly viticulture. We are committed to minimising the risk of plant diseases being transmitted as a result of our activities and are working with the Department of Primary Industries (DPI) to maintain the highest standards of biosecurity control throughout the construction process to achieve this.

The strict biosecurity controls that applied throughout the Sugarloaf Pipeline's investigation phase have been expanded to provide for construction and reinstatement activities.

Alliance investigations have identified that most plant diseases have very low or no potential to be spread as a result of construction of the Sugarloaf Pipeline. The two plant diseases most common to the region are phylloxera and *Phytophthora cinnamomi*. In consultation with DPI, the Alliance has developed and is implementing

strict biosecurity management procedures to prevent spreading these two diseases. This fact sheet outlines these procedures.

Phylloxera

Grape phylloxera (*Daktulosphaira vitifoliae*) is a small, yellow, aphid-like insect that lives on the root systems of grapevines. It causes a progressive reduction in the vigour of vines that will eventually spread across the whole vineyard. Under normal conditions it will spread at a nominally 'slow rate', however, dispersal can be increased by the direct transfer of infected vine roots, vegetative matter and soil (such as mud on shoes or vehicle tyres). The insect and its eggs can also be spread by the wind.

Because it decreases production and is easily spread, phylloxera is a major concern in rural and agricultural areas where viticulture is established.

Management procedures

As a result of a detection of phylloxera in 2006, DPI established the Maroondah phylloxera infestation zone (PIZ) to restrict



Grape phylloxera insects

Photo courtesy: DPI Rutherglen

the movement of grapevine materials, machinery and equipment out of the area. Because the Sugarloaf Pipeline is being built in the Maroondah PIZ (see 'Maroondah PIZ map' over), the following procedures have been put in place.

The Alliance is taking a cautious approach and assuming any areas 'under vine' in the construction corridor are already infected with phylloxera. Meaning, biosecurity



protocols for these areas will be strictly adhered to at all times. Similarly, roadside reserves and existing Melbourne Water easements within the PIZ are not deemed to be within vineyards.

Personnel

Personnel working within vineyards should avoid contact with vines and remain on hard surfaced track areas where possible. If contact with vines is necessary then disposable overalls will be worn. These will be removed and bagged for disposal before leaving the vineyard.

Before entering and leaving each vineyard, the following biosecurity procedures will be undertaken:

- loose soil is to be removed from boots and clothing
- boots are to be treated for a minimum of 30 seconds in the three footbaths containing Phytoclean, bleach and Hibitane before being rinsed
- hand tools that come in contact with vines or soil in vineyards is to be disinfected with a 2 per cent chlorine

solution (bleach), Phytoclean and, where necessary, Hibitane before entering or leaving each vineyard. Where possible, hand tools should be left on-site at the vineyard.

Biosecurity records for all visits to vineyards will be maintained.

Personnel working in properties other than vineyards in the PIZ must follow standard project biosecurity procedures only.

Vehicles (utes, light trucks etc)

Alliance vehicles entering vineyards will be clean and will, where possible, remain on hard surfaced roads or in the construction corridor.

Where it is not possible for vehicles to remain on hard formed roadways within vineyards, all vehicles will be thoroughly cleaned before leaving the property.

Cleaning will consist of washing the outside of the vehicle (particularly the underside) with high pressure hot water to remove all soil and vine material, vacuuming the inside of the vehicle and spraying it with an insecticide.

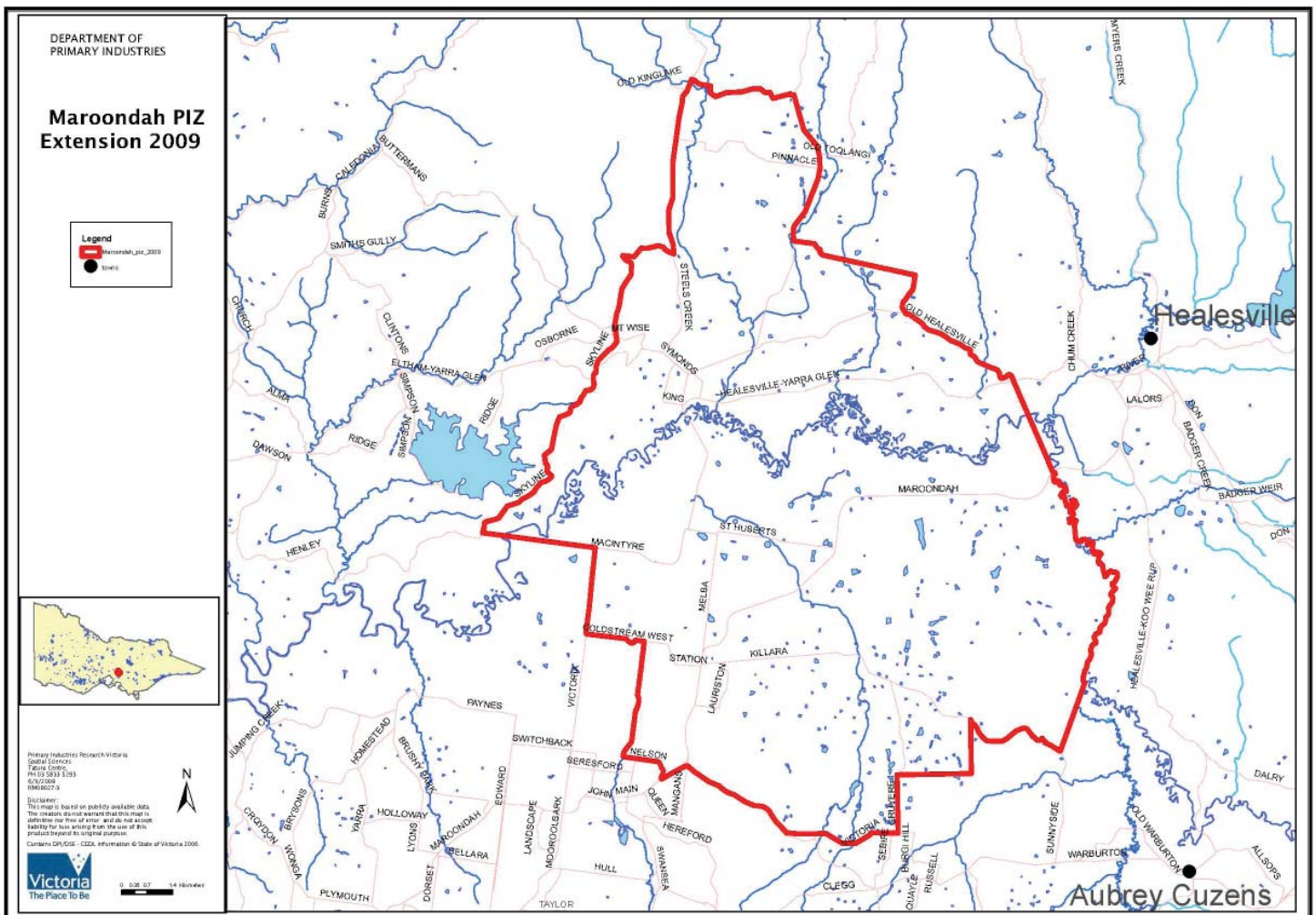
Earthmoving machinery

Disinfestation procedures do not need to be carried out for earthmoving machinery moving between properties other than vineyards within the PIZ.

Wherever possible, earthmoving machinery will remain on hard surfaced tracks.

Before entering or leaving a vineyard within the PIZ, disinfestation of all earthmoving machinery (including equipment with caterpillar tracks) will be carried out at a designated checkpoint. This will involve:

- cleaning with high pressure air and/or hot water to remove all soil and vine material
- steam cleaning of all machinery surfaces or heat treatment of the whole machine
- remove and clean parts of the machinery that may hold or hide dirt of plant fragments
- recording the movement of each piece of earthmoving machinery on the vineyard and providing records to DPI staff when requested.



Soil movement

Cleared topsoil will be stockpiled at each vineyard within the construction corridor and reinstated with construction is complete.

Excavated subsoil will either be buried on-site or transported out of the PIZ and buried under a minimum of five metres of non-infested soil as detailed DPI permit requirements:

- dump trucks will remain on hard formed access roads within the construction corridor
- truck loads of soil will be restricted in volume and securely covered to prevent spillage
- trucks leaving the PIZ will be cleaned of loose soil and inspected by DPI or DPI trained and accredited staff to verify they are clean
- records of trucked soil from the PIZ will be kept.

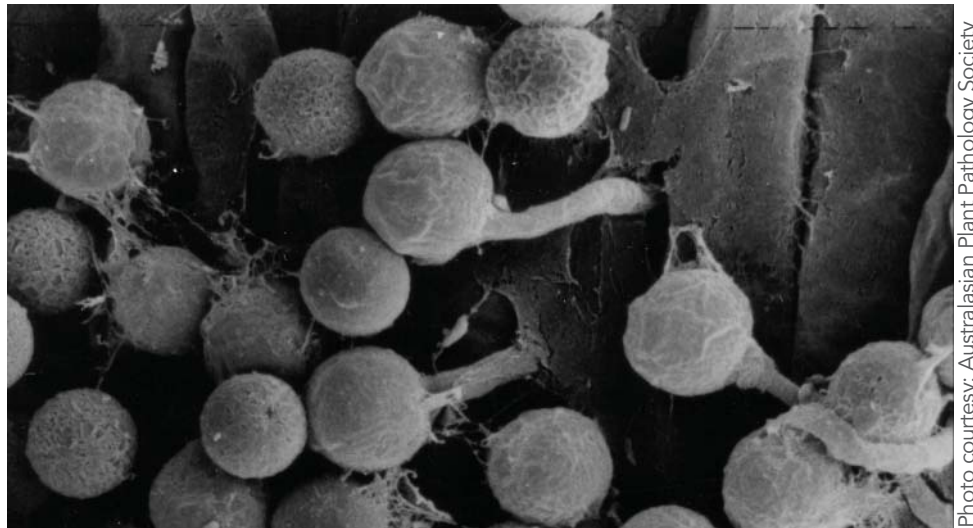
Vine material movement

Vine material removed from a vineyard within the PIZ will be managed in one of the following ways:

- removed vines will be provided to the landholder for replanting, if requested
- disposed of within the PIZ
- composted on-site for a period of no less than three months
- stockpiled and burnt on-site (as per local council and/or CFA conditions)
- transported out of the PIZ and buried under a minimum of five metres of non-infested soil as per the previous DPI permit requirements (see 'Soil movement').

Phytophthora

A soil-borne, introduced species of water mould, *Phytophthora cinnamomi* is microscopic in size and very destructive. Infected plants often die from 'root rot' or 'dieback'. The early symptoms include wilting, yellowing, darkened roots and dried foliage. Susceptibility to the disease varies. It is not just the plants themselves but whole ecosystems that can be affected.



Phytophthora cinnamomi cysts on the root surface

Phytophthora cinnamomi spores can be spread by water and sediment runoff after rain. Infected soil on shoes, animals' feet and vehicles can also spread the spores.

Spores require moist and warm soils to infect susceptible species such as eucalypts, banksias and *Xanthorrhoeas*. However, *Phytophthora cinnamomi* can persist in the soil for extended periods during unfavourable conditions or in the absence of susceptible host plants.

The presence of *Phytophthora cinnamomi* in the region along the Melba Highway has been studied by Victorian Government agencies and has been mapped to help in understanding and controlling its spread. The likelihood of it being present in the Toolangi State Forest is high because of its moist and damp soils. It is less likely to be present in the flat, open and sparsely covered grassland or pastures in other areas of the Sugarloaf Pipeline alignment.

Mitigation procedures

Phytophthora cinnamomi presents the greatest risk during the 'clear and grade' phase of the pipeline construction process due to the disturbance and movement of topsoil. Between the clear and grade and reinstatement phases, the risk of exposure to *Phytophthora cinnamomi* is reduced as potentially infected topsoil is stockpiled.

However, the Sugarloaf Pipeline Alliance will take all practicable measures to mitigate the risk of *Phytophthora cinnamomi* being spread as a result of work on the project.

Personnel

Before leaving each property, the following biosecurity procedures will be undertaken:

- loose soil is to be removed from boots and clothing
- boots are to be treated for a minimum of 30 seconds in a footbath containing Phytoclean
- hand tools that come in contact with the soil will be cleaned and then washed with Phytoclean.

Biosecurity records for all visits to properties will be maintained.

Vehicles and equipment

Alliance vehicles and equipment are to be kept clean of organic material and checked prior to entering a property. Movement of vehicles and equipment on and off site will be minimised and, where possible, they will be confined to hard formed roadways.

Before leaving the Maroondah PIZ, all vehicles and plant equipment will be sprayed with Phytoclean, thoroughly washed and biosecurity measures recorded in the vehicle's logbook.