



Myrtle Rust

Specific Module

PLANT PRODUCTION BIOSECURITY SCHEME

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Plant Production Biosecurity Scheme

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Updates

The Plant Production Biosecurity Scheme (PPBS) is a science-based framework to help producers identify, control, manage and avoid biosecurity risk. The scheme and standards are based on work undertaken early in 2018 in following experience early in the myrtle rust response that underscored the crucial role that plant producers play in early detection of pests, their containment and slowing their spread following a pest incursion. Subsequent discussions identified the opportunity to develop a systematic approach to plant production industry biosecurity risk management.

Revisions will be ongoing as PPBS experience and/or new science inform the need for change. Revisions published on the Scheme's website [to follow] and participants advised of the changes and new documents, so they can ensure that they are referring to the most recent documents.

Those wishing to provide recommendations for change should send these in writing to PPBS or by email to [in the interim office@nzppi.co.nz].

Acknowledgements

The PPBS acknowledges and is appreciative of the support of many industry members and stakeholders who assisted in the development of the scheme; the Ministry for Primary Industry's funding of the design phase, the guidance of project Steering and Working Groups, feedback and advice from industry members and stakeholders, and Kiwifruit Vine Health's generously allowing the PPBS to extract from and draw heavily upon their work and the Kiwifruit Plant Certification Scheme.

Disclaimer

While this standard's objective is to allow certification of plant producers and confidence that the plants they produce have been grown under conditions of high biosecurity risk and hazard management, there remains the possibility a proportion of plants may contain biosecurity pests. PPBS accepts no liability for claims regarding the presence of pests in any plants produced by registered and/or certified producers. While the objective of this standard and guidelines is to minimise the potential risk pest, no party can guarantee that adherence to these standards and guidelines will reduce such risk to zero.

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Amendments

16/1/19 - Section 5, checklist items numbered

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measures to manage myrtle rust in addition to the core standard and checklist

1. Purpose

This document is a Specific Module that pertains to plant producers who grow plants belonging to the plant family *Myrtaceae*. It supplements the Core Standard of the Plant Production Biosecurity Scheme (PPBS, the Scheme), and describes specific measures to manage the risk of a nursery becoming infested by or spreading the pathogen myrtle rust.

2. Introduction

Myrtle rust (*Austropuccinia psidii*) is a serious fungal disease that attacks plants of the family *Myrtaceae* (myrtle family). This family includes several important native New Zealand Genera ¹.

It was first detected on mainland New Zealand in May 2017 and since this time the disease has been found in several areas across the North Island and the top of the South Island. Myrtle rust spores are microscopic and can easily spread across large distances by wind, insects, birds, people, or on vehicles, machinery or nursery plant stock. Growth of the fungus prevails in spring and summer with the warm and humid conditions found though much of New Zealand.

Since April 2018 efforts to manage myrtle rust are focused on slowing the spread of the pathogen. This relies on the plant producers, the Ministry for Primary Industries (MPI), Department of Conservation (DOC) and the public to identify infestations, and to manage the pathogen when it is detected. Long term management of myrtle rust is supported by a science programme designed to lift understanding around the pathogen such as ways to treat myrtle rust, resistance and susceptibility, and to improve seed bank collection.

Plant producers play an important role in managing myrtle rust. Nurseries provide ideal conditions for the development of spores, inoculation and disease development. The pathogen infects young, actively growing, emerging leaves, buds, flowers, green stems, fruit and shoots of plants of the *Myrtaceae* family. An infestation adversely impacts nursery production and nursery stock distribution provides a ready means of spreading the pathogen.

NOTE: The Biosecurity Act 1993 mandates actions which if they are instigated by MPI over-ride this module.

3. Scope

Measures described in this Myrtle Rust Specific Module are designed to manage biosecurity risks for all plant producers who grow plants of the *Myrtaceae* family.

The Module only applies to a plant producer if they grow myrtle species. Refer Appendix 1 for a list of *Myrtaceae* species.

This Module supplements the PPBS Core Standard and should be read in association with that standard. Certification to the Myrtle Rust Specific Module relies upon and can only be granted by the PPBS where a plant producer meets the requirements for certification to the Core Standard.

This module focuses on plant production and nursery management measures to:

- Reduce the risk of nurseries becoming infested with myrtle rust.
- Ensure that should an infestation occur it is detected early.
- Reduce the likelihood of Myrtle rust being spread through the nursery stock distribution pathway.

¹ *Metrosideros* (pōhutukawa and rātā), *Kunzea* (kānuka), *Leptospermum* (mānuka), *Lophomyrtus* (ramarama), *Neomyrtus* (Rōhutu), *Syzygium mairi* (Swamp maire) – see Appendix 1 for a list of genera in the *Myrtaceae* family.

Plant producer vigilance under a long-term management approach is critical as we continue to work to understand the dynamics of the pathogen across the New Zealand's host species range, and to slow and/or prevent further spread across the country.

In Australia, for example, despite the pathogen being wind-borne and easily spread, it has not spread across the country. Incursions in Victoria and Tasmania have been through movement of infected plant material. In Victoria the pathogen is established at low levels in several urban locations in Melbourne but has not established in the native bush. It is thought that if infected material hadn't been brought into the Melbourne, the pathogen mostly likely would not have established. The lack of establishment in the native bush but its prevalence in the Melbourne itself shows the importance of making sure it is not inadvertently spread to current pathogen-free areas in the South Island.²

4. Myrtle Rust Standard Measures

CORE STANDARD REQUIREMENTS

Certified producers are to maintain a nursery free of myrtle rust. This shall be achieved with the adoption of biosecurity risk management processes and validated through crop monitoring protocols.

Should cause for concern arise in the nursery with or one of its crops being affected infested with visual signs of myrtle rust the producers must report to MPI and follow instructions from MPI. Upon a positive visual diagnosis, laboratory tests using PCR diagnostics will be undertaken for verification purposes.

Key Measures: The Nursery manual shall describe and demonstrate measures to ensure:

1. That Myrtaceae species are managed within the nursery to prevent further infestation on the nursery and in its surrounds by myrtle rust spores.
2. That staff are aware of what to look for and what to do if they find anything suspicious.
3. That the risk associated with plants and plant material sourced off-site is adequately managed.
4. That the risk associated with potentially contaminated vehicles, equipment, visitors and staff is adequately managed.
5. That nursery monitoring for myrtle rust is implemented and supported by an appropriate fungicide programme.
6. That myrtle rust specific plant dispatch procedures are implemented and that plants are visually free (confirmed by inspection of an authorised nursery person) of myrtle rust.

Crop monitoring procedures should critically note any change in the behaviour of the disease, for example a new host that didn't usually get infected is now infected or a variation on the level of infection. Changes in the host species and severity of infection may indicate the pathogen has changed locally, or that a new strain of myrtle rust may have been detected. Any such observation must be reported promptly on discovery to MPI.

² Ganley B, personal communication.

5. Myrtle Rust Hazard Management Checklist

5.1. Management and staff						
Nursery details	Y	N	NA	Level	Reference	Notes
5.1.1. Are staff aware of any MPI mandated or other regulatory requirements?				Critical		
5.1.2. Are staff aware of what signs and symptoms of myrtle rust and what to do if they find anything suspicious?				Critical		
5.1.3. Is this document and the Myrtle Rust identification guide made available to staff?				Major	MR ID guide	
5.1.4. Does the staff training programme adequately cover myrtle rust risk management?				Major		
5.1.5. Has the nursery got a documented myrtle rust corrective action and response protocol?				Major		
5.1.6. Is the nursery registered with NZPPI's Biosecurity Register?				Minor		

5.2. Site Management						
	Y	N	NA	Level	Reference	Notes
5.2.1. Are myrtaceous species aggregated within a defined area of the nursery and ideally away from other locally growing native Myrtaceous species?				Minor		
5.2.2. Are growing areas treated with an appropriate disinfectant upon the completion of the crop growing cycle and before placing a new crop down on growing beds or benches?				Minor		
5.2.3. If it is practicable, have myrtle rust host species been removed from boundary and nearby plantings?				Minor		
5.3. Hygiene						
	Y	N	NA	Level	Reference	Notes
5.3.1. Are staff aware that spores can be carried on clothing. Contaminated clothing is a considerable risk - are measures in place to manage this?				Minor		
5.3.2. Is machinery moved into the nursery production area from off-site inspected and cleaned to sterilise it?				Minor		
5.3.3. Is all nursery waste, including sweepings from trucks, disposed of an appropriate manner – example, bag and dispose of via bulk waste, (thorough) composting or deep burial?				Minor		

5.4. Sourcing plants and plant materials						
	Y	N	NA	Level	Reference	Notes
5.4.1. Are stock plants rigorously inspected for the presence of myrtle rust before cuttings are taken or seed collected?				Critical	MR plant survey protocol	
5.4.2. Is all myrtaceous plant stock sourced from off-site isolated upon arrival and inspected before transferring it into the nursery production area?				Critical		
5.4.3. Is all myrtaceous plant stock sourced from other nurseries accompanied by a Myrtle Rust Biosecurity Declaration provided by the supplier?				Major	MR Biosecurity Declaration	
5.4.4. Are stringent hygiene measures applied by staff, and to machinery, vehicles and packaging when they return from collecting myrtaceous plant material (cuttings or seed) from off-site?				Major		
5.5. Monitoring and Crop Protection						
	Y	N	NA	Level	Reference	Notes
5.5.1. Are surveys conducted (at no more than 14-day intervals) of all myrtaceous species on-site - this includes production stock and plants along boundaries and roadways.				Critical	MR plant survey protocol	
5.5.2. Are appropriate myrtle rust fungicide treatments undertaken?				Critical	NZPPI MR fungicide guidance	

5.6. Plant dispatch

	Y	N	NA	Level	Reference	Notes
5.6.1. Is a Myrtle Rust Biosecurity Declaration provided to the customer?				Major	MR Biosecurity Declaration	
5.6.2. Have you (or your third-party transporter) adopted Myrtle Rust Plant Transport Protocols to manage the risk of your spreading myrtle rust?				Minor	MR Plant Transport Protocols	

6. Myrtle Rust Module - Nursery Manual Template

Staff and management responsibilities

Describe your processes to ensure staff and management are aware of myrtle rust risk

Describe your processes if you suspect myrtle rust has been detected on your nursery?

Site Management

Describe how you manage the nursery site to aid monitoring of myrtaceous species and limit the risk of myrtle rust being spread from crop to crop and, if practicable, from neighbouring properties?

Hygiene

Describe measures you use to prevent exposure to myrtle rust during the production cycle

Plant Sourcing

Describe measures you use to ensure plants you source from off-site and those you take propagation material from are free of myrtle rust.

Crop Monitoring

Describe how monitoring for the presence of myrtle rust is conducted in the nursery.

Describe your myrtle rust fungicide treatment programme.

Dispatch, plant distribution and transport

Describe the process and person(s) authorised to issue the Myrtle Rust Biosecurity Declaration

Describe how you ensure transport operators have a Standard Operating Procedure describing measures to manage the risk of spreading myrtle rust.

Appendices

7. List of Myrtle species

www.mpi.govt.nz/protection-and-response/responding/alerts/myrtle-rust#affected

or simply search for “mpi myrtle rust” and follow links

8. Guidance

Action upon suspicion of Myrtle Rust infestation

- Do not remove the plants from the site or vehicle.
- Take photos of the suspected myrtle rust and the whole plant.
- Do not attempt to touch or collect samples as this may increase the spread of the pathogen.
- If possible, isolate the plants with a plastic cover.

Call MPI’s exotic pests and diseases hotline 0800 80 99 66.

Disposal of infected material – options include

- Bag it, add water, tie it, keep it moist, leave it for three weeks. This will compost the plant material and kill the myrtle rust pathogen. Dispose of bagged material via landfill.
- Double bag material and deep bury on site.
- Do not burn any material.

For retailers and landscapers

- www.biosecurity.govt.nz/protection-and-response/responding/alerts/myrtle-rust/advice-for-specific-groups-about-myrtle-rust/
or simply search for “mpi myrtle rust” and follow links

9. References

- MPI’s Myrtle Rust webpage - www.mpi.govt.nz/protection-and-response/responding/alerts/myrtle-rust
- NZPPI Myrtle Rust Protocols - www.nzppi.org.nz/biosecurity
- Australian Nursery Industry Myrtle Rust Management Plan 2013
www.nzppi.co.nz/documents/pests/NGIA-Myrtle-Rust-Management-Plan-2013.pdf

