



# **MPI 18608 Project Report**

**Myrtle rust research programme 2017-2019: understanding the pathogen, hosts, and environmental influences**

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Prepared for Ministry for Primary Industries

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June 2019

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June 2019

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## Preface

### **Myrtle rust research programme 2017-2019: understanding the pathogen, hosts, and environmental influences**

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June 2019

This final research programme report is comprised of seven topic reports detailing the research outcomes from the seven Priority Topics identified in the Ministry for Primary Industries, Request for Proposal 18608, Myrtle Rust Research Programme 2017/18.

#### **Theme 1. Understanding the pathogen, hosts, and environmental influences**

- Topic 1.1 Identification of native and important exotic host species susceptibility to myrtle rust, including variability within species
- Topic 1.2 Identification of asymptomatic periods
- Topic 1.3 Assessment of other myrtle rust biotypes
- Topic 1.4 Initial identification of genetic markers linked to resistance
- Topic 1.5 Relationship with endophyte populations
- Topic 2.1 *Austropuccinia psidii* de novo genome sequencing

#### **Theme 2. Improving management tools and approaches**

- Topic 3.1 Seed banking and germplasm research strategy

This research was undertaken by science staff of The New Zealand Institute for Plant and Food Research Limited, Scion, Manaaki Whenua Landcare Research, Wellington Gardens and overseas collaborators including the Queensland Department of Agriculture and Fisheries, the New South Wales Department of Primary Industries and the University of Sydney.

The research findings from this programme are already being extended in other research programmes, including the MBIE Endeavour Beyond Myrtle Rust programme and to further enhance trans-Tasman research collaborations by seeking funds from the Australian Research Council Linkage Fund to investigate the molecular basis of pathogenicity.

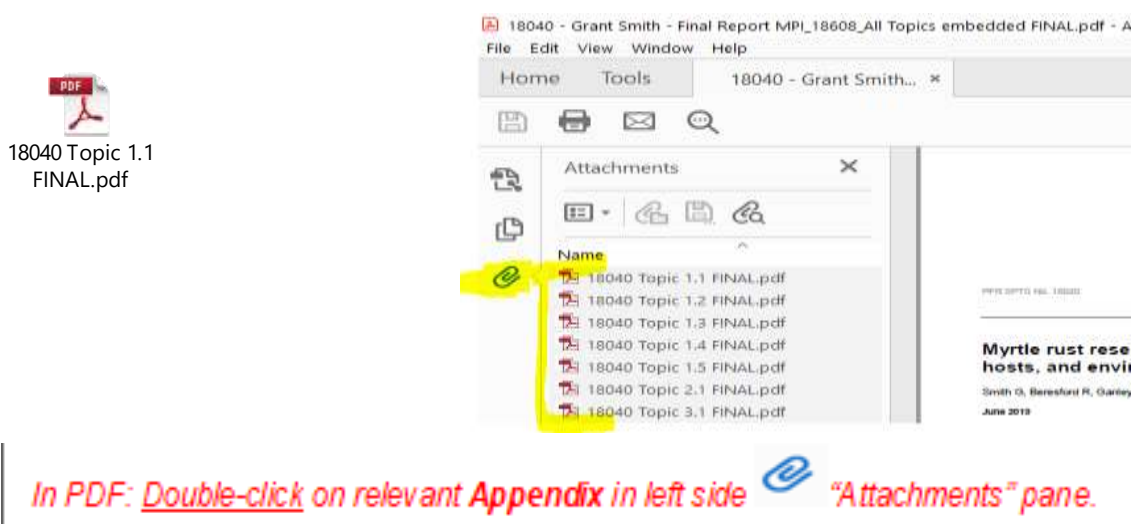
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## Topic reports:

### Theme 1. Understanding the pathogen, hosts, and environmental influences

#### Topic 1.1 – Identification of native and important exotic host species susceptibility to myrtle rust, including variability within species



#### Topic 1.2 – Identification of asymptomatic periods



#### Topic 1.3 – Assessment of other myrtle rust biotypes





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## Topic 1.4 – Initial identification of genetic markers linked to resistance

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## Topic 1.5 – Relationship with endophyte populations

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## Topic 2.1 – *Austropuccinia psidii* de novo genome sequencing

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18040 Topic 2.1  
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## Theme 2. Improving management tools and approaches

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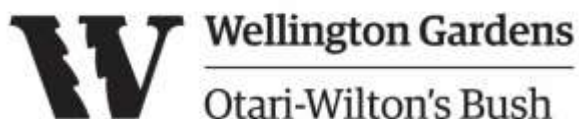
## Topic 3.1 – Seed banking and germplasm research strategy

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18040 Topic 3.1  
FINAL.pdf

## Appendix 1. Example of landowner consent form



# LANDOWNER CONSENT FORM

I (We), \_\_\_\_\_, give permission  
for the collection of *Syzygium maire* (Swamp Maire)  
material from my property located at:

\_\_\_\_\_  
\_\_\_\_\_

Permission is given to \_\_\_\_\_  
From (agency) \_\_\_\_\_

☐

Research data generated from this plant material can  
be published and or presented at scientific  
conferences.

☐

I (We), would like to see a copy of the research data  
results prior to publication.

**Signature (land owner/manager):** \_\_\_\_\_

**Contact details:** \_\_\_\_\_

**Date:** \_\_\_\_\_

\_\_\_\_\_  
In return, the permittee agrees to respect the rights and property of the landowner.  
The material will be used solely for research and conservation purposes and will not be  
exchanged or sold.



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