

Seminars and workshops 2020–21

Agnew R

July 2021

1 Overview of seminars that Plant & Food Research Marlborough staff participated in between July 2020 and June 2021

In the year from 1 July 2020 to 30 June 2021, staff from The New Zealand Institute for Plant and Food Research Limited (PFR) were involved in the presentation of quite a number of seminars as listed in sections 2 to 4. These seminars fell into the following three categories: 1) public seminars held at Marlborough Research Centre (MRC); 2) presentations by PFR staff to groups visiting the Marlborough Research Centre; 3) presentations by PFR staff at national and international seminars.

The public seminars were advertised through the MRC, PFR and/or Nelson Marlborough Institute of Technology (NMIT) email distribution lists. Fewer public seminars, organised by PFR, have been held at the MRC in the past two years. This is partly because living in a COVID-19 conscious environment has led to many seminars now being delivered online and partly due to very few national or international scientists visiting PFR Marlborough, who would often be invited to give a seminar presentation.

2 Details of public seminars held at the Marlborough Research Centre involving Plant & Food Research staff

2.1 Climate change and heatwaves

Date: 1 July 2020

Speaker: Dr Jim Salinger

This seminar was organised by Dr Mike Trought, Honorary Fellow of Plant & Food Research.

2.1.1 Overview of Jim's presentation

Dr Salinger's talk examined the three extreme heatwaves that have affected the New Zealand region – back-to-back heatwaves in the two summers of 2017–18 and 2018–19 and 1934–1935.

Dr Salinger talked about the heatwaves' effects on many sectors, including the devastating ice loss in the Southern Alps and wider impacts for crops, including wine grapes and marine life.

Such heatwaves are becoming more common and are a guide to future climate with anthropogenic global warming.

Research by a multidisciplinary team of 19 published a paper looking at what happened and why. The paper is entitled 'Unparalleled coupled ocean-atmosphere summer heatwaves in the New Zealand region: drivers, mechanisms and impacts'.

2.1.2 Biography

Dr Jim Salinger is a climate scientist of international repute, being the first to uncover climate warming in New Zealand, and the surrounding oceans in the 1970s, an area of 4 million square kilometres. Together with Intergovernmental Panel on Climate Change (IPCC) colleagues, he received the Nobel Peace Prize in 2007 for ground-breaking work on climate change.

2.2 Predicting grapevine yields and development

Date: 3 August 2020

Speakers: Dr Amber Parker and Dr Junqi Zhu

2.2.1 Overview of Amber's presentation

Phenology is a key biological indicator of climate change and an essential biodiversity variable for species worldwide. In this presentation, Amber presented recent research illustrating how grapevine historical phenological records can inform us of the effects of climate change, and how we can use this information to develop tools to enable us to predict past, present and future changes in phenology

in response to climate change. The impact of climate change on adaptation choices in response to phenology was also explored.

2.2.2 Biography

Dr Amber Parker is a Senior Lecturer in Viticulture at Lincoln University (LU), New Zealand. She completed her PhD at LU in collaboration with Bordeaux Sciences Agro-ISVV-Ecophysiology and Functional Genomics of Grapevines, France, worked as a scientist in grapevine modelling at PFR after her PhD, and has been at Lincoln University since 2015.

Her research focuses on understanding and modelling environmental drivers of phenology, investigating the impacts of effects of source-sink modifications of the grapevine on phenology and asynchrony of fruit composition, and understanding impacts and adaptations for viticulture in the context of climate change. She also has a keen interest in developing and implementing precision agriculture techniques in viticulture.

2.2.3 Overview of Junqi's presentation

Seasonal differences in weather conditions cause marked variation in grapevine yield. However, quantitative relationships between various yield components and climatic factors at field scales are still lacking. By using a long-term field trial, we quantified the correlation between weather conditions during the key development stages and the yield components of *Vitis vinifera* L. Sauvignon blanc growing under cool-climate conditions.

2.2.4 Biography

Dr Junqi Zhu joined PFR at the Marlborough Research Centre in September 2016. He was educated as an agro-meteorologist and plant eco-physiologist with strong emphasis in quantitative plant modelling. After his PhD on plant plasticity in Wageningen University, he switched to grapevine modelling and did his postdoc in the Institute of Vine and Wine at Bordeaux France.

Junqi's main research interest is to study and model the effects of the environment and vineyard management on the grapevine production system. The final goal is to develop a digital representation of a vineyard ecosystem where we can test the effects of all management practices on yield, berry composition and sustainability virtually.

2.3 Launch of specialist book titled 'Grapevine Diseases of New Zealand'

Date of book launch: 29 April 2021

Book Authors & Presenters: Dr Ian Harvey and Dion Mundy

2.3.1 Media release sent out from Nelson Marlborough Institute of Technology prior to the book release

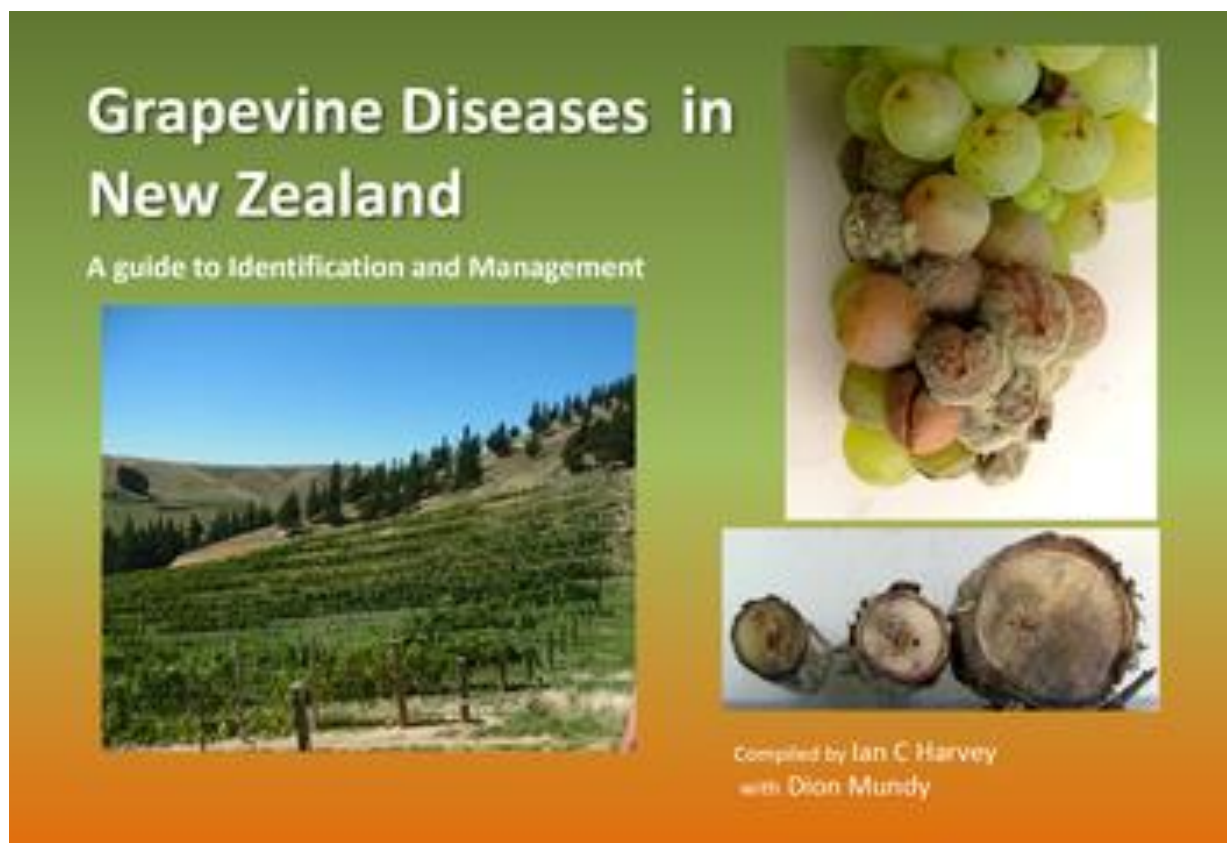
Dion Mundy has spent his working life helping the wine industry. Starting out on his family's Canterbury winery, Dion has had a ringside seat to observe the industry develop and grow. As a

scientist his research into understanding and managing grapevine diseases has made a significant difference to how grapes are grown in New Zealand and how they succeed overseas. A Senior Scientist at PFR in Blenheim, Dion has written numerous articles and papers throughout his career and is a highly respected authority on grapevine diseases.

Dion's first book, co-authored with Ian Harvey from PLANTwise Services, Lincoln, 'Grapevine Diseases of New Zealand' is a valuable guide to everyone involved in the wine or grape growing industry. It is the first book dedicated to the identification and management of grapevine diseases in New Zealand.

The book is extensively illustrated with colour photographs of both the disease symptoms and the causal organisms (mainly fungi).

Following its release the book will become the main text for teaching diseases in grapes at Nelson Marlborough Institute of Technology (NMIT), LU and Eastern Institute of Technology (EIT). NMIT is fortunate to have Dion as a tutor on the Viticulture and Wine degree programme based at the Marlborough campus.



3 Presentations by PFR staff to groups at the Marlborough Research Centre

Date	Presenter	Audience	Title of presentation
3 Sep 2020	Rob Agnew	NMIT Viticulture & Wine students	Annual phenology lecture
17 Sep 2020	Claire Grose	NMIT Viticulture & Wine students	Research wine sensory analysis
18 Nov 2020	Damian Martin	Family of 12	Ideal vines and ideal wines
19 Feb 2021	Damian Martin	The Bragato Research Institute (BRI) Research Advisory Committee	Advancing viticulture PFR Sustainable Science Investment Fund Programme
14 Apr 2021	Rob Agnew	LU Viticulture & Oenology Marlborough Field trip	Climate overview and VineFacts phenology and yield component summary for the 2020-21 season

4 Presentations by PFR staff at national and international seminars

Date	Presenter	Audience	Title of presentation
22 Jul 2020	Dion Mundy	Available to all of PFR staff (Online)	Grapevine trunk disease, a complex problem that will not be solved by pathology alone
15 Sep 2020	Damian Martin	BRI Grape Days (Online)	Ideal vines and ideal wines
30 Sep 2020	Damian Martin	Office International du Vin - Jury 2020 presentation (Online)	International Viticulture & Oenology Society, Revue Technique, vigne et vin
21 Oct 2020	Junqi Zhu	9th International Conference on Functional-Structural Plant Models 5–9 October 2020 (Online)	Quantifying the effects of carbon status on berry growth using a mechanistic carbon transport model
18 Nov 2020	Damian Martin	XIIIth International Terroir Congress Adelaide (Online)	Vintage by vine interactions most strongly influence Pinot noir grape composition in New Zealand
25 Nov 2020	Junqi Zhu	Available to all of PFR staff (Online)	Advances in grapevine modelling
8 Dec 2020	Rob Agnew	BRI Mechanical thinning and shaking seminar (Blenheim Convention Centre)	Marlborough weather update and implications for yield and botrytis risk
18 Jan 2021	Damian Martin	Southern Pinot noir workshop presentation (Hanmer Springs)	Ideal vines and ideal wines
3 Feb 2021	Damian Martin	Craggy Range, Te Muna Vineyard, Martinborough	Ideal vines and ideal wines
28 May 2021	Damian Martin	Hawkes Bay Vine group (EIT Campus)	Ideal vines and ideal wines
14 Jun 2021	Dion Mundy	BRI Grape Days - Napier	Trunk disease: Protect early, disease expressions and monitoring
16 Jun 2021	Dion Mundy	BRI Grape Days - Blenheim	Trunk disease: Protect early, disease expressions and monitoring

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Marlborough Research Centre Trust

Project #2

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PUBLICATION DATA

Agnew R. July 2021. Seminars and workshops 2020–21. A Plant & Food Research report prepared for: Marlborough Research Centre Trust. Milestone No. 88278. Contract No. 38612. Job code: P/413003/04. PFR SPTS No. 21335.

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July 2021

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