

### **Pandemic ups and downs - the constant biosecurity challenge!**

The last few weeks have yet again reminded us of the great challenge that is biosecurity and the need for constant vigilance. In the human world we now all understand the challenges of maintaining our border, that borders are porous and when inevitably breached there is a firstly an incursion and outbreak response (lockdown) and the need for management: a vaccine. My apologies for using this human pandemic to remind us all that plant and animal world have been trying to manage this biosecurity thing for over a hundred years, and that we need constant vigilance to protect our agriculture, environment and way of life. Yes, more resources are essential, but so is community awareness and understanding, and investment in science with national planning, co-ordination and efficiency to constantly improve our systems and processes.

Stay safe.

### **New targeted call for projects**

The Foundation is delighted to announce our 2021 funding round. This year we seek to build on previous PBCRC of Foundation investments to ensure we get value where needed, and we want to focus on the following areas of biosecurity:

- Education and community awareness of biosecurity;
- Urban and peri-urban biosecurity, especially where there may be language or cultural barriers;
- Indigenous participation in biosecurity;
- Biosecurity for World Heritage Areas.

We actively welcome co-investment opportunities and collaborative initiatives, including with international linkages, related to the above.

In addition to the call, proposals are able to be submitted anytime to the Foundation if they meet the criteria. All proponents are strongly encouraged to contact the Foundation to discuss the proposal before submission. Please note proposals are limited to \$30,000 each, unless there are exceptional circumstances, and there is a limited amount of funding available.

Go to the [web-site](#) to download the proposal template.

### **National Myrtle Rust Symposium – a wonderful sharing amongst passionate stakeholders**

Myrtle Rust is a plant disease caused by the introduced fungal pathogen *Austropuccinia psidii* and it poses a serious and urgent threat to Australia's native biodiversity.

The Foundation and partners recently convened the National Myrtle Rust Symposium, with over 200 delegates either attending in-person or online. The Symposium was a resounding success, with a comprehensive program, a huge turnout in person and online, and wonderful sharing and insights from across the world.

Since the Symposium the Foundation has been developing a range of Myrtle Rust knowledge

products: resources available for the general public and land management professionals alike. These products, supported by the Commonwealth's Environmental Biosecurity Fund, include all the Symposium talks (which are now hosted on the Foundation website [here](#)).

The symposium delegates also discussed national action, in particular the implementation of the 'Myrtle Rust in Australia: National Action Plan'. This was finalised last year after several years of development and consultation (it can be downloaded [here](#)).

Myrtle Rust: a Statement of Concern.

A dedicated group of professionals, including the Foundation have developed a Statement of Concern, calling on Australian governments to fully support the implementation of the Action Plan in order to minimise the impacts of Myrtle Rust, including protecting some native species from extinction. If you want to support the Statement of Concern, see the link [here](#).

For those interested, the New Zealand 'Beyond Myrtle Rust, Towards Ecosystem Resilience initiative is presenting a seminar by Phil Cannon, one of our keynote speakers at the National Symposium recently.

"Experiences with *Austropuccinia psidii* in Hawaii and the Americas of relevance to the land down under."

14th July 2021, 11:00 AM NZST

Presented by Phil Cannon,  
Forest Pathologist, US Forest Service (USDA)

<https://attendee.gotowebinar.com/register/942025694797243150>



## Davren Global 's new CEO

The Foundation's spin-out company, [Davren Global](#), has just appointed a new CEO. At the beginning of June this year the Board of Davren was pleased to announce that Dr Darren Cundy has been appointed as the new Chief Executive Officer.



Darren comes to Davren with a background that the Board felt was ideal for where the Company is currently positioned. His scientific and business qualifications, coupled with extensive commercial and venture capital experience is what the Board was looking for to lead Davren through the complexities of commercialising the Davren technology package.

Having been formally trained as an organic chemist at the University of Queensland, Dr Cundy worked as a post-doctoral fellow at CSIRO's then Division of Chemicals & Polymers, developing new agrichemicals. His early interest in the intersections between science and business saw him complete a Masters in Science & Technology Commercialisation at the University of Adelaide, an applied degree that was a stepping stone to his time as an investment manager in Melbourne-based venture fund, GBS Ventures.

His foundations in IP and commercialisation were honed during his time back with the CSIRO in its Business Development & Commercialisation team, where after several years he assumed the role of Executive Manager: Commercial. This was invaluable experience to take with him to

establish the University of Tasmania's Business Development & Technology Transfer unit. Several years later he took on a similar challenge at the University of Newcastle as Director: Knowledge Exchange and Enterprise before embarking on the CEO role at Davren Global.

Dr Cundy commented on his new appointment, *"I have seen many technologies in my working life but it's rare to find a solution to a problem as critical as this one, that actually ticks all the boxes. This technology offers an effective, safe, environmentally sensitive and commercially scalable solution to tackle food security, so when I saw that the pedigree of the science had the imprimatur of the APBSF, it was an easy decision to join the Davren team."*

*"While the final stages in securing the approvals for commercial use will be intense and work on scaling up Davren Global's grain application methods and investigating other product applications will be pressing, I look forward to working with the Foundation and our current and emerging global collaboration partners, to ensure that our entry into the Australian market is successful and to leverage what is discovered and developed here and apply that to the many global opportunities we believe are within our grasp,"* he added. Darren can be contacted [here](#).

### **Biosecurity budget funding**

In case you missed it, we were all delighted that biosecurity got a much-needed boost in the Federal budget earlier in the year: a \$370.9m package to strengthen our biosecurity system in Australia. More information can be found [here](#). However, we note that the Beale Review of 2008 recommended an increase in investment of \$600 000 000 in today's dollars, a substantial portion of which was to be devoted to IT.

While any increase in funding is welcomed in the face of increasing global threats, changes to pests and diseases around the world and in the context of a global pandemic, the Foundation remains keen to see enhanced support for environmental biosecurity and biosecurity science and innovation.

### **ANAO Biosecurity**

A little bit harsh? The ANAO recently released a report '[Responding to Non-Compliance with Biosecurity Requirements](#)'. There were some fairly strong statements made about the adequacy of biosecurity compliance which jarred with us given our well-earned international biosecurity reputation. However, if Australian biosecurity can use this as a positive way for continual improvement, well and good; and in that vein delighted to see the Department accepting all eight recommendations.

### **Environment and Community Biosecurity RDE Strategy consultation**

A new draft National Environment and Community Biosecurity Research, Development & Extension Strategy (NECBRDES) has been developed under the guidance of the national Environment and Invasives Committee over the last 18 months. The strategy highlights the impact that biosecurity risks pose to our natural environment and way of life. The strategy will help government, community groups, industry and researchers to:

- set and revise research priorities
- identify actions that improve knowledge sharing between different sectors and

industries

- improve communication between policy, researchers and end users, and
- reduce the effect of biosecurity risks by using research outcomes.

The new strategy builds on the first strategy that ran from 2016-2020. This new strategy will help us develop a strategic approach to environmental and community biosecurity research, development and Extension (RD&E). It aims to enhance the value of existing and future investments in RD&E through improved collaboration, effective allocation of resources and strong leadership.

We (DAWE) want to know what outcomes you would like to see in environment and community biosecurity RD&E over the next 10 years. You can also let us (DAWE) how you'd like to participate in delivering on the strategy. We (DAWE) invite you to have your say by reading the draft strategy and taking the survey to provide your feedback and comments on the strategy. Your feedback will help shape our approach to community participation and how we work together to protect our environment from invasive pests, weeds and diseases.

Consultation closes on 16 July 2021 – Have Your Say

<https://haveyoursay.awe.gov.au/necbrdes>

(reproduced from the above website)

### **New National Biosecurity Website [Biosecurity.gov.au](https://www.biosecurity.gov.au) portal**

“The Australian Government has launched a new national biosecurity website on 28 June 2021 as a first stop for all biosecurity information. It brings together biosecurity resources from the Australian, state and territory governments, industries and non-government agencies. The website is a quick and easy way for the public to find answers to their biosecurity questions. Use the website to access advice, information for reporting, managing biosecurity risks and educational resources. Please visit the site for the latest biosecurity news and resources: [www.biosecurity.gov.au](https://www.biosecurity.gov.au)” (reproduced from the ‘Three Chiefs Newsletter’, June 2018, DAWE).

### **Exploring RNA interference (RNAi) vaccines as a novel control for myrtle rust.**

Dr Anne Sawyer from the University of Queensland is exploring RNA interference (RNAi) vaccines in natural populations of *Decaspermum humile* and *Syzygium hodgkinsoniae* (both Very High priority species, Objective 4.3.5 Myrtle Rust Action Plan). RNAi vaccines are non-toxic, non-GM, pathogen-specific, environmentally friendly biological alternatives to chemical pesticides. The approach involves applying pathogen-specific double-stranded RNA (dsRNA) to knock down pathogen genes and is proven against a range of plant pests and diseases, including soybean rust and switchgrass rust. To date, the team has established artificial leaf assays, as well as detached leaf and whole plant bioassays in *Syzygium jambos*. They have demonstrated dsRNA uptake by *Austropuccinia psidii* and have identified a number of *A. psidii*-specific dsRNAs that inhibit *A. psidii* urediniospore germination leading to a reduction in disease on detached leaves and whole plants. The next stage of the project is to assess gene knockdown by quantitative reverse transcription PCR (qRT-PCR), examine dsRNA uptake and movement in host plants, investigate the longevity of protection and test the most effective RNA vaccines on *Decaspermum humile* and *Syzygium hodgkinsoniae*.

We are also delighted the team has graduated Honours student Rebecca Degnan, and

publicised the project – for more see the [project page here](#).

### **Myrtle Rust impacts ecosystem significantly ...**

Responses of a wet sclerophyll forest in southern Queensland to repeated infestation showed significant mortality in keystone species, and after a relatively short period of time there are pronounced changes in canopy gaps, species composition and vegetation cover. Associate Professor Jennifer Firn from QUT recently submitted her Final Report and you can read more [here](#) ...

### **Proactive pre-border vigilance against exotic strains of myrtle rust**

The Foundation is happy to support Dr Louise Shuey at QDAF in the detection of exotic strains of Myrtle Rust. Louise is working with collaborators at the University of Queensland, University of Sydney, Colorado State University and in South Africa. Find out more [here](#).

### **Environmental Biosecurity – Adding a Cultural Context**

The Foundation was delighted fund work on building cultural capacity in environmental biosecurity (PBSF031). The recent interim report showed good progress in increasing the capacity of Butchulla traditional custodians of K’gari to develop networks, increase surveillance and report on biosecurity threats to culturally significant flora and environments on K’gari.

Part of the project is to identify edible, medicinal and culturally significant flora on Butchulla Country, engage and build capacity of Junior Rangers, and develop a Surveillance, Reporting & Germplasm Collection on K’gari.

The project is progressing well, even taking the opportunity to enhance surveillance and monitoring after the devastating bushfire on K’gari between October and December 2020 (affecting 87,000Ha in the central and northern sections). Watch this space for more updates, or visit the [Project Page](#) for more background.

### **Spotted Lanternfly**

The spotted lanternfly, *Lycorma delicatula* (White) (Hemiptera: Fulgoridae), is a hemimetabolous insect that is native to China, Vietnam & India. In 2004, the first specimen-confirmed report of this pest outside its native range was from South Korea, followed by sudden *L. delicatula* outbreaks in Hakusan, Japan in 2008, although sporadic occurrences were thought to have occurred within limited geographic areas since the 1930’s. In 2014, *L. delicatula* invaded North America, Berks County, Pennsylvania, US, and has since spread to several other states. This invasive pest is not currently known to occur in Australia.

The Australian Plant Biosecurity Science Foundation and the Chief Environmental Biosecurity Office, Department of Agriculture, Water and the Environment contracted Cesar Australia to undertake a review of *L. delicatula*’s biology, host plants, invasive pathways and management in addition to the potential seasonal distribution of the pest in Australia. Further, development of educational resources and targeting of high influence communication pathways undertaken during this project support wide dissemination of the project outputs.

The Full Report is not being published until the resulting journal article is released. An [executive summary can be found here](#), and if you require more information please contact the

Foundation.

### **Foundation Memberships**

The Foundation welcomes new Members: if you are interested in joining the Foundation as a Member and helping shape our strategic directions, please give the CEO a call or visit our website for more information.

### **Social Media**

The Foundation is on Twitter and LinkedIn posting news from the Foundation and sharing plant biosecurity happenings. Please connect with us!