Forest Biosecurity News

Welcome

FOREST OWNERS ASSOCIA

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Forest Biosecurity news is for people working in plantation forestry, as well as others with an interest in forest biosecurity. We aim to keep readers up-to-date on biosecurity topics and issues, help those operating in forestry to proactively manage and reduce their biosecurity risk. We will provide insights and updates on forest biosecurity readiness, surveillance, responses, investigations, science, and government industry agreements.

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INTRODUCTIONS

Steve Gatenby -Environmental Specialist, Timberlands and Forest Biosecurity Committee member

Kia-ora, my name is Steve Gatenby. I have worked at Timberlands Ltd in Rotorua for 20 years and currently have a role as an Environmental Specialist.

My role includes

- Environmental monitoring and compliance of operations, consents, plant and pest control, and water monitoring.
- Managing biosecurity and forest health surveys including *Dothistroma* surveys (90,000 ha / annum), forest health and biosecurity surveys undertaken by SPS Biota.



Biosecurity and forest health advocacy

 educating and encouraging staff,
 contractors and forest users to report the unusual including any potential forest health or biosecurity issues. With over
 1,000 people potentially working in the Timberlands forest on any day, they are our front line for detecting and reporting issues early and are critical for enabling rapid investigations and responses to potential biosecurity issues.

I have always worked in the forest industry – my first 15 years was spent at the NZ Forest Research Institute. I enjoy working with the aviation industry which helps when sitting in a helicopter for many hours completing Forest Health surveys. I am also an Air Attack Supervisor for FENZ which has provided some amazing experiences managing aircraft at large fires.

I am the Timberlands representative on both the *Dothistroma* Committee and the Forest Biosecurity Committee, the latter since 2018.

Image: Steve Gatenby on deployment with FENZ in New South Wales, photo courtesy of Ned Dawson

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We will provide insights and updates on forest biosecurity readiness, surveillance, responses, investigations, science and government industry agreements.



Spongy moth surveillance

BY STEPHANIE SOPOW & BELINDA GRESHAM, SCION

The New Zealand Ministry for Primary Industries provides funding for a national surveillance programme for *Lymantria dispar* (now commonly known as "spongy moth"), a globally significant pest of trees and forests. During the surveillance season, SPS Biota field staff regularly inspect a network of strategically located pheromonebaited traps, with a dedicated team of Scion entomologists providing diagnostic services for the programme.

Molecular work has determined that there are three distinct subspecies of spongy moth. The larvae (caterpillar) of all are highly polyphagous, capable of feeding on hundreds of tree species, with an overall preference for hardwoods. It has been widely thought that exotic amenity trees and fruit trees are at greatest risk in New Zealand. However, an outbreak of the European subspecies in a *Pinus radiata* plantation in Spain in 2012 and 2013 highlighted that this moth poses a threat to our plantation forestry estate.

The Asian subspecies is regularly intercepted at New Zealand's borders



(primarily as egg masses on ships and vehicles from Asia and the Russian Far East) and poses an even greater threat, with a much wider host range and mobile adult females (those of the European subspecies typically do not fly).

In addition to providing early detection of new incursions on New Zealand shores, the surveillance programme also provides us with evidence of freedom of this unwanted pest moth, helping to preserve crucial market access for important forest and horticultural export products.

Image: The surveillance programme targets adult male moths (shown) via pheromone baited traps. Source: Tim Stratford BugsAlive: July 2018 (bugsalive.blogspot.com). For more information about the spongy moth surveillance programme, or all other surveillance programmes administered by Biosecurity New Zealand refer to:

- The 2022 Surveillance Annual Report edition – https://www. sciquest.org.nz/search/results-2/ downloadfulltext/171732.
 (you can also access to all historic surveillance publications here – https://www.sciquest.org.nz/browse/ publications/view/106)
- The Atlas of Biosecurity Surveillance story board – Atlas of biosecurity surveillance – story board – https:// mpi.maps.arcgis.com/apps/ MapSeries/index.html?appid=258d6a ef22014dd2905eb6a9c4fa34eb
- The Atlas of Biosecurity Surveillance

 Atlas of biosecurity surveillance
 Report https://www.mpi.govt.

 nz/dmsdocument/39674-Atlas-of-Biosecurity-2019

SURVEILLANCE AND REPORTING

Forest Biosecurity Surveillance Diagnostics

BY STEPHANIE SOPOW, SCION

The key objective of the Forest Biosecurity Surveillance (FBS) programme is early detection of new forest pests and diseases that may have adverse effects on New Zealand's commercial forests or forest products.

Secondary aims are to provide pest absence assurances to trading partners, and to monitor the distribution and any change in behaviour of those organisms already present in New Zealand.

The FBS diagnostics service is a critical component of the Forest Biosecurity Surveillance System and provides identification services that support the industry's biosecurity and forest health surveillance and monitoring programmes and other initiatives. The service is primarily funded by the Forest Growers Levy Trust, and as such supports identifications from forest nurseries and levy payers. Biosecurity New Zealand also co-funds 50% of the costs associated with the FBS component of the service under the plantation forestry sector's **Government Industry Agreement Operational Agreement.**



Samples collected by SPS Biota's experienced field surveillance team are submitted to Scion's Forest Health Reference Laboratory, where a team of pathologists, entomologists, botanists and molecular scientists support the identification process. Scion's extensive reference collections are often utilised for this work (e.g., the National Forestry Insect Collection and our living Culture Collection). Identifications and associated information are stored in the Forest Health Database, jointly owned by Scion and the NZ Forest Owners Association, an invaluable tool for tracking spatial and temporal data relating to our forests.

Image: Stephanie Sopow with insects from the National Forestry Insect Collection Any organisms suspected as being new to New Zealand are immediately reported to MPI's biosecurity hotline. Sometimes these cases represent organisms new to science that may in fact have been present in New Zealand for some time but never previously characterised through molecular sequencing. A recent example of this was Paracamarosporium sp. Isolated from the needles of a spruce tree in Christchurch. This raised alarm bells because this genus is not recorded as present in New Zealand. However, further investigation by MPI revealed that this genus was previously known as *Camarosporium*, for which there are a few New Zealand records, and it was therefore concluded that this organism was likely already present in New Zealand, possibly recorded as Camarosporium. In this case, it was deemed unlikely to be causing the symptoms observed on the spruce. This is being following up by SPS Biota to rule out other biosecurity issues.

This past year of the programme has been fortuitously uneventful in terms of highly significant finds. As of 7 December 2022, Scion received 522 submissions for identification, resulting in 658 identifications, of which 27 represented new host records and 16 were new distribution records. One new to New Zealand organism was detected. The nematode *Cryptaphelenchus* sp. found in Pinus radiata in Auckland, was identified by Manaaki Whenua Landcare Research (where samples are forwarded because of their nematology expertise under an arrangement between the FOA and MPI and resourced by **Biosecurity New Zealand's Plant Health** and Environment Laboratory in Auckland). This nematode genus is not known to be pathogenic to plants, and in this case was unlikely to have been contributing to the symptoms observed.

A secondary find of interest was the new host record for *Neofabraea actinidiae*, the cause of ripe rots in kiwifruit and bull's-eye rot in apples, isolated from larch needles collected in the Nelson region. This organism is known from a wide variety of other hosts, including grapevines, kānuka and tōtara, and it remains uncertain as to whether it was causing or contributing to the symptoms observed on the larch.



Another secondary find of interest was a new distribution record for bronze bug, *Thaumastocoris peregrinus*. This notorious hitchhiker pest of eucalypts made a surprising geographic leap, a story which will be elaborated upon in a subsequent issue.

Image: the bronze bug, *Thaumastocoris peregrinus* (modified from galerie-insecte.org)

SURVEILLANCE AND REPORTING

Report the unusual

Everyone plays a critical role in our biosecurity system because while you are out working in, or visiting, your forest, you are more likely to encounter or notice something unusual.

Our best chance to contain or eradicate new pests, pathogens or weeds is when they first arrive in New Zealand or in a new area. If you see unusual plant, insect or disease symptoms please report them. At the very least you will find out what they are. Your notification could be the one that enables a successful response that protects New Zealand and our forests from a biosecurity threat.



There are many ways to report potential pests and pathogens:

1) SPS Biota

For any plantation forestry pest or health issues SPS Biota have a wealth of knowledge and experience in forest health and biosecurity issues and can be a great first point of contact to help identify or rule out any issues. Contact them during business hours:

- By phone 0800 246 821
- By email <u>bugs@spsbiota.co.nz</u>



2) Biosecurity New Zealand

If you think you have seen something that you suspect is a new or a known pest or pathogen contact Biosecurity New Zealand 24/7:

- By phone 0800 80 99 66
- Via their online webform <u>http://report.mpi.govt.nz/pest/</u>

Biosecurity New Zealand Ministry for Primary Industries

3) Find-A-Pest

Is a free mobile app for reporting potential pests or getting anything unusual identified. Anything serious will be directed to Biosecurity New Zealand by those screening your report, everything else will be directed to iNaturalist for a quick ID. You can report any time, and the app can still capture the relevant information even if there is no reception. It then sends this on when it connects. Find-A-Pest is a great tool if you are just wanting to find out what's crawling around in your garden or trees. I encourage you to download this and start reporting the unusual.

For more information and to download the app visit <u>https://www.findapest.nz</u>

FIND A PEST

SURVEILLANCE AND REPORTING



Find-A-Pest

BY BRENDAN GOULD, BIOSECURITY MANAGER, FOA

I have written about Find-A-Pest, in the previous two newsletters.

Find-A-Pest is a free mobile reporting app and is a useful tool for reporting unusual insects, pests, weeds and getting a quick and free ID. For more details and to download the app visit <u>https://www. findapest.nz.</u> In the last edition I encouraged readers to snap pictures of known forestry pests with a focus on eucalyptus beetles. The aim was to get readers familiar with reporting through the Find-A-Pest app but also to collect valuable information on the distribution of these beetles in NZ. With the temperature now warming up we should start to see more activity from adult beetles so these should be easier to spot, photograph and report. Remember, you are our eyes out in our forests, so start reporting any eucalyptus beetles you encounter or anything else that is unusual.



Images: Report Eucalyptus beetles using Find-A-Pest.



Mystery solved... in part

BY BRENT ROGAN (SPS BIOTA), CARL WARDHAUGH AND STEPHANIE SOPOW (SCION)





Image: a) 'Chip cocoons' found in a Coromandel forest in 2019 (photo credit: Brent Rogan)

From time to time during biosecurity related surveys in the forest, SPS Biota staff encounter issues that seem particularly worrisome, as the damage discovered, or the specimen collected, bears a striking resemblance to a known pest of major significance.

A recent example was the discovery of 'chip cocoons' in the cambial layer of some Pinus radiata thinnings in a Coromandel forest in 2019. The experienced forest health surveyor noted that these cocoons, or pupal chambers, looked very similar to those made by weevils in the genus Pissodes, which do not occur in New Zealand (image (a)). Some Pissodes species are of particular concern to the forestry industry as they are major pests of pine in other parts of the world. The adults ringbark and kill saplings, while the larvae kill growing shoots on more mature trees, stunting growth and causing deformation (image (b)). They can also transmit diseases, such as pine pitch canker and white pine root decline.

The surveyor discussed what was encountered with diagnosticians at Scion's Forest Health Reference Laboratory, and the need to identify the insects urgently. Unfortunately, no adult beetles or pupae were found at the time, just a couple of larvae. This is an issue as

Image: b) *Pissodes* sp. 'chip cocoons' in *Pinus* sp. (photo credit: Forestry and Agricultural Biotechnology Institute, South Africa)

the identification of weevils cannot be achieved with larvae alone due to the lack of morphological variation between weevil species (virtually all weevil larvae are white, legless, and 'C' shaped), and the incredible diversity of weevils. New Zealand is home to approximately 1,500 described species of weevils, and there are hundreds of thousands of weevil species on Earth. Our only options for identifying the weevil larvae, therefore, were molecular sequencing and rearing larvae to adulthood for morphological identification.

The molecular sequencing results were both disappointing and encouraging. It was disappointing that our sequence did not match any species in available sequence libraries, so we could not make an identification. However, this was also encouraging as the sequence did not match any known exotic pest species. Rearing attempts also proved unsuccessful. The conclusion, therefore, was that these *Pissodes*-like 'chip cocoons' were most likely made by an un-sequenced native species.

Fast forward to earlier this year, when identical 'chip cocoons' were encountered during another biosecurity survey of Kinleith forest. This time the surveyor collected and observed both larvae and extremely camouflaged adults (which were very difficult to see amongst the



Image: Damage to *Pinus banksiana* in the US by *Pissodes strobi* (photo credit: Steven Katovich, Bugwood.org)

dross). Scion entomologists quickly identified the adults as the endemic weevil *Crisius binotatus*. It would appear the damage to debris is extremely similar between *C. binotatus* and species of *Pissodes*. At the time of writing, we are sequencing adult *C. binotatus* weevils to ascertain if they were also responsible for the 'chip cocoons' found in the Coromandel. There are almost 50 described species of *Crisius* weevils in New Zealand and similar cocoons may be a common phenomenon across these species.

> Some Pissodes species are of particular concern to the forestry industry as they are major pests of pine in other parts of the world. The adults ringbark and kill saplings, while the larvae kill growing shoots on more mature trees, stunting growth and causing deformation.

Spring and Summer update

BY BRENT ROGAN, SPS BIOTA



Image: *P. pluvialis* cast Hawke's Bay Oct 2022. Photo Brent Rogan, SPS Biota

Over the course of the past couple of decades there have been periodic episodal needlecast events attributed to both *Phytophthora kernoviae* and *P. pluvialis.*

Last season we saw occasional outbreaks over the country and arguably the most significant ones were in the top of the South Island and pockets of the southern third of the South Island.

The wet and mild autumn is thought to have contributed to one of the biggest, if not the biggest, distributions of *Phytophthora* needlecast to date. This has affected forests large and small, woodlots, shelterbelts and individual trees. Unfortunately, remoteness from other plantations doesn't appear to



Image: Light *P. pluvialis* cast of Douglas-fir in a remote high-altitude area of South Canterbury. Late Nov 2022. Photo Brent Rogan, SPS Biota

offer any protection on mainland New Zealand. In some areas, including the top of the South Island, this is the second year in a row where *Phytophthora* has been observed. And in some areas, pines recovering from *Phytophthora* cast seem to be becoming infected by *Dothistroma septosporum*. This may lead to some areas being inadvertently treated for *Dothistroma* when the underlying cause of the problem is not *Dothistroma*.

During routine Forest Biosecurity Surveillance in two separate Nelson forests this season, some larch was noted to have sickly casting foliage. Overseas these types of symptoms in larch have been associated with *Phytophthora ramorum* or sudden oak death. As this organism is not present in



Image: *Pseudocoremia* caterpillars and associated damage. Dry site in coastal Hawke's Bay. Photo Brent Rogan, SPS Biota

New Zealand precautionary samples were taken. Fortunately, *P. ramorum* was ruled out, however, *Phytophthora pluvialis* was isolated. This is the first time that this *Phytophthora* has been found affecting larch.

As we start getting closer to summer there is often an increase in the populations and consequential damage inflicted by our native looper caterpillars. If wet weather continues it's unlikely that populations will escalate into anything significant. Regardless, in some drier areas of New Zealand, particularly coastal or on ridges, we are starting to see low levels of damage caused by loopers.

RESEARCH AND DEVELOPMENT

B3 - Better Border Biosecurity

BY KIM THOMAS (B3 PROGRAMME COMMUNICATIONS SUPPORT)

The Forest Owners Association is a long-standing partner in the Better Border Biosecurity (B3) research collaboration.

B3 brings together science organisations such as Crown Research Institutes and universities with government, end-users and industry groups such as the Forest Owners Association, Horticulture NZ and Federated Farmers. B3 undertakes strategic research that underpins government and industry operational activities and targets organisms and techniques that will impact multiple sectors.

B3 recently won the Biosecurity NZ Science Award 2022 for more than 15 years of mahi providing science to protect Aotearoa's plants. <u>Read about the award-winning work</u>.

This year, B3 invested \$4 million dollars in funding for new border biosecurity-related science projects. Two of these projects are being led by Scion scientists and employ new and rapidly evolving technologies. Molecular entomologist Dr Andrew Cridge leads a project analysing environmental DNA (eDNA) captured from the air for the potential identification of invasive weeds, pathogens and insects. Forest pathologist Darryl Herron leads a new project to advance environmental RNA (eRNA) sequencing techniques for the rapid identification of live, soil-borne plant pathogens. <u>Read more about these</u> <u>new projects.</u>



Image: Dr Andrew Cridge, Molecular Entomologist, Scion

B3 Science Solutions for Better Border Biosecurity AOTEAROA NEW ZEALAND



Image: Dr Darryl Herron, Forest Pathologist, Scion



Image: B3 representatives (including the B3 Collaborative Council Chair, Co-Directors, Scientists and partners) receiving the Biosecurity NZ Science Award 2022 at the annual award dinner in Auckland

FEATURE

FEATURE

Protecting Our Future - Biosecurity at the Fieldays® Forestry Hub

BY BRENDAN GOULD, BIOSECURITY MANAGER, FOA

This year we had the opportunity to have a forest biosecurity presence at the Mystery Creek Fieldays as part of the Forestry Hub.

This was the first time that the forestry sector has had a dedicated and significant forestry presence at Fieldays.

Under the theme **Wood – our low carbon future**, the hub was a collaboration between Fieldays and an advisory group comprising Te Uru Rākau – New Zealand Forest Service, Forest Growers Levy Trust, Scion, NZ Forest Owners Association, Red Stag, NZ Farm Forestry Association and Future Foresters.

Image: The Forestry Hub at Fieldays 2022



Our message at Fieldays

Protecting Our Future – biosecurity represents a critical risk to the forestry sector and as such is a priority area.

Our enviable biosecurity status and reputation enables our wood products to access a range of international markets and allows us to grow our trees in an environment that is relatively free of many of the major trade and production pests and pathogens seen in other countries. We want to keep it that way.

An incursion of a major biosecurity threat could impact on the health of our trees, cause the immediate loss of access to some of our major trading partners, result in restrictions being placed on forestry operations, increase the costs of operations and production and result in the increased use of chemical treatments.

How early we detect an issue and then how effectively and efficiently we respond to an incursion will have a huge bearing on whether the incursion can be contained or eradicated quickly and cost effectively. It will also determine how quickly our markets reopen. We had three key messages that we wanted to portray at Fieldays:

- the importance that the forestry sector places on biosecurity, and the effective functioning of the biosecurity system
- 2. the importance of working collaboratively and in partnership, and the extent of effort, expertise, professionalism, and collaboration of those working to protect our forests from biosecurity risks
- biosecurity is everyone's responsibility, and everyone has a role to play to protect what we value from biosecurity risks.

A major attraction was the amazing biosecurity and biodiversity insect display and collection. The stand and display were designed and built by Anderson Design Ltd with funding from the FGLT, and the insect display was designed and populated by Carl Wardhaugh using insects from Scion's National Forestry Insect Collection, with co-funding from FGLT and Scion. Our enviable biosecurity status and reputation enables our wood products to access a range of international markets.

The insect display was very effective at drawing people into the Biosecurity, Biodiversity and Find-A-Pest stands where we could promote our key messages

Find-A-Pest was also an integral part of the biosecurity display and was effectively promoted as a free channel for reporting potential pests, pathogens, and weeds.

Having a biosecurity presence as part of the Forestry Hub provided a great opportunity to promote the importance of biosecurity in protecting the future of our forests. We were able to talk to a wide range of interested visitors. The 'find-thepest' hunt was a hit with the kids, while also giving us more time to engage with their parents.



Image: The Biosecurity and Biodiversity stands with the double-sided insect collection created and curated by Carl Wardhaugh, Scion, using insects from Scion's National Forestry Insect Collection



Image: Carl Wardhaugh after setting up the biosecurity and biodiversity insect display



Image: Find-A-Pest was a key part of the Forest Biosecurity and Biodiversity display in the Forestry Hub

IUFRO - Forest Health Pathology and Entomology Conference

BY BRENDAN GOULD, BIOSECURITY MANAGER, FOA

In September, I was very fortunate to attend the International Union of Forest Research Organisations (IUFRO) Division 7 Forest Health, Pathology and Entomology Conference in Lisbon.

IUFRO is an international network of forest scientists which promotes global cooperation in forest-related research and enhances the understanding of the ecological, economic and social aspects of forests and trees (<u>https://www.iufro.org/</u>).

The conference covered a broad range of forest health and biosecurity issues from across the globe, but with a strong focus on issues in Europe, especially Portugal, many of which we don't want to arrive in New Zealand. This was a hugely valuable conference for me not only because of the content but also because of the connections that I made with scientists, officials, and industry representatives from across the world.

New Zealand is relatively free of many of the worst biosecurity issues facing plantation forestry globally, so understanding their behaviours and impacts offshore and having the ability to tap into the experience, knowledge and expertise developed in response to problems is vital for NZ getting better prepared.

New Zealand was well represented at the conference (see top image).

There is no way that I can do justice to all that I learned, but a few takeaways are highlighted below:

 Green Deal (EU) aims to reduce pesticide use by 50% by 2030. This may see an increase in pheromone/sociochemical use, environmental management strategies and potentially opposition to pesticide and herbicide use (https:// commission.europa.eu/strategy-and-



Image: New Zealand IUFRO conference attendees, Nicolas Meurisse (Scion), James McCarthy (Manaaki Whenua – Landcare Research), Brendan Gould (FOA), Beccy Ganley (Plant & Food Research), Stuart Fraser (Scion) and Alby Marsh (Plant & Food Research)

policy/priorities-2019-2024/europeangreen-deal_en).

- Societal opposition to pest management (particularly chemical use) is an issue faced globally and opposition is increasing.
- Pine processionary moth is having major impacts in Europe (they have a range of lure-based monitoring and trapping programmes).
- Lecanosticta acicola has been around for a while but is an emerging issue that is having an increasing impact on plantation forestry and radiata pine. New strains and species of *Lecanosticta* are emerging and impacting on conifers in South America.
- The top three insect related biosecurity issues causing tree mortality in the US are Dutch elm disease, emerald ash borer and beech bark disease.
- Wood packaging appears to be emerging as a potential risk pathway for both beetles and pathogens (due to fraud and treatment failure).
- There is an increasing misconception that most invasive species are linked to climate change as a key driver when in fact anthropogenic pathways are the key driver.
- Ambrosia and bark beetles remain



Image: Some conference participants inspecting a rotting pine tree looking for insects while on a field trip to Mata de Valverde, a National Forest with cork oak, umbrella pine and Eucalyptus

a persistent and increasing biosecurity threat internationally and NZ should consider developing and implementing a national surveillance/ trapping programme

- eDNA is an increasingly valuable tool for early detection of pests and potentially pathogens.
- RNAi has been promoted as a potential game changer in pest and pathogen control. However, while it has enormous potential the science appears to be someway off.
- Dr Mike Wingfield, a world-renowned forest health specialist, made a comment in his plenary speech that in his view the future of plantation forestry is good, and that while pests and disease were a significant threat, GM (genetic modification) technology had the potential to overcome many of these. In contrast he saw native forests and biodiversity as being at greatest risk as there is little that can be done once something invades and starts to impact on these.
- A substantial portion of recent invasions were new or emerging issues which raised questions about the value of having and working to prioritised pest lists.

Biosecurity Governance for our board tables

Everyone has a role to play in the biosecurity system, including senior business leaders.

The Biosecurity Business Pledge (https:// www.thisisus.nz/biosecurity-business/ biosecurity-business-pledge) has recently published the CEO Guide to Managing Biosecurity Risk and Biosecurity Considerations for Boards. These guidelines are designed to support businesses in taking top-down leadership through the development of high-level biosecurity risk plans that can be tailored for individual companies. These guidelines are valuable tools that will help guide efforts to protect your businesses from biosecurity threats.





Read here

Read here

FOREST BIOSECURITY UPDATES

Upcoming Forest Health or Biosecurity conferences

4th International Congress on Biological Invasions

The International Congress on Biological Invasions (ICBI) is being held in Christchurch from 1-4 May 2023.

ICBI has a broad scope and will include talks by leading international and NZ scientists on the latest research on the management of invasive plants, vertebrates, invertebrates, and pathogens in terrestrial, marine and freshwater environments and primary industries.

Key conference themes include:

Strengthening biosecurity across
 the Pacific

- Adapting to climate change
- Harnessing indigenous knowledge
- Building social partnerships
- Innovation across the biosecurity continuum
- Economic and environmental impact of invasive species
- The ecology and evolution of invaders, and
- Emerging biosecurity threats / issues

This will be the first time that ICBI has been held in Australasia.

You can read more about the conference and register on the conference website – icbi2023.

FOREST BIOSECURITY UPDATES

IUFRO - Second WP 7.02.13 Meeting: Novel and classical strategies to manage forest health in plantations

WP 7.02.13 Forest Health in Southern Hemisphere Commercial Plantations was established during the IUFRO World Congress in 2014 and the Working Group will hold its second meeting in 2023.

They aim to improve the management of forest health issues through increased international contact and collaboration.

The working group focuses on forest health issues that affect commercial forest plantations in the Southern Hemisphere, mainly on eucalypts, pines, and acacia. However, researchers who work with forest health in similar plantations in the Northern Hemisphere are encouraged to join and share their results and contributions.

The meeting is being held from the 17th – 20th September 2023, in Campo Grande, Mato Grosso do Sul, Brazil.

The meeting will cover the following topics:

Pest and disease monitoring techniques
 and systems

- Biosecurity and invasive pests
- Status of pests and diseases in plantations worldwide
- Pest and disease management, with focus on biocontrol and new technologies
- Forest health management and climate change

To find out more – <u>https://www.iufro.</u> org/fileadmin/material/science/ divisions/div7/70213/mattogrosso23-1stannouncement.pdf

Other news/resources

Biosecurity Business Pledge

https://www.thisisus.nz/biosecuritybusiness/biosecurity-business-pledge/

Scion's Forest Health fact sheets

https://www.scionresearch.com/science/ managing-forestry-risk-and-climatechange/protecting-our-forests-from-pestsand-diseases/Biosecurity-factsheets

Forest Health News

https://www.scionresearch.com/services/ science-publications/forest-health-news

Biosecurity New Zealand

- Surveillance quarterly <u>https://www.mpi.</u> govt.nz/biosecurity/about-biosecurityin-new-zealand/surveillance-biosecuritymagazine/
- The BorderSpace <u>Dec 2022 Issue</u>
- Vessel Biosecurity Quarterly <u>Vessel</u> Biosecurity Quarterly – Nov 2022 – Issue 4

Previous editions of Forest Biosecurity News can be found here:

https://www.nzfoa.org.nz/resources/filelibraries-resources/forest-health/pinenet

SPS Biota – Forest Biosecurity Online training hub

https://spsbiota.co.nz/pages/elearning-hub

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