



**BCA Workshop** The Biological Control workshop was held on 21-22<sup>nd</sup> July in Yogyakarta. The workshop explored the myths and realities of biological control in forestry and how to critically evaluate success or failure in hardwood plantations in SE Asia.

Forty-five participants attended from all over SE Asia and Fiji, with a notable 40% of female participants. In addition to the two keynote speakers, from Switzerland and Australia, 14 presenters came from Indonesia, Vietnam, Fiji, Thailand and Australia. All workshop participants had the opportunity to contribute.

Funding was provided by ACIAR <http://aciar.gov.au> (project FST 2014/068). Extra funding from The Crawford Fund <https://www.crawfordfund.org> enabled us to support extra participants from SE Asia and Fiji.

The workshop programme and pdfs of presentations are available through the project website <http://www.forestryhealth.org>



**The next Workshop will be held in July 2018, in Sumatra. The topic of this year's workshop is;**

### Remote Sensing for Forest Health

A visit by Dr Christine Stone (NSW DPI) in August 2016 started the planning process for a case study to be presented at the workshop. Christine gave a seminar on remote sensing in forestry to staff at Arara, MHP and RAPP, followed by discussions with operational staff on their current use of remote sensing and what they aspire to. Two sites have been selected for the case study. The first is an *A. mangium* compartment at which we have a biological control experiment. The second is a *Eucalyptus* compartment. A workshop flier will be distributed soon.



**Remote sensing case study.** In September 2017 Chris Beadle and Colin McCoull travelled to Indonesia to acquire imagery from drone flights over the two selected compartments. Ground-truthing was carried out by teams from RAPP and Arara, with assistance from CFBTI staff and Morag Glen.



A Phantom 4 Pro was used to acquire most of the images, with additional images taken from a Phantom 3. An accurate digital elevation model will be critical to the success of the case study. For the *Eucalyptus* site, this can be derived from the drone imagery as the ground is visible between the trees. It is proving more difficult at the *Acacia* site where the trees have reached canopy closure, so there is much less visible ground.



First flight of the Phantom 4 Pro

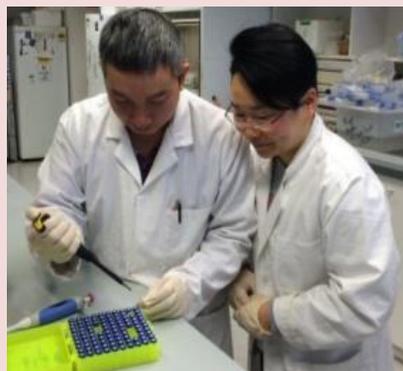


### Heru Indrayadi

Has been offered a John Allwright Fellowship from ACIAR to complete a PhD at the University of Tasmania. Heru is currently in Bali for an English course and to learn a bit about Australian culture before commencing his studies in January 2019. While in Bali, he continues to supervise ACIAR experiments ongoing in Sumatra.

Heru's proposed study will use molecular tools to obtain;

- A clearer understanding of the host range of Indonesian populations of *Ceratocystis fimbriata*
- A knowledge of host responses that result in resistance or tolerance will lead to development of tools for early and rapid selection of resistant or tolerant breeding material or clones without the laborious inoculation screening processes



### Trang Tran Thanh

Trang has had two journal papers accepted for publication and has one other under review

Back in Vietnam, Trang is working as an administration officer with VAFS, after submitting his PhD thesis.



### Aswardi Nasution

Aswardi's Master's degree was upgraded to a PhD in late 2017 after RAPP agreed to the extra leave and ACIAR to the extra scholarship. Aswardi has completed his field work but has some laboratory work to complete. His focus will be on writing for publications and thesis.

Also a big congratulations to Reni and Aswardi on their recent marriage, don't they make a lovely picture!





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#### Register

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Username

E-mail

Registration confirmation will be e-mailed to you.

Register

### Recent Publications

**Hardie M**, Akhmad N, Mohammed C, Mendham D, Corkrey R, Gafur A, Siregar S, Role of site in the mortality and production of *Acacia mangium* plantations in Indonesia, Southern Forests pp. 1-14.

<https://doi.org/10.2989/20702620.2016.1274857> (2017)

**Stone C**, Mohammed CL, Application of remote sensing technologies for assessing planted forests damaged by insect pests and fungal pathogens: a review, Current Forestry Reports, 3 (2) pp. 75-92. (2017)

**Trang T**, Eyles A, Davies N, Glen M, Ratkowsky D, Mohammed, C. Screening for host responses in *Acacia* to a canker and wilt pathogen, *Ceratocystis manginecans*. Forest Pathology (Accepted)

**Trang T**, Glen M, Beadle C, Ratkowsky D, Mohammed, C. Wood-rotting basidiomycetes are a minor component of fungal communities associated with *Acacia* hybrid trees grown for sawlogs in South Vietnam Forest Pathology (submitted)

**Page, DE**, Glen M, Ratkowsky, DA, Beadle, CL, Rimbawanto A, Mohammed CL *Ganoderma* basidiospore germination responses as affected by spore density, temperature and nutrient media. Tropical Plant Pathology 42(5) pp. 328-338. (2017)

**Page, DE**, Glen M, Puspitasari D, Rimbawanto A, Ratkowsky D, Mohammed CL Sexuality and mating types of *Ganoderma philippii*, *Ganoderma mastoporum* and *Ganoderma australe*, the basidiomycete fungi associated with root-rot disease in south-east Asian pulpwood plantations. Australasian Plant Pathology (submitted)

### Project Mid Term Review and Report

23<sup>rd</sup> of July 2017, conducted by Carl Menke and Tony Bartlett

*Overall findings of the mid-term review* (excerpt taken from the report)

Following on from the project's two day '*Biological control of plant disease workshop*', the mid-term review was well organized and had strong representation from both private and public stakeholders from Vietnam and Indonesia.

Overall, ACIAR is satisfied with the progress that the project partners (particularly objectives 1 and 3) have made to date and the way that the partners are collaborating across different research streams and in two countries. Objective 2 needs further development.

It is important that the project finds the necessary entomological expert skilled in taxonomy for understanding the insect vectors of the pathogens in activity 2.1.1 as literature is not readily available on the identification of Indonesian insect species.