

Supported by:



MINISTRY OF ENVIRONMENT AND FORESTRY
RESEARCH DEVELOPMENT AND INNOVATION AGENCY
CENTRE FOR FOREST BIOTECHNOLOGY AND TREE IMPROVEMENT RESEARCH

CERTIFICATE

AWARDED TO

Suwandi

As a Presenter

Workshop CERATOCYSTIS
in tropical hardwood plantations

February, 15 - 18 2016 | Yogyakarta - Indonesia

Assoc. Prof. Caroline Mohammed

Assoc. Prof. Caroline Mohammed

University of Tasmania



Dr. Mahfudz, M

CFBTI, Director



**KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS SRIWIJAYA
LEMBAGA PENELITIAN**

Jalan Palembang-Prabumulih, KM 32 Inderalaya Kabupaten Ogan Ilir 30662

Telepon (0711) 581077, Faksimile (0711) 580053

Laman www.lemnit.unsri.ac.id

**SURAT TUGAS
Nomor : 198/UN9.3.1/LT/2016**

Sehubungan dengan Surat Ketua Peneliti Penelitian Desentralisasi skema penelitian Unggulan Perguruan Tinggi Lembaga Penelitian Universitas Sriwijaya Kementerian Riset Teknologi dan Pendidikan Tinggi RI tanggal 9 Februari 2016 Perihal: Permohonan Surat Tugas SPPD, dengan ini Ketua Lembaga Penelitian Universitas Sriwijaya menugaskan:

No	Nama	NIP	Pangkat/Golongan/jabatan Fungsional	Unit Kerja
1	Dr. Ir. Chandra Irsan, M.Si	19650219 198903 1 004	Penata TK.I, Golongan III/d Lektor Kepala	Fakultas Pertanian Unsri
2	Dr. Ir. Suwandi, M. Agr	19681111 199302 1 001	Pembina, Golongan IV/a Lektor Kepala	Fakultas Pertanian Unsri

Untuk melakukan diseminasi hasil penelitian melalui **International Workshop on "Ceratocystis in Tropical Hardwood Plantations"** dengan judul makalah **"Ceratocystis wilt of Lansium tree: New Disease and Threat to Duku Fruit Production in Indonesia"** yang akan dilaksanakan pada:

Hari : Senin s.d Kamis
Tanggal : 15 s.d 18 Februari 2016
Tempat : Yogyakarta

Demikianlah, agar tugas ini dilaksanakan dengan penuh tanggungjawab.

DIKELUARKAN DI INDERALAYA
PADA TANGGAL 10 FEBRUARI 2016



PROF.DR.IR.H.M.SAID, M.Sc.
NIP. 19610812 198703 1 003

Tembusan:

1. Rektor (sebagai laporan)
2. Wakil Rektor I
3. Dekan Fakultas Pertanian Universitas Sriwijaya



**MINISTRY OF ENVIRONMENT AND FORESTRY
RESEARCH DEVELOPMENT AND INNOVATION AGENCY
CENTER FOR FOREST BIOTECHNOLOGY AND TREE IMPROVEMENT RESEARCH**

Jln. Palagan Tentara Pelajar Km. 15 Purwobinangun, Pakem, Sleman, Yogyakarta 55582, INDONESIA. Phone. +62274 895954, +62274 896080.
Fac. +62274 896080. Email: breeding@biotifor.or.id. Website: www.biotifor.or.id

Date : 3 February 2016
Our ref: S. 0146/XIII/BBPBPTH-1/2016
Encl. : 2nd Announcement of International Workshop

Re: Invitation to present a talk at the International Workshop on “*Ceratocystis* in tropical hardwood plantations” 15-19th February 2016

Dr. Suwandi
Sriwijaya University

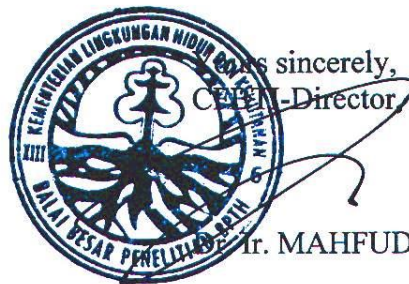
Dear Dr. Suwandi

The Center for Forest Biotechnology and Tree Improvement Research (CFBTI), with support from the Australian Centre for International Agricultural Research (ACIAR) will hold an International Workshop on “*Ceratocystis* in tropical hardwood plantations” on 14-19th February 2016 in Yogyakarta and Riau. The workshop will review the current state of knowledge about *Ceratocystis* diseases in forest trees with a special focus on tropical hardwood plantations.

It is my pleasure on behalf of the Organizing Committee to formally invite you to be one of the presenters at the above international event, in the subject of “*Ceratocystis* wilt of Lansium tree: New Disease and Threat to Duku Fruit Production in Indonesia”.

Please find the enclosing attachment of the seminar’s second announcement additionally to allow you highlight the general information, and perhaps to look into your schedule accordingly.

We are looking forward to hearing from you soon, and thank you in advance for your kind attention and cooperation.



Ir. MAHFUDZ, MP



MINISTRY OF ENVIRONMENT AND FORESTRY
RESEARCH, DEVELOPMENT AND INNOVATION AGENCY
**CENTRE FOR FOREST BIOTECHNOLOGY
AND TREE IMPROVEMENT RESEARCH**

Guidelines & Abstracts

Workshop **CERATOCYSTIS** in tropical hardwood plantations Yogyakarta - Indonesia

February
15 - 18
2016

Supported by:



APP



RAPP



Gadjah Mada
University



PT. BUKIT BUKIT PERAKA



Ministry of
Environment & Forestry



**University of the
Sunshine Coast**
Queensland, Australia



Australian Government
Australian Centre for
International Agricultural Research





WORKSHOP *CERATOCYSTIS* IN TROPICAL HARDWOOD PLANTATIONS Yogyakarta – Riau, February 15th – 18th 2016

PREFACE

Plantation forests of Australian hardwood species in South-East Asia now exceed 7M ha. The viability of these plantations is increasingly threatened by diseases and pests.

Ceratocystis is considered an extreme threat, causing mortality of up to 20% in *Acacia* plantations in Vietnam and, combined with *Ganoderma* root rot has reduced productivity on infected sites by 15 m³/ha/year. Effective disease management is critical to the economic viability of plantations in SE Asia. Switching from acacia to eucalypt is not a universal solution because eucalypts have their own pest and disease challenges and site type limitations and require higher levels of management inputs (vegetation management and fertilizer application) to achieve satisfactory growth rates than do acacias. The workshop will review the current state of knowledge about *Ceratocystis* diseases in forest trees with a special focus on tropical hardwood plantations.

The aim of this workshop is to update the status of *Ceratocystis* disease in hardwood plantation in SE Asia, and link the management strategies between interested events/parties. This will be achieved by addressing the following main topics :

- Disease Impact
- Taxonomy
- Host-pathogen Interaction



WORKSHOP CERATOCYSTIS IN TROPICAL HARDWOOD PLANTATIONS

Yogyakarta – Riau, February 15th – 18th 2016

- Host Resistance
- Dissemination and Biosecurity
- Silvicultural Management

Speakers at the workshop consist of 2 keynote speakers from Brazil and South Africa, and 21 presenters from Australia, Indonesia, Malaysia, United States of America and Vietnam.

We wish to acknowledge all our invited speakers, presenters, and all participants for contributing to this workshop. We also thank the Australian Centre for International Agricultural Research (ACIAR), University of Tasmania, the Centre for Forest Biotechnology and Tree Improvement (CFBTI), the Vietnamese Academy of Forest Sciences (VAFS), the University of the Sunshine Coast, the University of Gadjah Mada (UGM), Riau Andalan Pulp and Paper (PT. RAPP-RGE), PT. Arara Abadi-Sinarman Forestry, PT. Musi Hutan Persada (MHP) and the International Union of Forest Research Organisations (IUFRO) for their support.



WORKSHOP CERATOCYSTIS IN TROPICAL HARDWOOD PLANTATIONS

Yogyakarta – Riau, February 15th – 18th 2016

TENTATIVE PROGRAM

DAY 1	MONDAY, 15 February 2016
11.00 – 12.45	Registration and Lunch
12.45 – 13.05	Dr. Henry Bastaman (Director-General of FOERDIA) Opening address
Session 1	: Disease Impact (part 1), chaired by Dr. Anto Rimbawanto
13.05 – 13.20	Dr. Irsyal Yasman (APHI) 'The challenges of developing plantation forest in Indonesia'
13.20 – 13.30	Assoc. Prof. Caroline Mohammed (University of Tasmania, and CSIRO) Background to ACIAR Project
13.30 – 14.20	Keynote Speaker Prof. Acelino Couto Alfenas (Universidade Federal de Viçosa) 'Impacts and control of <i>Ceratocystis</i> wilt caused by <i>Ceratocystis fimbriata</i> on different crops in Brazil'
14.20 – 14.40	Dr. Suwandi (Sriwijaya University) ' <i>Ceratocystis</i> wilt of Lansium tree: New disease and threat to Duku fruit production in Indonesia'
14.40 – 15.00	Rahman Gilang Pratama (Gadjah Mada University) 'Spatial and temporal distribution of stem-canker diseases on <i>Acacia decurrens</i> at Gunung Merapi National Park, Yogyakarta, Indonesia'
15.00 – 15.15	Afternoon tea
Session 2	: Silvicultural Management, chaired by Dr. Abdul



WORKSHOP CERATOCYSTIS IN TROPICAL HARDWOOD PLANTATIONS Yogyakarta – Riau, February 15th – 18th 2016

Gafur

15.15 – 15.35	Dr. Chris Beadle (CSIRO) 'Silviculture of <i>Acacia</i> species'
15.35 – 15.50	Dr. Tran Lam Dong (VAFS) 'Dealing with diseases from a silvicultural perspective in Vietnam'
15.50 – 16.10	Discussion
Session 3	Taxonomy, chaired by Dr. Morag Glen
16.10 – 17.10	Keynote Speaker Dr. Irene Barnes (University of Pretoria) ' <i>Ceratocystis manginecans</i> causing <i>Acacia mangium</i> canker and wilt: taxonomy, biology and population genetics'
17.10 – 17.30	Discussion
17.30	Close
18.30	Workshop dinner at Bale Raos

DAY 2 TUESDAY, 16 February 2016

Session 4	Disease Impact (part 2), chaired by Prof. Pham Quang Thu
08.30 – 09.15	J.B. Friday, Lisa Keith, Flint Hughes and Phil Cannon (USDA Forest Service) ' <i>Ceratocystis</i> wilt of 'Ōhi'a (Rapid 'Ōhi'a Death): A new disease in Hawai'i (by skype)'
Session 5	Host-pathogen Interactions, chaired by Prof. Pham Quang Thu
09.15 – 09.35	To be advised.
09.35 – 09.50	Dr. Trang Tran Thanh (VAFS) 'Chemical responses to <i>Ceratocystis</i> in <i>Acacia</i> ' (by



WORKSHOP CERATOCYSTIS IN TROPICAL HARDWOOD PLANTATIONS Yogyakarta – Riau, February 15th – 18th 2016

skype)

Session 6	Resistance, chaired by Dr. Chris Beadle
09.50 – 10.10	Dr. Chris Harwood (CSIRO) 'The background to <i>Acacia</i> genetics and breeding' (by skype)
10.10 – 10.30	Dr. Jeremy Brawnner (University of the Sunshine Coast) 'Evaluating <i>Ceratocystis acaciivora</i> symptom expression in <i>Acacia mangium</i> breeding populations and clonal seed orchards'
10.30 – 11.00	Morning tea
11.00 – 11.20	Dr. Arif Nirsatmanto (CFBTI) 'Screening trials to develop <i>Ceratocystis</i> resistant breeds of <i>Acacia</i> in Indonesia: Summarizing the research plan'
11.20 – 11.40	Prof. Wickneswari Ratnam (Universiti Kebangsaan Malaysia) 'SNP diversity and implications for disease resistance breeding in <i>Acacia mangium</i> and <i>Acacia auriculiformis</i> '
11.40 – 12.00	Dr. Abdul Gafur (RAPP) 'Other <i>Acacia</i> species as a source of resistance to <i>Ceratocystis</i> '
12.00 – 12.20	Aswardi Nasution (RAPP and University of Tasmania) 'Developing a rapid screening protocol for resistance to <i>Ceratocystis</i> '
12.20 – 12.40	Riassalma Rizkatiwi (Gadjah Mada University)



WORKSHOP CERATOCYSTIS IN TROPICAL HARDWOOD PLANTATIONS

Yogyakarta – Riau, February 15th – 18th 2016

	'Initial response of some <i>Acacia mangium</i> provenances to <i>Ceratocystis</i> sp. in the nursery and field'
12.40 – 13.00	Discussion
13.00 – 14.00	Lunch
Session 7	: Dissemination and Biosecurity, chaired by Assoc. Prof. Caroline Mohammed
14.00 – 14.20	Prof. Pham Quang Thu (VAFS) ' <i>Ceratocystis</i> wilt - a serious threat to <i>Acacia</i> plantations in Vietnam'
14.20 – 14.40	Dr. Abdul Gafur (RAPP) Field Trip Introduction
14.40 – 15.00	Dr. Meitini Wahyuni Proborini (Udayana University) ' <i>Ceratocystis</i> as a fungal parasite on wooden statues'
15.00 – 15.20	Discussion
15.20 – 15.50	Afternoon tea
Session 8	: Other Potential Management Strategies, chaired by Dr. Istiana Prihatini
15.50 – 16.10	Dr. Budi Tjahjono (Arara Abadi, Sinarmas Forestry) ' <i>Ceratocystis</i> disease incidence in <i>Acacia</i> plantation of Sinarmas Forestry and its management'
16.10 – 16.20	Aswardi Nasution (RAPP and University of Tasmania) 'Endophytic bacteria as potential biological control agents'
16.20 – 16.40	To be advised.



WORKSHOP CERATOCYSTIS IN TROPICAL HARDWOOD PLANTATIONS

Yogyakarta – Riau, February 15th – 18th 2016

16.40 – 17.00	Discussion
Session 9	: Eucalyptus Rust Workshop, chaired by Dr. Budi Tjahjono
17.00 – 18.00	Prof. Acelino Couto Alfenas (Universidade Federal de Viçosa) Presentation by followed by general discussion
18.00	Workshop close
20.00	ACIAR FST 2014-068 Project meeting, chaired by Assoc. Prof. Caroline Mohammed
DAY 3	WEDNESDAY, 17 February 2016
Session	: Field Trip to Riau
	Meeting point at Adisutjipto airport Yogyakarta
10.30 – 12.30	Flight to Pekanbaru
12.30	Arrival at the SSQ II airport – Pekanbaru
12.30 – 13.30	Lunch
13.30 – 15.00	Travel to RAPP Complex
15.00 – 16.00	Unigraha Hotel check in
16.00 – 17.30	RGE Technology Center tour
19.00	Dinner at Unigraha Hotel
DAY 4	THURSDAY, 18 February 2016
06.00 – 07.00	Breakfast at Unigraha Hotel
07.00 – 10.30	Travel to trial sites in Baserah from Unigraha Hotel
10.30 – 12.00	Visit to trial site 1 and site 2 'Level of <i>Ceratocystis</i> natural infection in some <i>Acacia mangium</i> materials'
12.00 – 13.00	Lunch in Baserah
13.00 – 14.00	Travel to trial site in Teso
14.00 – 15.00	Trial visit



WORKSHOP
CERATOCYSTIS IN TROPICAL
HARDWOOD PLANTATIONS
 Yogyakarta – Riau, February 15th – 18th 2016

Chandra Irsan, **Suwandi**, Khoirotun D. Asriyani, Abu
 Umayah, and H. Hamidson
*Laboratory of Plant Pathology, Faculty of Agriculture, Sriwijaya
 University*

Abstract

Defoliation, dieback and massive mortality of Lansium tree (*Lansium domesticum* Corr.) in Ogan Komering Ulu (OKU) Regency, South Sumatera Province was first noticed in 2014 and caused substantial economic losses to duku fruit production. The disease prevailed along Ogan riverside on the trees after being scratched by a squirrel. A *Ceratocystis* species was consistently recovered from the infected branches, stem and taproot. Koch's postulates were fulfilled by inoculating the mycelial plug of fungus onto the stem and braches of Lansium tree. The morphology of teleomorph and anamorph were similar to that of *C. acaciivora*. Blast searches of *ITS* and *TUB* region in GenBank indicated that isolates are grouped within the *C. fimbriata sensu lato* species complex.

**SPATIAL-TEMPORAL DISTRIBUTION OF STEM
 CANKERS DISEASES ON *Acacia decurrens* AT**



WORKSHOP
CERATOCYSTIS IN TROPICAL
HARDWOOD PLANTATIONS
 Yogyakarta – Riau, February 15th – 18th 2016

**GUNUNG MERAPI NATIONAL PARK,
 YOGYAKARTA, INDONESIA**

Sri Rahayu, Rahman Gilang Pratama, Muhammad Ali Imron,
 Musyafa, Dwi Tyaningsih Adriyanti
Faculty of Forestry, Universitas Gadjah Mada, Yogyakarta, Indonesia

Abstract

The aims of the research are 1) To evaluate the change of incidence and intensity of stem rot symptoms and 2) To recognize the spatial-temporal distribution pattern of stem rot symptom at Gunung Merapi National Park. The systematic sampling were used to collect data. Line plot made with 175 m² and consisted of three sub plot with each size 25 m². First plot was determined by the distance 10 m from the edge of boundary area. The distance between sub plot was also 10 m, while the distance between plot was 20 m. Data were collected once in two months from February to August 2014, then the data collection were : wounds number on the stem and presence or absence of sap on the wound, which observed at lower stem (0-1/3 as), middle stem (>1/3-2/3), upper stem (2/3-3/3); the distance of each tree were asymptomatic with symptomatic trees nearby and initial inoculum; and monthly secondary climate data from *Badan Meteorologi Klimatologi dan Geofisika* (BMKG),