

**PROGRAM BOOK AND ABSTRACTS**

*Sipani*  
III.B.a.1 (2)

III.B.a.1 (3)

III.B.a.1 (4)

# **International Symposium on Medicinal Plant and Traditional Medicine**



## **Indonesian Traditional Medicine for Human Welfare**

Tawangmangu, June 4<sup>th</sup> - 6<sup>th</sup> 2014

Jointly organized by



## PREFACE

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Dear Colleagues,

On behalf of the organizing committee, we would like to express our great honor and pleasure for your attendance and your active participation on "International Symposium of Medicinal Plant and Traditional Medicine for Human Welfare" held in Tawangmangu, June, 4-6<sup>th</sup>, 2014, organized by Medicinal Plant and Traditional Medicine Research and Development Center (MPTMRDC), National Institute of Health Research and Development, Ministry of Health Republic of Indonesia collaborating with National Working Group of Indonesia Medicinal Plant.

We were honored to have eight keynote speakers both from Indonesia and overseas who are playing a leading role in the frontline of each research field. In this symposium, we particularly focused on medicinal plant and traditional medicine with *Litsea cubeba* and *Equisetum debile* as specific topics. It was a great success to provide the excellent opportunity to discuss how medicinal plant and traditional medicine contributes for human welfare. All accepted articles will be published in the proceeding of symposium after reviewed by competent reviewers.

Ministry of Health, Republic of Indonesia through "Saintifikasi Jamu" program aimed to provide scientific evidence based of Jamu efficacy and safety for utilization in health services. In order to support that program, research and development of medicinal plant and traditional medicinal especially Jamu, from upstream to downstream by collaboration among research institutes, universities and all stakeholders absolutely needed. In this symposium, the distinguished invited speakers will present their latest findings regarding the symposium theme, and we hope that the participants will enthusiastically discuss the newly raised research and clinical questions with the leading experts.

We hope you will have an excellent opportunity to acquire advanced knowledge and information of medicinal plant and traditional medicine and to strengthen mutual friendship during the symposium.

Sincerely yours,

Organizing Committee

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**WELCOME REMARKS  
BY SECRETARY GENERAL  
NATIONAL WORKING GROUP OF INDONESIAN MEDICINAL PLANTS  
at the 46<sup>th</sup> International Symposium on Indonesia Medicinal Plant,  
June 4<sup>th</sup> – 6<sup>th</sup> 2014, Tawangmangu, Central Java, Indonesia**

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Your Excellency Minister of Health of the Republic of Indonesia, Ibu Nafsiah Mboi  
Your Excellency Minister of State Owned Enterprises Republic of Indonesia, Bapak Dahlan Iskan  
Distinguished Governor of Central Java or his Representative  
Distinguished WHO Representative to Indonesia  
Distinguished Director General National Institute of Health Research and Development, MOH,  
Distinguished Director General National Institute of Agriculture Research and Development, MOA  
Distinguished The Regent of Karanganyar District,  
Distinguished the Steering Board of the National Taskforce of Indonesia Medicinal Plant  
Distinguished Speakers,  
Distinguished Participants, Guests,

Ladies and Gentlemen,

Assalamu'alaikum wa rahmatullahi wa barakatuh, and best wishes for all of us

The right words at the beginning of the talks is to give thanks and gratitude to God that we all have been given health and may be present at this symposium in Tawangmangu. This greeting implies that health is embedded in our culture and lifestyle.

Ibu Menteri and Bapak Menteri, Ladies and Gentlemen,  
In this great opportunity, I would like to express our thanks to Ibu Minister of Health and Bapak Minister of State Owned Enterprises who has the pleasure to present at this meeting. I wish to thank all participants who have strong enthusiasm to participate in this symposium, especially to guest speakers from South Korea, Vietnam, India and Thailand for their sharing valuable of knowledges and experiences in this symposium. I am proud of welcoming you all in Tawangmangu, the one of the preferred and famous tourist destinations with good scenery and its fresh air.

Distinguished Participants,  
May I inform you that Pokjanas TOI has formed since 1990, is one of the non-profit association consisting of representatives from research institutes, universities and relevant ministries, industries and individual experts. As regular activities, Pokjanas TOI organizes the seminar twice a year, and if implemented in Java then required to be held internationally. The seminar is aimed to exchange the information of conducted research and to apply them to related users for the development of medicinal plant utilization. Each seminar discussed two medicinal plants and reviewing the research results of the one selected medicinal plant. This symposium will discuss two topics, namely *Litsea cubeba* (krangean) and *Equisetum debile* (horsetail). Krangean fruit is a medicinal plant for aphrodisiac and common cold, that grows native exotic and endemic to the slopes of Mount Lawu, while the Horsetail is used to reduce joint pain inflammation and as a source of calcium for people with osteoarthritis and calcium deficiency.

Distinguished Guest and Participants,  
Other than two above main medicinal plant subjects, other research themes will also be granted. The special topic that will be discussed within this 3 days seminar is "Indonesia Traditional Medicine for Human Welfare". As we know that beside for health program, medicinal plants have multifunctions and multi player effects such as green-environment, green-economy, health-tourism, agro-tourism and also has been proven to increase the household income as well as to strengthen the people-economy. Moreover, we do hope that the research

not only stop on the scientific publication but also continue to the downstream of end product that has the economical value or New Chemical Entity (NCE), particularly to encourage national self-reliance of medicine raw materials. The sequences of medicinal plant and traditional medicine research and development activities involving research, development, design, prototype, trial, stimulating the growth of herbal industry, and service support should be able to create competitive products, acceptable by market both domestically and internationally, and accessible for health service. But on the other side, it is still a very long way for the use of herbal medicine nationally. Let's look at the reality. Number of experts are quite enough, medicinal plant resources are very abundant but we are still fighting to get raw materials, we are also able to master the technology, then, what makes us very slow to move forward?

The spirit and the willingness?

Budget?

Evidence of clinical data?

Lack of medicinal plant farmers?

Okay, let's remove the constraints, but how?

**I still remember Ibu Nafsiah Mboi said: "People will be healthy and prosperous if all stakeholders work together..."; and Bapak Dahlan Iskan said: "Indonesia would be great if all the potential incorporated in the full coordination...".** These are the wonderful songs which always sung by the Indonesian best singers.

Ibu Menteri, Bapak Menteri and All the Participants,

We confess that the data on the safety and efficacy of Jamu (herbal medicine) are still very limited. Standardized medicinal plants are also few in number. Similarly, data of research institutions' profile, publications, "research-gate", and all the mutually informations regarding the development Jamu of are scattered and each still need to be completed. Considering these conditions, the Ministry of Health, Republic of Indonesia and WHO Representative to Indonesia creating new-model of Jamu database called *JamuNet* that is accessible to the world.

To that end, we plead to the Minister of Health respectively, after the opening of this symposium officially, may be simultaneously launched the *JamuNet*.

On the other hand, the support of BUMN will guaranteed the acceleration and the utilization of Jamu in order to maintain the health of people, reduce the costs for treatment, Jamu dosage forms, modernization of Jamu and strengthening the people's economy.

Ladies and Gentlemen,

On behalf of the POKJANAS TOI, I would like to express our appreciation to the contributions of many individuals and Institutions as well as sponsors. I also greatly appreciate for the tireless effort of the committee of MPTMRDC in organizing this International Symposium Finally, I do hope this seminar may contribute to the development of the utilization of Medicinal Plants and Jamu in Indonesia.

Tawangmangu June 4<sup>th</sup>, 2014

National Working Group of Indonesia Medicinal Plants,

Indah Yuning Prapti, S.KM., M.Kes.

Secretary General

## TERMS OF REFERENCE

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### I. BACKGROUND

Indonesia is well known as megabiodiversity country which has high biological resources and large number of different ethnics, cultural groups, and traditional medicinal knowledge. Indonesian traditional medicine is the sum total of the knowledge, products, skills and practices based on theories, beliefs and indigenous experiences of different ethnics (WHO, 2001).

Jamu is one of Indonesian traditional medicine that has been widely used by generations to health maintenance as cultural part. There has been increased attention in research and utilization of medicinal plant as Jamu raw material since Scientification of Jamu establishment. Scientification of Jamu is Ministry of Health's program to provide scientific evidence of Jamu efficacy and safety for utilization in health service.

Indonesian biodiversity and cultural as well as Scientification of Jamu is potential challenge for raising up Jamu as an honored host in its own country. The academics, researchers and herbal industry are very interesting to touch the palliative, promotive, preventive and curative side of Jamu in community application. POKJANAS TOI or National Working Group of Indonesia Medicinal Plant is an organization consisting of research and development institutions associated with exploration, conservation, development and utilization of medicinal plant.

POKJANAS TOI has the regular agenda to organize collaborative seminar twice a year. In this year, 2014, B2P2TO-OT (The Centre of Medicinal Plant and Traditional Medicine Research and Development) is appointed as the organizer of 46<sup>th</sup> *International Symposium on Traditional Medicine: Indonesian traditional medicine for human welfare*. This symposium is to bring together leading experts in the field of natural products sciences all around the world and forge global partnerships for sustainable utilization of medicinal plant and traditional medicine for the common benefit of humanity and rapid development of the countries. The special topics in this symposium are the exploration, conservation, utilization and development of *Equisetum debile* Roxb. ex Vauch and *Litsea cubeba* (Lour.) Pers.

### II. SPEAKERS

#### Keynote speech :

1. dr. Nafsiah Mboi, Sp.A, MPH (Health Minister, Indonesia)  
Policy on Integration of Traditional Medicine in National Health Care
2. Prof. Dr. (HC) Dahlan Iskan (State Owned Enterprises Minister, Indonesia)  
Supporting of Ministry of State Owned Enterprises (BUMN) on Indonesia Traditional Medicine (ITM) Development

#### Plenary Speech:

1. Dr. Khanchit Limpakarnjanarat (WHO Representative to Indonesia)  
Promoting Traditional Medicine for the Community and Health Care System
2. Director General of National Institute of Health Institute Research and Development, Ministry of Health, Indonesia  
Evidence Based Jamu for Health Service System in Indonesia
3. Director General of National Institute of Agriculture Research and Development Ministry of Agriculture, Indonesia  
Breakthrough Program to Support Sustainability of Standardized Medicinal Plant
4. Dr. Anchalee Chutaputti (Department of Traditional Medicine, Thailand)  
Fostering Integration Thai Traditional Medicine in Health Services
5. Prof. Chandrakant Salunke (Post Graduate of Botany Centre, University Khrisna Maha Vidyalaya)  
Advanced Research in Development of Medicinal Plant and Biodiversity Conservation

6. Dr. dr. Trihono, M.Sc (National Institute of Health Research and Development)  
Evolution of Indonesia Traditional Medicine
7. Dr. dr. Siswanto (National Institute of Health Research and Development)  
Clinical Research on Traditional and Complementary Medicine
8. Nguyen Thi Thu Huong, PhD (Research Center of Ginseng and Medicinal Materials, Ho Chi Minh City  
National Institute of Medicinal Materials, Vietnam)  
The Milestone of Vietnam Ginseng Research and Development
9. GP Jamu The Challenge of Traditional Medicine in Global Markets
10. Dr. Sei-Ryang Oh (Director of Natural Medicine Research Centre (Korean Research Institute on  
Biology and Biotechnology)  
Phytochemical Role in Medicinal Plant Standardization
11. Dr. Ir. Pasril Wahid, M.S., APU. (The Centre of Plantation Research and Development, Ministry of  
Agriculture, Indonesia) Research Review of Lada (*Piper nigrum*, L.)

### Call for Paper Topics

1. Ethnomedicine and ethnopharmacology
2. Medicinal plant cultivation and conservation
3. Post harvest technology, quality control & marketing of herbal products
4. Molecular biology & biotechnology of medicinal plants
5. Phytochemistry of medicinal plants
6. Pharmacology and clinical study of medicinal plant and traditional medicine

### III. PURPOSES

The purpose of this symposium is to improve the role of Jamu in health and to achieve Indonesian healthy people. This symposium is aimed:

1. to improve the utilization of Jamu networking in Indonesia
2. to improve the interest of Jamu utilization by community and medical staff

### IV. DATE AND VENUE

**Date** : June 4<sup>th</sup>-6<sup>th</sup> 2014

**Place** : Auditorium of The Centre of Medicinal Plant and Traditional Medicine Research and Development, Lawu Street No. 10, Tawangmangu, Karanganyar, Solo.

### V. PARTICIPANTS

The expected participants are:

1. Academics, researchers and students in the field of health, pharmacy, agriculture, and biology
2. Professionals: medical doctors, pharmacists, nurses, health analyst, nutritionists, midwives, health practitioner
3. Institutions related to industry of Jamu, traditional medicine, and pharmaceutical

The participants will be divided into two categories:

1. Presenter participants (oral and poster)
2. Regular participants

### VI. ORGANIZER

The symposium is organized by Medicinal Plant and Traditional Medicine Research and Development Centre (MPTMRDC), National Institute of Health Research and Development, Ministry of Health Republic of Indonesia

## ORGANIZING COMMITTEE

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<b>Director</b>	:	Minister of Health
<b>Advisory</b>	:	Director General of National Institute of Health Research and Development
<b>Project Director</b>	:	General Secretary of Working Group of Indonesia Medicinal Plant Director of Medicinal Plant and Traditional Medicine Research and Development Centre
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: M.B. Samsu Adi, M.Si  
: Elok Widayanti, M.Si  
: Fitriana, S.Farm  
: Saryanto, S.Si., Apt  
: Endang Brotojoyo, Amd

**Meal and Beverage**

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: Sugeng Winarsih

**Equipment, accomodation, and Transportation**

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: Edwin Fajar Setyawan, SKM  
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**Exhibition and Sponsorship**

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: Bagas Nur Adi, Amd

region. Arnidiol, inophyllum-c, inophyllum-e, oleanolic acid, inophyllolide chromanol, chitranone, furanodienone, ocoteine, pronuciferine and enadoline have potential anticancer activity by inhibiting human EGFR and can be developed as new anticancer agent.

**Keywords:** Indonesia herbal database, docking, in silico, anticancer, Epidermal Growth Factor Receptor

O-MPP-015

#### **DETERMINATION OF ANTIOXIDANT ACTIVITY USING DPPH METHOD TO THE ETHYL ACETATE FRACTION OF VELVET APPLE (*Diospyros blancoi* A. DC.) LEAF METHANOL EXTRACT**

**Yulio Nur Aji Surya and Yohanes Dwiatmaka\***

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Free radicals activity causes cells damage and promotes degenerative diseases. Flavonoid is a phenolic compound known as natural antioxidant. Velvet apple (*Diospyros blancoi* A. DC.) plant has high content of phenolic compound. This research was aimed to determine the total phenolic content and antioxidant activity from ethyl acetate fraction of methanol extract of velvet apple's leaf. Determination of total phenolic content as gallic acid equivalent was determined using the Folin-Ciocalteu method. The antioxidant activity was determined using DPPH (1,1-diphenyl-2-picrylhydrazyl) method. The antioxidant activity was stated as IC50. The result showed that the ethyl acetate fraction of methanolic extract of velvet apple's leaf contained total phenolic of  $933.5 \pm 6.62$  mg/g (as gallic acid equivalent) and the IC50 was  $13.9 \pm 0.25$  mcg/mL.

**Keywords:** antioxidant, *Diospyros blancoi* A. DC., ethyl acetate fraction, DPPH, total phenolic content

O-MPP-016

#### **STABILITY CHARACTERIZATION OF $\beta$ -CAROTENE FROM AMBON BANANA (*Musa paradisiaca sapientum*) PEEL: IT'S POTENCY AS VITAMIN A SUPPLEMENT**

**Suparmi<sup>1\*</sup>, Harka Prasetya<sup>1,2</sup>, Martanto Martosupono<sup>3</sup> and Lasmono Tri Sunaryanto<sup>4</sup>**

<sup>1</sup>Medical Faculty, Sultan Agung Islamic University, Semarang, Indonesia

<sup>2</sup>Semarang Eye Center Sultan Agung Islamic Hospital, Semarang, Indonesia

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<sup>4</sup>Agricultural Faculty Satya Wacana Christian University, Salatiga, Indonesia

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Exploration efforts of  $\beta$ -carotene pigment from *Ambon* banana (*Musa paradisiaca sapientum*) peel as a natural source of vitamin A, became one of the alternative solutions to overcome the problems of vitamin A capsules supplying in Indonesia. However, the use of this pigments in vitamin A supplement products may face some problems due to its stability during storage. The characterization of  $\beta$ -carotene on temperature, pH, light, and oxidator-reductor was investigated to determine its stability. The spectra absorption was analyzed by UV-Vis spectroscopy. The stability of  $\beta$ -carotene crude extract from yellow banana peel compared with  $\beta$ -carotene marker E-Merck. Crude extract and  $\beta$ -carotene was more stable at low temperature ( $4^\circ\text{C}$ ) to room temperature ( $27^\circ\text{C}$ ). Crude extract relatively more stable at high temperature ( $50^\circ\text{C}$ ) compared with  $\beta$ -carotene. Crude extract  $\beta$ -carotene was more stable in dark storage conditions. Polychromatic light irradiation for 3 hours per half hour had caused degradation of 2.4% and 1.9%; for the crude extract and  $\beta$ -carotene respectively. Crude extract was more stable at pH 6 (neutral). The oxidizing and reducing agents did not significantly influence the stability of the pigment.  $\beta$ -carotene from yellow ambon banana peel was stable on temperature, pH, light, and oxidator-reductor. It is potential as vitamin A supplement.

**Keywords:** ambon banana peel,  $\beta$ -carotene, light, pH, oxidator, reductor, stability temperature



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