

Objectives

Agriculture centering on paddy rice in Monsoon Asia has enabled sustainable production while fostering distinctive agroecosystem. The demand for food is, however, increasing in recent years due to population growth, economic development, movement of biofuel production and so forth. As a result, the demand for agricultural production of this region is significantly rising. On the other hand, agricultural and environmental problems, including an increase of environmental impact due to agricultural intensification, deterioration of natural resources, and the progress of global warming, are getting more serious. It is imperative that researchers, engineers, and administrators of this region internationally closely collaborate to meet growing needs to agriculture while harmonizing nature.

In the coming three-day-symposium, we will report the status quo and the trend of problems, will present the latest studies, and will discuss the direction of future research and collaboration.

In the plenary session on the first day, agricultural and environmental issues in Monsoon Asia will be comprehensively presented. During the workshops on the second and third days we will be divided into five groups to have lectures and discuss issues as follows: heavy metal, heat stress, plant natural resources, agroecosystem in relations with biodiversity, and metagenomics analysis techniques. In the summing-up session on the third day, we will discuss the collaboration and research cooperation aiming at solving issues after the reports of each workshop and MARCO satellite workshops.

Program

Date	Time	Program
Oct. 5 Mon.	9:00 - 9:30	Registration
	9:30 - 10:10	Opening Ceremony
	10:15 - 17:15	Plenary Session
	9:30 - 17:15	Poster Session
	17:30 - 19:00	Reception
Oct. 6 Tues.	9:00 - 17:00	Workshop 1
		Workshop 2
		Workshop 3
		Workshop 4
		Workshop 5
		Poster Session
Oct. 7 Wed.	9:00 - 12:00	Workshop 1
		Workshop 2
		Workshop 3
		Poster Session
	13:00 - 15:00	Summing-up Session
		Closing

About MARCO :

MARCO stands for the Monsoon Asia Agro-Environmental Research Consortium. The mission of MARCO is to promote the development of agro-environmental research in Monsoon Asia in order to achieve sustainable development of agriculture while maintaining the sound agro-ecosystem.

Secretariat

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MARCO Symposium 2009



Challenges for Agro-Environmental Research in Monsoon Asia



October 5^{MON}–7^{WED}, 2009

Plenary Sessions : Oct. 5 & 7

Workshops : Oct. 6 - 7

Tsukuba, Japan

- ORGANIZER :
National Institute for Agro-Environmental Sciences (NIAES), Japan
- CO-ORGANIZER :
Agriculture, Forestry and Fisheries Research Council, MAFF, Japan (tentative)
- LANGUAGE : English
- PARTICIPATION FEE : Free
- REGISTRATION :
Participants other than speakers are required to pre-register. Please see the symposium web site.

<http://www.niaes.affrc.go.jp/marco/>



Plenary Session

9:30-17:15, Oct. 5

Keynote Lecture

10:15-11:10

Nature and Agriculture in Monsoon Asia

Kazutake Kyuma, Professor Emeritus, Kyoto University, Japan

Lectures

- 11:10-11:50
Heavy metal pollution in Asian agricultural land
Yongming Luo, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China
- 11:50-12:30
Conservation and utilization of plant genetic resources for food and agriculture in regions of Monsoon Asia
Makoto Kawase, National Institute of Agrobiological Sciences, Japan
- 13:40-14:20
Climate robust rice system and international collaboration
Holger Meinke, Wageningen University and Research Centre, The Netherlands
- 14:20-14:55
A threat to biodiversity through international trading of grains and plant materials
Akihiro Konuma, National Institute for Agro-Environmental Sciences, Japan
- 14:55-15:30
Changes in nitrogen flow associated with food production and consumption and its effect on environment in East Asia
Junko Shindo, National Institute for Agro-Environmental Sciences, Japan
- 16:00-16:35
Assessing land use and ecosystem carbon stock from space - from a case study in slash/burn ecosystems in Laos -
Yoshio Inoue, National Institute for Agro-Environmental Sciences, Japan
- 16:35-17:15
African land degradation in a world of global change : Does atmospheric fertilization conceal degradation?
Paul L.G. Vlek, Center for Development Research, University of Bonn, Germany

Reception 17:30-19:00, Oct. 5

Reception fee : 5,000 yen (about 50 US dollars)

Workshops

9:00-17:00, Oct. 6 and 9:00-12:00, Oct. 7
(Some workshops have extended programs)

WS-1 9:00-17:00, Oct. 6 / 9:00-12:00, Oct. 7
Field Investigation, Oct. 8

Development of Phyto-technology for Decreasing Heavy Metal in Food Conveners : Tomohito Arao and Tomoyuki Makino

This international workshop is to aim at identifying and developing reliable, economic feasible and effective phyto-technology for decreasing Cd in food. In addition, the current status of As-pollution of water and soil in many Asian countries is to discuss in relation to agricultural practices, and to propose practical and effective countermeasures to reduce As-concentration in water and soil.

Co-organized by : Institute of Soil Science, Chinese Academy of Sciences ; Food and Fertilizer Technology Center for the Asian and Pacific Region
Supported by : Japan Science and Technology Agency (Project: JST Japan and China Program)

WS-2 9:00-17:00, Oct. 6 / 9:00-12:00, Oct. 7
Post-workshop, Oct. 8-9

Crop Production under Heat Stress : Monitoring, Impact Assessment and Adaptation

under "Multilateral Research Exchange Project for Securing Food and Agriculture" (funded by Agriculture, Forestry and Fisheries Research Council, MAFF)

Conveners : Toshihiro Hasegawa and Hidemitsu Sakai

Global warming will likely increase occurrences of extreme heat events, which will be a major concern for the future crop production. Excessive heat, even if it is a short spell, might reduce yields of crops due to failure of reproductive growth, but information with regard to severe yield losses due to heat events has been limited, and the threshold temperature above which severe yield losses occur is still not clear under field conditions. Lack of understanding on the crop response to heat under open-field conditions poses a major uncertainty in assessing the crop production under future climates. Adaptation strategy to heat will also depend on the severity of the stress in the open-field. In this workshop, we attempt to cover four major issues related to heat, followed by group discussions for collaborative research.

Under the auspices of : Crop Science Society of Japan ; Ecosystem Process Group, The Society of Agricultural Meteorology of Japan

Supported by : Ministry of the Environment, Japan (Project: Global Environment Research Fund)

WS-3 9:00-17:00, Oct. 6 / 9:00-12:00, Oct. 7

Survey of Plant Natural Resources and Isolation of Allelochemicals in Monsoon Asia

Conveners : Yoshiharu Fujii and Tsunashi Kamo

Allelochemicals, otherwise known as the inherent silent tool of self-protection among plants, have witnessed a dramatic increase in research in recent years. The potentials of these allelochemicals becoming new bioactive chemicals useful for more sustainable



agriculture and safe food production for humanity have been realized for quite sometime. We have recently started a new project entitled, "Screening of Allelochemicals and Development of Innovative Bioactive Substances." The principal aim of this workshop is to address and deliberate on the recent issues and development, and advances on allelopathy and allelochemicals, and to discuss collaborative initiatives and to formulate new research directions towards establishing an international network in Monsoon Asian Region.

Supported by : Bio-oriented Technology Research Advancement Institution (Project : Promotion of Basic Research Activities for Innovative Biosciences)

WS-4 9:00-17:00, Oct. 6
Field Investigation 9:00-12:00, Oct. 7

Biodiversity and Agro-ecosystem in Rice Paddy Landscape in Monsoon Asia

Conveners : Koji Yasuda and Shori Yamamoto

This workshop introduces several case studies on agro-ecosystems in several Asian and European countries and aims to clarify the relationship between rice cultivation and biodiversity in the Asian monsoon area. And we want to make this workshop a trigger to develop a general concept of biodiversity in Asian monsoon paddy landscapes.

WS-5 9:00-17:00, Oct. 6

Perspectives of Metagenomics in Agricultural Research

Conveners : Seiya Tsushima and Takeshi Fujii

In this workshop, the researchers who have made remarkable achievements by the metagenomic or metatranscriptomic approach will be invited from all over the world and future of metagenomics for agricultural research will be discussed.

Supported by : Agriculture, Forestry and Fisheries Research Council, MAFF (Project : Development of soil biodiversity analysis system with environmental DNA)

Summing-up Session 13:00-15:00, Oct. 7

CALL FOR PAPERS

(Poster presentation only)

Abstract Submission Deadline : August 21, 2009

For details ; Please see the symposium web site.

<http://www.niaes.affrc.go.jp/marco/>