

THE 14TH INTERNATIONAL
SAGO SYMPOSIUM

The Role of Sago in Achieving the Sustainable Development Goals

SAGO 2023 TOKYO

Gakushikaikan
Tokyo, Japan (onsite/online)
7th July 2023

The Society of Sago Palm Studies



Co-organized by

Japanese Society of Tropical Agriculture (JSTA)

The Japanese Society of Applied Glycoscience (JSAG)

Asian Association of Agricultural Colleges and Universities (AAACU)



Under the Patronage of

Food and Agriculture Organization of the United Nations (FAO)

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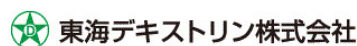
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Background

Sago is a promising plant in 21 Century. It can grow in lowland soils of Southeast Asia and Melanesia and support the people in these areas. Sago biomass, including starch, bark, leaves and others, is useful for various purposes. Sago starch especially, which is produced in Indonesia, Malaysia, Thailand, the Philippines, Papua New Guinea, the Solomon Islands and other countries, amounts to 400 thousand tons per year and is used variously for food and processed food or floured for noodle making and others. Although the sago starch has been consumed mostly in the areas producing sago starch, Japan has been importing over 20 thousand tons of sago starch every year from Malaysia and Indonesia, previously as dusting flour and recently as excellent food material for allergy relief.

The 1st International Sago Symposium (ISS) was held in Kuching of Malaysia in 1976. With three to four years interval, ISS has been hosted mostly by sago producing countries. Japan hosted ISS in 1985 (SAGO -'85, Protect Mankind from Hunger, and the Earth from Devastation), 2001 (SAGO 2001, New Frontiers of Sago Palm Studies) and 2015 (SAGO 2015, The Sago Supports Human and Planet Welfare). The proceedings of these symposiums and a book entitled "Sago Palm: Multiple Contributions to Food Security and Sustainable Livelihoods" compiling invited papers were published with the support of the late Isao NAGATO, who encouraged our activities through his perspective.

In 2023, the Society of Sago Palm Studies is pleased to host a meeting as the 14th International Sago Symposium.

We hope the strong support from you.

Objectives

The objective of symposium is to discuss about continuity of harvesting sago which maintains the aspect of conservation, social and culture in achieving the sustainable development goals.

ISS 2023 becomes a media for communication and discussion among researchers /engineers, environmentalist, sago business practitioners, and other stake-holders in order to:

- Utilize SAGO as sustainable bio-resources which maintains the aspects of conservation, social and culture
- Make SAGO as competitive and parallel commodity with other plant commodities in the view of productivity and quality
- Find a proper way and solution to convert natural SAGO forest to production forest while conserving the genetic resources inside
- Develop SAGO business considering the sustainability of sago forest

Scope of Symposium

The symposium will deal with state-of-the-art of sago study and will facilitate exchange of sago information among the participants, hereby will make sago to become a flagship crop for staple food, ingredients to prevent allergies, industrial raw material as well as for energy. The symposium will be divided into four thematic sessions:

- Biology, Agronomy and Environment
- Industry and Utilization
- Business and Economy
- Social Sciences and Anthropology

Who should attend

- Scientist, researchers, university and academics
- Private sector and business practitioner
- Government institutions, international organizations and policy makers
- Non-Government organization

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SAGO 2023 TOKYO

PROGRAM

Registration 9:00 – 10:00

Opening Remark 10:00 – 10:05

Hiroshi Ehara

(Chair of the 14th International Sago Symposium)

Guest Speech 10:05 – 10:15

Representatives from Advisory Committee

Keynote Speeches 10:15 – 11:15

Hiroshi Ehara

(Nagoya University, Japan)

Hengky Novarianto

(Indonesia National Agency for Research and Innovation, Indonesia)

Plenary Session 11:15 – 12:15

Margaret Chan Kit YOK

(Universiti Teknologi MARA, Malaysia)

Takashi MISHIMA

(Mie University, Japan)

Keith GALGAL

(FAO PNG, Papua New Guinea)

Lunch Break 12:15 – 13:00

Business Meeting 12:20 – 12:50

Oral Session 1 13:00 - 14:30 (Room 1 / Online)

Oral Session 2 13:00 - 14:30 (Room 2 / Online)

Oral Session 3 13:00 - 14:15 (Room 3 / Online)

Coffee Break

Poster Session 1 14:30 - 15:15 (Room 2)

Poster Session 2 14:30 - 15:15 (Room 3)

Oral Session 4 15:15 - 16:30 (Room 1 / Online)

Oral Session 5 15:30 - 16:45 (Room 2 / Online)

Oral Session 6 15:30 - 16:30 (Room 3 / Online) **【AAACU Session】**

The Asian Association of Agricultural Colleges and Universities (AAACU) that is a network of agricultural colleges and universities in Asia established in 1972 with the main mission of improving human welfare

through agriculture, education, research, and extension will be co-organizing a session in SAGO 2023 with invited speakers coming from AAACU member institutions.

Closing Ceremony 16:45 – 17:00 (Room 1)

Reception Party 17:00 – 18:30 (Reception Room)

Keynote Speeches 10:10 - 11:15 (1st Room / Online) Chair: Y. Nishimura (Nagoya Univ.)

Hiroshi Ehara

Recent Achievements toward SDGs through Collaborative Activities between Sago-producing Countries and User Countries

Hengky Novarianto

Sago Development and Use Policy as Local Food Diversification for Food Security

Plenary Session 11:15 - 12:15 (1st Room / Online) Chair: Y. Yamamoto (Kochi Univ.)

Margaret Kit Yok Chan

Should a Certification Scheme be in Place towards a More Efficient, Sustainable, and Resilient Sago Industry?

Takashi Mishima

Quality of Sago Starch for Worldwide Promotion

Keith Kulakit Galgal

Potential to Up-scale Sago Production to Combat Food Insecurity and Climate Change on Manus Island of Papua New Guinea

Oral Session 1 13:00 - 14:30 (1st Room / Online) Chair: K. Toyota (UTAT)

K. Osozawa (Ehime Univ.)

Yoshinori Yamamoto

Comparison of Growth Characteristics and Yield Potential of Starch-accumulating Palms

Mochamad Hasjim Bintoro Djoefrie et al.

Sago Production Potential in Several Regions in Indonesia

Yoshihiko Nishimura

Regional Characteristics and Transformation of Sago Palm Utilization in Traditional Rural Areas—From the cases of the three regions: West Papua, Indonesia, Southeast Sulawesi, Indonesia, Northwest Mindanao, Philippines

Saki Ehara

Variation in the Consumer Prices of Sago Starch and Other Starch in Jakarta, Indonesia

Yukio Toyoda et al.

Possibility of Up-Scaling Sago Production in Sepik Area, Papua New Guinea

Hafidawati et al.

Potential Study of Sago Dregs Waste as Renewable Energy: Quality and Economic Value of Sago Dregs Briquette Production

Oral Session 2 13:00 - 14:30 (2nd Room / Online) Chair: T. Mishima (Mie Univ.)

O. Theosilvisut (Thammasat Univ.)

Endang Yuli Purwani et al.

Impact of Ultrasonication Treatment on Resistant Starch (RS) Content and Characteristics of Sago Starch

Budi Santoso et al.

Maltodextrin from Sago Starch at Different Hydrolysis Times

Ansharullah Ansharullah et al.

Formulation of Sago Based Biscuit: Incorporation of Sea Cucumber (*Holothuria scabra*) Powder to Improve its Sensory and Nutritional Properties

Rahmah Zikra Utami et al.

Diversity of Medicinal Plants in the Sago area of Siberut National Park, West Sumatra

Dwi Ahrisa Putri et al.

Analysis of Sago (*Metroxylon sagu* Rottb.) Supply Chain in West Sulawesi, Indonesia

Darma et al.

Small Scale Mechanical Processing of Sago in District Momi Waren, Manokwari Regency, West Papua Province

Oral Session 3 13:00 - 14:15 (3rd Room / Online) Chair: B. Abbas (Univ. Papua)
A. Watanabe (Nagoya Univ.)

Mardiani Dwi Agustin et al.

Genetic Diversity of Sago (*Metroxylon* spp.) in Lingga District, Kepulauan Riau

Ariel Nur Alifan Firmansyah et al.

Genetic Relationship of Sago (*Metroxylon* spp.) in West Siberut and North Siberut, Mentawai Islands Regency, West Sumatra

Naasih El Ibaad Abhal et al.

Genetic Relationship of Sago (*Metroxylon* spp.) Based on RAPD Analysis: A Case of Mamuju District, West Sulawesi Province, Indonesia

Melika Jehan et al.

Sago (*Metroxylon sagu* Rottb.) Agroforestry Based on Morphological Characters, Physical Environment and Productivity in Siberut National Park, Indonesia

Malimas Jariyapong et al.

Soil Carbon Stock Comparison of Sago Palm Plantation and Monoculture Crop Around Converted Wetland in Southern Thailand

Oral Session 4 15:15 - 16:30 (1st Room / Online) Chair: H. Naito (KUSA)
M.A. Trisia (Girona Univ.)

Rampisela D.A. et al.

Knowledge Co-Production Practices in Nurturing Local Innovators for Promoting Conservation and Use of Sago Palm (*Metroxylon sagu*) and its Product

Mochamad Suwarno et al.

Development of Sustainable Sago Plantation on Peatland Towards Commercial Level

Primadhika Al Manar et al.

Ethnobotany of Sago in the Malay Community in Lingga Regency, Riau Islands, Indonesia

Ridho Afriansyah et al.

Ethnobotany of Sago (*Metroxylon sagu* Rottb.) in Mentawai Community, Siberut National Park, Mentawai Islands District, Indonesia

Dwi Ratna Sari et al.

Agronomic Prospects for New Sago Palm Cultivation by Farmers: Time to Harvest and Associated Cultivation Management

Oral Session 5 15:30 - 16:45 (2nd Room / Online) Chair: A. Miyazaki (Kochi Univ.)
K. Asano (Nagoya Univ.)

Agus Triputranto et al.

Improve the Process Flow by Utilizing Wet Sago Biomass to Increase the Productivity and Economics of Sago Processing in Meranti, Riau

M.N. Ahmad and K.B. Bujang

The Potential of Sago Frond as Large-Scale Animal Feed

Yulius Barra' Pasolon et al.

Utilization of Palm Oil By-products for Sustainable Crop Production in Marginal Land

Suriya Chankaew et al.

Utilization of Sago Palm Rachis to Woven Local Fishing Gear at Nakhon Si Thammarat Province, Thailand

Seprianto Palitak et al.

The Effect of Palm Oil Organo-Waste and NPK Fertilizers on Growth of Manno Sago Seed

Oral Session 6 (AAACU Session) 15:30 - 16:30 (3rd Room / Online)

Chair: T. Uchiyama (Tokyo Univ. Agr.)
S. Binongo-Lina (VSU)

Benito Heru Purwanto

Further Direction of Sago Palm Studies from Soil Science Point of View

Koki Asano et al.

Nitrogen-Fixing Bacterial Community in Sago Palm Roots in Different Soil Environments of East Malaysia and South Thailand

Destieka Ahyuni et al.

Characteristics of Sago Palm Suckers as Planting Material and Their Subsequent Growth in Deep Peat Soil

Kietsuda Luengwilai et al.

Climatic Factors Affecting Palm Yield and Yield Prediction: A Case Study of Aromatic Coconut

Poster Session 1 14:30 - 15:15 (2nd Room)

Chair: S. Ehara (JAC)

Tomoko Kondo et al.

Comparative Study on the Properties of Various Commercial Sago Starches and Examination of Gluten-Free Pasta Using Sago Starch

Kazuko Hirao et al.

Application of Sago Starch in Karukan (Japanese Rice Flour Steamed Cake) Spheroid Echinate Symmetric Phytolith Assemblage in Sago Palm (*Metroxylon sagu* Rottb.)

Fidrianto, B.E et al.

The Possibility of Sago Starch as a Healthy Food

Poster Session 2 14:30 - 15:15 (3rd Room)

Chair: M. Ohmi (TUAT)

Masanori Okazaki et al.

Spheroid Echinate Symmetric Phytolith Assemblage in Sago Palm (*Metroxylon sagu* Rottb.) Leaflet

Yasunobu Tokuda et al.

Antioxidant Polyphenols in Sago Starch Affected by Wet and Dry Extraction Processing

Yasunobu Tokuda et al.

Sago Starch as an Innovative Fermentation Aid for Tempeh Fungi (*Rhizopus oligosporus*)

Mitsuhisa Baba et al.

Sensory Evaluation of Cookies Made from Sago (*Metroxylon sagu*) and its Mixture with Taro (*Colocasia esculenta*) Starch