

# International Symposium on Pastures in the Tropics and Subtropics

Sponsored by

Tropical Agriculture Research Center, Ministry of Agriculture, Forestry and Fisheries  
(October 2-6, 1984, Tsukuba, Ibaraki, Japan)



The 10th TARC International Symposium, which was held at new TARC building in Tsukuba, had the theme "Pastures in the Tropics and Subtropics".

The objectives of the present symposium was to exchange the latest information and experiences on the aspects dealt with the best way of using local resources, increasing and improving the productivity of grasslands, the production of tropical legumes including *Leucaena*, the development of pasture systems, and the ways in which international cooperation can contribute to the tropical and

subtropical grasslands. Research scientists from Brunei, Peoples' Republic of China, Indonesia, Malaysia, the Philippines, Sri Lanka, Thailand, ICARDA/Syria, GERDAT/France and Japan attended and discussed the problems and perspectives in their respective countries and fields of research.

The program of the Symposium and the name of speakers are listed below:

Inaugural Address:

Shoichiro Nakagawa

Director General, Tropical Agriculture  
Research Center.

**Welcome Address:**

Kinya Kushibuchi

Director General, Secretariat of the Agriculture, Forestry and Fisheries Research Council.

**Keynote Address:**

Kentaro Himeno

Director General, the National Grassland Research Institute.

**Country Reports**

Studies on the Tropical and Subtropical Pasture Resources and their Exploitation Prospects in China

HONG Fu-Zeng (China)

Perspectives in Philippine Pastures

Reynaldo C. MENDOZA (Philippines)

Trends in Pasture and Forage Production in Brunei Darussalam—A Country Report

Pg. HASSAN PMSLDSI Pg. Hj. Damit\*,  
ABDULLAH Hj. Bagol, and John G.  
WOODFORD (Brunei)

The Research and Development of Pastures in Peninsular Malaysia

CHEN Chin Peng (Malaysia)

Pastures in Thailand

Chanchai MANIDOOOL (Thailand)

Forage and Pasture Production in Indonesia

M. E. SIREGAR (Indonesia)

Pastures in Sri Lanka

A. B. P. JAYAWARDANA (Sri Lanka)

Present Situation of and Future Prospect for Grassland Farming in Japan

Sukeo KAWANABE (Japan)

Chemical Composition and Application to Feeding Program

Akira ABE (Japan)

Preservation and Quality Improvement of Semi-dried Roughages by Ammonia Treatment

Nobuo YAHARA (Japan)

Productivity of Grass-Legume Pasture and its Contribution to Animal Production in the Tropics

Nobuyoshi MAENO (Japan)

Introduction of Tropical Pasture Legumes and Development of Legume-based Pastures in Subtropical Japan

Yukio KITAMURA (Japan)

Sylvo-Pastoral Systems in Thailand

Chanchai MANIDOOOL (Thailand)

Intensive Production Systems for Pastures in the Humid Tropics

Hiroshi SAWADA (Brunei)

Factors Affecting the Management of Tropical and Temperate Pastures

Yo-ichi NADA (Japan)

Research on Improvement of Tropical Pastures. Case Study of New Caledonia

Bernard TOUTAIN (France)

Meat Productivity of Cattle and Buffaloes in Sri Lanka

Shinobu OZAWA (Japan)

**Technical Reports**

Utilization of Local Resources for Pasture Plant Cultivars

P. S. COCKS (ICARDA)

Nutritive Value of Agricultural By-Products used in Malaysia

Kiyomi KOSAKA (Japan)

Utilization of Local Agricultural Products and By-Products for the Improvement of Calf Starter Ration in Malaysia

Eitaro IMAIZUMI (Japan)

Assessment of the Quality of Forage from its



### A Modelling Approach for Prediction and Control of Grassland Ecosystems

Masae SHIYOMI (Japan)

### Remote Sensing Techniques for Grassland Management and Assessment of Agricultural Development

Tsuyoshi AKIYAMA (Japan)

## General Discussion

General discussion was co-presided by P. S. Cocks (ICARDA) and Shozo Watanabe (National Institute of Animal Industry, Japan).

As full utilization of local resources is considered to be the most important for animal feeding in the tropics, utilization of rice straw and other agricultural by-products was discussed along with the silage utilization of grasses and legumes. Methods of treatment for ensiling are also discussed.

Utilization of small lands by small holders, such as backyard land, communal grazing lands and roadsides was discussed. Cases of successful governmental assistance for utilizing these lands were reported by the participants from Brunei, Sri Lanka and Thailand, in relation to the methods of law demarcation for exclusive use as communal grazing lands for farmers who do not own land, or improvement of these lands by introducing improved species of pastoral plants. The government provides the seeds of legumes used for the improvement and subsidizes the construction cost of fences.

Improvement of productivity of grasslands was one of the important points of discussion. Legume-based improvement to increase productivity was considered to be very effective. However, cases of failure of the introduction were reported due to lack of precipitation and bad soil conditions. Need of more trials under the local conditions along with the studies for clarifying characteristics of each grass was stressed.

*Leucaena* production was a topic of discus-

sion. *Leucaena* which originated from South America was newly naturalized in tropical countries. However, the distribution is rather limited depending on climatic and soil conditions. Different cultivars are now under testing for soil acidity tolerance, high yield, rate of nodulation, and mimosine content.

Tree crop—pasture and forest—pasture systems were also discussed. Successful cases were discussed by several participants especially for the case of coconuts plantation based systems. *Brachiaria*, *Stylosanthes* and Guinea grasses were the species in these systems.

The last topic of the general discussion was the international cooperation including the exchange of genetic resources and information. All participants recognized the importance. However, the exchange of information for the establishment of an inventory of genetic resources should come first and be followed by the exchange and evaluation of important genetic resources of pasture plants. Possibilities of Japanese contribution for systematization of international cooperation for the establishment of an inventory of the genetic resources of pasture plants were introduced by participants from National Institute of Agrobiological Resources, Japan which is in charge of the coordination of activities relating to genetic resources.

## Concluding Remarks

Sukeo Kawanabe, President of Organizing Committee, Japan

## Excursion

Foreign participants visited the followings: National Institute of Animal Industry, Geological Museum, Agency of Industrial Science and Technology, in Tsukuba, Oozasa Ranch, and National Grassland Research Institute.