The 100th Anniversary of Tohoku University, International Symposium

Frontiers in Rice Science– from Gene to Field

Program

(Oral session: *presenting author**)***

November 6

8:00-9:00 Registration

9:00-9:30 **Official opening**

Chair: Makie Kokubun (Tohoku University)

Prof. Yukio Akiba (Dean, Graduate School of Agr. Sci., Tohoku University)

Prof. Masahiko Saigusa (Chair, Organizing Committee)

9:30-12:30 **Session 1 : Molecular biology and breeding**

Chair: P. Perata (Sant'Anna School of Advanced Studies, Italy) and K. Toriyama (Tohoku University, Japan)

9:30-10:00 Development of a novel breeding method using SNP-based selection of rice genotypes

T. Nishio*, K. Shirasawa, S. Shiokai, H. Maeda and S. Kishitani (Tohoku University, Japan)

10:00-10:20 Transcript profiling of the anoxic rice coleoptile

R. Lasanthi-Kudahettige[1)], L. Magneschi[1)], E. Loreti[2)], S. Gonzali[1)], F. Licausi[1)], G. Novi[1)], A. Alpi[3)], P. Perata*[1)] ([1)] Sant'Anna School of Advanced Studies, Italy; [2)]IBBA-CNR, Italy; [3)]University of Pisa, Italy)

10:20-10:40 Mechanism of nitrogen remobilization in rice

M. Tabuchi, T. Hayakawa and T. Yamaya* (Tohoku University, Japan)

10:40-11:10 Coffee break

11:10-11:30 Molecular study on cytoplasmic male sterility in rice

K. Toriyama* (Tohoku University, Japan)

11:30-11:50 Comparative genome-wide transcriptional profiling of rice pollen and sperm cells

M. B. Singh* (The University of Melbourne, Australia)

11:50-12:10 Toward understanding the molecular mechanism of CW-type cytoplasmic male sterility in rice

S. Fujii* and K. Toriyama (Tohoku University, Japan)

12:10-12:30 Breeding and QTL analysis of rice lines having extremely high cold tolerance at booting stage

K. Nagano*, B. Chiba, K. Sasaki and K. Wagatsuma (Furukawa Agr. Exp. Stn., Japan)

12:30-13:30 Lunch

13:30-16:30 **Session 2: Physiological approaches to enhancement of productivity**
Chair: S.B. Peng (IRRI, Philippines) and
A. Makino (Tohoku University, Japan)

13:30-14:00 Improvement of physiological N-use efficiency in rice plants
T. Mae* (Tohoku University, Japan)

14:00-14:20 Changes in ribulose-1, 5-bisphosphate carboxylase/oxygenase turnover is the key to photosynthetic acclimation to elevated CO_2 in rice
S. Seneweera*[1)], A. Makino[2)], J. Conroy[1)] and T. Mae[2)]
([1)]University of Western Sydney, Australia; [2)] Tohoku University, Japan)

14:20-14:40 Rubisco and photosynthesis in rice
A. Makino* (Tohoku University, Japan)

14:40-15:00 Identification and characterization of quantitative trait loci in nitrogen utilization of rice
M. Obara*[1)], W. Tamura[1)], H. Ono[1)], T. Ebitani[2)], M. Yano[3)], T. Sato[1)] and T. Yamaya[1)] ([1)]Tohoku University, Japan; [2)]Toyama Agr. Res. Center, Japan; [3)]National Institute of Agrobiological Sci., Japan)

15:00-15:30 Coffee break

15:30-15:50 Mechanisms controlling ripening in rice
M. Kokubun*[1)], T. Nakamura[1)] and Wen-Hui Zhang[2)] ([1)]Tohoku University, Japan; [2)]Lioacheng University, China)

15:50-16:10 The impact of free-air CO_2 enrichment (FACE) on growth, yield and quality of rice crops
Y.L. Wang*, L.X. Yang, J.Y. Huang and G.C. Dong (Yanzhou University, China)

16:10-16:30 Strategies for reversing the yield decline of continuous aerobic rice system
S.B. Peng*, L. Nie, B.A.M. Bouman, R.M. Visperas and H.K. Park (IRRI, Philippines)

16:30-17:00 Poster introduction

18:00-20:00 Reception (Washington Hotel)

November 7

9:00-12:00 **Session 3: Soil science and production technology**
Chair: Z.Y. Hseu (National Pingtung University of Sci. and Tech., Taiwan) and H. Watanabe (Tohoku University, Japan)

9:00-9:30 Innovative fertilizer application in rice culture using controlled availability fertilizer

M. Saigusa* (Tohoku University, Japan)

9:30-9:50 Studies on the interaction between upland rice and other crops in intercropping system
Djoko Prajitno* (Gadjah Mada University, Indonesia)

9:50-10:10 Clay mineralogical characteristics of paddy soils in Miyagi prefecture, northeastern Japan
O. Sano*[1)], T. Ito[1)], T. Ando[2)], M. Nanzyo[1)], G. Saito[1)], K. Saito[3)] and M. Saigusa[1)] ([1)]Tohoku University, Japan; [2)]Yamagata Pref. Government, Japan; [3)]Furukawa Agr. Exp. Stan., Japan)

10:10-10:30 Recent trends in the nutrient status of the paddy field soil in Japan and related topics
M. Nanzyo*, T. Takahashi and H. Kanno (Tohoku University, Japan)

10:30-11:00 Coffee break

11:00-11:20 Pedological characteristics and heavy metals cantamination in rice production of the paddy soils in Taiwan
Z.Y. Hseu*[1)], Z.S. Chen[2)] and S.H. Jien[2)] ([1)]National Pingtung University of Sci. and Tech., Taiwan; [2)]National Taiwan University, Taiwan)

11:20-11:40 Development of rice cultivation under a water storage-type deep-irrigation regime
T. Ishibashi*[1)], Y. Goto[1)], S. Nakamura[2)], M. Kokubun[1)], T. Nakamura[1)] and M. Saito[2)] ([1)]Tohoku University, Japan; [2)]Miyagi University, Japan)

11:40-12:00 Heavy metal contamination and remediation of paddy soil in Korea
W.I. Kim*, G.B. Jung, J.S. Lee, J.H. Kim and J.T. Lee (National Institute of Agr. Sci. and Tech., Korea)

12:00-12:20 Soil properties and rice growth in winter flooded paddy field with organic farming
T. Ito*[1)], C. Kon[2)], H. Watanabe[1)], T. Komiyama[1)], N. Tanikawa[1)] and M. Saigusa[1)] ([1)]Tohoku University, Japan; [2)]Aomori Pref. Agric. and Forestry Res. Center, Japan)

12:20-13:20 Lunch

(Poster session)

13:20-15:00 **Poster viewing**

Novemver 8 Excursion (Field Science Center, Furukawa Agr. Exp. Stn.)