
Oral sessions | Field Crop Production | O13: Current Issues on Tropical Crops

[O13] Current Issues on Tropical Crops

*Sponsored by the Japanese Society for Tropical Agriculture / The Society of Sago Palm Studies

Chair: Hiroshi Ehara (Nagoya University, Japan)

Chair: Hitoshi Naito (Kurashiki University of Science and The Arts, Japan)

Chair: Rosa Rolle (Food and Agriculture Organization of the United Nations, Italy)

2021年9月9日(木) 17:00 ~ 19:00 Room 1 (Oral) (Field Crop Production)

18:10 ~ 18:25

[O13-05] Agro-economic Evaluation of Fertilizer Management for Wet Season Rice in Southern Cambodia

[○]Kea Kong¹, Yoichiro Kato², Sarom Men³, Vang Seng¹, Akira Yamauchi⁴, Mayumi Kikuta⁵, Il-Ryong Choi⁶, Hiroshi Ehara⁷, Hiroshi Ehara⁸ (1.General Directorate of Agriculture, Ministry of Agriculture, Forestry and Fisheries, Cambodia, 2.Institute for Sustainable Agro-ecosystem Services, The University of Tokyo, Japan, 3.Royal University of Agriculture, Cambodia, 4.Graduate School of Bioagricultural Sciences, Nagoya University, Japan, 5.Graduate School of Integrated Sciences for Life, Hiroshima University, Japan, 6.International Rice Research Institute - Korea Office, Korea, 7. Applied Social System Institute of Asia, Nagoya University, Japan, 8.International Center for Research and Education in Agriculture, Nagoya University, Japan)

On-farm experiments were conducted to determine the economic efficiency of fertilizer management and the optimal rate of fertilizer application for rainfed lowland rice (*Oryza sativa* L.) cultivation on Prateah Lang (sandy) soil in Trapaing Khchav and Steung villages, O Saray commune in Tram Kak district, Takeo province in the southern Cambodia in 2013 and 2014. Five trials were conducted at different locations in 2013 and 2014. Each trial had six treatments of different nitrogen (N)-phosphorus (P₂O₅)-potassium (K₂O) rates with three replicates in 2013, and four replicates in 2014. The amounts of P₂O₅ and K₂O applied differed between the trials, although P₂O₅ and K₂O application rates were the same between the treatments in each trial. The results demonstrated that the application of 60 kg ha⁻¹ of N, 30 kg ha⁻¹ of P₂O₅, and 15 kg ha⁻¹ of K₂O, whose cost was the second lowest (97.8 US\$ ha⁻¹) among those for 25 different N-P₂O₅-K₂O rates, was the most profitable, suggesting that the N-P₂O₅-K₂O rate of 60-30-15 is the best application rate at the experimental sites. While the grain yield increased with a higher fertilizer rate, the optimum rate to maximize income was achieved at a rather low fertilizer rate, hence the fertilizer cost should be considered before determining the best fertilizer management strategy. We have been continued analyzing the economic efficiency of fertilizer management on different soil types as well.