[O22] Crop Production System

Chair: Koki Homma (Tohoku University, Japan)
Chair: Roel Suralta (Philippine Rice Research Institute, Phillipines)
Thu. Sep 9, 2021 2:30 PM - 4:30 PM Room 2 (Oral) (Farming System)

2:50 PM - 3:10 PM

[O22-02]Agronomic Performance of Rainfed Lowland Rice Varieties in Different Soil Types in Cambodia

○Chanthol Uch[1,2], Yurdi Yasmi[1], Buyung A. R. Hadi[3], Kea Kong[4], Sarom Men[5], Lyda Hok[5], Chhourn Orn[6], Seang Layheng[6], Mana Kano-Nakata[7], Akira Yamauchi[8], Hiroshi Ehara[7,9] (1. International Rice Research Institute Cambodia Office, Cambodia, 2.Nagoya University Asian Satellite Campuses Institute-Cambodia, Royal University of Agriculture, Cambodia, 3.Food and Agriculture Organization of the United Nations, Italy, 4.General Directorate of Agriculture, Ministry of Agriculture, Forestry and Fisheries, Cambodia, 5.Royal University of Agriculture, Cambodia, 6.Cambodian Agricultural Research and Development Institute, Cambodia, 7.International Center for Research and Education in Agriculture, Nagoya University, Japan, 8.Graduate School of Bioagricultural Sciences, Nagoya University, Japan, 9.Applied Social System Institute of Asia, Nagoya University, Japan)

A total of 10 released rice varieties and two local checks were evaluated in four provinces, Pursat, Battambang, Siem Reap and Kampong Thom, with four different soil groups of Krakor (loamy) and Tuol Samrong (clay), Prey Khmer (sandy), Prateah Lang (sandy loam). The trials were conducted in a randomized complete block design with four replications in wet season 2019 and 2020. The agronomic trait was observing for plant height, panicle length, percentage of filled grain, grain number per panicle, harvest index and grain yield. The yield of Phka Rumduol averaged about 4.4 t/ha in the four soil groups, which was the highest followed by Phka Mealdei (4.2t/ha) under rainfed condition with comparatively higher extent of tolerance to lodging, drought or blast disease. The lowest yield performance was observed in farmers' variety, CV2 (2.8t/ha) followed by Phka Chan Sen Sar (3.0t/ha). All varieties tested in Toul Samrong soil group (clay) produced the highest yield (4.4t/ha) compared to that in other soil groups. In the contrasts, the yield in Prey Khmer soil group (sandy) was the lowest yield (2.0t/ha). The analysis of gene by environment interactions indicated that there was no interaction between genotypes and soil groups. The most popular aromatic rice variety, Phka Rumduol, demonstrated the most preferable performance across the four environments with minimum input. From these results, Phka Rumduol is considered to be the most suitable among the varieties used for rainfed lowland condition where comparatively low-input rice production systems being employed by most of Cambodian farmers.