Poster Session | Crop Genetics and Physiology | P4: Poster Session

[P4] Crop Genetics and Physiology

2021年9月9日(木) 12:15 〜 14:00 Room 4 (Poster) (Crop Genetics and Physiology)

13:15 〜 14:00

[P4-16]Genetic Analysis of Agronomic and Biofortification Traits in Multiple Rice Populations

*Nominated for Presentation Awards
○Tapas Kumer Hore, Mary Ann Inabangan Asilo, Gaurav Joshi, Amery Amparodo, BP Mallikarjuna Swamy (RGDV Platfrom, International Rice Research Institute, Philippines)

Malnutrition is a major global health problem that affects more than two billion people, especially children and women. Iron and Zinc deficiencies cause anemia, stunting, diarrhea, reduced immunity, poor cognitive function, etc. These problems are highly prevalent in rural populations without access to adequate nutrition. Most of the popular high-yielding rice varieties are a poor source of micronutrients; hence, the biofortification of rice varieties with essential micronutrients is a popular intervention to tackle hidden hunger. Understanding the genetic basis of agronomic and biofortification is vital to develop high-yielding micronutrient-rich rice varieties. We characterized two biparental and two multi-parental populations for agronomic, yield, and micronutrient traits over two seasons at the International Rice Research Institute. Populations were genotyped using 7K SNP chip and genotype by sequencing. Wider variations were observations for all the traits in both the seasons and all the populations. Zn content ranged from 13.14–35.65 mg/kg and 6.58–41.24 mg/kg in biparental and multi-parental populations, respectively. QTL analysis showed prominent and consistent QTLs for grain Zn content on chromosomes 5 and 7, explaining a phenotypic variance of 11.4% and 10.4%, respectively. Further analysis is in progress.