Oral sessions | Field Crop Production | O12: Concepts, Prospects, and Potentiality of Crop Production in East Asia

[O12] Concepts, Prospects, and Potentiality of Crop Production in East Asia

*Sponsored by the Korean Society of Crop Science
Chair: Sang-In Shim (Gyeongsang National University, Korea)
Chair: Takeo Sakaigaichi (Kyushu Okinawa Agricultural Research Center, National Agriculture and Food Research Organization, Japan)
Chair: Hiroshi Ehara (Nagoya University, Japan)
2021年9月9日(木) 14:30 〜 16:30 Room 1 (Oral) (Field Crop Production)

15:25 〜 15:40

[O12-04]International Differential System for Resistance in Rice Cultivars and Blast Race

○Yoshimichi Fukuta (Research Planning and Partnership Division, Japan International Research Center for Agricultural Sciences, Japan)

To establish this protection system against blast disease, JIRCAS has conducted research in an international network for developing and distributing the differential system in Asian and African regions. Under the network, blast isolates and rice germplasm were collected. The pathogenicity of blast isolates using international differential varieties (DVs) and genetic variation of resistance in resistant rice cultivars were clarified. One of the network's research achievements was the clarification of the wide variations in blast races. The frequency of blast isolates virulent to DVs was clarified in each country and region and at the global level. Particularly, high frequencies of wide-spectrum blast isolate virulence to DVs were found in Bangladesh and West Africa. Furthermore, the highest diversities of blast races were found from Yunnan province, China, to Bangladesh. The diversities of blast races were corresponded with the those of resistance in rice cultivars. The relationships between blast races and rice varieties are explained by the gene-for-gene theory. The information and application of differential system will contribute to the development of a durable protection system and for harmonizing agriculture with environment.