

Category	: International Rice Research Conference
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Germplasm Enhancement
Keyword 2	: Genotype x Environment Interactions
Keyword 3	: Abiotic stress tolerance
Title of Entry	: Improved Upland Rice Varieties for High Altitude Areas in Indonesia
Presenting author	: Aris Hairmansis
Presenting author email	: a.hairmansis@gmail.com
Co author 1	: Supartopo, Yullianida, Rini Hermanasari, Angelita P. Lestari, Amrizal Yusuf, Anggiani Nasution, Santoso, Nafisah, Suwarno
Co author 2	:
Affiliation presenting author	: Indonesian Center for Rice Research
Affiliation 1	: Indonesian Center for Rice Research
Affiliation 2	:
Select only one type of presentation	: 15 minute oral presentation
Abstract	: Upland rice in Indonesia covered diverse geographical areas from low to high altitude. In contrast to low altitude upland areas, rice cultivation in high altitude areas are still limited even though potential areas suitable for rice growing is large. The main constraint of rice cultivation in the high altitude areas is low temperature stress. Farmers in these areas are still cultivate traditional rice varieties since improved varieties specifically released for the areas are not available yet. Therefore, development of improved upland rice suitable for high altitude areas is important to optimize the utilization of the area for rice production. Breeding program to develop upland rice varieties for high altitude has been established through conventional approaches. The combinations of modified bulk population method in early generation and pedigree method in later generation were used to select promising breeding lines. Selection and evaluation of breeding materials were conducted in high elevation areas of 900 to 1200 meter above sea level. Participatory varietal selections were also used to determine farmer's preferences on advanced breeding materials. Multi-location yield trials were conducted during the wet season 2015-2016 to assess yield stability of 12 promising upland rice breeding lines. Based on the result of the multi-locations trial, two breeding lines, B14168E-MR-10 and B11592F-MR-23-2-2, were officially released as new upland rice varieties. The rice line B14168E-MR-10 yielded 4.81±0.96 ton/ha, while the rice line B11592F-MR-23-2-2 yielded 4.55±1.69 ton/ha. The two lines were named as Luhur 1 and Luhur 2, respectively; and targeted for dissemination in the high altitude upland areas.

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