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Category	: International Rice Research Conference
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Breeding Strategy
Keyword 2	: Genotype x Environment Interactions
Keyword 3	: Abiotic stress tolerance
Title of Entry	: Selection of Drought Tolerance Rice Lines for Drought Prone Lowland Areas in Indonesia
Presenting author	: Dr. Untung Susanto
Presenting author email	: untungsus2011@gmail.com
Co author 1	: Wage Ratna Rohaeni
Co author 2	: Trias Sitaresmi
Affiliation presenting author	: Indonesian Center for Rice Research (ICRR) of Indonesian Agency for Agricultural Research and Development (IAARD)
Affiliation 1	: Indonesian Center for Rice Research (ICRR) of Indonesian Agency for Agricultural Research and Development (IAARD)
Affiliation 2	: Indonesian Center for Rice Research (ICRR) of Indonesian Agency for Agricultural Research and Development (IAARD)
Select only one type of presentation	: 15 minute oral presentation
Abstract	: Drought is one of major problem of rice production in Indonesia. It occured in rainfed lowland, limited irrigated lowland, and even in swampy areas during dry season. Development of dorught tolerant rice is continuously conducted. Advanced lines with various genetic back ground had been developed and need to be confirmed for drought tolerant. This research is aimed to test drought tolerance of 102 lowland rice lines along with 10 check varietis. Randomized complete block design with two replications was implemented either under optimum and drought condition. Drought treatment was conducted by stopping the irrigation at 28 dayas after planting Rain fall for some times, but drough condition was attained during vegetative and generative pland growth stage (water tension > -80 kpA). Drought tolerance was determined by calculating some kind of drought sensitivity index. The results showed that yield was affected by drought treatment and genotypes and there was no interaction between genotypes and drought condition. Drought reduces yield by 40%, number of filled grain/panicle by 43%, total grain/panicle by 23%, and 1000 grain weight by 20%. Under optimum condition, mostly all the genotypes had comparable yield with chek varieties. Hence, under drought condition 10 lines had higher yield compared to the best check Situ Bagendit (3.67 t/ha). Selection considering seven drought sensitivity index methods obtained that BP18354-1-1-JK-1-IND-2-SKI-1-PWK-3 (7.19 t/ha optimum; 6.83 t/ha drought) selected by all the index methods. The lines had the highest yield under drought condition. BP17586-2-0-JK-3-IND-1-SKI-10-PWK-3 (5.86 t/ha optimum; 5.64 t/ha drought) selected by 6 index methods. It has the second highest yield under optimum condition. Five lines were selected based on five methods, three lines by four methods, 11 lines

by three methods, four lines by two methods, six lines by one method, make the total of 31 selected lines. Testing of drought tolerance during vegetative stage further confirmed the tolerance of the selected lines to drought.

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