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Title of Entry	: Comparison of genetic diversity among South East Asian local rice varieties based on SSR marker for drought
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Comparison of genetic diversity among South East Asian local rice varieties based on SSR marker for drought Puji Lestari <sup>1*</sup> , Dwinita Wikan Utami <sup>1</sup> , Nurul Hidayatun <sup>1</sup> , Hakim Kurniwan <sup>1</sup> , Dani Satyawan <sup>1</sup> , Kristianto Nugroho <sup>1</sup> , Rerenstradika Tizar Terryana <sup>1</sup> , Muhamad Sabran <sup>1</sup> , Marilyn C. Ferrer <sup>2</sup> , Koukham Vilayheuang <sup>3</sup> , Thiyagu Devarajan <sup>4</sup> , Rahiniza Kamaruzaman <sup>4</sup> , and Karden Mulya <sup>1</sup> <sup>1</sup> Indonesian Center for Agricultural Biotechnology and Genetic Resources Research and Development, Jl, Tentara Pelajar 3A Bogor, Indonesia <sup>2</sup> Philippine Rice Research Institute, Science City of Muñoz, 3119 Nueva Ecija, Pan-Philippine Hwy, Science City of Muñoz, Nueva Ecija, Philippines <sup>3</sup> Agriculture Research Center, National Agriculture and Forestry Research Institute, P.O. Box: 811, Vientiane, Laos. <sup>4</sup> Persiaran MARDI-UPM, 43400 Serdang Selangor, Malaysia Rice ( <i>Oryza sativa</i> L.) is a staple food in the most of South East Asian countries. Despite of its importance including local varieties, economic losses arising from drought affects rice production in rainfed areas. To examine genetic diversity among rice germplasm from Indonesia, Philippine, Malaysia and Laos, a total of the exchanged 110 local varieties was analysed using 14 simple sequence repeat (SSR) markers corresponding to QTL for drought. A total of 124 alleles was amplified with an average of 8.86 alleles per locus and Polymorphic Information Content (PIC) value of 0.70, indicating the high informative SSR markers. The high average of PIC represented the high gene diversity of these rice varieties (0.73). Heterozygous alleles were identified in these rice germplasm with the average of major allele frequency of 0.37. Phylogenetic analysis grouped these 110 local varieties into two main clusters reflecting preferentially their genetic background to the country origin. Relatively comparable genetic diversity indices were observed among rice germplasm originated from each country origin. Indonesian local varieties seemed to have a closer distance with those from Malaysia compared to other Asian countries, suggesting the high probability of sharing genetic and geographical origin. Drought assessment of them is necessary in support of this molecular identification. This broadening genetic base of these four countries local varieties is important for future use of these genetic resources to appropriate parental lines selection to improve varieties with environmental adaptation related traits especially for drought and yield potential in Asian countries. <a href="#">Read more»</a>

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