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Determination of Total Phenol Content and Selected Phenolic Metabolites Analysis of Rice (*Oryza sativa* L.) Genetic Resources

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The study of total phenol (TP) content from 700 rice varieties was evaluated using the UV-Vis spectrophotometric method. The calibration curve of serial diluted gallic acid as a standard of this study showed the acceptable performances ($R^2 = 0.999$, mean accuracy 90%) and the mean of % relative standard deviation (%RSD: 0.07%) within the range of 7.8 to 1000 ppm concentrations. The mean value of total phenol content from 700 rice varieties was 2723.15 μg/g ranged from 55.48 μg/g to 9922.23 μg/g and the mean %RSD was 2.5%. Furthermore, this study aim was to analyze and profile individual phenolic compounds in the rice genetic resources to construct an integrative database for development of new rice variety with high functionality for health and understanding of phenolics characteristics in the rice grain. Herein, we analyzed selected 100 rice varieties based on high TP content and identified total 15 phenolic compounds by LC-ESI-MS/MS. Among selected 100 rice genetic resources, the phenolic metabolites consisted of higher amount of flavonoid (catechin) and phenolic acid mainly protocatechuic acid. Further research of more selected rice genetic resources would be continued to provide for an integrative phenolics profile of different rice genetic resources.

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