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BIO-POTENTIAL OF FERMENTED FRUITS WASTE SOLUTIONS ON *IN VITRO* SEED GERMINATION AND REGENERATION OF *Lycium barbarum* AND *Aquilaria malaccensis* LAMK.

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ABSTRACT

There are many synthetic growth media for plant tissue culture available in the market such as Murashige and Skoog (MS) Medium, Woody Plant Medium (WPM), Schenk and Hildebrandt (SH) Medium and Gamborg's B-5 Medium. The aim of this study was to substitute the synthetic media used in the plant tissue culture by organic additives which are pineapple, banana, papaya, calamansi lime, kaffir lime and key lime peels. Two formulated fermented fruits waste solutions composed of these organic additives were prepared in different concentrations (Formula A- calamansi lime, kaffir lime, and key lime peel; Formula B -banana, pineapple, and papaya peels) to study their effects on *in vitro* seed germination and regeneration of *Lycium barbarum* and *Aquilaria malaccensis* Lamk. Statistical results showed that they were significantly different in interaction effects ($p<0.05$) in promoting the plant growth in the formulated media as compared to control medium determined by ANOVA test. Application of this formulated fermented fruits waste solutions should be considered since it is found to be responsive in *in vitro* seed germination and regeneration of *L. barbarum* and *A. malaccensis* Lamk and will potentially minimize the operational cost.

Key words

Fermented fruits waste solutions, organic additives, *in vitro* seed germination.