

Isolation of Endophytic Fungi from Four Selected Plant Leaves and their Effects on Antimicrobial Activity and Plant Growth of *Vigna unguiculata* (L.) Walp.

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Abstract

This research was focused on the isolation of endophytic fungi from the four selected plant leaves in Taloat-lat Village, Maubin Township. The collection period started in March, 2022. These selected plants were *Lycopersicon esculentum* Mill., *Morinda angustifolia* Roxb., *Momordica charantia* L., and *Moringa oleifera* Lamk. The outstanding characters of these plants were identified by the available references and isolation of endophytic fungi was done according to the surface sterilization method described by Lee, 1996 and Ando, 2004 at laboratory of Botany Department in Maubin University. The endophytic fungi were isolated by using two different mycological media, namely LCA (Low Carbon Agar) and PGA (Potato Glucose Agar) media. Among them, only four endophytic fungi were selected and represented as T, M, B, D. Antimicrobial activity of isolated endophytic fungi was tested by using agar well diffusion assay method (Collins, 1965). In these results, the strain D showed significantly in antimicrobial activity against on *Escherichia coli*. The biofertilizer application was done by (Tavares Gilmar, 1997). For the growth and development of *Vigna unguiculata* (L.) Walp. (Long bean), the broth culture of each isolated strains were fertigated as biofertilizer. The results showed that the isolated endophytic fungi strain B was the highest plant growth development and fruits yield. So, endophytic fungi play a crucial role in the agricultural and forestry sectors owing to their ability to improve crop yield.

Keywords: Endophytic fungi, antimicrobial activities, plant growth and development, biofertilizer