# ISOLATION AND SELECTION THE INDIGENOUS ARBUSCULAR MYCORRHIZAL FUNGI FOR SALINE AND ALKALINE TOLERANT ENHANCEMENT OF RICE (*Oryza sativa* L.) CUTIVATED IN GIANG THANH DISTRICT, KIEN GIANG PROVINCE

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**Summary**

Arbuscular Mycorrhizal Fungi (AMF) have the capacity to survive and colony for enhancing the tolerant levels and rice production in a flooded condition. 8 strains of AMF were isolated and selected (L01, L02, L03, L04, L05, L06, L07, L08) from 14 rhizosphere soil samples (taken from Giang Thanh district) to increase salinity - alkalinity tolerance of OM5451 rice variety in Yoshida media with addition of 6‰ NaCl and 250 ppm $FeCl_2$**.** 2 strains L03 and L08 were selected from two genera *Acaulospora* sp. and *Gigaspora* sp. to increase salinity - alkalinity tolerance of OM5451 rice variety under the greenhouse condition. The the results show that inoculation rates reached at 20 - 50%, in range, which was classified from low to medium and has a negative correlation with available phosphorus (8.58 - 30.80 mg/100g). There are three types structures infection: mycelia, vesicular and arbuscular. Morphologic identification published 3 genera: *Acaulospora* sp., *Gigaspora* sp., *Septoglomus* sp.. Re-inoculated rate occupied with 66.67% - 100% in Yoshida and NaCl 6‰ and $FeCl_2$ 250 ppm solution. There were 8 strains that increasing the height of shoots 0.66 - 2.53 cm and the length of roots 0.64 - 1.94 cm, in range, statistically significant difference compared to control 1 (OM5451) in laboratory. There were 2 strains continiously increased the height of shoots and the length of roots in greenhouse condition: strain L03 (2.14 cm; 1.59 cm) and strain L08 (1.99 cm; 1.56 cm), significantly different compared to control (OM5451). This study reported that 2 strains L03 and L08 could enhance the saline-alkaline resistant ability on OM5451 variety.

**Keywords:** *Endomycorrhiza, AMF, isolation, Giang Thanh district, saline - alkaline resistance, rice*.