

Research Title Study on production pattern of indole acetic acid (IAA) produced by bacteria that suitable for farmers

Abstract

An endophytic bacteria *Enterobacter cancerogenus* RD4-1-1 showed antagonistic effect against *Curvularia* sp. Investigation of a simple way to produce indole acetic acid (IAA) for agricultural extension were studied. The IAA productivity was 276.182 microgram per milliliter in potato dextrose broth supplemented with 500 microgram per milliliter of L-tryptophan using 1% inoculums by aseptic techniques and incubated at 30 °C for 3 days with 150 rpm on a rotary shaker. Non-aseptic fermentation was examined by the previous aseptic culture condition. The aseptic production was performed in potato dextrose broth supplemented with 500 microgram per milliliter of L-tryptophan in plastic bottle with air pump incubated at room temperature for 3 days. The aseptic productivity of IAA was decreased to be 73.624 microgram per milliliter. The IAA productions of aseptic and non-aseptic were confirmed by Thin layer chromatography (TLC). The prototype IAA product was diluted to 2.5 micromolar and used as seed soaking for paddy sow field with significantly increase seed germination compared with water soaking.

Keywords : Endophytic bacteria, Indole-3- acetic acid, *Enterobacter cancerogenus*