



Potency of Bacterial Consortium From Apple Crops as Production of Indole Acetic Acid (IAA)

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Abstract : The chemical fertilizers cause a decrease in soil fertility and productivity of apple crops. Rhizosphere bacteria may be used as a biofertilizer agents due to its ability to secret produce metabolites required for the growth of plants. Three bacteria isolate SL4, SL5, and SL7 of apple crops rhizosphere (Apple crops in Batu, Indonesia), were observed through PGP (Plant Growth Promoting) activity traits that consist of cellulose activity, phosphate solubilization, and nitrogen fixation. Quantitative IAA production of three isolates was evaluated, and molecular identification base on 16S rDNA was conducted by MEGA 6.0 software. Results showed IAA concentration of consortium culture highest than the single culture of the isolate is 3,42 µg/mL after 5 days incubation. Bacterial isolates identification showed that SL4 has similarity 99,82% as *Bacillus subtilis* F3-7, SL5 has similarity 99,43 % as *Staphylococcus arlettae* 5H7a, and SL7 has similarity 99,94 % as *Bacillus methylotrophicus* CL12.

Keywords : Consortium, IAA, 16S rDNA.

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