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Biofertilizer Production from Nitrogen Fixing Bacteria Isolated from Root Nodules of Leguminous Plants

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Abstract : *Biofertilizers are defined as preparations containing living cells or latent cells of efficient strains of microorganisms that help crop plants uptake of nutrients by their interactions in the rhizosphere when applied through seed or soil. They accelerate the extent of availability of nutrients in a form easily assimilated by plants. Use of biofertilizers is one of the important components of integrated nutrient management, as they are cost effective and can replace the use of chemical fertilizers for sustainable agriculture. In the present study, the isolation of nitrogen fixing bacteria from root nodules of Arachis hypogaea was performed for the production of the biofertilizers. The result showed that the Rhizobium biofertilizer was successfully produced from nitrogen fixing bacteria which was isolated from root nodules of Arachis hypogaea.*

Keywords: *Biofertilizers, Rhizosphere, Assimilated, Integrated, Sustainable.*

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Introduction :

Biofertilizers are fertilizers that are derived from soil and applied after mixing with carrier materials to the soil or seed to provide natural food and improve the fertility of the soil (Gomare et al. 2013). These fertilizers help in enhancing the nutrient quality of soil by their interaction with the rhizosphere roots of plants when they are applied both on top soil and seed treatment (Temam *et al*. 2017). Microbes can be considered as engineers of soils and many ecosystem services that are linked to terrestrial ecosystems, including plant production, safeguarding of drinking water or carbon sequestration, are closely linked to microbial activities and their functional traits (Vatsayan and Ghosh, 2013). The beneficial microbes are fascinating, versatile and capable of growing on a wide range of substrates and carry out extremely useful processes that cannot be achieved by other physical and chemical means (Paul *et al*. 2014).These fertilizers might help in up