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**Bio fertilizer: microbial inoculant from agricultural waste**W.M.ShanikaWarnakulasooriya<sup>1</sup>,D.A.M.De Silva<sup>1</sup>,P.I.Yapa <sup>2</sup>

.Due to long lasting exploitation and specially, chemical fertilizer that used to get more yield cause to destroy, all of the beneficial microbes from the soil in cultivated area .Therefore, we couldn't able to take the advantage of the beneficial microbes living in soil. And it has resulted in different type of soil degradation . And the soil quality has declined in many cultivated lands resulting less productivity with the health problems to the people. On the other hand, worldwide billion metric tons of waste materials generated annually with the potential of .using effectively to regenerate valuable things, such as organic manure, fertilizer, energy, etc .Our approach was to develop soil microbial inoculant from agricultural waste and introduce it to farming to create a sustainable solution for selective waste management, Reduce the soil degradation, increase the soil reconstruction ability, enhance the degradation of soil organic and inorganic compound to enhance the soil nutrients .In this study, the application of the favorable media that inoculated beneficial microbes as a fertilizer and soil rehabilitation media was examined without chemicals by using series of microbial cultures and sub cultures with deferent cultural media. Culture the microorganism in a proper media with supplying Nitrogen, Carbon, oxygen and Energy source by using the waste materials .Rice husk, cow dung, sugar, ripen fruits and gliricidia was used in certain proportion and aeration used to retain aerobic microbes .Then identify those beneficial microbes in the collected sample and isolate them. Prepared media cause to increase biogenic carbon storage, reduction of greenhouse gas emissions and added input increase soil water holding capacity. There are more benefit can be obtained by product for the longer period due to the microbes who creates spores than others. The bio-fertilizer mixture is possible to develop crop and filed requirements with locally available raw materials. Further, field trials proved that bio-fertilizer mixture enrich soil with microbes, natural fertilization, improve soil physical properties. Farmers receive sustainable benefits, including economical, environmental friendly and socially desirable replacement for inorganic fertilizers.

**Key words:** - *organic farming, waste management, micro organisms,*

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<sup>1</sup> 1Department of Agribusiness Management, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka, P.O.Box 02, Belihuloya, Sri Lanka; [shanikawarnakulasooriia@gmail.com](mailto:shanikawarnakulasooriia@gmail.com)

<sup>2</sup>2Department of Export Agriculture