

Performance of Ridge Gourd (*Luffa acutangula* Roxb.) under Organic Source of Nutrients

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Abstract—The present investigation was carried out to evaluate the effect of organic source of nutrients on yield and yield attributing characters of Ridge gourd (*Luffa acutangula* Roxb.) at two different locations for two consecutive years, viz., the Department of Horticulture, AAU, Jorhat (2013-14 and 2014-15) and Regional Agricultural Research Station, AAU, Nagaon, (2015-16 and 2016-17). The highest average yield was recorded in the treatment combination (T_3) of Rock Phosphate + Azotobacter + Phosphate Solubilizing Bacteria + Enriched Compost (5t/ha) and was found to be at par with the treatment where recommended doses of chemical fertilizers was applied. The application of organic fertilizers contributed to increase in plant height, number of leaves and branches, besides increase in the number of female flowers which can be attributed to the growth promoting substances like auxins, cytokinins, gibberellins etc. secreted in soil due to the enhanced soil microbial activity. The physiological weight loss of ridge gourd was found to be significantly lowest with organic inputs in comparison to the inorganic fertilizers. Increase in microbial population observed in the treatment with organic inputs and decrease in incidence of pest and diseases. There was significant difference in benefit cost ratio among the treatments and T_3 resulted highest economic return.

Keyword: (Ridge gourd, Organic source of nutrients)