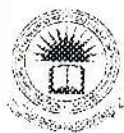


**GROWTH AND YIELD OF DRY SEEDED RICE**  
**(*Oryza sativa* L.) IN NATURAL FARMING SYSTEM**

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## ABSTRACT

Rice (*Oryza sativa* L.) is the world's most important staple food for more than two billion people in Asia and hundreds of millions in Africa and Latin America. Within Southeast Asia, rice provides about 60% of the human food consumption. Presently paddy consumes the largest share of chemical fertilizers and it accounts for approximately 50 percent of the overall use of chemical fertilizers in Sri Lanka. The application of chemical fertilizers is costly and gradually lead to the environmental problems. Organic residue recycling is becoming an increasingly important aspect of environmentally sound sustainable agriculture. Now-a-days, agriculture production based on organic applications is growing in interest and the demands for the resulting products are increasing. Therefore, the effective use of organic materials in rice farming is also likely to be promoted. Natural Farming involves collecting and culturing indigenous microorganisms (IMO) and reintroducing them into an agro ecosystem, which has been managed by people. However, there is little available research and information related to growth and yield of rice in natural farming system. To fill the gap, field experiment was conducted to investigate growth and yield performance of rice in natural farming system.

An experiment was conducted during *maha* season in 2014. The location was selected for the experiment in farmer field at Vaakarai DS Division. The experiment was arranged in a randomized complete block design (RCBD) with twelve replicates in which farmer fields were selected for the experiment and each farm was considered as block. In each farmers field conventional rice plot and natural farming system plot were prepared. Bg 352 rice variety was used for the experiment. Growth parameters and yield parameters was taken within the confined area.

The results revealed that both farming systems affected significantly difference in yield and most of the yield contributing components in rice under local conditions. Among different farming methods, the maximum value of paddy yield ( $601.5\text{g/m}^2$ ) was observed in the natural farming system. Maximum value of plant height (88.1 cm), number of tillers (9.11), number of grains per panicle (105.6), 100 grains weight (2.73g), were observed in natural farming system.

Economic analysis of the data presented in this study shows that natural farming method for rice cultivation is the most economical and attractive option for farming community. The high yield grain and less cost of production per hectare were noted in natural farms (Benefit/Cost= 4.824) as compared with conventional farms (Benefit/Cost=2.39). Finally, the adoption of natural farming technology improves rice farmer's profit.

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