

# **Impact of EM on the Growth and Yield of American Oyster Mushroom**

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**Abstract :** *Mushroom is used in Sri Lanka as a delicious and nutritious dish. There are four different mushroom varieties commercially grown in Sri Lanka and the most common variety is the American oyster. The total mushroom production in the country is about 35 - 50 MT/month. It is a high protein food which contains 2.5 g protein in 100 g of mushroom. The objective of this study was to study the effect of EM on the growth and yield of American oyster.*

*Two samples each having 100 polypropylene bags were used for the study. Only one sample was treated with EM. It was applied at two stages; for saw dust fermentation and for the growing house. EM solution for the sawdust fermentation was prepared using EM, molasses and water (1:1: 60). Sawdust, rice bran, lime and magnesium sulphate was mixed together and multiplied EM solution sprayed and kept for 12 hours for fermentation. Two samples were separately sterilized, inoculated and kept for incubation. EM was applied for the same sample during the growth period. EM solution was prepared using EM, molasses and water(1:1:200). This mixture was kept for two hours and sprayed to the polypropylene bags twice a day. The other sample was sprayed with water. Yield of the two samples was weighed separately on fresh matter basis.*

*Average yield of EM applied sample was 324 g/bag and the average yield of the non EM sample was 300 g/bag. This shows a yield increase of 8% when EM is applied for saw dust fermentation and for the growth stage. Moreover when EM is applied the total yield can be harvested within 2 months whereas it takes 3 months when EM is not applied. This indicates that with EM it is possible to have 6 cropping seasons/year and without EM only 4 cropping seasons/year are feasible. Other significant observations are the mushroom is more thicker, softer and the keeping quality too improves.*

*Above results indicate that the application of EM helps to improve the average yield of mushroom as well as it improves the number of cropping seasons per year as EM increase the rate of decomposition of the growth substrate. Further, EM improves the keeping quality of mushroom and this is highly beneficial to the marketeers as mushroom is more perishable. Finally, EM has improved the luster and thickness of the mushroom making it more attractive to the buyer.*

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