

Development of a packaging, storage and transportation cabinet for paddy straw mushroom

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Abstract

Shelf-life of paddy straw mushroom could be extended to 3 days by pre-cooling mushrooms in air at 14 °C for 2 h followed by packing in 75 μ thick high impact polystyrene punnets with 1.2% perforations as primary package and subsequently stored in expanded polystyrene (EPS) cabinet as secondary package. The EPS cabinet has been designed for transportation of mushroom with ice as cooling aid to maintain the optimum storage temperature. Temperature profile inside the cabinet was studied under no-load and full-load condition. The temperature inside the cabinet with 6 kg pre-cooled paddy straw mushroom (packed in 24 number of punnets @ 250 g mushroom per punnet having 1.2% perforations) and 6 kg ice in the partition chamber, was maintained at optimum storage temperature of 15 ± 2 °C ($92 \pm 1\%$ RH) up to 18 h. Results of the study suggest that the technology could be successfully adopted by the paddy straw mushroom growers and traders for storage, transportation and marketing for loss reduction and higher return.