



Use of vermicompost as casing material for cultivation of *Agaricus bisporus* (Lange) Sing

R.S. RATNOO* AND ANILA DOSHI

Department of Plant Pathology, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, UDAIPUR (RAJASTHAN) INDIA

Abstract : In *Agaricus bisporus* cultivation, use of vermicompost as an casing material was found superior as compared to 25, 50 and 75 per cent vermicompost when added in standard casing material. Maximum mushroom yield (300.00 g/2 kg of compost) and number of fruit bodies (29.75) were obtained as compared to other treatments. By using 100 per cent vermicompost as a casing medium maximum, yield and number of fruit bodies were obtained.

Key Words : Vermicompost, Casing material, *Agaricus bisporus*

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INTRODUCTION

The use of casing is important and pre-requisite for pinning in *Agaricus bisporus* cultivation and healthy crop growth. The casing medium used universally is peat. Peat is scarcely available in India and an alternative to peat is FYM and spent compost

It is normally believed that fruit bodies of mushrooms are produced when some stress is provided. By applying casing layer which is not nutritionally as rich as compost, conditions of stress necessary for induction of fruit bodies are created. Besides, casing is also known to supply water for growth and development of fruit bodies and maintain humidity and temperature in cropping room by evaporative cooling. It provides a medium of low osmotic value compared to compost and hence provides a proper mix for developing pinheads and above all, it provides physical support to developing fruit bodies. Importantly, casing medium contains a large population of bacteria, specially that of *Pseudomonas putida* and *Bacillus* spp. which are reported to induce fruit bodies (Eger, 1961; Hayes *et al.*, 1967; Shandilya, 1987).

Leached vermicompost was found to give the yield

comparable to standard FYM casing (Shandilya, 2000). Bhardwaj (2000) used vermicompost as casing material resulted in highest yield. Doshi and Sharma (2000) also used vermicompost as casing material gave good yield.

MATERIALS AND METHODS

The use of casing is important and prerequisite for pinhead formation. The layers of casing soil forms the environment in which the mycelium changes from vegetative phase to the reproductive phase, casing layer of 1.5 inch was applied on fully spawn run compost after pressing it and light irrigation with water and then casing was applied and immediate after application of casing layer water was sprayed over casing medium to maintain the moisture in the casing soil

After application of casing layer the temperature was reduced to 16-18°C and water was sprayed two to three times a day to maintain humidity (85-90%) in the cropping room. Besides this ventilation was provided to induce fruiting. When the pin heads started appearing, then humidity of cropping room was more than 70 per cent and once or twice a day water was applied to the bags.

* Author for correspondence.