

SEASONAL GROWING OF BUTTON MUSHROOM IN NORTH INDIA

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ABSTRACT

Establishment of a mushroom project is an expensive affair but another cheap way of growing mushrooms is seasonal growing in temporary sheds during the winter season. Hundreds of growers in North India grow mushrooms in bamboo-paddy straw huts. The paper deals with the problems, innovative solutions like change of place of cultivation at regular intervals to avoid disease build-up and the scope of seasonal cultivation.

Keywords: seasonal cultivation, button mushroom, hut cultivation

Setting up a mushroom farm is an expensive and complex affair. It involves building of insulated growing rooms along with metal racks. For control of temperature, RH and fresh air, air handling units are installed for individual rooms connected with a central cooling unit comprising of compressors, condensers, etc. A composting unit comprised of Phase I tunnels, Phase II tunnels and a platform is also a part of the mushroom farm.

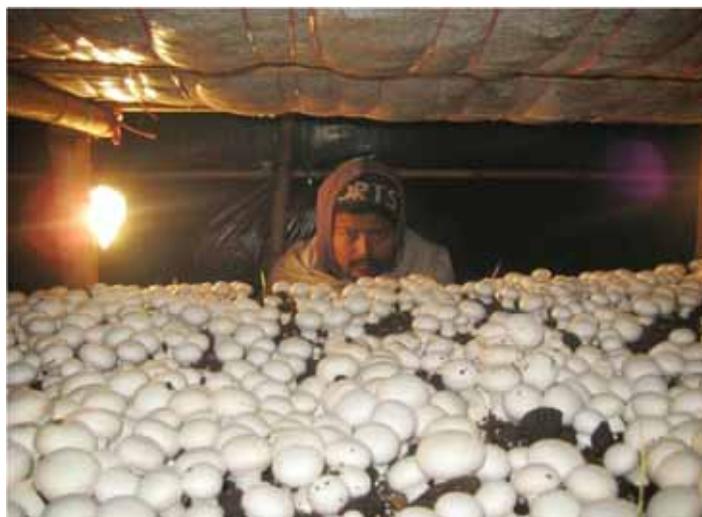
In North India, we get a fairly extended winter and it is possible to take one extended crop or even two crops, from end of November to end of March without sophisticated climate control. Hundreds of farmers produce button mushroom in North India with this method, with Haryana on the top of the list. The compost is made by long method and growing is done in bamboo-paddy straw huts. Right formulations and right procedures not only ensure good production, but also eliminate the need of adding nematicides and insecticides to the compost. Unskilled labour is available but not as easily as three to four years ago and getting too expensive unlike process of mushrooms. Seasonal growing is highly labor intensive.

Hundreds of farmers around Delhi, including me have been growing mushrooms seasonally for the last ten years, making compost by long method and growing in temporary huts made of bamboos and paddy straw. In the 80s, a small village emerged on the map of India, as the village of mushroom as most of the families of village Badana, Sonapat in Haryana were engaged in this profession, not any more. In fact some of the mushroom growers are shifting from seasonal growing to modern mushroom farms with climate control.

In Haryana, farmers shift the location of mushroom units at regular intervals. Advantage of starting up a new mushroom farm at a new place is always there. As the farm and the site get older, spores of green mould (*Trichoderma*, *Aspergillus*, *Penicillium* species), yellow mould (*Myceliophthora lutea*), plaster mould (*Scopulariopsis fimicola*) etc. accumulate in the air, soil even on the bamboos. They are ready to attack mercilessly on a unpasteurized compost not made properly or “selective” in other words. The monster of “wet bubble” is always looming and mushroom flies do appear as soon as warm weather begins in the month of March. If bubble attack occurs at an early stage, it can spoil the game as the economics of seasonal growing is based on prolonged period of cropping. Good hygiene standards are not possible to maintain in temporary huts erected among paddy fields. Therefore shifting the growing site every season helps to a certain extent.

The farmers talk of poor yields, citing various reasons. Many farmers are still making compost with very old formulation using inorganic nitrogen fertilizers like potash, calcium ammonium nitrate, super phosphate, etc. instead of chicken manure. Not only this formula is expensive, but the available nitrogen is not utilized by microbes working in late composting, therefore not much useful to the mushroom mycelium. With right formulation and modifications, when compost temperature touches 75 to 80°C in the core of compost pile plus high levels of ammonia, nematodes and insect eggs get killed and there is no need to add nematicide and insecticide except to take care of cold layer of compost.

Technical advice is not available to the farmers. A farmer is expected to learn the vast field of mushroom growing by attending small courses organized by research organisations. Since it is a seasonal activity, farmer gets only two to three months for composting and three months for mushroom growing, where one has to rush against the time. “Skill” is hard to



acquire - whether it is the moisture in compost or picking speed or watering regime during cropping. So, instead of giving subsidies to the farmers, they should be strengthened by providing them with technical knowledge.

Labor availability is becoming a major problem. Again being a seasonal activity, skilled labor is not available who prefer to work in climate control mushroom farms for the whole year. The reality of changing time is labour shortage and cost. The focus of agricultural labor is confined to rice transplantation, grain harvest or sugarcane harvest as these activities are more rewarding in terms of money.

Our marketing system is not conducive to farmers where the middle man's margins are high. The perishable nature of mushroom makes the things even more difficult. Like other agriculture crops, there is no provision of insurance of mushroom crops against damage of huts due to excessive rains, high winds and fire. Despite the odds, there are a handful of growers who are doing well. With experience they have learnt the art of making compost, kept their costing under control and found better market outlets in other towns besides Delhi. Like in any other business, there are some good years and some bad years. Bamboos are one time investment as they last for five to seven years. Each year when September comes, these bamboos lure the farmer and he again plans one more time even if preceding year was not so profitable!

There is a need for strong cooperative of seasonal mushroom growers, which could help the farmers get a better price for the produce by direct sale in fresh markets all over the country and a tie up with processing units. By highlighting the nutritional and medicinal value of mushrooms we may be able to increase the per capita consumption. In a rapidly developing country like ours, there is a tremendous scope with a huge market for home as well as export, in waiting. Considering this, seasonal mushroom growing will continue to have some potential for some more time to come.