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Adoption of recommended mushroom production technology by the farmers in Jammu regions

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Abstract

Mushroom refers to the fruit body of a fungus. It is neither a plant nor animal. On a dry weight basis, it contains 55 percent carbohydrates, 02 percent of proteins, 02 percent fats and the rest minerals and vitamins. The greatest advantages of this venture is the fact that mushrooms have capacity to convert nutritionally valueless substances like wheat or rice straw into nutritional delicacies. These are also an excellent source of Vitamin B₁, B₂ and minerals such as potassium, phosphorus, iron and copper. They are recommended as alternative source of proteins by FAO. Mushroom cultivation is very remunerative and plays an important role in increasing incomes, self employed and job opportunities in rural areas. The present study is an endeavour to study the various occupational, social and economic motivational factors responsible for adoption of improved mushroom production technology. The result of the study reveals that major occupational motivation factor was that there influenced by the village Sarpanch was the main social motivational factor for adoption of mushroom cultivation. The major constraints faced by the respondents were lack of pre cooling and storage facilities (89.75%) and inadequate knowledge about growing mushroom (82.76%).

Keywords: mushroom, farmers, Jammu regions, recommended

Introduction

Background and Objectives

Mushrooms have been consumed by human races in one form or the other prehistorically. Edible mushrooms are among the most popular and nutrition food accepted by the world and increased consumer demand over past few years has made its production escalate in large proportions. These are one of the most important and effective bio-convergent of agriculture wastes into proteinaceous mass used as food. It is recognized as a distinct source of essential amino acids (Nair *et al.*, 1991). Out of 2000 edible mushrooms known about 283 species are known to be found in India (Singh, 1999) [5]. Mainly three types of edible mushrooms are cultivated in India on commercial basis. These are paddy straw mushrooms (*Volvarcella volvacea*), Oyster or dhingri mushroom (*Pleurotus sajor-kanju*) and white button mushroom (*Agaricus bisporus*) (Chakraborti, 2001). Button mushroom is the most widely accepted mushroom in India both by rural and urban consumers. The second important mushroom is Oyster mushroom and there are several species of this genus. It also enables recycling of agro wastes like dung and chicken manure which otherwise pose problem.

The world's largest button growing unit is located in Punjab. The Present production of all types of mushrooms in India is about 1,00,000 tons per annum (2008) and the bulk of it is the white button mushroom (Sharma and Dhar, 2009). J&K is one of the major mushroom growing states of the country. The climate conditions are quite favourable for growing mushroom throughout the year. Systematic work on mushroom cultivation in Jammu region was started with 500 trays of button mushroom in the year 1972 with a production level of about 5 quintals. But at present it produces about 6500 quintals of fresh mushroom, out of which about 50 percent is contributed by the Jammu district alone. The productivity in Jammu region is less as compared to other states in the country. One of the reasons for low productivity can be due to non-adoption of recommended practices. Looking at the popularity of mushroom cultivation as a major income generating enterprise among farmers in Jammu district, the present study was undertaken with the following specific objective. To find out the extent of adoption of mushroom production technology by the farmers.

Resources and Methods

The present study was conducted in purposively selected Ranbir Singh Pura and Bishnah Panchayat samities of District Jammu of Jammu and Kashmir. The reason for selecting the said Panchayat samities was that these have maximum number of mushroom growers trained.

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by Department of Agriculture, Government of Jammu and Kashmir in mushroom cultivation. Eight villages having maximum number of respondents were finally selected from these two samities and from them a sample of 120 farmers was taken by the method of stratified random sampling using proportional allocation.

Result and Discussion

The extent of adoption of mushroom production technology which encourages the cultivators to take mushroom production technology as a subsidiary agricultural location was also analysed separately under five major aspects, viz general. Five major aspects, viz., general aspects, composting, spawning, intercultural operations and harvesting and past harvesting Technology. The analysis was done using mean percentage score and ranking was done accordingly.

Table 1: Extent of adoption of general aspect of Mushroom production Technology by the farmers.

S. No	Practice	MPS	Rank
1	Use of recommended varieties of Mushroom	18.33	II
2	Maintenance of required temperature for higher production.	3.33	III
3	Prepare dark rooms/sheds as per recommended.	37.08	I

The data incorporated in the table 01 show that the respondents had highest extent of adoption in aspects prepare the dark rooms with (MPS 37.08). This was followed by growing of recommended varieties (MPS 18.23) and maintaining required temperature (MPS 3.33) with second and third rank respectively.

Table 2: Extent of adoption of composting practices by the respondents.

S. No	Practice	MPS	Rank
01	Use of recommended substrate.	74.17	V
02	Use of recommended chemicals in compost making.	5.42	IX
03	The methods recommended chemicals in compost making.	64.17	VI
04	Use of mould and insect free substance.	81.67	III
05	Use of recommended proportion of compost ingredients.	17.92	VIII
06	Use of recommended fumigants.	22.08	VII
07	Making substrate sufficiently wet before composting.	88.33	II
08	Recommended quantity of water during preparation.	96.67	I
09	Recommended procedure of preparing compost.	77.92	IV

The data presented in Table 02 show that majority of the respondents had adopted the recommended amount of water for preparing compost (MPS 96.67) and was ranked first because the respondents know that water is the primary need of composting without recommended amount of water good

quality compost cannot be prepared. The use of recommended chemicals in compost making (MPS 5.42) was ranked ninth because of reason that chemicals were beyond the reach of farmer.

Table 3: Extent of adoption of spawning practices by the respondents.

S. No	Practice	MPS	Rank
01	Recommended spawn rate for compost inoculation.	82.08	II
02	Use of quality spawns.	60.44	IV
03	The methods spawning.	78.45	III
04	Depth of spawn placement.	49.18	V
05	Polythene bags or wooden boxes for filling inoculated compost.	88.75	I

Table 03 depicts that majority of respondents had used polythene bags or wooden boxes for filing the spawn inoculated compost (MPS 88.75) and was ranked first majority of them also found using recommended spawn rate

(MPS 82.02) and also adopted method of rate (MPS 78.45). It is also noted that depth of spawn placement (MPS 49.18) was adopted by the respondents but its tune was lowered as compared to other practices.

Table 4: Extent of adoption of intercultural operations by the respondents.

S. No	Practice	MPS	Rank
01	Hygienic conditions for growing mushroom.	50.42	III
02	Methods & no. of irrigations.	87.50	II
03	Chemicals for plant protection.	6.25	IV
04	Uprooting of off-type plants from the unit regularly.	92.50	I

The data incorporated in the table 04 reveals that respondents had highest adoption in the aspect uproot the off-type plants from the mushroom unit (MPS 92.50) and was ranked first. They had also followed recommended method and number of irrigation in the unit with MPS 89.50 and was ranked second. It is alarming indeed that very few respondents were find

using chemicals for plant protection because they were not available to them with MPS 6.25.

The results are somewhat in confirmation with Dhar (1994) who reported that the conditions under which small marginal farmers grew mushrooms were unhygienic.

Table 5: Extent of adoption of harvesting and post harvest technology by the respondents.

S. No	Practice	MPS	Rank
01	Harvesting at appropriate stage.	51.25	II
02	Methods of harvestings.	57.10	I
03	Grading of harvested mushroom.	19.17	III
04	Sundrying of mushroom.	9.58	IV
05	Dipping of mushroom in brine solution.	0.00	VI
06	Picking/ Canning of mushroom.	7.50	V

It can be seen from the Table 05 that the selected farmers had highest adoption of the recommended method of harvesting with MPS 57.10 and was ranked first. None of the respondents was found using practice of dipping mushroom in brine solution.

Conclusion

Based on finding, it could be concluded that the majority of the respondents (50.83 percent) were medium adopters, 26.67 percent were low adopter and only 22.50 percent of the respondents were high adopters of recommended technology of mushroom cultivation. It may be due to the fact that various extension activities like demonstration, training etc, are frequently organized by the extension field functionaries in the villages which may have helped in convincing the farmers about the recommended technology of mushrooms cultivation and resulted in increasing the adoption of recommended technology of farmers. But still there is need to convert these medium adopters into high adopter. Therefore all the essential activities should be made available to the farmer and intensive efforts to convince the farmers about recommended technology of mushroom are needed.

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