

## Impact Assessment of Skill Development Training on Low Cost Mushroom Production Technology in Panipat District of Haryana

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### ABSTRACT

The present study was undertaken to assess the impact of skill development training about Low Cost Mushroom Production Technology as an enterprise on knowledge gain. A total number of 90 trainees who have undergone through five days skill development training at Krishi Vigyan Kendra, Panipat were selected as a sample for the study. The impact of training programme was assessed by pre and post evaluation testing in terms of improvement in knowledge on various aspects of Low Cost Mushroom Production Technology. It was observed that pre-training knowledge score was not much satisfactory for all the aspects of training programme. However, the knowledge score gained by respondents after training was more satisfactory in all aspects. The study revealed that experience to training had increased the knowledge of SC/ST Farm Women and Rural Youth regarding Low Cost Mushroom Production Technology. In pre-evaluation test, the knowledge range of different participants was 4.4 per cent regarding Insect-Pest & Disease of mushroom and its management to 46.6 per cent in case of knowledge nutritional importance of mushrooms. Post training score of various practices ranged from 86.6 per cent in case of chemical used for sterilization of casing mixture to 100 per cent in case of various practices like nutritional status of mushroom, method of spawning, method of casing, moisture Content in prepared Compost, Seed rate i.e. spawn required for 100 kg prepared compost, harvesting Method, Number of days for harvesting, value addition of Mushroom, marketing channel, storage of Mushroom, Number of days required for pin head initiation etc.

**Keywords:** Gain in knowledge, Mushroom production

### INTRODUCTION

Skill development Training and demonstration are integral part of KVK Extension System. At present there are over 700 KVK-about one KVK in each district of India. KVK have twin role-one is training of farmers in new technologies and practices and another is demonstration. KVK playing an important role in encouraging Schedule Caste landless rural women to take up simple and quick Income Generating Activity (IGA) from where they can earn additional income. KVK

Panipat took up an initiative for popularization of Mushroom Cultivation among SC landless rural women. Mushroom cultivation is a good enterprise for SC landless rural women as it is grown on agricultural waste, require less land, and require short span of time to grow.

White Button Mushroom (*Agaricus bisporus*) is very popular in Panipat district of Haryana and alone contributes about 95 per cent of the total mushroom production in the state, a large quantity (80%) is consumed as fresh and remaining is canned. It is grown

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on agriculture wastes like wheat straw, paddy straw etc. and these waste are available in huge amount in Panipat district of Haryana. Mushroom cultivation showed a new approach of socio-economic development for the farm women and rural youth due to its low cost investment and high yields obtained even under rural condition. Haryana has also a location specific advantage being nearer to national capital and therefore, potential market is available for marketing of agro-products. Keeping in view the availability of abundant quantity of agricultural waste, there is ample scope of increasing mushroom production in Haryana state. Mushroom production will improve the socio-economic condition of SC/ST farmers and farm women and resolve employment problems of both literate and illiterate. Hence, this study was undertaken with an objective to assess the impact of Skill Development training programme on knowledge gain about Low Cost Mushroom Production Technology as an enterprise. Skill training is defined as an action oriented way of training in which the activity is performed. To find out the impact of any skill development training programme a evaluation of what is being done is essential, on the basis of what necessary changes can be made to make the training programme more effective (Lal and Tandon, 2011).

## METHODOLOGY

Krishi Vigyan Kendra, Panipat organized three Skill development training programmes on low Cost Mushroom Production Technology under the project "Improvement in the Livelihood of SC/ST Farmers/Farm Women. These training programmes focused on only SC/ST Farmers, Farm Women, and Rural Youth, those who have interested in self-employment. Total number of 90 Schedule Caste women participated in these five days programmes conducted during the year 2018-19.

For evaluating the impact of Skill development training programme on low cost Mushroom Production Technology, appropriate schedule was prepared comprising of general information, background of trainees such as age, education, occupation etc. A pre-evaluation test was performed to know the level of knowledge of trainees regarding types of mushroom, optimum growing time, nutritive value, method of compost preparation,

preparation of casing, spawn and spawning, diseases of mushrooms, harvesting techniques, grading, packing and marketing of mushroom, nutritive value as well as value addition etc. Similarly, in order to assess the knowledge gained by the trainees, post-evaluation was also performed just after completion of training programme. Hence, gain in knowledge was calculated from the difference of scores obtained in pre and post knowledge test of the trainees. Likewise, the suggestions from the trainees were also discussed for bringing further improvement in the skill development training programme. The data were analyzed using frequency, percentages and ranking. Hence, gain in knowledge was calculated from the difference of scores obtained in pre and post knowledge test of the trainees.

## RESULTS AND DISCUSSION

All the trainees varied in age, education, occupation and landholding. The data in Table 1 showed that majority of the participants were in the middle age group i.e. 31-50 years followed by young i.e. less than 30 years of age. It was also inferred that 86.7 per cent farmers were landless farm labourers whereas 13.3 were marginal farm

**Table 1: Socio-economic status of mushroom trainees**

Characteristics	Mushroom cultivation trainees	
	Frequency	Percentage
<b>Age</b>		
Young (less than 30 years)	26	28.9
Medium (31 to 50 years)	54	60.0
Old (more than 50 years)	10	11.1
<b>Education</b>		
Illiterate	5	5.6
Primary school	45	50.0
Middle school	35	38.9
High school	5	5.5
<b>Land Holding</b>		
Landless	78	86.7
Marginal (less than 1 ha)	12	13.3
Big (More than 1 ha)	0	
<b>Occupation</b>		
Farming	13	14.4
Vegetable selling	7	7.8
House wife	70	77.8

women having less than 1 hectare while none of the trainees having more than 1 ha farming land. The data also highlighted that 50.0 per cent studied up to primary level followed by middle level i.e. 38.9 per cent and equal percentage of trainees i.e. 5.5 per cent were illiterate as well as attaining high school.

Considering all the above said evaluating parameters it was apparent that mushroom cultivation enterprise does not require much land and therefore, landless farmers were found to be interested to adopt this enterprise to add-on their family income. It was observed that 77.8 per cent of trainees belonged to housewife followed by 14.4 per cent belonged to farming. These findings were in line with the results of the Rachna *et al.* (2013).

The factors which motivated the respondents to join the training course were given for ranking in order of importance as perceived by them. Table 2 shown that 68.9 per cent trainees joined training programme to adopt mushroom production as an enterprise, 58.8 per cent wanted to learn about production technology of mushroom for nutritional security and additional source of income. Almost cent per cent trainees wanted to know how to grow different variety of mushroom, 40.0 per cent joined the training course just to get the certificate of training to get loan from bank to start their enterprises and 62.22 per cent wanted to establish linkage with KVK for further up gradation of knowledge. Lesser participants showed their interest to transfer the skill to fellow farmers about mushroom production. Similar results were also reported by Kaur, 2016. It was evident that majority of respondents joined the training course to learn about production technology of different variety of mushroom followed by household nutrition and additional source of income.

The overall knowledge level of respondents was found to be changed after the training. Change in knowledge regarding mushroom cultivation was recorded for sub-components. It was observed that nutritional importance of mushroom, types of mushroom, raw material, mushroom Spawn, importance of Casing, required temperature and humidity for fruiting, harvesting methodology, preservation techniques, marketing channels, awareness and availability of loans and subsidies from the government and mushroom recipes. It may therefore, be concluded that trainees succeeded in acquiring knowledge after exposure to training on mushroom production. Thus, it can be inferred that exposure to training had increased the knowledge of respondents regarding all the sub-components of mushroom production. The data in Table-3 revealed that more than 80 per cent of trainees were deviating in knowledge on method of compost preparation, raw Material required for compost preparation, moisture content in prepared compost, method of casing, seed rate i.e. Spawn required for 100 kg prepared compost, method of spawning, Number of days required for pin head initiation, Number of days for harvesting and Method of Harvesting, Chemical used for washing mushroom and Awareness and availability of loans and subsidies from the government.

Only 60.0 per cent of trainees were deviating knowledge on Optimum time of White Button Mushroom Sowing after training while 53.4 per cent of the trainees were deviating in knowledge on Nutritional importance of Mushroom after training. It was thus concluded that pre training knowledge score was not much satisfactory for all the aspects of training programme. However, the knowledge score gained by participants after training was

**Table 2: Reasons of participation in training programme in mushroom cultivation (N=90)**

Reasons	Frequency	Percentage
To adopt mushroom production as an enterprise	62	68.88
To learn about production technology of mushroom for nutrition and additional source of income	53	58.88
How to grow different variety of mushroom	81	90.00
To get certificate of training course for loan from bank	36	40.00
To establish linkage with KVK	56	62.22
Transfer the skill to fellow farmers about mushroom production	21	23.33

**Table 3: Gain in knowledge after acquiring training with respect to different operation**

Particulars	Pre-Evaluation	Post - Evaluation	Gain in Knowledge
Different types of mushroom grown in Haryana	15 (16.6)	87 (96.6)	+72 (80.0)
Optimum time of White Button Mushroom Sowing	29 (32.2)	83 (92.2)	+54 (60.0)
Nutritional importance of Mushroom	42 (46.6)	90 (100)	+48 (53.4)
Method of Compost Preparation	6 (6.6)	86 (95.5)	+80 (88.9)
Raw Material required for compost preparation	12 (13.3)	90 (100)	+78 (86.7)
Number of days required for Compost preparation in long Method	11 (12.2)	87 (96.6)	+76 (84.4)
Moisture Content in Prepared Compost	9 (10)	90 (100)	+81 (90.0)
Casing Mixture preparation	8 (8.8)	84 (93.3)	+75.2 (84.5)
Method of Casing	10 (11.1)	90 (100)	+80 (88.9)
Chemical used for sterilization of casing mixture	8 (8.8)	78 (86.6)	+70 (77.8)
Availability of Spawn	11 (12.2)	90 (100)	+79 (87.8)
Seed rate i.e. Spawn required for 100 kg prepared compost	7 (7.7)	90 (100)	+83 (92.3)
Method of spawning	8 (8.8)	90 (100)	+82 (91.2)
Number of days required for mycelia growth	12 (13.3)	86 (95.5)	+74 (82.2)
Optimum temp. and humidity for fruiting	7 (7.7)	84 (93.3)	+77 (85.6)
No of days required for pin head initiation	6 (6.6)	90 (100)	+84 (93.4)
Method of harvesting and Number of days for harvesting	8 (8.8)	90 (100)	+82 (91.2)
Chemical used for washing mushroom	0	81 (90)	+81 (90.0)
Storage Marketing Channel of Mushroom	11 (12.2)	90 (100)	+79 (87.8)
Insect-Pest and Disease of Mushroom and its Management	4 (4.4)	80 (88.8)	+76 (84.4)
Value addition of Mushroom	28 (31.1)	90 (100)	+62 (68.9)
Awareness and availability of loans and subsidies from the government	7 (7.7)	87 (96.7)	+80 (88.9)

**Table 4: Suggestion given by the trainees for improvement in training course**

Suggestion	Frequency	Percentage
More importance to method demonstration	68	75.5
Regular supply of good quality spawn	75	83.3
Supply Literature / booklets / guide book on Mushroom	70	77.8
Publicity of mushroom nutritional benefits in rural /urban areas for increasing consumption of Mushroom	45	50.0
Linkages with banks and other government offices engaged in rural development for specially for financial assistance	72	80.0
To increased duration of training Programme	12	13.3
Organize training at different out stations for better exposure	10	11.1

more satisfactory in all aspects. The reason behind the satisfactory gain in knowledge might be the keen interest of all the participants about this entrepreneur. The findings were similar to the results reported by Nagaraj *et al.* (2017) and Kaur (2016) that exposure to training increased the knowledge of farmers, farm women and youths. Thus,

it can be revealed that exposure to training had increased the knowledge regarding all the sub-components of Low Cost Mushroom Production Technology. The reason behind the satisfactory gain in knowledge might be keen interest in of mushroom trainees as well good educational background of participant. Financial assistance provided

by the KVK may be another aspect for gain in knowledge more than 80 per cent in almost all the aspect of mushroom cultivation.

The suggestions offered by the mushroom trainees for further improvement of the training course were confirmed that more importance must be given to the regular supply of good quality spawn, Linkages with banks and other government offices engaged in rural development for specially for financial assistance, supply of mushroom literature, more importance on method demonstration. Only 13.3 per cent trainees also suggested on increase in duration of training, while 11.1 per cent were in favour of organizing training at different out stations for better exposure.

### CONCLUSION

It can be concluded from the study that training is a very good tool for skill development of trainees and good conduct of training provide trainees needed information and guidance to start and do well any enterprise. Mushroom cultivation is such an enterprise in which requirement of land is not a big issue so even landless farmers can augment their income through mushroom

cultivation. The trainees were inspired greatly by the easy method of low cost mushroom production technology. Krishi Vigyan Kendra playing an important role in encouraging farmers and farm women and rural youths to take up simple and quick income generating enterprises from where they can earn additional income.

*Paper received on* : January 12, 2019

*Accepted on* : February 05, 2019

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