



RESEARCH PAPER

Impact of training on mushroom cultivation technology on knowledge status and adoption by trainees: A study in Jaisalmer district of Rajasthan

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Abstract : The study was conducted at Krishi Vigyan Kendra Jaisalmer during 2019 and 2020. A sample of 40 farmers was chosen among the trainees provide them two trainings each 25 days of each training. Oyster, Milky, Button, mushrooms are most dominant species but oyster mushroom which is grown throughout the period of the year. The Knowledge improvement of participant's and acquisition of technology was increased after attaining trainings. The areas in which knowledge gained recorded high, included seizure of cultivation techniques, making favourable conditions for mushroom, local output of seed and knowledge about its cultivation. They also adopted by 12.50 per cent farmers, learned methods of different mushroom by 87.5 per cent. The change in knowledge improvement of participant's reported from 32.50 to 72.6 percentages and 12.50 to 75.00 percentage of learning of summer house cultivation than the pre-training. The studies reviewed that KVK trainings were effective and highly increased knowledge but adoption levels of mushroom was less in Jaisalmer district.

Key Words : CuSO_4 , Heavy metals, MnSO_4 , Fresh leaf yield, Total biomass, Tuberose, ZnSO_4

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INTRODUCTION

Krishi Vigyan Kendra (KVK) is an innovative transfer of technique project under Indian Council of Agricultural Research. Out of mandatories of KVK, one is science about scientific mushroom production technique. Mushroom has spored fruiting body of fungus and belongs to the class of Basidiomycota of the Agaricaus order in fungal classification. It is grown on cellulose, hemicellulose and lignin rich organic substrates

such as sawdust, leaves and other agro based product. It is an indoor crop, grown independent without sunlight and do not require fertile land and can be grown on small scale as it does not include any significant capital investment (Chadda and Sharma, 1995). It constitutes about 85-90% moisture, 3% protein, 4% carbohydrates, 0.3-0.4% fats and 1% minerals and vitamins and little amount of medicinal properties like lowering blood cholesterol level, defense against cancer and invigorating

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hair growth Vitamin 'B', folic acid, the blood building vitamin, useful in anaemic condition, ascorbic acid, pantothenic acid, vitamin B-12 and the precursor of vitamin A and D, iron, phosphorus, potassium and copper, contain all essential amino acids particularly L-tryptophan and L-lysine. Mushroom provides high quality fats and low in carbohydrates and cholesterol, which is ideal for reducing body weight (Qumio *et al.*, 1990). Shahi *et al.*, 2018 reported that it contains good source of vitamin B, C and D including niacin, riboflavin, thiamine and folate and various minerals such as iron and copper. Mushroom contains carbohydrates and fats, hence good for diabetes and heart patient. Mushroom is cultivated in cold regions of India and Rajasthan while jaisalmer comes in desert regions so there is very difficult of mushroom cultivation. Its nutritional level stops malnutrition in people. Denutrition in peoples can be removed by using mushroom. Mushroom cultivation can help reduce vulnerability to poverty and strengthens livelihoods through the generation of a fast yielding and nutritious source of food and a reliable source of income (Rachna *et al.*, 2013). Though there is a huge prospect of mushroom production in India, there are some problems during cultivation and marketing; which are essential to be addressed and as such steps could be taken to boost production of this crop. Despite the technology of mushroom cultivation is somewhat recent innovation and incorporation of this non-conventional crop in existing agricultural system can help in improving the social as well as economic status of the farmers. The execution of Krishi Vigyan Kendra is judged via influence of trainings of various production technologies on farmers' knowledge and adoption in actual field situation, parts of interpreneurship and production of mushroom and how the training they taken fit into the complex pattern of socio-economic status change. Keeping this view a study was undertaken to detect the knowledge and acquisition of farmer pre and post the training regarding mushroom production technology and the following goal were taken to study the personal features and source of information under training, to know the knowledge and acquisition amongst trainees about scientific mushroom production technology.

MATERIAL AND METHODS

The study of mushroom production was conducted in Krishi Vigyan Kendra, Jaisalmer district of Rajasthan state during 2019 - 20 and 2020 - 21 under Agricultural

Skill Council of India. A complete list of 40 participants was conducted these training. Fourty farmers were participant in these trainings in KVK nearby areas of Jaisalmer district. A set of ten questions about the participants were asked by covering their background information. Knowledge status was studied pre training and different aspects posttraining. The change in knowledge status was calculated from the difference of scores obtained in pre and post knowledge test of the trainees. The data were kept in a table and statistically analyzed using percentage.

$$\text{Change of learning knowledge} = \frac{\text{After training} - \text{before training}}{\text{Total respondents}} * 100$$

Acquired knowledge status about different aspects of mushroom production was conducted after the trainings. Data of the knowledge and acquisition of mushroom cultivation were conjuncted by pre-tested schedules by knowledge test on different aspects of mushroom production. A distinct schedule was practiced to collect trainee's response about mushroom. Suitable statistical methods (techniques) were used for analysis purpose.

RESULTS AND DISCUSSION

The education status of farmer showed that majority of trainees got schooling upto primary level. Among them only less was secondary level. When asked about land holding by them, majority of trainees have with small category and big farmers. Some of the outcomes envisaged for any training programme were gain in knowledge, gain in skill acquired and more adoption of mushroom production technology. An important indicator of the impact of training programme that some of them trainees have adopted of mushroom production.

Table 1 shown that actual status of adoption, know about training. 12.5 per cent participants joined training to adopt mushroom production as an enterprise and remaining adopt at home use while 87.5 per cent told that they we would be adopt it and 100 per cent was acquired knowledge about it. 75 per cent learned about production technology of mushroom for nutritional security and additional source of income while pre training 97.5 per cent told that they we would be learned about it 87.5 % per cent farmers know how to grow different variety of mushroom however, pre training 97.5 per cent wants to know about the topic. Lesser participants showed their interest to transfer the skill to farmer of mushroom production. Similar Kumar *et al.* (2020) and

Kaur, 2016 were also reported results. It was evident that majority of respondents joined the training to learn about production technology of different variety of mushroom followed by household nutrition and additional source of income knowledge score analysis of trainees was done before training and after trainings. It is clear that knowledge score about mushroom production almost was less (15%) in pre training which increase (85 %) after training.

Table 2 indicates that there is improvement in the knowledge status regarding aspects of mushroom

production after the training programme. There had significant increase in knowledge after training about awareness about mushroom production, ingredient composition to be required, growing condition: Have grown in soil or field, awareness about temperature and humidity, knowledge about composting, spawning and seed rate. Awareness about insects and diseases, Harvesting methods or time/stages. This showed that vocational trainings of under Agricultural Skill Council of India were effective and increased knowledge levels of farmers about scientific mushroom production

Sr. No.	Reasons	Acquired knowledge	Pre-training	Post-training
1.	To adopt mushroom production as an enterprise or home use	40 (100)	35 (87.5)	5 (12.50)
2.	How to grow different varieties of mushroom	40 (100)	36 (90.00)	35 (87.50)
3.	To learn about production technology of mushroom for nutrition and additional source of income	40 (100)	39 (97.5)	30 (75.00)
4.	Knowledge score about mushroom production training	40 (100)	6 (15.00)	34 (85.00)

Sr. No.	Particulars	Knowledge score					
		Before training			After training		
		Lower	Medium	High	Lower	Medium	High
1.	Awareness about mushroom production	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
2.	Ingredient composition to be required	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
3.	Growing condition : Have grown in soil or field	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
4.	Awareness about temperature and Humidity	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
5.	Knowledge about composting	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
6.	Knowledge about spawning	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
7.	Knowledge about seed rate	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
8.	Awareness about insects and diseases	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)
9.	Harvesting methods or time /stages	27 (67.50)	7 (17.50)	6 (15.00)	9 (22.5)	8 (20.00)	29 (72.50)

Figures in parentheses are percentages

Sr. No.	Particulars	Knowledge score		
		Pre-training per cent	Post training per cent	Change percentage
1.	Awareness about Mushroom production	45.00	77.5	32.50
2.	Sanitation	12.5	80.5	68.00
3.	Ingredient composition to be	10.9	70.9	60.00
4.	condition : Have grown in soil or field	20.6	88.5	67.90
5.	Awareness about temperature and humidity	15.5	75.5	60.00
6.	Knowledge about composting	2.9	75.5	72.6
7.	Knowledge about spawning	18.5	86.5	68.00
8.	Knowledge about seed rate	20.5	79.8	59.30
9.	Awareness about insects and diseases	9.5	55.34	45.84
10.	Harvesting methods or time /stages	30.3	70.6	40.30

technology.

The modify in the knowledge status of participants before and after training was shown in Table 3 and Fig. 1. They have developed good attitude about mushroom production after training. The knowledge of participants about mushroom spawn production was 18.5 per cent regarding methods of compost making to 2.9 per cent before training. Post training score of various practices ranged from 86.5 per cent in case of mushroom spawn production almost similar results also observed by Bipul *et al.* 2020. It was seen that pre-training knowledge score was not much satisfactory for all the aspects of training. However, the knowledge score of the participants increased by respondents after training was more satisfactory in all aspects of the training. The reason of changing their attitude and knowledge about mushroom production aspects was their actively participants in these training programme and well educational background and methods of technology transfer to the trainees.

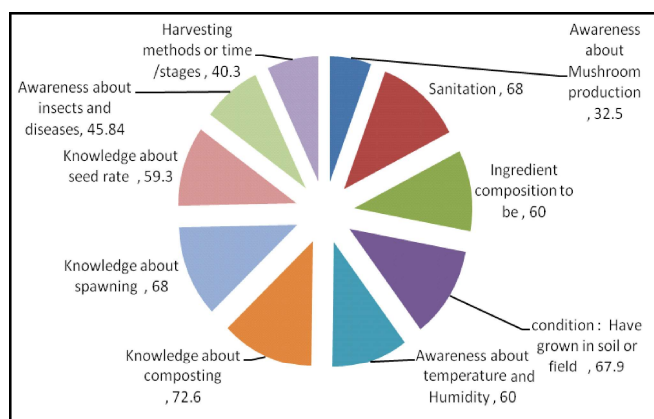


Fig. 1 : Change in knowledge score of participators for mushroom production (n=40)

Conclusion:

The result of the study pointed out that there was significant increase of beneficiaries by the training at KVK. The trainee respondents were inspired greatly by the easy and scientific method of mushroom production. The knowledge score of the respondents about

mushroom production aspects and its production after the training have positively changed. The reason behind the satisfactory change in perception level is due to educational background, keen interest of participants in mushroom production and methods then for technology transfer to the trainees. It also provided an opportunity to strengthen the link between trainees and scientists which helped in technology dissemination by opening small level training centre at jaisalmer through which overall development of weaker section will be increased. The study revealed that Krishi Vigyan Kendra trainings were effective and significantly change in increased the knowledge levels of trainees about mushroom production technology.

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