



Impact of Trainings and Demonstrations on Promotion of Mushroom Cultivation

A Rajkala, S Shobana, M Ashok Kumar and G Alagukannan

ICAR Krishi Vigyan Kendra (CREED), Ariyalur – 612 902 (Tamil Nadu)

ABSTRACT

Mushroom cultivation can directly improve livelihoods through economic, nutritional and medicinal contributions. A complete list of 200 respondents was randomly selected who have undergone capacity building programmes through training and demonstration on mushroom production technologies at Krishi Vigyan Kendra, Ariyalur district from 2014-15 to 2018-19. The study has been contemplated and carried out with an aim to ascertain the impact of capacity building programmes on knowledge level before and after conduct of trainings, adoption level during different years and constraints being faced by the mushroom growers. The highest change in perception level of 77.85 and 76.2 per cent was observed in respect of technologies related to nutritive and medicinal value of mushroom and harvesting and storage of mushroom respectively. There was the study increase in adoption of mushroom cultivation practice from 2014-15 to 2017-18 and the average adoption was 36.91 percent. Among the constraints faced by the mushroom growers, lack of finance and credit support ranks first (89.0 %) and it was followed by non availability of spawn in time (80.0 %). Appropriate actions to overcome these constraints to bring mushroom as an income generating and self employment ventures are suggested.

Key Words: Adoption, Constraints, Knowledge, Mushroom, Suggestions.

INTRODUCTION

Mushrooms are macro fungi with characteristic epigeous or hypogeous fruiting bodies. It has been significant in human history as food, medicine and in folk. It is mainly consumed for their texture and flavor. Recently it has been used for drug development. Several higher Basidiomycetes mushrooms are known to have a number of bioactive components which may have positive effects on human health; include hepatoprotective activity (Afroza *et al*, 2010). Mushroom is considered to be a nutritious food, rich in protein, low in fat and carbohydrates. However, mushroom growing can help in a long way in the efficient utilization of agricultural and industrial waste. It can also play a significant role to alleviate poverty and generate employment opportunity for educated unemployed youth (Rachna *et al*, 2013 and Kaur, 2016). Apart from their nutritional potentials, mushrooms are also sources of bioactive substances that possess health

benefits (Oyetayo *et al*, 2009). These metabolites have been used as antimicrobials with fewer side effects and are a prolific resource for drugs because of their antitumor, antibacterial, antifungal and hypercholesterolemia activities (Khatun, 2012). 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 (Sharma, 2018). Mushroom cultivation will improve the socio-economic condition of farmers, families and solve employment problems of both literate and illiterate of rural areas and semi-urban, especially women.

Mushroom cultivation activities can play an important role in supporting the local economy by contributing to subsistence food security. Oyster as well as milky mushroom offers good potential for its cultivation in Ariyalur district. By considering the importance of mushroom, Krishi Vigyan Kendra has

conducted different types of training programmes like one day training (9 Nos.), vocational training of week long (5 Nos.) and 200 hours long duration training (2 Nos). Totally 324 farmers, farm women and youth participants were trained from 2014-15 to 2018-19. The trained people after getting proper know how and skill started its production. Apart from the trained trainees, 74 of other farmers and farm women started its cultivation by seeing their neighbour and fellow farmers from nearby villages.

Keeping in view the increasing demand of mushroom due to globalization and opening of the economy, the present study was undertaken with the specific objective to assess the impact of training and demonstrations on mushroom cultivation in promotion of its cultivation as self-employment venture.

MATERIALS AND METHODS

A complete list of 200 respondents was randomly prepared who have undergone trainings and demonstrations on mushroom production technique from 2014- 15 to 2018-19. A questionnaire was framed covering background information and all aspects of mushroom cultivation. In order to assess the knowledge gained by the trainees and effectiveness of training, a pre-test before training and post evaluation after training was conducted to know the level of knowledge of participants about species of edible mushrooms, pest and disease infestation in mushrooms as well as their storage process and value addition. To test the knowledge of trainees, a set of 15 questions related to spawn production, types of mushroom and inputs for mushroom production, bed preparation, shed construction, temperature and humidity maintenance, harvest, preservation, nutritive value, value added products, marketing and storage methods were prepared and the suggestions from the trainees were also recorded for further improvement in the next training programme. Change in perception level was calculated from the difference of scores obtained in pre and post knowledge test of the

trainees. The data were tabulated and statistically analyzed using frequency, percentages and ranking.

$$\text{Change of Knowledge} = \frac{\text{After training} - \text{Before training}}{\text{Total respondents}} \times 100$$

RESULTS AND DISCUSSION

Training courses aim at enhancing adoption and diffusion of innovations. Some of the outcomes envisaged for any training programme were gain in knowledge, gain in skill acquired and ultimately in more adoption and integration among farming community. An important indicator of the impact of training programme is the extent to which they have adopted the package of practices of mushroom cultivation technology. Mushroom production has become one of few enterprises which rural women of the district has adopted in big way at household level and as commercial enterprise as a source of income generation after the proper acquisition of technology.

Change in perception level of respondents

Change in perception level of respondents before and after training is shown in Table 1. They develop a favourable attitude towards mushroom production after trainings. In pretest before training, the knowledge of respondents about mushroom spawn production was zero and 3.0 per cent regarding methods of compost making to 28.0 per cent in case of awareness of loans, schemes and subsidies provided by public or private institutions for establishment of mushroom production unit. Post training score of various practices ranged from 52.0 per cent in case of mushroom spawn production to 100 per cent in case of profitability in mushroom cultivation. It was thus noticed that pre-training knowledge score was not much satisfactory for all the aspects of mushroom production. However, the knowledge score gained by respondents after training was more satisfactory in all aspects. The reason behind the satisfactory change in perception level might be due to well educational background,

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Table 1. Change in perception level of respondents for mushroom production. (n=200)

Sr.No.	Particular	Pre-test Knowledge before training (%)	Post-test Knowledge after training (%)	Change in perception level (%)
1	Knowledge of Species of Mushroom and Identification of edible mushroom	11.5	87.25	75.75
2	Nutritive and medicinal value of mushroom	4.3	82.15	77.85
3	Materials and Techniques used for different types of mushroom production	12.0	85.20	73.20
4	Methods of compost making	3.0	67.5	64.5
5	Pest and disease infestation in mushroom	8.0	78.12	70.12
6	Profitability in mushroom cultivation	25.5	100.0	74.5
7	Harvesting and storage process	10.80	87.0	76.2
8	Mushroom spawn production	0	52.0	52.0
9	Value added products of mushroom	10.40	84.0	73.60
10	Awareness of loans, schemes and subsidies provided by public or private institutions for establishment of mushroom production unit	28.0	91.00	63.00

keen interest of participants and effective teaching methods followed by the KVK experts while training programmes.

Level of adoption

Out of 324 farmers and farm women, only 114 farmers adopted mushroom cultivation (Table 2) as an enterprise.

The average rate of adoption from the year of 2014-15 to 2018-19 was 36.91 per cent. The highest rate of adoption was noticed in the year of 2017-18 (52.50%), where as the lowest rate of adoption was noticed in the year of 2018-19 (29.03%) (Table 2). It could be observed that the adoption level is increasing year by year for the four continuous years from 2014-15 to 2017-18. The continuous follow up mentoring and facilitation support rendered by KVK resulted in high level of adoption. The low adoption of mushroom production in the year of 2018-19 might be due to less follow up of trainees by KVK and handholding support. From the study it could be seen that continuous follow up of trainees

are essential to make them adopt the technologies.

Constraints in mushroom production technology as perceived by the mushroom growers

The data (Table 3) enumerate the constraints being faced by the mushroom growers. Among the nine major constraints expressed by the respondents lack of finance and credit support stands first as 89.0 per cent of the respondents expressed this constraints. It was followed by non availability of quality spawn (80%) in time and non availability of raw materials (73%). The adverse climatic conditions like high temperature during summer month hamper mushroom cultivation (69%). Only 24 per cent of the respondents expressed the lack of mentoring and hand holding support from suitable organizations like KVK, Department of Horticulture, Research Institutes, etc., as the constraint in sustainable mushroom cultivation. These constraints need to become an income generating venture to the rural poor.

Table 2. Impact of training programme of Mushroom cultivation farming in terms of adoption.

Year	Number of training	Number of participants	Number of participants became mushroom cultivators	Percent adoption
2014-15	1	26	8	30.76
2015-16	3	61	21	34.42
2016-17	4	73	28	38.00
2017-18	3	40	21	52.50
2018-19	5	124	36	29.03

Table 3. Ranking of Constraints in Mushroom production as perceived by mushroom growers.

Sr. No.	Constraint	Number	Percent	Overall rank
1	Lack of finance	178	89.0	I
2	Non availability of spawn in time	160	80.0	II
3	Non availability of raw materials	146	73.0	III
4	Lack of govt. subsidy	110	55.0	VI
5	Inadequate technical knowledge	113	56.5	V
6	Adverse Effect of climate conditions on storage	138	69.0	IV
7	Lack of marketing facility	92	46.0	VII
8	Lack of transportation facilities	85	43.0	VIII
9	Lack of mentoring and hand holding support	48	24.0	IX

CONCLUSION

The perception and adoption levels of the respondents about mushroom and its production after the training have changed. The reason behind the satisfactory change in perception level is due to well educational background, keen interest of participants and methods followed for technology transfer to the trainees. Easy and timely availability of spawn material in their vicinity, facilitating credit facilities and marketing avenues are the core areas to be taken care of to bring mushroom cultivation as an enterprise particularly to the rural youth. Formation of mushroom grower groups at Block level and federating at district level will pave the way for overcoming most of the constraints being faced by the farmers.

REFERENCES

Afroza K S, Jahan N and Sultana N (2010). Study on the Hepatoprotective effect of oyster mushroom (*Pleurotus florida*) against Paracetamol induced liver damage in Wistar Albino Rats. *J Bangladesh Soc Physiol* 5(2): 46-52.

- Kaur K (2016). Impact of Training course on knowledge gain of mushroom trainees. *J Krishi Vigyan* 4 (2): 54-57
- Oyetayo V O, Dong C H and Yao J (2009). Antioxidant and antimicrobial properties of aqueous extract from *Dictyophora indusiata*. *The Open Mycology Journal* 3: 20-26
- Rachna, Goel R and Sodhi G P S (2013). Evaluation of vocational training programmes organized on mushroom farming by Krishi Vigyan Kendra Patiala. *J Krishi Vigyan* 2(1): 26-29
- Khatun Selima, Islam Aminul, Cakilcioglu Ugur and Chatterjee Narayan C (2012). Mushroom as a potential source of nutraceuticals. *Am J Exper Agri* 2(1): 47-73.
- Sharma Anjali (2018). Market linked technology of mushroom production for subsidiary income and nutritional security of farm families of Uttar Dinajpur District of West Bengal. *J Krishi Vigyan* 7 (Special Issue): 97-100

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