



Training on Oyster Mushroom Cultivation Enhanced Knowledge Levels of Farm Women in North East Hilly Region of Mizoram

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ABSTRACT

Mushrooms are the edible fruit/fruitlet bodies of the edible fungi having high nutritive and pharmaceutical values with delicacy. Oyster mushroom cultivation plays an important role to eliminate malnutrition, reduce poverty, additional income generation and generate employment opportunity for farm women in rural area. Mushroom is also efficient means for changing of agricultural waste into valuable protein source. Krishi Vigyan Kendra, Lunglei district conducted vocational training programmes on oyster mushroom cultivation. The study has shown that exposure to the training programme and method demonstration increased the skill and knowledge of rural farm women with regard to techniques of mushroom cultivation. A structured interview schedule was finalized and survey was done in 120 randomly selected rural farm women from two villages- Hnahthial and South Vanlaiphai to assess the social acceptability. The results reflected that the mushroom cultivation training has generated a remarkable attitude among the trained rural farm women and also increased the socio-economic level of beneficiaries who take on as a primary source of livelihood activity. It was also observed that economic viability of oyster mushroom production as mushroom yield varied from 140-150 kg per cycle from 100 blocks/cycle/unit with gross income ranged from Rs. 40000/- - Rs. 45000/- having net profit of Rs. 30000/-- Rs. 32500/- within two months in twice to thrice harvest.

Key Words: Mushroom cultivation, Vocational training, Oyster mushroom, Self-employment.

INTRODUCTION

In India, due to distinct climate, temperature and abundance of agricultural farm waste, different types of temperate, tropical and sub-tropical mushrooms are cultivated throughout the country (Shah *et al*, 2004). Sharma *et al* (2017) reported that the total production of mushrooms in India is 0.13 Mt (approx.) and in total production of mushroom white button shown is 73 per cent, oyster mushroom (16%), paddy straw mushroom (7%) and milky mushroom (3%). Mushrooms grow at temperatures ranging 15⁰-23⁰C. There are different types of mushrooms. The three majorly grown mushrooms in India are oyster mushroom, button mushrooms and milky mushrooms. Mushrooms are very nutritious products that can be generated from lignocelluloses waste materials; and rich in crude fiber and protein. Mushrooms contain low amount of fat and calories

and high vitamins. Mushrooms are nutritional, medicinal and functional food. It is considered as a healthy food as it contains low calories, high protein, dietary fiber, vitamins and minerals (Barros *et al*, 2008). According to Kalac (2013), mushrooms are nutritionally desirable because of their low energy value, fiber content and high antioxidant capacity. Mushroom also contains good source of vitamin B, C and D, including niacin, riboflavin, thiamine, foliate and various minerals including potassium, phosphorus, calcium, magnesium, iron and copper.

Mushroom cultivation can help decrease 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). According to reports of Chadha and Sharma(1995) Mushroom is an indoor crop, grown independently without sunlight and do

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Table 1. Reasons of participation in vocational training programme in mushroom production.

Sr. No	Reason	Number	Percentage
1.	To gain knowledge about mushroom production technology for nutritional and additional source of income generation	89	74.16
2.	How to grow different variety of mushroom	54	45.00
3.	To obtain certificate of training course for loan	5	4.16
4.	To transfer skill to fellow farmers about mushroom cultivation	27	22.50
5.	To establish linkages with KVK	62	51.66
6.	To adopt mushroom cultivation as an enterprise	75	62.50

not require fertile land and can be grown on small scale as it does not involve any significant capital investment. Promotion of mushroom cultivation could mitigate pressure on land, enhance food and nutritional security and raise the status of rural farm women through drawing additional income and in household decision making as far as concerned (Manju *et al*, 2012). India produces about 600 million tones of agricultural waste per annum and a major part of it is left out to decompose naturally or burn *in situ*. The substrate for oyster mushroom cultivation can be prepared from any agricultural waste material and can be produced in temporary clean shelters. Spent mushroom substrate can be converted into organic manure/ vermicompost.

Mushroom cultivation might serve as an important means of generating employment, for rural farm women and school dropout youths which in turn, will uplift their socio-economic condition. Mushroom can be grown in their home yards since it needs a small piece of area for cultivation and is easy, low budget and acceptable technique for rural areas. According to Bhatia (2000) mushroom cultivation will enhance the socio-economic situation of farm families and solve employment problems of both illiterate and literate women. Considering the above mentioned facts, the present study was undertaken by Krishi Vigyan Kendra Lunglei to promote the oyster mushroom cultivation as an income and employment generation activity.

MATERIALS AND METHODS

Training programmes on oyster mushroom production were conducted both on and off campus of KVK. Farm women of village Hnahthial and South Vanlaiphai were actively participated in the training programme. A structural interview schedule was workout and survey was carried out in the two villages to assess the social acceptability. Sixty respondents, especially farm women from each village were selected randomly thus a total of 120 farm women were selected for the investigation. List of 120 respondents was worked out who have acquired vocational training and method demonstration on oyster mushroom cultivation technique from the two villages during the year 2020-21. To evaluate the technical knowledge acquired by trainees and usefulness of vocational training, a pre-test prior to training and post assessment after training was carried out to notice the level of knowledge of participants. In order to evaluate the knowledge of trainees, a compiled set of 11 questions associated to mushroom cultivation, nutritional value, value added byproducts prepared from mushroom, picking, pest and disease, spawn production and storage methods etc. were developed and the valuable suggestions from the trainees were also noted down for further enhancement in the following training programme. Change in perception level of respondents was drawn from the difference of score obtained in pre and post knowledge.

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Table 2. Change in perception level of respondents for oyster mushroom cultivation (N=120).

Sr. No	Particular	Pre-test Knowledge before training (%)	Post-test Knowledge after training (%)	Change in perception level (%)
1.	Awareness of mushroom species and identification of edible mushroom	9.00	86.50	77.50
2.	Knowledge of nutritional and medicinal value of mushroom	10.50	92.25	81.75
3.	Materials and methods used for different types of mushroom cultivation	11.75	96.00	84.25
4.	Techniques of compost preparation	1.75	70.50	68.75
5.	Pest and disease infestation on mushroom	8.50	81.50	73.00
6.	Profitability in mushroom production	20.00	98.50	78.50
7.	Harvesting and storage techniques	8.50	92.00	83.50
8.	Mushroom spawn production	0.00	22.50	22.50
9.	Awareness of loans, sub schemes and subsidies provided by public or private sectors for establishment of mushroom production unit	3.50	90.25	86.75
10.	Post harvest handling and value added products of mushroom	10.50	96.25	85.75
11.	Market value chain	8.00	75.75	67.75

RESULTS AND DISCUSSION

A major indicator of the effect of vocational training programme is the magnitude, to which they have adopted the package of practices of mushroom production technology. The factor which influenced the respondents to attain the training programme was given for ranking in order of significance as perceived by them. The result indicated that about 62.50 per cent attained the training programme to adopt mushroom cultivation as an enterprise, 74.16 per cent willing to gain knowledge about mushroom production technique for nutritional and additional income generation, 45.00 per cent wanted to grow different species of mushroom, 51.66 per cent joined the training course to established good linkages with the KVK, 22.50 per cent wanted to transfer skill to fellow farmers and only 4.16 per cent wanted to obtained training certificate course (Table 1). Similar confirmative result was also reported by Kaur (2016).

Changes in perception level of respondents prior to and after training course were indicated in Table 2. The result shows that rural farm women evolve a successful attitude towards mushroom cultivation after completion of vocational training and method demonstration. In pretest to vocational training, the knowledge of respondents about mushroom spawn production was zero per cent, 1.75 per cent on techniques of compost preparation, 3.50 per cent in case of awareness of loan, sub schemes and subsidies provided by public or private sectors for establishment of mushroom production unit, 8.50 per cent in harvesting and storage techniques, 9 per cent regarding knowledge of mushroom species and identification of edible mushroom. The post training score of different practices varied from 22.50 per cent in case of mushroom spawn production to 98.50 per cent in case of profitability in mushroom production. The result indicated that pre-test knowledge result was not much adequate for all

the aspects of training programme. Nevertheless, the knowledge score obtained by respondent's later training was more satisfactory in each and every aspect. Satisfactory change in perception level might be due to keen interest of participants and methods followed for technology transfer to the trainees.

CONCLUSION

Mushroom cultivation is the most appropriate job role for the poor farm women in rural areas. It can be grown in the small space at home yard for small scale production. Socio-economic status of the members of rural farm women can be enhanced by various entrepreneurship development programmes like vocational trainings and method demonstration both on and off campus. The perception levels of the respondents about mushroom cultivation and its production after training have changed significantly. The main reason behind the satisfactory change in perception level is due to keen interest of participant and method followed for technology transfer to the trainees. Majority of the participants, especially the farm women were in young age group which gives better opportunity for generating self employment for rural women. Selection of trainees on the basis of their available resources and interest was of major concern. Due to low budget requirement, short growing period, high value crop, mushroom cultivation can be adopted by small marginal farm women in both rural and semi-urban areas. Constant availability of good quality spawn is the most important intervention that needs to be addressed for mushroom entrepreneurship to grow.

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