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RK Roshan
 SMS Horticulture, KVK, ICAR
 RC Manipur Centre, Lamphel
 Path Imphal West, Manipur,
 India

Nongallei Pebam
 Food Safety Officer, Medical
 Directorate, Government of
 Manipur, Manipur, India

PP Wani
 Dr. Panjabrao Deshmukh
 Krishi Vidyapeeth, Akola,
 Maharashtra, India

Corresponding Author:
RK Roshan
 SMS Horticulture, KVK, ICAR
 RC Manipur Centre, Lamphel
 Path Imphal West, Manipur,
 India

Oyster mushroom production: A women friendly profession for income generation

RK Roshan, Nongallei Pebam and PP Wani

Abstract

Wild mushroom collected from the jungles are one of the favourite food for the tribes of Churachandpur district, Manipur, India, since time immemorial. Very few people of the district, have knowledge about cultivated mushroom. Oyster Mushroom cultivation can be considered as an alternative source of income to uplift the living standards of poor farmers and also to add high quality protein in their daily diets to eradicate malnutrition problems. Oyster mushroom can easily be grown by the rural women with minimum efforts. Training and Demonstration were imparted from 2011-12 to 2013-14 by Krishi Vigyan Kendra, Churachandpur under ICAR Research Centre for NEH Region, Manipur Centre, India. The Program focused on poor farm women. Training program included cultivation techniques, substrates preparation, sterilization technique, marketing of fresh product, preservation, etc. A total of 50 farm women from five villages in three blocks namely Churachandpur, Lalva and Tuibong of Churachandpur district, Manipur were selected for training. The knowledge level on cultivation method, food and nutritional value, economics of cultivation, profitability, etc. increased many folds after training. Among the participants the edibility of cultivated mushroom increases to 98% from 8%. About 46% of trainees developed their skills in mushroom cultivation. While, 75% felt that mushroom cultivation is a profitable business and could be selected as an alternative business. 88.10% increase in productivity was observed after training. Mushroom growers were increased from one to nine after the training and the new growers earned an average of Rs.30880.00 in addition to their conventional activities per annum. The training and demonstration program was very much successful in disseminating the knowledge of mushroom cultivation among the community which may contribute towards the overall development of the rural society.

Keywords: Oyster mushroom, farm women, training, demonstration, income generation

1. Introduction

Wild mushroom collected from the jungles are consider one of the delicacy for the tribes of Churachandpur district, Manipur since time immemorial. Very few people of the district have knowledge about cultivated mushroom. Mushrooms can help to address the problems of sustainability, nutritional security and management of agro-industrial wastes. Since mushroom cultivation does not require arable land, least affected by the changes in climatic variables, it can provide lucrative employment opportunities to the rural youths, farm women and other farmers and have potential to supplement the farm income. Mushrooms are considered to be the most efficient and economically viable microbial technology which recycles agricultural residues into food and manure (Prakasam, 2012). Crop residues are converted to quality protein food which also contains minerals and compounds of medicinal values (Chiu and Moore, 2001; Prakasam, 2012). Mushroom cultivation is taken up under controlled conditions, has very less water requirement compared to the crops grown under field conditions, have short cropping cycle and are the highest protein producer per unit area and time. Oyster Mushroom cultivation is considered as an alternative source of income to uplift the living standards of poor farm women which can also add high quality protein in their daily diets to eradicate malnutrition problems as Oyster mushroom can easily be grown by the rural women with minimum efforts. Training and Demonstration were imparted from 2011 -12 to 2013-14 by Krishi Vigyan Kendra, Churachandpur under ICAR Research Centre for NEH Region, Manipur Centre with a view to uplift the living standards of the poor women farmers and also to add high quality protein in their daily diets to eradicate malnutrition problems.

2. Materials and Methods

2.1. Study area

The program was focused on poor women farmers having less than 0.25 ha of land. The study was conducted at five selected village of Churachandpur, Manipur. A total of 50 farm women from five villages i.e. L. Molvom, Matiyang, Yaiphakol, Dorcas Veng and Pearsonmun were selected randomly for training and demonstration. Thorough training on various aspects of oyster mushroom cultivation were given which included the cultivation techniques, marketing of fresh product, preservation, etc. The impact of the training was assessed by parameters such as increasing numbers of mushroom growers, productivity, and additional increase in income through mushroom cultivation. Appropriate schedule was prepared which was pre-tested for its validity before data collection.

2.2 Initial status

Mushroom cultivation in Churachandpur district was negligible during last few years although there is a rising trend in its demand but in comparison to other districts of Manipur, the production of mushrooms was very low and only few selected women farmers had the preliminary idea about the cultivation process of oyster mushroom. They procured mushrooms from the nearby forests which was limited to specific period of a year. The climate of

Churachandpur district is very much congenial for cultivation of oyster mushroom and it can be cultivated more or less throughout the year. Almost 70% people of Churachandpur district belong to small and marginal farmers. Their income level is quite low for a sustained livelihood. In order to raise their family income mushroom cultivation was considered to be an alternative source of income.

2.3 Intervention by KVK Churachandpur

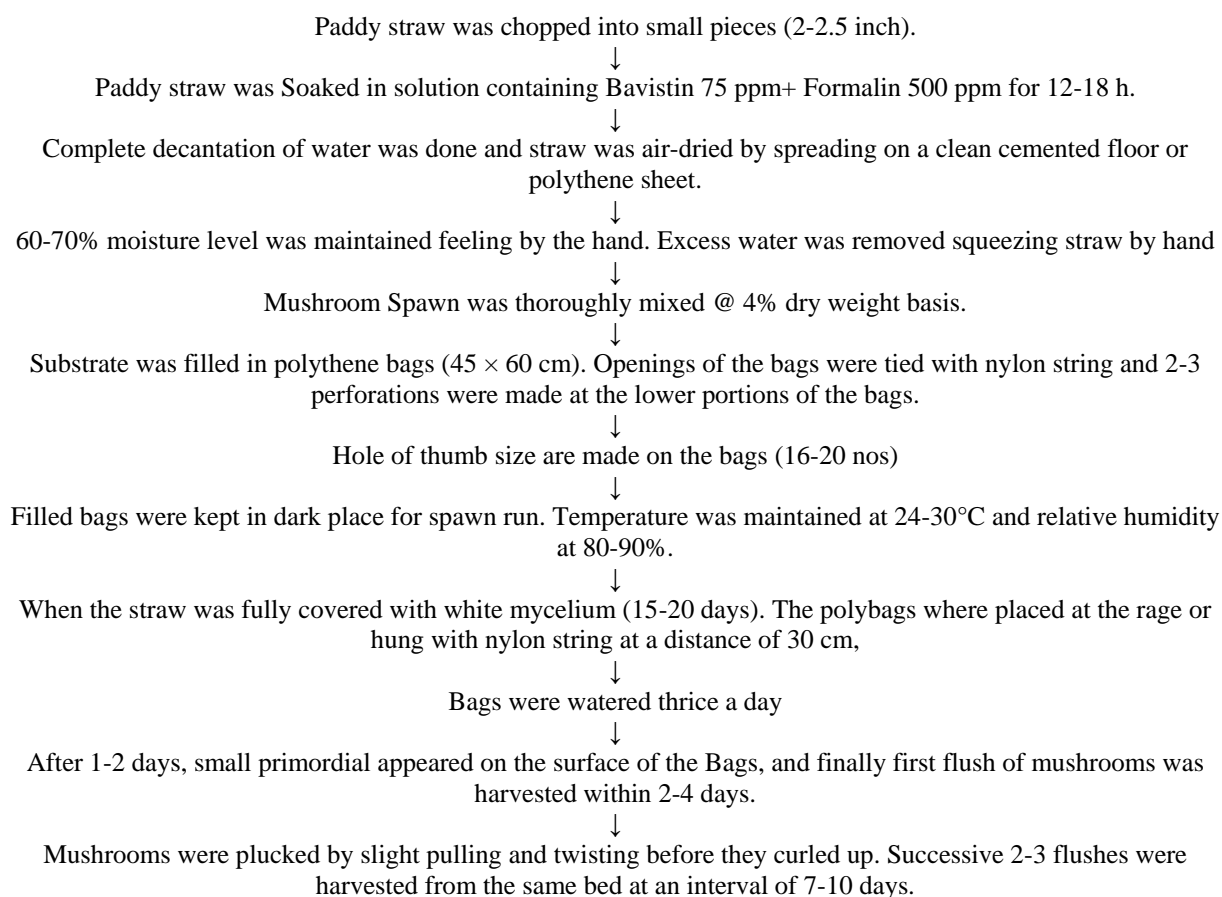
Any agricultural and farm waste materials, mainly paddy straw which is easily and abundantly available at the region was used for cultivation of oyster mushroom. Use of such waste, for mushroom production is a better, profitable and an eco-friendly way of waste disposal. The awareness about mushroom was created among the villagers. Field level training and Front Line Demonstration on oyster mushroom cultivation was organized in five selected villages. Extension literatures were also distributed among the respondents.

2.4 Details of the technology

2.4.1 Raw material used

Paddy straw, polythene bags, spawns, and terpoline sheets were the materials used for mushroom production.

2.4.2 Oyster mushroom production flowchart



3. Results and Discussion

3.1 Changes in perception level

The farm women were inspired greatly by the easy method of cultivation, and started oyster mushroom cultivation on a small scale and started producing mushroom, which generated extra income for them. The mushrooms were included in their daily diet and supplemented additional nutrition to them. The perception and knowledge level of the respondents about

oyster mushroom and its cultivation before and after the training and demonstration are presented in Graph 1 and Table 1.

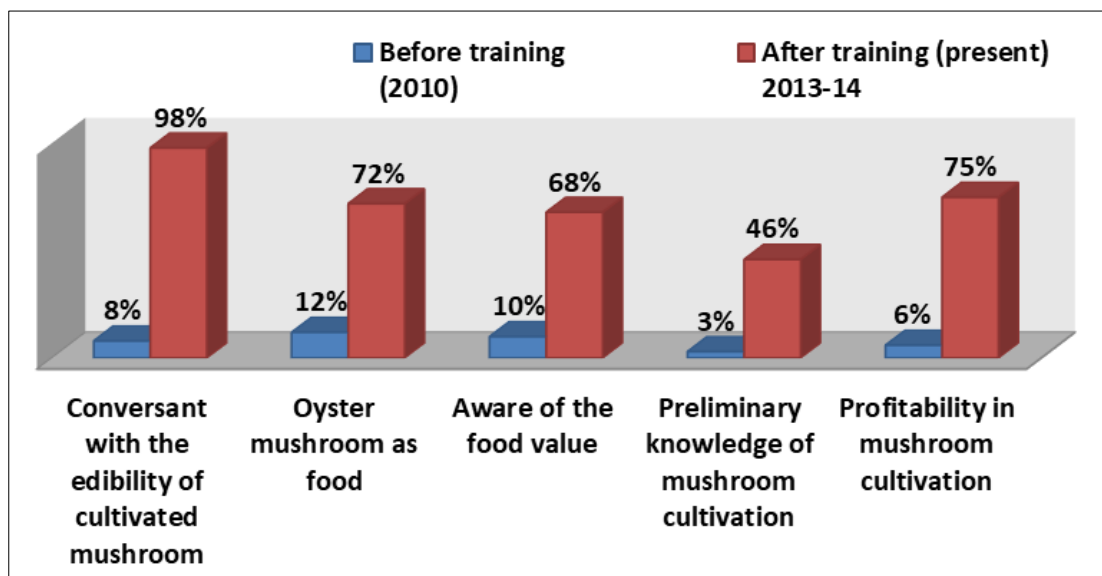
The overall perception and knowledge level of respondents were found to changed after the training. Among the participants, the Conversant with the edibility of cultivated mushroom increases to 98% from 8%. The knowledge and perception level on mushroom cultivation technology, their

food and nutritional values, profitability, etc. were disseminated through channels like literature and FLD, which were increased many folds after the training. The knowledge on oyster mushroom as food was increase from 12% to 72%. Awareness about food value of oyster mushroom was

increased from 10% to 68%. About 46% of respondents developed their skills in mushroom cultivation. While, 75% respondents felt that mushroom cultivation is a profitable business and can be selected as an alternative business for generating extra income.

Table 1: Changes in perception level of respondents (N= 50)

Explanatory variables	% of respondents		Increase (%)
	Before training (2010)	After training 2014-15	
Conversant with the edibility of cultivated mushroom	8	98	1125
Oyster mushroom as food	12	72	500
Aware of the food value	10	68	580
Preliminary knowledge of mushroom cultivation	3	46	1433
Profitability in mushroom cultivation	6	75	1150



Graph 1: Changes in perception level of respondents (N= 50)

3.2 Changes in production, consumption and income

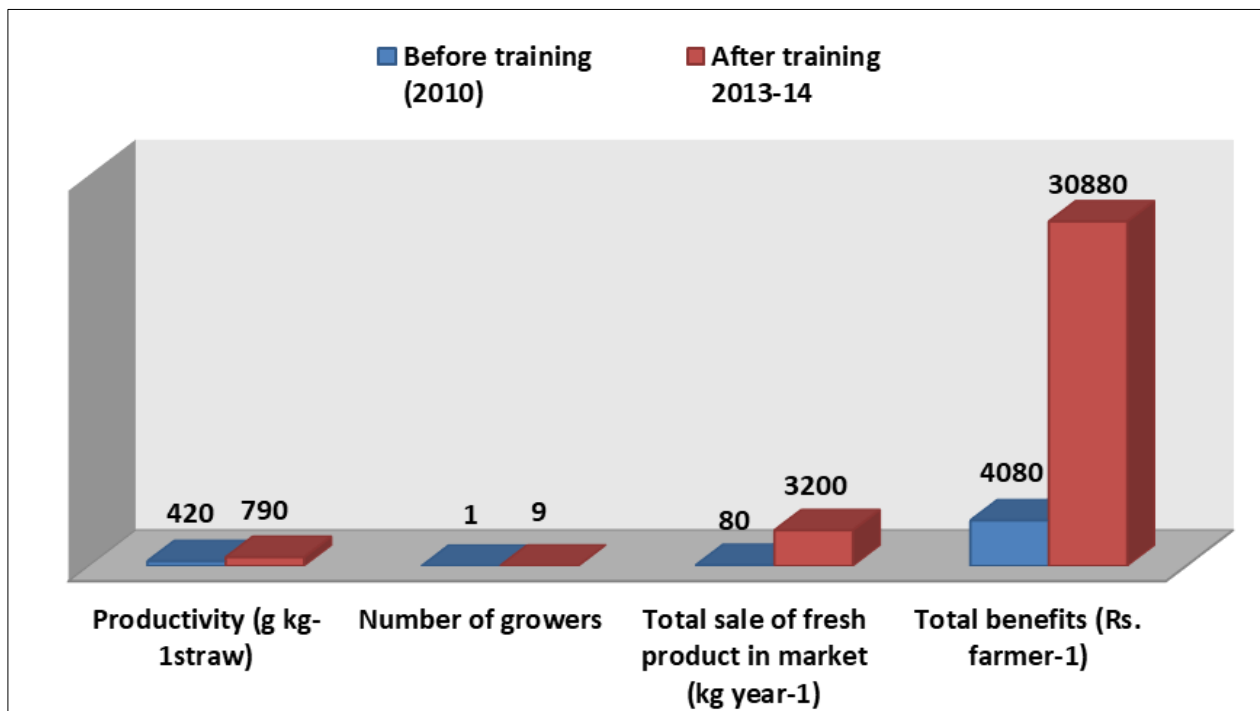
The farm women were very happy with the success of the oyster mushroom cultivation. They could not just believe such a good return in few days. They were highly motivated with the success and were willing to continue their production. The total production, productivity, and consumption of edible mushroom were increased in the area. Not only that, the cultivators also generated extra income.

The data obtained on different parameters after the training and demonstration is presented in Table 2 and Graph 2. The impact of training and demonstration was quite satisfactory and considerable increase was noticed in all parameters

investigated. Due to proper knowledge and constant supervision, the growers used more economical and scientific methods for cultivation of oyster mushroom which resulted in many fold increase in overall production of oyster mushroom among the targeted groups, i.e. from 80 to 3200 kg. The productivity of oyster mushroom was increased to 790 gm Kg⁻¹ dry straw from 420 gm Kg⁻¹ dry straw, which tune to 88.10% increase from the earlier yield. Number of successful mushroom growers was increased from one to nine. Mushroom cultivation adds an additional income of Rs. 30880.00 per annum.

Table 2: Comparison of different variables before and after the training

Variables	Before training (2010)	After training 2014-15	Change (%)
Production level			
Productivity (g kg ⁻¹ straw)	420	790	88.10
Number of growers	1	9	650.00
Total sale of fresh product in market (kg year ⁻¹)	80	3200	3900
Total benefits (farmer-1)	4080	30880	656.86



Graph 2: Comparison of different variables before and after the training



Fig 1: Show the line of demonstration

4. Conclusion

Training and Demonstration on oyster mushroom cultivation helped increase in the overall perception and knowledge level of respondents (Farm Women). The impact of training and demonstration was quite satisfactory and considerable increase was noticed in all parameters investigated. The productivity of oyster mushroom was increased to 790 gm Kg⁻¹ dry straw. Nine farm women started oyster mushroom cultivation and start earning an average of Rs.30880 in addition to their conventional activities per annum. The women Farmers realized the nutritional importance of cultivated mushroom and started incorporating in their diet. It also provided an opportunity to strengthen the link between farmers and Extension worker which helped in technology dissemination and overall development of weaker section.

5. Acknowledgments

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