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Impact of button mushroom cultivation training to improve adoption status of farmers in district Sangrur

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ABSTRACT : Now-a-days people are more health conscious so they prefer nutritious diet to protect from diseases. Due to medicinal importance of mushrooms, cultivation of mushrooms have now become popular all over the world. In addition to its nutritious importance, cultivation of this crop is also good source of income. In Sangrur district, farmers are adopting it as additional source of income on large and small scale. Cultivation of mushroom is a scientific and technical approach. KVK Sangrur is providing practical training on mushroom cultivation during growing season. 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. Every year approximately 60 farmers got trained by KVK Sangrur and nearly thirty per cent farmers of district are adopting mushroom cultivation from small to large scale.

KEY WORDS : Mushroom, Cultivation, Nutricious

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India has great potential for production of mushroom from abundantly available recyclable agro-waste like cereals straws, enormous domestic market, cheap manpower, congenial climate, strong technical base and government support (Kaul, 1999). In this context, there is a widespread agreement among agricultural scientists to the importance of adoption of subsidiary occupations in rural area. Among these, mushroom cultivation constitute an important and crucial segment for increasing food production, which provides extra income to the farmers other than their field crops during winter in Punjab. Sangrur has location specific advantage being nearer to big cities as Ludhiana, Patiala and Chandigarh and therefore, potential market is available for marketing

of mushroom. Therefore, there is urgent need to provide the facilities for setting upto viable units for increase in quality of mushroom production. The use of mushrooms as food is probably as old as civilization and mushrooms currently have greater importance in the diet of mankind (Kaur, 2018). Cultivation and production of edible mushrooms are on the increase, particularly in Europe, America and Asia. 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). 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). The mushroom cultivation is a profitable agribusiness and button mushroom (*Pleurotus ostreatus*) is an edible mushroom having excellent flavour and taste. Mushrooms are the source of extra ordinary power and virility and are used in the preparation of many continental dishes and have medicinal properties like anticancerous, anticholesteral, antitumorous. Mushrooms are suitable for fresh consumption, pharmaceutical-use and cosmetic production (Mohd Tarmizi, 2013).

In the era of science and technology, Krishi Vigyan Kendra (KVKs) are functional in various districts of our country having the objectives: To solve the problem of un-employment in the rural areas of their respective district by providing vocational training and advisory services to strengthen the allied enterprises other than crop production in the area as a source of subsidiary business or main source of income for diversification of agriculture and increase of farmers income per unit area. The training programmes of KVK are multipurpose one to cover not only the various needs of a farmers but also the entire needs of village and community (Choudhary, 1999 and Sharma *et al.*, 2013).

After training, follow up extension programmes are undertaken (Singh *et al.*, 2013). In the present study, an attempt have been made to analyze the impact of vocational training programmes on “Mushroom production” with the objective to motivate the establishment of maximum number of mushroom units in district Sangrur so as to increase adoption percentage of this occupation by trainees. Keeping in view the increasing demand of mushroom, the study is based on the primary data collected from the mushroom trainees and the study was carried out during 2014-19. The main objective our study is to encourage the farmers’ to take up mushroom cultivation as an enterprise through adoption of scientific mushroom cultivation technology.

RESEARCH METHODS

The present studies were conducted at Krishi Vigyan Kendra, Kheri, Sangrur district from Punjab in the adopted villages of the operational area of KVK for four years (2015 to 2019). The Vocational training on “Mushroom cultivation” were conducted for 5 days at the KVK Campus. The farmers and un-employed youth were the participants/trainees during the Vocational training programme. The trainings were imparted on skill

development covering all the topics related to mushroom regarding Introduction to mushroom and its life cycle, health/medicinal benefits of the mushroom, importance of the medicinal mushroom (*Ganoderma* sps, *Lentinula edodes* etc.) and its products available in market, value addition products, cultivation of various edible mushroom *i.e.* *Agaricus bisporus* (White button mushroom), *Pleurotus* sps. (Dhingri mushroom) and *Calocybe indica* (Milky mushroom), Diseases, abiotic disorder and pests attack of mushroom and their management. More emphasis will be done on the practical aspects of cultivation of the edible mushroom *Agaricus bisporus* (White button mushroom) and *Pleurotus* sps. (Dhingri mushroom).

The cultivation of white button mushroom and Dhingri mushroom were done in the KVK campus as the part of low cost mushroom production technology. The cultivation of Dhingri mushroom on substrates *i.e.* wheat straw and compost preparation for the cultivation of white button mushroom were done by the long method of composting and trainees were involved in all practical steps involved in cultivation of mushrooms as compost and casing preparation, spawning techniques, mushroom cultivation shed preparation, irrigation, harvesting, washing and packaging of mushrooms. Apart from the vocational training, one day training programmes were also conducted at frequent intervals to upgrade their skills, to overcome their shortcomings and to motivate them. More frequent visits were also conducted to the mushroom unit established. The trainees were interacted personally for the feedback/study purpose. The feedbacks whether the farmers will continue the enterprises of mushroom cultivation during growing season were taken from the farmers after training. A total of 195 farmers were exclusively imparted mushroom training during the above said period.

RESEARCH FINDINGS AND DISCUSSION

KVK Sangrur is providing practical training on mushroom cultivation during growing season. Mushroom cultivation can help to reduce poverty among the youth and also beneficial as it is good source of nutrition. The present study was conducted at KVK, Sangrur from 2014-19. The total number of farmers got training from KVK was 301 during 2014-19. Data regarding reasons for participation in mushroom cultivation as depicted in Table 1 was collected through the interviews and questioners in start of each training.

Per cent adoption:

Table 2 shows the adoption percentage of trainees from 2014 to 2019 who had got mushroom trainings from KVK. It has been observed during 2014-19 the adoption level varied from 25 to 32 percentage. It may be due to easily availability of raw material, support of family members, financial support and labour for shed preparation. Fig. 1 shows graphical representation of adoption percentage versus year. That average adoption rate was found 29.5 during 2014-19. It means approximate 70 per cent farmers has not opted this profession.

For non-adoption of mushroom farming, a survey was conducted from the trainees and few points has been observed regarding this.

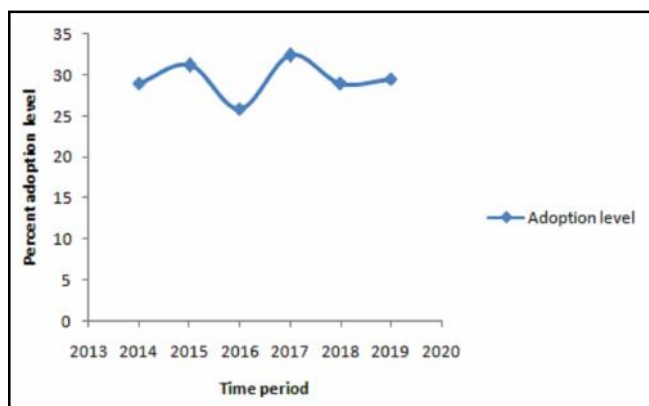


Fig. 1: Adoption level from 2014-19

- Lack of government support.
- No control over price fixation
- Laborious method of compost preparation and non availability of quality spawn
- Lack of knowledge of marketing.

Adoption level :

Adoption level is divided into three categories; small represents less than 20 quintal compost, medium represents compost between 20-100 quintal and large used for compost more than 100 quintal. Table 2 represents the adoption level categorically for small, medium and large for the period 2014-19. From year 2014-19, 34 farmers started this occupation at small scale and 22 farmers opted this profession at medium level whereas 32 farmers opted this as large enterprise. The data pertaining to adoption level shows that in the year 2014 -16, more number of farmers opted this profession at small scale and few farmers has adopted at large scale. A change in pattern has been observed during 2017-19 in which more farmers has given preference to start this as medium and large scale enterprise.

This may be due to easy availability of quality compost and spawn from short method of compost preparation units established in Sangrur district. Timely technical guidance from KVK and interaction with progressive farmers motivated them for large scale adoption.

Table 1 : Reasons for participation in mushroom cultivation

Sr. No.	Reason for participation	Number	Percentage
1.	Know about mushroom growing	40	13
2.	Adoption of mushroom growing s enterprise	180	59
3.	Mushroom cultivation for self consumption	15	5
4.	To get training certificate	35	12
5.	Sharing knowledge amount farmers related to mushroom	31	10

Table 2 : The number of farmers got training from KVK , Sangrur and their level of adoption

Year	Total no. of trainees	No. of persons started	Adoption percentage (%)	Adoption level		
				Small <20q	Medium 20-100q	Large >100q:
2014	65	19	29	14	-	5
2015	32	10	31.2	04	05	01
2016	58	15	25.9	09	04	02
2017	34	11	32.4	01	04	06
2018	68	20	29.0	02	10	08
2019	44	13	29.5	4	5	4

Impact of mushroom farming :

The mushroom farming enterprises have a significant impact on mushroom farmers to raise the income of the farming community, creating additional employment opportunities, providing sustainability to the existing cropping system. Mushroom farming is transforming farmers into full scale entrepreneurs with diversifying towards mushroom spawn production, mushroom processing and mushroom trade, improving farming health and education and supporting local economy. Further, an assessment was carried out on the trainees from 2014-19 who adopted this occupation at different scale. It has been observed that majority of adopted farmers have shifted in this profession towards medium and large scale.

Conclusion:

On the basis of the study it can be concluded that fluctuating price prevailing in the market, lack of cold storage and non availability of drying equipments were found to be the important constraints. The other important constraints were; lack marketing knowledge, finance problems, transportation problems, less approach towards scientific knowledge about mushroom production and non-availability of quality spawn keeping in view the analysed constraints, government officials of department of agriculture, researchers as well as policy makers can plan the extension programmes by opting these modifications in order to remove the bottlenecks for

mushroom growers.

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