

# Post-training Knowledge and Attitude Assessment of the Women Entrepreneurs towards Mushroom Cultivation

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## ABSTRACT

Mushroom cultivation is one of the technically feasible and profitable agriculture practices which are widely recognized by researchers and farmers as the source of high income, employment, and rural development. Such employment generation and poverty alleviation ventures have a significant role in strengthening the socio-economic profile of marginalized population, especially to the rural women. Extensive training programs and workshops have been conducted by various agricultural universities, Krishi Vigyan Kendra, and research centers from time to time to skill the women for mushroom cultivation. Therefore, pieces of training have been a widely accepted strategy with high returns on investment. In this research work, the study was done to evaluate the knowledge and skill development among the women and to identify the problem and challenges towards mushroom cultivation. The majority of women respondents (75%) have a medium level of knowledge, followed by a high level (13.3%) and a low level of knowledge (11.67%) of post-training mushroom cultivation. This might be due to the high interest of trainees, convenient farming, and method followed for transfer of technology. 73.33% of women have shown a favorable attitude towards mushroom cultivation. It has been observed that the mushroom cultivation training has shown a favorable attitude which helped in income generation, thus aiding financial assistance to the family.

## HIGHLIGHTS

- The majority of women (75%) have shown a medium level of knowledge towards mushroom cultivation.
- 73.33 % of women have shown a favorable attitude for mushroom farming as a profitable venture.
- Women entrepreneurs are facing the problem of storage, proper harvesting techniques, declination in nutritional value, and lack of agencies for marketing their products.

**Keywords:** Mushroom cultivation, entrepreneurship, skill development, rural development

Mushroom has become a popular food in present days due to its rich nutritive value and due to a good source of protein always preferred by vegetarian people. Mushroom cultivation can help in reducing poverty and strengthen livelihoods through the generation of a fast-yielding and nutritious source of food and a reliable source of income (Rachna and Sodhi 2013). Mushroom production is simple, low cost, and suitable for rural areas, is labor-intensive, and can provide employment in both the rural areas and semi-urban. Mushroom is an indoor crop

grown independently of sunlight and does not require fertile land (Nagaraj *et al.* 2017). Using their spare time, Women can do mushroom cultivation together with household activities. This additional earning can be a perk to their family income, thus relieving much pressure on a male member of the family involved in agriculture practices. Mushroom

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farming requires less capital investment, and varieties of mushrooms can be grown around the year. The mushroom substrate is clean agricultural waste material that is readily available and can be produced in temporary structures and arrangements (Shahi and Singh 2018). The production of spawn and preparation of value-added products are considered enterprise mushroom production with immense economic potential. Extensive training has generally been considered the outlet for an exchange of concepts within a community (Mazumdar *et al.* 2020).

Mushroom cultivation is technically feasible and an alternate way to the utilization of agricultural and industrial wastes. Extensive training and workshops have been considered as an outlet for the exchange of concepts into reality within a community. Therefore, training has been a widely accepted strategy with high returns on investment. Assessment of knowledge and skill development within the community, especially among women trainees through these outlets, is much essential for the evaluation and standardization of training programs and their modules. This assessment also brings problems and challenges which women are facing who are currently involved in mushroom cultivation practices (Kavitha *et al.* 2019). Thus, the present study has been done to assess the knowledge and skill development for mushroom production as an enterprise/self-employment. The training was given by the Dr. Rajendra Prasad Central Agricultural University (DRPCA), Pusa, Samastipur, India, for the farmers, farm women, and unemployed youth to increase their income and make them self-dependent entrepreneur in the future. So, the present study was undertaken to find out the knowledge and adoption level of farm women in mushroom cultivation techniques.

### Methodology

A snowball sampling technique was applied to draw the sample for the study. The study was conducted in the Samastipur district of Bihar state. A sample size comprised of 60 (sixty) respondents i.e., 15 respondents from each 4 selected villages. A respondent was elected by snowball technique. A questionnaire was designed to test the knowledge and adoption level.

### Knowledge of Women Mushroom Growers

To assess the level of knowledge on mushroom cultivation, a knowledge test was specially developed for the purpose, which constituted of 56 questions with correct answers getting a score of 2 and incorrect answer getting a score of 1; the knowledge was administrated to the samples of respondents, the data thus got were analyzed, and the results are presented in Table 1.

### Level of Knowledge of Respondents about Mushroom Cultivation

To arrive at the level of knowledge scores, the scores obtained on all the 56 questions were added, and the percentage was calculated using the following formula:

$$\text{Knowledge index} = \frac{\text{Obtained knowledge score}}{\text{Highest obtainable score}} \times 100$$

The knowledge score of all the 60 respondents was put in a frequency table, and their mean and S.D were computed. The score thus obtained were calculated by applying the mean ± SD procedure to obtain low, medium, and high categories of the knowledge level of the respondents as given below:

**Table 1:** Knowledge and Score evaluation

Sl. No.	Knowledge level	Score
1	Low	Low (Mean – SD)
2	Medium	Medium (Mean ±SD)
3	High	High (Mean + SD)

### Methods of Measuring Respondent’s Attitude

The attitude scale used in the study was based on the five-point rating scale. The score has been assigned as 1,2,3,4 and 5 for strongly agree, agree, neutral, disagree, strongly disagree response choices, respectively, for positive statements, and these were in reverse order for negative statements. To arrive at the composite attitude score, the score obtained by each respondent for every item was summed up. The final value thus computed was reckoned to be the attitude index of the individual respondent. Based on their attitude score, the respondents were classified into three groups, namely, least favorable, favorable, and most favorable, as mentioned below.

**Table 2:** Group Score obtained by an individuals

Category	Score
Least Favourable	Up to 15
Favourable	16-19
Most Favourable	Above 19

## RESULTS AND DISCUSSION

Training has specific goals of improving one's capability, capacity, and performance. Trainers need to have a solid knowledge of mushroom cultivation to train others. Trainers must be capable of teaching about the mushroom, their health properties and benefits, their cultivation, processing, and how to run a mushroom production farm. More specifically, trainers need to learn about the various tasks involved in the whole process of mushroom cultivation, the various type of cultivation according to the various types of mushrooms, and the processing and transformation of cultivated mushrooms.

It is clear from Table 3 that a cent percent of respondents had received training from various sources in their business before starting mushroom cultivation. The analysis of data revealed that the majority of the mushroom growers (56.66%) got training from DRPCA, Pusa. It may be due to the

fact that from DRPCA, Pusa has a well-established training center and its nearness to the respondent's place. Maximum respondents (63.33%) got training on the production of mushrooms, followed by a complete mushroom production training program on mushroom cultivation (35%). Data of Table 3 highlights that 35 percent of respondents got training for 1 to 3 days. It was observed from the data of Table 3 a majority of the respondents (58.34%) got training in the year 2015-2018.

The level of knowledge was measured using a knowledge test consisting of 56 questions. An attempt was made here to compute frequencies of correct answers. The results are given in Table 4.

### Level of Knowledge of Respondents about Mushroom Cultivation

It is clear from Table 5 that 75 percent of respondents possessed, medium level of knowledge which was followed by a high level of knowledge (13.33 percent), and only 11.67 percent of women had a low level of knowledge.

### Assessment of Attitude of Mushroom Growers

The attitude of women mushroom growers in selected villages is computed for all the sub-

**Table 3:** Training Exposure of Women Mushroom Growers (n =60)

Sl. No.	Particulars	Training Details	Frequency	Percentage
1	Training Received	Yes	60	100
		No	—	—
2	Place of Training	DRPCA, Pusa	34	56.66
		KVK under DRPCA, Pusa	5	8.34
		Other	21	35
3	Mushroom Training	Spawn Preparation	1	1.67
		Composting	—	—
		Production	38	63.33
		Complete Mushroom Production Training Program	21	35
4	Duration of Training	1 to 3 Days	21	35
		6 to 7 Days	19	31.67
		Above 15 Days	20	33.33
5	No. of Training Attended	1-2	53	88.33
		3-4	7	11.67
6	Year of Training	2007-2010	10	16.66
		2011-2014	15	25.00
		2015-2018	35	58.34

**Table 4:** Frequency and Percentage Distribution of Various Components of Knowledge on Mushroom Cultivation of the Respondents (n=60)

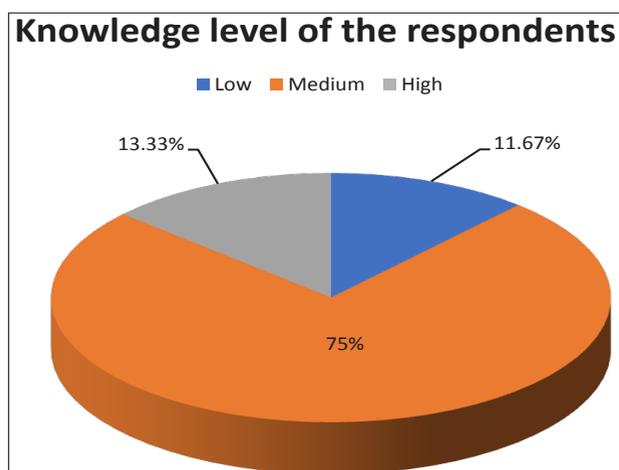
Sl. No.	Components of Knowledge of Mushroom Cultivation	Respondents	
		Frequency	Percentage
1	Do you know about mushroom cultivation	60	100
2	Mushroom growing is economically profitable business	25	41.66
3	Mushroom cultivation is side line business	60	100
4	Mushroom cultivation is an agro based industry	60	100
5	It is a women friendly avenues	60	100
6	It is a labour oriented profession	10	16.67
7	It requires less land to grow	60	100
8	It needs less amount of money	57	95
9	It gives quick return in time	15	25
10	Mushroom cultivation can be done by anybody after getting knowledge of mushroom production process	56	93.33
11	Climatic condition is also affecting the mushroom cultivation	58	96.66
12	Do you know about various species of mushrooms being cultivated in Bihar state	60	100
13	Oyster species is more preferred by the women	58	96.66
14	Oyster species is cultivated maximum in Bihar	54	90
15	Oyster species is easily available in Bihar condition	58	96.66
16	Button mushroom is tastier than oyster	49	81.66
17	Oyster gives maximum yield	27	45
18	Oyster gives maximum return (profit)	15	25
19	Mushroom is eco-friendly crop	58	96.66
20	Oyster is a women-friendly crop	60	100
21	Do you agree that mushroom is highly nutritious food for vegetarian	56	93.33
22	If yes then protein nutrient is comparatively more available in mushrooms than others	55	91.66
23	Do mushrooms contain equal protein to other non-veg food	52	86.66
24	Do you know that oyster mushroom is more nutritious than button mushroom	21	35
25	Do you know that when we dry the mushroom their nutritional value declines	9	15
26	Mushroom is useful for diabetic patients	53	88.33
27	Mushroom is a boon for the heart patient	56	93.33
28	Mushroom possesses the anti-arthritis property	54	90
29	Management of mushroom production varies with climate	57	95
30	Fresh air is needed for mushroom cultivation.	56	93.33
31	A mushroom grows fastly in the polybag in the winter season	48	80
32	The temperature should be maintained up to 20 to 30 degrees for mushroom cultivation	55	91.66
33	Do you know chemicals are also added for improving mushroom cultivation	59	98.33
35	Whether Dhingri mushroom is grown in your locality	60	100
35	Oyster is comparatively easy in cultivation	60	100
36	Do you know which disease affects mushroom cultivation	51	85
37	Does any insect pest attack cultivation of mushroom	14	23.33
38	Spawn is attacked by disease, insects and pests	38	63.33
39	Do you use any control measure for controlling the disease	23	38.33
40	Clean knife and gloves should be used for mushroom production	9	15
41	Do you clean the knives and gloves after use and dry them	50	83.33
42	Do you preferred to process your mushroom before the sale	59	98.33
43	Do you process mushroom yourself at your house	56	93.33
44	Does processing fetch you a more remunerative price	50	83.33
45	Do you want to sell your product in the local market, big market, or city market	60	100
46	Do you get remunerative price for your product at local market or city market	10	16.66

47	Do you get help with any agency in the marketing	2	3.33
48	Have you formed any co-operative society for marketing as well as other purposes to grow mushroom	56	93.33
49	Do you adopt any indigenous method of storage of mushroom	3	5
50	Can you store your fresh produce for a week	6	10
51	Do you know about spawn	60	100
52	Do you know about the method of spawn preparation	58	96.66
53	Is any spawn producing laboratory or institute in your locality	60	100
54	Do you know about disease attacks more in spawn bags	17	28.34
55	Do you know about suitable temp for spawn production	32	53.34
56	Do you know about the spawn rate for mushroom cultivation	44	73.34

**Table 5:** Knowledge Level of Women Mushroom Growers

Sl. No.	Category	Frequency	Percentage
1	Low (Mean – SD)	7	11.67
2	Medium (Mean ± SD)	45	75.00
3	High (Mean + SD)	8	13.33
<b>Total</b>		<b>60</b>	<b>100</b>

component of mushroom cultivation and has been presented in Table 3.



**Fig. 1:** Distribution of Respondents according to their knowledge level

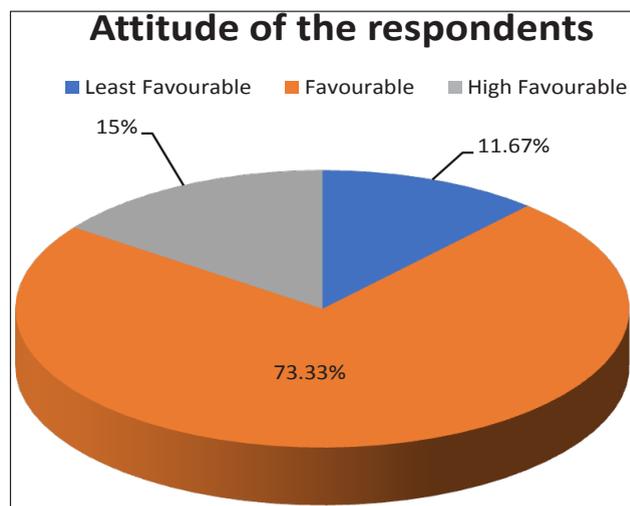
To assess the impact of mushroom cultivation on the sustainability of women mushroom growers’ attitude about mushroom cultivation of the respondents was studied. Based on calculated of statements given by the respondents was classified into three categories i.e., Least favorable (up to 15), favorable (16-19), and most favorable (Above 19) level of attitude, which is presented here in Table 3.

It is evident from Table 6 that out of sixty respondents’ maximum respondents (73.33%) had favorable attitude scores ranging from 16-19, which indicated that they possessed a favorable attitude

towards mushroom cultivation. A similar finding was reported by Jahan *et al.* ( 2010), who also found that majority of respondents had a favorable attitude towards mushroom cultivation.

**Table 6:** The attitude of Women Mushroom Growers (n=60)

Sl. No.	Category	Frequency	Percentage
1	Least Favourable	7	11.67
2	Favourable	44	73.33
3	Most Favourable	9	15
<b>Total</b>		<b>60</b>	<b>100</b>



**Fig. 2:** Distribution of Respondents according to their attitude level



## CONCLUSION

The present research work has shown that women play a significant role in mushroom cultivation and can use their leisure for profitable ventures. After training, 75 percent of women have shown a medium level of knowledge regarding mushroom cultivation, while 73.33 percent of women have shown a favorable attitude for mushroom farming and count it as a sustainable method of employment and income generation. This level of knowledge and attitude might be due to the extensive training and workshops conducted by the training centers. The research work has also revealed that the women mushroom cultivators are facing the problem of storage, proper harvesting techniques, declination in nutritional value, and lack of agencies for marketing of their products. Hence, these problems open the scope for future research work in mushroom cultivation, making a venture of less capital investment and high-income generation.

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