

Mushroom Production - A Better Option of Income for Landless Farmer's & Farm women in Eastern Uttar Pradesh

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Abstract: Mushroom have unique ability to degrade cellulose, hemi-cellulose and lignin of different agro wastes and organic wastes material and are effective means of recycling those waste materials into edible biomass of high nutritive and medicinal value. Crop residue provide little economic return to the farmers, however if used in mushroom cultivation, it can lead to integrated rural development by increasing income and self employment. Therefore, to create mushroom production a viable business option in rural environment for landless farmer's & farm women in Eastern Uttar Pradesh, the study was planned by Krishi Vigyan Kendra Kushinagar with the objective to assess the profitability of mushroom production in Eastern Uttar Pradesh, to assess the utilization pattern of mushroom in Eastern Uttar Pradesh & to assess the perception of farmer's about mushroom production. The result on profitability of mushroom production indicated that on an average 0.58 kg mushroom can be obtained from one kg wheat straw. By investing Rs. 3570 the net return of Rs. 4897 in just 49 days with the B:C ratio 2.3:1 may be earned from one unit. Data related to utilization pattern of mushroom presented showed a wide variation. All the respondents utilized mushroom in preparation of recipes like curry, pakora, mix vegetables, rice and pickles. Data on perception of farmer's about mushroom production evident that respondents ranked statement, "Mushroom production is good option for landless and poor rural youth" as rank 1st. Therefore it may be concluded that mushroom production is a better option of income for landless farmer's and farm women and it needs the more extension strategy to encourage more and more people for mushroom production as it is good for health and a better way for earning wealth as well.

Keywords: mushroom, Income generation ,rural youth, agro waste

1. Introduction

Mushroom though classified as vegetable in the food world, are not technically plants. They belong to the fungi Kingdom (Megan 2017).Mushroom are fleshy fungi constituting a purely vegetarian diet which is very tasty and nutritious. It constitutes low calorie diet, it is rich in protein, mineral, vitamins in ample amount due to which mushroom is considered a nutritional and medicinal food (Rana et al 2007). In general, mushroom fruit bodies on dry weight basis contain 55% carbohydrate, 32% protein, 2% fat and rest mineral and vitamins. These are excellent source of thiamine (vitamin B-1),riboflavin(B2),niacin ,pantothenic acid, biotin, folic acid and vitamin C,D,A and K to some extent. Moreover those vitamins and minerals are retained even after cooking. Minerals present in mushroom are phosphorus, potassium, copper and iron. Mushroom protein contains all nine essential amino acids required for human growth. So far 100 mushrooms have been accepted as food worldwide. Among the 33 globally cultivated mushrooms 3 mushrooms, i.e. White button, Oyster and paddy straw mushrooms are popularly grown in India. However sporadic cultivation of black ear and milky mushrooms has also been started in recent years. Most of the mushrooms have unique ability to degrade cellulose, hemi-cellulose and lignin of different agro wastes and organic waste materials and are effective means of recycling those waste materials into edible biomass of high nutritive and medicinal value. Crop residue provide little economic return to the farmer's, however if used in mushroom cultivation, it can lead to integrated rural development by increasing income and self employment (Sharma & Yadav 2008).Therefore, to create mushroom production a viable business option in rural environment for landless farmer's & Farm women in Eastern

Uttar Pradesh, the study was planned by Krishi Vigyan Kendra Kushinagar with the following objectives-

- 1) To assess the profitability of mushroom production in Eastern Uttar Pradesh
- 2) To assess the utilization pattern of mushroom in Eastern Uttar Pradesh
- 3) To assess perception of farmer's about mushroom production in Eastern Uttar Pradesh

2. Methodology

To assess the profitability of mushroom production (Button & Oyster) Front line Demonstration and trainings were conducted by KVK Kushinagar. For capturing the utilization pattern of mushroom and perception of farmer's & Farm women, data was gathered from 120 farm women from the district Kushinagar. The district Kushinagar was selected purposively. Two blocks from district Kushinagar i.e., Seorahi and Tamkuhi blocks were selected purposively as they were the selected blocks for KVK interventions. Village Piperaghat from Seorahi block And Dhuria Kot from Tamkuhi Block of district Kushinagar was selected purposively. From each village 60 farm women were selected randomly. To analyze the perception of respondents and utilization pattern pre tested interview schedule was used. For capturing the perception a set of 10 statements reflecting the various aspect related to mushroom and Likert's Five point scale was used to estimate the ranks of statement.

3. Result & Discussion

The profitability of mushroom is presented in table 1 indicates that on an average 0.58 kg mushroom can be

obtained from one kg wheat straw and by investing Rs. 3570 the B:C ratio 2.3:1.
we can earn the net return of Rs 4897 in just 49 days with

Table 1: Profitability of Mushroom Production in District Kushinagar

Year	Mushroom	No. of Farmer	Yield/kg wheat straw	Total Cost	Total Benefit	Net Return	B:C Ratio	ManDays	Duraton
2016	Oyster	8	0.65kg	6320	15600	9280	2.4:1	3.0	42
2017	Button	4	0.50kg	2400	5120	2720	2.1:1	6.5	60
2017	Oyster	13	0.60kg	1989	4680	2691	2.4:1	1.5	45
	Mean		0.58	3570	8467	4897	2.3:1	3.7	49

The findings of the study are in agreement with the finding of **Bhatt et al 2011** and **Awasthi et al 2015**.

Data related to utilization pattern of mushroom presented in table 2 showed a wide variation . All the respondents utilized mushroom in preparation of mushroom Curry (100%) followed by preparation of mushroom curry with Potato (95.83%), Preparation of Pakora (91.67%), Preparation of mix vegetable with mushroom (81.675) , preparation of mushroom Rice (12.5 %),preparation of mushroom pickle (3.6 %) and drying of mushroom(2.4 %).

Table 2: Utilization Pattern of Mushroom in Eastern Uttar Pradesh

Recipes	Utilization Pattern of Mushroom		Rank
	Frequency	Percentage	
Mushroom Curry	120	100.0	I
Pakora	110	91.67	III
Mix Vegetable with Mushroom	98	81.67	IV
Mushroom Curry with Potato	115	95.83	II
Soup	0	00.00	-
Drying of mushroom	13	10.8	VII
Mushroom Rice	150	12.50	V
Mushroom Pickle	30	03.60	VI

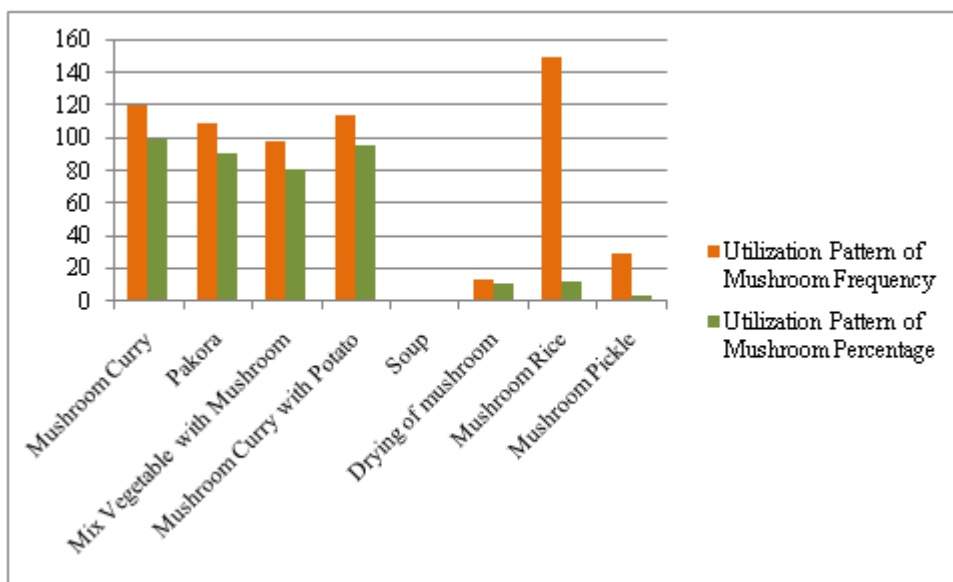


Figure: Utilization Pattern of Mushroom

Data related to perception of farmers and farm women about mushroom production in table-3. In order to analyze the perception of the selected respondents, they were asked to respond to 10 different statements using Likert's Five Point Scale viz. Strongly Agree, Agree, Undecided, Disagree & Strongly Disagree. On the basis of the scores, mean and rank have been calculated for each statement for the purpose of analysis.

Table 3: Perception of Farmer's & Farm women about Oyster Mushroom Production

S.No.	Statement	SA	A	UD	DA	SDA	Mean	Rank
1.	Mushroom production provides high return	73.3	5.8	8.3	10.0	2.5	3.7	VI
2.	Mushroom production is more easier than conventional	65.8	2.5	10	9.16	12.5	4.0	IV

	farming of other crop							
3.	Mushroom is beneficial for patient suffering from various disease	66	4.16	20.8	4.16	4.16	4.25	III
4.	Mushroom is protein rich food	62.5	12.5	20.8	2.5	1.6	4.308	II
5.	Mushroom production is good option for landless and poor	67.5	7.5	19.1	5.6	-	4.36	I
6.	Raw material needed for mushroom production is available in abundance in rural area	60.8	15	9.16	6.6	8.3	4.13	V
7.	Mushroom	55.8	11.6	15.8	10	6.6	4.0	IV

	production is easily							
8.	Mushroom production requires specific temperature and humidity which is difficult to maintain	12.5	4.16	6.6	13.3	63.3	2.525	VIII
9.	Spawn is the basic component for mushroom production whose availability is uncertain	9.16	15.8	23.3	34.1	17.5	2.65	VII
10.	Spent mushroom substrate may be further used	9.16	4.16	37.5	27.5	21.6	2.516	IX

*SA-Strongly Agree, A-Agree, UD- Un Decided, DA-Dis Agree, SDA-Strongly Dis Agree

It is evident from the table- 3 that respondents ranked statement "Mushroom production is good option for landless and poor rural youth" as rank Ist. The table reveals that respondents were strongly agreed with the statement "Mushroom is protein rich food " as IInd rank . The rank IIIrd was given to the statement that "Mushroom is beneficial for patient suffering from various disease. Followed by the statement that "Mushroom production is more easier than conventional farming of other crop..The last and X rank was given to the statement that "Spent mushroom substrate may be further used ".the table 3 indicated the positive perception of respondents about mushroom production, the respondents were strongly agree to agree with the benefit of mushroom production.

Therefore it is clear from above discussion that mushroom production is a better option of income for landless Farmer's and Farm women and it needs the more extension strategy to encourage more and more people for mushroom production as it is good for health and a better way for earning wealth as well.

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