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STUDY OF OYSTER MUSHROOM EDIBILITY AND CULTIVATION FACTS AMONG PEOPLE WITH SPECIAL REFERENCE TO CHUMLI VILLAGE, TEHSIL NARSINGHGARH AND PACHORE TEHSIL OF RAJGARH DISTRICT IN MADHYA PRADESH

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ABSTRACT

Mankind has been using ethnomedicinal values and active compounds from plants, animal, bacterial, algal and fungal sources for nutrition and various ailments since time immemorial. In making edible mushrooms a novel and staple crop we are still far away. With great nutraceutical value it is also a way of bioremediation and agricultural waste management. It also opens a new initiative in entrepreneurship providing rural livelihood and more scope of research and development in life sciences. The present study reveals that besides being good source of nutrition and medicinal importance large number of population is still unaware of this miracle food. There is a need to get them aware so that they may accept Oyster and other edible mushrooms as other routine vegetables and fruits. There is great demand of the day that people should entre in this field of entrepreneurship. This would only be possible if open markets are developed for Oyster mushroom and this is possible only after awareness among people.

KEYWORDS: Oyster, Entrepreneurship, Mushroom, Staple crop, open market.

INTRODUCTION

Mushrooms are rich in proteins, carbohydrates, fats, minerals, vitamins, and amino acids.[1,2] *P. ostreatus* is an easily cultivable mushroom that colonizes various crop residues as

substrates. *Pleurotus* spp. are able to degrade and convert lignocellulosic compounds into protein-rich biomass,[3] and help in managing agro-wastes whose disposal has become a problem.[4] It demonstrated higher colonization rates, improved earliness, and sporophore yield on different agro wastes compared to other cultivated mushroom genera.[5] Its cultivation has increased greatly during the last few decades throughout the world[6] due to its ability to adapt varied agro-climatic conditions.[7] In addition to that, *P. ostreatus* growth on different agricultural wastes can provide more food and decrease different crop residues.[8]

Entrepreneurship in life sciences can be established through mushroom cultivation and agro waste management by cultivation of Oyster mushrooms. Oyster sps. utilizes cellulose sources for their growth so it provide a best way of utilization of agricultural, industrial and domestic cellulosic waste material like wheat straw, paddy straw etc. This mushroom is not as popular as white button mushroom in the domestic market. A few units are cultivating it commercially for export market. Cultivation of this mushroom on commercial basis would be more profitable as compared to white button mushroom as capital costs are low. The cultivation of this variety of mushroom is very simple and economical in rural areas where raw materials and facilities required are easily available.

Mushrooms are also known for their medicinal potential. They are used for cancer therapy, liver disorders, diabetes, asthama, respiratory diseases, arthritis, hepatitis B and hypertension. They possess antiviral, antibacterial and antifungal properties. They are good antioxidants. Mushrooms presently are also in various phases of clinical trials in HIV cases.

Edible mushrooms are the fleshy and edible fruit bodies of several species of macrofungi. They can appear either below ground or above ground where they may be picked by hand. Edibility may be defined by criteria that include absence of poisonous effects on humans and desirable taste and aroma. Edible mushrooms are consumed for their nutritional value and they are occasionally consumed for their supposed medicinal value. Of 300 edible mushroom species, 30 have been domesticated and 10 are grown commercially. Agaricus spp. are the leading mushroom crop worldwide, and accounted for approximately 98% of the total U.S. mushroom production from 2012-2013. Oyster (*Pleurotus* spp.) and shiitake mushrooms rank second and third respectively in worldwide production. Oyster mushrooms are the third largest cultivated mushroom. China, the world leader in Oyster production, contributes nearly 85% of the total world production of about a million tonnes. The other countries producing oyster mushrooms include Korea, Japan, Italy, Taiwan, Thailand and Phillipines. The present

production of this crop in India is only around 1500 tonnes due to low domestic demand. Another inhibiting factor is that export demand orders are large and can be met only if a linkage is developed between producer, cooperatives and exporters.

MATERIALS AND METHODS

Data collection was performed by random sampling method. Data was collected from two different regions of Dist. Rajgarh, (M.P.) in India. One region was Village Chumli, Post Boda of Tehsil Narsinghgarh of District Rajgarh region. Another region selected for the present study was Pachore Tehsil of Rajgarh District. Peoples were divided basically in two communities named Local community and Farmer community. Further besides edible Oyster mushroom edibility facts were discovered both from local and farmer community and cultivation facts were revealed from farmer community. Edibility facts covered information regarding peoples vegetarian or non vegetarians, consideration of mushroom as vegetable or not, ever ate, market place known or not, convinced from fact giving and benefits known or not. Cultivation facts further included ever cultivated, took training, sales rates known, market of spawn or mushroom known, rates of dry and wet mushroom, spawn known, want to cultivate in future or want training regarding cultivation.

RESULTS AND DISCUSSION

1. Local Community

Edibility facts

Pachore Region

8 out of 10 were found to be vegetarian. None have eaten yet except 1 vegetarian. 1 put it in vegetable category and 3 put it in non-veg category. No one knew the market place. 7 out of 10 were convinced. 7 out of 10 knew the benefits of edible mushrooms.

From the above data it can be concluded that still there is a lot of lack of awareness among people even regarding any idea about mushroom. Many people even don't know the name of mushroom. In such case there is a need to make them aware about this new food of 21st century. The positive aspect from the above data was revealed that many vegetarian people especially females even if not knowing showed their acceptance for mushroom as a good protein source for their family. All non vegetarians demanded the open market for mushrooms so that they may easily buy it in reasonable cost in local regular markets.

2. Farmer community

Edibility facts

Pachore Region

6 out of 10 were vegetarians. 3 considered mushroom as vegetable and 1 as non-veg. 5 of 10 have heard about the benefits of edible mushrooms. Everybody was convinced on our informative interactions.

Village Chumli, Narsinghgarh Region

All the farmers of the sample selected were found to be vegetarian all of which did not comment on mushrooms to consider as a vegetable or non veg food. They haven't eaten yet and no one knows the market place so that they may purchase. Out of 10 one commented that there is no fat in mushroom. 7 out of 10 people were found who knew the benefits of mushrooms. On our explanations everybody was convinced about the values of this protein rich food.

Cultivation facts

Pachore Region

4 of 10 were aware about mushroom cultivation. Everybody was found interested in training to start their livelihood in a better way. Every farmer welcome the initiative.

Village Chumli, Narsinghgarh Region

We found ratio of 1:1 regarding awareness among people for mushroom cultivation. Nobody in the group ever cultivated or took any type of training regarding mushroom cultivation. Neither market place nor sales rates of spawn and mushrooms are known. Every person showed a positive response to attend training for mushroom cultivation.

Data from the cultivation facts revealed that some farmers know about mushroom cultivation but due to lack of sales market known they usually do not opt for the same. Further without proper training it is not possible for them to start mushroom cultivation.

Mushroom cultivation with point of view of value addition is a multitask enterprise which require variable expertise and logistics support. This business can also generate numerous intermediate businesses like spawn production, mushroom production, mushroom products and packaging and so on. The study would be a field application of the practical aspects of

Life sciences in establishing Entrepreneurship. There should be projects focussing market development for cultivars still facing a market fetch.

Marketing of fresh oyster mushroom does not pose any problem at present due to very low production. If production increases linkage of producers with domestic markets and export oriented processing units will need to be developed to ensure remunerative prices to the producers.

Export orders are too big to be met by a single grower and as such co-operatives have to be encouraged to pool their produce for trading the crop in a dried powder form in international markets.

Above data unreal the facts that there is a great need to launch a major awareness program to spread awareness regarding edibility and cultivation facts so that people accept this crop of the 21st century. Open markets should be developed so that even small cultivars may find the sales market for their produce. This could be achieved from making the population aware of the nutritional and medicinal importance of mushrooms. We should focus on farmers as they are the backbone of agricultural products of our country. Many researches showed the nutritional and therapeutic importance of mushroom and now there should be field application to step up to make mushroom a staple crop. Special tasks team of researchers and chefs should be appointed for value addition of mushrooms to make it appropriate in all types of eating habits either a snack or regular cuisines.

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