



Mushroom Cultivation in a Techno – Savvy Environmental Space

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Abstract

We are living in a techno-savvy globally driven world. Technologies play a pivotal role in day to day life. In this robotic world, we are enveloped with different programmes in changes of technologies with respect to mushrooms. Its production and cultivation too technologies play a key role. How to increase the productivity, how to resist diseases, how into breed news strains, how to use strains with higher yields and how to reduce the use of chemicals pest control are answered with the assistance of technologies. New technologies were launched in the field of mushroom harvesting, composting, mushrooms production on non – biodegradable substrate, substrate disinfections and new spawning methods. This will improve the quality and quantity of mushrooms on a large scale.

Keywords: Spawning culture, substrate, non-biodegradable, biotechnology, climate change, Automation, AI, Sterilization, variables

INTRODUCTION

Mushroom Cultivation is a biotechnological and a recycling process. The cheap and easy availability of raw materials for Mushroom Cultivation adds an impetus to its potentiality. It has manifold medical, economics and nutritional legacies. It played a paramount role in the livelihood of people with disabilities, women and the landless poor. There were numerous challenges posed for the cultivation of mushrooms. China is the leader in mushroom production. This is because of



community based agriculture and diversity of mushrooms. These species are good sources of proteins, folic acid, iron vitamins and minerals. They are good for anemic patients. Mushrooms climatic change (CC) is a key factor for the impedimency of the crop cultivation. Agricultural wastes have been doomed in India and add fuel to the fire. In this context, a study was made to identify cultivation goals of mushrooms, the challenges posed by species cultivation technologies, to identify techno-based innovations in the production of mushroom cultivation and to make an estimate on monetary benefits to by adopting mushroom cultivation.

METHODOLOGY

The methodology is purely descriptive in character and is based on secondary sources of data. The data on techno driven schemes in ecofriendly practices, substrate preparation, sterilization, AI and machine learning, automated development systems, LED light, monetary benefits were analysed and conclusions were made.

RESULTS

1.Eco – Friendly Practices

A sustainable and eco-friendly zone has to be developed in this global area as SDG (Sustainable Development Goals) are the key pathways to the progress of mushroom cultivation. Recycling mode has been utilized for the purpose. The nutritional profile of mushroom has to be enhanced. Renewable energy sources such as solar or wind in an automated gross system to be adopted.

2.Substrata preparation and Sterilization

Substrate include compost, saw dust or straw. Sterilization process has to be included. But the disadvantage was energy – intensive and time increasing. New technologies are imparted which are more efficient and less pollutants, this will improve the overall status of mushroom cultivation.

3.A I and Machine Learning

Machine Learning algorithm are used for optimization. Algorithms foster to identify patterns and make predictions about the best conductions mushroom growth. Thus energy conservation can be minimized. The algorithm helps to analyze data on CO₂ levels, humidity and temperature.

4.Automated Development Systems

The right procedure for mushroom growth is visible through ADS or Automated Development Systems. They can control variables such as humidity, temperature and



CO₂ levels. Thus human intervention subsidizes to the bottom because automated system monitor and adjust the growing environment.

5.LED Light

The more energy efficient light system, improves sustainability and reduce energy. Traditional lighting system has subsided now. LED light are long-lived and unit specific. They faster mushroom growth. Higher yields, faster growth are its output.

However there are hurdles and hindrances to any venture. Mushroom clustering also hampers different sort of serious handicaps. They are enumerated as follows:

i.Monetary Benefits

They contribute to sustainable food security, nutrition and medicine. Thus income – raising through business venture is aimed at. Thus opportunities are awaiting for these business. They throw light on livelihood opportunities. Thus income generation is provided by growing mushrooms. It avoids some of the challenges that would mushroom farmers face. They includes:

- Identifying species
- Obtaining access and permits to collect
- Practicing sustainable harvesting

ii) Domestic Income

Mushroom cultivation is integrated with other traditional agricultural and house hold activities. It contributes significantly to the livelihood of the disabled income and the land less poor. Thus income is generated through adequate training and inputs. Self esteem can also be enhanced. This can be achieved by careful planning in tune with the market opportunities. Thus trade and economic prosperity will be the output. A good entrepreneur skill and training in this field led to successful commercial mushroom farming.

iii) Collaborative Farming

Co-operative and community groups should take up the venture for production costs, harvesting and marketing. Partnership, business or joint ventures with regional agricultural industries, university or wholesalers helps small scale producers, reduce vulnerability and risk. Producers can have access to training and other farms of support.



iv) Disease and contamination

Mushroom are susceptible to a variety of contamination and diseases. This will destroy the entire crop. Hygiene protocols and measures must be taken to prevent and to create a sustainable eco space. New Technologies must be scrutinized for the same.

v) Cost of Living Increases

The system is expensive and costly. It is costly to install and maintain. This is a great impediment for small scale farmers who do not have the sources to invest in advanced technology.

CONCLUSION

In a nutshell, mushroom cultivation offers remarkable opportunities to urban and rural women and youth. Public and private intervention through financial constraints are a great boost to its growth. It is an indoor crop which expand domestic market. Scientific and technological expansion adds to skill development. It can be grown seasonally and year-round in environment characteristically controlled grow rooms, years come will determine the demand for food (2020–2025) spectrum. Thus malnutrition and poverty in rural area can be regulated. We have to maintain current consumption patterns. Schemes and plans have to be formulated to double the cultivation of mushroom production in the next 20-25 years. Yield have to be doubled in parallel with current consumption. Mushroom cultivation is a great indoor crop production programme which can be cultivated in traditional ways and means. Through modern technological drives it can be raised up to unreasonable extent.

BIBLIOGRAPHY

1. Anonymous, Directorate of Mushroom Research (ICAR) Solan, (H.P) India, 2011.
2. Bah L. Neeta, Oxford and IBH Publishing co, New Delhi, 1984.
3. Daba, A.S., Kabeil, S., Botros, W. A. El-Saadani, M., Production of mushroom (*Pleurotus ostreatus*) in Egypt as a source of nutrient and medicinal food world. J Agric. Sa 2008.
4. Gulbet F. A., Robinson, R.F, Food from fungi, Economic Botany, 1957.
5. Lekhanpal, T. N., Rena, M. Medicinal and pharmaceutical Genetic resources of mushrooms. Plant genetics Res 2005.
6. Oei, P, Manual on mushroom with techniques, species and opportunities for the commercial application in developing countries, Tool publications, Amsterdam 1991.
7. Vancetic B Termate C, Ickwite, A Pawells B, Kchlenback K, Hunter D, The contribution of forests and trees to Sustainable Diets. Sustainability, 2013.