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MUSHROOM PRODUCTION AND ITS IMPORTANCE

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Spawn production

A good quality grain of paddy is taken.

Grain is first half boiled and then the excess water is drained out keeping with appropriate moisture for growing of mycelium in the grain.

Two hundred gm (200gm) of such grain was packed in 15×18 cm polypropylene bag or in 500 ml conical flask. The grain was mixed with gypsum (calcium sulfate) and calcium carbonate 10g in the ratio of 3:7. The total mixture was sterilized at 121⁰c for 15 minute at 15 p.s.i.

After cooling mycelial discs of pure cultures of the test hybrids and parent strains were inoculated aseptically into the grain and incubation was done at 25±1°C for 10-20 days. After completion of mycelial growth, the packets/ flasks looked full of whitish mass. After this stage the packaged product of full of mycelia was ready to be used as spawn.

Packing

Sundried paddy straw was chopped at a size of 3-5cm by chaff cutter or by sickle.

In one liter of water bleaching and lime were added @ 1 g and 2 g respectively, and then straw was dipped in that mixture for 24 hours.

That container was covered with lid to sterilize the substrate by the gas produce by lime and bleaching.

Afterwards the container holding straw was kept in slanting position for next 24 hours, so that the excess water can be drained out.

Straw was spread in floor by adding insecticides (Hexa 50) @0.2-0.3% and was mixed uniformly with straw.

A polypropylene bag was cut at 2ft-2.5ft length. On polypropylene bag one side was tied with sterilized rope. 3kg paddy straw was sterilized. The polypropylene bag was loaded with that sterilized paddy straw up to 3inch to 4inch. After every layer of paddy straw, spawn of different mushroom strains were spread by hand. This is how 4-5 layers of straw and spawn was made alternatively in that polypropylene bag. 200gm spawn was used for each cylinder. For proper aeration and spawn running, small holes on the polypropylene bag were made. To prevent the microbial contamination or insects infestation, that holes were plugged with tight non absorbent cotton plug. After two to three weeks, total paddy straw was covered with the mycelial growth of mushroom strain, which was applied as spawn the strain was *Pleurotus* spp.

Economic and other values of Mushroom Cultivation

- I. **Nutritional value** : Mushroom is a rich source of vitamin C, B and D, including riboflavin, niacin, folate, and thiamine. It contains different minerals like calcium, iron, magnesium, potassium, copper and phosphorus. It also contain high amount of carbohydrate but fat and fibre in low amount. Starch is totally absent in mushroom.
- II. **Protein content** : Fresh mushroom contain 3-7% of protein and from dry mushroom we can get up to 25-40% protein. Amides, all essential amino acids and lysine are also present in mushroom.

- III. **Medicinal value** : Mushroom can be a way to manage the high blood pressure and heart diseases. Besides this, mushroom has other so many medicinal properties. Mushroom is also helpful in the treatment of several life threatening diseases like mushroom can prevent the spread of cancerous cell. It helps to boost up the immunity, so that human body can fight back against several viral contagious diseases like HIV/AIDS.

Besides all these, mushroom cultivation is a source of income and employment generation.

Advantages of Mushroom Growing

- I. Idle structure can be used.
- II. Comparatively small capital is required than other business in initiation.
- III. Investors can get at least a minimal production all around the year inspite of mushroom seasons.
- IV. On mushroom cultivation, agricultural waste can be used in a sustainable manner. Like various straw or other factories and plantations' wastes are used as substrate.
- V. Mushroom can be used in bioremediation. It can degrade the pollutants and helps in environmental conservation.

Consumption benefits of mushrooms.

- All essential amino acids are present in myushroom.
- It is a rich source of Vit. B12 and Vit. C which are animal products.
- Mushroom contains low amount of sodium and this make mushroom perfect for heart and kidney ointments preparation.
- It contain calcium, iron, phosphorus, folic acid and potassium.

Challenges in Mushroom Growing

- Farmers are not experts in techniques of mushroom production.
- Using of readymade spawn is not economically viable and also quality of that spawn is not at all assured.
- Most of the people do not know the advantages of mushroom cultivation and economic and medicinal value of mushroom.
- There are some traditional and religious thoughts, involved with it, which is one of the important challenges in mushroom cultivation.