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Effect of different media on the mycelial growth of *Lentinus squarrosulus* Mont.

K. SUBRAMONIAN, S.L. SUBHA AND A. SARAVANA GANTHI

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SUMMARY

Mushroom constitutes one of the man's natural food for centuries. Now they are used in the production of food, feed, drugs, enzymes, herbicides and insecticides. Among these food and drug are found to be the foremost importance and consumed widely. One of the edible mushroom commonly occur in tropical region is *Lentinus squarrosulus*. The present paper deals with the effect of different media on the mycelial growth of *Lentinus squarrosulus*. Different media like natural media, synthetic media and semi synthetic media were used. Mycelial dry weight was obtained from seven days growth onwards at seven days interval upto 28 days. The result showed that the better mycelial growth was obtained in carrot extract medium among the natural media on 28th day and poor mycelial growth reported in the Carboxy methyl cellulose medium among the semi synthetic media. Among the synthetic media, the basal medium produced better mycelial growth.

Key words : Basidiomata, Gills, Mycelia, Pileus, Stipe

Mushrooms are one of the important bioresources available to the common man especially those who cannot afford to go for protein rich food like mutton, egg, milk etc., Mushrooms are equally supplementing these protein sources, but their availability, rich chemical constituents are not known widely. FAO reported that the average protein consumption per head in developing countries is only half of that of the developed countries. Several attempts have been made to increase the protein production through single cell culture of algae, yeast and many moulds. But these methods are highly expensive, cumbersome and need controlled conditions. In order to bridge the protein gap, mushrooms have come to rescue which has good quality of proteins and major essential amino acids constituting of about 20-45% and also possess amino acids like Lysine, Methionine which are available usually in the animal food. Worldwide there are only dozen species are available for the commercial cultivation. The genus *Lentinus i*s commonly occurs in plains of India. Some of the common species are *L. sajor-caju, L. cladopus, L. crinitus, L. prolifer* and *L. squarrosulus*. Among these *L. cladopus* and *L. squarrosulus* are known to be edible. (Corner, 1981; Joly and Perreau, 1977). There is a need to increase the number of edible mushrooms. Information on the nutritive value of tropical edible mushroom *Lentinus squar*rosulus is scanty. The present study has reported the cellular products of *Lentinus squarrosulus* like total crude proteins, total sugars, reducing sugars, glycogen and lipids content to evaluate the nutritive value of the fungus. For the cultivation of mushroom in submerged culture it is impossible to depend upon a single standard medium. The growth kinetics of *Lentinus squarrosulus* vary in different media. Natarajan and Raman (1983) reported that sawdust-carrot extract medium was the best for the *in-vitro* production of fruiting bodies of *Lentinus edodes*. Inorganic substances such as glass wool, vermiculite and perlite served satisfactorily in supporting production of fruiting bodies in liquid media (Miles and Chang, 1987).

Correspondence to:
K. SUBRAMONIAN, Department of Plant Biology and Biotechnology, The M.D.T. Hindu College, TIRUNELVELI (T.N.) INDIA
Authors' affiliations:
S.L. SUBHA, Govt. Siddha Medical College, Palayalmkottai, TIRUNELVELI (T.N.) INDIA
A. SARAVANA GANTHI, Department of Botany, Rani Anna Govt. College for Women, TIRUNELVELI (T.N.) INDIA

MATERIALS AND METHODS

For the present investigation, fresh healthy *Lentinus squarrosulus* were collected from Tirunelveli hills, Tirunelveli District, Tamil Nadu. The pure culture was maintained on PDA slants at 4 $\pm$ 1^0 C in dark and sub-cultured at one month interval. Potato-dextrose agar (PDA), Glucose-Asparagine medium, Carboxy methyl cellulose medium, Sabaraud's medium, Carrot extract medium, Saw dust extract medium (Difco Manual,1953) Nutrient medium, Basal medium (Srivastava and Bano, 1970), Mushroom synthetic medium (Saha and Samajpati,1983), Mushroom complete medium (Roy and Samajpati, 1983) were used for the analysis. Triplicates were maintained for each experiment unless otherwise specified.

RESULTS AND DISCUSSION

Different natural media like carrot extract, Saw dust