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Nutritional Requirements for Mycelial Growth and Artificial Cultivation of *Tricholoma giganteum*

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Abstract: Using strains of *Tricholoma giganteum* collected in Okinawa prefecture, the nutritional requirements for mycelial growth of *T. giganteum*, the most suitable sawdust medium for cultivation, and the fruit-body yield were investigated. The results showed that the mycelial growth of *T. giganteum* was superior on the Hennerberg medium of synthetic liquid medium, and the GCMY (glucose, casamino acid, malt extract, and yeast extract) medium of natural liquid medium. The optimum pH value and the temperature for mycelial growth were 5.0 and 30°C, respectively. Soluble starch and mannose were the most effective carbon source for the mycelial growth and the most effective nitrogen source was potassium nitrate. On sawdust media supplemented with wheat bran, Hannoki (*Alnus japonica* (Thunb.) Steud.) had superior growth, whereas Mokutachibana (*Ardisia sieboldii* Miq.) had inferior growth. Among the 5 strains tested, the TG-12 strain had the highest fruit-body yield.

Keywords: *Tricholoma giganteum*, nutritional requirements, sawdust medium, fruit-body yield

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