

【ノート】

Effect of earthworm extract on the vegetative mycelial growth of *Tricholoma matsutake*, an ectomycorrhizal mushroom

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[Abstract]

In this study, we examined the effect of earthworm extract on the vegetative mycelial growth of *Tricholoma matsutake*. Mycelial dry weights were much higher when the vegetative mycelium of the fungus was cultured in Hamada matsutake liquid medium supplemented with earthworm extract instead of the conventionally used dried beer yeast extract. The effect of earthworm powder extract [1.0, 3.0, and 5.0 g/L (w/v)] on the vegetative mycelial growth of the fungus was investigated. Medium containing an extract from 5.0 g/L (w/v) earthworm powder showed better mycelial growth than media containing extracts from 1.0 and 3.0 g/L (w/v) earthworm powder. The vegetative mycelium was cultured in modified Hamada matsutake earthworm extract liquid medium supplemented with trehalose instead of glucose. Mycelial growth was the highest in medium containing 8% trehalose.

Key words: *Eisenia fetida*, Mycelial growth, Mycorrhiza, Trehalose, *Tricholoma matsutake*

[摘要]

本論文ではマツタケの栄養菌糸生育におけるミミズ熱水抽出物の影響を調べた。浜田マツタケ培地の構成成分である酵母エキスの代わりにミミズ抽出エキスを添加した方がマツタケの栄養菌糸の生育は良かった。ミミズ粉末を 5.0 g/L (w/v) で添加したとき 1.0 g/L や 3.0 g/L のときより菌糸はよく生育した。浜田マツタケ培地を改変したミミズ抽出エキス (5.0 g/L) とトレハロース [8% (w/v)] を含む培地はコントロールとする培地よりも栄養菌糸の生育が良かった。土壌動物であるミミズ由来の成分が菌糸生育を促進するという興味深い知見が得られた。