

【論文】

Two-year survival of *Tricholoma matsutake* ectomycorrhizas on *Pinus densiflora* seedlings after outplanting to a pine forest

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[Abstract]

In field trials of in vitro-generated pine ectomycorrhizal seedlings associated with *Tricholoma matsutake*, we examined the survivability of the ectomycorrhizas on *Pinus densiflora* seedlings one to three years after outplanting. In total, 55 seedlings (1 to 2 years old) were transplanted to two different *P. densiflora* experimental forests in Ibaraki Prefecture, Japan, from 2004 to 2008. One to three years after transplantation, the root systems of the seedlings were examined microscopically and their ectomycorrhizal tips were tested for the presence of fungus. *T. matsutake* was isolated from five seedlings one year after transplantation, and the identity of the fungal species was confirmed by PCR-RFLP analysis of the cultured mycelia. The same analysis showed that *T. matsutake* survived on one seedling two years after transplantation. These results suggest that *T. matsutake* ectomycorrhizas synthesized in vitro can survive at least two years after transplantation into a natural pine forest.

Key words: Ectomycorrhiza, Ectomycorrhizal seedling, Matsutake mushroom, Outplanting

[摘要]

マツタケ菌糸体と共生させたアカマツ菌根苗を野外植栽 1–3 年後の菌根の生存状況を調査した。合計 55 本の 1 年生または 2 年生の菌根苗を茨城県内 2 箇所のアカマツ林に植栽した。植栽 1–3 年後に根系を形態観察し、マツタケの菌根端を分離試験に供試した。その結果、植栽 1 年を経過した 5 本の菌根苗からマツタケ菌糸体が分離された。菌糸体の同定は PCR-RFLP 分析によった。同様の分析により、植栽 2 年を経過した 1 本の菌根苗でマツタケ菌糸体の生存が確認された。これらの結果は室内で合成したマツタケ菌根が天然のアカマツ林に移植後少なくとも 2 年は生存できることを示している。