

Growth and nutrient accumulation of *Eucalyptus pellita* F. Muell. in response to inoculation with edible ectomycorrhizal mushrooms

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Establishment of forest plantations that produce edible ectomycorrhizal (ECM) mushrooms is beneficial to nearby upland communities. This experiment was conducted to evaluate the effectiveness of edible ECM mushrooms in promoting growth and nutrient accumulation of *Eucalyptus pellita* F. Muell. Aseptically germinated seedlings were inoculated with mycelia of *Ramaria botrytis*, *Lyophyllum decastes*, *L. fumosum*, *L. shimeji*, *Tricholoma matsutake*, *T. portentosum* and *T. robustum*. After four months in a glasshouse, all the edible ECM fungi colonized 45 to 65% root tips. *Ramaria botrytis* gave the highest root colonization while the lowest was by *L. shimeji*. *T. robustum* and *T. matsutake* promoted the tallest height and largest stem diameter, respectively. All the edible ECM tested promoted total plant dry weight except for *L. shimeji*. *Ramaria botrytis* promoted the highest leaf macronutrient uptake while *T. matsutake* promoted the highest leaf micronutrient uptake. Highest root micronutrient uptake was promoted by *L. decastes*. The results show that *R. botrytis*, *L. decastes*, *L. fumosum*, *T. matsutake* and *T. robustum* are potential edible ECM mushrooms for inoculation on *E. pellita*.

Key words: *Eucalyptus pellita*, edible mycorrhizal mushrooms, *Lyophyllum*, *Ramaria*, *Tricholoma*, growth, nutrient accumulation, inoculation

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