

Comparison of allelopathic activity of some edible mushroom and wild mushroom in JapanAsma Osivand¹, Mardani H¹, Araya H² and Fujii Y¹¹Tokyo University of Agriculture and Technology, Japan²Meiji University, Japan

Wild mushrooms have been always considered as valuable source of bioactive compounds, while edible mushrooms have been known for their importance as food source. However, their interaction with plants through chemicals that could lead to find new biochemical has not been well undertaken. A special bioassay method (sandwich method) was applied to compare eight common edible mushrooms (*Pleurotus eryngii*, *Pleurotus citrinopileatus*, *Pleurotus ostreatus*, *Lentinula edodes*, *Grifola frondosa*, *Flammulina velutipes*, *Hypsizygus tessellatus* and *Pholiota namako*) with some wild species (*Ganoderma appelanatum*, *Amanita pantherina*, *Artomyces pyxidatus*, *Morchella conica*, *Tricholosporum porphyrophyllum*, *Trametes hirsuta*) for their phytotoxicity against lettuce. Among all tested edible mushrooms, application of 5 mg of *P. ostreatus* showed stronger allelopathic activity by inhibiting the growth of radicle and hypocotyl of lettuce by 84% and 63% respectively. Moreover, same amount of *T. porphyrophyllum* exerted 77% and 67% growth inhibition on radicle and hypocotyl of lettuce. In general biochemical contributed in tested mushrooms could be the main cause for their inhibitory activity and could lead to find new allele-chemicals.

Biography

Asma Osivand completed her MSc thesis entitled "Investigating the possibility of producing hybrids with single-spore isolates of *Pleurotus florida*". She is pursuing her PhD in Bio-regulation science at Tokyo University of Agriculture and Technology and her thesis entitled "Allelopathy of edible and wild mushroom" with the aim of finding new biochemical to use it as safe herbicide".

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