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Longevity and persistent for more than 45 years of *Heterobasidion abietinum* in conifer stumps

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Abstract

In Italy, the Vallombrosa forest is one of the areas where "Forestry studies" have a long tradition. Here, where Silver fir plantations cover large part of the territory, the presence of *Heterobasidion abietinum* has been known for a long time. This study describe a peculiar situation observed in the particle 111, where the presence of root rot was monitored and recorded since 1967 on several stumps after a clear cutting. In 1991 the presence of fungal basidiocarps were recorded again by using traditional survey, isolation with plating methods, on more than 40% of samples. Nowadays, during a survey carried out in 2015, basidiocarps were still present. Furthermore, by using molecular methods based on PCR, the presence of the fungus on decayed wood and occurrence of infection on the new generation of trees has been found. This confirms the longevity of this fungus and its capability to persist as saprotrophic species for more than 45 years under Mediterranean environmental conditions characterized by periodically extreme dry conditions, especially during the summer season.

Keywords: *Abies alba*, *Heterobasidion abietinum*, Longevity, Inoculum, Saprotroph