

MONITORING OF NATURAL TRUFFLES SITES IN UMBRIA REGION (ITALY) AND IDENTIFICATION OF MANAGEMENT STRATEGIES

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In Italy there is a severe decrease in the natural production of precious truffles, with serious socio-economic and environmental consequences. Natural truffles diffusion suffered negatively from excessive exploitation of production sites, climate change and poor/no hydraulic-forestry management. In order to face this worrying decline and to conserve the local truffle biodiversity, a careful management of the natural production sites is necessary, with practices capable of encouraging, increasing and safeguarding the truffle resource. For this purpose, the University of Perugia together with the CNR - Institute of Biosciences and Bioresources (IBBR) of Perugia are conducting a monitoring and are developing experimental strategies on some study areas of natural truffles in the Umbria region. Two of these, are suited to the production of *Tuber magnatum* Picco, while the other two are suited to the production of *Tuber melanosporum* Vittad. Project activities include a preliminary analysis and monitoring of environmental parameters (such as rainfall, temperature and humidity), an identification and monitoring of host plants and a management of plant and soil cover. Thanks to the qualitative-quantitative analysis of the truffle mycelium present in the soil, it is possible to monitor the current state of the truffle sites and evaluate the effect of the management practices. The goal of this monitoring is the development of a model for the recovery, improvement and sustainable management of these study areas, to the benefit of the regional truffle heritage.

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