Truffle orchards in Poland

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Truffles production in Poland has been lost due to social and environmental changes during the communist period. In recent years, truffles have gained attention in the country due to several research projects. Experiments with Burgundy truffle *Tuber aestivum* Vittad. have been established in different fallowed locations in East and Central Poland. *Quercus robur*, *Corylus avellana* and *Fagus silvatica* seedlings were inoculated with *T. aestivum* and planted with spacings 4.5 x 3 m or 5 x 5 m. Establishment includes loosening the soil – shallow ploughing, disking and harrowing, if necessary, and controlling weeds. Fencing the area (at least 2.5 m high) and applying polypropylene fabric cover around seedlings is recommended. In open areas, in order to protect the place against wind, one should plant hedgerows including plants cooperating with fungi non-competitive with truffles. The hedgerows protect also against spore dispersal. It is advised to work with soil in shallow layers (5-10 cm) between tree alleys and control weeds, irrigating 20 mm every 10-15 days and also applying fertilizers depending on the needs of soil and leaves (particularly for K, Mg and S).

Where would be a truffle orchard best established? The area should have a minimum rainfall sum of 600 mm and average air temperature of 8^{0}C, respectively. Apart from climate, soil properties of fallow land are also a key factor for the truffle fructification. Fertile soils with a share of silt fraction over 30%, calciferous, rich in P, well-drained, with pH between 7.2 and 8.4, C/N ratio around 10, and K/Mg ratio above 2 provide the best soil conditions for truffle cultivation. South-facing side of the hill inclined more than 15% is very useful. It is still unknown what are the optimum conditions to improve colonization and persistence of burgundy truffle mycorrhizas on root systems so the issue needs exploring it further to reduce investment risk.

Truffle (Wiki_Images)

Further information:

Hilszczańska D., Rosa-Gruszecka A., Gawryś R., Horak J. 2018. *Effect of soil properties and vegetation characteristics in determining the frequency of Burgundy Truffle fruiting bodies in Southern Poland*. Ecoscience, 26(2) : 113-122. doi.org/10.1080/11956860.2018.1530327

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