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Some Commercial Truffles and Their Natural Habitats

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Abstract

Truffle is the name given to the fruit that grows under the earth in the form of lumps. Our country, soil structure, which is essential for the growth of the truffle, which contains all three of the climate and annual rainfall features and supports the development of truffle. High economic value species; Tuber magnatum Pico., Tuber melanosporum Vittad., Tuber aestivum Vittad., Tuber borchii Vittad. Tuber aestivum and Tuber borchii are grow naturally in our country.
Key words: *Truffle, Mycorrhiza*

Ticari Değeri Olan Trüf Türleri ve Doğal Habitatları

Özet

Trüf mantarı, patates biçiminde, toprak altında yetişen meyveye verilen addır. Ülkemiz, trüfün yetişmesi için elzem olan toprak yapısı, iklim ve yıllık yağış miktarı özelliklerinden üçünü de barındırmakta ve trüf gelişimini desteklemektedir. Ekonomik değeri yüksek türler; Tuber magnatum Pico., Tuber melanasporum Vittad., Tuber aestivum Vittad. ve Tuber borchii Vittad. olup, Tuber aestivum Vittad. ve Tuber borchii Vittad. ülkemizde doğal olarak yayılış göstermektedir.
Anahtar Kelimeler: *Truffle, Mycorrhiza*

1 Introduction

Truffles that known since ancient times by people, were named as "food of the gods" and were considered to be seedless and rootless. In the 18th century, it was learned that they lived symbiotically with the plants and spread by their spore. In response to the decline of truffles amount collected from nature, the price is increased due to the continuously rising demand every day. Nowadays, the most popular truffles, *Tuber magnatum*, *Tuber aestivum* and *Tuber melanosporum*. [1,2,3,4]. Commercial truffles in a narrow geographical area in the world, are grown in limited quantities.

Truffles thrive by creating high mycorrhizal structures with a specific tree species. Mycorhizae, a special structure that is created between the root of the plant with mushroom mycelium.

Truffles hyphae covers the surface of the trees roots like a glove. Spread to a wide range of plant roots with mycorrhizal structures provides more water and take minerals. [2]

Mycorhizae forming truffle hyphae increase the contact surface of plants roots with the ground. They are at least 10 times smaller than the absorbent hairs on tree roots and can carry water much faster than the roots. In this way to take water molecules bound even the smallest particles in the soil allows to use for trees. In response this the root of the plant meets the needs of organic food of truffles [6, 7].

In the nursery, there is a need to mycorrhizae to well developing seedlings, to survive and adapt to soil. This need of the trees is met by the truffle.

Figure 1. Truffle species with high economic value.

2 Method

Many of truffles in a depth of 3-5 cm of the soil, leaf litter or the soil is located between them. Therefore, most of the time, no need to dig a deep hole in the soil. Sometimes truffles can usually attached beneath the leaf litter and raking leaves are immediately visible when shooting. The underside of the leaves is checked carefully. The forest floor in moist areas that are

dead should be investigated. Also if there is a whiteness mycelium formed truffle can be found by opening that area a little more. If the bottom of the trees deeply dug by wild boar, this may be an important indicator for truffles. If the soil is not hard the truffle usually can be found at a depth of 5 to 10 cm. Also sometimes the soil split slightly by an upward pressure from below. Usually in mixed forests of different tree species the likelihood of finding a truffle is higher [2].

Figure 2. Natural truffle area in Denizli (Cankurtaran).

Figure 3. Natural truffle area in Muğla (Fethiye).

3 Conclusion

The naturally growth of truffle fungi in our country, shows that we are with the most appropriate conditions for cultivation [5]. Turkey has a perfect Mediterranean climate and calcareous soils for truffle production environment. In terms of truffle production our country has the potential to produce truffle up to France, Spain and Italy's total production. Economically valuable species, T. aestivum and T. borchii naturally grown in our country, in terms of ecological conditions of Tuber magnatum the Marmara, the Eastern Black Sea and the Eastern Mediterranean region are likely to grow naturally. The growing in Bulgaria support that possibility of naturally grow in our country, but not yet has not been determined. Truffle studies continue in Truffle Application and Research Centre in Muğla Sıtkı Koçman University. Economically valuable species of truffle are grown in a narrow geographical area in the world and at limited quantities. Around the world every passing day the prices are rising and the increasing demand could not be met. The food of the meal as sauce or grated as a spice, to foods such as butter truffle or truffle oil as processed into products in the way of a solid material etc are made. It also has a very special place in the perfumery industry.

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