

grow



Working with Nature at a Truffle Plantation – A Long-Term Investment

About Truffle

A 60-year-old farmer has been cultivating truffles on 10.3 hectares since 2021. Truffles are a niche crop that can offer an alternative income to more common crops such as asparagus or strawberries. The plantation relies on hazelnut trees inoculated with mycorrhizal fungi as the primary host, complemented by beech and oak. This approach combines ecological stewardship with the potential for a long-term, sustainable income.



The Challenge

Truffle cultivation is demanding and requires significant long-term commitment:

- Long waiting period:** the first harvest may take 7–10 years.
- High labor intensity:** establishing and maintaining the plantation, including pruning and soil care, involves extensive manual effort and use of small machinery.
- Limited flexibility:** once planted, a return to traditional arable farming is only possible after several decades.
- Financial risk:** substantial initial investments and ongoing costs require careful planning and stamina.



THE SOLUTION

The farmer implemented a forest-edge management approach to address these challenges:

- Host plant selection:** primarily hazelnut trees inoculated with mycorrhizal fungi, supplemented by beech and oak.
- Forest-edge management:** the plantation is managed without tillage, mimicking natural forest edges.
- Soil management:** maintaining a consistent soil pH of 7.4 through liming and fencing.
- Ongoing maintenance:** regular pruning and humus building to promote soil health.

IMPACT AND RESULTS

The plantation demonstrates both ecological and long-term economic potential:

- Natural area creation:** the plantation resembles a forest edge managed without tillage.
- High labor in early years:** significant effort is required for pruning and soil maintenance.
- Optimal growing conditions:** maintaining soil pH at 7.4 and supplementing trace elements are critical for growth.
- Yield expectations:** first truffle yields are expected after 7–10 years, ranging from 0–100 kg/ha annually.
- Long lifespan & CO₂ sequestration:** designed for around 100 years, contributing to carbon storage.

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