

Business development for honey from the bee forest

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Climate change, loss of biodiversity, volatile timber prices, societal demands, new regulations - the challenges for forest owners and managers are immense and innovative action is required. The FOREST4EU project, financed by European research funds and carried out at the LWF since January 2023, aims to improve innovation in the forest sector through research, knowledge transfer and dialogue with decision-makers. The focus is on so-called Operational Groups (OG), which are financed in the frame of the Common Agricultural Policy and national funds. There are now over 3,500 of these innovative practical projects, which address concrete issues at local level with innovative solutions.

The number of forest-related OGs is still small but growing - including in Germany. One of the first forest OGs in this country is the 'Bienenwald Hessen'. Small private forest owners have joined forces with beekeepers to develop and implement a new management concept for their damaged wood areas. The project is scientifically monitored. In addition to timber production, the newly established bee forest is also intended to create income opportunities for non-timber forest products such as honey. A master's thesis completed at the University of Göttingen in February 2024 is now providing initial findings on business development with honey.

The potential of non-wood forest products for business development

Alongside mushrooms, berries, nuts and resin, honey is one of the so-called non-wood forest products. According to the definition of the International Food and Agriculture Organisation (FAO), non-wood forest products are goods or products from forests of biological origin: "... goods derived from forests that are tangible and physical objects of biological origin other than that wood."

Germany, the right of free access applies to forests. Hobby collectors are allowed to pick mushrooms and berries for their own use and in limited quantities. When visiting forests, one occasionally comes across beehives that beekeepers have set up there with the agreement of the forest owners concerned.

However, it is unusual in Germany to generate income from these non-wood forest products. Private forest enterprises with more than 200 hectares of forest generate almost 100% of their income from the sale of timber, for municipal forest enterprises it is over 90% (Wühr 2019). Small private forest owners with less than 50 ha sell at least part of their timber harvest as logs. However, small private forest owners with less than 5 ha of forest in particular use their wood primarily for energy purposes (Hastreiter 2023). Channels for the marketing of non-timber forest products are hard to find.

The innovative practical project 'Sustainable Bee Forest Hesse', which is being funded by the Joint Agricultural Policy for a period of three years (2022-2025), proves that business development for honey and nuts could be worthwhile. This is suggested by a master's thesis completed in February 2024 at the University of Göttingen, which examined 'the profitability of near-natural forestry geared towards secondary use'. Using the net present value method - a method widely used in forestry economics that analyses the use of capital for forestry production systems on a comparative basis - Marcus Ziegler examined the earnings potential for biodiversity-promoting reforestation with a focus on non-wood forest products for an assumed rotation period of 60 years.

The project “Sustainable bee forest” in Hesse

Hesse is one of the most densely forested federal states in Germany. However, the spruce-dominated forests have been severely affected by the effects of climate change in recent years, such as extreme weather events, storms and subsequent bark beetle infestations. Dead and bare forest areas characterize large parts of the landscape in central Germany. Two agricultural businesses have therefore joined forces with beekeepers and bee specialists to develop an alternative to reforestation with spruce and other coniferous tree species. They founded the Operational Group “Sustainable Bee Forest Hesse”, which provides a diverse habitat for insects and other pollinating insects, stores a lot of CO₂ and enables wood production. The concept combines nature conservation and the protection of bees and other pollinators with forestry and the production of non-timber forest products.

“We wanted to design a forest that provides habitats for honey bees and other pollinating insects with climate-resilient tree species. The increasing biodiversity in the forest ecosystem was also important to us. At the same time, the forest needs to be financially viable for the forest owners, and so another important element of the design was that economy and ecology do not have to be mutually exclusive.”

(Judith Treis, project coordinator)

Non-wood forest products offer new sources of income

One way to estimate the profitability of forestry investments is the net present value method. In this method, the afforestation of an area with a specific forestry production system is regarded as an investment. A total of 5 variants of such production systems were analyzed.

Two variants of mixed beech-Douglas fir stands (with and without honey production) and two variants with different deciduous trees, which differ in the range of non-timber forest products (honey, nuts, raspberries), were compared to the pure spruce stand, aiming at pure timber production.

Marcus Ziegler shows that non-wood forest products can open up new income opportunities for forest owners. He concludes: “It is clear that additional land utilization [with woody plants for honey and nuts] can raise the capital value far above the level of land with pure wood production.” With honey, the forest land that is still open after reforestation as a mixed beech-douglas fir stand can be utilized economically relatively quickly. The variant of the cherry timber stand with chestnut utilization and honey production might generate an even higher profitability. However, the highest revenues may be achieved by the variant of a deciduous tree stand with nut-berry plantation and honey. On this very plantation-like stand, which is only used under certain conditions, the various secondary uses stabilize each other. Overall, this means that the more non-timber forest products are utilized on an area, the higher the annuity.

The study also showed that state subsidies for individual tree species and measures such as fencing afforested areas are a ‘significant factor influencing the profitability and amortization periods of investments’. The funding requirements of forest administrations can therefore not only incentivize the planting and maintenance of insect-friendly forests, but also the establishment of new income opportunities for forest owners.

Business development for honey from forests requires supportive framework conditions

The European Forest Institute (EFI) and the FAO have recently emphasised the potential of non-wood forest products (Martinez de Arano et al. 2021). In the recently published report "Non-wood forest products for people, nature and the green economy. Recommendations for policy priorities in Europe", the team of authors concludes that four factors should be fulfilled. The "Sustainable Bee Forest" shows how the first (1) factor - Securing the conservation and sustainable supply of NWFP - can be realized. In addition, there are three further factors: (2) Building competitive and equitable value chains; (3) Providing transparency, data, and information flow on NWFP; and (4) Creating enabling conditions.

Farmers and beekeepers work together regionally in the "Sustainable Bee Forest" project. Existing marketing channels for honey will be utilized to establish the new products. This is an important step for business development. The example of the bee forest shows that honey can generate income relatively quickly on afforested areas. For large-scale expansion, it would be helpful to establish new distribution channels analogous to the forestry-timber value chain and to coordinate activities with the food sector.

References

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