



The "sustainable bee forest" concept and implementation

Introduction

The project "sustainable bee forest" develops and implements a new forest management concept that improves the habitat of flower-pollinating insects during re- and afforestation from the very beginning while generating new sources of income from non-wood forest products. This concept is a response to the need for adaptation strategies in forest management in the face of climate change. The main target group are smallholder farmers who are faced with forest dieback in the face of climate change. Large tracts of forest underwent major disturbances over the last years (pests, storms, fire). The German ministry of agriculture and food (BMEL) estimates that over the next years almost 500.000 ha of forest land will need to be afforested (status: Oct 2023).

Concept and implementation

The inventors of the "sustainable bee forest" concept perceive of their approach as an innovative, useful and urgently needed idea that differs from the existing forest management concepts in the federal state of Hesse. According to them, the aspect of multifunctional forest management has received little attention in Central Europe. Moreover, the idea of an insect- or bee-friendly forest is a real gap in current silvicultural practices. The "sustainable bee forest concept" is based on the view that forests are ecosystems, in which natural processes such as succession, growth heights, light and shade requirements of the plants are utilized in order to generate an economic benefit in addition to the high ecological benefit right from the start.

The "sustainable bee forest" OG focuses primarily on honey and wild bees in a young stage of forest development. In contrast to previous approaches to pollinator promotion in the forest area, profitable stemwood species are combined with other food plants for pollinating insects. The OG has afforested a former spruce-dominated forest of 3,5 ha in 2022 with: robinia, chestnut, linden, bird cherry, and walnut. The afforestation includes: preparing the forest land, buying the tree seedlings, planting the tree seedlings, maintenance measures, and building of a fence or other measures to protect the young plants from browsing.

The species selection is based on scientific evidence. Recommendations for area-wide implementation are developed. An economic analysis was conducted which examined the profitability of managing for NWFP in the climate-adapted and pollinator-friendly bee forest.

Lessons learned

One success factor was that the specific idea of a bee forest corresponded very well with the practical needs of small private forest owners. In addition, there was access to various networks of experts who were willing to support the project with their specialist knowledge. Due to the completely new idea, the transdisciplinary cooperation and the different demands of the participants, it was challenging to establish a suitable experimental design that could map the practical research questions. Experienced scientists with the appropriate methodological expertise are absolutely essential for this, so that meaningful results can be generated.

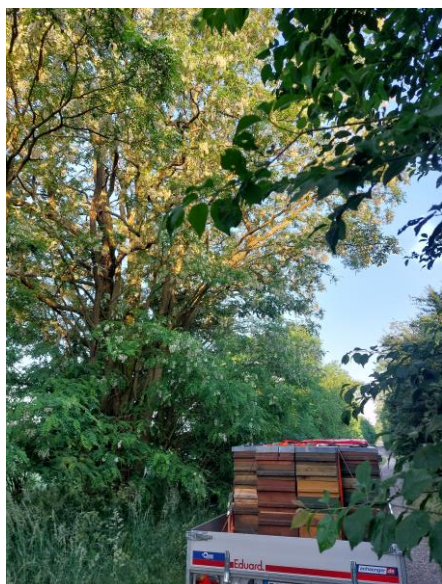


Figure 2: Honey from pollinating trees



Figure 1: Afforestation for the bee forest

The information presented in this factsheet was developed by the FOREST4EU partner, drawing on the innovations and knowledge generated by the indicated operational group with their explicit authorization.

Further information

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