

Integrating agroforestry into regenerative farming systems using living labs: the REFOREST project – 2024 update



The Living Lab Concept

Living labs are user-centred, open innovation ecosystems, that allow the integration of research and innovation processes in real life communities and settings. Through bringing together multiple stakeholders, the living lab concept aims to develop systematic change across the entire supply chain including policy, suppliers, practitioners, processors, and funders. The user-centred approach provides the opportunity for stakeholders to lead changes, ensuring that they are relevant and provide benefits for those who need it most.

Within the European Horizon REFOREST project the living lab concept is being utilised across 8 countries (Figure 1) to explore and develop agroforestry. Each living lab conducted an initial scoring assessment based on 5 characteristics:

- Co-creation, co-design, and co-development of solutions
- Real-life conditions for testing and experimentation
- Active involvement of the (end-) user in activities
- Multiple methods and tools used from a range of disciplines and domains
- Stakeholders from a range of sectors

This scoring will be conducted again near the end of the project to identify the success with which the living lab concept has been used.

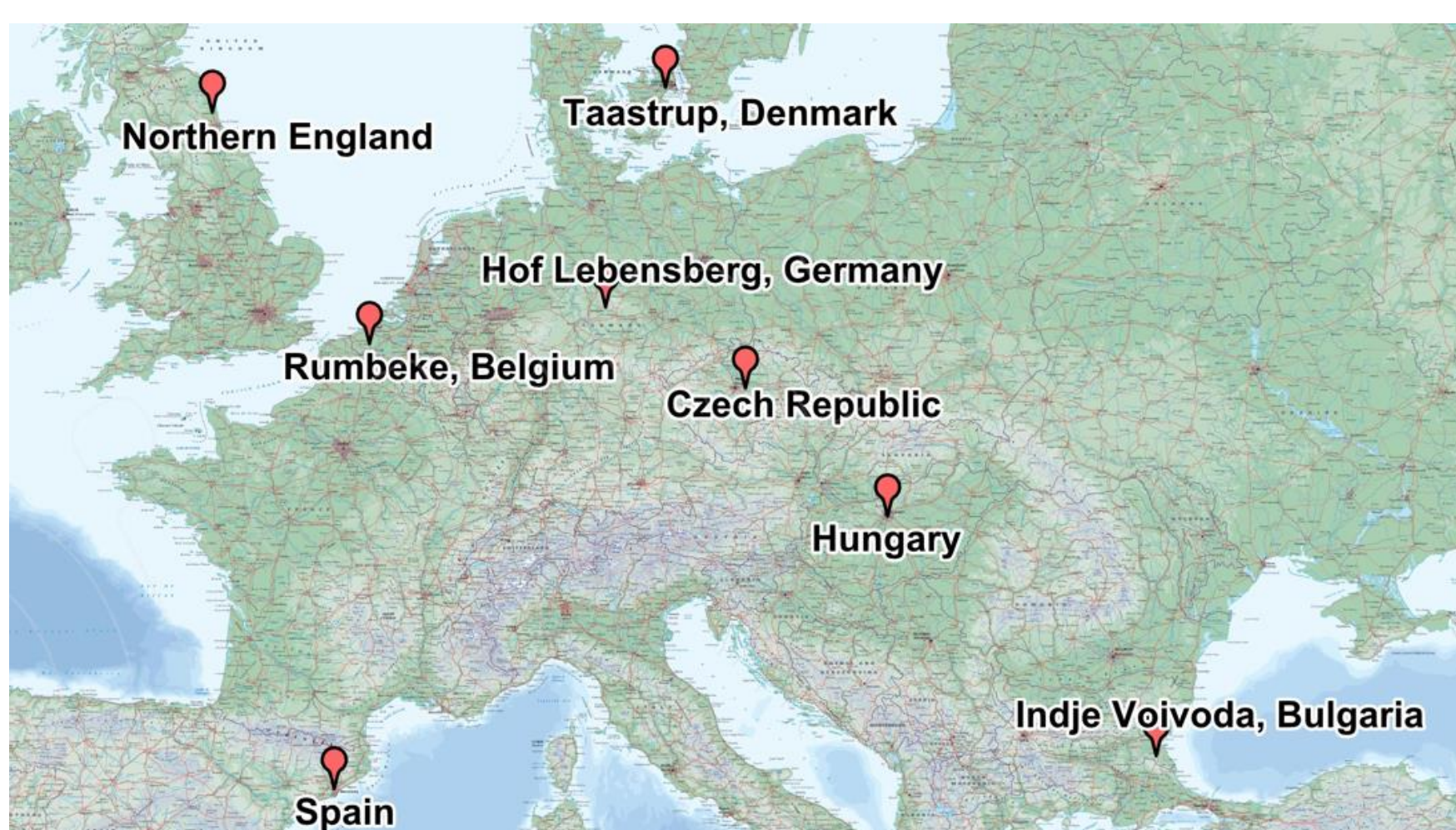


Figure 1: Locations of the Living Labs developed through the REFOREST project.

UK Living Lab

The Organic Research Centre has established a UK living lab with a focus on exploring issues around agroforestry in the North of England. The majority of existing agroforestry systems in the UK are located in the Midlands, South-West, and East of England (Figure 2). The benefits that agroforestry can offer to the agricultural sector in the North are currently underutilised. Hedges and in-field trees act as windbreaks to protect from cold weather, increasing the grazing season, and reducing livestock mortality (Smith, Pearce & Wolfe, 2013). Trees integrating into the farming system rather than replacing the farming system, as has been the case historically, also offer additional products such as timber or biomass, increasing farm income diversity which is vital to communities that often do not see the same agricultural profits as those elsewhere in the UK (Mansfield, 2008).

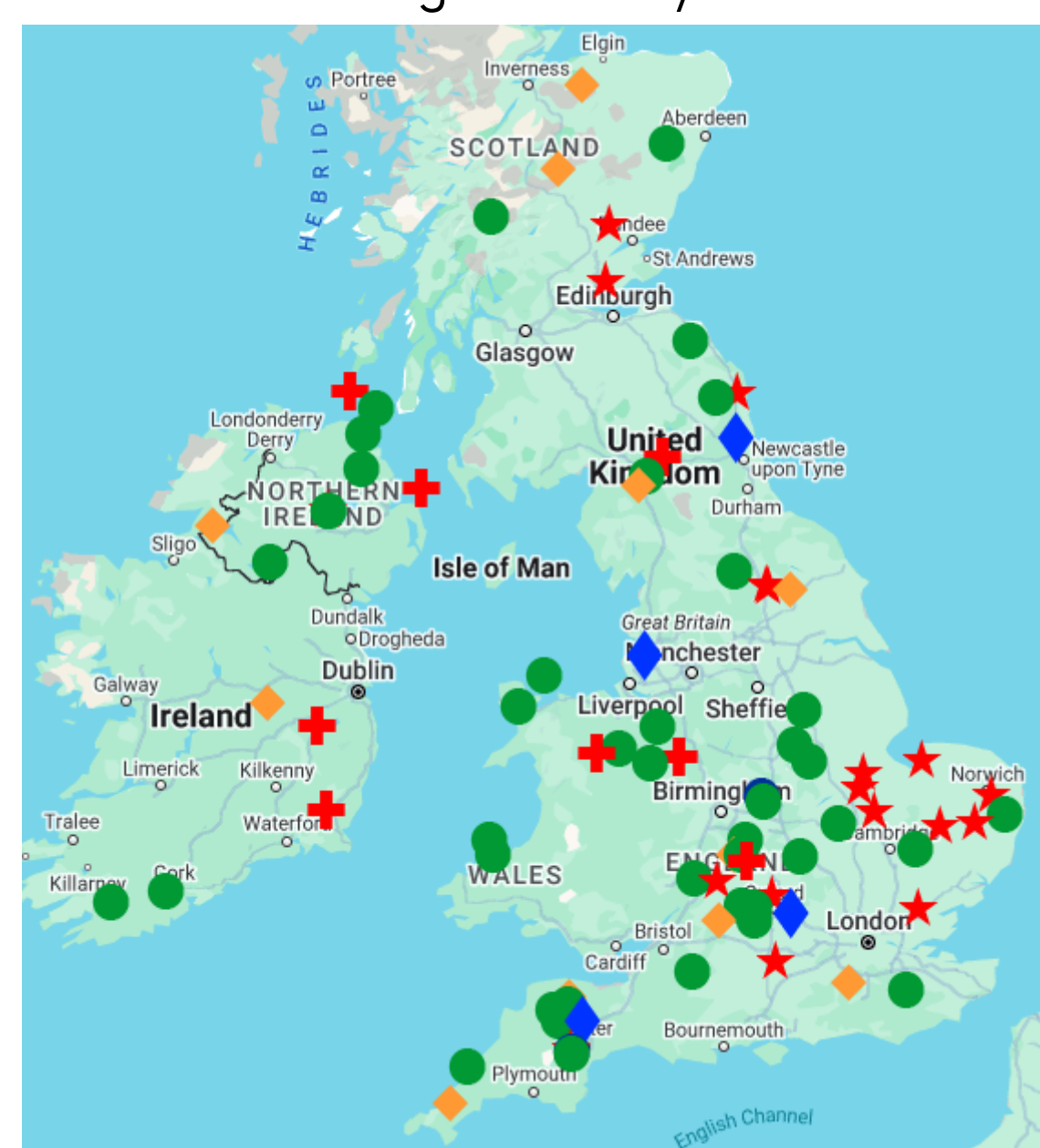


Figure 2: Map of agroforestry sites across the UK and Ireland (Farm Woodland Forum, 2024).

Activities and Resources

The UK living lab has hosted multiple workshops on participant's farms, bringing relevant stakeholders together to discuss wider problems as well as using the host farm as a case study for issues and ideas. Throughout these workshops key barriers and questions have been identified which are listed in the "Findings so far" section. A bi-monthly newsletter has been established to share the latest research, events, and general news about agroforestry in the UK. A Webinar was also run in early 2024 highlighting established and in-process agroforestry in the North of England.

Farm Tree Tool

As part of the UK living lab a select number of existing agroforestry farms have been modelled in the Farm Tree Tool. This tool models environmental, economic, and social characteristics of agroforestry farms over long periods of time (Figure 3). These results provide a unique insight to the participating farm into how their system may perform in the future, but also offers the opportunity to identify how management changes or new planting in the future could impact the farm.

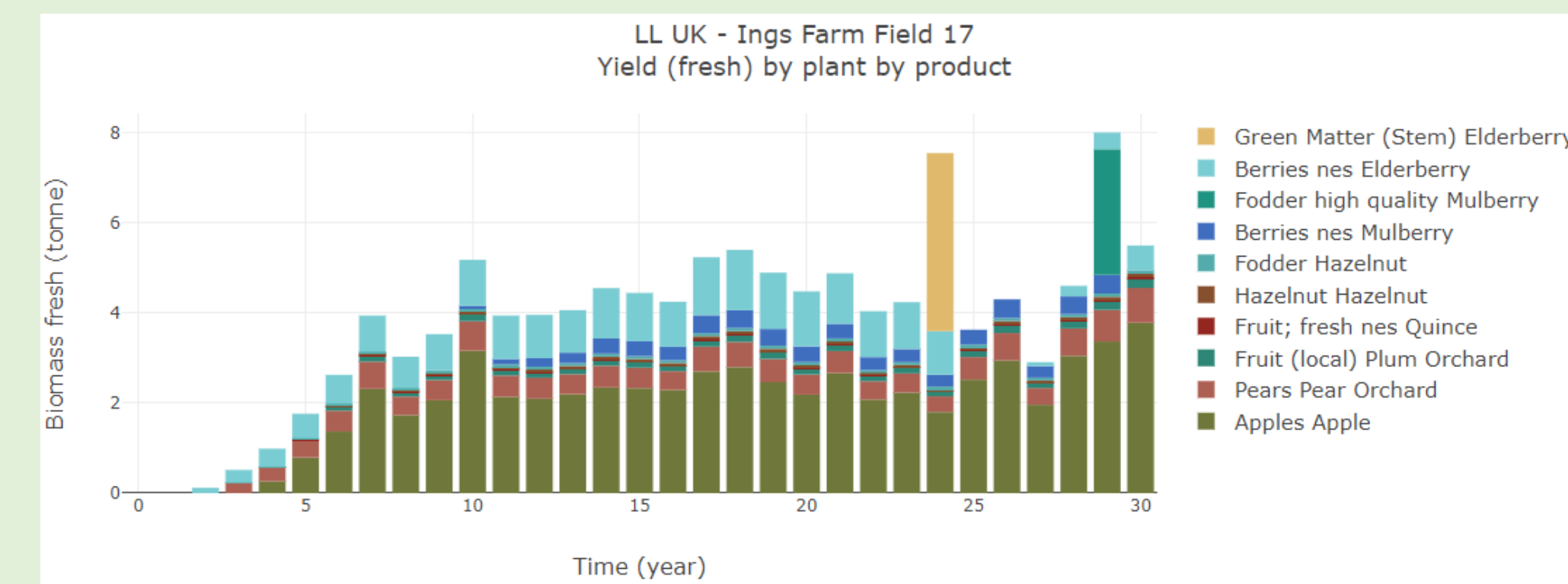


Figure 3: An example output from Farm Tree Tool for one of the case study farms in the UK living lab. (Farm Tree Tool, 2024)

Findings so far

From the workshops held, 4 key areas of focus have been identified:

- Build awareness of the benefits and opportunities of agroforestry systems in the North of England, including woodland grazing and overcoming the divided mindset of pasture and woodland management.
- Support farmers to build knowledge and skills to successfully design and manage commercially viable systems which support animal welfare, biodiversity and carbon. Create opportunities for co-design and model scenarios for the future.
- Sharing knowledge and experience on establishing trees in pasture, including establishment, tree protection, managing browse, and benefits for animal health and welfare.
- Deepening understanding of the economics – costs vs benefits for productivity, cost savings and on farm uses (e.g fence posts, fuel and woodchip), grant schemes (including carbon / biodiversity markets), exploring future markets for agroforestry products and potential short- and long-term trade offs (i.e. stocking densities).



Figure 4: The use of in-person workshops on living lab farms not only brings multiple stakeholders together but also allows for the host farm to highlight issues relevant to them.

Going Forward

As the project develops the Living Lab will continue to host workshops and activities bringing together farmers, advisors, researchers and others from across the North of England to share knowledge, experience and co-create solutions identified above. See the QR code below to register your interest and find out more.

The Organic Research Centre is also developing additional tools and resources for living lab members to utilise. An existing example is the knowledge hub which contains resources from across Europe about agroforestry from which members can find answers and examples to help them develop their agroforestry system. You can sign up for the knowledge hub by visiting <https://reforest.euromed-economists.org/knowledge-hub>.

Another resource is a satellite image-based carbon and biodiversity tool. This will allow participants to get carbon and biodiversity estimates of their land by submitting a satellite image i.e. google maps. This image can then be altered to include different types of tree cover, allowing comparisons of carbon and biodiversity for different tree planting designs.

References

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ACKNOWLEDGMENTS



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.



UK Research and Innovation

This work is funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee (grant number 10039700).

