



# REFOREST

**Living Lab 7: United Kingdom**

***Applying an  
agroforestry designs  
approach to a  
silvopasture system  
with Dr Vincent Walsh***



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# Living Lab 7

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## The farm

I design and lead on the farm implementation and management of the Biohub demo site at Ings Farm, working closely with resident farmer Derek Greenwood. The system, in the early stages of development at just a year old, involves a design of multilayered rows of trees and perennial plants that are being integrated within a traditional upland pasture farm with existing hedgerows and patches of woodland. The farm has historically been reliant on sheep and silage as main sources of income.

The aim is to demonstrate the challenges and opportunities in applying agroforestry designs approach to a silvopasture system through mimicking woodland layers with a mix of native and non-native trees, shrubs, and plants. There is an emphasis on building a multi-functional circular system, stacking biological functionality whilst also stacking the economics of the system. The system is based on biospheric principles – focusing on the hydrology, the integration of fungus, the stacking of photosynthesis capability, and the stacking of layers in the system... The sheep are a key part of the ecosystem design approach. We are focusing on diversity, creating organic produce without the need for pesticides and herbicides, putting more nutrients into the soil, improving the hydrology, and raising the biodiversity.



# *The way to agroforestry*

My background is originally in moving image design. I decided I wanted to learn more about design in terms of the built environment, so studied architecture. With architecture, you start thinking about ecology and biology and that opens the door to complex ecosystems, which led me to agroforestry. I spent time outside the UK developing complex ecosystems; agroforestry systems in Ethiopia with the Twelve Tribes of Israel, in Nigeria with projects funded by the World Agroforestry Research Trust, in Croatia in an eco-village doing permaculture, and in Spain, turning orchards into agroforestry gardening systems.

Coming back into the UK I realised I wanted to work with food companies, and their emphasis on net zero, putting more carbon in the soil, and transitioning towards a more localised complex ecosystem approach. I thought that collaborating with farmers, food companies and water companies would be an interesting thing to do. The demo site is a collaboration between myself and Derek, RegenFarmCo (that I set up), Yorkshire Water, Quorn Professionals and Levy (part of the Compass group). A supply chain has been established so that products can eventually be sold quickly.



There are also four people I need to consider who live on the land so it is important to have continuous conversations with them... They need to feel like they also own the project and to know that the design has been carried out properly and has been signed off by a range of organisations...

I'm always trying to learn from the best people / most appropriate channels... I conduct literature reviews of the people who are doing the most relevant research... Martin Crawford has been a great source of inspiration to me for a long time, as has agroforestry research from CIFOR-ICRAF, forest gardener practitioners, literature on the biosphere, earth system science, and information from Stockholm Resilience Centre.

My knowledge gaps mainly lie in characteristics of different plant species – I'm much more of a systems thinker and am very system-led. This is why I have continued conversations with the likes of Martin Crawford.

# ***Agroforestry in practice***

The main challenges are understanding Derek's farming needs... we have daily conversations. He sets a challenge and I give him a response... Understanding where the farm has been holding water for example has been a critical, along with how the trees are integrated with grazing needs... It requires continuous dialogue about how to evolve the system, and me responding to what Derek needs because it wouldn't work any other way.

Wind breaks need to be a big part of the design, so it requires finding the best species to provide protection within the particular landscape, putting as much diversity in as possible, and consulting with people like Martin Crawford and local suppliers. Another challenge is that we need to create agroforestry blocks that will allow sheep to move in and out, similar to a mob grazing system.

It is early days, but we hope to create a better platform and healthier biome for the sheep, focusing on the ecological services that can be got out of the system but also demonstrating the potential benefits of the whole design in the uplands. We also hope to create new supply chains with a focus on perennial crops, and have a 'healthier' circular system, environmentally and economically.

My advice for fellow farmers / growers? There's only one rule - diversity rules. If you want a better farm, better landscape, better garden... There's a reason nature has never developed a monoculture, it's inefficient. It's about stacking biodiversity, photosynthesis capability, integrating fungi ... there's a sequence of things that happened within the biosphere. Soil is relatively new, photosynthesis isn't, that tells you what an ecosystem should act like and the things that should be thought about before starting to think about the soil...



# ***What is ahead?***

Derek would like a better platform for the sheep and wants the farm to largely remain a pasture system but understands there has to be some differences. He is heavily involved in the design of the system which is focused on making it easy to still get silage and a sward out of it, alongside producing new products for new supply chains, and the sheep being able to roam as freely as possible.

I want to be involved in the living lab for several reasons; to learn and engage with others, but also given the considerable time I've spent outside the UK looking at complex ecosystems, I think the UK is really behind in ecosystem design on farms, so I'm interested to connect with projects and people doing more forward-thinking things. I like the European link with the living labs and the possibility of doing more work with the Organic Research Centre. It will hopefully inform what I am trying to develop, which I think needs validating, the ReForest project and others such as the Hedgerow Carbon Code delivers some of that validation.





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