Developing and encouraging agroforestry

***Sam Packer** of the Soil Association looks at the misconceptions of agroforestry among consumers and how its more widespread adoption could bring some real environmental benefits.*

What do we mean by 'agroforestry'? Think of our much-loved countryside, and you will probably picture a patchwork of fields, woodland, copses and hedgerows. Agroforestry is the idea that the trees in this picture can become as much a part of our farming as animals and crops.

Our food and farming systems have reached a crossroads. We are facing a multitude of challenges from climate change and the steady loss of our native wildlife to navigating Brexit. Successfully tackling these will require a radical rethink in how we produce our food and manage our countryside. Agroforestry has a big role to play.

The term can be confusing. One survey found that some believe it to be 'aggressive forestry', which couldn't be further from the truth.[1] At its simplest it is a way of managing land to work with nature, helping us to fight climate change, diversify our food system, protect soils and support our wildlife. Although the term was coined just forty years ago, the concept is as old as agriculture itself.[2]

Grazing animals in woodland is one of the most ancient practices in the history of land use. Early farmers would harvest trees to provide food for their animals, and timber and fuel.[3,4] Trees were planted to prevent soil loss and to provide shelter and shade, and hedgerows were established to contain animals, to mark boundaries, and to provide food and medicine for rural communities.[5]

Nowadays, it encompasses a wide range of farming methods and systems whether grazing animals in woodland or orchards, managing hedgerow trees for food or fuel, or alternating neat rows of productive trees with alleys of cereals or vegetables, as well as many more besides.

Unfortunately, the loss of trees from our farmland accelerated over the last century, as the invention of chemical fertilisers, a move away from mixed farms, and more intensive, mechanised cropping made trees an unwanted and seemingly uneconomic obstacle for many farmers.

Stephen Briggs at Whitehall Farm in Cambridgeshire has planted apple trees in his fields of organic cereal crops.

Tim Scrivener/Soil Association

Farming in 3D

Trees go higher and deeper than other crops or pasture, increasing the space and resources on a farm and leading agroforestry to be described as 3D farming. Combined with other crops, trees capture and store solar energy over a longer period, with deep roots able to access nutrients and water which are usually out of reach.[6] This coexistence echoes natural ecosystems, and the added complexity makes these systems more diverse and more resilient to pests, disease and extreme weather.[7,8]

By growing trees and crops side-by-side, farmers can produce more from a single piece of land than if they were grown separately. |This varies, of course, depending on the system, but the differences can be significant – as much as 40% in some cases.[9] If more farms practiced agroforestry, we could produce more overall, particularly increasing home-grown fruits, nuts, timber and wood fuel, while also increasing biodiversity and locking up carbon. Equally, agroforestry helps to diversify farm businesses, protecting farmers against financial pressures or crop losses.

Integrating livestock can increase profitability by providing two products from one plot of land.

Gemma Court/Soil Association

Not just good for the bottom line

Agroforestry doesn't only make economic sense; it could be a boon for our environment, and for animal welfare as well.

Not only do trees increase carbon storage above and below ground, they also help to make farming more resilient to the impacts of a changing climate. Trees increase the capacity of soils to absorb and store water, protecting against flooding and drought while improving soil fertility and reducing erosion.[10]

Over half of the UK's wildlife species have declined over the last forty years, and intensive farming has been identified as the primary cause of this alarming loss of biodiversity.[11] Agroforestry could help to reverse this worrying trend. Trees in farmland provide more diverse habitats for birds, insects and mammals, as well as creating corridors for wildlife to move around undisturbed.[12] The understorey (the ground below trees) can also be home to a more diverse number of plant species, which in turn helps to support many of our precious pollinators.[13]

Trees can also improve the welfare of our farm animals by providing shelter, shade and food. All of our livestock species – pigs, poultry, cattle and sheep – can benefit in a number of ways from the presence of trees on farms. For chickens, for example, which evolved from forest-dwelling ancestors, trees offer protection from predators, reduce aggressive behaviour, and provide better opportunities to fulfil natural instincts to peck and scratch in soil.[14]

What's stopping it?

With all of these benefits, why is agroforestry on the fringes of UK farming? There are several reasons why we aren't yet seeing more farmers embrace trees, from a lack of financial support and advice to get these systems up and running, to short farm tenancies discouraging long-term investments. Few are aware of it and opportunities have been scarce for the farmers, foresters and advisors who have experience of agroforestry to share it with others.

Luckily, there is a small but growing movement of pioneers, along with researchers, environmental NGOs and farming organisations, who are working hard to kick-start the return of agroforestry in the UK. The success of agroforestry in the UK depends on the knowledge and support of farmers, policymakers and the public. This is why the Soil Association, along with the Woodland Trust, the Royal Forestry Society and others are promoting agroforestry as a clear opportunity to address both the environmental and economic priorities for our farming systems. A network called the Farm Woodland Forum is helping to coordinate this drive.

Withdrawing from the EU means that the UK is now in the process of designing its first agriculture policy in 70 years. This provides an opportunity to harness the full potential of agroforestry.

What role can you play in supporting UK agroforestry?

There are currently only a small number of products available on supermarket shelves which can be identified as agroforestry products. Perhaps the best-known example is Sainsbury's Woodland Eggs, a scheme developed by the supermarket in partnership with the Woodland Trust. The hens that produce these eggs are free to range in woodland, and the partnership has resulted in the planting of 2.7 million native trees.[15] You can also support UK agroforestry by looking out for home-grown fruit, juices and ciders, nuts and timber products.

Ultimately, the market for branded agroforestry products is unlikely to be the main factor that encourages farmers to adopt these systems. While the key to unlocking the potential of agroforestry is in the hands of policymakers, researchers and farmers, public support will be essential.

We all share a deep affinity for trees, in our cities, the countryside, or our few remaining wild spaces. Whether we are sitting beneath them, picking fruit, or getting lost among them, trees are an important part of our cultural history. The time is right for agroforestry to be brought back into this rich tradition.

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