AGROFORESTRY 2017

Mention the term agroforestry to commercial foresters in the UK and you might get a quizzical look and a disparaging comment or two, like ‘That’s not real forestry’. Yet the concept of growing trees just for timber has, and is, changing. The many other benefits trees provide to society are climbing the political agenda – flood prevention, carbon capture, health, biodiversity, and a raft of other ecosystem services. On Thursday 22 June, at Cranfield University, Bedfordshire, the sell-out audience at a major national conference heard from people who are making agroforestry work for them. Farmers, foresters and advisers with hands-on experience talked about the benefits and risks, and how to make it happen.

ARRANGED jointly by the Royal Forestry Society, the Soil Association and the Woodland Trust, the conference demonstrated a coming together of organisations that might have been unheard of not that long ago – a welcome sign that countryside management is being approached in a far more joined-up manner at a landscape scale.

After a short welcome from Charlotte Smith, the BBC’s Farming Today presenter and chair for the day, the 270-strong audience settled down for a full and thought-provoking day.

WHAT IS AGROFORESTRY AND WHAT CAN IT ACHIEVE?

This opening session explored the huge potential of agroforestry, drawing on the latest research and examples from around the world. It clarified definitions, misconceptions and opportunities, setting out why agroforestry is a boon for sustainable farming. The speakers were Patrick Worms (World Agroforestry Centre), Tim Pagella (Bangor University), Fabian Balaguer (French Agroforestry Association) and Mike Strachan (FC Scotland).

At its simplest, agroforestry can be defined as the ‘integration of trees and farming’, and can be divided into two main systems: silvoarable, with trees planted in rows with an arable crop in the alleys between; and silvopastoral, with animals feeding under trees.

Agroforestry can be portrayed as a dynamic, ecologically based, natural resource-management system that, through the integration of trees on farms and in agricultural landscapes or through the production of agricultural goods in forests, diversifies and sustains production for increased economic, social and environmental benefits for land users. The form it takes varies depending on human needs and capabilities and the prevailing environmental, cultural and socioeconomic conditions. If you like, it is farming in 3D, getting two or more crops from the same plot of land by growing upwards as well as at ground level. Such systems offer a better use of light, nutrients and water than monocultures. How trees, crops and livestock can be linked and grade into each other is neatly summarised in the schematic opposite.

As far as agroforestry in the UK is concerned, the term can be a nebulous concept that does not always resonate here, and means different things to different interest groups. So, while the word doesn’t always ring a bell with UK land managers or the public, other practices that are all forms of agroforestry may do – farm forestry, grazed forests and orchards, wood pasture and parklands, shelter belts, hedgerows, woodland buffer strips, and lone trees growing on grass or cropland. To quote Patrick Worms on the day, “Agroforestry is like pornography; you know it when you see it.” The leading organisation in the British Isles is the Farm Woodlands Forum with 220 members.

Some argue that agroforestry is already a significant land use in the UK. Regions,
like the Marches, could be considered an agroforestry landscape, with a mosaic of trees, croplands, grasslands and hedgerows. In the past, silvopastoral practices such as woodland pastures or cutting foliage as ‘tree hay’ were examples of long-standing agroforestry here.

The UK is one of the windiest and wettest locations in Europe. Stands of trees can be ‘living barns’ offering refuge to buffer the debilitating effects of wind, rain and cold weather to boost survival and growth rates in livestock. Shelter belts are not new. Studies across the world have shown the benefits of protection and shade, especially for sheep and lamb survival on open range such as the hill country, and cattle in hotter climates. Yet upland foresters wage an ongoing battle to keep livestock and deer out of plantations; many native woodlands have been ‘sheepwrecked’.

Studies by the Organic Research Station indicate that up to half of hedgerows on a farm could be managed for growing wood fuel, and that planting trees boosts carbon storage while reducing wind-blow erosion on light sandy and peaty soils. Trees are vital in preventing flooding and run-off from arable fields by acting as water breaks. The case studies presented from Cranfield show how overall productivity is enhanced by producing two, or more, crops together in agroforestry systems.

**HOW MUCH AGROFORESTRY IS THERE HERE?**

LUCAS is a ‘Land Use Cover Area Survey’ which records multiple land use in each European nation to determine the extent of agroforestry there.

For the UK, it calculated that multifunctional land use involving trees with either grazing or raising crops occupies 532,000 hectares – not dissimilar to that under oilseed rape. You can then factor in roughly 468,000 km of hedgerows and an additional 138,700 km of lines of trees and shrubs. So although the percentage of the UK clothed by ‘woodland’ is almost the lowest, the proportion of our land surface that is classed as ‘agroforestry’ is amongst the highest in Europe. Generally speaking though, agroforestry is still a rarity in the UK. Even many of the case study speakers in the audience had not realised that they were already doing ‘agroforestry’!

**AGROFORESTRY IN PRACTICE**

The second seminar embarked on a tour of the UK’s leading agroforestry systems, guided by the very people behind them, to divulge why and how they set them up, and how they are working in real-world scenarios.

The six speakers came from a variety of regions and activities. Short video clips of most of the talks are on YouTube, at https://www.youtube.com/watch?v=jpz-h5aDHyk.

Andrew Barbour raises cattle and sheep in the Highlands near Perth; David Brass created and runs the Lakes Free Range Egg Company; Stephen Briggs boasts the largest UK silvoarable system at 52 hectares, outside Peterborough; Paul and Nicola Renison own and manage sheep on the edge of the Pennines; Prof. Chris Stote heads the Game and Wildlife Conservancy Trust’s Allerton Project in Leicestershire; and James Thomas farms in sandy north Nottinghamshire.

Farmers and foresters are not just in it for the money; at the end of the day they need to break even and survive. So trees on farms have to work for a living too. A quote from Andrew Buchanan resounded: “Woodland on farms creates value, as measured by the pounds and pence. But woodland creation brings much more than just money – it can make a great place to live, for both us and for the wildlife that surrounds us.”

Agroforestry is part of a laudable drive to plant more trees across the UK for the multiple benefits they endow. But does it all make economic sense too? Will the figures stack up? The cases studies all agreed they did, although admitting that the provision of free trees, shelters and stakes by the Woodland Trust was persuasive too. Lamb losses from the weather were down, the grass flushes earlier under trees, chicken were healthier, soil erosion diminished and fruit and arable production rose in a two-tiered, dual-crop arrangement.

**FINDING OR MAKING A MARKET**

This kicked off the afternoon’s proceedings. The four knowledgeable orators were Sophie Churchill, President of the Royal Forestry Society and Chair of the Potato Marketing Board; Paul Burgess, who leads the agroforestry team at Cranfield; Christophe Klotz from Agrivair in France; and Alexander Hunt, who heads a cobnut and walnut enterprise in Kent.

Agroforestry may not offer the most efficient way of producing a single commodity in economic terms, but in some cases the product is marketed and/or bought at a premium price based on the level of animal welfare – as with free-range woodland eggs or organic crops.

Perhaps the biggest challenge in developing an agroforestry system is if, and how, you will sell what you produce. Often this means understanding new markets, or creating one. Outlets range from timber and biomass to fruit, nuts and ecosystem services. A producer may be meeting a demand within their own
business ~ say forage for livestock.

So where are the key market opportunities, and how can you tap into them? Savvy marketing is vital, as the case studies highlighted. Using social media as a marketing tool and building a brand were keys to success, as was adding value on site. Environmental accounting is a fresh discipline which places societal values on ecosystem services; payment for such public goods as the carbon market is in its infancy but may evolve over time.

MULTIFUNCTIONAL LAND USE – FIT FOR THE FUTURE

For the final formal slot, with a focus on ‘walking the talk’, the panel, consisting of Beccy Speight (CE, Woodland Trust), Shireen Chambers (Executive Director, ICF), Christopher Price (Head of Policy, CLA), and Rowan Reid (Australian Agroforestry Foundation), offered their reflections on the day, and on the future for UK agroforestry.

A recent major Defra Land Use Policy Group review found that agroforestry had more potential than any other system for the ‘sustainable intensification’ of farming. At government levels, agroforestry has been proffered as a way forward towards a joined-up way of thinking of multifunctional land. So why does agroforestry remain a niche farming practice? There are a number of reasons why we aren’t yet seeing more trees on farms in the UK – from lack of financial support to short farm tenancies discouraging farmers from taking land out of production, and a lack of understanding among farmers and landlords of the benefits that agroforestry can bring.

The Cranfield conference highlighted policy measures that might help accelerate the take-up of agroforestry and the public benefits that it delivers. There are some current hitches with public payments and the administrative frameworks and legislation – although maybe that is all about to change with Brexit?

By integrating trees with crops and livestock production, arboreal cover can be expanded, with the trees providing resilient sources of food, timber, carbon-neutral energy, and ecosystem services, while boosting yields and income, and ameliorating climate change.

Exiting the EU and the Common Agricultural Policy could have major, long-lasting consequences for our rural landscape and economy and be a once-in-a-generation opportunity to remodel UK land-use policy – will agroforestry play a pivotal role? Could it be at the heart of a holistic approach to land-use policy and figure in more rural development plans?

Much of UK countryside management is subsidised through EU grants; what Brexit may hold in store is up for speculation. Under the CAP, the policies for agriculture, forestry and conservation were not always integrated, so maybe it is high time for joined-up thinking. Growing trees as a crop is long-term and benefits from consistent, durable policies and continuity of management. Producers on shorter tenancies may have to focus on fast-growing tree crops or convince landlords that agroforestry is the way forward. Might public money be better invested in knowledge transfer, upskilling managers in agroforestry? Attitudes and mindsets need to move on too, away from the split between farming and forestry whilst giving agroforestry more exposure, bringing it into mainstream farming. Agroforestry appears unlikely to provide a silver bullet in the future, but will it expand? It is being advocated as a way forward in the UK – has its time finally come?

Might owners of treed properties ever – or at least flagging up the opportunity for producing valuable timber and the need for forestry expertise to select and tend the trees correctly over the years – whereas in most examples aired the tree element did not offer that as a long-term goal. And there was scant mention either of growing trees for heat and energy.

My real hang-up was with the terminology – I and others had wrongly assumed that ‘agroforestry’ implied producing both agricultural and forestry crops together, i.e. some solid, woody goods. But apparently the latter is not a prerequisite amongst the many other benefits that growing trees offers on farms.

As an example of my mental quandary, does growing apples and pears and raising chicken or sheep under them really merit the ‘forestry’ suffix of agroforestry? – although tending cherries or walnuts for high-quality timber as well as fruit and nuts would. Or is that just me being pedantic about the semantics?

But then, does it all depend on your definition of ‘forestry’, or even ‘trees’, too?

Dr John Jackson
Retired CEO, Royal Forestry Society

THE AUTHOR’S THOUGHTS

The fact that this was such a groundbreaking conference emphasises the potential of such systems here.

Not all the delegates will agree with my distillation but the presentations are at www.soilassociation.org so those attending can revisit them and people who could not attend can read, absorb, analyse and draw their own conclusions.

The day left me with more questions than answers, but certainly got me thinking. I expected more on growing trees on farms for classic forestry products – or at least flagging up the opportunity for producing valuable timber and the need for forestry expertise to select and tend the trees correctly over the years – whereas in most examples aired the tree element did not offer that as a long-term goal. And there was scant mention either of growing trees for heat and energy.

The Cranfield conference highlighted policy measures that might help accelerate the take-up of agroforestry and the public benefits that it delivers. There are some current hitches with public payments and the administrative frameworks and legislation – although maybe that is all about to change with Brexit?

By integrating trees with crops and livestock production, arboreal cover can be expanded, with the trees providing resilient sources of food, timber, carbon-neutral energy, and ecosystem services, while boosting yields and income, and ameliorating climate change.

Exiting the EU and the Common Agricultural Policy could have major, long-lasting consequences for our rural