

## Forestry — an important ally for farm sustainability

**Tom Houlihan and Richard Walsh**

Teagasc, Forestry Development Department, Mellows Campus, Athenry, Co. Galway

### Summary

- Forestry is a sustainable option for marginal and fragmented land offering economic, environmental and societal benefits.
- Forest design, scale and good management are critical to maximise crop quality, timber value and environmental contribution.
- Forest establishment grants cover the cost of planting. Following planting income can be generated from the annual premiums for the first 15 years while future incomes can be generated from timber revenues and non-timber products or services.

### Introduction

Over the past 25 years 22,000 landowners have converted some land into forestry, creating a complementary and sustainable farm resource. There is an increasing recognition of the economic, social and environmental contributions from forestry including its crucial role in greenhouse gas mitigation, particularly for future scenarios post-2030. As well as providing a range of ecosystem services, forestry has a significant role to play in enhancing farm viability, optimising use of marginal land, optimising work time, facilitating tax efficiency and assisting retirement planning.



**Figure 1.** Forestry complementing Dairy



**Figure 2.** Productive and Sustainable forestry

### Complementing Dairying in Cork

Donal McCarthy from Ballydehob, Co. Cork (Figure 1) is a progressive dairy farmer who identified opportunities to diversify his farming activity and create a complementary on-farm enterprise. Donal planted 11 hectares of marginal land located on an out-farm in 2010. This mainly conifer forest also includes broadleaf tree species, areas retained for biodiversity and areas for landscape enhancement. Donal went on to plant a further 27 hectares of marginal land in 2015 (Figure 2). He is one of the 30% of forest owners nationally who, over the last 10 years, have gone on to plant at least a second time. Donal says “I have no regrets whatsoever. Forestry can help optimise my returns on out-farms and marginal land. I now have a growing, sustainable and secure pension plan which I will be in control of myself”. Teagasc analysis show the annual equivalised value of productive forestry can exceed €550 per hectare, delivering sustainable and economic objectives.

## Forestry - Multiple Benefits

Historically the primary role of forests has been to develop a supply of Irish grown timber for construction, furniture and wood energy relying less on wood imports. The current vision and objectives of forests have been transformed with a strong emphasis on the multiple benefits that they can provide. The strategic goal stated in Ireland's forest policy review is "To develop an internationally competitive and sustainable forest sector that provides a full range of economic, environmental and social benefits to society". In this regard, well-planned forestry can also deliver a wide range of non-wood products and ecosystem services on-farm. These services include carbon sequestration, protection of water quality and biodiversity enhancement.

### Carbon Sequestration

Forests are effective at mitigating climate change through sequestration of carbon by tree growth and carbon storage in soils, tree stems, roots and ground litter. The extent of mitigation depends on planting levels, the type of forests, site types and forest management systems (Figure 3). Carbon Sequestration by forestry can act as a future ally for dairy and other farm enterprises while contributing to our future national abatement effort. Ireland's contribution to the Paris Agreement on climate change is via the Nationally Determined Contributions proposed by the EU on behalf of its Member States. The Commission Effort Sharing Proposal included the allocation of 26.8 million tonnes (CO<sub>2</sub> equivalents) of land-use, land-use change from forestry (LULUCF) credits to Ireland over the 10 year period 2021–2030. Member States with a larger share of emissions from agriculture were allocated a higher share of LULUCF credits. This equates to 2.68 Mt CO<sub>2</sub> equivalents per year. Teagasc 'Gaseous Emissions Working Group' project that, with the bulk of the sequestration by increasing forestry, the full allocation could be met.

### Protecting Water Quality

Landowners play an essential role as custodians of the natural landscape and resources. The recent DAFM 'Woodlands for Water' publication explores the appropriate afforestation measures to create a resource that can help to protect and enhance water quality. The establishment of new native woodlands combined with undisturbed water setbacks can deliver services that protect and enhance water quality and aquatic ecosystems. Even a limited area of woodland near watercourses (riparian woodland) can become a protective, enhancing and visually attractive resource on the farm, without reducing enterprise productivity.

### Enhancing Biodiversity

Forests are among the world's most complex and diverse ecosystems. All forests contribute significantly to biodiversity, both within their boundaries as corridors for wildlife and as refuges in the wider landscape. Areas for Biodiversity Enhancement are incorporated into all new forests. They conserve existing habitats and biodiversity features while promoting further diversity. A minimum of 15% broadleaf component is required on all new planting sites. Forest management planning affords the opportunity to enhance future biodiversity in our forests, provides benefits to society and additional income to farmers or land owners.

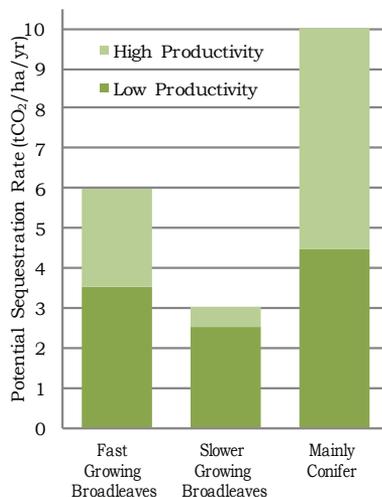


Figure 3. Indicative carbon sequestration by forest type