

Heartwood
The Art and Science of Growing Trees for Conservation
and Profit

Rowan Reid

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Rowan Reid is a forester amongst farmers who grew up amongst the coastal eucalypt forests of southern Victoria in Australia. Rowan won the 2001 Australian Eureka prize for Excellence in Environmental Education for his farmer course (the Australian Master Tree Grower), which he continues to deliver in Australia and internationally. He developed the program when a senior lecturer at the University of Melbourne. But, most importantly Rowan is also a farmer and tree grower in his own right. More than 10,000 visitors toured his Bamba Agroforestry Farm which is set up as a 42-ha outdoor classroom for farmers, scientists, students and tree-lovers. Rowan defines agroforestry simply as “multipurpose tree growing on farms”.

This vibrant and entertaining book carries us with Rowan on his life journey, learning about trees and forestry in an environment that is alien to ours. Yet the culture and landscape seem familiar as many of us have heard stories from our children or younger siblings who

have spent time working in Australia since the bust of 2008/09. For an Irish tree grower there is much that is very different. Whilst Rowan grows many species familiar to us – such as oak, poplar, walnut and coast redwood – he also celebrates the value of indigenous Australian species. Naturally, there are the eucalypts and acacias we know. How many of us know of the timber of the sheoaks, grevilleas and Australian red cedar?

In all, Rowan has planted 70 different species of tree or shrub. The farm continues to run as an agricultural enterprise with a focus on combining grazing with timber production for the mutual benefit of both enterprises. Of course, this introduces approaches to the growing of trees not readily practiced here such as planting at wide spacings in individual tree guards, pruning each year to improve wood quality and thinning heavily to maintain diameter growth. Grazing benefits the forestry operation by controlling the weeds, reducing the fire hazard and improving access. Reading this made me wonder, why don't we do that here?

Rowan's book is broken into 15 chapters, each of which takes as its title one of the species he grows and provides a backdrop for discussion about the science of tree growing, drawing not only on his experience on the farm but also from his travels around the world (Europe, Africa, Southeast Asia and the United States). For example, in the Coast Redwood (*Sequoia sempervirens*) chapter Rowan explores how trees can control soil erosion and the descriptions of long rotations in English Oak (*Quercus robur*) provide the example for his discussion about the economics of private forestry. His mixed species plantations, described in Black Walnut (*Juglans nigra*) and Poplars (*Populus* hybrids), informs discussion about allelopathy, pruning, wood quality and fodder.

Of the vast number of eucalypts – there are over 800 species in three genera – the following get a chapter dedicated to them: *Eucalyptus obliqua*, *E. regnans*, *E. nitens*, *E. viminalis*, *E. saligna*, *E. tricarpa* and *E. sideroxylon*. Eucalypts have been planted in Ireland in 36 different trial plots from 1935 through to 1961. Renewed interest since 2008 included a 3-ha plot of *E. nitens* planted by Medite but which was badly damaged by the deep frosts of 2009 onwards. Coillte have planted a variety of other Eucalypts since 2010 and therefore this book provides a timely counterpoint. In *Heartwood*, Rowan provides insight into the ecology, silviculture, sawmilling and drying of the eucalypts that would benefit foresters around the world.

A third cohort of chapters covers the specialty native timber species like Australian blackwood (*Acacia melanoxylon*), silky oak (*Grevillea robusta*), river sheoak (*Casuarina cunninghamiana*) and Australian red cedar (*Toona ciliata* var. *australis*). Whilst some of the species may be unfamiliar, the technical themes of heartwood development, tension wood, durability, quartersawing and the effect of growth rate on wood quality will interest all timber growers. For the farmers, there are details about the fodder quality of tree prunings, the value of shelterbelts for stock and attracting birdlife back to the farm.

Rowan's thoughts on the space requirements and stocking density for different tree species are particularly interesting from my perspective. His preference, to grow sawlogs, is clearly for a parkland of trees rather than a dense plantation. In my opinion we tend to thin either not early enough or not hard enough here in Ireland. This is becoming even more relevant in private farm forest plantations and more especially important in the hardwood crops that are now established. Using our own oak as an example, Rowan describes how doubling log diameter by heavy thinning can quadruple the log value. Having planted an oak forest at the age of 34, he believes he is on track to produce logs of 60 cm DBH before his 100th birthday. He used the oak thinnings to grow shiitake mushrooms.

Rowan blends his profound technical and scientific knowledge of forestry with heartfelt stories of the people he has met, the history of forestry on farms and the environmental problems arising from over clearing. All of which makes for interesting reading as Rowan argues that a third way is emerging in which the planting and subsequent felling of trees can be recognised as a legitimate farm activity and also as an act of conservation.

So much of what Rowan says in *Heartwood* has a resonance for us here, if only we care to consider his words. He challenges the practice of providing farmers with grants to plant trees, suggesting that this actually discourages farmers from engaging in growing trees in ways that would best suit their interests and penalises those that are prepared to experiment and innovate in the search for better ways of using trees for both conservation and profit. Rowan also exposes the hypocrisy of environmental programs that prevent tree growers from accessing compensation for the public good that their trees provide the wider community through carbon sequestration, enhanced biodiversity or erosion control just because they intend to sustainably harvest their trees. Has this a resonance here? He says:

In a world where our footprint is greater than what our planet can produce, we no longer have the luxury of just picking sides - conservation or production -and dividing our landscape up into single-purpose fragments. Governments, industry and interest groups need to let go of their preferred options and engage the wider community of rural landholders in the exploration and implementation of approaches to establishing and managing forests which are attractive to them.

Heartwood: The Art and Science of Growing Trees for Conservation and Profit by Rowan Reid is available as a full colour hardback with free postage to Ireland through online booksellers including Bookdepository.

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For more see Rowan's website: www.agroforestry.net.au

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