

The forest garden approach

Martin Crawford, director of the Agroforestry Research Trust, converted pastureland in to a two-acre forest garden in Dartington, Devon. On a recent tour given courtesy of the Institute of Horticulture, he described the largely self-sustaining crop production system in which water and soil resource use is optimised, and input from fossil fuels is negligible.



Described by Martin as “*a three dimensional garden of useful plants*”, it is a system built on incorporation of layers (trees, shrubs, herbaceous perennials, ground-cover plants, root crops and climbers). It is similar to what may be found in a young natural woodland, “*mimicking what happens in nature to a large degree*” he explained. Differences between competing species in capturing water, nutrients and light are used to their best advantage.

“It’s a system based on growing predominantly perennials, and exploiting the beneficial interactions between plants and their surrounding environment.”

Martin wanted the garden to be self-sufficient in nutrients, so incorporated many mineral accumulators and nitrogen-fixing species. There is little bare soil; ground cover is provided by plants or mulching.



“Disturbance to the soil is minimal due to the absence of digging, which improves the structure and helps to sequester carbon” he explained.

It also enables beneficial mycorrhizal fungi to become established, which form an association with other root systems.

“Fungi in the soil help move nutrients round and protects against pests and diseases.”

Martin suggested that the garden did not suffer from drought experienced in the area in the spring largely due to the plants being perennials rather than annuals, (therefore there had been no need to cultivate), and the deep rooted trees and network of roots at different levels had been able to establish and hold water. Through

the lack of disturbance to the soil and careful planning of a diversity of plants, water use is optimised and carbon sequestration and nutrient efficiency is maximised.

Martin explained that throughout the forest garden's lifetime (since 1993), he has experimented with growing many different species and varieties of plants, in an effort to identify the most

beneficial combinations for both the garden's ecosystem and people who use the produce.

In order for the system to be successfully applied commercially, he emphasised that careful planning is required, and that it *"ultimately requires people to alter their attitudes to what they eat and accept many new foods."*