

Mother Orchards

Education Pack



Foraging for our future



An Introduction to Mother Orchards

WHAT IS A MOTHER ORCHARD?

A Mother Orchard is a special collection of fruit and nut trees which have been selected for the west Wales climate as part of Cwm Arian's "Ein Coed" initiative.

Ein Coed is a project encouraging people to share cuttings of trees and shrubs. It is like seed-swapping but with cuttings (scions) and seeds from fruit trees given out to the public for free by arrangement with the site owners.

To arrange cuttings or find out more visit
www.cwmarian.org.uk/eincoed



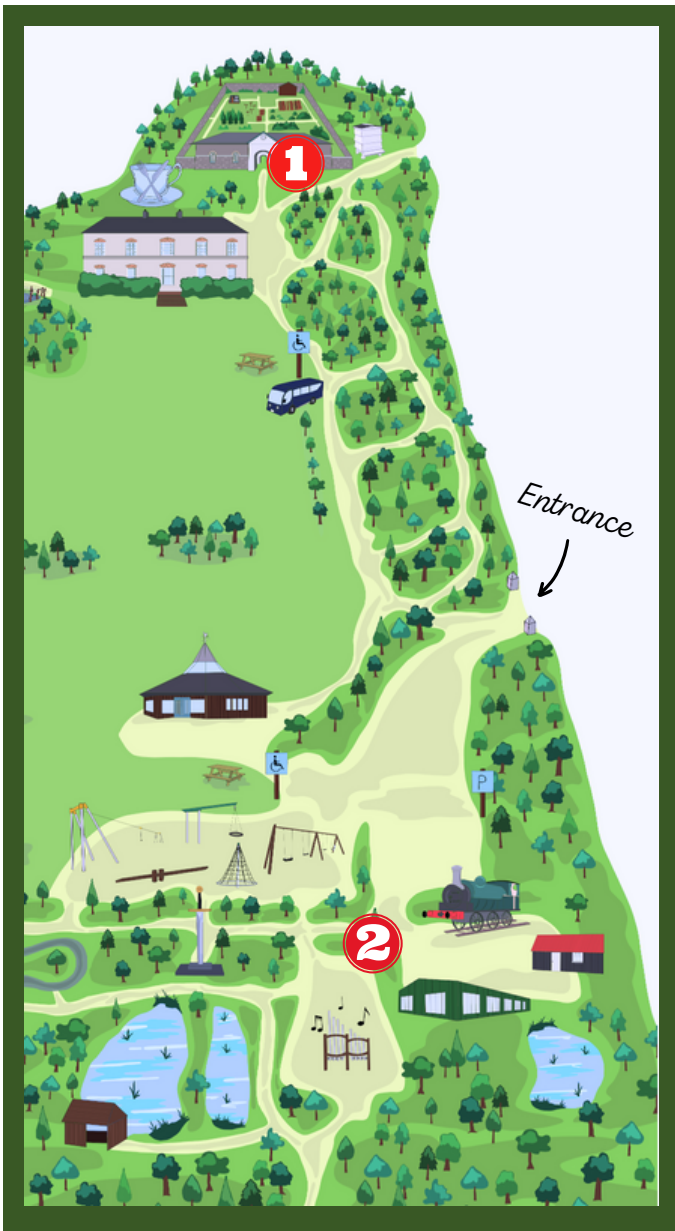
The Mother Orchards provide a valuable resource to local people enabling them to obtain fruit and nut tree cuttings and seed to grow their own produce.

This guide provides a window into the history of fruit and wild foods, its contribution to our well-being and health, improved understanding of where our food comes from, whole food health benefits of fruit and nuts in our diets and the wildlife habitat creation that benefits nature recovery.



Some great things about
Mother Orchards...

- Continue the traditions of foraging
- Improve our well-being
- Provide healthy food
- Encourage higher yielding fruit and nuts
- Are nature friendly
- Use improved forms of native fruit and nut species



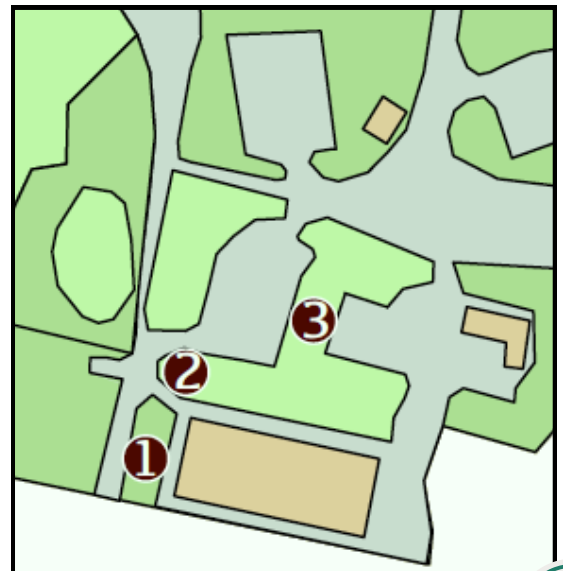
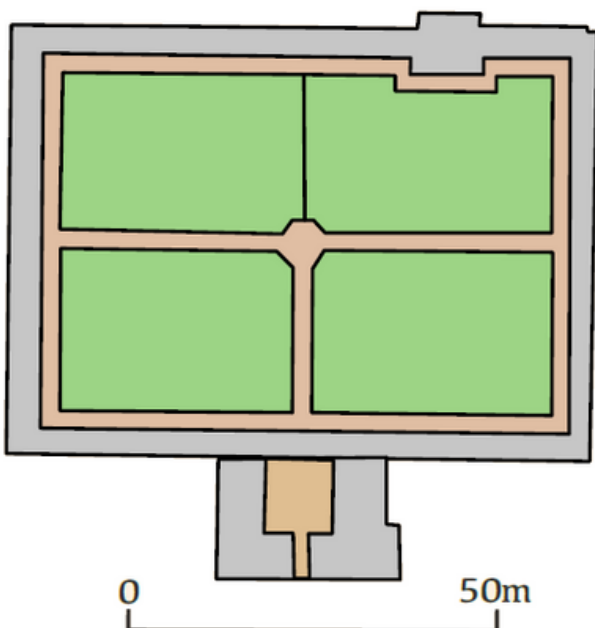
At Scolton Manor, we have two orchard sites: the "Railway Car Park" and the "Walled Garden".

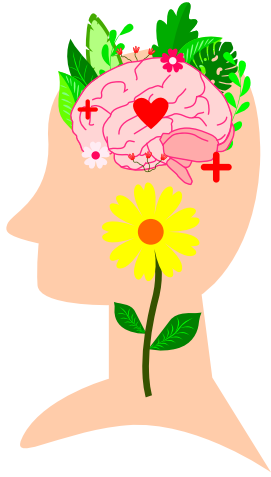
The maps on this page show the size and location of the two orchards.

The site map situated by the Green Barn shows you the individual fruit and nut tree locations.

1 The Walled Garden

2 The Railway Car Park





Nature & Our Well-being

Natural Resources Wales (naturalresourceswales.gov.uk) have recognized that there are 5 steps to improving our health and well-being when connecting with nature and the natural world. Studies show 80% of the world's happiest people have a strong connection to nature.

These simple and effective steps are:

- Give
- Learn
- Be active
- Take notice
- Connect



The Mother Orchard project allows everyone to connect with nature and their own food supply and reap the added free benefits of well-being.



Foraging for Food & Health

Before 24-hour food shops and freezers, most people lived rural lives surrounded by farmland, hedgerows and woodland. People relied on growing their own vegetables and fruit in gardens, and supplementing this with a foraged diet of nuts, roots, mushrooms, fresh leaves and fruit harvested from the countryside.

This was an essential part of the basic diet of many rural people and provided valuable nutrition including important vitamins.

VITAMIN C

Vitamin C in the 21st century is largely supplied by imported fruits such as oranges, limes and lemons, farmed berries including blueberries, raspberries and strawberries, or by supplementary pills from health shops and supermarkets - but before these supplies were available, they had to be collected from the wild.



Vitamins were obtained from many berries. Commonly foraged ones were rowan, wild strawberry, rose hips and hawthorn. Nearer the coast, there were shoots of samphire and sea buckthorn berries.

People did not depend on supermarkets, but they did depend on knowledge of where the important plants were growing and when best to pick them, store them and treasure the meagre supplies so that they would last the year out.

Here is a list of some of some commonly foraged plants and their uses:

- pickings of wild garlic and mint as powerful flavourings,
- large butterbur leaves for wrapping butter and cheese,
- flowers of hop and elder and berries from service tree for flavouring beers and cordials,
- birch tree sap for wine production,
- fruit from wild strawberry, blackberry, raspberry and elderberry for fruit and juices,
- nuts of hazel and pignuts for high protein

continues on the next page...

- fruit from crab apples, rowan, cherry, sloe, damson and bullace for jams, syrups and preserves.
- edible mushrooms picked fresh and also dry stored for the long winter.

Fruit and herbal teas were widely made from wild foraged crops but today, in the UK, most of the fruit teas are now commercially produced from imported fruits and herbs.



Wild plants provided herbal remedies for pain relief, including ribwort plantain, which is still used today for reduce itching and inflammation from bites and stings. Many herbs eased symptoms for common ailments including constipation and stomach pain.



LEARNING OBJECTIVES (KEY STAGE 2 AND 3)

- Use plants to develop an understanding of well-being.
- Develop social interaction skills and confidence.
- Notice and engage with the natural environment.



ACTIVITY 1: FORAGER HUNT

Looking for edible seeds, nuts and fruits.

The children are looking for the following plants:

- Blackberries*
- Raspberries*
- Wild strawberry*
- Rose hip*
- Wild garlic*
- Rowan berry*
- Hazelnut
- Blackcurrants*
- Hawthorn berries*
- Sloe*
- Redcurrants*
- Apples
- Damson*
- Pink currants*
- Pears
- Bullace*
- White currants*
- Elderberries*
- Crab apple*

*Those marked with an asterisk are high in Vitamin C.

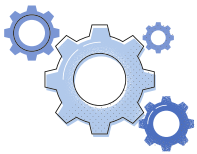


ACTIVITY 2: HERBAL HUNT

Looking for edible plants.

The children are looking for the following plants:

- Dandelion
- Stinging nettle
- Thyme
- Cleavers
- Mint
- Hedge garlic
- Elderflower
- Fennel
- Chickweed
- Ribwort plantain
- Marjoram
- Garlic mustard



NOTES FOR ACTIVITIES 1 & 2

The Forager Hunt activity works best in autumn (September/October) when fruiting is occurring.

The Herbal Hunt activity works best in spring (April/May) when young fresh leafy growth is available.

These outdoor learning activities enable children to explore nature directly and recognize how it changes through the seasons.

You will need:



clipboards

pencils

collecting bags

Children can work individually, in pairs or small groups. Clearly outline the area to be investigated and encourage children to explore all the areas within the space (muddy, low down, high reaching).



Allow 30 minutes to hunt and 30 minutes to examine and discuss the findings.



Ensure everyone is careful when picking stinging nettles.



Ensure everyone washes their hands after completing the activity.



Celebrate and discuss the finds, which could now be used to create a nature table in the classroom and inspire creativity as a story starter, or for drawing pictures of what was found.

Did anyone spot anything different from the list?

The table below can be used to record findings.

<i>Plant found</i>	<i>Location on the site</i>	<i>Drawing of the plant including nuts, fruit, seeds, leaves etc.</i>



ACTIVITY 3: HEALTH QUIZ

Identifying the health benefits of edible plants.

Name 5 plants that will naturally boost your Vitamin C intake and find the fruit in the Mother Orchards.

- The plants high in Vitamin C can be found with the Forager Hunt activity marked with an asterisk.



When back in the classroom, investigate the vitamin C content of shop bought citrus fruits with freshly harvested wild berries and fruits and discuss.



Nature's Recovery

Wales and the rest of the UK is recognized as having a very low level of healthy nature (State of Nature Report 2021) when compared with the rest of the world, despite the widespread affection and interest that its human population has in its unique natural species.

Huge reductions of almost all UK plant and animal species in a single lifetime have been measured, and are mainly due to intensive agricultural methods, high air and water pollution levels, the damaging effects of rapid climate change and the loss of natural habitats including woodlands, meadows, wetlands and hedgerows.

Some positive examples of nature recovery have been evidenced following human beneficial actions, including the return of otters in many of our rivers with the reduction of industrial pollution and healthy numbers of peregrine falcons on our coasts and cities with the reduction in persecution and harmful agricultural pesticides.





UK gardens occupy more land than all the UK's nature reserves put together (<https://www.wildlifetrusts.org/habitats/towns-and-gardens>) so provide a real chance for households to make a positive impact on nature's recovery and also the growing of healthy natural foods for their family.

EDIBLE HEDGEROWS

An edible hedgerow can be small or large but will still provide numerous benefits for the health of humans and nature. Examples include annual leaf drop, which improves the humus content of the soil, benefiting worms and soil microbes and providing better soil moisture retention.

In the surface leaf litter, you will provide habitat for spiders, earwigs, springtails, butterfly and moth pupa, bumble bee queens, toads, small mammals, reptiles, birds and larger animals such as hedgehogs and badgers. Wild flowers that like sun or shade can grow happily under a hedgerow and provide nectar and pollen for hundreds of insects.



At Scolton Manor we have three different demonstration hedgerows of fruit and nut trees, which are described in some detail on the pages that follow.

The locations of these hedgerows can be found on the map of the Railway Car Park on page 5 marked 1, 2 and 3 accordingly.



Demo Hedgerow 1

Wild native fruit, nut and herb species combined as a complete edible hedgerow. These tend to be naturally variable in growth habit and fruiting but are very tough and hardy, not needing any special attention and will provide valuable habitat and food for nature as well as useful wild crops of forage for you. They are easy to establish, inexpensive to obtain as they are usually seed propagated and once established are tolerant of wide ranging site conditions. Typical plants include wild crab apple, blackberry, wild rosehips, blackthorn for sloe and elderflower.

Plants can be planted in a wide hedgerow with 2 to 4 metres spacing between most plants, further apart for larger trees, allowing enough space to grow and be harvested. A thick 10cm mulch of each year in the spring helps keep weeds down and holds moisture in the soil.

Demo Hedgerow 2

This hedge contains improved forms of native fruit and nut species that have been recognized by interested people over time, perhaps spotted growing beside others with larger fruit size or heavier cropping in a hedgerow as an enhanced form of wild plant and have been cultivated by taking cuttings, thereby maintaining the beneficial genetic natural variation. We have brought together many examples of these and planted them together as an enhanced edible native hedgerow.

Similar to the native hedgerow 1, they are hardy and easy to grow but will be more expensive to buy as they have had to be grown by vegetative propagation, usually cuttings or micro-propagation. Typical plants would be cobnuts selected from hazel, thorn-less forms of blackberry, larger fruited forms of rowan and elderflower berries with increased levels of vitamin C.

Pruning in early years to help form an open centre to trees is necessary but the plants will take care of themselves once established but trimming to provide better access and visual shape is straightforward, this is best done after harvest each year.

If you want a bigger, more reliable crop of fruits, have a reasonable growing site and are able to spend some time managing your plants then the higher yielding modern fruit plants would be a good choice.

Demo Hedgerow 3

This hedgerow provides a modern example of how we obtain our fruit today, most often using extensively bred hybrid varieties of fruit, in this example apples and pears, all grown on selected dwarfing rootstocks to manage vigour and suitability to the climate and soil, they are pruned and managed for maximum fruit production usually within an intensively planted orchard setting.

We have trained these fruit on a post and wire system as inclined cordons, 3m apart in the row, allowing many different varieties to be grown in a single uniform row. They need heavy pruning in summer to encourage fruit bud formation and again in the winter to keep the shape and vigour in balance with the space allocated.

Due to the investment and heavy yields needed, in a commercial setting the fruit is fertilized with artificial granular fertilizers and sprayed with chemicals to control any insects or diseases that could cause reduction to the maximum harvest of fruit. After harvest the fruit grown in these conditions is usually stored for many months in cold storage to allow phased retail sales with 100% carbon dioxide levels to prevent aging of the fruit then sprayed with a wax coating to provide a glossy shine to the skin before being transported to the supermarkets for sale, all a far cry from DIY foraging in your local hedgerow!

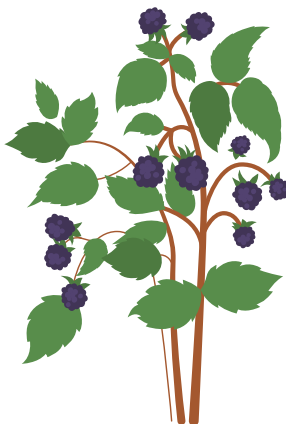
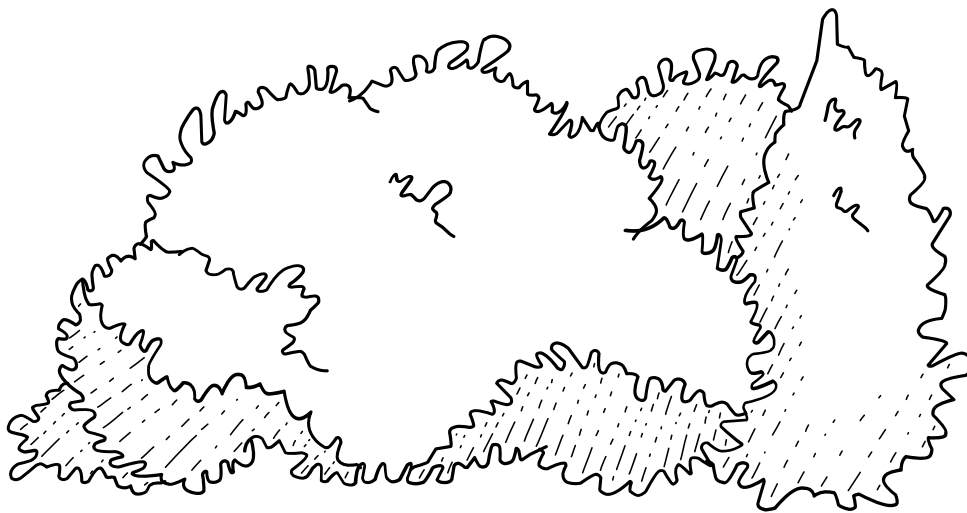
For best fruit performance these fruit trees are best grown as grafted trees using our cuttings as the scion and obtaining suitable rootstocks for grafting onto in the winter/spring. Cwm Arian often provide courses for this skilled activity, please contact the Ein Coed Facebook page.



ACTIVITY 3: ART & DESIGN WORKSHOP

Using the Mother Orchards at Scolton Manor for reference, design your own edible hedgerow. Think about food for humans and homes and food for nature.

- What do you need to consider?
- What type of plants will grow best?
- What would you want to grow?





Cyllidwyd y prosiect hwn drwy Cymunedau Gwledig Llywodraeth Cymru - Rhaglen Datblygu Gwledig Cymru 2014-2020, a ariennir gan Lywodraeth Cymru a'r Gronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig.

This project has received funding through the Welsh Government Rural Communities - Rural Development Programme 2014-2020, which is funded by the European Agricultural Fund for Rural Development and the Welsh Government.

Produced in collaboration with

