



# SEEDS

OF

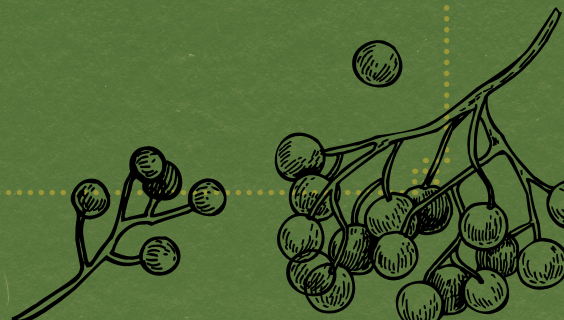
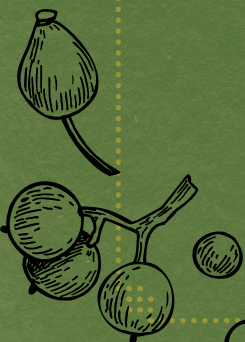
*Inspiration*



GROWING MONAGHAN'S NATIVE TREES FROM SEED

BY

JOHN MCKEON





A video documentary on my experience entitled 'Seeds of Inspiration – Growing Monaghan's native trees from seed with John McKeon' is available at

[https://iwt.ie/seeds\\_of\\_inspiration](https://iwt.ie/seeds_of_inspiration)



Separate videos have been produced on growing each native tree from seed and are intended to complement the guidance in this book. They can be accessed by scanning the QR code/link at the bottom of each tree species page

Edited by Juanita Browne

Front cover: Acorn © Deirdre Macklin

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# Trees

*I think that I shall never see  
A poem lovely as a tree.*

*A tree whose hungry mouth is prest  
Against the earth's sweet flowing breast;*

*A tree that looks at God all day,  
And lifts her leafy arms to pray;*

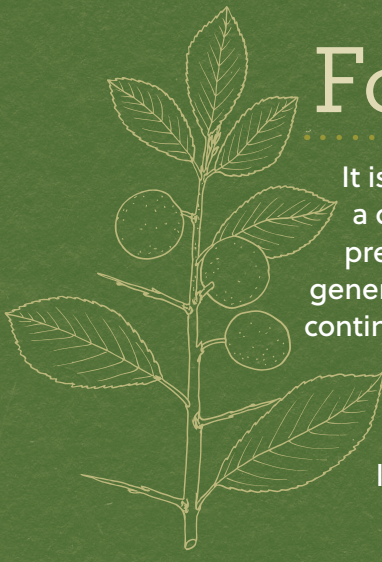
*A tree that may in Summer wear  
A nest of robins in her hair;*

*Upon whose bosom snow has lain;  
Who intimately lives with rain.*

*Poems are made by fools like me,  
But only God can make a tree.*

by Joyce Kilmer





# Foreword

It is a privilege to introduce this book on the native trees of Monaghan, a county where landscapes and communities are enriched by the quiet presence of woodlands, hedgerows, and old trees that have stood for many generations. Each Oak, Birch, Hazel, and Rowan provides food, shelter, and continuity for countless species, forming ecosystems that sustain birds, insects, mammals, fungi, and people alike. In protecting and restoring them, we are not only safeguarding our cultural heritage and strengthening climate resilience, but ensuring that future generations inherit landscapes rich in biodiversity.

This book would not exist without the extraordinary dedication of John McKeon. In his later years, John has committed himself tirelessly to the growing, preserving, and celebrating of Ireland's native trees, with particular attention to those of Monaghan provenance. His depth of knowledge - hard-earned through years of close observation, careful propagation, and an unwavering respect for the natural heritage of this place - is unmatched. He has ensured that our native trees are not simply planted but rooted in the true identity of Monaghan, carrying forward the distinct genetic lineage of the county's woodlands.

Since taking up my role as Biodiversity Officer for County Monaghan, John has been a constant source of support, encouragement, and guidance. His generosity with his time and wisdom has been invaluable, and I know I am far from the only one to have benefited from his patient mentorship. In his own gentle, understated way, John has inspired farmers, schools, community groups, and individuals across Monaghan, showing that even the simple act of planting a tree can shape the future.

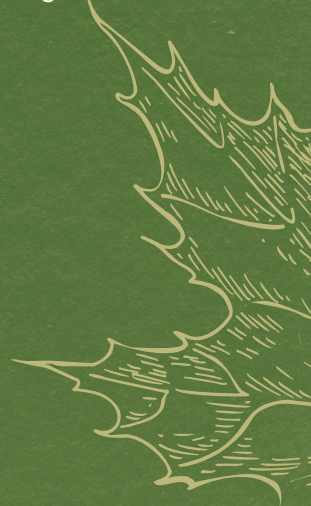
John's work stands as a testament to what one person's passion can achieve for the wider community and for the generations yet to come. Every sapling he has nurtured, every seed he has

sown, is a gift to our landscapes and to the species that depend on them. His example reminds us that biodiversity is not an abstract concept, but something deeply personal, local, and profoundly connected to our daily lives.

This project was born from the desire of the Monaghan Branch of the Irish Wildlife Trust to preserve John's legacy. As one of the branch's founding members, John has been a constant source of inspiration to all members since its inception. It has been a pleasure for me to be a part of their vision to capture John's knowledge and expertise through this book and accompanying video series. The initiative was made possible through generous funding from the National Parks and Wildlife Service under the Local Biodiversity Action Fund and support from Monaghan County Council and the Irish Wildlife Trust.

It is my hope that these pages will not only deepen our appreciation of Monaghan's native trees, but also remind us of the quiet power of people like John - those who plant, protect and preserve, knowing the true harvest will come long after their own lifetime.

**Dr Patricia McCreesh**  
Biodiversity Officer  
Monaghan County Council





# About the Author

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I grew up on a mixed farm in the Midlands in the 1950s and 1960s. We had eight dairy cows, cattle, cats, pigs, hens, ducks, turkeys, and geese. We grew all our own food in a vegetable garden and orchard. I obtained a degree in Agricultural Science in 1973, just as Ireland was entering the European Economic Community EE. This started an era of farm modernisation and intensification. It was the beginning of the end for mixed, biodiverse farming.

As a result of EEC policy and funding, many hedges, gardens and orchards were removed; waterways and wetlands were drained, and old meadows were lost. All were replaced by monoculture ryegrass and electric wire. I did all the above on my own farm and, as an agricultural advisor, I assisted other willing farmers to do the same. I list the above to outline where I came from, and I hope this booklet will show where I am going and inspire you to follow my example.

When one writes about planting trees, it would be fair to assume that I have some qualification as a forester or botanist. I possess no such qualification. I have grown most of the family vegetables and fruit all my life, so progressing to growing trees was a small step.

It started twenty years ago on a trip to Barleyhill on the Meath Monaghan border where I was amazed and inspired to see acres of Whitethorn plants. For a few years, I grew only Whitethorns. To increase variety and biodiversity, I moved on to growing native trees like Oak, Hazel and Holly, and, as my interest and experience grew, I moved on to growing the complete range of native Irish trees. I only tracked down the seed of the very rare Alder Buckthorn in 2021.

I am self taught and have collected the seeds and grown all the trees and shrubs mentioned in this handbook. I hope this will inspire you if I can do it, so can you. So, let's get collecting seeds, growing trees and giving something back to Mother Earth.



*John McKeon*

*"Grow your share of fresh air by planting a tree"*



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# Monaghan's place names

Irish place names often preserve the memory of native woodlands, and Monaghan is rich in examples. Names beginning with Derry or Doire indicate oak woods, such as Derrynashannagh (oak wood of the foxes) and Derrylusk (oak wood of the rushes). Coll or Coill refers to hazel or woodland, seen in Drumcoill and Coill an Chlochair. Skeagh (from sceach, meaning hawthorn) appears in Skeagh Bridge and Skeagh Hill, reflecting the prevalence of hawthorn in hedgerows. Corrinshigo (Corr fhuinseogach) is understood to mean 'hill abounding in ash trees'. There are no fewer than 11 Corrinshigos or Corrinshigaghs in Count Monaghan, making it the most common townland name.

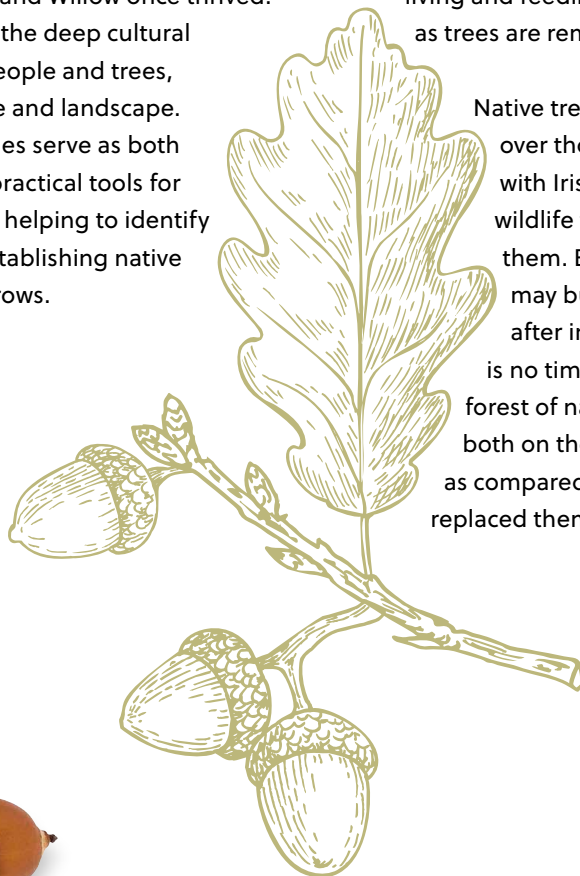
Other tree-related names include Eo (yew) in Aghnaclogh Eo and Sally (willow) in Sallybrook. These names mark not only the historic presence of native species, but also provide valuable clues for biodiversity restoration, guiding where Oak, Hazel, Hawthorn, and Willow once thrived. They also demonstrate the deep cultural connection between people and trees, embedded in language and landscape. Today, these place names serve as both heritage markers and practical tools for conservation planning, helping to identify areas suitable for re-establishing native woodlands and hedgerows.

# Why plant native trees?

Millions of trees and miles of hedgerows have been removed by farm intensification and by Dutch Elm Disease. The recent unnecessary importation of Ash saplings infected with Ash Dieback has resulted in the death of huge numbers of our native Ash trees. "The paths of glory lead but to the grave" and the same applies to trees - they grow old and die or are cut down for health and safety and are rarely, if ever, replaced. Overstocking is never a good or sustainable practice.

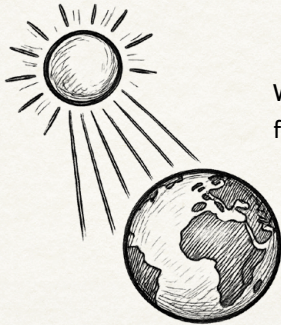
It's ironic that humans are one of the few species not on the extinction red list, as today's global population of 7.5 billion is projected to rise to nine billion by 2050. This human expansion will require more highways and buildings at the expense of trees and hedges as we plunder the planet in our toxic relationship with Mother Earth. There are hundreds of wildlife species – insects, birds, mammals, mosses, ferns, lichens and mushrooms - living and feeding on trees. These are also lost as trees are removed.

Native trees and shrubs have evolved over thousands of years, in harmony with Irish soil and climate, and the wildlife that live on them or around them. By contrast, imported plants may bud-burst or flower before or after insect hatches, so that there is no timely food supply. A deciduous forest of native trees is a wildlife haven, both on the trees and on the forest floor, as compared to pine forests, which have replaced them and are biological deserts.



# The value of trees

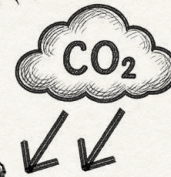
By now, most people recognise the value of planting trees for some or all of the following reasons:



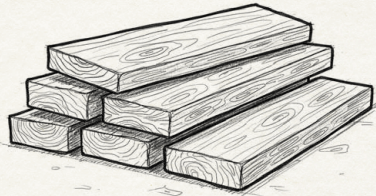
We can help save the planet from climate change



Trees absorb carbon dioxide and release oxygen



Trees enhance the beauty and value of land and property.



Trees are a green, carbon-neutral and renewable source of building materials.



Trees screen and help buildings blend into the landscape.



Trees maintain a balanced ecosystem, which reduces the need for insecticides and pesticides.

Trees stabilise riverbanks.



Trees in hedgerows provide shade and shelter for livestock and help with disease control between farms. Wire is a poor alternative.



Tree-shade has a cooling effect in urban environments during heatwaves, and reduces bovine consumption of water during heatwaves in rural areas.

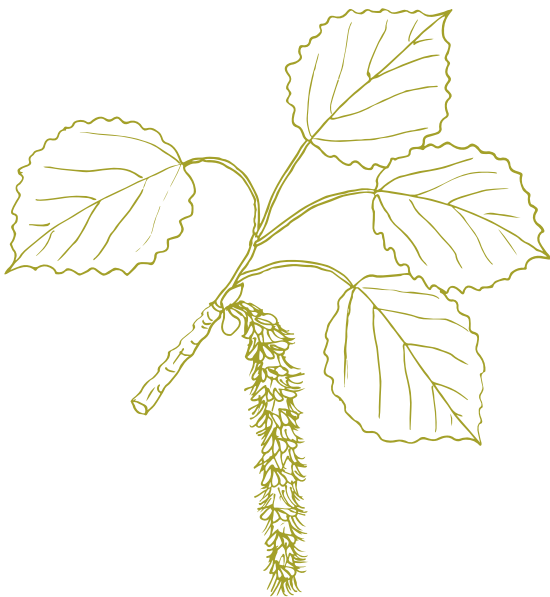


Tree roots act as filters and improve water quality, alleviating flooding and soil erosion.

# Where to plant trees

There are very few places, urban or rural, where planting trees will not benefit people and the environment. Farmers, as landowners, have great scope for planting trees.

Local authorities, with control of roads, parks and estates, can plant trees to enhance all public areas. Voluntary groups, such as Tidy Towns, parish councils, sports clubs, conservation groups, fishing clubs and school boards, all have areas under their control that would benefit from planting native trees and shrubs, and nurture a knowledge and love of trees locally. Two nice concepts that will appeal to many who want to plant a small clump of trees are 'pocket forests' and the 'hare's corner'. If you have grown a few saplings from seed, you are more likely to continue planting trees. It's great to give presents of trees you grew rather than plastic presents that, sooner rather than later, end up as rubbish in a dump. Mark big events, such as births, church events, weddings, etc. by planting a tree that will last a lifetime - and indeed much longer.



# Selecting suitable trees for different sites

There is a big variation in soil types in Monaghan, from dry uplands to wet lowlands, heavy clays to light loams and peaty soils. Some of these different soil types can be found on one farm or large garden. Trees have developed and adapted to grow in these different sites. So when wondering which species of native Irish trees to plant, have a look at what's growing well on sites similar to your own. The following will help in selecting the best native trees for different sites.

## Wet sites:

### Willow

There are many species, from low-growing shrubs to large trees. They grow from seed but much more easily from cuttings. Can stabilise riverbanks and tolerate flooding.

### Alder

Medium-sized tree, up to 18m. Its roots have nitrogen-fixing nodules, which enrich poor and reclaimed ground for other plants. Can stabilise riverbanks.

### Downy Birch

Compact medium-sized tree, up to 18m, with fine branches and small leaves, which let light reach ground flora.

### Aspen

Large tree, up to 22m, that will grow on wet but not waterlogged ground.

## Damp sites:

The four trees listed previously for wet sites (Willow, Alder, Downy Birch, and Aspen) will grow in damp sites, plus the following trees:

### **Pedunculate Oak**

Large tree, up to 40m. Known as 'king of the woods', Oak is the best tree for biodiversity.

### **Bird Cherry**

Medium-sized, up to 15m. Clumps of white flowers in April. Black berries in early August.

### **Alder Buckthorn**

Small shrub, up to 3m, that grows best on damp peaty soils.

### **Purging Buckthorn**

Medium-sized, up to 10m. Grows well in most alkaline soils.

### **Guelder Rose**

Small shrub, up to 3m, grows well in alkaline soils.

### **Spindle**

Small shrub, up to 5m, grows best in alkaline soils.

There is no exact boundary between wet, damp and dry sites. There is a gradual change from one to another. All the trees listed for dry or damp sites would die in a wet site, but trees listed for wet and damp sites could grow well in a dry site if the dry site consists of good, deep clay soil and not a light, dry, sandy soil. Therefore, there can be overlap between sites. For large plantations, or in grant-aided environmental schemes, soil testing and site assessment by a forester would be advisable.



## Dry sites:

### **Oak**

Sessile and Pedunculate.

### **Ash**

Not being planted until strains resistant to Ash Dieback disease are developed.

### **Wild Cherry**

Medium-sized tree, up to 20m; plenty of flowers and berries; will sucker in fields and hedges.

### **Crab Apple**

Small tree, up to 8m; bountiful flowers and crop of apples.

### **Elm**

Large tree, up to 35m. Dutch Elm disease has killed most Elms.

### **Hazel**

Small tree, up to 10m; known as a "noble of the forest" by Brehon Law because it has had so many uses and produced edible nuts.

### **Holly**

Small tree, up to 10m; evergreen leaves and red berries on female trees.

### **Rowan**

Small tree, up to 10m; compact tree with plenty of flowers and berries.

### **Scots Pine**

Big tree, up to 35m; valuable timber known as 'red deal'.

### **Irish Whitebeam**

Small tree, up to 15m; leaves are white underneath, which reflects its name.

### **Yew**

Large tree up to 20m; leaves are poisonous to animals, and berries are poisonous to people.

### **Hawthorn**

Small tree, up to 10m; predominant species in hedgerows.

### **Blackthorn**

Shrub up to 6m; grows new plants from roots, plenty of flowers and sloes.

# Garden site

Millions of dwelling houses throughout the country have lawns – ‘green deserts’ – which until recent years were cut every few weeks by lawnmowers, which gave Daisies and Dandelions a chance to raise their heads as food for insects. Now these green deserts are cut every day by robot mowers so that there are no flowers and no insects. These millions of lawns offer great potential to help Mother Earth by planting a few native trees.

As most lawns are beside houses, lanes and roads, avoid planting big trees, which could be dangerous during storms in future years. Select from the following small trees and shrubs, depending on lawn size: Hazel, Holly, Birch, Rowan, Whitethorn, Blackthorn, Spindle, Crab Apple, Guelder Rose, Irish Whitebeam.



# Growing medium

Most tree saplings can be dug up and transplanted bare-rooted, provided this is done when saplings are dormant - from November to March. To extend the planting season throughout the year, a small amount of saplings can be grown in pots. Some trees, such as Holly, that do not transplant well bare-rooted, are always grown in pots. Producing trees in pots uses a lot of nursery soil or purchased peat moss. Traditionally, peat moss was the growing medium used in pots and seed trays, and bags of peat moss were mixed into garden soil to improve texture. Peat moss comes from bogs, such as our blanket bog Sliabh Beagh, in north Monaghan. Bogs are vitally important for storing carbon and for supporting wildlife. When peat is removed, it releases carbon into the air, which causes climate change. Bogs also help control water and prevent floods, but once damaged, they take thousands of years to recover. This makes peat moss a resource that isn't sustainable for gardening.

*Kitchen/  
garden  
waste*



To replace peat moss as a growing medium for potting some plants, and as a soil improver, I gather up the following materials in my own house, garden and surrounding areas:

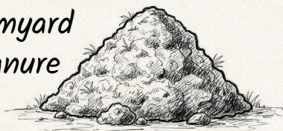
Kitchen/garden waste (mixed with grass, straw, chopped cardboard, and newspaper - this will produce compost after one year. This type of compost can be purchased in bulk from some local authorities and commercial compost makers).

*Leaf  
mould*



Leaf mould (leaves can be gathered from roads, lanes, car parks and gardens, and will compost to leaf mould in two years. When gathering leaves, don't make a clean sweep of the area - always leave some for overwintering butterflies, moths and other critters).

*Farmyard  
manure*



Farmyard manure (well-rotted manure from cattle, sheep, pigs, poultry or horse bedding).

*Silt, sand,  
grit.*



Silt, sand, grit.

Ash from wood-burning fire.

*Mushroom  
compost*



Spent mushroom compost.

Mix some or all of the above with a little garden soil to make a good compost for pots, trays, and as a soil enricher.



## Stratification

Although a small number of seeds can grow as they fall from the tree when ripe, most seeds contain growth inhibitors in their skins and flesh, and will not grow until the skin and flesh rots off or is removed. There are a few ways to remove flesh. The flesh of wild cherry and sloes can be eaten – but caution is advised, as many berries are poisonous.

Remove flesh by squeezing berries by hand or by squashing them through a fine mesh to release seeds. Alternatively, place berries in a flat-bottomed container with some water, and gently pound them with a flat-headed pole or masher. These methods yield a mixture of skin, flesh and seed. Wash this mixture a few times with water. The pulp and skin rises to the top, and can be poured off or drained through a sieve with mesh small enough to retain the seeds.

Cleaned seeds are then stored for one or two winters (i.e. six months or 18 months) in a stratification compound that is made by mixing equal amounts of sand, grit, non-peat compost and leaf mould. Mix one-part seeds with four parts of the stratification compound. Before transferring the compound/seed mix to a container/pot, place pebbles in the bottom of the container/pot to help with drainage. Place a layer of grit on top of the container/pot, and cover it with a fine mesh to deter birds and mice.

Store the container/pot of seeds outside in shade or behind a north-facing wall. Keep the seeds damp, but not waterlogged, as water-logging may rot the seed. Check the containers regularly over the winter to make sure the seeds are not being eaten. Hazelnuts are particularly vulnerable to being eaten by birds and mammals. This is a time when a cat or terrier dog is a great help in keeping predators away from your seed.

## Seed collection

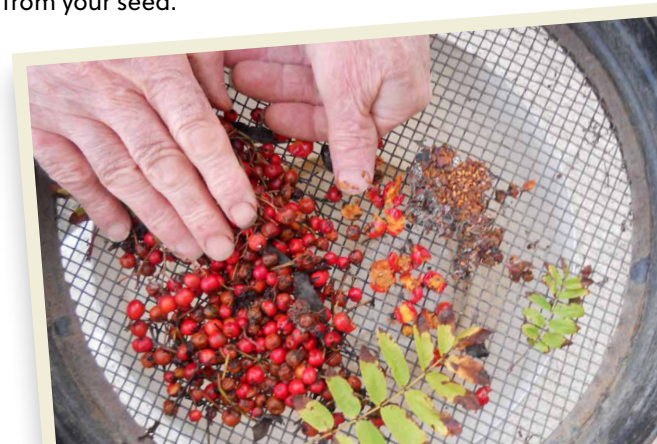
Seeds are generally green early in their development, and change colour to red, black or brown as they ripen. Collect ripe seeds from trees or from the ground. The volume of seeds produced on trees varies from year to year, from little or none some years to bumper crops in others, known as a mast year. Irish trees and our wildlife have generally developed in harmony with our unique soil, landscape and climate over many years. To maintain this harmony and natural balance, it is strongly recommended that seeds are only collected within wild, indigenous areas, where imported or genetically modified trees are unlikely to have been planted. It may seem easier, but don't collect native tree seeds from roadsides, parks or gardens.

## Storage

In the wild, seeds are effectively sown as they naturally fall from the tree or are spread by wind or in bird droppings. The percentage that survive sowing through this natural process in unprepared, wild ground is very low.

We can also sow seeds in prepared ground as we collect them, but as they lie in the ground over the first winter, they may be eaten by birds and mice. Due to dormancy, some seeds don't grow until after two winters, so the chances of being eaten are greater, and you have to spend 12 months weeding the seedbed while no seedlings grow.

Stratification of Rowan seeds @ John McKeon



# Storage and sowing times of different dormancy groups

## A No dormancy, sow immediately:

- Wych Elm
- Willow
- Aspen
- Pedunculate Oak
- Sessile Oak

Seeds with no dormancy should be sown immediately or they die within a few weeks. Large nurseries, with humidity- and temperature-control rooms, can store acorns, but even here germination rate will decrease. If we store acorns over winter, they produce long roots, which makes sowing the following spring very time consuming or impossible. Hence the necessity of having your seedbed ready before seed collection.

## B Store dry and sow in the first spring after collection:

- Alder
- Birch
- Scots Pine

Store seeds dry over winter. In February, soak seeds in cold water for 24 hours and then drain. Mix with moist sand, place in a fridge for four to six weeks and then sow.



## C Stratify and sow in the first spring after collection:

- Wild Cherry
- Bird Cherry
- Rowan
- Hazel
- Whitebeam
- Crab Apple
- Alder Buckthorn
- Purging Buckthorn
- Guelder Rose
- Blackthorn
- Spindle

Extract seeds from berries when they are collected and mix with stratification compound. Store this mixture over one winter in containers with good drainage holes. Sow in spring. Guelder Rose is unusual in that it produces roots, but its leaves do not appear above ground until the following spring.

## D Stratify and sow in the second spring after collection:

- Ash
- Hawthorn
- Yew
- Holly

Extract seeds from berries when collected and mix with stratification compound. Store this mixture over two winters in containers with good drainage holes. Sow in spring after two winters. Because huge volumes of haws are used to grow Whitethorn plants for field hedges, it's not necessary to extract seeds, as the flesh rots off the haws during the 18 months of storage.

# Seed sowing

Having collected, extracted and stored the seeds, we now need to sow and grow them. If you are tight on space or only want to grow a small number of trees, use pots or trays, or a corner of a flower or vegetable patch to sow trees. To grow larger numbers of trees, prepare seedbeds in the form of ridges.

Seeds start to germinate and produce buds as they approach the end of their stratification term and the spring growing season arrives. These budding seeds can be carefully picked out and sown individually in trays or seedbeds. This is only practical for small amounts of seed as it is a very slow and time-consuming method. It is obviously much quicker to broadcast seeds and shovel soil over them.

Large seeds, such as acorns and hazelnuts, can be sown by making a hole in the seedbed with a round-nosed dibber – 50mm deep for acorns, 20mm deep for hazelnuts. Drop in the seed and cover with soil. Space acorns or hazelnuts 150mm x 150mm in rows and lines in a grid pattern and cover with soil.

Medium-sized seeds, such as Wild Cherry, Bird Cherry, sloes, and haws, can be sown by making a 20mm-deep groove in the seedbed and spacing seeds 25mm apart and covering with soil. Medium-sized seeds can also be broadcast over seedbed and covered with 20mm of soil.

Small seeds, such as Birch, Alder, and Rowan, are best broadcast over a fine-rolled seedbed and then covered with a 1mm layer of sand, compost or soil mixture.

If the sowing of small seeds produces a thick crop, they should be thinned and transplanted. Protect seeds and seedlings from mice and birds. Small seeds that have been lightly covered will need watering in dry weather, and all seeds need watering during a drought. Pull weeds regularly and inspect your crop for pests and disease.

Note: Specific information on collecting, storing and sowing seeds is given for each tree species in its own section in this booklet. Other treatments may be applied on sowing, and during the first few years of growth.



# Lining out (transplanting)

Yield of plants from seeds sown can vary greatly from a few plants to an over-thick crop. Exact spacing of individual large seeds generally produces a good yield and good quality trees. Broadcasting small seeds can yield a lot of plants, which become overcrowded after one year's growth, and will not have room to grow properly in year two.

## Two ways to remedy overcrowded plants:

- 1 As seedlings emerge from the soil and produce first true leaves, gently ease some plants from the soil, and dibble into a new area. Alternatively, let overcrowded plants grow, and when they are dormant at the end of year one, thin out some seedlings and dibble them into a new area. Making a V-shaped track across the new area, and lining small plants along it, and pushing soil back around roots may speed up the process. Water all transplants.
- 2 Taking out and transplanting some seedlings from an overcrowded seedbed is tedious and time-consuming – only practical for small areas. For larger areas of broadcast seeding (e.g. Whitethorn, where huge numbers of plants are required for hedgerows), let all plants grow for two or three years and then dig them all out. Then grade the plants into bundles of large, medium, small and very small. Only bundles of very small plants need to be lined out and grown on for another year or two to increase in size.



# Root pruning

We get an opportunity to root prune when transplanting seedlings from an overcrowded seedbed. It involves using secateurs or a hatchet for bundles of seedlings to cut the longest roots. This causes the roots to send out side-roots in the same way as cutting a branch above ground will send out side-shoots. Root pruning provides saplings with a bigger root ball, which helps establishment and growth. It's also a big help when lining out, as it gives a good, firm root base of uniform length, which stands up better in the replanting trench.

Most saplings, if grown in a nursery for more than two years, develop long taproots, which are difficult to dig out and plant in the final site. Root pruning can prevent taproot formation and gives a more rounded root ball. Large commercial nurseries run a machine with a reciprocating blade under nursery beds to root prune. Root pruning is not necessary for saplings that are dug out after two years' growth and planted in their final site.



# Tree nursery

If you want to grow large numbers of different varieties of tree, it's best to set up a small tree nursery. Consider the following points when selecting a nursery site.

- 1 Pick a plot of good, fertile ground with room to expand should you wish to increase production.
- 2 Select a flat or south-facing site. Avoid east or north-sloping sites which are colder; rising sun falling directly on frozen leaves of seedlings can scorch or kill them.
- 3 Select a site that is easy to fence to exclude animals such as deer, hares, rabbits and dogs.
- 4 An adequate supply of water will be necessary for seedbeds and plants.

Some soils are rich and deep and ideal for growing trees; many soils are heavy and stony and need enrichment. First remove a thin layer of grass sod from the nursery area. This will avoid lumps of sod and make seedbed formation much easier. Store grass sods in a compact heap, as they will compost and produce a mound of top-quality soil for future use. Next, dig over the area and remove stones, then spread some or all of the following over the nursery area: well-rotted farmyard manure, kitchen compost, sand, grit, leaf mould, or ash from wood-burning stoves. Dig them into the soil. Keep digging, scraping and raking until you achieve a fine tilth. A good idea at this stage is to fill a few bags with this fine soil which can be useful later to cover smaller seeds. Next, line out the nursery area in 1.2m-wide ridges, leaving 0.5m-wide furrows between the ridges from which you shovel soil to cover larger seeds.

All the above seedbed preparation should be done in August or September, when soil is dry and workable. A seedbed will be required in October to receive acorns, which are best sown when collected. Most tree seeds are sown in late winter (February or March), but the soil is often too wet at this point to prepare a seedbed. With global warming, seeds are growing buds earlier in storage and these will be wasted if the seedbed is not ready to receive them, so it's vital to check stratifying seeds in containers every few weeks for bud growth from the end of January, and have a seedbed ready to receive the seeds as growth starts.



# Protecting seeds and seedlings

Seeds and seedlings will sometimes be eaten by mice and birds, depending on the location of the tree nursery and if you have cats or a terrier dog. It may be necessary to cover seedbeds with fine-mesh wire or fine-gauge netting. Support the mesh with iron hoops over the seedbed. Seal netting at sides and ends of seedbed to keep out mice.

As you dig, scrape and rake the seedbed, remove grubs like cutworms and leatherjackets, which eat roots and stems, killing seedlings as they emerge. Our gardening companion, the Robin, will help by gobbling up some grubs.

Some years, powdery mildew can be a problem on Oak and a serious infection on Whitethorn. It will not kill plants but can slow growth, so that plants need an extra year's growth to be ready for digging out. Control mildew by using homemade organic sprays or other non-chemical options.

## **Vinegar Solution:**

*Mix three tablespoons of apple cider vinegar with a gallon of water and spray every three days.*

## **Neem Oil:**

*Combine three tablespoons of neem oil with one teaspoon of liquid soap and a gallon of water, then spray the leaves.*

## **Baking Soda Spray:**

*Mix one tablespoon of baking soda, half a teaspoon of liquid soap, and a gallon of water shake well, and spray the leaves.*



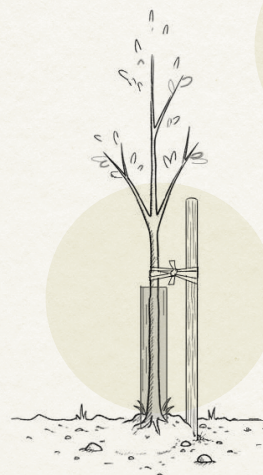
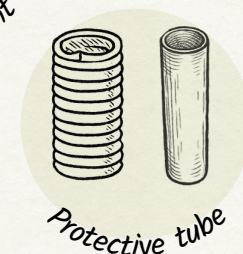
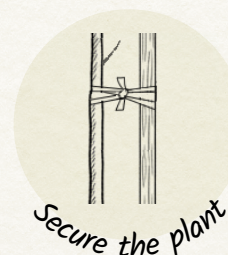
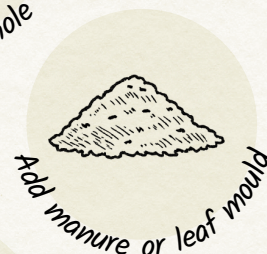
# How to plant trees

Planting methods can vary depending on the size of the tree and its roots. Tree whips up to 1m in height can be planted by making a slot in the ground with a spade, spreading out the roots in the slot, and firming the sod back over the roots.

Tree saplings 1m and higher, with bigger roots, should be planted as follows:

- 1 Dig a hole 5cm wider and deeper than the spread of the tree's roots.
- 2 If the sapling is over 1.5m high with a well-branched head, it will require a stake to support it against wind damage. Drive the stake firmly into the bottom of the hole, on the side from which the prevailing wind blows (the western side), so that the tree will be blown away from the stake, avoiding damage to the stem.
- 3 Add some well-rotted farmyard manure or leaf mould to the bottom of the hole or mix manure and leaf mould with the soil that was dug out of the hole.
- 4 Trees should be planted at the same level as they were growing in the nursery, which will be visible as a soil mark and colour difference on the stem just above the roots.
- 5 Spread out the roots throughout the hole and put a few shovelfuls of soil over them. Shake the tree gently to get soil in between all the roots. Return more soil to the hole and firm in. Then fill in the remainder of the soil and firm with foot.
- 6 Secure the planted tree to the stake. Special tree ties, with a strap and buckle, are good and easy to use. Homemade strips of plastic, hessian or canvas, at least 3cm wide, can be used. Secure stem to the stake by wrapping the material three times in a figure of eight and finally tying the ends around the middle of the figure of eight, which will provide an extra cushion between the tree and stake.
- 7 Trees need protection from farm and wild animals if they have access to your nursery. The area of the site, the number of trees planted, and the type of risk will influence choice of protection. Erect a boundary fence around the whole site to exclude livestock, and include mesh wire of gauge less than 2cm if rabbits are a problem. Along with a boundary fence to control livestock, each tree may be protected with a spiral plastic sleeve, wire netting, or a homemade guard cut from waste plastic drainage piping.

Some tree seeds make rapid growth and may be ready for planting out in their final site after one year, but most saplings are only ready for final planting out after two years. Plant saplings to the same depth that they were growing at in the nursery. Plant trees early in year - in January, February or March - so that roots get well established before drought may strike. Weed and water trees as required for a few years to give them a good start.



# Aftercare

The job is not finished when the trees are planted. To get good tree establishment and growth, consider the following points:

- 1 If the soil is very dry when planting trees, water well to get roots settled in and growing. If the weather is dry for a long time (drought) in the first or second year, continue watering. Lack of water is the cause of death of many young trees.
- 2 Trees planted into fertile ground don't generally need fertiliser, but, if necessary, apply a light dressing of a low-nitrogen fertiliser e.g. 10:10:20. A better option is to apply a mulch of well-rotted farmyard manure, non-peat compost or leaf mould, which will feed the tree, retain moisture, and help to control weeds.
- 3 Check trees after bad storms to see whether stakes and ties (if attached) are in good condition. Adjust ties so they are not cutting into expanding stems.
- 4 Consider basic pruning to remove branches that are dead or growing in the wrong direction. If you intend leaving a legacy of mighty oaks to provide huge beams for castles or cathedrals, it would be wise to get expert pruning advice.



# Record keeping

It is good practice to record details of all tree-growing activity. Record seed-collection areas and dates, seed treatment and storage, germination and sowing dates, and pests and diseases. These records will deepen your knowledge of good nursery practice, and they become more important the greater variety of trees you grow. It's generally easier to identify trees when they are in flower, so make a note of their location and you can return to the exact site at harvest time, when seeds may not be as visible.

Weather conditions at flowering – such as prolonged rain, spring storms or late frost – can affect flower parts and pollinator activity, and may affect seed production. Dutch Elm Disease in the 1970s and Ash Dieback on imported plants since 2012 have killed millions of trees in Ireland. Global warming and global travel increases the risk of importing new tree diseases. When travelling abroad, never bring plants or seeds home to Ireland without proper authorisation. To receive grant aid in environmental schemes, native provenance trees must be planted and have a plant passport. Growers must be registered with the Plant Health Section in the Department of Agriculture, who inspect tree nurseries to detect and prevent disease and pests – hence the need for good records.

**'Native provenance trees'** means trees that are native to Monaghan and are grown from seeds collected in Monaghan, so they have local genetic origins. This is important because:

- They are better adapted to local soil, climate, and pests.
- They help maintain the genetic diversity and resilience of local ecosystems.
- They support native, local wildlife that depends on these trees.



## Health and safety

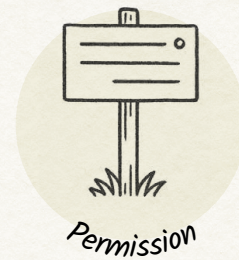
Do not climb trees or shrubs to collect seeds that ripen along ends of branches at their weakest point. As much as possible, stay on the ground and use a hooked stick to pull branches down. Have a ladder or steps well secured or have someone help to hold them.



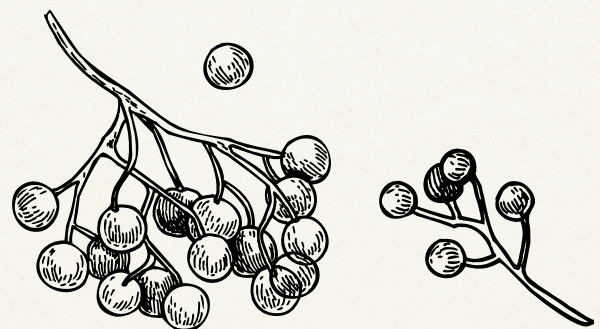
Wear heavy-duty gloves when collecting seeds from thorny bushes such as Whitethorn and Blackthorn. Remove any embedded thorns as soon as possible to avoid infection and have a first aid kit to hand.



Get permission if collecting seed on private land. Be aware of risks from animals. Injury from slips or trips is always a risk as you walk on rough ground, earthen banks, grass and leaves, which can be slippery, especially when wet.



Rats, mice and birds live and feed in and around trees and hedges. They carry diseases that can be passed to humans, so wash hands thoroughly after collecting seeds, especially if picking from the ground. Make seed collection a safe and enjoyable family experience.



# Our Native Trees



[https://iwt.ie/seeds\\_of\\_inspiration](https://iwt.ie/seeds_of_inspiration)



# Alder

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## Fearnóg

*Alnus glutinosa*

Alder is a medium-sized tree, growing to 18m in damp areas around lakes, marshland, and rivers, where its roots protect the bank from erosion. Alder roots have bacteria-containing nodules that take nitrogen from the air, which helps the tree to grow in wet areas and enriches the ground for other plants in poor, reclaimed land. Alder wood resists rotting in water and was used to make sluice gates and lock gates for canals, liquid containers, clogs, water pipes, and wooden piles to support buildings over wet ground. Alder coppices well and produces good firewood and charcoal. It's a good tree for wildlife, providing habitat and food for many insects, and the seeds are eaten by Siskins and Goldfinches. Female cones and male catkins are on the same tree and are wind pollinated. The seeds are buoyant and spread on water.

### Seed collection

Collect ripe cones in October or November from trees and ground. Store cones in a dry, airy place. As cones dry, they open, and by shaking in a bag, the seeds are released. Use a riddle to separate seeds from cones.

### Storage

Store seeds in a cloth bag in a dry, cool area until spring. Do not store seeds in a plastic bag because the seeds will go mouldy due to lack of air, and their ability to grow is reduced.



### Sowing

Seeds can be sown in autumn at collection time as happens in nature. For stored seeds, there is a long sowing time from March to May because seeds are dry and need wetting to germinate. Place dry, stored seeds in cold water for 24 hours, drain and mix seed in damp sand. Then place in a fridge for four to six weeks. Seed trays are ideal for small scale production. Sprinkle seeds on wet compost. It is not necessary to cover seeds with compost as trays can be moved to a shady area out of the sun, and covered with glass or plastic to retain moisture. For larger production, broadcast the seed on a ridge. Roll the seedbed to achieve good contact between seed and soil. Cover seed with 2mm of coarse sand. The seedbed must not dry out and will need watering on every dry, sunny day until seeds have germinated and are well established. A very thick crop of seedlings will benefit from thinning and transplanting. Alder makes rapid growth and can be ready for planting out after one year, but generally needs two years.



# Alder Buckthorn

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## Draighean fearna



*Frangula alnus*

One of Ireland's rarest trees, Alder Buckthorn grows as a shrub or small tree up to 5 metres. It grows in damp peat soils, many of which have been drained, destroying its habitat. It is not related to Alder, but is found growing with Alder in wet but not waterlogged soils. The flowers open in May-June, and contain both male and female parts. Pollinated by insects, the flowers develop as green berries which turn red and finally black when ripe. Its wood was used to make quality charcoal, and its berries used as dyes. It provides nectar for insects, berries for birds, and the larvae of the Brimstone butterfly feed on its leaves.

### Seed collection

Collect berries as they ripen and turn black in September, October or November. Among other locations, there are stands of Alder Buckthorn at Lullymore Bog, Co. Kildare; and in St. John's Wood, Lecarrow, Co. Roscommon. It grows as a prostrate shrub form in the Burren, Co. Clare; and as a large collection of bushes at Peatlands Park, Co. Armagh – to collect berries from this site, you need a licence from the Department of Agriculture, Environment and Rural Affairs, Northern Ireland.

### Seed storage

Extract and wash seeds to remove skin and flesh. Mix seeds with stratification compound and store outside for one winter.

### Sowing

Check seeds for signs of germination in February or March and sow in pots or seed trays. Broadcast larger amounts of seed on a fine seedbed and cover with 5mm of gritty soil. Keep seedbed damp at all times and weed-free. well established. A very thick crop of seedlings will benefit from thinning and transplanting. Alder makes rapid growth and can be ready for planting out after one year, but generally needs two years.



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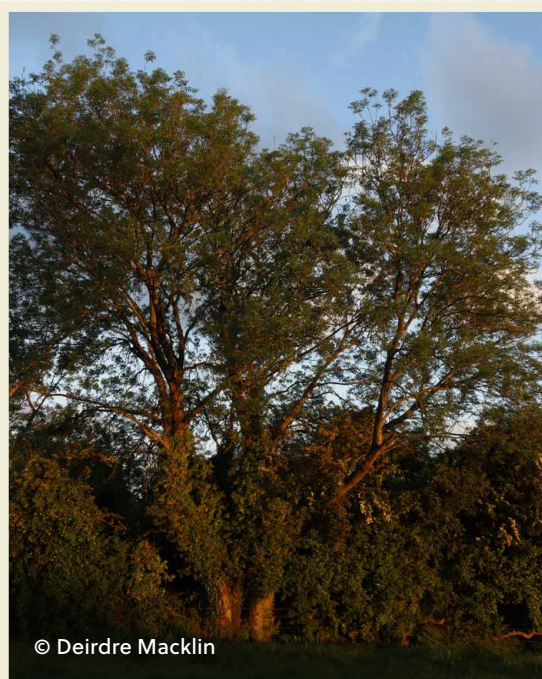
# Ash

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## Fuinseog

*Fraxinus excelsior*

Ash is a large tree, growing up to 30m, and is one of the most widespread trees in hedgerows and woodlands. It will grow in most soil types, but does best in rich, moist soils. The white wood is tough and flexible, with a multitude of uses. It was used for furniture, tool handles, ladders, walking sticks (the Irish Ash plant), snooker cues and oars. The "Clash of the Ash" reflects its use in making hurleys. Ash is a great firewood; it has a low moisture content and can be burned green, but like all wood, it burns best when seasoned and dry. Ash coppices very well, throwing up many straight poles that are used as bean poles and as hedgelaying stakes and binders. Ash is one of the last trees to come into leaf and one of the first to lose its leaves in autumn, thus casting a light shade, which allows a rich understorey of vegetation. Ash grows in mixed woodland and hedges with an understorey of Hazel, Holly and ground flora, which makes it an excellent tree for wildlife. Male and female flowers are on different trees and are wind pollinated. The female flowers develop into winged seeds, or 'keys', and are distributed by wind and by birds. The arrival of Ash Dieback in Ireland via imported saplings has cast doubt on its future; at this time, there is no growing or planting of Ash. Botanists and foresters are pinning their hopes on selecting a resistant strain of Ash. If this happens, grow Ash as follows.



### Seed collection

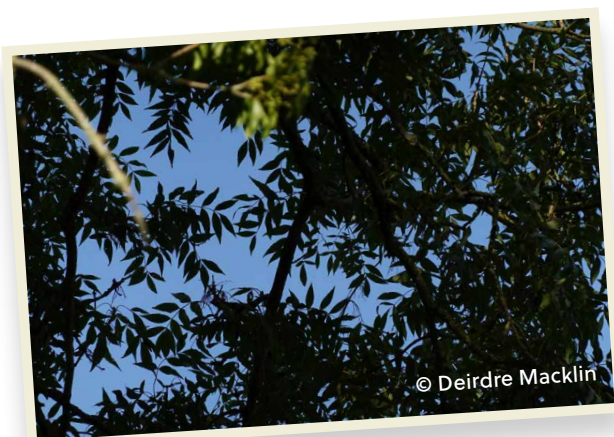
Collect Ash keys from September to November.

### Storage

Mix seeds with stratification compound and store in containers for 16 months – two winters.

### Sowing

Check seeds from February, after the second winter for signs of growth. For small-scale production, sow budding seeds in trays. For larger production, sow seeds on ridges by broadcasting seed or by spacing seeds 10cm x 10cm in rows and lines. Cover seeds with 15mm of soil. Water and weed the seedbeds. Ash will regularly self-seed. I often find it popping up among other trees in my nursery and vegetable garden. These can be dug up and planted in appropriate places.



# Downy Birch

## Beith chlummach

*Betula pubescens*

# Silver Birch

## Beith gheal

*Betula pendula*



Birch are slender, medium-sized trees with fine branches and small leaves. Downy Birch can grow in damp ground, but Silver Birch prefers drier ground. Birch is a pioneer species, being one of the first trees to self-seed in ground disturbed by floods, fire, or clear-felling forestry. Downy Birch is more plentiful in wild areas and has grey bark. Silver Birch has silvery-white bark, which cracks and peels off, making it a popular tree in parks and gardens. Birch trees have good wildlife value, providing habitat for 200 species, and its open canopy provides ideal conditions for a good ground flora. They produce a large crop of seeds that provide for birds. Birch is a fast-growing tree but short-lived, with decay starting at around 40 years. Birch wood was used to make spools and bobbins for textile mills and its fine branches for besom brooms. Birch trees can be tapped for their sap as it rises in April.

### Seed collection

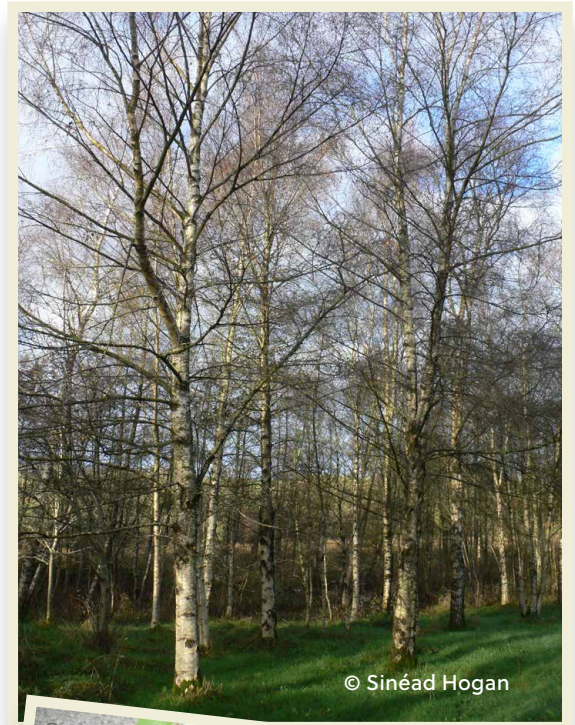
Collect ripe Birch catkins in September or October from wild areas. Avoid trees in gardens, parks and roadsides, which may be imported cultivars.

### Storage

Place catkins in a dry, airy place and they will release their seeds, which should be stored in mesh bag with good air circulation.

### Sowing

Birch can be sown at collection in autumn as happens in nature when it self-seeds in gravel lanes and yards. But as they have no future here, dig them up and transplant to suitable places. Sow stored seeds in March or April in seed trays or seedbeds. Roll the seedbed to achieve good contact between seed and soil. Cover seed trays with glass or plastic to hold moisture and leave in shade, out of direct sunlight. Cover seedbeds with a very thin layer of sand as Birch seeds are light-sensitive. It's vital to keep the seedbed damp until seeds have germinated and are well established. Birch seedlings grow rapidly.



© Sinéad Hogan



© John McKeon

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# Blackthorn

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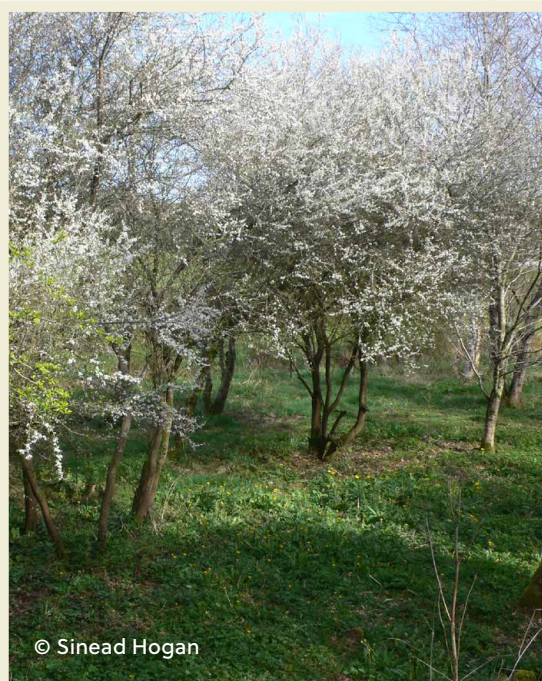
## Draighean

*Prunus spinosa*

Blackthorn usually grows as a thorny shrub, occasionally as a small tree. As its roots spread, they throw up new plants known as 'suckers', by which it can form dense scrub out into fields if the area is not cut or is only lightly grazed. Its thorny nature makes it good for stock-proof farm hedgerows. Dense clusters of small white flowers are produced in March followed by the leaves. The flowers, pollinated by insects, develop into sloes which are bitter, edible berries used to make sloe gin. Blackthorn stems are used to make a walking stick known as a 'shillelagh'. It is a good tree for wildlife, with a large early crop of flowers for insects, late-autumn berries for birds, and very dense branching providing safe cover and nesting sites.

### Seed Collection

Collect the sloes when they have turned blue-black in October. Wear leather gloves as a scratch from blackthorn can become septic, which can lead to blood poisoning.

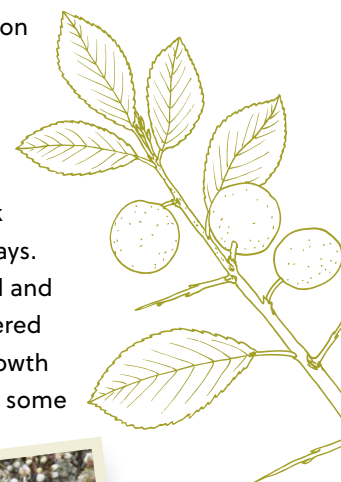


### Storage

Storing sloes in a plastic bag for a few weeks will rot and soften flesh. Remove seeds from flesh and wash thoroughly. Mix the seed with stratification compound and store outside for one winter. As the seeds are fairly large, they need protection from mice.

### Sowing

Check seeds for signs of germination in February or March. For small quantities, pick out germinating seeds and sow in pots or trays. Broadcast larger amounts on a fine seedbed and cover with 20mm of soil. Keep seedbed watered and weed-free, plant out after two years' growth as transplanting older saplings may result in some failures.





# Wild Cherry

## Crann silíní fiáin

*Prunus avium*

Wild Cherry is a medium-sized tree, growing to 20m. Its mass of white May blossom and reddish-brown bark, with horizontal cream-coloured lines, make it a popular tree for parks and streetscapes. It grows best in good, fertile soil in woodland edges and hedgerows. Wild Cherry is excellent for wildlife – its flowers for pollinating insects, cherries for birds and mammals, and caterpillars of butterflies and moths feed on its leaves. Its hard, red-brown wood is used for furniture and musical instruments.

### Seed collection

Collect berries from tree in late July and from the ground during August or September. Be vigilant, as birds can clear a tree of all berries.

### Storage

Remove flesh from seed and wash. Mix the seeds with stratification compound and store outside over winter. As a relatively large seed, they are vulnerable to mice so cover pot with fine mesh.



© Liam Murtagh

### Sowing

In milder winters, check stored seeds regularly from January for signs of germination. Pick out budded seeds and sow immediately in pots or trays. For larger quantities, broadcast seed before bud growth on a fine seedbed and cover with 10mm of fine soil. Keep the seedbed damp until seedlings emerge and during droughts. Wild Cherry trees produce new plants by root suckers, which can be dug up in the dormant season. It's a tree that makes rapid growth in its early years.



© John McKeon



# Bird Cherry

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## Donnroisc

*Prunus padus*

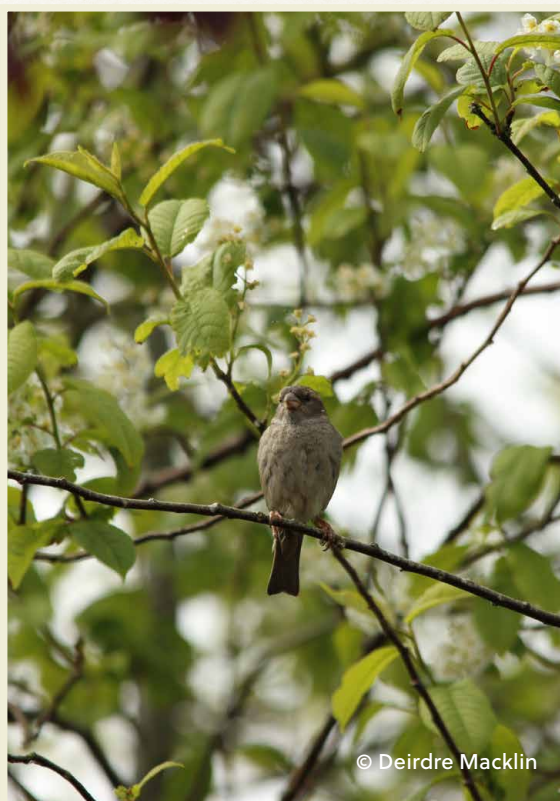
Bird Cherry is a rare, small tree, growing in damp woodland and hedgerows. It produces spikes of white flowers in April, which are pollinated by insects and develop into reddish-black cherries. A good tree for wildlife, with pollen and nectar for insects, berries for birds and mammals, and leaves that provide food for caterpillars. The reddish-brown wood was used for furniture and wood turning.

### Seed collection

Collect berries from tree when they turn black before mid-August as birds quickly eat all seed.

### Storage

Remove the seeds from the flesh and wash the seeds. Mix seeds with stratification compound and store outside over one winter.



### Sowing

In milder winters, you will need to check stored seed every few weeks from late January for signs of germination. Select budded seeds and sow immediately in pots or trays. For larger quantities, broadcast seed, before bud growth, on a fine seedbed and cover with 10mm of fine soil. Keep the seedbed moist until seedlings emerge and are well established, and in times of drought. Bird Cherry grows readily from cuttings.



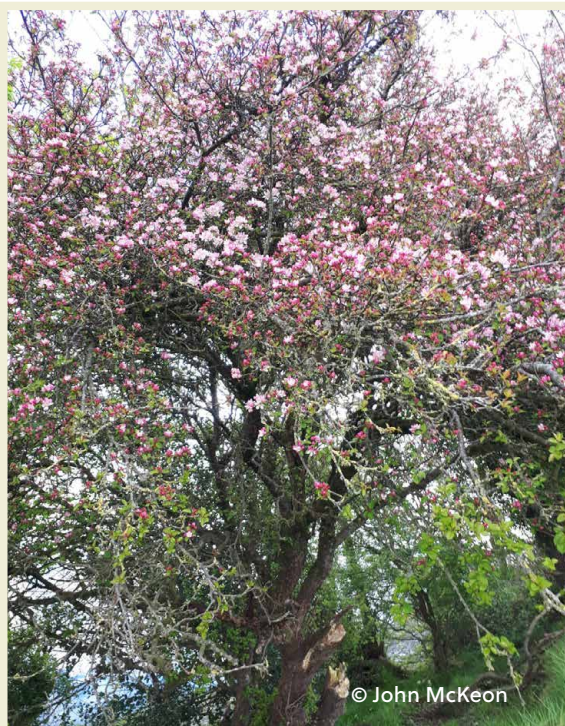


# Crab Apple

## Crann-fia-úll

*Malus sylvestris*

A small tree growing to 8m. Also known as Crab Thorn as the native Crab bears thorns along its stems. Its small size, abundance of pinkish-white flowers in spring, and plentiful crop of apples in autumn, make it a popular tree for parks and gardens. A good tree for wildlife, it's pollinated by insects, and the sour, yellow-green crab apples are eaten by birds and mammals. Crab Apple often grows as single trees in woods and hedgerows, with some distance between individual trees. Modern orchard apples originated through selective breeding of crab apples. Grown around old farmsteads to make crab apple jelly. Often planted in commercial orchards as their long flowering time makes them an excellent pollinator tree for cultivated apples.



### Seed collection

Collect apples when ripe in October, although they can survive in grass on the ground for months.

### Storage

Slice apples and extract the pips. Mix the pips with stratification compound and store outside over winter; protect the pips from mice.

### Sowing

Check pips for germination from late January. Sow small amounts of budded seeds in pots or trays. Sow larger amounts in a fine seedbed and cover with 10mm of fine soil. Seedlings are vulnerable to late April or May frosts and should be given temporary cover on such nights.



# Guelder Rose

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## Caor Chon

*Viburnum opulus*

A deciduous bushy shrub, growing up to 3 metres high, it produces flat clusters of creamy white flowers in May-June, which develop into poisonous translucent red berries which contain one heart-shaped seed. Guelder Rose, unlike garden roses, is not thorny, and grows best in damp soils along edges of woods, hedgerows and watercourses. It is a great addition to any hedge, with its abundant crop of flowers, berries and autumn leaves, which change from green to shades of red. The flowers of the Guelder Rose are a food source for pollinating insects, and its berries are eaten by birds.

### Seed collection

Collect bunches of berries from this low-growing bush in October.



### Seed storage

Extract seed from berries by gently squashing them by hand or by pounding in a bucket for larger quantities of berries. Wash with water to separate seeds from the skins and red liquid. Mix seeds with stratification compound and store outside in pots over winter.

### Sowing

Guelder Rose seeds have an unusual growth pattern in that they produce roots in year 1 but stems and leaves only emerge above ground in year 2. Check seed pot occasionally for signs of growth from March onwards. Sow small amounts of germinating seeds in pots or seed trays. Broadcast larger amounts of seed on a fine seedbed and cover with 10mm of gritty compost. Although plants won't appear above ground for another 12 months, it is vital to keep the seedbed damp and weed-free.





# Hazel

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## Coll

*Corylus avellana*

A small tree or shrub growing to 10m. Hazel was classified as a 'noble of the wood' by Brehon Law because they were very important in the lives of ancient settlers. Hazelnuts stored over winter were an important food for our ancient ancestors. When cut back or coppiced, Hazel quickly produces strong, pliable rods used in wattle and daub buildings, and as thatching spars. Hazel rods make wattle fencing panels. A forked Hazel rod is used by diviners to locate underground springs and wells. Hazel was a symbol of fertility, knowledge and inspiration. William Butler Yeats mentioned it in his poem 'The Song of Wandering Aengus'. Hazel is a great tree for wildlife, with many insects on trees and nuts eaten by mammals and birds. Hazel casts a light shade, which allows a rich ground flora.

### Seed Collection

Collect hazelnuts from trees and the ground from mid-September to mid-October. Be vigilant as wildlife will quickly eat them. Check viability with a flotation test in water. Non-viable nuts will float; nuts that sink are viable and will grow. This is not 100% accurate, so keep floaters in a container and check occasionally for budding.

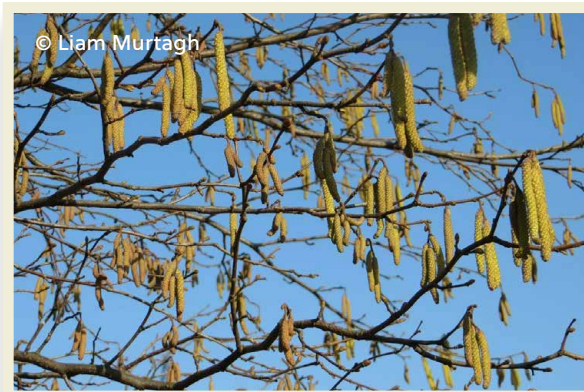


### Storage

Mix the nuts with stratification compound and store in pots outside over winter. Cover pots securely with fine-mesh wire because mice and birds will attack seed store.

### Sowing

Check seeds every few weeks from February onwards. Sow small amounts of seed in pots or trays. Larger quantities can be broadcast or spaced out in lines and rows 100mm apart on the seedbed and cover with 20mm of clay. It's vital to cover seed with netting or fine-mesh wire to protect from mice, squirrels and birds. Keep this protection in place for weeks after plants emerge because the nuts remain attached to the roots, and mice will dig up young plants.



# Holly

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## Cuileann

*Ilex aquifolium*

Holly is a common small tree of hedgerows and deciduous woods, where it grows as an understorey in the shade of taller trees. Its small size, evergreen leaves, and red berries make it a popular tree for gardens and parks. Holly is a good tree for farm or garden hedges, as its spiny leaves lend an element of security against man and beast and it tolerates regular cutting/trimming. Holly trees are either male or female, with red berries only on female trees. Although evergreen, Holly sheds and grows leaves throughout the year. It was considered a 'noble of the wood' in ancient Ireland and the custom of using Holly to decorate homes at Christmas still persists. Though of limited wildlife value, its berries are eaten by birds and its dense prickly growth provides shelter and protection for birds when other trees are bare. Holly wood is white, fine-grained and suitable for turning and making tool handles.

### Seed collection

The crop of berries can vary but is usually abundant and ripe by November. Birds can have them all eaten by Christmas some years or ignore them and they can stay on tree until April. There are many imported Holly cultivars, so collect from native trees in the wild.

### Storage

For small quantities, extract seeds from berries by hand. For larger quantities, mash the berries with a pounder. Separate seeds from flesh and skin by washing in water. Mix the seeds with stratification compound and store outside for two winters (16 months). Use very gritty, free-draining compound because Holly seeds rot if stored too wet.



### Sowing

Due to milder winters, seed can start to germinate in January, so check seed store every week and sow budded seeds in pots or trays. Broadcast larger amounts of seed on a fine seedbed and cover with 8mm of fine soil. Unlike most other trees, Holly does not transplant well if bare-rooted, so after one year's growth, transplant seedlings into individual pots and grow them on for a further two years to be large enough to plant out.



# Sessile Oak

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## Dair ghaelach

*Quercus petraea*

# Pedunculate oak

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## Dair ghalda

*Quercus robur*



Sessile Oak is Ireland's national tree, and Pedunculate Oak (or 'English Oak') is also native. The ancient Oak forests of Ireland are long gone, after centuries of felling and little replanting. There are a few ancient Oak woodlands remaining – at Killarney, Glenveagh and Glendalough – and small patches of old Oak woods in other counties. Oak grows into large trees of very strong, durable timber. Massive Oak beams were used in castles and cathedrals. Oak wood is used for veneers, furniture, joinery, panelling, flooring, and barrels. Some 2,000 Oak trees were used to build a single warship or merchant sailing ship. Acorns and Oak leaves are used as motifs and finials on buildings and fixtures to proclaim quality, strength and durability. Oak is a great tree for wildlife, supporting more species than other trees. It only produces a good crop of acorns in certain years – 'mast' years – and then little for a few years. So collect and grow extra acorns in a mast year.

### Seed collection

Collect acorns from the tree, but usually from ground as they fall when ripe in late September or October.

### Storage

It is best to sow acorns as soon as possible after collection. Large nurseries with temperature- and humidity-controlled rooms can store acorns over winter but viability will decrease. If necessary, store in hessian bags and shake bags occasionally to prevent acorns heating up. Acorns will dry out and shrivel in storage, and lose viability. To prevent this, sprinkle with water. Protect acorns from rodents.

### Sowing

The above problems show that sowing acorns when collected is both best practice and less trouble. To achieve this, it's vital to prepare seedbeds in August or September while soil is dry. Leave a space of 150mm between lines and rows of acorns. Birds and mice can eat acorns after sowing. To protect acorns, cover with 100mm of soil in October and rake off the top 50mm in March; this leaves a soil cover of 50mm. Alternatively, cover acorns with 50mm of soil and roll out fine-mesh wire over the seedbed to deter mice and prevent birds from pulling them up. Acorn roots are produced over winter, and shoots appear above ground in late April.



Oak at Lough Muckno  
© Liam Murtagh



© Deirdre Macklin



# Purging Buckthorn

## Paide Bréan

*Rhamnus catharticus*

A rare native plant, growing as a shrub or small tree up to 9m. It grows in hedgerows and the edges of woods and prefers limestone soils. Purging Buckthorn is deciduous, with male and female parts on separate trees, so plant six to 10 trees adjacent to each other to get pollination and berries. Leaves are oval, serrated and have four or five pairs of veins, which curve out from and back towards centre, meeting near the tip of the leaf. Following pollination by insects, the female flowers develop into a large crop of black berries. Its berries are poisonous. As its name suggests, in the past, the berries were used as a laxative. Its flowers provide pollen and nectar for insects and its large crop of berries are eaten by birds. The larvae of the Brimstone butterfly feed on its leaves.



### Seed collection

Purging Buckthorn produces a very large crop of berries which should be collected as they ripen and turn black in October or November.

### Seed storage

Each berry contains two to four seeds, which should be extracted and washed to remove skin and flesh. Mix the seed with stratification compound and store outside for one winter. Protect from mice.

### Sowing

Purging Buckthorn seeds have a very high germination rate and should be given more room than many other small seeds. Check seeds for signs of growth in February or March. For small amounts, pick out germinating seeds and sow in pots or trays. Broadcast larger amounts of seed on a fine seedbed and cover with 5mm of gritty soil. Keep the seedbed damp at all times and weed-free.



# Rowan

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## Caorthann

*Sorbus aucuparia*



Rowan is a small tree that grows from lowland woods and hedgerows to high rocky outcrops. It is also known as 'Mountain Ash' because it grows in mountain areas and its leaves look like Ash leaves, but Rowan is not related to the Ash. Rowan is widely planted in gardens, parks and street verges due to its small size, its attractive display of creamy white flowers in spring, and profusion of orange-red berries in autumn. Rowan wood is strong and hard, with a pale yellow-brown colour. It is used for wood turning, tool handles and craftwork. A good tree for wildlife – its flowers are pollinated by many insects foraging for nectar, and its abundant crop of red berries feeds many birds.

### Seed collection

Collect berries from trees in wild areas in August and September. Avoid trees in parks and gardens which may be imported hybrids.

### Storage

Squash the berries by hand or with a masher. Keeping berries in a polythene bag will cause them to rot and make extracting the seeds easier. Collecting berries in mid-August, before they are fully ripe, can produce seed that will grow in the first spring. If berries are fully ripe and collected in late September, the seed will generally not germinate until the second spring because a strong dormancy has developed. Wash the seed in water to remove skin and pulp. Mix seeds in stratification compound and store outside in pots.

### Sowing

Occasionally check seeds for signs of germination from February onwards. Depending on when the berries were collected, they will grow in the first or second spring. Small amounts of germinating seeds can be picked from the stratification mix and sown in pots or trays. Broadcast larger quantities of seed on a fine seedbed and lightly cover with a 3-5mm layer of grit. Firm them in and always keep well-watered. It is particularly important to keep the seedbed free of weeds because Rowan seedlings are very small and are easily pulled up with weeds.



© Deirdre Macklin



© Fearghal Duffy

© Fearghal Duffy



# Scots Pine

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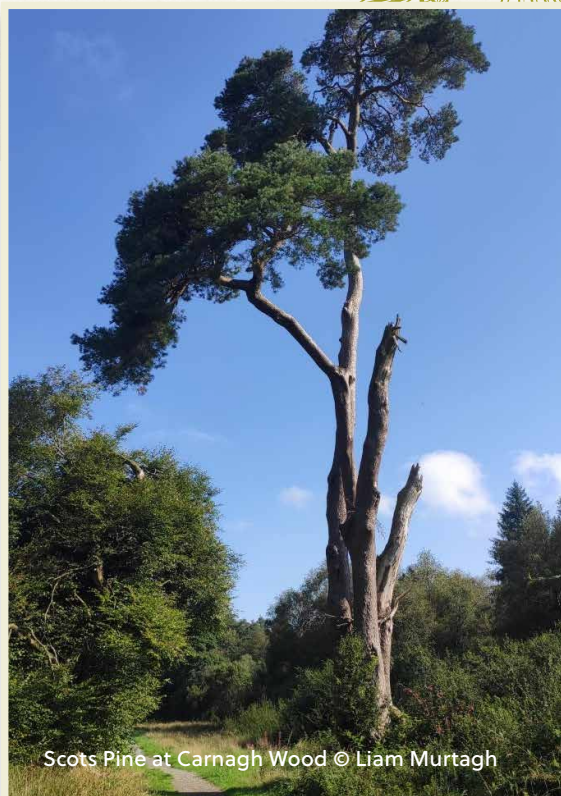
## Péine Albanach

*Pinus sylvestris*

Scots Pine was widespread in Ireland for thousands of years, but by 2,000 years ago, it was thought to be extinct. Recent studies of soil cores from Rock Forest Lough in the Burren, Co. Clare, show a continuous presence of Scots Pine pollen over the last 2,000 years, and so far, this has not been found at any other sites. This would indicate that Scots Pine was not extinct in the Burren. Most Scots Pine planted in Ireland in the last 200 years has been sourced from Scotland. Scots Pine produces strong durable wood known as 'red deal'. It is used to make telegraph poles, doors, floors, furniture and building timber. It has a high wildlife value, supporting many insects and squirrels.

### Seed collection

Collect Scots Pine cones from the tree or ground when ripe and turn from green to brown during September to December.



Scots Pine at Carnagh Wood © Liam Murtagh

### Storage

Keep cones in a paper bag or open container at room temperature. As cones dry out they open and release their seed. Store seed dry in a plastic bag in fridge. One month before sowing, mix seed from fridge with stratification compound and return to fridge for a month.

### Sowing

Take stratified seed from fridge in March or April and sow in trays or seedbed. Cover seed with 5mm of gritty soil. Firm in and keep moist at all times.



# Spindle

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## Feoras

*Euonymus europaeus*

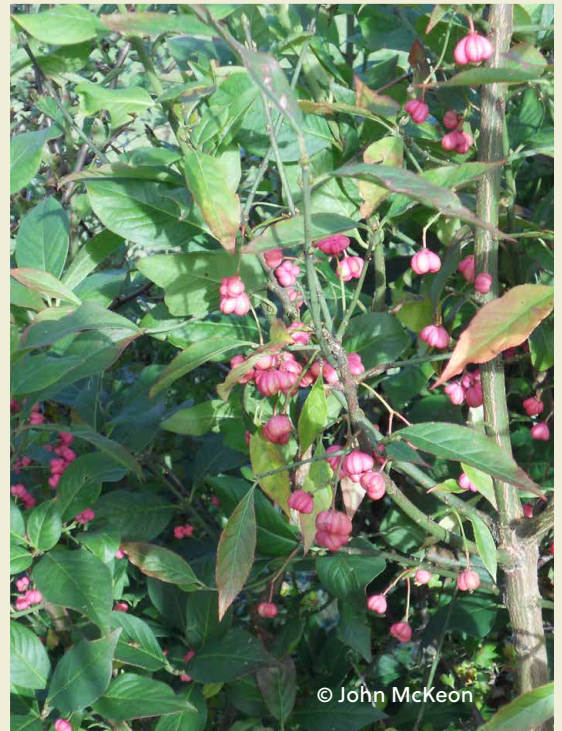
Spindle grows as a shrub or small tree, up to 8m. Its leaves are light green and serrated, turning red before falling in autumn. Stems are green and square when young but grow round as they mature. Spindle produces a modest display of clusters of small cream-coloured flowers in May which, when pollinated by insects, produce a brilliant display of pink fruits which open to reveal bright orange seeds. This makes it a valuable addition to any garden or field hedgerow. Caterpillars, moths and aphids feed on Spindle leaves, which in turn feed other insects and birds. Spindle wood is creamy white, hard and dense. It was used to make spindles for spinning and holding wool, skewers, pegs, and knitting needles.

### Seed collection

Collect fruits from shrubs or trees in October or November.

### Seed storage

Extract orange seeds from pink fruits. Mix seeds with stratification compound and store in pots outside for one winter. Sometimes they require two winters' stratification before germination. Keep seeds moist throughout storage.



### Sowing

From February, check seeds occasionally for signs of germination. Sow small amounts of budded seeds in pots or trays. Broadcast larger amounts of seed on a seedbed and cover with 10mm of soil. Spindle will also grow from cuttings. It's a tree that grows better in lime-rich soils, so add lime if ground is acidic.



<https://youtu.be/cRTzKy3j3g>



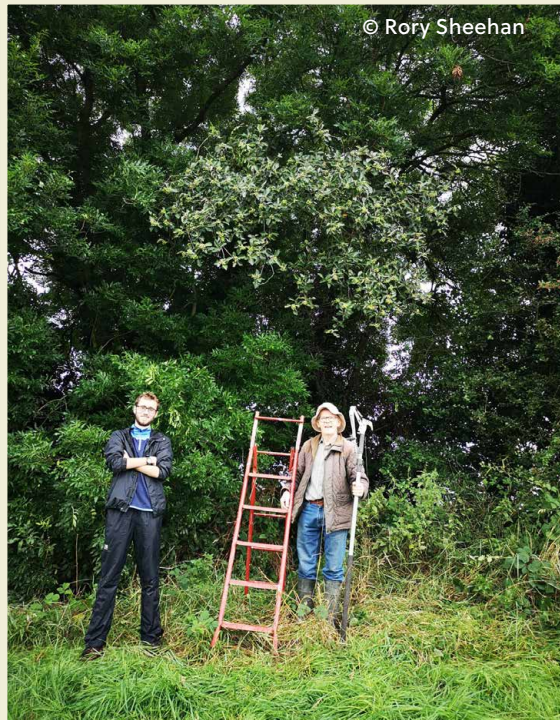
# Whitebeam

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## Fionncholl

*Sorbus hibernica*

A small deciduous tree, growing up to 15m. Leaves are green above and white underneath, which reflects its name. It produces large heads of small white flowers in May, which are pollinated by insects and ripen as red berries in September. Several imported species of Whitebeam are planted in Irish gardens, parks and roadsides. Avoid these trees when collecting seed. Search for the Irish Whitebeam (*Sorbus hibernica*) in remote areas with directions from other seed collectors if necessary. The Irish Whitebeam is well documented by the Ulster Wildlife Trust from their site at Milford Cutting, just outside of Armagh city. Its tough, hard wood was used to make cogwheels and other machine parts. A good wildlife tree, its flowers attract insects and birds eat its berries.



### Storage

Extract seeds from berries as soon as possible after collection. Wash seeds to remove pulp. Mix seeds with stratification compound and store *outside in pots over winter*.

### Sowing

Occasionally check stored seeds from January or February for signs of germination. If little or no seeds germinate during the first spring, keep seeds for an extra year, and more seeds may grow after the second winter. Sow small amounts of germinating seed in pots or trays. Broadcast larger amounts of seed on a fine seedbed and cover with a 3-5mm layer of fine soil. Keep the seedbed damp at all times and weed-free.



### Seed Collection

Collect ripe seed from the tree in mid-September. Later, when all the seeds are gone from the tree, there is generally seed to be found on ground. Overripe seeds can develop a deep dormancy, and may not germinate until after stratification for two winters.



# Whitethorn

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## Sceach Gheal

*Crataegus monogyna*



Whitethorn is also known as 'Hawthorn' or 'Quickthorn'. One of the most widespread trees in Ireland, growing, as a shrub or small tree up to 10 metres, in all soil types except wet ground. Its dense thorny growth habit makes it ideal for producing stock-proof field hedges. It responds well to trimming, coppicing and hedgelaying, which is necessary to keep it stock-proof. The leaves appear in April, followed by an abundant crop of white flowers in May which, when pollinated, produce red haws in autumn. There is a lot of folklore associated with the Whitethorn. There are many stories of harm or death to anyone who damaged or removed a 'lone Whitethorn' or 'Fairy Thorn'. Its wood is hard but has limited use as it grows in small, twisted lengths. It makes excellent firewood and charcoal. A big crop of May blossom provides nectar for insects and a heavy crop of berries, which can last for months, are relished by birds.

### Seed collection

Plenty of Whitethorn shrubs produce a good crop of haws which should be collected in October or November.



### Seed storage

**Option 1:** If processing small amounts, squash the berries in a bucket and wash the skin and flesh from the seed. Mix seed with stratification compound and store outside for two winters. Check seed in the second February for signs of growth, and sow in seed trays or a seedbed. Cover with 20mm of soil.

**Option 2:** If processing very large amounts of berries, removing the flesh can be very time consuming. In this case, store the berries in heaps on the ground in a shady place covered with matting that lets rain through. The flesh rots from the seed over two winters' storage (16 months). Protect from mice.

### Sowing

Broadcast seed in early March of year 2 on a ridge seedbed and cover with 20mm of soil. Quicks should be large enough for hedge-planting after two years' growth. Young Whitethorn plants are prone to mildew and may need a fungicide spray.



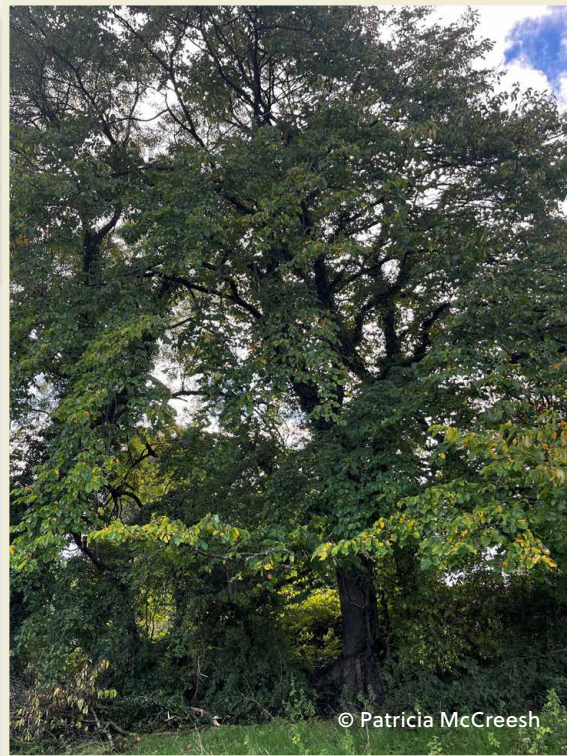
# Wych Elm

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## Leamhán Sléibhe

*Ulmus glabra*

A large tree, growing up to 35m, Wych Elm was a very common tree up until the 1970s when it fell victim to Dutch Elm disease, a fungus spread by Elm bark beetles. Some large Wych Elm trees have survived and may have resistance to the disease. By growing from seeds of these resistant trees, foresters are hoping to increase the stock of Wych Elm. Elm wood is strong, durable and resistant to decay in water, hence its use in boat-building, water pipes, water troughs, and coffins. Leaves are serrated and asymmetrical where they join the very short leaf stem and have pointed tips. Flowers are small, red-purple, and appear in clusters on branches. They are wind-pollinated and develop into single-seed tissue-like fruits, which are dispersed by wind. Elm has good wildlife value, supporting many insects and birds.



### Seed Collection

Large clumps of seeds are produced and are ready for collection as they turn from green to light brown in May or early June.

### Sowing

A massive crop of seeds is produced but most are sterile and will not grow. Sow at collection time and use a heavy seeding rate. Mist the seeds to prevent them from blowing away. Cover lightly with 2-3 mm of fine soil, keeping the seedbed moist at all times. They make rapid growth and can reach 50cm by the end of first growing season.



# Yew

## Iúr

*Taxus baccata*

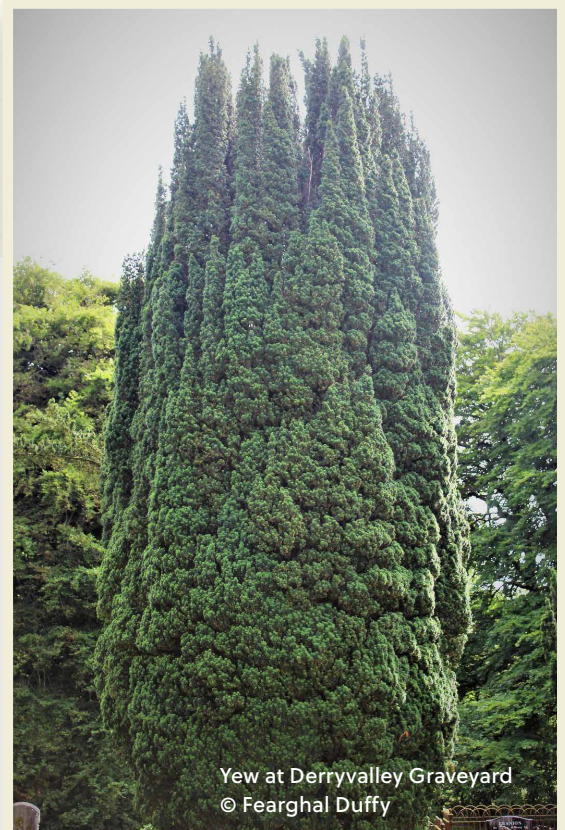
Yew is a native evergreen conifer with dark green needle leaves and red berries. A common tree in ancient woods, it was planted around churches, graveyards and old estates. Yew responds well to clipping, hence its popularity for hedging and topiary. The leaves are toxic to livestock and berries are poisonous to humans, so take care where you plant it. Yew was considered a "noble of the wood" in Brehon Law because of its strong, colourful wood, which was used to make high-quality furniture, nails, axles, pulleys and bowls, and it was the wood of choice for making longbows. Not a great tree for wildlife, ecologists tell us it supports only four insect species. Birds feast on its berries and it provides nesting sites in spring, and shelter in winter when most trees are bare.

### Seed collection

Yew produces a good crop of seeds most years, which are ripe for collection in October or November. Collect seed from trees or from the ground under trees, or in bird droppings, with flesh already removed!



© Liam Murtagh



Yew at Derryvalley Graveyard  
© Fearghal Duffy

### Seed storage

Extract the seed from the sticky flesh. Mix the seed with stratification compound and store in pots outside for two winters, out of direct sunlight.

### Sowing

Check stored seeds for signs of germination in February after second winter. Sow small amounts of seed in pots or trays. Sow large amounts of seed on a fine seedbed and cover with 5mm of gritty soil. Keep the seedbed damp at all times. Seedlings are slow-growing and will take four years to be large enough for final planting out.



<https://youtu.be/EDbYratuhtc>



# Leisure

*What is this life if, full of care,  
We have no time to stand and stare?*

*No time to stand beneath the boughs,  
And stare as long as sheep and cows:*

*No time to see, when woods we pass,  
Where squirrels hide their nuts in grass:*

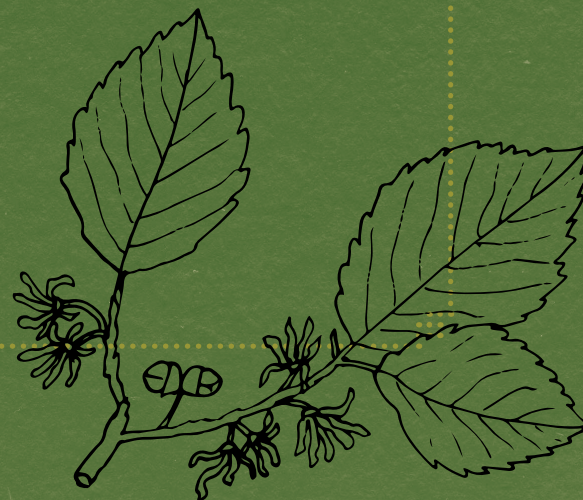
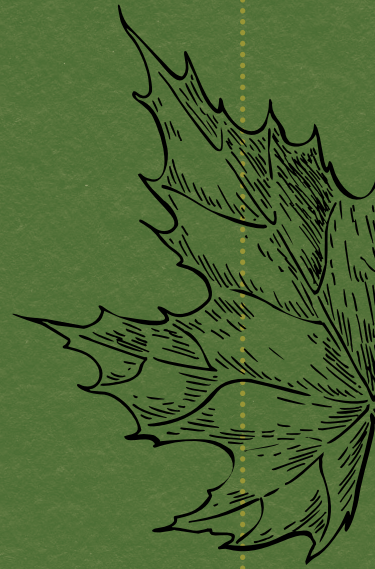
*No time to see, in broad daylight,  
Streams full of stars, like skies at night:*

*No time to turn at Beauty's glance,  
And watch her feet, how they can dance:*

*No time to wait till her mouth can  
Enrich that smile her eyes began?*

*A poor life this if, full of care,  
We have no time to stand and stare.*

by W.H. Davies

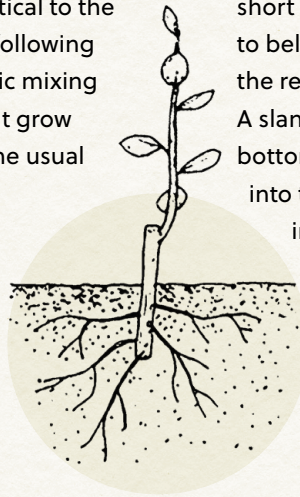


# Trees grown from cuttings

All trees can be grown from seed and some can be grown from cuttings – provided the cuttings are taken at the correct time of year and kept in damp soil and shaded from direct sunlight until roots have developed. Trees grown from cuttings are clones and will be genetically identical to the parent plant. Trees grown from seed, following male-female pollination, allows genetic mixing and diversity. There are a few trees that grow very readily from cuttings and this is the usual method used to produce them.

Use strong, sharp pruners to make clean cuts. Cut young one- or two-year-old branches at their base

from the parent plant. Cut off all side-shoots and leaves from the branch. Starting from the base of the branch, make a straight cut just under a bud. Then, 16-24cm (6-9 inches) up the branch, make a slanted cut just above a bud. Next, cut off the short piece of waste branch which extends up to below the next bud. Repeat the process until the required number of cuttings is obtained. A slanted cut at the top and a flat cut at the bottom show which way to insert the cutting into the ground. The flat-cut end is pushed into the soil by half to two-thirds of the length of the cutting. Be sure buds on the cutting are pointing upwards.



## Willow Saileach

*Salix spp.*

Propagation is almost entirely by cuttings as outlined above. Willow can be grown from seed, which is ripe for collection in May or June. Extract seed from the grey woolly fluff that encases them. Sow seed immediately as they have short viability. Press or roll seed onto soil surface to give good contact. Covering with polythene, out of sunlight, will retain moisture. Seeds germinate in a few days and must be kept damp. There are many varieties of Willow that are native to Ireland and grow in different shapes and sizes.



Dwarf Willow and Creeping Willow grow to less than 1 metre. Goat Willow and Grey Willow are shrubs or small trees, up to 10m. Crack Willow and White Willow are large trees up to 25m. Osier Willow grows up to 6m, and its strong flexible stems are used for weaving, basket-making and biomass. Willow flowers (catkins) are a great early source of nectar and pollen for insects which in turn are a source of food for birds.

# Aspen

## Crann creathach

*Populus tremula*

There are many species in the Poplar tree family, but currently Aspen is regarded as the only native species.

It is a large tree, growing up to 22m. The round

leaves are roughly notched and are borne on long flattened stalks, on which they tremble and flutter in the slightest breeze. Flowers appear in March or April, followed by leaves in May. It grows in poor soils that are permanently damp.

Grow from root cuttings by digging up roots – 1 to 3cm in diameter – from February to May. Cut these roots into 30cm (1 foot) lengths and keep them damp. Lay these 30cm root cuttings flat on compost in a seed tray, and cover with 5cm of compost. New plants will sprout from the root cuttings in four to six weeks. When these new plants are 8cm long, cut them with a sharp knife close to the root cutting. Remove the lower leaves and cut the stem below the lowest node. Using a dibber to insert these new plants into pots of soil. Keep pots damp and out of direct sunlight. These new plants usually form roots in four weeks, and will be ready for planting out in one year.

The easiest way to grow a few Aspen trees is to dig up a few suckered saplings (with 40cm roots) and plant immediately. Aspen can be grown from hardwood cuttings taken from the previous year's stems in March and kept moist by misting or under plastic. Aspen can also be grown from seed but it is difficult to get viable seed because groves of Aspen trees may be exclusively either male or female, having all grown by suckers from a male or female parent tree, which would preclude pollination.



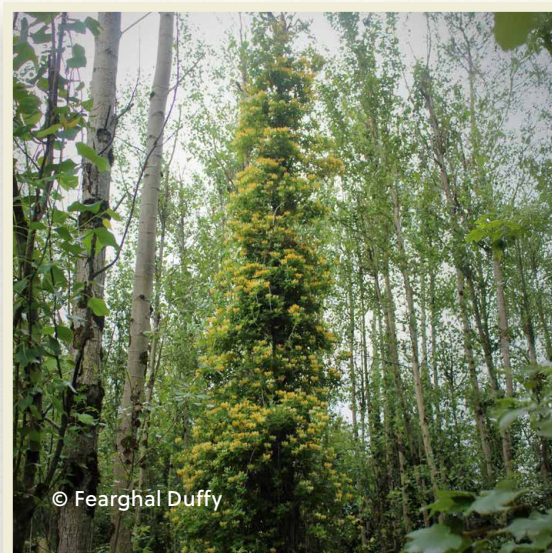
# Honeysuckle

## Féithleann

*Lonicera periclymenum*

Honeysuckle is a climbing shrub rather than a tree and it's also known as Woodbine. The name 'Honeysuckle' suggests sweetness, and this plant's pink and golden flowers provide a sweet scent, which is strongest in the evening and attracts pollinating moths. The flowers develop into red berries which are eaten by birds. Honeysuckle grows in woodland scrub and hedgerows, twining its stems around other plants for support, producing up to 5m of dense growth. It recovers well from cutting in normal hedgerow management. Produce new plants by:

- 1 Cuttings taken in late summer.
- 2 Layering: peg a branch down into soil while still attached to the parent plant. When it has produced roots, cut it as a new plant from the parent plant.
- 3 Collecting berries and extracting seed. Store in stratification compound over one winter and sow the following spring.



Note: Other native woodland shrubs in County Monaghan include wild privet and dog-rose. Bilberry is another shrub, but it only grows on peaty sites. Growing native shrubs with native trees provides a layered ecosystem that creates a more resilient habitat that supports local wildlife with food, shelter, and nesting sites.





# Monthly seed chart

Tree	Seed	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alder	Cones						●	●	●
Ash	Keys				●	●	●	●	
Aspen	Catkins & Root cuttings	●							
Birch	Catkins					●	●	●	
Blackthorn	Sloe berries						●	●	
Buckthorn - Alder	Berry				●	●	●	●	
Buckthorn - Purging	Berry						●	●	
Cherry- Bird	Berry			●	●				
Cherry - Wild	Berry			●	●				
Crab Apple	Apple pips						●	●	
Elm	Winged seed	●	●						
Guelder Rose	Berry					●	●	●	
Hazel	Nut					●	●		
Holly	Berry							●	●
Oak	Acorn					●	●		
Rowan	Berry				●	●			
Scots Pine	Cone					●	●		
Spindle	Berry						●	●	
Whitebeam	Berry					●			
Whitethorn	Berry						●	●	
Willow	Catkins & cuttings	●	●						
Yew	Berry					●	●		







There is a lot of 'talk' about the necessity of planting trees and hedgerows as good practice to help save the planet. We should park all the talk and adopt the motto '*res non verba*' (actions, not words)

This booklet contains detailed information on how to grow native trees and shrubs. When we need to plant millions of native trees in a long-term planting programme, it's vital to get a 'Land Army' of gardeners growing trees from seed.

Collecting seeds, and growing and planting trees can have a very positive effect on your physical and mental health by getting you into the great outdoors. You will be getting physical exercise as well as the feel-good factor that comes from doing something good for Mother Earth.

*John McKeon*

