

Creating a Perfect Garden for You and Your Bees

By Sarah Holdsworth, Horticulturist and Devon BKA

Sarah Holdsworth gives us some ideas for wild forms of some great plants that will delight us as well as our bees. If you are planning your garden display for the year then look no further for tempting inspiration.



Solidago virgaurea.
Photo by Sarah Holdsworth.

There is no better model of gardening for wildlife and ourselves, than nature itself. By, essentially, mimicking the best of nature's symbiotic relationships, we can design our gardens as we would an edible forest garden or permaculture area, reduce the amount of maintenance our garden needs and increase its yields. By planting mainly perennials, including trees and shrubs, and self-sowing annuals, we instantly have the basis for a self-renewing, self-fertilizing and self-maintaining garden.

We can reduce or eliminate pest control chemicals by providing food and shelter for birds, animals and insects that will keep insect pests in check without destroying them outright. We can reduce garden maintenance to mulching, some pruning, occasional weeding and minimal pest or disease management. Creating a garden that is perfect for bees and for us entails creating a whole garden ecosystem, which is far more than the sum of its parts. The rewards of this stewardship will be the harvest of herbs, fruits, vegetables, nuts, seeds or medicinal plants for decades or, perhaps, centuries to come. The cogs in this wheel of life that make it all possible are the pollinators, mainly bees, so it very much makes sense to design our gardens with bees in mind.

Wild versus cultivated plants

A major consideration will be our choice of plants. Perhaps, little over one hundred years ago, this would have been a simple process of elimination arriving at the most desirable plants which are open-pollinated; that is pollinated by insects, usually bees, which transfer pollen from flower to flower leading to fruit and seed set. Now, we are faced with a plethora of red herrings. Looking for the perfect plants for bees and other pollinators has become much harder than our grandparents could possibly have imagined. The reason for this is that plant breeding has become a competitive hobby and big business. Most ornamental plants now for sale in garden centres are modern hybrids known as cultivars. They are bred for certain traits such as dwarfing, larger blooms, different colours or double blooms. They are

propagated on a large scale by vegetative cutting, which means they are genetically identical. They have no need for pollinators, most produce no nectar or pollen and most are sterile. Of the few modern cultivars that do produce nectar, e.g. some modern lavender cultivars, their phytochemical constituents including nectar and pollen have been altered at a genetic level, and may not have the same properties as their wild forebears.

It has been observed by some beekeepers that bees prefer to visit the original wild form of *Lavandula angustifolia* than its modern cultivars. And as any medicinal herbalist will tell you: You can only use a wild plant unaltered by plant breeding as herbal medicine, because hybridising plants can sometimes create toxicity in the plant cells. Only with the original wild herbs can you trust the phytochemical effects gleaned from thousands of years of tried and tested assurance. Research also shows that bees and animals respond in a similar way as humans to phytochemicals in medicinal plants, such as those with antibiotic or antifungal properties. It is interesting to note that bees often seem to favour plants with medicinal properties.

An exception to the acceptability of cultivars for use as ideal bee forage plants is the huge array of wonderful varieties of tree fruits, such as apples, plums, gages, cherries, pears and bush fruit such as currants, raspberries and strawberries. For most of these, the seed does not always grow true to type. However, the seed is viable and sometimes reverts back to its wild form if grown. The resulting plants will also produce pollen and nectar for pollinators, who, in turn, help to produce fruit for us.

The other exception is the array of old vegetable cultivars, all of which came originally from their weedy-looking wild ancestors. The old varieties were painstakingly bred over many years by our forebears. Vegetables were pollinated out in the field and each year, from say F1 to F10, with 'F' being one generation, seed was selected only from plants with desirable characteristics. These old

varieties are known as 'heritage' or 'heirloom' varieties and they do grow true from their viable seed, which is often saved and passed on as gifts from year to year. The seed cannot be sold legally due to Defra's uniformity and licencing rules, and sadly, the high cost of these licences to growers is resulting in the disappearance of these seeds from catalogues. They are rapidly being replaced by F1 cultivars, produced in laboratories in just one plant generation. These F1s are not open-pollinated, their seed cannot be saved and, like the modern ornamental cultivars, they often either produce no pollinator reward or the pollen is unsuitable or inaccessible. Crucially, in contrast, all the old varieties of fruit and vegetables were bred with and by pollinators. The arrived at 'variety' was, and still is, open-pollinated, just like wild plants, and they produce ideal nectar and pollen rewards. It will be a very sad day for us, for bees and other pollinators if or when these wonderful old varieties disappear.

Plant open-pollinated and rare varieties

Our starting point in looking for perfect plants for our self-sustaining garden is to dismiss the artificially bred, non-insect pollinated, modern plants. Instead, we need to seek out 'open-pollinated' varieties and wild species, insect or bee-pollinated plants. These wild species are the original, stable, genetic source of all our cultivars, old and new. As they have done for millions of years, wild plants will cleverly continue to adapt and evolve to stressors such as climate or atmospheric change, develop resistance to various diseases and even develop strategies for outwitting pests. The moot point for discussion here, is that these wild plants exist as they are, only because of their symbiosis with their pollinators. Without pollinators we would lose all these wild plants. Of course, there are some wind-pollinated wild plants, notably grasses, wheat, rice and maize, but also most annuals, such as oilseed rape and sunflowers, that will benefit from bee pollination with a slightly higher yield and better 'fitness', although they will set seed without it. An annual has only one chance to set seed and if it does not set seed it will suffer species decline. The majority of plant species used as food or medicine by humans are insect, mainly bee pollinated. Without realizing it, while we have been planting sterile hybrids originating from wild plants in our gardens, their wild ancestors are being displaced in the wild and many are now threatened with extinction.

How can we choose heritage varieties?

How can we distinguish between modern F1 hybrids and old heritage varieties of vegetables when buying seed? Between wild or artificially altered plants when looking for ornamental plants? There is a code of practice in plant labelling which stems from Carl Linnaeus, the brilliant eighteenth century, Swedish botanist who thought up a system for plant classification and naming. This is now known as the international code of botanical nomenclature, and the international code for cultivated plants. And luckily for us,

“ *The way humanity manages or mismanages its nature-based assets, including pollinators, will in part define our collective future in the 21st century. The fact is that of the 100 crop species that provide 90 per cent of the world's food, over 70 are pollinated by bees...an estimated 20,000 flowering plant species, upon which many bee species depend for food, could be lost over the coming decades unless conservation efforts are stepped up.*

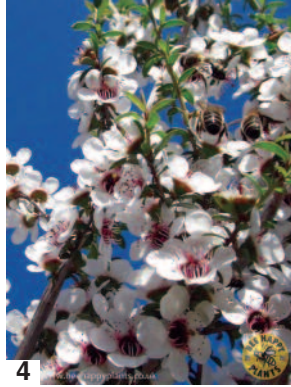
Human beings have fabricated the illusion that in the 21st century they have the technological prowess to be independent of nature. Bees underline the reality that we are more, not less dependent on nature's services in a world of close to seven billion people. ”

Achim Steiner, UN Under-Secretary-General and UNEP Executive Director



1: *Leonurus cardiaca*; 2: Broad bean heritage variety; 3: *Cichorium intybus*; 4: *Lavandula angustifolia*; 5: *Salvia officinalis*; 6: *Nepeta cataria*. All photos by Sarah Holdsworth.

horticulturists have had the good sense to adopt this practice and stick to it. When a plant or tree is labelled correctly it will bear first the genus then the species name followed, in lower case letters, either by a subspecies (subsp) or naturally evolved variety (var) without quotation marks. Labels you should avoid will bear the genus, then species name followed by a modern name written with the initial letter of the name in capitals, and quotation marks. It is this modern latter part of the name that shows it is a modern hybrid clone. This sounds at first complicated, but it is really quite simple! Here is an example of correct labelling for a wild species tree and a shrub, and some of their modern cousins: *Crataegus laevigata*. Genus is followed by species. This is a wild hawthorn tree, with good forage for bees. *Crataegus laevigata* 'Plena'. This is a double-flowered white cultivar named 'Plena'. *Crataegus laevigata* 'Paul's Scarlet'. This is a double-flowered and red cultivar. Both these cultivars have had their nectaries replaced by extra petals. They do not, therefore, produce nectar. What a shame! *Leptospermum scoparium*. This is a wild manuka species, producing copious nectar. *Leptospermum scoparium* 'Red Damask'. This is a double-flowered cultivar, which does not produce nectar.



1: *Agastache foeniculum*; 2: *Verbascum olympicum*; 3: *Echium vulgare*; 4: *Leptospermum scoparium*. All photos are by Sarah Holdsworth.

There are hundreds of small, independent growers and nurseries in the British Isles that grow a wide range of wild species plants and other old open-pollinated cultivars. When choosing plants for your bees there are basically five questions you need to ask:

- Do the flowers provide nectar or pollen or both for bees?
- Do they flower in our temperate climate? Many plants are from warmer parts of the world and although they grow, some do not flower in our lower temperatures.
- Are they either open-pollinated old varieties or original wild species? Both are ideal bee plants.
- Will the soil type and situation in my garden suit the plant?
- “Plants that provide a larger area of flowers are more attractive to honey bees. Therefore, if space is limited grow a shrub or small tree rather than an herbaceous plant. The reason being that once honey bees have found a good source of food they return to the hive and recruit other workers. Therefore, they respond better to a ‘mass’ of flowers and will often ignore a single herbaceous plant. Gardeners often do not have space to grow four or five of the same plant together, but the same ground area covered by a shrub would be attractive to them. Bumblebees and solitary bees do not get recruits by dancing, work more on their own and so will work just one plant.” Dr Mick Street

Sources of information

I have listed in the table a selection of some of the best plants that provide useable nectar and pollen for bees. There are also lists drawn up by various organisations. Notably, the BBKA has a list showing clearly many species which provide serious forage for bees, assuming of course they are original wild species unaltered by modern plant-breeding.

Make your garden ‘your own’

Once you have found the perfect plants and planted them, this will just be the start of a blooming relationship with your garden. We all develop our own style of gardening and there is plenty of available advice for those who seek it, but if there is one last tip I would offer, it is this. To garden successfully, do not think you need anything else but time and your own two hands ... okay and

certainly some good trusty tools such as forks, trowels, and a grass-cutter or scythe ... and, perhaps, some sheep to control areas of grass and weeds from growing beds. But, if you have a well-balanced garden that is in tune with nature, it will be brimming with wildlife. And what you do not need is the vast array of poisonous chemicals that manufacturers would have you believe you do need. These not only kill a target pest, but also all the other innocent insects and wildlife that would otherwise keep the target pest in check. It is a trap we can all fall into, unless we take the plunge and trust the natural world. For me, many years ago, it felt like I was taking a giant bungee jump when I finally ditched every single chemical, including soap, for aphid control. Ever since then, my garden has grown stronger and healthier, as have the plants and wildlife in it, including my bees.

I will leave you one final quotation, which shows that growing plants the organic way produce more nutritious and vital food plants—bees desperately need as many nutrients as they can get. And, as we know, plants express their nutrients in their pollen and nectar.

“... work builds on a previous study by the team—involving experts from the UK, USA, France, Italy, Switzerland and Poland—investigating the composition of organic and conventionally-grown crops.

... a study, also published in the *British Journal of Nutrition*, showed that organic crops and crop-based foods are up to 60% higher in a number of key antioxidants than conventionally-grown crops and contained less of the toxic metal cadmium.

We have shown, without doubt, there are composition differences between organic and conventional food. Taken together, the three studies on crops, meat and milk suggest that a switch to organic fruit, vegetables, meat and dairy products would provide significantly higher amounts of dietary antioxidants and omega-3 fatty acids.”

These quotes are taken from research by Professor Carlo Leifert, Professor of Ecological Agriculture at Newcastle University.

The table opposite lists a range of hardy, wild plant species or varieties that are native or well-established in the UK, but are non-invasive. The aim is to help you to select a variety of plants for your garden, whatever its size, and for your location.

Garden Plants Particularly Good for Honey Bees and Hardy in the British Isles

Wild Species and varieties, Native or Well-Established and Non-Invasive in the British Isles

Flowering times key:

Spring flowering (March, April, May) = □ Summer flowering (June, July, August) = ◆ Flowers in the 'June Gap' = ✦

Autumn flowering (September, October, November) = ● Winter flowering (December, January, February) = ❄

Spp = Species Syn = synonym

"A simple but effective guide to help all pollinators is to select plants with a single, open flower. Most of our honey comes from wild and cultivated crops between May and August, therefore gardeners should try to provide a constant nectar source, particularly earlier in spring and later in autumn when there are fewer sources available. The June gap is traditionally the first two weeks in June but it varies from year to year a little, and sometimes there is hardly any. Some plants that always used to flower in the June Gap, such as *Cotoneaster horizontalis*, now seem to flower earlier, but the Chestnuts and Sycamore are major nectar plants and so if they flowered in the June gap, there would not be one." David Packham, Seasonal Bee Inspector, Devon.

TREES-Large

<i>Aesculus hippocastanum</i>	□◆	Horse chestnut. Major Nectar + Pollen, April–May. Honey crop. Excellent for all bees.
<i>Acer campestre</i> , <i>Acer</i> spp	□	Field Maple and other spp which flower in a temperate climate. Nectar + Pollen, April–May.
<i>Acer pseudoplatanus</i>	□◆	Sycamore. Major Nectar + Pollen, April–May. Honey crop. Excellent for all bees.
<i>Alnus cordata</i>	□❄	Italian alder, for draining soil. Major pollen, February–April.
<i>Alnus glutinosa</i>	□	Common alder, for boggy soil. Major Pollen, early March.
<i>Castanea sativa</i>	◆	Sweet chestnut. Pollen, July. Major Nectar + Pollen.
<i>Catalpa bignonioides</i>	◆	Indian bean tree. Nectar + major Pollen, July–August.
<i>Liriodendron tulipifera</i>	◆✦	Tulip tree. Nectar major, June, July.
<i>Robinia pseudoacacia</i>	◆✦	False acacia. Nectar, June.
<i>Salix</i> sp	□❄	Willow, all species. Major Nectar + Pollen, February–May. Honey crop. Excellent for all bees.
<i>Sorbus intermedia</i>	□◆✦	Swedish Whitebeam. Nectar + Pollen, May–June.
<i>Sorbus aria</i>	□	Whitebeam. Nectar + Pollen, April–May.
<i>Tilia cordata</i>	◆	Small-leaved Lime. Native tree in decline. Nectar major late July. Honey source. The most resistant of the Lime species to Honeydew mould. Excellent for all bees.
(and some other <i>Tilia</i> spp)		

TREES–Medium and Small

<i>Amelanchier canadensis</i> , <i>A. lamarkii</i>	□✦	Snowy mespilus or Juneberry. Pollen, March–May. Edible fruit June.
<i>Arbutus unedo</i>	●❄	Strawberry tree. Nectar + Pollen, October–December.
<i>Caragana arborescens</i>	□	Siberian pea tree. Nectar + Pollen, April–May. Resistant to Fireblight.
<i>Cercis siliquastrum</i>	□◆✦	Judas tree. Nectar, April–June.
<i>Corylus avellana</i>	□	Hazel, Cobnut. Pollen, early March, April.
<i>Cotoneaster frigidus</i>	◆✦	Himalayan tree cotoneaster. Nectar + Pollen both major, June, July. Excellent for all bees.
<i>Crataegus monogyna</i>	□◆	Hawthorn. Nectar + Pollen, May.
<i>Crataegus laevigata</i> (and many <i>Crataegus</i> spp.)	□◆	Midland Hawthorn. Nectar + Pollen, May. Many other Hawthorn species excellent for all bees.
<i>Eucryphia glutinosa</i>	◆●	Brush bush. Major Nectar + Pollen, Aug, Sept.
<i>Halesia tetraptera</i> (syn <i>H. carolina</i>)	□	Snowdrop tree. Nectar + Pollen, May.
<i>Koeleruteria paniculata</i>	◆	Pride of India. Major Nectar, July–August.
<i>Leptospermum scoparium</i>	◆❄	Manuka. Major Nectar + Pollen, June with another flower flush in December. Medicinal
<i>Oxydendrum arboretum</i>	◆	Sorrel tree. For acid soil. Major Nectar + Pollen, July–August. Excellent for all bees.
<i>Prunus avium</i>	□	Wild cherry. Major Nectar + Pollen, March–April.
<i>Prunus padus</i>	□	Bird cherry. Major Nectar + Pollen, April–May.
<i>Ptelea trifoliata</i>	◆✦	Hop tree. Nectar, June–July.
<i>Tetradium daniellii</i> (syn <i>Euodia hupehensis</i>)	◆●	Bee tree of China. Major Nectar + Pollen, August–October.

FRUIT TREES

<i>Malus domestica</i>	□	Dessert and Culinary Apples. Nectar + Pollen, mid to late spring. All open-pollinated, hundreds of varieties. Vigorous M25 or standard trees recommended.
<i>Malus sylvestris</i>	□	Wild crab apple. Nectar + Pollen, May. Original species and used as rootstock.
<i>Mespilus germanica</i>	□◆✦	Medlar. Related to Hawthorn. Major Nectar + Pollen, May–June.
<i>Prunus avium</i>	□	Bird cherry, gean–wild form. Cultivated form–Sweet Cherry. Major Nectar + Pollen, April–May. Many varieties. Excellent for all bees.
<i>Prunus cerasifera</i> myrobalan	□	Cherry plum. Nectar + Pollen, February–April
<i>Prunus cerasus</i>	□	Acid/Sour cherry. Major Nectar + Pollen, April–May. Naturally vigorous trees. Many varieties.
<i>Prunus domestica</i>	□	Plums and Gages. Major Nectar + Pollen, April–May. All cultivars benefit from cross-pollination with other varieties.
<i>Prunus dulcis</i>	□	Sweet Almond. Nectar + Pollen, early spring. Cool climate cultivars benefit from cross-pollination.
<i>Prunus insititia</i>	□	Gages and Damsons. Nectar + Pollen, March–April. All cultivars benefit from cross-pollination with other varieties.
<i>Pyrus communis</i> var. <i>sativa</i>	□	Pear. Nectar + Pollen, April–May. Several varieties.

FRUIT BUSHES

<i>Fragaria x ananassa</i>	□◆✦	Garden strawberry. Pollen, April–July.
<i>Fragaria vesca</i>	□◆✦	Wild strawberry. Pollen, May–June. Good ground cover.
<i>Ribes nigrum</i>	□	Blackcurrant. Major Nectar + Pollen, April–May, honey crop. Excellent for all bees.
<i>Ribes rubrum</i>	□	Redcurrant, Whitecurrant. Major Nectar + Pollen, April–May. Honey crop. Excellent for all bees.
<i>Ribes uva-crispa</i>	□	Gooseberry. Major Nectar + Pollen. March–May. Honey crop. Excellent for all bees.
<i>Rubus fruticosus</i> and hybrids	□◆✦●	Blackberry and hybrid berries. Major Nectar + Pollen, May–September.
<i>Rubus idaeus</i>	◆✦	Raspberry. Major Nectar + Pollen, June–August. Honey crop. Excellent for all bees.
<i>Rubus loganobaccus</i>	◆✦	Loganberry. Major Nectar + Pollen, June–August. On a par with Raspberry. Excellent for all bees.

SHRUBS

<i>Aralia elata</i> , <i>A. spinosa</i>	◆ ●	Japanese angelica and Hercules Club. Both deciduous, Nectar major, August–September.
<i>Berberis</i> spp, <i>B. darwinii</i>	□ ◆ ◆ ◆	<i>Berberis</i> . Range of evergreen species, Nectar + Pollen, April–June.
<i>Buddleja globosa</i>	◆ ◆ ◆	Orange ball tree. Nectar, June.
<i>Callicarpa bodinieri</i>	◆	<i>Callicarpa</i> . Nectar, July.
<i>Calluna vulgaris</i>	◆ ●	Heather, Ling. Evergreen dwarf, Major Nectar + Pollen, August–September. Excellent for all bees.
<i>Ceanothus</i> spp.	□ ◆ ◆ ◆ ●	<i>Ceanothus</i> . Range of large evergreen species, Nectar + Pollen, April–November.
<i>Cephalanthus occidentalis</i>	◆	Buttonbush. Major Nectar, August.
<i>Chaenomeles</i> spp.	□ ◆ ◆ ◆	Quince. Nectar + Pollen, February–April.
<i>Cistus</i> spp.	□ ◆ ◆ ◆	Sun rose (aka Rock Rose). Range of evergreen species, some but not all hardy, Major Nectar + Pollen, May–July.
<i>Clematis cirrhosa</i>	◆	Climber. Pollen, December–February.
<i>Clematis montana</i>	□	Climber. Nectar + Pollen, April–May.
<i>Colletia hystrix</i> , <i>C. paradoxa</i>	□ ◆ ◆ ◆	Nectar, winter and spring. Has vicious spines but a good source of winter nectar.
<i>Cotoneaster</i> spp., <i>C. adpressus</i>	□ ◆	Range of evergreen species, Nectar + Pollen, May–July.
<i>C. conspicuus</i>		
<i>Cytisus scoparius</i>	□ ◆ ◆ ◆	Broom. Pollen, May–June.
<i>Daphne mezereum</i>	□	Nectar. February–March..
<i>Deutzia</i> spp.	◆	Range of deciduous species, Pollen. Summer.
<i>Erica arborea</i> , <i>E. carnea</i>	□ ◆ ◆ ◆ ◆	Winter heaths. Major nectar, winter and spring, February–April.
<i>Erica cinerea</i>	□ ◆ ◆ ◆ ◆ ●	Heaths. Bell heath often grows wild with Heather. Major Nectar + Pollen, March–September. Excellent for all bees.
<i>Escallonia macrantha</i>	◆ ◆ ◆ ◆ ●	One of the few hardy species of this genera, Nectar + Pollen, June–September.
<i>Fremontodendron californicum</i>	◆ ◆ ◆ ◆	Flannel bush. June gap.
<i>Fuchsia magellanica</i>	◆ ●	Fushia. Nectar, July–September.
<i>Hebe</i> spp., <i>H. elliptica</i>	◆	Range of evergreen species, Nectar + Pollen, July, August.
<i>Hedera helix</i>	●	Ivy. Evergreen climber. Major Nectar + Pollen, September–November. (Does NOT harm trees!) Good ground cover too.
<i>Helianthemum</i> spp., <i>H. nummularium</i>	□ ◆ ◆ ◆	Rock Rose. Small evergreen shrub, Pollen, May–July.
<i>Hydrangea petiolaris</i>	◆ ◆ ◆ ◆	Climbing hydrangea (not the ordinary garden hydrangeas), Nectar + Pollen, June–August.
<i>Hypericum calycinum</i>	◆ ◆ ◆ ◆ ●	Rose of Sharon. Major Pollen, June–September.
<i>Hyssopus officinalis</i>	◆ ◆ ◆ ◆ ●	Hyssop. Small evergreen, Nectar + Pollen, June–October.
<i>Ilex aquifolium</i>	□	Holly. Nectar, May.
<i>Kolkwitzia amabilis</i>	□ ◆ ◆ ◆	Large deciduous shrub, Nectar + Pollen, May–June.
<i>Laurus nobilis</i>	□ ◆ ◆ ◆	Bay laurel, Nectar + Pollen.
<i>Lavandula angustifolia</i>	◆ ◆ ◆ ◆	English Lavender. Major Nectar + Pollen, June–August.
<i>Ligustrum ovalifolium</i>	◆ ◆ ◆ ◆ ●	Garden privet. Major Nectar, August–September.
<i>Ligustrum vulgare</i>	◆	Wild privet. Major Nectar, July–August.
<i>Lonicera fragrantissima</i>	□ ◆ ◆ ◆ ◆	Winter-flowering Honeysuckle. Deciduous Nectar + Pollen. December–March.
<i>Mahonia aquifolium</i> , <i>M. japonica</i>	□ ◆ ◆ ◆ ◆	Large evergreen shrub, Nectar + Pollen, November–April.
<i>Perovskia atriplicifolia</i>	◆ ◆ ◆ ◆ ●	Russian sage. Major Nectar + Pollen, July–October.
<i>Philadelphus</i> spp.	◆ ◆ ◆ ◆	Mock orange. Nectar + Pollen, June gap.
<i>Prunus lusitanica</i>	◆ ◆ ◆ ◆	Portugal laurel, Nectar, June gap.
<i>Pyracantha coccinea</i>	□ ◆ ◆ ◆ ◆	Firethorn. Major Nectar + Pollen, May–June.
<i>Ribes sanguineum</i>	□	Flowering ornamental currants. Nectar + Pollen, April.
<i>Rosa</i> spp., <i>R. canina</i>	◆ ◆ ◆ ◆	Single flowered species like Dogrose. Pollen, June–July.
<i>Sarcococca confusa</i>	□ ◆ ◆ ◆ ◆	Sweet box. Evergreen. Nectar + Pollen, December–March.
<i>Symphoricarpos albus</i>	◆ ◆ ◆ ◆	Snowberry. Major Nectar + Pollen, June–August.
<i>Symphoricarpos occidentalis</i>	◆ ◆ ◆ ◆	Wolfberry. Nectar + Pollen, June–August.
<i>Symphoricarpos orbiculatus</i>	◆ ◆ ◆ ◆	Coralberry. Nectar + Pollen, June–August.
<i>Teucrium fruticans</i>	◆ ◆ ◆ ◆ ●	Tree germander. Major Nectar + Pollen, July–November.
<i>Ulex europaeus</i>	□ ◆ ◆ ◆ ◆ ◆	Gorse. Major Pollen, February–June.
<i>Viburnum lantana</i>	□	Wayfaring tree. Nectar, May.
<i>Viburnum opulus</i>	□	Guelder rose. Nectar, May.
<i>Viburnum tinus</i>	□ ◆ ◆ ◆ ◆ ◆	Laurustinus. Pollen, October–April.

PERENNIALS

<i>Achillea filipendulina</i> , <i>A. millefolium</i>	◆ ◆ ◆ ◆ ●	Fern-leaf yarrow and yarrow. Nectar + Pollen, July–September.
<i>Agastache foeniculum</i>	◆ ◆ ◆ ◆ ●	Anise hyssop. Major Nectar, June–October. Excellent for all bees.
<i>Ajuga reptans</i>	□ ◆ ◆ ◆ ◆	Bugle. Nectar + Pollen, May–July, good ground cover.
<i>Althaea officinalis</i>	◆ ◆ ◆ ◆ ●	Marshmallow. Major Pollen + some Nectar. July–September.
<i>Anchusa azurea</i>	◆ ◆ ◆ ◆ ●	Garden anchusa or Italian bugloss. Major Nectar, June–September.
<i>Anchusa officinalis</i>	◆ ◆ ◆ ◆ ●	Alkanet. Major Nectar, June–September.
<i>Anemone nemorosa</i>	□	Wood anemone. Pollen, March–May.
<i>Arabis alpina</i>	□	Alpine rock-cress. Pollen + Nectar both major, March–May.
<i>Armeria maritima</i>	□ ◆ ◆ ◆ ◆	Thrift. Major Nectar, May–July. Excellent for all bees.
<i>Aster</i> spp.	◆ ◆ ◆ ◆ ●	Michaelmas daisy. Major Nectar + Pollen, July–October. Excellent for all bees.
<i>Astrantia maxima</i> , <i>A. major</i>	◆ ◆ ◆ ◆	Masterwort. Pollen, June–August.
<i>Aubrieta deltoidea</i>	□	Major Nectar + Pollen, April–May.
<i>Campanula</i> spp.	◆ ◆ ◆ ◆ ●	Bellflowers. Major Nectar + Pollen, June–September. Excellent for all bees.
<i>Cardamine pratensis</i>	□ ◆ ◆ ◆ ◆	Cuckoo flower or Lady's smock. Nectar + Pollen, April–July.
<i>Centaurea montana</i>	◆ ◆ ◆ ◆ ●	Perennial cornflower. Major Nectar + Pollen, June–September.
<i>Centaurea nigra</i>	◆ ◆ ◆ ◆ ●	Common knapweed. Major Nectar + Pollen, source of honey in Ireland. June–September.
<i>Centaurea scabiosa</i>	◆ ◆ ◆ ◆ ●	Greater knapweed. Major Nectar + Pollen, June–September.

Mini-key
Spring □
Summer ◆
June gap ◆◆
Autumn ●
Winter ◆◆◆

Dandelion (<i>Taraxacum officinale</i>)	□♦♦♦●	Native weed deserving a place undisturbed. Major Nectar + Pollen, March–October.
<i>Dictamnus albus</i>	□♦♦♦	Burning bush. Nectar + Pollen, May–July.
<i>Echinops</i> spp.	♦♦♦	Globe thistles. Nectar + Pollen, July–August.
<i>Eryngium</i> spp.	♦♦♦	Sea-holly. Nectar + Pollen, July–August.
<i>Erysimum</i> spp.	□♦♦♦	Wallflower. Nectar + Pollen, April–June.
<i>Eupatorium cannabinum</i>	♦♦♦●	Hemp agrimony. Nectar + Pollen, July–September.
<i>Helenium</i> spp.	♦♦♦●	Sneezeweed. Major Nectar + Pollen, June–October.
<i>Gaillardia</i> spp.	♦♦♦♦	Blanket flower. Nectar + Pollen, June–September.
<i>Galega orientalis</i>	□♦♦♦	Goat's rue. Pollen, May–August.
<i>Geum</i> spp.	□♦♦♦●	Avens, various species. Pollen, May–September.
<i>Geranium phaeum</i>	□♦♦♦●	Dusky cranesbill. Nectar + Pollen, May–September.
<i>Geranium pratense</i>	□♦♦♦●	Meadow cranesbill. Nectar + Pollen, May–September.
<i>Gypsophila paniculata</i>	♦♦♦	Baby's breath. Nectar, July–August.
<i>Helleborus</i> spp.	□♦♦♦	Hellebore. Nectar+Pollen, December–March.
<i>Hypericum perforatum</i>	□♦♦♦	St John's Wort. Major Pollen, May–August.
<i>Knautia arvensis</i>	♦♦♦	Field scabious. Major Nectar + Pollen, July–August.
<i>Leonurus cardiaca</i>	♦♦♦●	Motherwort. Nectar, July–October.
<i>Lotus corniculatus</i>	♦♦♦●	Bird's-foot trefoil. Major Nectar + Pollen, June–September. Excellent for all bees.
<i>Lythrum salicaria</i>	♦♦♦♦	Purple loosestrife. Major Nectar + Pollen, June–August.
<i>Malva</i> spp., <i>M. arborea</i>	♦♦♦♦●	Lavatera species and tree mallow. Major Pollen + Nectar, June–September.
<i>Marrubium vulgare</i>	♦♦♦●	White horehound. Major Nectar, June–September. Medicinal.
<i>Monarda punctata</i>	♦♦♦●	Spotted bee balm. Nectar, July–September. Medicinal producing thymol.
<i>Nepeta cataria</i>	♦♦♦♦	Native Catnip, Catmint. Major Nectar + Pollen, June–September.
<i>Nepeta racemose</i> , <i>N. x faassenii</i>	□♦♦♦●	Garden Catmints. Major Nectar + Pollen, May–September.
<i>Onobrychis viciifolia</i>	♦♦♦♦	Sainfoin, June gap. Can be dug in after flowering for green manure.
<i>Paeonia</i> spp.	♦♦♦♦	Peony, single flowered forms. Pollen, June–July.
<i>Papaver orientale</i>	□♦♦♦●	Oriental poppy. Major Pollen, May–October.
<i>Polymonium caeruleum</i>	♦♦♦♦	Jacob's ladder. Major Nectar + Pollen. June–August.
<i>Onybrichis viciifolia</i>	□♦♦♦●	Sainfoin. Major Nectar + Pollen, May–September. Excellent for all bees.
<i>Sedum spectabile</i>	♦♦♦●	Stonecrop. Major Nectar + Pollen, July–September. Excellent for all bees.
<i>Solidago virgaurea</i>	♦♦♦●	Goldenrod, native spp. Major Nectar + Pollen, July–October. Excellent for all bees.
<i>Stachys recta</i>	♦♦♦♦	Yellow perennial woundwort. Major Nectar + Pollen, June–October. Honey crop in Europe.
<i>Succisa pratensis</i>	♦♦♦♦	Devil's bit scabious. Major Nectar + Pollen, July–August.
<i>Tanacetum vulgare</i>	♦♦♦♦	Tansy. Nectar + Pollen, July–September.
<i>Teucrium scorodonia</i>	♦♦♦●	Wood Sage. Major Nectar + Pollen, July - September.
<i>Trifolium repens</i>	□♦♦♦●	White clover. Regarded as a weed by some, this deserves to be sown with all grasses. Major Nectar + Pollen, May–October. Honey crop. Excellent for all bees.
<i>Verbena bonariensis</i> and spp.	♦♦♦●	Argentinean vervain. Nectar + Pollen, July–November.
<i>Veronica longifolia</i> and spp.	□♦♦♦●	Veronica. Major Nectar + Pollen, March–September. Excellent for all bees.

Mini-key	
Spring	□
Summer	♦
June gap	♦♦
Autumn	●
Winter	❄

BIENNIALS & ANNUALS

<i>Alcea rosea</i>	♦♦♦●	Hollyhock. Major Pollen + some Nectar, July–September.
<i>Borago officinalis</i>	□♦♦♦●	Borage. Major Nectar + Pollen, April–October. Excellent for all bees.
<i>Centaurea cyanus</i>	♦♦♦♦	Cornflower. Major Nectar + Pollen, June–August. Excellent for all bees.
<i>Cichorium intybus</i>	♦♦♦♦	Chicory. Major Nectar + Pollen, June–October, honey crop.
<i>Cosmos bipinnatus</i>	♦♦♦●	Cosmos. Nectar + Pollen, July–September.
<i>Dipsacus</i> spp.	♦♦♦♦	Teasel, all species. Major Nectar + Pollen. July–August. Excellent for all bees.
<i>Echium vulgare</i>	♦♦♦♦	Viper's bugloss. Major Nectar + Pollen, June–July. Excellent for all bees.
<i>Erigeron</i> spp.	♦♦♦♦	Fleabane. Nectar + Pollen, July–August.
<i>Eschscholzia californica</i>	♦♦♦●	Californian poppy. Pollen, July–September.
<i>Fagopyrum esculentum</i>	♦♦♦♦	Buckwheat. Major Nectar + Pollen, June–August, honey crop.
<i>Gaillardia pulchella</i>	♦♦♦♦	Annual gaillardia. Nectar + Pollen, June–September.
<i>Helianthus annuus</i>	♦♦♦●	Sunflower. Nectar + Pollen, July–October. Excellent for all bees.
<i>Hesperis matronalis</i>	□♦♦♦	Sweet rocket. Pollen, May–July.
<i>Iberis umbellata</i>	♦♦♦♦	Candytuft. Nectar + Pollen, July–August.
<i>Limnanthes douglasii</i>	♦♦♦♦	Poached egg plant. Nectar + Pollen, June–September.
<i>Lobula maritima</i>	♦♦♦♦	Sweet Alison. Nectar + Pollen, July–August.
<i>Melilotus officinalis</i> , <i>M. albus</i>	♦♦♦♦	Melilot sweet clover, yellow clover. Major Nectar + Pollen, June–September.
<i>Myosotis</i> spp.	□♦♦♦●	Forget-me-not. Nectar + Pollen (Pollen so minute much is drawn into bees' honey stomach), April–September.
<i>Nemophila menziesii</i>	♦♦♦♦	Baby-blue-eyes. Easily grown annual, Nectar + Pollen, June–October.
<i>Nigella damascena</i>	□♦♦♦●	Love-in-a-mist. Nectar + Pollen, May–September.
<i>Oenothera biennis</i> , <i>O. glazioviana</i>	♦♦♦♦	Evening primrose. Pollen, June–September.
<i>Papaver rhoeas</i>	□♦♦♦●	Common poppy. Major Pollen, May–September.
<i>Perezia multiflora</i>	♦♦♦♦	Perezia. Major Nectar + Pollen, June–July.
<i>Phacelia tanacetifolia</i>	□♦♦♦●❄	Phacelia. Major Nectar + Pollen, April–December.
<i>Reseda odorata</i>	♦♦♦♦	Mignonette. Major Nectar + Pollen, May–September.
<i>Salvia pratensis</i>	♦♦♦♦	Meadow sage. Nectar + Pollen, June–August.
<i>Salvia verbanaca</i>	♦♦♦♦	Wild sage. Nectar + Pollen, June–August.
<i>Scilla sibirica</i>	□♦♦♦	Siberian squill. Nectar. JMarch–April.
<i>Scophularia</i> spp.	♦♦♦♦	Figwort. Nectar. June–September, excellent for all bees.
<i>Solidago virgaurea</i>	♦♦♦●	Golden rod. Nectar. July–September.
<i>Trifolium dubium</i>	♦♦♦♦	Lesser trefoil. Major Nectar, June–July.
<i>Verbascum olympicum</i>	♦♦♦♦	Greek verbascum. Major Pollen, June–August.

VEGETABLES & CULINARY HERBS

<i>Allium cepa</i>	◆◆	Onion, left to flower. Major Nectar, June–August.
<i>Allium porrum</i>	◆◆	Leek, left to flower. Major Nectar, June–August.
<i>Allium schoenoprasum</i>	◆◆	Chive, left to flower. Major Nectar, June–August.
<i>Asparagus officinalis</i>	◆◆	Asparagus, left to flower. Major Nectar + Pollen June–August.
<i>Brassica</i> spp.	□◆◆	Brassica species left to flower, Nectar + Pollen, April–August.
<i>Cucurbita pepo</i> , <i>C. maxima</i>	◆◆	Marrow, courgette, pumpkin. Major Nectar + Pollen (especially large pollen grains; sought after) June–August. Excellent for all bees.
<i>Cynara cardunculus</i>	◆◆●	Cardoon. Nectar + Pollen, June–September.
<i>Cynara cardunculus</i> var <i>scolymus</i>	◆◆●	Artichokes, left to flower. Nectar + Pollen, June–September.
<i>Foeniculum vulgare</i>	◆◆	Fennel. Nectar + Pollen, June–August.
<i>Mentha spicata</i>	□◆◆●	Spearmint. Nectar + Pollen, May–October.
<i>Ocimum basilicum</i>	◆◆	Basil, flowering encouraged by not picking leaves or stems. Nectar + Pollen, July–September.
<i>Origanum vulgare</i>	◆◆●	Wild marjoram. Nectar, July–September.
<i>Phaseolus coccineus</i>	□◆◆	Runner bean. Nectar + Pollen, March–July.
<i>Raphanus</i> spp.	◆◆	Radish. Major Nectar + Pollen, June–July.
<i>Rosmarinus officinalis</i>	□◆◆	Rosemary. Nectar + Pollen, April–June.
<i>Salvia officinalis</i>	◆◆	Sage. Nectar, June–August.
<i>Satureja montana</i>	◆◆	Savory, perennial. Nectar + Pollen, June–July.
<i>Thymus polytrichus</i> , <i>T. vulgaris</i>	□◆◆	Wild and garden thyme. Nectar, May–August.
<i>Thymus</i> x <i>citriodorus</i>	□◆◆	Lemon thyme. Nectar, May–August.
<i>Vicia faba</i>	□◆◆	Broad bean. Major Nectar + Pollen, March–July.

BULBS, RHIZOMES & TUBERS

<i>Camassia</i> spp.	□◆◆	Nectar + Pollen, April–June.
<i>C. cusikii</i> , <i>C. leichtlinii</i> , <i>C. quamash</i>	□	Glory of the snow. Nectar + Pollen, March–May.
<i>Chionodoxa luciliae</i>	□	Species and cultivars all provide major Pollen. February–March.
<i>Crocus</i> spp.	◆●	Single varieties such as ‘Happy Single’ and ‘Dark Angel’ series. Nectar + Pollen, July–September.
<i>Dahlia</i> spp.	◆●	Winter aconite. Major Nectar + Pollen, January–March. Excellent to establish in vicinity of beehives.
<i>Eranthis hyemalis</i>	□◆	Crown imperial. Showy garden plant, major Nectar, March–May.
<i>Fritillaria imperialis</i>	□	Snowdrop. Pollen, February–March.
<i>Galanthus nivalis</i>	◆●	Summer hyacinth. Nectar + Pollen, August–September.
<i>Galtonia candicans</i>	◆●	Snowflake. Pollen, February–April.
<i>Leucojum vernum</i>	□◆◆	Solomon’s Seal. Nectar + Pollen, May–June.
<i>Polygonatum odoratum</i>	□◆◆	Grape hyacinth. Nectar + Pollen, March–May.
<i>Muscari</i>	□	

Mini-key

Spring □

Summer ◆

June gap ◆◆

Autumn ●

Winter ◆●

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