



Factsheet

Plants that are valuable for bees and other insect pollinators

Bees and other insect pollinators collect nectar and pollen from flowers - these are their only food, and during this process of collection, they pollinate the plants. Insects do not eat all the flowers' pollen of course - as they move from flower to flower, pollen caught on the hairy bodies of the insects is transferred from one flower to another, achieving pollination.

Thus pollinating insects and flowering plants are interdependent, and this relationship has evolved, gradually perfecting for over 100 million years. Nectar, an enticement by the flower, provides insects with carbohydrate energy, while pollen provides the protein and other nutrients that insects need to raise their next generation.

Honey bees will fly several kilometres to collect the nectar that they make into honey. They obtain significant volumes of honey - their winter food store - from massive flowerings - an avenue of lime trees, fields of white clover or oil seed rape, or a hedgerow full of bramble, willowherb or ivy.

All small areas of flowering plants, allotments and garden plants are very important too - not so much for the volumes of nectar and pollen, but for the continuity of the food supply that they provide - starting with snowdrops and ending with late flowering ivy. Colonies of honey bees need food throughout their active seasons so that they can rear young to have a population of forager bees ready and able to collect the nectar harvests whenever they become available.

Changes in farming practices mean that adequate food supplies for insects are not as common as they once were: continuous forage used to be provided by meadows that came into flower before they were cut, by verges and hedgerows, and abundant weeds. Nowadays verges and hedgerows have become highly important sources of forage for insects, as are allotments and gardens.

Different species of bees and other pollinating insects forage on different species of flowers. For example, honey bees have shorter tongues than bumblebees, and forage on a different range of plants. While foxglove and red clover are much visited by bumble bees, the relatively long shape of these flowers means that their nectar is out of reach to honey bees.

Flowering times vary regionally and from year to year, and day to day. Nectar flow is dependent on temperature: slow in cold weather, speeding up in warm weather, and stopping again in very hot weather as a plant wilts. Rain can sometimes wash nectar out of flowers, while wind may dry it out. Some shrubs and trees give nectar only in some years, a consequence of the level of the water table, day time temperatures, and the combination of all of these factors.

Links

Excellent lists of insect beneficial plants have been compiled for the UK. These include:

[RHS Perfect for Pollinators – Garden Plants \(566kB pdf\)](#)

[RHS Perfect for Pollinators – Wildflowers \(759kB pdf\)](#)

[RHS Perfect for Pollinators – Plants of the World \(722kB pdf\)](#)

Bumblebee Conservation
[Bee Kind Tool](#)

British Beekeepers Association (BBKA)
[list of trees for bees](#)

British Beekeepers Association (BBKA)
[list of shrubs for bees](#)

Jan Miller and Marc Carlton Perfect for pollinators plant list for Wales
http://www.wlgf.org/linked/pollinators_short_plantlist_for_wales_.pdf

(This list was produced by Jan Miller on behalf of the North Wales Wildlife Trust and Marc Carlton on behalf of the Wildlife Gardening Forum, at the request of the Welsh Government's Pollinator Task Force.)

Indigenous or exotic?

Native plants are probably better sources of forage for native insects. But is this true? Views differ on whether native plants alone should be planted for bees and other insect pollinators, or whether non-native species also have a place. A study into the origin preferences of invertebrates 'Plants for Bugs' is a four-year study into wildlife gardening, being undertaken at RHS Garden Wisley in Surrey, and supported by the Wildlife Gardening Forum. It is a unique study as it is the first ever designed field experiment to test whether the geographical origin ('nativeness') of plants affects the abundance and diversity of invertebrates (wildlife) they support.

References

Aston, D. and Bucknall, S. *Plants and honey bees their relationships* (2004) Northern Bee Books, UK
Contains useful lists of trees and other plants

Howes F. N.: *Plants and Beekeeping*, (1979) Faber & Faber London. This text was first published in 1945 and remains an excellent and informative guide to wild, agricultural and garden plants are useful for bees.

IBRA, *Plants for bees* (2012) IBRA UK This text is based upon Howes' original text mentioned above.

Little, M., *Plants and planting plans for a bee garden* (2012) Spring Hill Oxford. How to design beautiful borders to attract Bees.

Mountain, M. F., Day, R., Quartley, C., Goatcher, A., *Garden Plants valuable for bees* (1981) IBRA, UK

Miller-Klein, J., *Gardening for Butterflies, Bees and other Beneficial Insects* (2010) Saith Ffynnon Books, UK. An illustrated book about butterflies, wild bees, and plants to attract them.

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