

The best blooms for bumblebees

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Gardens, allotments and community gardens are vital refuges for bees and other wildlife. We know that bees need nectar and pollen, but how best to provide this in the growing spaces we manage? Gemma Foster carried out this Garden Organic members' experiment to help provide some answers for bumblebees.



Queen Early Bumblebee



Queen Garden Bumblebee



Queen Tree Bumblebee



Queen White-tailed Bumblebee

Many gardening recommendations in popular literature are based on assumption or informal observation, and are not well grounded in empirical data. Consequently, there is a lack of understanding about how best to support bee populations in gardens and allotments.

The aim of this experiment was to explore the floral preferences of the UK's most common bumblebee species, to enable recommendations for gardening. Garden Organic members monitored the UK's seven most common bumblebee species visiting survey areas in their gardens and allotments between June and September 2013. Results were submitted from 34 gardens and 4 allotments. A total of 363 surveys were carried out, and 2,625 bumblebees were recorded.

Bumblebees were observed visiting 12,105 flowers, belonging to 164 plant species. Even though a wide range of plant species were visited by bumblebees, almost half of the visits were made to only 12 plant species (see table).

Geranium pratense, borage and

lavender were visited by all seven bumblebee species surveyed, and are therefore valuable for supporting all of the common UK bumblebee species. Although geranium was the most visited plant overall, and was visited by all bumblebee species, the Red-tailed bumblebee was the only species to show an overall significant preference for this flower, and the Tree bumblebee actually showed avoidance.

Similar patterns emerged for other highly visited flowers including borage, green alkanet and lavender. This suggests that even plants that appear to be popular with a large number of bumblebee species may be avoided in preference for other plant species when they are available.

These findings emphasise the value of diverse planting schemes, and highlight a number of plant species which are particularly valuable for supporting common UK bumblebees. Further results from this experiment are available from Coventry University's website www.coventry.ac.uk/bumblebees, where you can also download a copy of the bumblebee identification guide used in this experiment.



A Buff-tailed bumblebee enjoying lavender.

The top 12 most visited flowering plant species

Plant species	% of all flower visits
Geranium (<i>Geranium pratense</i>)	10
Borage (<i>Borago officinalis</i>)	7
Green alkanet (<i>Penta sempervirens</i>)	6
Sage (<i>Salvia officinalis</i>)	5
Lavender (<i>Lavendula angustifolia</i>)	4
Runner bean (<i>Phaseolus coccineus</i>)	4
Marjoram (<i>Origanum vulgare</i>)	3
Foxglove (<i>Digitalis purpurea</i>)	3
Geranium Rozanne ('Gerwat')	3
Raspberry (<i>Rubus spp</i>)	2
Red campion (<i>Silene dioica</i>)	2
Sedum (<i>Sedum spp</i>)	2

Illustrations: Matt Hillis