



AGRII WILDLIFE INFORMATION SHEET No.2

A basic introduction to farmland bees

Farmers are increasingly being asked to provide for pollinators. This information sheet provides some basic facts that will improve both knowledge and understanding of bees and their vital role as pollinators upon which much of the world's food depends.

TYPES OF BEES

There are 4 basic types of bee in the UK:



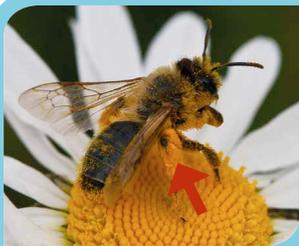
Honeybees

One species in the UK. Workers are 10-16mm long. The only bee that makes honey which is, in fact, converted nectar (sugar) and used as winter food. They live in hives making them easy to farm and transport. A single hive may contain around 15,000 individuals. Colonies continue an unbroken cycle from year to year dominated by the queen.



Bumblebees

There are 24 different species in the UK, 7 are considered common. They are larger and hairier than honeybees. Colonies live for one season, with new queens hibernating to begin a new colony in the following spring. Colonies vary from 50 to 250 individuals depending on the species. Bumblebees can be split into two groups – those living above ground (carder bees) and those living below. The colony is dominated by the queen.



Solitary bees

Over 250 different species in the UK many of which are considered common. Sizes vary from 6mm to over 18mm. The males die after mating, leaving the females of most solitary bees on their own – only having 6 weeks to build a nest, lay eggs and place pollen next to each egg. They then die leaving the young to emerge the following year. Though 'solitary', large numbers of individuals often live in close proximity.



Solitary bees (Mining & Cavity)

Solitary bees can be subdivided into mining bees (left picture) that make nests by digging shafts into bare ground or sparse vegetation, and cavity bees (right picture) that utilise a wide variety of existing cavities.



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Cuckoo bees

These don't have nests but lay eggs in the nests of bees they mimic.



Bumblebee (left) and its cuckoo (right)



Photo: M. Edwards



Solitary bee (left) and its cuckoo (right)



How do you carry your pollen?

When it comes to pollination this is a key factor.

The red arrows on the front page point to balls of wet pollen on honey and bumble but dry pollen on the solitary bee. It is estimated that wet pollen is less than 20% viable for pollination purposes while dry may be around 80% viable.

When are bees active?

Depending on the species and the weather, bees are active from mid March to September.

What flower should I plant?

Plant as many different shapes, colours and sizes as reasonably possible. This is because bees have a variety of tongue lengths and shapes. Long-tongued bees such as *Bombus hortorum* (small garden bumblebee) has a tongue that is three quarters its body length so may be 15mm long, while some of the small solitaires *Andrena minutuloides* have a very small tongue of about 1mm.

What are pollen and nectar?

Pollen is produced on the anthers (male flower organs) and is essentially protein used to build up the queen and feed the developing young. Nectar is essentially sugar and provides energy – flying fuel.

When should flowers be available?

Ideally March to September. It is difficult to buy flowers for early season (March to May) flowering, so bees are reliant on 'wild' species such as Dandelion, Wintercress, Cowslip and Primrose or tree species such as Hawthorn, Goat Willow, Blackthorn and Field Maple.

Mid and late season (June to September) flowers can be purchased as a variety of commercially available mixes.



Inside a cavity bee's nest

Showing the uneaten pollen left on infertile eggs. The cells with no pollen on them contain pupae that will hatch into adults.

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For more information on this environmental fact sheet, please speak to your Agrii agronomist or contact Marek Nowakowski on 07885 252383.

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