



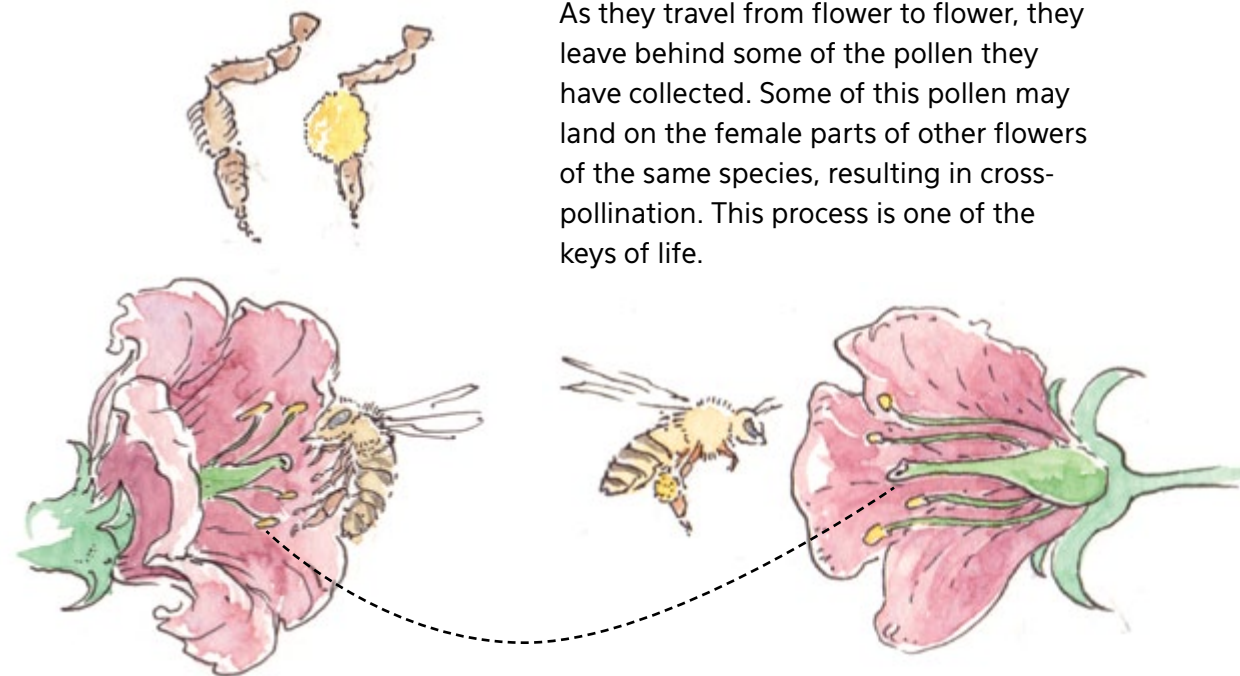
*"If the bee disappeared off the surface of the globe, then man would have only four years of life left. No more bees, no more pollination, no more plants, no more animals, no more man."*

Albert Einstein

Reading the above quote makes us realize just how important bees are. The following chapter therefore provides some ideas about how we can contribute to a more bee-friendly world.



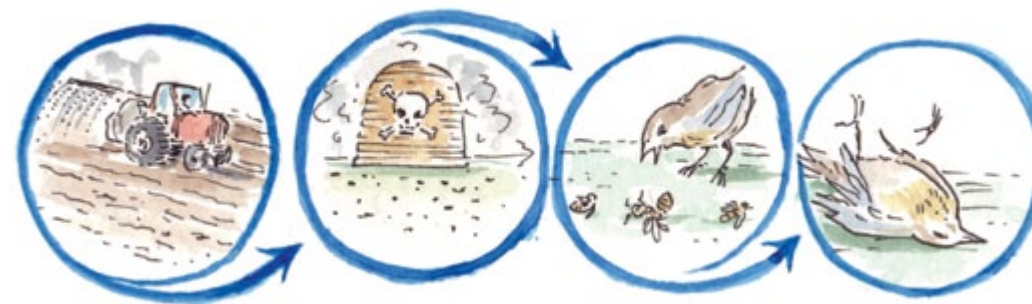
Bees feed on the pollen and nectar produced by flowers. Female bees gather pollen to feed their offspring by storing it in pollen baskets on their legs.



As they travel from flower to flower, they leave behind some of the pollen they have collected. Some of this pollen may land on the female parts of other flowers of the same species, resulting in cross-pollination. This process is one of the keys of life.

## Pesticides killing bees

Over the past few years, the increasing rate of colony-collapse disorder among the bee population has become global news. In this syndrome, the bees' nervous systems become severely damaged. This leads to them becoming disorientated and eventually dying. The birds that feed on the affected bees then get sick themselves too.



Researchers have linked the development of colony-collapse disorder to so-called 'neonicotinoid' insecticides, which are used in non-organic agriculture as pesticides.



GMO means „genetically modified organism“

The leading global supplier of neonicotinoids is a multinational company known as Monsanto. This company also produces genetically modified seeds such as 'Roundup Ready corn'. The genetic structure of this corn is modified in such a way that it contains a very powerful insecticide. Researchers suggest that when bees come into contact with the pollen from this corn it poisons them. As a result, many people are highly suspicious of Monsanto and accuse it of being responsible for colony-collapse disorder.

In 2012 Monsanto surprised the world with the news that it had bought 'Beelogsics', the world's largest bee-research company. Curious isn't it, that one of the largest producers of chemicals believed to be linked to colony-collapse disorder suddenly buys a company that had apparently wanted to save bee colonies? To many organic farmers and advocates of natural food production, it seems rather like the fox buying the chicken coop!



However, despite their known dangers, there has still been no global ban on neonicotinoids. So the fact that bee colonies are continuing to die is seen by many people as hardly surprising.

Thiacloprids are another example of a class of pesticides suspected by researchers to be dangerous to bee colonies. Developed by Bayer CropScience, their advertising claims they are 'bee-friendly'. Nevertheless, there is evidence to suggest they could potentially be toxic to bees.

Fortunately, there are plenty of online petitions you can sign to help get these types of pesticides taken off the market.



The information in this chapter has been included in the book to give you an insight into the threats faced by organic farmers and gardeners. If you are reading this and wondering how these issues affect you, keep in mind that if your neighboring farmer uses toxic pesticides your bees might be poisoned by them and wouldn't return. This would directly influence your harvest. And our options here are limited: we cannot lock our insects in the garden with fences or warn them where not to fly.



## Understanding the bee

Worldwide there are around 30,000 different species of bees. Domesticated honeybees have been used for thousands of years for honey and wax production. Beekeepers make sure they have access to large flower fields so that their colonies can grow. The more food the bees have, the more honey they produce.



red mason bee

Old World sweat bee

Carpenter bee

There are also species of bee that do not group together in colonies and instead live in small hideouts. It's a good idea to offer a nesting aid and a large variety of hiding spaces in your garden, as this will encourage all kinds of bees and insects to make their homes there.

Plant stems such as reeds or cane can be dried and bundled. Empty snail houses, hollow bricks, bamboo sticks, rotten wood, straw, pinecones and sawdust all make perfect boltholes for bees and insects. A large wooden box on sticks – placed near the compost heap in the shade of a large tree, where it can be protected from excessive moisture or heat – is perfect. Placing a few drawers in the box, with open fronts where the different substrates can be inserted, is also a good idea.

Such a box can offer a home to a large variety of helpful creatures. It will also be interesting for children as they can easily explore lots of different insects in one place and learn about their natural habitats and behaviors.



When do wasps fly out and when do they return? What do green lacewings eat and how does the wild bee build its nest? Answers to all these questions, and more, can be found by studying your box!








Gaining experience by exploring is always better than relying solely on knowledge from textbooks. And it's good to get small children into contact with a working ecosystem as early as possible, as this will give them a feel and respect for nature.



## Food plants

To keep your insects healthy we need to plant flowers and herbs. Plants from the Composite family are like magnets to insects. Examples include calendula, daisy, marguerite, yarrow, bluebottle and sunflower. Umbellifers such as carrots, fennel, dill, parsley, lovage, chervil and coriander all help support the insect's immune system.

Here are some of the most efficient bee feeding plants, which are very easy to grow:

	Family	Height	Flower	Blossoms	Sowing
<b>Abelmosk</b> 	Cotton family	8-30 inches	Smells of musk, white and pink	June to October	April
<b>Sunflower</b> 	Composite	Up to 80 inches	Green or brown inside, with yellow petals	July to October	April to July
<b>Crimson clover</b> 	Papilionaceae	8-20 inches	Bright red small flowers	June to August	March to September
<b>Calendula</b> 	Composite	Around 24 inches	Orange and yellow	June to October	April to October
<b>Bluebottle</b> 	Composite	20-35 inches	White, pink, purple and blue	June to September	March to June
<b>Field poppy</b> 	Poppy	Around 24 inches	Deep red	May to August	March to August
<b>Summer lilac</b> 	Papilionaceae	80-120 inches high and wide	Blue, purple, white	July to September	July to September