

Bees have existed for millions of years and man has used honey bees as a source of food from early times. Bees probably originated in Eastern Asia and then spread to Europe and Africa. The first known exploitation of bees by man was recorded in cave paintings in Spain some 15,000 years ago. 10,000 years later the Egyptians kept bees in hives for their honey and wax and transported them along the Nile following the flowering seasons.

Today the honeybee *Apis mellifera* is farmed by man but remains a wild outbred and non-domesticated animal unlike other farm animals. UK beekeeping is largely made up of many amateurs and a few commercial bee farmers. In 1851 Lorenzo Langstroth invented the moveable frame hive with a "bee space" to prevent combs being damaged during inspection by the beekeeper.

The importance of bees is to pollinate flowers and trees to ensure their existence in the world eco-system. The British Beekeeping Association (BBKA) administers all aspects of beekeeping through county associations of which Surrey has seven.

A honeybee colony is now defined as a superorganism, as are termites. This means the survival of a colony is determined by the sum of the bees acting as a single unit. It contains three castes, a queen, her daughters or workers and a small number of drones (male bees) during the summer months. The colony builds up in numbers in spring prior to dividing or "swarming" to make a new colony, headed by the previous years' queen, in another site.

Each hive has approximately 20 to 50 thousand bees of which about 30% are active foragers at any one time. The collected nectar is turned into honey and used as an energy source and as a fuel to produce heat in the winter. Bees do not hibernate but cluster in the hive to keep warm. Pollen collected from flowers is an important protein source for their developing young brood and for the colony. The annual cycle of the honeybee colony is thus intricately linked to the changing seasons and the environment. Bees are highly susceptible to climate change and the impact of man on their environment because they are dependent on an abundant and stable source of food plants. Bees in turn pollinate 70 of the 100 crop species that provide 90% of food worldwide.

