

## **Life cycle of a bee**

The life stages of a honey bee are egg, Pupa, and adult. Development from egg to adult takes 21 days. The length of the stages is shown in the table below:

### **Worker bee life cycle time table**

**Hatching of egg- 3 days**

**Lava stage- 5 days**

**Pupa stage- 13 days**

**total= 21 days**

### **Development stages of The Bee:**

**Egg:** The queen bees lays an egg in a cell of the honeycomb. The egg of the honey bee is cylindrical about 1.6 mm long and 0.4 mm in diameter, when 1st laid its stands vertically, on the second day it bends over, on the third day it lays on its side. On the fourth day it changes into a white legless larva.

**Larva:** The larva lies on the bottom of the cell, comprises a head, thoracic, abdominal segments, the larva eats, grows bigger, sheds its skin 5 times between hatching and emerging.

During the first three days, the larva is fed by the nurse bees on the diet of the royal jelly, a protein rich whitish milky fluid produced from the the **head glands of worker bees**. After the third day the larva is fed bee bread, **a mixture of honey and pollen prepared by worker bees**, 9 days after hatching the curled up larva is fully grown and cannot fit anymore. At this time the cell is sealed over with a porous covering of wax in pollen and starts to change into a pupa.

**Pupa:** This is the non feeding stage, during which the larva is transformed into an adult. On the tenth day, the larva spins a cocoon-protective covering for itself and becomes a pupa. During pupation, gradually the adult body structures are formed. First the head and thorax of the Pupa develops and changes colour followed by abdomen and finally the wings developed before emergence. Once the pupa has transformed into an adult. It is ready to emerge.

**Adult:** On the 21st day from the laying of the egg adult bee bites it's the way out of the the capping of the cells and emerges and the pupal envelopes remain in the cell. After she is born she will clean her cell and other cells around, a newly emerged bee is light in colour, greyish coloured, newly hatched bee remains in the hive apart from orientation flights. For about 21 days, performing various duties as the following table illustration. When it is 22

days old the bees become forager or field bees and will leave the hive to visit flowers. The lifespan of an adult worker bee varies with the time of the year when the colony is active in spring and summer worker bees may live as long as 5 to 6 weeks during the inactive period in winter a worker bee lives 5 months or more.

Lifespan of a worker bee in days after emergence.

**Period of service as house bees:**

- 1-2            Clean cell and warm the brood nest
- 3-5            Feeds older larvae with honey and pollen.
- 6-11          Feeds young larvae with royal jelly
- 12-17        Produces wax and constructs comb, ripens honey
- 18-21        Guide the hive entrance and ventilate the hive

**Period of service as field bees:**

22+ Forage for nectar, pollen, propolis and water.