Beeswax Trivia

Beeswax is produced by young worker bees between 12 and 17 days old in the form of thin scales secreted by glands on the ventral surface of the abdomen. Worker bees have eight wax-producing glands on abdominal segments 4 to 7. The size of these wax glands depends on the age of the worker. The new wax scales are initially glass-clear and colorless, becoming opaque after mastication by the worker bee. The wax of honeycomb is nearly white, but becomes progressively more yellow or brown by incorporation of pollen oils and propolis. The wax scales are about 3 mm across and 0.1 mm thick, and about 1100 are required to make a gram of wax.

Honey bees use the beeswax to build honeycomb cells in which their young are raised and honey and pollen are stored. For the wax-making bees to secrete wax, the ambient temperature in the hive has to be 33 to 36 °C (91 to 97 °F). To produce their wax, bees must consume about eight times as much honey by mass. It is estimated that bees fly 150,000 miles to yield one pound of beeswax.

When beekeepers extract the honey, they cut off the wax caps from each honeycomb cell with an uncapping knife or machine. Its color varies from nearly white to brownish, but most often a shade of yellow, depending on purity and the type of flowers gathered by the bees. Wax from the brood comb of the honey bee hive tends to be darker than wax from the honeycomb. Impurities accumulate more quickly in the brood comb. Due to the impurities, the wax has to be filtered before further use.