Products of Apiculture Industry and its Uses

Q.What is honey its composition and uses? Q.What is the composition of honey Class 6? (HintsL Honey is composed of sugar (about 76%), water (18%) and other minerals that make up about 6) **Q.Which acid is found in honey? Q.What is the composition of bee colony? Q.Why is honey important?**

The phytonutrients in honey are responsible for its antioxidant properties, as well as its antibacterial and antifungal power. They're also thought to be the reason raw honey has shown immune-boosting and anticancer benefits. Heavy processing in regular honey can destroy these valuable nutrients**.**

The chemical composition of honey varies depending upon the plant source from which nectar was collected but the following components are generally present in most types of honey (the figures are in percentage):

Moisture 17.2
Fructose 38.2
Glucose 31.3
Sucrose 1.3
Maltose 7.3
pH 3.9
Lactone 7.0
Total acids 29.0
Ash 0.17
Nitrogen 0.04
Diastase 20.8

The pH of honey is 3.2-4.5 and most of the acidity is ascribed to gluconic acid.

Minerals found in honey are: Potassium (205 ppm), chlorine (52 ppm), sulphur (58 ppm), calcium (49 ppm), sodium (18 ppm), phosphorus (35 ppm), magnesium (20 ppm), silica (22 ppm), silicon, iron (2.5 ppm), manganese (0.3 ppm) and copper (0.3 Ppm).

Vitamin contents of honey greatly differ depending upon the plant source of nectar. Vitamin A is found in small amount. Vitamin B-complex found in honey includes B2 (Riboflavin), B3 (Pantothenic acid); BS (Nicotinic acid); B6 (Pyridoxine); B9 (folic acid). Vitamin C (Ascorbic acid) that prevents scurvy is present in sufficient quantity. Other acids found in honey are: Malic, citric, succinic, lactic, tartaric, oxalic and phosphoric acid. Plant pigment Carotin gives the honey golden yellow colour and tannin makes it darker. Several antioxidants that are present in honey include chrysin, pinobanksin, vitamin C, catalase and pinocembrin.

Enzymes present in honey to metabolise sugars are: Invertase that converts sucrose to glucose and fructose; diastase (-amylase) that converts starch to dextrose; catalase that decomposes hydrogen peroxide and glucose oxidase that catalyses glucose into gluconic acid and hydrogen peroxide. The aroma of honey is due to the essential oils, terpenes and aldehydes in it. Honey has different aroma, taste, colour and composition depending on its floral source.

Q.How bee bread is formed? Q.What does bee bread contain? Q.How did bee bread get its name? Q.What is the difference between bee bread and bee pollen?

(Hints: Older female adult bees collect pollen and mix it with nectar or honey and a little saliva as they go along, then carry it back to the hive and deposit it in cells next to the developing baby bees, called larvae. This stored pollen, known as bee bread, is the colony's main source of protein.)

Bee pollen, also known as bee bread and ambrosia, is a ball or pellet of field-gathered flower pollen packed by worker honeybees, and used as the primary food source for the hive.

Bee bread is composed of proteins, vitamins and minerals and little amount carbohydrates as per the following details:

Amino Acids (per 100 parts): Arginine 4.7; histidine 1.5; isoleucine 4.7; leucine 5.6; methionine 1.7; phenylalanine 3.5; threonine 4.6; tryptophan 1.6; valine 6.0; glutamic acid9.0. Vitamins (mg per 1,000 mg): Vitamin A (carotenoids) 0.5-0.9; B1 (Thiamine) 9.2; B2 (Riboflavin) 18.5; B3 (Pantothenic acid) 200; BS (Nicotinic acid) 3-5; B6 (Pyridoxine) 5.0; Folic acid 3.5-6; Vitamin C (Ascorbic acid) 7-15; Vitamin E; Vitamin H (Biotin) and