A perusal of literature indicates that plants like *Echinops niveus*, *Symlocos paniculatus*, *Lyonia ovalifolia*, *Barleria dichotoma*, *Cardinus viminea*, *Peristrophe dicalyculata*, *Silene concidea*, *Polygala chinensis* and *Reinwardtia indica* are little known as bee forage plants. Although these plants are not major honey sources for bees, but could sustain the bee colonies during the dearth period and act as important bee pasturage.

Out of the 100 honey samples collected in the present study, 21 samples are of wild honeys and 79 samples are of domestic honeys; 50 samples are unifloral in nature while 33 samples are multifloral and 17 samples are pollenless. In all 83 pollen types are identified with 31 types as unidentified.

**USES OF HONEY**

Honey is produced in almost every country and 90% of the world's production is taken directly as honey. The remaining 10% is used in baking, confectionery, fermentation to alcoholic drinks, tobacco curing and in manufacture of pharmaceuticals and cosmetics.

In many parts of the developing countries honey is a valued food, as an occasional treat or as a standby for famine period. Frequently, it is highly priced as medicine rather than food and in some parts of world such as in Ethiopia, it is used largely for making beer (tez).
Historical Perspective

Ever since the dawn of civilization honey has been the favourite food of all ages. In Hindu mythology, Lord Vishnu was rightfully represented as bee resting in the lotus blossoms. In ancient Greece, the people considered honey as the most valuable food and gift of nature. The Greek gods were immortal because they ate Ambrosia which contained honey as one of the chief items. Hieroglyphic descriptions of the use of honey as food and as medicine on Pyramids and Obelisks - monuments of ancient Egypt bear testimony of its unique qualities. In Illiad, nine centuries before our era, Homer Sang praises of honey for its life giving properties.

Likewise, several philosophers and naturalists, wrote about their experiences on the use of honey. Pythagorus, Ovid, Democritus, Aristotle and Hippocrates believed that honey possessed peculiar properties of prolonging life and keeping the body fit.

Ancient Egyptians used honey for many eye diseases very effectively. Buddhist monks in Burma, used to immerse the dead in huge jars of honey till the funeral arrangements were completed. After the funeral, the honey was sold in the market and consumed with no ill effect. This was possible due to honey's unique antibacterial and antimycotic properties. It is attributed to a wonderful property of preserving plant, vegetables, fruits, flowers,
sap, roots and even flesh from spoilage. It is said that Alexander the Great, was kept immersed in honey to avoid decay on its way to the capital for burial, when he died during one of his campaigns.

The Hebrews held honey in great esteem as can be judged from the reference they made, "to their promised land flowering with honey and milk". On account of its supreme healing properties, and the ancients belief in its supernatural powers, the honey was regarded to possess the power to ward off the evil spirits. In the early Christian Church, milk and honey was considered to suggest consecration and, therefore, the milk and honey was placed in the mouth of newly baptized.

Recently, the above mentioned antibacterial effect of honey is attributed to inhibine substrate. When honey comes in contact with any liquid, it gets diluted. The enzyme glucose oxidase in it, reacts with the glucose to produce glucono lactone and hydrogen peroxide. Hydrogen peroxide is unstable and decomposes, but its continuous generation gives honey a bactericidal property. Because of the high density of honey, the non-spore forming organisms that cause human diseases cannot live in it, and are killed when introduced into honey.

The antimycotic property of honey arrests the growth of yeasts due to its high sugar concentration in which the organism cannot grow. For this reason a bottle of
fully ripened honey can be kept for years without any sign of fungal growth. In a royal Egyptian tomb there was found honey 3300 years old darkened and thickened by time but still pure (Garg, 1986).

**Food**

Honey was one of the man's first food and the first available sweets. It is best taken in its natural form or diluted with water (drinking water or mineral water), or eaten with bread, milk, cereals, or fruit. Honey improves the taste and increases the caloric value and digestibility of dishes. It can be used as a substitute for sugar in making jellies, stewing fruit, and making vitamin drinks and other beverages. Cakes, cookies, and biscuits made with honey have a pleasant flavour and are much more delicious, nutritious than those made with sugar. Honey jams from fruits or berries are also delicious.

Honey has a high caloric value. One kilogramme of honey contains 3,154 to 3,350 calories. By way of comparison, a litre of cow's milk yields 620 calories, a litre of skimmed milk 310 calories, a kilogramme of apples 400 calories, a kilogramme of oranges 230 calories. As compared to sugar which consists solely of carbohydrates and provides the organism with mere calories, honey provides vitamins, enzymes and other nutritious substances. In areas where calorie intake is low, the inclusion of honey in the diet will help to supply needed carbohydrates. If
basic calorie requirements are met, protein food may be used by the body as protein. If, on the other hand, a diet lacks calorie, all food including those rich in proteins, will be used first to provide needed calories (Robinson, 1980).

In Garhwal Himalaya it is used by the natives as food directly or mixed with some ingredients. The direct consumption is in breakfast, etc., where it is taken with bread. Mixed with different fruit juices like lemon, orange or mint leaf, it is taken as a drink, with milk it is used as sweetener and is relished particularly by children probably due to presence of simple sugars, minerals, vitamins and enzymes, which help in regulating the digestion.

However, some people are allergic to honey. It causes a rash, shortness of breath, vomiting and diarrhoea. They should abstain totally from honey.

**Medicine**

In Ayurvedic system of medicine great importance is given to the use of honey, as its association with many drugs is known to be Yogavahin (which enhances the property of other drugs) to improve the efficacy. In this system, it is recommended for treating lung diseases, diabetes and asthma. It is also effective in the treatment of dysentery, typhoid, jaundice, tuberculosis, constipation, urinary and nervous disorders, acute rheumatism, insanity,
vomiting, alcoholism, leprosy, fevers, bronchitis, diarrhoe and many other ailments. According to Remey Chauvin of the Institute of Bee Culture, Paris, honey can also treat permanent weight loss, haemorrhage, rickets and even cancer. The lowest incidence of cancer among occupations monitored was among beekeepers where the incidence was found to be one in 1000. During World War II, submarine crews used to drink it as a substitute for smoking. It kept them warm in cold weather and proved a better stimulant than alcohol minus the after effects.

Because of its antibacterial property, honey is very useful for dressing wounds and burns. Burns dressed immediately with honey, heal well, do not get infected and show less scarring. Besides, dressings with honey do not stick to the skin or the wound. Amputations, badly infected wounds, bed sores, skin and varicose ulcers and ragged wounds are difficult to dress, but have been successfully treated with honey.

At least 200 tons of honey in the world market are used in commercial cough mixtures and sweets. Honey and lemon juice help to relieve throat irritations. Menthol and eucalyptus oil added to honey can be used to treat coughs and colds. Cardiac patients are believed to benefit from honey as it contains easily assimilable glucose which provides energy to weakened heart muscles. Honey causes veins to expand and improves circulation.
through the coronary arteries. A daily dose of honey is found to build red blood cells by 25 to 30 percent and raise the haemoglobin level of diseased patients by 15 percent.

Honey is a good laxative. It is also used to treat ailments of the digestive tract, like gastritis, gastric ulcer and hyper acidity. In treating ulcers, it has a dual effect. The local effect is that it helps the gastric mucosa surface to heal, while the general effect tones up the nervous system. This is extremely important, as gastric and duodenal ulcers develop when the receptors of these organs cease to function normally. For treating ulcers, honey diluted in warm, boiled water should be taken 90 minutes to two hours before meals and three hours afterwards. In this form it dilutes the mucus in the stomach and lowers acidity (Garg, 1986).

Since ancient times, honey has been an effective remedy for eye diseases, especially burns and inflammation.

In this belt of Himalaya, the use of honey in folk medicine is prevalent. The natives use honey as a medicine itself or a carrier for a number of medicines, particularly used in cough, cold and other general ailments of children. Administering few grams honey as such is considered beneficial in cough of children. Mixed with ginger juice it is a reputed medicine for pulmonary afflictions. In the common ailments of children, the
diarrhoea, honey (approximately 5 gm) in 200 ml of barley water is considered as astringent. In the deficiency of calcium amongst children, honey substitutes the sugar requirements. Taking honey with lemon juice and water is considered as tonic. It is considered good for digestion if 10-20 gm of honey is taken prior to going to bed.

In the wounds due to cut or burn, the application of honey is useful. Its instant application on burns prevent the deterioration of wounds and accelerates healing. Application of few drops of honey in eyes in the night is believed to be good. In cataract honey with some water is administered. It is applied on hair mixed with lemon juice. For diabetic patients it is a gifted item in place of sugar. Mixed with black pepper and ginger it is taken in cough. Just taking 15-20 gm of honey with warm water is considered good for cough. Honey taken with hot milk is regarded effective in constipation. Mixed with corn-flour it is applied on the body in chopped skin.

Religious ceremonies

Honey has an honoured place in various religions of the world. It is necessary at religious rituals and is also given as the first feed to the new-born for its purifications. Jews use it in preparing special cakes during certain religious festivals. Catholics prepare meal from honey for a similar purpose. The Quaran has a special chapter on honey and its uses.
**Industrial Uses**

Honey has long been recognised as a natural cosmetic. It is an ingredient of many skin foods. An effective honey lotion can be prepared by blending one tablespoon of sweet almond oil and two tablespoons of strained honey.

Besides these, large quantities of honey are used for making alcoholic drinks, mead and wine, for stimulating milk yield of dairy cows, increasing the stamina of race horses; fattening steers, poultry and fish; curing smoking pipe bowls and as an ingredient of cigarette and chewing tobacco to improve its flavour or texture and to keep it moist. Chewing gum owes its sweet taste to honey. It has been used in shock absorbers of the cars and as the centre of golf balls. In the laboratory, honey has been found to stimulate plant growth and helps the rooting of cuttings. It prevents eggs put in cold storage from becoming gummy. Honey also plays an important role in preparation of bacterial cultures and in the inoculation of seeds of clovers, etc.

**Bees Wax**

Bees wax is an important byproduct of the beekeeping industry. It is produced from honeycombs, old combs, cappings, collected during the extraction of honey and odd bits of burr and brace combs. The output of beeswax in modern honey extraction techniques is not much as honey combs are not crushed but are used repeatedly.