**HONEY**

by Michael Halm

Honey is that sweet, high energy food made from plants by the honeybee and certain other insects. Men and bears have known of the secret of the bees for thousands of years. A perfectly preserved jar of honey has been found in an Egyptian tomb that is over three thousand years old.

The reputation of honey is proverbial. Proverbs 24:13 advises, "Eat honey, my son, because it is good and the honeycomb, most sweet to the throat." The Romans considered honey mixed with coriander tobe a cure for childbirth fever. During the Middle Ages honey combined with a yellow garden slug was said to cure warts.

In more recent times honey has been used to treat wounds and radiation sickness because of its mild antiseptic properties. The Egyptians used honey in their embalming because of its ability to inhibit the growth of mold and bacteria.

Other enzymes supplied by the bees change the sucrose, C12H21O11, from nectar into the more easily digested sugars fructose (or levulose), C6H12O5 and glucose (or dextrose), C6H12O7, by a process called inversion. An average sample of honey contains about forty percent fructose, thirty-four percent glucose, two percent sucrose and eighteen percent water. Unlike other sources however honey contains nutritional value in the form of vitamin C and the B vitamins, amino acids and minerals such as copper, calcium, iron, sodium and potassium. It wasn't until cane sugar was produced from Persia in the Middle Ages that any refined sugar was used.

Man is not the only species to have domesticated animals in the production of honey. The cornfield ant keeps herds of wing-clipped aphids which make honey from certain plants. The especially evolved honey storing repletes of the yellow-brown honey ant are considered a delicacy in Mexico.

Mexico leads the world in honey production, followed by Argentina, Australia and the U. S. West Germany is the largest importer of honey. World honey amounts to some four hundred fifty thousand tons per year from some thirty-one million bee colonies. Of the hundred ten thousand tons of U. S. honey per year, Florida, California, Minnesota and S. Dakota account for more than one-third.

It takes the nectar from about two and a half million flowers to make one pound of honey. The most common source for honey is clover, either alsike, sweet or white. Alfalfa is also a major source.

In the eastern U. S. however there is the darker, tarter buckwheat honey and in the South honey may come from tupelo, mesquite, sourwood, gallberry, California white sage or orange blossom. The nectar source of any honey can be found by studying the pollen content under a microscope.

Honey is usually free of harmful chemicals since affected bees tend not to return to the hive. Like any sugar however it can cause dental caries. Proverbs 25:16 has this warning about honey, "If thou hast found honey, eat what is sufficient for thee, lest being glutted therewith thou vomit it up."

Another caution is that the same hygroscopic properties which help honey keep baked goods soft and moist also make fermentation likely upon exposure to air. Since the Sixth Century and the discovery of mead however some have not considered this such a bad thing.

After it is made by the bees man can leave it there for what is called comb honey. It can be heated to destroy the yeasts and then strained and cooled to make liquid honey. Between 10o C and 18o C (50o F to 64o F) honey naturally forms crystals. If it is heated and then homogenized to produce a suspension of uniform small crystals it is called creamed honey. If combined with butter a spread called honey butter is made.