

Chemical Composition of Beekeeping Products, Use in Medicine and Importance in National Economy

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Annotation: This article provides information on the chemical composition of beekeeping products, their use in the field of medicine in the prevention and treatment of diseases, and their importance in the national economy.

Keywords: bactericide, pathogen. diphtheria, intestinal bacilli, streptococcus, staphylococcus, dextrin substances, apitherapy, apitoxin, propolis, epilepsy, anemia.

Relevance of the topic. Today, more than 20,000 beekeeping entities are operating in our country. There are 1.1 million bee families in the above beekeeping farms, more than 300,000 packages of bees were exported in 2021, and more than 1 million queen bees were grown in local beekeeping breeding farms.

For information, it should be said that more than 25,000 tons of honey are produced in our country per year. Including 10% of mountain honey, 50-55% of cotton honey, 30% of desert honey (yantok, akkurai, frankincense, korovak, licorice) and 5-10% of honey from different flowers.

Mountain honey, cotton honey in June-August, and desert honey in June-September are grown in our republic.

Honey is a product collected and processed by bees from flowers, and is characterized by its pleasant taste, beauty and healing properties. In addition, it is recognized by scientists from all over the world that the honey product has bactericidal properties, it can prevent the development of many pathogenic microorganisms (intestinal bacilli, streptococci, staphylococci, diphtheria, and cholera) and has a positive effect on human health, overcoming many diseases, especially women. and is widely used in folk medicine with its beneficial properties for the male reproductive system.

Honey, or worker bees, is a sweet liquid produced by processing nectar from the flowers of plants. Bees store honey in their hive cells as food for themselves. Honey differs from nectar in its composition. More than 80% of the honey product is carbohydrates, i.e. glucose, fructose, 0.4% ash, 13-20% water, calcium, sodium, potassium and trace elements from minerals, malic-citric acids from organic acids, vitamins (V2, V6, RR, C, E, K) have been found. The composition of honey is very complex, and it has been determined by scientists in scientific studies that it contains 42 different types of sugar. All honey contains glucose and fructose, as well as sucrose, maltose and other carbohydrates in some types of honey. According to the chemical properties of honey, fructose, glucose, maltose and other carbohydrates are considered permanent sugars in honey. Glucose is 31-38% in honey. Glucose hardens faster than other sugars, and fructose makes up 38-43% of honey. Fructose hardens more slowly than glucose and attracts moisture.

Dextrin substances, that is, complex sugars (carbohydrates-polysaccharides), are found in small amounts in flower honey. But in padv honey they are several times more. Dextrin substances give viscosity to honey and prevent it from crystallizing too quickly.

The smell of the plant flower collected by the honey bees passes through the juice into the honey. Different types of honey have been found to contain up to 120 odorants. These odorants include alcohols, aldehydes, ketones, acids and ethers, and organic acid alcohols.

Poisonous honey – in some cases, bees produce honey that is found to contain poisonous properties when consumed. Andromedotoxin, rhodotoxin, genangin, smoke, melitoxin, as well as the pollen of some plants

such as belladonna and bangidevona (boar's comb) are also found in the juices collected from the flowers of rhododendron, azalea, marsh flower, common biryuchina and cherimitsa plants. The flower sap of this plant is poisonous to humans but not to bees. After consuming 2-3 spoons or 20 to 100 grams of such honey, 15-20 minutes later, cold sweat, headache, dizziness, vomiting, diarrhea, or bruising occur, it makes breathing difficult, and the heart beat slows down, numbness in the limbs. vein tightening is observed, and the next day the body condition improves and the person begins to feel better. This type of honey has been used for treatment in folk medicine since ancient times. Currently, it is used in medicine for the treatment of diseases such as radiculitis, gout, bronchial asthma, dilation of blood vessels and improvement of metabolism, as well as in the preparation of apikazone, apizatron, virapin and khakozo drugs.

Honey is collected from the flowers of the honey plant. Honey collected is called monofloral (that is, collected from the same plant flower) and polyfloral (that is, collected from several different plant flowers).

Bees collect monofloral honey from the flower of the same plant, for example, from individual plants such as buckwheat, linden, sunflower, cotton, alfalfa.

Polyfloral honey is collected by bees from the flowers of several different plants at the same time, that is, from the flowers of various plants growing in forest, mountain, desert zones, and valleys.

In addition to these, bees collect black honey. Black honey is collected from the leaves of deciduous trees (including linden, oak) and the droppings of other insects.

Treatment with bee venom, i.e. apitherapy, has been used in folk medicine since ancient times.

Apitherapy does not have the slightest negative effect if the norm is not forgotten

About 50 microelements and a small amount of bee venom serve for the health of the body during a bee sting. In this case, bee venom occurs due to the acceleration of blood circulation in the blood vessels of the human body due to the expansion of small blood vessels. Bee venom has a complex effect, which depends on the number of bee stings, the amount of venom and the places where the bee stings, and the sensitivity of the human body to bee venom. That's right, a bee sting only hurts for 30 seconds. Of course, this is an unpleasant process. Therefore, in order not to feel this pain, a special treatment is used by the specialist. Bee sting treatment also has its own subtleties. First of all, when treated in this way, the patient must be under the supervision of a specialist. First, the sensitivity of the patient's body to bee venom is checked. For this, 1 bee stings and the needle is removed after 10 minutes. If the symptoms of allergy do not appear in 10-15 minutes, after that you can start treatment with bee stings. After a bee sting, the patient's blood circulation and sleep improves, pain decreases, and blood pressure decreases. Scientists have proven that bee venom contains substances that strengthen and regenerate the bone system.

The course of treatment is on average 10-11 days.

The following diseases can be cured by bee stings:

- ❖ Anemia;
- ❖ Skin diseases;
- ❖ Gastrointestinal tract;
- ❖ Dental diseases;
- ❖ Liver diseases;
- ❖ arthritis and osteochondrosis;
- ❖ headache;
- ❖ peripheral nervous system diseases (back pain, facial nerve paralysis, polyneuritis, intercostal neuritis, neuralgia);
- ❖ hernia;
- ❖ migraine;
- ❖ vascular diseases (endoarthritis, thrombophlebitis, atherosclerosis);
- ❖ depression and sleep disorders;
- ❖ ear and nose and throat diseases
- ❖ Epilepsy – It is recommended to use various bee products for the treatment of various diseases. For example: for pathologies caused by staphylococci or streptococci, linden honey, a family of plants belonging to the shrub or shrub family, is recommended.

Who is not recommended apitherapy?

- ❖ pregnant women;

- ❖ acute period of liver and stomach diseases;
- ❖ sepsis - when there is pus in the blood;
- ❖ mental illnesses;
- ❖ those who are allergic to honey and bees;
- ❖ cancer patients;
- ❖ those suffering from infectious diseases.

Departments of apitherapy

- ❖ Apitoxin therapy (use of bee venom)
- ❖ Honey therapy
- ❖ Propolis therapy (use of balms, tablets, tinctures and solutions made from propolis)
- ❖ Apilacteria (use of mother bee's milk)
- ❖ Wax treatment (beeswax treatment)
- ❖ Advanced apilaktherapy
- ❖ Complex apitherapy

How to properly treat with honey?

Honey is used as a main or auxiliary tool for the treatment of many pathologies. Research shows that sweet honey can reduce inflammation, restore strength and power, increase immunity, etc. The main diseases that can be treated with honey include:

The importance of honey in the national economy

It is used in the honey-confectionery industry, in bread-making enterprises to keep bread from freezing, to regulate humidity, in the wine-making and tobacco industries. Due to the presence of a large number of useful vitamins and minerals in the medical beekeeping product, it can be used in the field of cosmetology.

Conclusion

Based on the above information, the use of honey and beekeeping products in agriculture, medicine, public economy, industry and apetherapy is of great importance.

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