

Food supplementation with bee products

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Since the beginning of the human race, man has been searching for mineral, phytogenic and animal products in the surroundings which could help him stay healthy or to recover. Reports of the use of bee products for skin-care or for therapeutic usage appeared early in our history. Honey was already used in ancient times as an all-healing remedy. HIPPOCRATES (460 – 375 B.C.) recommended honey as a cure-all for a variety of conditions. The Roman historian PLINIUS (23 – 79 A.D.) reported on the effect and medicinal uses of propolis in his *naturalis historia*. Therapists in the whole world have engaged themselves with the profitable use of bee's products in medicine since this time. The school which is engaged with this is called apitherapy (medical science dealing with bee-products). In the ex-UdSSR and Rumania especially, the known effects of the natural products have been scientifically studied. This has lead to a large number of extensive publications which are available on this theme.

Active ingredients from the “apiarian (bees’)-pharmacy”

Honey

Honey is probably one of the oldest healing substances in the world. Even in the times of the hunters and gatherers, wild honey was collected and used for sweetening and preserving. It may also have been at this time that the wound-healing effects of honey for external application were known. It is certain though, that the Egyptians knew of the antibacterial, disinfecting and preserving characteristics of honey, as they mixed it into the balm which they used to mummify the pharaos.

For use in the household, honey has proved its value for feverish colds. It can also be used for troubled sleep (somnia). Apitherapy knows of many other indications for the use of honey, e.g. for the treatment of illnesses of the nervous system, the heart, the digestive system, the kidneys and much more. In addition to this, honey's improvement in resorption should be mentioned. Active ingredients from teas and tablets develop their effect quicker if they are taken together with honey.

Pollen

Flower pollen are used in traditional Indian folk medicine as a food supplement, in the sense of an additional nourishing substance as well as for preventing illnesses. The North American Indians collected bees' pollen regularly from the

bees' hives or fished it off the top of still waters. This pollen was used as energy food for the long marches through regions in which there were no edibles. Recent analysis supports the experiences of the Indians in respect to the enormously high nutritional value of pollen. Bee pollen contains all the essential elements needed by the human body. From these 22 chemical elements, enzymes, hormones, amino acids and other essential compounds are produced. Scientists of the Bonny-laboratories in Geneva found the following substances in pollen:

Vitamins: (Provitamin A, B₁, B₂, B₃, B₆-Group, pantothenic acid, biotin, B₁₂, folic acid, choline, inositol, vitamins C, D, E, K, rutin)

Minerals: (calcium, phosphorus, potassium, sulphur, sodium, chlorine, magnesium, iron, manganese, copper, iodine, zinc, silicon, molybdenum, boron and titanium)

Enzymes and Co-Enzymes:

(amylase, diastase, saccharase, pectase, phosphatase, lactate dehydrogenase, lyasen, oxireduktase, transferase, hydrolase, isomerase etc.)

Proteins/Amino acids:

isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine, histidine, arginine, glutamic acid, hydroxyproline, proline, serine, etc.)

Hormones: many steroid hormones, gonadotropic hormones

Other substances:

nucleic acids, flavonoids, terpenes and much more

As you can see, the whole spectrum of orthomolecular substances is contained in pollen.

The form of the pollen is very important so that the body can release the grains of pollen. Otherwise the so-called exine, the outer hard shell of the pollen-grain, cannot be broken down. This hard shell is the reason why the pollen grains can live thousands of years in a dry situation.

In the literature there are many uses given for bee's pollen. Time and time it is described as assisting the body in its restorative, detoxifying and immune-strengthening effects. There are also reports of an improvement of the erythrocyte (red blood cell) count and functional improvements of the liver. Many therapists have reported on success in the treatment of hay-fever. They

gave their patients blossom-pollen in winter. It is important to be careful though, as for highly allergic patients it can lead to an anaphylactic shock (allergic shock). Pollen is also not advisable for diabetics or patients suffering from hyperacidity.

Propolis

Bees produce the so-called propolis in laborious work. They collect the resin (cutin) from the bud scales of trees. On arrival at the hive, a second bee takes over the collected wax from the collector bee and adds beeswax, pollen oil, and bee saliva to it for further processing. After intensive chewing, the final propolis product eventuates. Propolis is used by the bees everywhere where it is important to protect the hive and the offspring from infection, sepsis and fungal growth. The bees cover the entrance to the hive with a thick layer of propolis as a so-called decontamination sluice. The name is also derived from the word Propolis which, translated, means as much as *in front of the town*.

As was mentioned at the start of the article, mankind has used the disinfecting, preserving and antibiotic properties of propolis for his own use. Propolis was used to mummify the pharaohs but also for surgery and dental procedures. Seeds were made lasting with propolis and valuable wood protected by it. Trials at the microbiological section of the University of Hannover, carried out at the national institute for bees science found an astoundingly strong virustatic property of propolis as well as the known properties. From the aforementioned, we have the following uses for products containing this substance: respiratory conditions, mouth and throat conditions, skin complaints and to support the immune system. Propolis can be used for external and internal use. It can be counted upon that 1-3% of users will suffer from an allergic reaction. When choosing a product, it is important to use a homogenized propolis extract, as it can otherwise come to strong deviations in the content of flavonoids which can affect the therapeutic results greatly.

Royal jelly

Royal jelly is the queen bee's food. Only the queen bee is fed exclusively on royal jelly for the whole of her life, whilst the worker bees are fed for the first three days after their birth. In the larva stage, the worker bees as well as the queen bee receive royal jelly. The drone larva get an extra portion. Feeding the larva with royal jelly leads to a 3000-fold increase in weight in only five days! The queen bee who receives the royal jelly her whole life, not only lays the incredible number of 2000 – 3000 eggs per day, but in relationship to the worker bees who have a life expectancy of 4-6 weeks, will live for 5-6 years.

The nurse bees prepare the royal jelly in that they eat massive quantities of pollen. This stimulates their glands to produce the feeding jelly. Apart from containing a high content of nutrients, carbohydrates and lipids, many essential amino acids (alanine, lysine, arginine, phenylalanine, aspartic acid, proline,

serine, cystine, glutamic acid, valine, threonine, leucine, tyrosine, isoleucine, taurine, glycine), many hormones, enzymes, co-enzymes and vitamins (vitamins B₁, B₂, B₃, B₅, B₁₂, H, A, C, D, E), as well as mineral substances and trace elements (potassium, calcium, phosphorus, copper, iron, silicon).

Due to royal jelly's excellent antibacterial and antifungal properties, it is easy to preserve. When it is frozen at -18°C it is stable for many years. Only the taste of royal jelly needs getting used to. At pH 2, it is always combined with other bee products to improve the taste.

Uses for the product

Due to the high nutritional value, royal jelly in combination with other bees' products such as blossom pollen, propolis and honey leads to a valuable dietary supplement for all stress situations and in the convalescing period after an illness. Women in their menopause profit from the effect, but aging men also feel the additional elan that this bee product gives them. It is no doubt probable that many who regularly take royal jelly hope to profit from the life-prolonging effect just like the queen bee. Beyond this, studies have shown cholesterol and blood-pressure reducing effects. It also helps in erythropoiesis. In Rumania it is a proven influenza medication. It is also included in many cosmetic products, as royal jelly apart from containing pantothenic acid, also has many vitamins and hormones, active ingredients which result in a visible improvement in the skin structure.

Apart from highly allergic patients, whose use of royal jelly can lead to an allergic shock reaction, most consumers profit from the use of the products from the bees'-pharmacy. Some doctors have even been able to help patients allergic to pollen and reducing their symptoms significantly by prescribing them the consumption of royal jelly in winter.

Summary

Even in ancient times, the healing effect of the different bee products was known about. Other cultures too, for example the North American Indians, knew of the healing effects of bees' products. There is a reason why the apiarist count to those who grow old with remaining good health.

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