Superfoods Fact Sheet
Propolis

What is Propolis?

Closely connected to myrrh, which features in the Bible, and was highly prized, propolis is a kind of resin which bees gather from tree buds and bark. It is highly antiseptic and antibacterial, as well as being antifungal, and enable bees to keep the hive free from disease. They also use it to line the cells of the honeycomb, and to seal it up.

It is effectively a natural antibiotic, and unlike penicillin, it will not provoke a bad reaction in someone – although as with all bee products someone who has an allergic reaction to pollens should be careful in how they take it!

It has long been used as a natural remedy and rich in flavonoids which are thought to account for its wound healing benefits. It also contains constituents that increase cell membrane permeability and inhibit cell motility, so at a time when antibiotics are beginning to fail it has the potential to be very useful to humans.

Hundred of chemical properties have been identified in propolis, but these differ from hive to hive, reflecting the different environments the propolis is collected from, as well as the time of day it is collected. Because of factors like this it is almost impossible to synthesize, showing us once again that we have a long way to go before we can reasonably mimic Mother Nature!

Because of this there is limited research being done on it. However, there has been some so we can look at this and also folk medicine to see how it has been used down through the ages.

At elevated temperatures propolis is soft, sticky and pliable, typically becoming liquid at 60 - 70°C. When frozen, or near freezing, it becomes hard and brittle.

A colony of bees will collect anywhere from 150 – 200 g of propolis in one year to help protect the hive.

History and Traditional Uses of Propolis

We have records of propolis use going back to the Ancient Egyptians and Assyrians. The Assyrians used it for wound healing and tumours, and we have scenes of propolis-making bees on vases and other Ancient Egyptian ornaments, and it was from bees that the Egyptians learned how to use propolis to embalm mummies.
The ancient Jews considered it a therapeutic medicine, which is mentioned in the Bible, and Greek authors, including Hippocrates, tell of its use in perfume as well as medicine, and how to use it for abscesses.

The Roman used it extensively and thought highly of it. During the Middle Ages, we have few manuscripts that mention it, but by the 17th Century it reappears once again, and is, in fact, listed as an official ‘drug’ in the London pharmacopoeias of this time.

In traditional folk medicine it was used extensively, and still plays a major role in the herbal medicine of Eastern Europe.

**Health Benefits of Propolis**

Research shows that propolis is a strong antioxidant, as well as having an anti-inflammatory effect, acting as a natural antibiotic, helps blood sugar, is protective to the liver and kidneys against toxicity, has good wound healing properties and there is also a body evidence accruing that it may help cancer.

**Anti-Microbial, Anti-Fungal, Anti-Viral**

Studies have shown that propolis helps to both heal and prevent infections\(^1\). It has been used to prevent infection of burns\(^2\) and is effective taken as a gargle or spray for sores, sore throats etc. it can be used against canker sore and other mouth ulcers.

**Cancer**

There are a series of studies on animals which would seem to suggest, according to Dr Seema Patel of the San Diego State University, that propolis could be efficacious against the following cancers:

- Brain
- Head and neck
- Pancreatic
- Kidney and bladder
- Skin
- Prostate
- Breast
- Colon
- Liver
- Blood

The various compounds in propolis were found to help:

- Prevent the growth of new blood vessels to feed cancer cells (anti-angiogenesis)
- Prevent the spread or metastasis of cancer from one organ to another
- Halt cancer cell division
- Induce apoptosis or programmed cell death

Propolis also showed benefit in mitigating the side effects or toxicity of chemotherapy drugs used in the treatment of cancer.

**Prevent Dental Cavities**

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Propolis was widely used by Greek and Roman physicians to treat mouth sores and abscesses and as a mouth disinfectant, and modern studies are backing up this use, showing that extracts of bee glue limit bacterial plaque and reduce tooth decay\(^3\) as well as help to regenerate dental pulp, as well as bone tissue and cartilage. Preliminary studies also show that the anti-septic, anti-bacterial properties of propolis may help to eliminate parasites. In one study, against the parasite *Giardiasis* those who took propolis were shown to have at 52-60% success rate in ridding themselves of it.\(^4\)

**Genital Herpes**

A study published in *Phytomedicine* on people suffering from genital herpes have shown that applying propolis several times a day for a period of time outperformed a common drug treatment\(^5\).

**Warts**

Propolis can be added to the list of folk cures for common warts, as studies have shown that applying it achieved a cure rate of between 73 – 75%!\(^6\)

**Nutritional Value**

Containing as many as 300 active compounds there is a long list of health benefits that are offered by propolis. Nutritionally bee propolis is a rich source of minerals, amino acids, fats, vitamins C and E, provitamin A and B complex, as well as being extraordinarily rich in bioflavonoids and amino acids. All of these will not only have an immune-boosting effect but will help to strengthen and mend blood vessels and capillaries.

As has been stated, the exact composition and health benefits of propolis vary according to the location and trees that have visited by the bees.

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\(^6\) Zedan H, Hofny ER. "Propolis as an alternative treatment for cutaneous warts." *Int J Dermatol*. 2009. Department of Dermatology, Venereology and Andrology, Faculty of Medicine, Assiut University, Assiut, Egypt.
How To Use Propolis
One of the best ways to get hold of propolis is from a local bee keeper! You will also find it contained within the ‘capping’ of honeycomb which is a mix of pollen, beeswax and propolis.

It can be bought as tinctures or extracts which may be more convenient for many to use, and these are often mixed into other formulation and into creams and ointments, as well as toothpaste and mouth washes.

Always remember, if you have an allergy to pollen or to bee stings, to be careful about how you use these products.