



## **Bee Propolis**

Beesfordevelopment.org and lbra.org.uk

### **What is Propolis?**

Propolis is a waxy resin that comes from the buds of some trees and the bark of others; mainly from Conifers, Poplars, and Evergreens. Using their pollen baskets, bees bring it to their hives and blend it with wax flakes secreted from special glands on their abdomens. Bees use propolis to line the area where the queen lays her eggs. Propolis has antiseptic properties which protect her eggs from invading bacteria. Propolis is used to seal up any cracks or gaps where micro-organisms could flourish. It also can waterproof the nesting area.

### **From the Tree to the Hive**

The bee bites off scraps of plant resin with her mandibles and packs them into the corbiculae (pollen baskets) on her hind legs. Each corbicula can carry about 10 mg of propolis. Because of its stickiness, propolis gathering is a slow business: it can take an hour to fill both baskets. Back at the hive, unloading can take another hour. Propolis is only collected when the temperature is above 18°C. Sometimes bees collect man-made materials and use these in the same way as 'real' propolis. For example bees will collect drying paints, road tar or varnish. Presumably to bees these substances have a consistency and strong odour similar to plant resins.

*Apis cerana* is one honeybee species that apparently does not use propolis. Different races of *Apis mellifera* use propolis to different extents; the Caucasian race is a particularly enthusiastic collector.

### **Ingredients**

It is not possible to define propolis any more than it is possible to define honey: it all depends what is available to the bees. In general, propolis consists of resins, waxes, volatile oils and pollen, also vitamins, minerals and plant chemicals like flavonoids. The problem for people marketing propolis commercially is to obtain a standardised product. The elements of propolis vary according to its source. It can be golden brown, brownish green, reddish brown, or blackish brown. The main chemical classes found in propolis are flavonoids, phenolics and terpenes. The flavonoids include quercetin, apigenin, galangin, kaempferol, luteolin, pinocembrin, pinostrobin and pinobanksin.

### **The Benefits of Propolis**

Research shows that propolis offers antiseptic, antibiotic, antibacterial, antifungal, and even antiviral properties.

More specifically, studies have shown that propolis:

- Supports and strengthens the immune system
- If regularly taken, provides escape from winter colds and sore throats. Those who take propolis also seem to develop a natural immunity to common viruses including various strains of flu.
- May have influence over HIV-1, cancer, infection of the urinary tract, swelling of the throat, gout, open wounds, sinus congestion, bronchitis, gastritis, diseases of the ears, periodontal disease, intestinal infections, ulcers, eczema eruptions, pneumonia, arthritis, lung disease, stomach virus, headaches, Parkinson's disease, bile infections, sclerosis, circulation deficiencies, warts, conjunctivitis, arthritis, and hoarseness.
- Regulates hormones
- Topical use can prevent infection, affect genital herpes, oral surgery, and vaginal infections.

- Is comparable to silver sulfadiazine in treating second-degree burns. Burns treated with propolis become less inflamed, and heal faster.
- Can relieve sore throats and toothaches
- Is less likely to produce allergic side effects than prescription drugs.

### **The Advantages of Using Propolis Instead of Chemical Antibiotics**

When prescription antibiotics are taken one condition after another, invading bacteria get “smarter” and the drugs eventually becomes less effective. Chemical antibiotics destroy all bacteria in the body, both the friendly, (necessary flora required for healthy functioning in the entire gastrointestinal tract) and the bad intestinal flora. Propolis is a natural antibiotic, and works against harmful bacteria without destroying the friendly bacteria the body needs. Propolis has also been proven effective against strains of bacteria that resist chemical antibiotics.

### **Who Can Use Propolis?**

Propolis may be used by everyone, sick or healthy, as a means of protection against microorganisms. It can be taken regularly, or for specific health conditions. Users should avoid getting in or around eyes. Repeated use may make users prone to developing allergies. Pregnant women and nursing mothers should avoid using propolis supplements. Propolis may contain impurities such as pesticide residues or traces of environmental pollution. Propolis may cause asthma attacks in individuals who have asthma. It may also provoke allergy symptoms in individuals who are allergic to evergreen resin or plant pollens. The only side effects known to be associated with propolis are irritations of the skin or mucous membranes where it is applied.

### **Ways to Use and Sell Propolis**

It can be taken as a daily supplement in liquid or pill form. It can be put into throat lozenges, throat spray, mouth rinse, toothpaste, cold sore balm, soap, healing ointment, varnish for violins, and is present in honey. 1997 world price is around 10 US\$ per kg.

### **Harvesting Propolis**

Place a perforated grid in the hive. This is similar to a queen excluder but with smaller slots - not more than 6 mm. The bees will seal up the slots with propolis. Take out the grid and put it in a freezer. When cold enough, flexing the sheet will cause the propolis pieces to drop out. Netting made from polyethylene yarn can also be used for collection. Flexing the net in a similar matter will also cause the propolis pieces to fall. The films or membranes may not be entirely of propolis. There may be a mixture of beeswax in the grid or net. It might be possible to harvest 50 g per hive per season using this method.

### **When do bees bring more propolis and when is its property the best?**

Bees bring propolis to the hive from April to September. The highest quality is harvested in June-July. Do not take more than 100gr from the hive or it will effect the bees and quality of the honey.