

Those OTHER Bee Products

1. Wax
2. Propolis
3. Honey as Medicine
4. Royal Jelly
5. Pollen

1. Wax: Beeswax is a natural wax produced in the bee hive of honey bees of the genus *Apis*. Worker bees (the females) have eight wax-producing mirror glands on the inner sides of the sternites (the ventral shield or plate of each segment of the body) on abdominal segments 4 to 7. The size of these wax glands depends on the age of the worker and after daily flights begin these glands gradually atrophy. The new wax scales are initially glass-clear and colorless (see illustration), becoming opaque after mastication by the worker bee. The wax of honeycomb is nearly white, but becomes progressively more yellow or brown by incorporation of pollen oils and propolis. Typically, for a honey bee keeper, 10 pounds of honey yields 1 pound of wax.

Brush Mountain Bee Farm buys clean wax. They pay \$1.95 for light colored wax, \$1.85 for medium and \$1.60 for dark.

Cleaning Wax: Use a large pot and lots of water, the more water the better. Place the wax in the water and heat to boiling. Use a strainer to go through the melted wax and strain out dead bees and other trash. Much of the dirt will settle to the bottom, and the water-soluble things (like honey) will dissolve in the water. Let cool. Remove the cake of wax from the pot. Repeat if necessary with clean water. You will then have a cake of clean beeswax, which can be remelted in a double boiler and poured into molds or made into candles, etc.

Uses of Beeswax:

- In beekeeping (foundation)
- For candle making (Preferred by churches)
- For metal castings and modelling ("lost wax" method)
- In cosmetics (in creams and lotions, lipsticks, etc.)
- Food processing (protect containers against acids and rusting)
- Industrial technology (anti-corrosive in electrical and electronic apps.)
- Textiles (Batik)
- Varnishes and polishes
- Art Printmaking (Acid resist)
- Medicine (Coating for drugs or pills = timed release)

Market value of Beeswax: Brushy Mountain Bee Farm buys clean wax. They pay \$1.95 for light colored wax, \$1.85 for medium and \$1.60 for dark.

2. Propolis: Propolis is a resinous mixture that honey bees collect from tree buds, sap flows, or other botanical sources. It is used as a sealant for unwanted open spaces in the hive. Propolis is used for small gaps (approximately 6 millimeters (0.2 in) or less), while larger spaces are usually filled with beeswax. Its color varies depending on its botanical source, the

temperature. At lower temperatures it becomes hard and very brittle.

Uses of Propolis:

In cosmetics

In medicine: General medicinal uses of propolis include treatment of the cardiovascular and blood systems (anaemia), respiratory apparatus (for various infections), dental care, dermatology (tissue regeneration, ulcers, eczema, wound healing - particularly burn wounds, mycosis, mucous membrane infections and lesions), cancer treatment, immune system support and improvement, digestive tracts (ulcers and infections), liver protection and support and many others

As an antimicrobial (antibacterial, antifungal and antiviral)

As an emollient (treats burns)

As an immunomodulator (supports the immune system)

As a dental anti-plaque agent (kills harmful bacteria in the mouth)

As an anti-tumor growth agent

Traditional use (Healing properties known in ancient times)

Food technology (preservative in food packing material)

Commercial (in varnishes, adhesive; for musical instruments, bow strings,

For tuning drums) It was used by Antonio Stradavari to finish his violins, and may have contributed to their excellent sound.

Preparation of Propolis Extract: Use a ratio of approximately 1:1 propolis and pure grain alcohol (Everclear). Place in a glass container with a tight-fitting lid. Place in a 200 degree oven or in a simmering pot of water. Shake every 20 minutes until dissolved. Strain while hot through a coffee filter or several layers of cheese cloth. Bottle and cap. This extract is excellent for fever blisters, mouth ulcers (canker sores), gingivitis, or any soreness in the mouth. It is alcohol based and will sting a bit, but worth the pain.

Market value of propolis: \$7-12 per pound, depending on cleanliness. (Beehive Botanicals)

3. Honey as Medicine:

Antimicrobial (for wounds and infections)

Osmotic pressure

methyglyoxal (a compound contained in honey that is antibiotic, especially high in Manuka honey)

hydrogen peroxide production (formed slowly and continuously)

Cough medicine

Vermifuge (mixed with water and vinegar)

Honey and Apple Cider Vinegar Beverage

8 Oz. Water-warm enough to dissolve honey

1 to 2 teaspoons Honey

1 to 2 teaspoons Organic Apple Cider Vinegar

Mix Honey and vinegar and drink each night before going to bed. Adjust the amount of honey and vinegar for comfort and taste. (Cont'd)...

This Tasty Honey and Cider Beverage:

- * Reacts with Uric Acid in bones to give Pain Relief, esp. arthritis
- * Improves Circulation
- * Relaxes Nervous System * Relieves Stress
- * Promotes Deep Sleep * Prevents Insomnia
- * Relieves Arthritis

Honey Cough Syrup

Mix equal parts of honey, lemon juice and whiskey. Take by teaspoonfuls.

4. Royal Jelly: Royal jelly is a honey bee secretion that is used in the nutrition of larvae, as well as adult queens. It is secreted from the hypopharyngeal glands in the heads of worker bees, and fed to all larvae in the colony. When worker bees decide to make a new queen, either because the old one is weakening, or is missing, they choose several small larvae and feed them with copious amounts of royal jelly in specially constructed queen cells. This type of feeding triggers the development of queen morphology, including the fully developed ovaries needed to lay eggs.

Uses of Royal Jelly:

- Stimulant and tonic
- Immune system support, esp. Grave's Disease
- Stimulate growth of brain cells
- Antibiotic
- Anti-inflammatory
- Increase tumors
- Increase fertility
- Cosmetics
- Grafting queen cells

Collecting Royal Jelly: Royal jelly is collected from the queen cells on the third or fourth day for the highest yield. A well-managed hive can produce about 500g (a little over a pound) of royal jelly in a 5-6 month season. Royal jelly is highly perishable and must be refrigerated or frozen immediately.

Market Value: No known source of domestic royal jelly.

5. Pollen: Pollen is a fine to coarse powder containing the microgametophytes of seed plants, which produce the male gametes (sperm cells). Pollen grains have a hard coat that protects the sperm cells during the process of their movement between the stamens to the pistil of flowering plants or from the male cone to the female cone of coniferous plants. When pollen lands on a compatible pistil of flowering plants, it germinates and produces a pollen tube that transfers the sperm to the ovule of a receptive ovary. The individual pollen grains are small enough to require magnification to see detail.

Uses of Pollen:

As food (7-35% protein)((benefits food conversion, promotes growth)

As medicine (treat prostate problems, prevent or treat allergies, protect against harm from X-rays)

In cosmetics (rejuvenate and nourish skin)

For pollution monitoring (pollen tested for metals, heavy metals and radioactivity reflect the levels of pollution in the environment)

Market Value: \$5.60 for domestic (US) pollen, must meet specifications and be tested free of chloramthenicol, in 800-900lb. lots (Beehive Botanicals)

Additional Recipes:

Wood finish: Mix equal parts by volume of boiled linseed oil, beeswax and turpentine, with heating; brush on while warm. Buff with a soft cloth.

Furniture polish: Mix equal parts by volume of beeswax and turpentine; you may add some essential oil of your choice, such as lavender, orange or lemon. Pour onto a soft cloth and use to polish wood furniture. This may also be tinted with pigments to refresh old finishes.

Ointment: 1/4 cup olive oil

3 tablespoons grated beeswax

Warm together in a double boiler until the wax melts. Pour into small jars with tight-fitting lids. The olive oil may be infused with herbs, or essential oils may be added to the liquid before cooling. Makes about five 1oz. jars.

Lip Balm: 1/4 cup olive oil

4-5 Tablespoons grated beeswax

Warm together in a double boiler until the wax melts. Prepare lip balm tubes by placing a couple of drops of essential oil into each one. Pour the liquid into the tubes. The lip balm will "sink" as it cools; reheat the leftover to completely fill the tube. Makes about 11 tubes, 0.15 oz. each.