

# Under-Appreciated Products of the Hive

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# Propolis

What Is Propolis?

How Do Our Bees Harvest It?

Why Do Our Bees Need It?

What Do Our Bees Do With It?

How Do Humans Harvest It?

How Do We Prepare It For Our Use?

What Do We Do With It?

# Propolis

## What Exactly IS Propolis?

- Derived from Greek: Pro = “in front of”      Polis = “city”  
Provides a barrier to pathogens from entering the hive



- Contains  
resins  
essential oil  
vegetal balsams  
wax  
pollen

# Propolis

## How Do Bees Harvest It?

- Bees collect resin from buds of trees— alder, beech, birch, conifers, elm - and some flower buds.



Photo from Harun Yahya [m.harunyahya.com](http://m.harunyahya.com)



# Propolis

## How Do Our Bees Harvest It?

- Place on corbicula (pollen basket)
- Mix with wax and chew it with mandibles when placing in hive



Bees pilfer propolis from equipment!

# Propolis

## Why Do Our Bees Need It?

### ➤ #1 Defense against pathogens in hive

Propolis is well known to inhibit growth of bacteria, fungus, and mold

### ➤ Close up gaps in hive

### ➤ Believed (not definitive) that bees polish empty cells with propolis.

### ➤ Propolis provides moisture barrier during rains

### ➤ Defense against pathogens of intruders too large to remove from hive



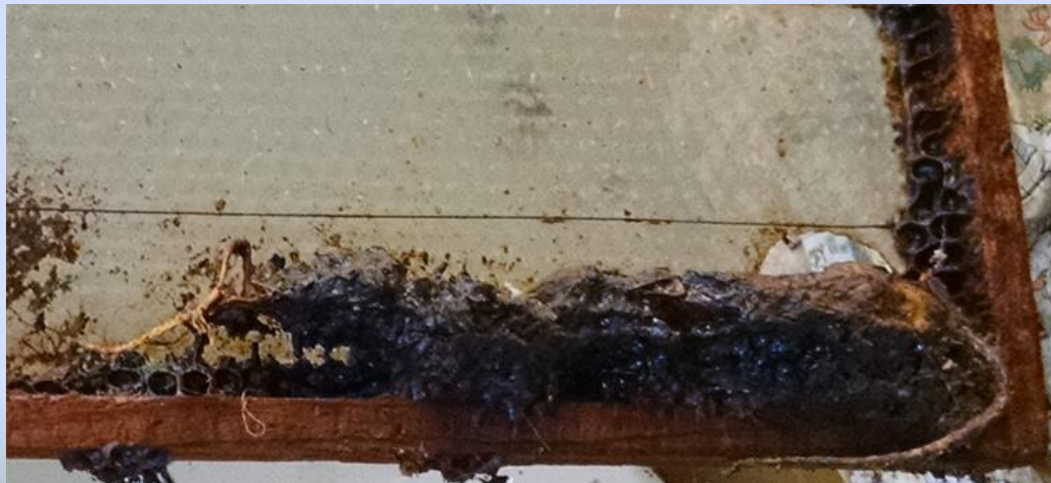
# Propolis



Lining, reducing entrance where bees walk

Lining entire tree hive with propolis

# Propolis

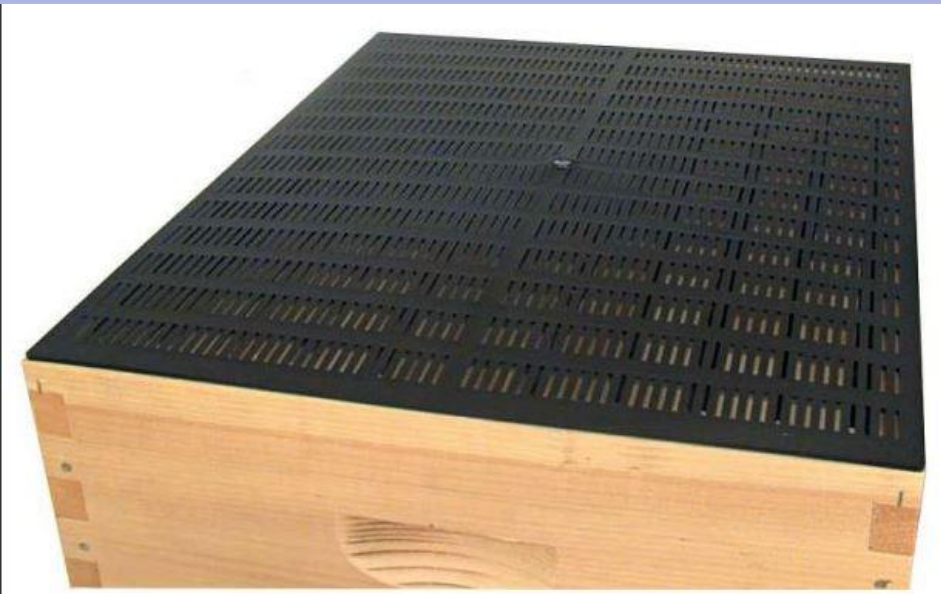


Mice entombed in propolis inside hive.



# Propolis

## How Do Humans Harvest It?



Propolis Trap

# Propolis



Clean It From Hive

# Propolis

## How Do We Prepare It For Our Use?



Extract In Everclear for at least 2 months



# Propolis



Strain through a filter  
eg. Remay cloth



The “leavings”

# Propolis



Clean propolis in ethyl alcohol



Ethyl alcohol evaporated off

# Propolis

## What To Do With “Left Overs”





# Propolis

## Preparation of solution of Propolis in Alcohol



Def: Percent solution of solid in liquid calculation:  
grams solid per 100 ml liquid

# Propolis

Container is Weighed Before and After



Net weight of propolis = 0.855 oz (24.24 g)

# Propolis

For 20% solution: (20 gm dried propolis per 100 ml alcohol)

I ended up with 0.855 oz propolis and want to make a 20% solution

$$1 \text{ oz} = 28.35 \text{ gm}$$

$$0.855 \text{ oz} \times 28.35 = 24.24 \text{ gm}$$

Divide 24.24 amount by **0.20** to get the amount of alcohol to add back.

$$(24.24 \text{ gm} / 0.20) = 121.2 \text{ ml}$$

$$1 \text{ ml} = 0.067628 \text{ Tbsp.}$$

$$121.2 \text{ ml} = 8.2 \text{ T (roughly } 1/2 \text{ cup)}$$

For 50% solution: (50 gm dried propolis per 100 ml alcohol)

I ended up with 0.855 oz propolis and want to make a 50% solution

$$1 \text{ oz} = 28.35 \text{ gm}$$

$$0.855 \text{ oz} \times 28.35 = 24.24 \text{ gm}$$

$$(24.24 \text{ gm} / 0.50) = 48.48 \text{ ml}$$

$$1 \text{ ml} = 0.067628 \text{ Tbsp.}$$

$$48.48 \text{ ml} = 3.28 \text{ T}$$



# Propolis

## Uses for humans

- 1) In toothpaste
- 2) Tincture for sore throat
- 3) Wound dressing (antiseptic)
- 4) Additive to lotion, soap, salve, lip balm
- 5) Additive to chewing gum
- 6) Was in violin varnish of Guanari and maybe Stradavarius violins

# Propolis



# Propolis

For lotions and salves I use 20% propolis in Everclear

Of the total weight of the oil mixture I use 3% of this propolis tincture by weight



Blend Oils in “Double “Boiler  
Heat Water in Warm Water Bath



# Propolis

Propolis will precipitate out if mixture is too cool



Blend Oils While Hot    Add the Warm Water As You Blend the Oils

# Propolis



Cool in Cold Water Bath When Well Blended  
Then Stir with Spatula Until “Ice Cream”

# Propolis



Zero The Weight Of Container  
Scoop Lotion Into Container



Final Product

# Cut Comb Honey



Shallow frame with “starter wax”



Nicely filled comb after  
frozen for 48 hrs



# Cut Comb



Comb cut and draining



Open cells are imperfect!

# Cut Comb

## Cut Comb Honey in Square Tub





# Chunk Honey

## Make Chunk Honey with Cut Comb



Sized for jars



Chunks of comb honey placed in warm jars

# Chunk Honey

## Chunk Honey in Jars



“Chevron” goes up



No open cells or pollen cells



# Comb Honey

## On Line Information on Preparing Comb Honey

Virginia Webb

<https://www.youtube.com/watch?v=4SEFcUjiKtA>

# Salad Bowl Oil

## One Recipe for Wood Oil – Non Toxic



1.5 cups (355 ml) mineral oil  
2.5 ounces (71 g) beeswax

# Salad Bowl Oil



Add mineral oil and stir

Melt beeswax over double boiler

# Salad Bowl Oil



After 1 minute of stirring



After 2 minutes of stirring



# Salad Bowl Oil



Cooling in jars



Done!

# Salad Bowl Oil



30 year old walnut bowl seasoned with a product of the hive!!

# Food!

Brood used as food in developing countries

Bakuti (**Bakutig**)

Nepalese bee brood dish



Larvae in strainer for Bakuti



Larvae frying in oil

# The End



**Bon Appétit !!**