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Honey & Bee Product Recipes



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November 2007
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Honey & Bee Product Recipes

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Honey & Bee Product Recipes

A. Introduction

This guide to recipes for honey and bee products aims to help honey producers and those in the sector transform their honey and products such as wax, into more products.

Many thanks to all contributors, named alongside the recipes they provided, who contributed as part of the SNV/FAO Training the Trainers in Improved Honey Processing Workshop in Bamenda in October 2007. Acknowledgements are also due to the websites of the UK Beekeepers Association, Bees Aboard and the US Honey Board for recipes.

Enjoy!

Verina Ingram, Senior Adviser
SNV Highlands

Measurements

1 CUP = 250 ml ½ cup = 125 ml 1/3 cup = 80 ml 1/4 cup = 40 ml
2 tomato tins = 1 cup

Storing honey

Honey contains moisture and has acids that make it corrosive and contains bacteria that if it comes into contact with water, may start fermenting. Cleanliness and hygienic storage is absolutely necessary to prevent honey fermenting or growing “bad” bacteria that could cause stomach problems and illness! So, always store in clean plastic or glass, not in steel (ie tin cans) or aluminium containers.

B. Foods

1. Sweetener and sugar substitute

Honey can be used as a natural substitute for sugar in most recipes but as it is sweeter than sugar, less is needed. Cooking with honey differs from cooking with sugar. Replacing sugar with honey in baking will result in cakes that remain moist for longer. Honey is hygroscopic, which means it absorbs moisture and as almost one fifth of honey is water, the liquid content of a recipe should be reduced by the same amount. As honey tastes ‘sweeter’ than sugar does, the general advice is to use one quantity of honey to replace one-and-one-quarter quantities of sugar.

2. Meat

When used in a marinade, honey will help tenderise meat and while it is cooking, the honey gives a distinctive flavour to food as it caramelises.

Spicy Lime and Honey Marinade

Preparation time less than 30 mins

Cooking time 30 mins to 1 hour

Ingredients

Chickens

Pinch salt

½ cup 125ml/4½fl oz lemon juice

1 clove garlic, crushed (alternatively if you are serving this for adults, use 5 garlic cloves)

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2 limes, juice only
1 tsp Tabasco sauce
1 tbsp clear honey
1 tsp ground coriander
1 tbsp chopped
1/3 cup / 90g honey
lemon wedges (to serve)

Directions

Mix together all of the above ingredients.

Preheat the oven to 200C/400F/Gas 6.

Place the chicken wings in a baking dish, sprinkle with the salt then roast for 30 minutes.

Place the lemon juice, garlic and honey in a small bowl and stir until the honey has dissolved.

Pour over the chicken wings and stir until well coated.

Cook for another 20 minutes. Serve with lemon wedges.

3. Cakes & Biscuits

Criss-Cross Peanut & Honey Biscuits

Preparation time less than 30 mins Cooking time 10 mins

Ingredients

1 cup honey
1 cup margarine
1 teaspoon vanilla
1 cup peanut butter
2 eggs, beaten
3 cups flour, sieved
2 teaspoon bicarbonate of soda (baking soda)
1/é teaspoon salt

Directions

Cream margarine, honey, eggs and vanilla together. Stir in the peanut butter; sift the flour, salt and soda. Stir creamed mixture into dry ingredients. With a spoon, drop mixture onto an ungreased baking sheet with a spoon; press mixture with back of a fork to make criss-crosses. Bake in oven 180C/350F for 10 minutes till a golden brown.

Joan MIFANG, Bamenda

Honey Cake

Preparation time less than 30 mins Cooking time 30 mins to 1 hour

Ingredients

½ cup honey
½ cup butter
1/3 cup sugar
2 eggs, beaten
1 cup flour, sieved
water

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For the icing:

1/4 cup icing sugar

1 tbsp honey

hot water

Directions

1. Preheat oven to 180C/350F/Gas 3 and butter and line the bottom of a 7in/18cm cake tin.

2. Measure the honey, butter and sugar into a large pan. Add a tablespoon of water and heat gently until melted.

3. Remove from the heat and mix in the eggs and flour.

4. Spoon into the cake tin and bake for 40-45 minutes until the cake is springy to the touch and shrinking slightly from the sides of the tin.

5. Cool slightly in the tin before turning out onto a wire rack.

6. While the cake is still warm, make the icing by mixing the sugar and honey together with 2-3 teaspoons of hot water. Trickle over the cake.

Spicy Honey Cake

Ingredients

3	Tablespoons butter or margarine, softened
1	cup honey
2	eggs, separated
1-1/2	cups flour, divided
3/4	teaspoon baking powder
3/4	teaspoon bicarbonate of soda (baking soda)
Pinch	Sweet herbs eg lemon grass
Pinch	salt
1/2	cup peanuts

Directions

In large bowl, cream butter; gradually beat in honey until smooth and creamy. Add yolks, one at a time, mixing well after each addition. Reserve 2 Tablespoons flour; combine remaining flour with baking powder, baking soda, salt and spices. Add dry ingredients to honey mixture, about 1/3 cup at a time, mixing after each addition. Combine peanuts with reserved flour; toss until each piece is coated with flour. Fold mixture into batter. Beat egg whites until stiff peaks form. Stir 1/4 of mixture into batter; fold in remaining egg whites. Grease and line 8-1/2 x 4-1/2 x 3-inch loaf pan with parchment paper; grease surface of paper. Pour batter into pan. Bake at 300°F about 1-1/2 hours or until wooden pick inserted near center comes out clean. Let stand on baking rack 5 minutes. Remove cake from pan, remove paper and cool on rack.

Note: 1/4 cup raisins may be substituted for currants.

Tips

Flavor improves after 1 to 2 days. Wrap cake in aluminum foil or airtight container and store at room temperature.

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Sweet Banana Bread

- Makes 1 loaf -

Ingredients

¾	cup honey
1/3	cup butter or margarine
1	teaspoon vanilla
2	eggs
1 1/2	cup flour
½	cup oats
1	teaspoon bicarbonate of soda (baking powder)
Pinch	Salt
1	teaspoon ground nutmeg or grated/ground lemon peel (bark)
1	cup mashed ripe banana
½	cup ground groundnuts

Directions

Cream honey and butter in large bowl with electric mixer until fluffy. Beat in vanilla. Add eggs, one at a time, beating well after each addition. Combine dry ingredients in small bowl; add to honey mixture alternately with bananas, blending well. Stir in walnuts. Spoon batter into greased and floured 9x5x3-inch loaf pan.

Bake in preheated 325°F oven 50 to 55 minutes or until a wooden toothpick inserted near center comes out clean. Cool in pan on a wire rack 15 minutes. Remove from pan; cool completely on a wire rack.

4. Drinks

Coffee

Coffee sweetened with honey is considered a very good settler for mild stomach upsets.

BOBEEFAG Mead

Ingredients

1.5 litres honey (the type you use will affect the flavour, mild flavoured is best)

1 tablespoon wine yeast./baking yeast or a cup fresh palm wine (wine yeast is best, but difficult to obtain in Cameroon)

4 litres rain or clean fresh (boiled) water

Equipment

Tablespoon

10 litre plastic container with well sealing, preferably screw down lid - or bottles with fermentation locks

Bleach

Boiling water

Honey & Bee Product Recipes

Directions

Note:

Wine needs VERY clean equipment- otherwise it will go mouldy or sour. Make sure you sterilise all your containers and spoons before using do this with boiling water and a small amount (1 teaspoon) of bleach.

1. Sterilise plastic container and spoons/sticks for stirring
2. Boil water and let cool, pour into plastic container
3. Warm honey – but do not boil!, to kill any “bad” bacteria – and let cool
4. add honey to the water and stir well
5. add yeast or palm wine
6. Stir well
7. Fermentation will start in the next 8 hours: bubbles and froth will appear and gas (carbon dioxide) will build up in the container or come out of the fermentation lock. Store the wine in the container with the lid sealed (the empty area of the container is enough so that gas will build up but not explode). Store in a warm room, out of the sun.
8. Fermentation will be completed within 6 to 8 weeks, given at a temperature of 70-80^of. Once fermentation (the bubbles of gas coming out of the fermentation lock or collecting in the big bucket/barrel) is completed, store in a cool place, raised off the floor, for the sediment to settle. You can then either decant with a pipe or pour gently to get the mead off from the sediment.
9. Bottle when there is no more fermentation and the yeast and sediment has settled. Siphon or pour (using sterilised equipment) into sterilised, clean sealed bottles e.g. glass wine bottles or plastic e.g. soft drink, for up to 5 years.
10. The longer the wine is kept, the better the flavour and higher alcohol content. From 3-5 days alcohol is approx up to 3%, after 1-3 weeks up to 5% (equivalent to strength of beer), up to 2 months, when fermentation has stopped 5 up to 14% (equivalent to strength of wine).

Bobefag sells its bottled wines as 1500 CFA for 65cl wine bottle and 750 CFA.

William Llonga, Bobefag

Madam Julie's Honey Drink

This is a delicious refreshing non-alcoholic honey drink. Make sure containers are sterilised first with hot water. Otherwise you will get mould.

Makes 7 litres drink

Ingredients

About 2 litres honey combs or chaffs (broken combs)

5 litres water

Directions

Combine honey combs and water and let it rest for 3 days. Then boil slightly and keep for 3 days in a closed container. Drain off the combs and cool in a fridge.

Serve cool!

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Honey Wine (Mead)

This is a delicious alcoholic honey drink.

Ingredients

4.5kg Dark Honey

25 litres water

1 spoon Yeast (if possible wine yeast)

Make sure containers are sterilised first with hot water. Otherwise you will get mould on the wine

Directions

Mix honey in very hot water to sterilize. Make up to 25 litres with water and Vanilla. When temperature is 30 deg C, add yeast and ferment to dryness. Add clearing agent and bottle. Let sit for at least 12 month for a good taste, better after 2 years.

Sweet Mead

Ingredients:

1.5 kg raw unfiltered honey,

Yeast - 1 spoon

Water 5 litres

Juice 2 lemons

Directions

Dissolve honey in two quarts water. Boil for 15 minutes skimming white gunk. Add rest of water to make 5 litres. Add in yeast when is at room temperature. Leave in warm place (not too cold or else will take long time, or too hot as will kill yeast) to ferment, main fermentation will take 3-7 days. Fermentation will slow over next 4-8 weeks. Bottle when the wine has settled and is clear and no longer fermenting. Leave to age as long as you can. The three year old stuff is magnificent.

Ntop (Corn beer or Palm wine & honey)

This is an alcoholic drink is traditionally produced in Donga Mantung and Bui divisions. It relies on the natural sugars and yeast found in palm wine or corn. It is fermented “openly” and after finishing fermentation or when exposed to the air, goes sour within 3 to 5 days if not sealed (i.e. in soft drink bottles) and regularly “de-gassed”.

Ingredients:

10 litres mimbo/raffia palm wine or osha (corn beer)

1 litre extracted honey or on combs

10 litre fresh water

Equipment

20 l container with lid

Directions

Mix 2 litres of water with honey. Put on a fire to warm gently and simmer for 5 minutes. Leave to cool down. Pour into rest of palm wine and stir or shake vigorously. Then add the remaining 8 litres. Put into a 20 litre container and stir. Fermentation will start in 1 hour. Can drink after 2-3 hours. After 24 hours is stronger. Usually lasts 3 to 5 days until goes sour.

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Energy Drink

Ingredients

150ml (1/4 pint) orange juice
150ml (1/4 pint) natural yoghurt
30ml (2tbsp) clear honey

Directions

Place all the ingredients in a liquidizer and blend until smooth. Pour into two tall glasses.

Banana Honey Smoothie

Ingredients

1-1/2	cups milk
2	Medium ripe bananas
1	cup yogurt
1/4	cup honey

Directions

In a blender, combine all ingredients except ice cubes and blend until smooth. Add up to 5 ice cubes, one at a time, and blend until smooth.

Ginger Mango Smoothie

- Makes 4 servings -

Ingredients

1	cup boiling water
1	piece (about 2 inches) fresh ginger root, peeled and crushed
1/4	cup honey
2	Mangos, peeled, pitted and chopped
1	Tablespoon lime juice

Directions

In small bowl, combine water and ginger. Stir in honey; cool. Remove and discard ginger. Set mixture aside. In blender or food processor container, combine mango and lime juice. Process while adding honey-ginger mixture in a slow, steady stream; process until smooth.

Honey Breakfast Drink

- Makes 4 servings -

Ingredients

2	cups milk
1/2	cup orange juice
1/4 to 1/2	cup honey

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1/4	cup low-fat dry milk
1/4	cup wheat germ/soya flour or pap
1	large banana, peeled and sliced

Directions

Combine all ingredients in blender and mix well.

Honey Lemonade

- Makes 4 servings -

Ingredients

6	Tablespoons honey
1	cup lemon juice
1	lemon, thinly sliced
1	Bottle soda (carbonated water)

Directions Dissolve honey in lemon juice. Add lemon slices and 1/4 cup lemon juice mixture. Add soda for a special drink.

Aloe & Honey Drink

Ingredients

½ litre honey
1/é litre water
1 litre grated Aloe Vera leaves

Directions

Mix well and enjoy.

Tip

Supposed to have giving properties and good against colds and coughs!

5. Condiments

Honey Butter

Ingredients

1/2	cup butter or margarine, softened
2	Tablespoons honey
1	teaspoon freshly grated lemon peel

Directions

In a bowl, combine butter or margarine, honey and freshly grated lemon peel. Stir until well blended.

6. Sweets

Peanut Honey Crunch

- Makes 7 servings -

Ingredients

1	cup broken or ground groundnuts (peanuts)
1/2	cup honey
1	Tablespoon butter
1	Tablespoon grated orange peel
Pinch	salt
2-1/2	cups corn flakes (additional)

Directions

Combine peanut, honey, butter, orange peel and salt in heavy frying pan. Cook over low heat, stirring constantly, until almonds are golden. Remove from heat. Add corn flakes and mix carefully. Spread on flat plate. When cool, break into small pieces.

Honey Nut Popcorn

- Makes 15 to 18 balls

Ingredients

10 cups	popped popcorn
1/2	cup finely ground groundnuts (peanuts)
1-1/3	cups sugar
1/3	cup honey
1/4	cup water
1	Teaspoon lemon or orange grated peel

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Directions

In large, greased mixing bowl, combine popcorn and peanut; mix well. In saucepan over medium heat, combine sugar, honey and water. Bring to a boil, stirring constantly for about 5 to 7 minutes till very hot (apx. 280°, the soft-crack stage). Remove pan from heat. Immediately stir in extract. Quickly pour syrup over popcorn mixture. Stir thoroughly to make sure all pieces are coated. Serve immediately. To make popcorn balls: Grease hands with butter or margarine. Working fast, scoop up enough popcorn mixture to make a medium-sized ball. Shape firmly into ball and place on waxed paper. When balls are slightly cooled, re-grease hands and firmly press each popcorn ball again so shape will hold. Serve immediately or store in airtight container.

Honey Glazed Popcorn

Preparation Time: 30 minutes Cook Time: 45 minutes

Ingredients

3/4	cup butter or margarine
2/3	cup honey
2/3	cup sugar
Pinch	salt
1/2	teaspoon bicarbonate of soda (baking soda)
10 cups	popped popcorn
1-1/2	cups roasted peanuts

Directions

Melt butter in large saucepan; stir in honey, sugar and salt. Bring to boil; stir constantly. Reduce heat to medium; boil without stirring for 5 minutes. Remove from heat; quickly stir in soda. Place popcorn in large, heat-proof bowl; slowly pour syrup over popcorn while stirring. Add peanuts; mix thoroughly. Turn into 2 greased 15-1/4 x 10-1/4x3/4-inch baking pans. Bake at 250°F for 45 minutes; stir every 15 minutes. Scrape honey mixture from pan and coat popcorn thoroughly each time. Remove from oven; cool. Break into serving-sized pieces. Store in tightly covered container.

C. Non Foods

1. Beeswax

What is Beewax?

Beeswax is the creamy-coloured substance used by bees to make honey combs. Very pure beeswax is white but the presence of pollen and other impurities causes it to become yellow.

Beeswax is a valuable product which can provide a worthwhile income in addition to honey. One kg of bee wax is worth more than one kg of honey and unlike honey, bee wax does not require careful packaging; this simplifies transportation and storage.

In areas where honey produced is consumed locally and where there is no local use for beeswax, honey combs are often simply discarded. The development of a wax collecting system can be encouraged by encouraging each beekeeper in the area to save beeswax and by organising the sale of the combined product provide a source of income from an otherwise wasted resource. Both honey consumers and beekeepers should realise that beeswax is a valuable product in addition to honey. Beekeeping using movable frame hive (e.g. Langstroth hive, Newton hive) results in the harvesting of relatively little beeswax as empty honey combs is returned to the hive after the extraction of honey. Using this type of hives, the ratio of honey to beeswax production is approximately 75:1. Beekeeping using traditional hive or movable combs i.e. (top bar) hives results in greater yields of beeswax since the delicate honey comb is broken during the extraction of honey and cannot be returned to the hive. Here the ratio of honey and beeswax production using traditional movable-comb hive is about 10:1. For this reason, countries in Africa and Central and South America produce major amounts of beeswax which provide a valuable export crop for some of these countries. Beeswax is in strong demand in the world market. In some countries wax rather than honey is therefore the most valued product of beekeeping; **DO NOT WASTE BEESWAX!**

Who Produces Wax?

Beeswax is made by young workers honey bees and is used to construct the honey combs on which bees live. The wax is secreted as a liquid from eight wax glands on the underside of the abdomen. On contact with air, the wax hardens and forms scales which can be seen as small flakes of wax on the underside of the bee. Bees use the stiff hairs on their hind legs to remove the scale of wax and pass them on to the middle legs and so to the mandibles (jaws) where wax is chewed before it is incorporated into honey combs. Bees are stimulated to produce wax when there is surplus honey to be stored and a lack of honey combs in which to store it.

Beeswax is produced by all species of honey bees. Wax produced by the tropical Asian species of honeybees; APIS CERANA, APIS DOOSATA and APIS FLOREA has slightly different chemical and physical properties from beeswax produced by Apis Mellifera, the western hive bee found in Cameroon. The waxes produced by stingless bees and bumble bees are very different from wax produced by honey bees.

Beeswax Quality

Beeswax is valued according to its purity and colour. Light coloured wax is more highly valued than dark coloured wax; because dark wax is likely to be contaminated. The finest beeswax is from wax capping (i.e. the wax seal with which bees cover ripe honey combs). This “brand new” wax is pure and light in colour.

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Storing Wax

To prevent wax moths or ants destroying stored wax, or smoke destroying the odour, store in sealed plastic containers. Storage can also in containers under water, holding the rocks down with stones). Wax can last up to 5 years in these ways.

Beeswax Processing

There are different ways of processing wax, varying in ease, cost and quality. They are as follows;

1. Traditional method,
2. Solar wax extractor,
3. Hot water bath extraction,
4. Metal foil method
5. Double boiler method
6. Ngoundal quick & smoky method
7. NOWEBA method
8. Medicinal wax Berudep method

For the first 4 methods, the following is needed:

Ingredients

Pieces of honey combs/chaffs.

Water

Equipment

Pot - for melting the wax

Jute/rush bag or any kind of loosely woven bag or material with fine mesh (e.g. lace or curtain)

Soap

Small bowl for moulding the wax or a round water proof protected hole

Bucket - bucket for cooling

Savon

Fuelwood

Plastic plate

Plastic pan or container as mould for wax

Vinegar (or sour palm wine)

2 wooden sticks approx 30cm long or 2 hive bars

Depending on the wax in the chaffs, 3 to 6 kg of chaffs will produce about 15.kg of wax.

Traditional Wax Method

Directions

Remove as much honey as possible from the honey combs and soften them by soaking in warm water. Pollen and any other honey remaining in the combs will dissolve in the water. Repeat this washing process three times to ensure cleanliness. Combs of the same type are prepared together. Do not mix dark combs with light combs as this will lower the grade of the wax. Use clean water, even rain water as far as it answers the question of cleanliness. If the water is very alkaline, add a little vinegar, one litre to 1000 litres of water.

After washing the combs break them into very small pieces.

Place the pieces of comb in a pan and add clean water to the level of the combs or a little above.

Beeswax is slightly acidic and you must therefore never use containers made of brass. Copper, zinc, or iron as they will react with the beeswax and the wax will be stained. Use the enamel, aluminium, stainless steel, nickel, tinfoil or plastic bowls when preparing wax.

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Heat the mixture gently, keeping the lid on at first, once it starts melting keep stirring all the time especially when the mixture starts to reach high temperatures. Wax is highly flammable. Never apply direct heat to wax always heat it in a container of water. You only need to heat the wax enough to melt it; beeswax melts at 62-64°C. Heating above 85°C causes discoloration of the wax and boiling will ruin it. If you heat wax at such a temperature that it burns, you will lose it completely.

After the combs have fully melted, pour the content into a bag (woven rush, net, nylon or heavy cloth). Squeeze with two pieces of stick to make sure that all the wax passes out of the bag into another pan or bowl placed underneath. In this stage, bowl, pieces of wood, particles of grass and other large particles will be removed by this process.

Leave the mixture of water and wax to cool by placing it in area sheltered from high winds and dust, preferably a corner in a cool room. The wax will harden as a layer on top of the water and any particles which have escaped through the bag will be absorbed by the water and will settle below the wax layer. Squeeze the water out, using your two sticks and twisting round.

When the mixture is completely cool, remove the wax layer and re-melt it in an equal volume of clean water. This time use a fine cotton cloth to strain small impurities out of the wax. After filtering through the cloth, collect the hot mixture of wax and water in a bowl, preferably enamel which has been smeared with a film of soapy water. The bowl should not hold more than about 2 kgs of wax. Bowls made from wood or gourds can also be used as moulds for beeswax. Do not use fats or oil in place of soap since they will adulterate the wax. Do not use heavily scented soap.

Place the mixture in a cool place free from dust and wind. When the water and wax have completely cooled down, i.e. about 12 hours after pouring the mixture into the enamel bowl, a mould of beeswax can be shaken out with ease. Any impurities adhering to the bottom of the cake can be scraped off with a sharp knife. Do not disturb the wax until it has cooled for 12 hours. Do not try to hurry the process or you may spoil the wax.

Beeswax purified carefully by this method should be in a suitable state for the next stage of production without further processing.

Store refined wax in a clean place away from any strong-smelling substance and the sun.

Solar Wax Extraction

The solar wax extractor provides a simple, effective and low cost way of melting beeswax to purify it and costs nothing to operate because it uses the sun's heat to melt wax. If clean wax is used, only one melting in the solar wax extractor is necessary to produce a good block of wax.

The solar wax extractor consists of a glass or clear plastic-lidded box containing a sloped sheet of metal. The box is tilted at an angle to the sun. pieces of honey combs are placed on the metal sheet and as they melt, wax runs down the metal slope to a container. A screen of wire mesh prevents pieces of combs and debris from slipping down into the container. Impurities in the wax tend to remain on the metal and others can be scraped off the final solidified block of wax.

To retain heat inside the box, the cover of the solar wax extractor is best made either of thick plastic or of two sheets of strong glass with a small gap between them. The rest of the inside part of the box should be painted black for maximum heat absorption. Insulating material underneath the metal sheet will also help to retain heat. There must be no draught-creating cracks or gaps in the box as these will encourage heat loss and if large enough would allow robber bees into the box. This method is only useful in the dry season. Do not melt combs of different colours together. This will lower the value of the purified wax or quality.

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Hot Water Bath Extraction

Wax cannot be obtained from very old combs using a solar wax extractor. This is because such combs contain large members of cocoons and pupa cases discarded by successive generations of developing honey bees and there soak up the wax as it is melted. Wax from such combs can be obtained by breaking them up and soaking them in water for 24 hours, then tying the combs in a piece of sack and boiling them in a container full of water. Some wax will float to the surface, but the bag of wax must be agitated to obtain the maximum harvest. If left to cool overnight a round cake of solid beeswax will form on the surface of the water. This method is only applicable to very old combs.

Metal Foil Method

A simple way to melt down small scraps of comb is to place them on a piece of aluminium foil or other shiny metal foil and leave in the sun. In strong sunlight, the wax will soon melt and can be poured into a container. Heat reflected by shiny metal foil will melt wax. This method is used only when the quantity is small and the combs are still new.

Double Boiler Method

Experience from the above methods has shown that the double boiler method is the best to come out with good quality pure wax.

Equipment

Aluminium pot & water
fuel wood
unrefined wax
insulated stirrer
mould or pan
rubber bucket & water
jute or rush bag

Directions

The wax obtained from either honey extraction process or empty wax from hives is washed and tied firmly in a jute bag and put into an aluminium pot. It is heated until all the wax in the combs is dissolved. During heating the wax is stirred from time to time to ensure that all the wax comes out to the surface of the water for collection. Now you will use your plate pan to collect the dissolved wax that is currently floating on water into another bucket filled with cool water. The wax will now coat. The coated wax will be removed by adding water so it floats and put into another empty clean pot. This time you will heat the wax to melt and purify itself for proper moulding. At this stage, what remains in the bag nothing but particles of grass, brood pieces of wood and all what is not wax that passed through during harvesting or during the processing exercise.

Bang George, Oku Honey Cooperative

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Ngoundal Quick & Smoky method

This method is good for producing large quantities of wax, but produces a lower quality wax, as it is partially burnt and smoky.

Ingredients

Chaffs

Water

Equipment

Fire

Big metal bowl with warm water

Metal container with holes punched into bottom (sieve)

Wood to rest sieve container over the metal bowl

Charcola

Soap

Basin for mould

Directions

Boil water the large container. Put chaffs with burning charcoal in the sieve container, resting on top of the warm water. The charcoal will melt the wax, which will drip through into the water. The wax can be scooped up from the water and put into soaped moulds

Mbou Paul, GIC d'Espoir

NOWEBA Method

Ingredients

Chaffs

Water

Equipment

Fire

Plastic plate

Plastic bowl/basin

2 sticks

soap

Directions

Smear a plastic basin with soap

Wash chaffs with water (can use for honey drink)

Put chaffs in water in rush or net bag in pot of water on the fire and boil. The wax will float into the water, the chaffs will stay within.

Scoop off the wax onto the plastic mould basin (using a plastic plate)

Hang the bag over a plate and squeeze with 2 sticks, to get out water

The remaining chaffs in the bag can be heated again; any dirt should be scraped off

Add water so that the wax will float to the top

Repeat scooping off wax and twisting

Medicinal Wax Berudep Method

Using old and new chaffs retains their medical properties of wax, as a lot of honey is mixed into the wax. Produces small but good quality quantities suitable for medicinal or cosmetic use.

Ingredients

1 kg Mixed old and new unwashed chaffs

2-3 cups Water

Honey & Bee Product Recipes

Equipment

Fire

Plastic plate

Big Plastic bowl/basin

2 sticks

Soap

Directions

Smear a plastic basin with soap

Put chaffs in a sac or lace in pot of water on the fire and boil.

When warm, twist with 2 sticks into a big bowl of water

Scoop off the wax into a plastic mould (using a plastic plate)

Reheat chaffs in the bag and repeat twisting and scooping

The remaining chaffs in the bag can be used to spray vegetables as natural insecticide

Fidelia Tim, BERUDEP

2. Beauty Products

Face Cream

Ingredients

26 g beeswax

25 vaseline

25 ml water

Pinch borax

100 g mineral oil - or vegetable/soya/groundnut oil

Directions

Melt wax, vaseline and oil in a bain marie Dissolve borax in water and add in. stir and then pour into a suitable, clean container.

Body Scrub

Ingredients

Honey 3/4 cup

Caster sugar 1 cup

Salt 1 cup

Groundnut or Shea oil 3ml

Directions

Pour honey into medium sized bowl, then add sugar and stir to combine. Add the salt in increments, to adjust the consistency to your liking. When all ingredients combine, add oils and stir well. This recipe is particularly long keeping as the lack of water discourages bacteria.

Lotion Bars

Ingredients

4 ounces mango or shea butter

4 ounces beeswax, yellow or white

5 ounces liquid oil (groundnut or shea)

Directions

Melt the beeswax in a separate container and the butter/oil in another container. Add together, mix well, and pour into containers. Mixture will harden in approximately 1-2 hours. The cooler the mixture is upon pouring it, the less 'divets' you'll get in the bar (that sunken spot at the top of the bar).

Honey & Bee Product Recipes

Hair Conditioner

Ingredients

1/2	cup honey
1/4	cup olive or groundnut or soya oil

Directions

Mix honey and oil. Work a small amount at a time through hair until coated. Cover hair with shower cap; leave on 30 minutes. Remove shower cap; shampoo well and rinse. Dry as normal.

Hair Shine

Ingredients

1	teaspoon honey
4	cups warm water

Directions

Stir honey into warm water. Blondes may wish to add a squeeze of lemon. After shampooing pour mixture through hair. Do not rinse out. Dry as normal.

Honey-Kissed Lip Balm

- Makes 1-1/2 cups -

Ingredients

1	cup groundnut/palm or olive oil
1/2	cup beeswax
2	Tablespoons honey

Directions

Place oil and beeswax in a metal bowl over a pan of boiling water. Heat until mixture melts. Whisk honey into beeswax mixture; stir well. Set aside to cool completely. When cool, pour into small containers with lids. Apply to lips as a moisturizer or on top of lipstick for extra shine. Makes about 1-1/2 cups.

Smoothing Skin Lotion

Ingredients

1	teaspoon honey
1	teaspoon vegetable oil
1/4	teaspoon lemon juice

Directions

Honey & Bee Product Recipes

Mix together honey, vegetable oil and lemon juice. Rub into hands, elbows, heels and anywhere that feels dry. Leave on 10 minutes. Rinse off with water.

Zesty Lemon Honey Gommage

Ingredients

4	Tbsp. bentonite or kaolin clay
3	Tbsp. mineral water
1	Tbsp. honey
1/4	tsp. powdered lemon grass
3	drops eucalyptus essential oil

Directions

In glass or rubber bowl mix bentonite clay and water until creamy texture. Add lemon grass and honey until completely blended. Slowly stir in eucalyptus oils until all ingredients are combined in a thick creamy texture. It may be necessary to add more bentonite clay. Apply with clean fingertips to clean skin. Leave on for 10 minutes or until dry. Remove in short “rolling” motion until completely removed from skin. Rinse well and apply appropriate moisturizer. Store unused mixture in covered container away from direct sunlight or heat for up to one week.

Tips Benefits: Exfoliating and anti-bacterial. Will make skin clean and polished – soft and smooth

Soothing Honey Balm

Ingredients

2	Tbsp. cocoa butter
1	tsp. honey
1/2	tsp. jojoba oil
1	drop eucalyptus oil

Directions

In small double boiler (a pan in water) melt cocoa butter until clarified. Remove from heat and pour into small glass dish. Add honey and stir well. In a separate glass dish combine essential oils with jojoba oil. Combine ingredients and stir well. Store in covered container in cool place away from sun or heat. Let stand until warm to the touch. Apply to face and neck and leave on skin or remove after 30 minutes using tepid or cool water.

Tips

Benefits: Protects skin from wind, cold and soothes dry irritated skin.

3. Candles

Ingredients

Wax

Wicks (local oil lamp wicks)

Canuba wax (optional – for perfume)

Colour (optional)

Equipment

Pouring Pot: used to mix your scent and colour with your melted wax. You will dip the amount of melted wax you need from the pot and then to the mould

Thermometer: Different waxes require different heating and pouring temperatures for them to turn out correctly.

Big metal pot: This is used for melting wax. You need one with the thermostat to avoid overheating. Beware when melting wax on DIRECT HEAT such as a fire or stove. Better to use a bain marie 5one pot of water with the second pot with wax placed in it

Wooden stick or spoons for stirring and to hold wicks

Moulds:

Local Mould: made from tins, plastic drainpipe, thick plastic containers e.g. margarine or choccam container, clay or old tin cans or large bamboo sliced in two

Imported mould: flexible plastic/silicone

Soap (for lubrication of moulds)

Water

2 small Sticks (e.g. soya sticks) for tying wicks

Stick with small sponge attached - for lubricating moulds

Knife

Directions

Melt wax gently and strain to rid of any purification

Using a stick with a sponge or cloth tied at the end, smear with soapy water into the mould (to prevent wax sticking once hardened)

Measure length of wick- a few centimetres longer than the mould and enough to tie onto 2 small sticks at either end

Place the wick into the mould and ensure is central, positioning using the 2 sticks on either end

Place the soaped mould in sand or ground upright

Pour into a mould with the wick placed centrally

Let to cool and set till hard and remove – do not use cold water to harden quickly- this may make the wax crack

Remove from the mould

Store the candles in a dry place!

Tips

Testing is a very important part of becoming a candle maker. It is not wise to make candles for the first time and then put them out to sell. You need to test your wax in your containers with different sizes wicks to find which one burns the best. You would not want to sell a candle that did not burn correctly.

Different types of wax, will burn differently. It is always good to test your wicks to be sure they are the correct size for your container and the particular wax you are using at the time. You would not want to sell a candle in which the wick was too hot, and caused all the wax to liquefy and make the jar get too hot and break. On the other hand, you would not want wick it with too

Honey & Bee Product Recipes

small of a wick, and then the wick would end up going out and your candle would not burn correctly. You want your candle to melt all the way to the edge, and maintain from 1/4 to 1/2 inch melt pool. Always test burn your finished candles at least 3 hours so you will know how it is going to perform.

You can not judge a wick size, by length or how fat it is. You must go by the number on the bag to know what size you need. It is up to each individual to do their own testing to be sure that particular wick will burn correctly in their wax , and size container.

Colour (same supplier as for soap) and perfume (e.g. Canuba or form saop supplier) can be added to the wax once melted. Natural beeswax candles have a soothing fragrance as can also be marketed well for their “naturalness”.

Paraffin can be combined with beeswax at the melting stage for a cheaper candle, but lower quality.

Anco sell its candles for 400-500 CFA for a small candle.

Paul Mzeka, ANCO

4. Soaps

Cold Process Soap

“Cold Process” soap is made by combining fatty acids and sodium hydroxide (lye) together. Fatty acids can be almost any oil – from beef tallow to palm, groundnut, soya or olive oil. The combinations for making your own recipe are endless.

Cold process soap making is a combination of an art and science. The condensed version of this type of soap making is that there is a certain proportion of lye (sodium hydroxide/caustic soda) and water to fatty acids that forms a chemical reaction called “saponification.” During saponification, the oils and lye mix and become soap – the process takes approximately six weeks to fully complete.

Cold process soap making requires the use of lye and the use of safety equipment, such as goggles and gloves.

Cold process soap is known for its hard, long lasting quality. Depending on the oils used, the soap bar can have great lather (coconut oil has excellent lathering properties), be incredibly mild (olive oil is renowned for its gentle qualities) or be very moisturizing (with the addition of oils, such as shea and cocoa butter or hemp oil).

Beeswax Soap

Ingredients

- 2 oz Sweet Almond Oil
- 2 oz Cocoa Butter
- 3 oz Coconut Oil
- 5 oz Palm Oil
- 3 oz Soybean Oil
- 5 oz Beeswax
- 2.19 oz Sodium Hydroxide (caustic soda)
- 6 oz clean or distilled Water

Honey & Bee Product Recipes

Honey Soap

Ingredients

Olive or groundnut Oil 32 oz.
Palm Oil 16 oz.
Tallow (sheep or goat fat) 24 oz.
Honey
Lye (caustic soda) 9.477 oz
Water 23.760 oz.

Directions

- Put on safety glasses or goggles & rubber gloves
- Mix and then add 1 Tablespoon of Honey. Do not put a lid on the mixture as the honey may cause the soap to superheat.
- Combine sodium hydroxide & your liquid, stir completely. Set the lye aside and allow it to cool between 100 - 125 degrees.
- Heat. If colouring soap, add your oils or colours at this time.
- When both lye & oils are at approximately the same temperature (100 - 125 degrees) combine them. Avoid splashing.
- Stir until the mixture combines.
- Pour soap into moulds.

Medicated Bathing Soap

Ingredients

Palm kernel oil, palm oil or ground nut oil = 6 liters
Caustic soda = 1 kg
Water = 4 liters
Soda ash = 7 tablespoon
Beeswax = 5 cans (empty tomatoes cans)
Corn flour = 12 tablespoons (optional- this gives the soap a slightly abrasive feel)
Foaming agent = 2 can (empty tomatoes cans)
Honey = 12 tablespoons
Perfume = 1 can (tomatoes empty container)
Colour = 1 tablespoon.
Extracts of medicinal plants (2 handfuls each of chickweed, pawpaw leaves, Alantana leaves and Aloe-Vera = 4 big leaves)
Water

Protective clothes

Hand- gloves
Nose cover
Cover shoes

Equipment

Bowls
Grater
Pestle (for grinding plants)
Soap
Square wooden mould (like picture frame)
Cooking pot (for melting wax)
Water proof clothes

Honey & Bee Product Recipes

Soap cutter e.g. knife

Directions

Using gloves (it burns!) combine caustic soda & water (2litres), mix well until it dissolved, allow it to settle for 24-48 hours.

Grate the medicinal plants and add 2litres of water, then strains and combine the extracted medicinal plant with the caustic soda solution and stir well.

Melt bees wax and combine the beeswax melted with palm kernel oil, flour, colour, soda ash and stir well to get a fine mixture.

Combine the 2 mixtures above, and keep stirring until you have a well uniform mixture, then add your foaming agent, and keep stirring, add honey perfume, stir well, then pour the mixture into your mould for it to get set. (the trace time could last from 15-25 minutes). Then you can cut the next day. Then keep the cubes of soap for 4weeks and it is ready for use. You can use it for bathing and for skin infections.

Ngwainbi Simon, BERUDEP

5. Creams & lotions

Beeswax Cream and Lotion Production

Ingredients

Beeswax

Soft oil eg Groundnut oil (1 litre) soya, castor oil and/or bleached palm oil

Fresh leaves (Optional! eg Eucalyptus, cypress, lemon grass, lavender, chickweed, rosemary, papaya leaf, lemon peelings, fever grass, cypress, penny royal, ginger, emilia, altana, caserarta)

100g Petroleum jelly/Vaseline blue seal (optional - for a soft cream)

Perfume (optional)

Equipment

2 small size silver pots

Fire wood

Small string or rope

Tomato tin

Directions

Melt bees wax in a pot of fire. Remove melted wax from fire. Measure out 1 tomato tin of melted wax into another pot and stand it on a gentle fire. Add a liter of preferred oil into the melted wax on fire. At first the oil and the wax will be separated and continued warming will mix the two into a uniform. Immediately you smell the melted oil, remove the pot from fire and allow the mixture to cold a bit. Obtain a hand full of your preferred young and fresh leaves, cypress etc. Tie the leaves with a string or strong rope and drop into the mixture three (3) times, or optinally, dip in the warm oil. That is your basic rubbing oil, herbal cream or balm

If you want a soft cream, you can put 100gm of Vaseline blue seal into the oil, or same measurement of a desired cream and then stir to dissolve the complete mixture. Allow it to start hardening. Then pour it into your containers and cover. You have made your cream.

Uses: Skin rashes (eg) eczema, Euticaria dandruff, scabies etc also be used for fresh wounds, Burns, Sprain and Frostbite.

Wan Kangong George, Riba Centre Kumbo

6. Polish

Beeswax Shoe Polish

Ingredients

500g Beeswax

Lump Canuba Wax (“Black” or Canarium tree resin)

1 litre White spirit (wood spirit, solvent, diluent)

Dye /or lamp black (soot from a lamp) or ground charcoal (for the colour)

Equipment

Pot

Tomato tin

Sizeable plastic container

Wooden stirrer, spoon or stick

4 Empty shoe polish cans

Directions

Stand pot on fire. Melt beeswax. Wait until the wax is melted. Remove mixture from fire and let it cool a bit . Measure one tomato tin mixture into a sizeable plastic container. Measure 3 tomato tins of wood spirit into beeswax mixture and continue stirring until it hardens. Pour mixture into a clean shoe polish tins . You have now made your shoe polish with a neutral colour. to make a coloured polish, measure 1 tin tomato of colour dye and put into the mixture or measure 1 tin tomato of black lamb soothe to obtain a black polish.

Avoid fire when working with white spirit as it highly inflammable.

Wan Kangong George, Riba Centre Kumbo

Beeswax polishes are fantastic for all types of furniture and woods, both preserving them well, and building up a protective layer, that can be polished to a high gloss. If placing wax on wood for the first time, several applications will be needed to allow it to soak in. Do this in a warm place or leave in the sun to allow it to really soak in.

Dubbin: Hardwearing Shoe Polish

Excellent hardwearing polish for boots, belts and shoes

Ingredients

100 grams Beeswax

50 g mutton/sheep fat

Directions

Use a bain marie (pan in another pan of water) to gently heat wax and fat until melted. Pour into a thick plastic, glass or metal container with a good lid., while wax is still warm, leave to set.

Use it warm or leave in sun before using for easier application.

Simple Beeswax Furniture Polish

Ingredients

100 grams Beeswax
250 ml turpentine

Directions

Use a bain marie (pan in another pan of water). Gently heat wax and turpentine until melted. Pour into a thick plastic, glass or metal container with a good lid., while wax is still warm, leave to set.

Superior Beeswax Floor and Furniture Polish

Ingredients

100 grams Beeswax
½ litre pint water
250 ml turpentine
1 teaspoon bicarbonate of soda
Small Savon

Directions

Dissolve soda in water. Use a bain marie (pan in another pan of water). Gently heat soap, wax and turpentine until melted. Keep stirring till a creamy consistency. Pour into a thick plastic, glass or metal container with a good lid., while wax is still warm, leave to set.

Avoid fire when working with spirit or turpentine as it highly inflammable.

7. Propolis tinctures & ointments

What is Propolis?

Honeybees gather propolis, a resin, from tree bark and leaves. Resin is a term used for materials that are usually sticky and insoluble. They combine this resin with nectar, creating a mix of wax, pollen and bee bread. They then use this substance to seal their hives, protecting it from contaminants. They also use propolis at the entrance to the hive to sterilize themselves as they come and go. Propolis is great for people with sensitive skin. Propolis is used in many cosmetic and medicinal applications as it has been shown to have antibacterial and fungicidal characteristics, and also aids in tissue regeneration, such as with ulcers, eczema, wounds and burns, as it is considered a very effective antibiotic and has been shown to fight bacterial strains that have become resistant to synthetic antibiotics. It has anti-fungal, anti-viral, analgesic, antiseptic, anti-inflammatory and anti-oxidizing properties. Propolis is effective for high blood pressure and many oral infections such as bad breath!

Ancient Healer

Propolis is enjoying a rediscovery, although its usefulness can be traced back to the time of Hippocrates, who used it to heal sores and ulcers, internally and externally. Through the ages historical documents record its use. Culpepper's Complete Herbal refers to ointments of Propolis for inflammation and fever. In WWII, it was used by the Soviet Union to treat battle wounds.

Honey & Bee Product Recipes

Active Compounds

Propolis is comprised of 50 percent to 70 percent resins and balsams, 30 to 50 % wax, 5 to 10 % Bee Pollen and 10 % essential oils. Propolis has nineteen chemical substances¹ identified so far, these include substances in the flavonoid family including betulene and isovanillin. According to researchers at the Second Leningrad Scientific Conference on the Application of Apiculture (bee culture) in Medicine, Bee Propolis is rich in:

- * Vitamin A (carotene)
- * Vitamin B1, Vitamin B2, Vitamin B3
- * biotin
- * bioflavonoids (contains 500 times more bioflavonoids (vitamin P) than in oranges).
- * albumin
- * calcium
- * magnesium
- * iron
- * zinc
- * silica
- * potassium
- * phosphorus
- * manganese
- * cobalt
- * copper
- * Sixteen amino acids have been identified in Propolis.

Except for vitamin K, Propolis has all the known vitamins. Of the fourteen minerals required by the body, Propolis contains them all with the exception of sulfur. Like Royal Jelly and Bee Pollen, Propolis also contains a number of unidentified compounds which work together synergistically to create a perfectly balanced, nutritive substance.

Uses²

* allergies	* acne
* bruises	* skin disorders
* burns	* sunburn
* cancer	* shingles
* herpes zoster	* respiratory infections
* fatigue	* flu
* sore throats	* colds
* nasal congestion	* coughs
* respiratory ailments	* ulcers
* toothache	

It can be used either dry or as a tincture. Propolis should always be collected very, very carefully to avoid getting wood and hive dirt mixed with it. It should smell aromatic and pleasant and the small pieces should not be crushed together into a ball. Fresh or powdered propolis can be chewed and swallowed for all types of stomach problems and sore throats. A small piece of propolis can be applied directly onto the source of an aching tooth to relieve pain. Propolis can be chewed or gently warmed in hot water to become soft then applied to an affected part and covered with a clean dressing. It can be used this way for boils, ringworm, fungus infections especially on finger, wounds and sores. It is always most effective when used fresh from the hive with no processing other than chewing or warming to soften.

¹ "Bee Pollen, Royal Jelly, Propolis, and Honey," by Rita Elkins, M.A. Dr. K. Lund Aagaard

² "Bee Pollen, Royal Jelly, Propolis and Honey", by Rita Elkins, M.A.

Honey & Bee Product Recipes

Powdered propolis

If able, freeze the propolis you have

Grind into a powder

Preserve it in a clean, dry, airtight, plastic container ready for used when needed.

Propolis tablets

Combine powdered propolis with vaseline into small moulded shapes, allow to dry and preserve in a clean, dry, airtight, plastic container ready for used when needed.

Propolis Tincture

Ingredients

Raw propolis

Ethanol or drinking alcohol such as vodka

Clean water

Equipment:

Airtight container.

Teaspoon

Ethanol or drinking alcohol such as vodka/gin.

“Bain marie”/ Double boiler: made by putting ingredients in a can (e.g. milk powder can) and then putting the can in a pot of boiling water over the fire until the ingredients are warm or melted. (*Measurements given in tomato paste cans*)

Directions:

Take 1 small spoon of propolis (5gms). Soak in 1 bottle of water for 3-7days to soften and clean. Filter and remove the water (this water makes a good insecticide for vegetables). Put the cleaned propolis into 50mls of 95% ethanol (1 small bottle). It must be ethanol or drinking alcohol such as vodka. Any other alcohol is toxic. Leave to soak for 3-7days. Filter and save the liquid. Add one bottle of water to 95% alcohol. Bottle in very small bottles or film containers ready for use. Do not add water in the quantity preserve for the treatment of toothache.

Uses

For toothache, infection, boils etc. apply drops direct from the bottle. For stomach and other internal ailments put contents of small bottle (1-2mls) into a cup. Fill with hot water, add honey and drink before bed

Propolis Ointment

Ingredients

Two teaspoons powdered propolis

½ tomato can Vaseline.

Directions

Melt propolis in tomato paste can in boiling water (double boiler technique). When melted add Vaseline and heat until melted. Leave to cool and set. When cool stir well to ensure the propolis is well mixed. Bottle into containers ready for use for all skin infection.

Berudep sells a film canister of tincture for 400 CFA

Ngwainbi Simon & Enock Ntam Chiambah, BERUDEP