



MAKING MONEY FROM BEES, HONEY

Bees are loved and feared in equal measure. A majority of people love them because of the honey they produce while they are feared because of the sting.

Well, bees are man's best friend if you don't provoke them, and there are many reasons to love than fear them.

To begin with, do you know that if bees disappear from the surface of the earth, man will only have four years to live?

Without bees, there would be no pollination and without pollination, there would be no food.

Second, bees produce various products, from honey to propolis and beeswax, which fetch good money in the market, making beekeeping one of the most profitable economic activities.

Third, starting beekeeping does not require much. You only need a hive, a place to hang it, a few plants and source of water and wait for the

bees to make honey as you engage in other activities. Therefore, beekeeping is ideal for any 'hustler' who may have no land or capital.

And lastly, as climate change takes a toll on other agricultural ventures, bees are the ideal livestock to keep because they are not only environmental friendly, but also don't compete with man for food.

In this edition of **Quick Infobyte**, we tell you all the buzz on how to earn from these little insects.



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I have heard about beekeeping, what is it all about?

Beekeeping is technically known as apiculture. That is the art of keeping bees for honey, beeswax, bee pollen propolis and jelly. The practice started in 15000 BC with man robbing bees of their honeycombs from caves, tree holes and rocks. He later thought of domesticating the honeybees by providing them a home, mostly hollow logs, woven cones gourds, clay pots and calabashes.



The honeybee makes the honey... 2

Yes, the honeybee is a social insect that lives in a colony comprising one queen, drones and workers. A colony is made up of about 60,000 bees. The honey it produces is a pleasant-tasting food consisting mostly (\pm 80%) of sugars that are readily absorbed by the body.

It's a suitable food for children, sick people and can be used as a sweetener, to treat wounds and throat infections.

But why should I engage in beekeeping? 3

Besides offering honey that is sold for at least Sh1,000 a kilo, bees pollinate crops. Approximately a third of all our food crops require pollination by bees. For every three spoonful of the food that we eat, bees are responsible for two.

That said, with the effects of climate change like drought hitting harder, bees are some of best livestock one can keep for adaptation purposes because they are not affected much by the dry conditions and require low amounts of water.





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Is beekeeping a profitable business?

On average, a hive can produce up to 60kg of honey in a year, depending on the strength of the colony, environmental factors and availability of bee forage. One can, therefore, earn up to Sh60,000 from each hive every year.



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So, how do I begin my beekeeping venture?

The first thing is to get a hive(s) and identify a location conducive for setting it up. This is called an apiary. This should be:

- At least 50m away from the homestead, public roads, public grounds, school and social places.
- There must be a shade over the hive(s).
- Easily accessible water sources.
- The place should not have strong winds; let it be protected by windbreakers like trees.
- The apiary should not be in a noisy place or an area prone to flooding.

Besides the above-mentioned, you also need protective clothing, smoker, accessories such as hive tool, bee brush and catcher boxer.

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I have heard that the hive should face a certain direction, which one?

Place it facing the North-South direction to prevent the drifting of honeybees when approaching or leaving the hive.

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How many acres do I need to successfully keep bees?

Some 20 hives will comfortably be kept on land the size of a “normal” bedroom. This means on an eighth of an acre, one can have even 60 hives.



Are there particular plants or trees I should plant for my bees?

Not all flowering plants are good for bees. Natural plants, ornamental and cultivated ones are good. However, as a rule of thumb, plant as many trees as possible.

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How many hives should I start with?

You can start with few hives (even one) then progressively increase to an economic unit of 20.

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Can I make my own beehives?

Yes, as long as you have the necessary knowledge and skills. Hives are like cars. There are no good or bad hives, it depends on what one can afford and what final product they want from the hive. The most popular in the market are Langstroth and the Kenya Top Bar.

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How can I attract bees in my hives?

Bees require a clean hive free of pests and predators to occupy. However, applying beeswax and cleaning the hive with herbs such as rosemary, lavender, and lemon grass does help.





12 Tell me about beeswax

Beeswax is a product of bees and can be harvested and sold for use in the manufacturing of cosmetics, candles, foundation sheets (for hives), medicines and polishes. A kilo of processed beeswax goes retails at between Sh700 and Sh1,000.



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What about pollen and propolis?

They can also be harvested from beehives. Bees collect pollen from flowers and bring them to the hive. Pollen is collected with a pollen trap from the hive. It is used as a health supplement and usually goes for Sh3,500 to Sh4,500 a kilo.

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And propolis?

Propolis is a resin-like substance made by bees to fill holes and cracks in the hive. Like pollen, propolis is a health supplement that is harvested by using a trap. Propolis chunks are sold for approximately Sh800 per kilo, while propolis extract for Sh2,000 per gramme, making it one of the most valuable product from bees.



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After how long should I replace the bees in my hives?

Bees can remain in the hive forever. We only replace a queen because she is responsible for the overall bee behaviour in the hive.



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What's the difference between a worker bee, drone and queen bee?

The queen bee is always singular, large-sized and the wings do not cover her entire stomach. She can sting more than once. The drones are stout and hairy and number about 15-200. The worker bee is the smallest member of the caste. They are, however, the majority ranging between 10,000 and 60,000. They sting once and die.



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Can I keep bees in an urban area?

Yes, but there are many downsides. Urban areas are usually crowded, what makes it difficult to adequately distance the apiary from public places and your neighbours. They are also noisy, more polluted and with fewer vegetation for bees to find nectar



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What do bees eat?

Bees eat nectar and pollen. The nectar is for energy and the pollen provides protein and other nutrients, which they use to produce honey.

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How do I harvest my honey?

Harvest only combs that are three-quarter capped to ensure that the honey is “ripe”. Ripe honey has a longer shelf-life due to low moisture content. For top bar hives, cut the comb and press the honey out or extract using other suitable ways. For langstroth hives, lift the entire frame and extract the honey using an extractor.



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Where do I sell my honey?

Kenya is a net importer of honey, therefore, it is in high demand. You can sell your honey to neighbours, chamas, church group members or process it and sell in retail outlets after getting certification from the Kenya Bureau of standards.



How does one process honey?

There are several methods

- i) Sieve method: Here, you break the honey comb into small pieces and place on a suitable clothing net tied round a bucket and leave to drain over the sun or over the night
- ii) Honey press: Large combs are put into a honey presser, which squeezes the honey out from the combs.
- iii) Use of a honey extractor: This is a machine in which the frame combs are placed and using centrifugal force, honey is extracted out and the frames returned into the hive. The combs are never crushed in the process.

What can make bees move away from my hives?

Bees can abscond, migrate or swarm from a hive.

- i) Absconding is sudden departure of bees from a hive due to an occurrence of unfavourable factors such as attack by predators, rainfall, flooding or fire.
- ii) Migration is a planned movement of bees from a hive to seek better places for forage.
- iii) Swarming is the natural way in which honeybees increase colony numbers. This happens when the bee population of a hive is too high. The bees take time to prepare a second queen in the hive, scout for another suitable nest and then the older queen leaves the hive with about half of the bees to look for another nest.

Talk about stingless bees...

Stingless bees are tiny species that live underground. They are common in forests in Kakamega, Mwingi and Bomet. Stingless bees are very good pollinators due to their small size. There are different species of stingless bees. While honeybees produce between 20-60kg of honey from a hive, stingless offer only 3-5kg of honey per year. Their honey is of high medicinal value.





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Are there places bees cannot thrive in the country?

Bees can thrive in every part of the country, however areas with abundant land and bee forage are the best.

Some honey becomes poisonous, what causes that and how can I avoid it?

Honey from certain plants such as *Rhododendron ponticum* can be poisonous to human beings. Also, overheating of honey increases the production of a poisonous substance called hydroxymethylfurfuraldehyde (HMF). Try to identify such poisonous plants and avoid overheating honey.

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What should one do if stung by bees?

Take some antihistamine drugs to prevent reaction, and rush to a health facility for immediate attention.

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23 Why is having a bee suit important and where can I get it?

Wear a bee suit whenever you want to open a hive. It protects the beekeeper from stings. You can buy one from various dealers, however, the National Beekeeping Institute stocks them.

24 Where can I be trained on beekeeping?

The National Beekeeping Institute owned by the government is the best place to train. However, at the grassroots, officials from the State Department of Livestock organises on-demand training for beginners and farmers.

25 What pests or predators attack bees and how can I protect them?

- i) Ants: Prevent by applying grease on hanging wires or oil on posts.
- ii) Wax moth: Maintain hygiene in the apiary
- iii) Birds: These are mainly seasonal and are prevented by scaring them away.
- iv) Hive beetles: Reduce the size of the hive entrances and maintain hygiene.
- v) Rats and mice: These occupy the hive and gnaw on timber and urinate in the hive. Place the hive lids properly.



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Is it true that bees do not like drunk people?



No, bees normally react strongly to certain smells such as perspiration, alcohol, soap and perfume. To avoid being stung, avoid carrying the strong smells when you inspect the bee colonies.

Sources: KYEB and The State Department for Livestock, Ministry of Agriculture and Livestock Development

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