

Meliponiculture

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Stingless
bee keeping,
also known as
meliponiculture, is
a sustainable activity
that does not harm the
environment, it provides valuable products,
such as honey and propolis, and it also helps to
increase productivity of several crops.

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Meliponiculture

It is an interesting activity to be stimulated in protected areas, such as Amazon region, because it allows income generation without harming the environment.

Management and colony multiplication techniques have been intensively studied and improved in Embrapa Eastern Amazon and other research institutions in Brazil. Because of this research effort, the activity has been spread in Brazilian regions in the last decade, especially in Amazon region.

Bees are famous all around the world because of their special products, but also for their sting and danger. However, most people are unaware that there is a great number of bee species that are inoffensive and also produce peculiar products which can be economically used.



Picture: Giorgio Venturieri



These bees also produce peculiar products that can be used by humans. The most known product is their honey. Stingless bee honey has higher water content (around 30%) comparing to traditional honey from *Apis mellifera*, which has only 20% of water. Because of it, after being stored by the bees, the honey goes through natural fermentation processes which provide special flavours and interesting acidity. Besides, each bee species produce a very characteristic honey; some are more acid whereas others are sweeter.

Other products can also be used, such as propolis, pollen and wax. Most of these products have great potential, but they are still being investigated and poorly used so far.



These bees belong to Meliponini tribe and occur in tropical and subtropical areas of the world. There are around 600 different species in the world and most of them occur in Brazil, around 200 species. They build perennial nests which may have from few dozens to several thousands of bees. Stingless bees have a non-functional sting that was reduced during the evolution of this group. But it does not mean they are defenceless. They developed new strategies of defence, such as biting invaders with their strong mandibles or gluing them with stick resins.



Another great potential for stingless bees is their use for crop pollination. It is estimated that around 2/3 of all cultivated plant species depends on bee pollination to set fruits and seeds.

Nowadays honey production is the main purpose of meliponiculture, but crop pollination will demand a large number of colonies in the future and will probably become the main purpose of the activity.

Stingless bees can be easily managed to increase pollination and productivity of several crops, such as açai, taperebá, rambutã, cupuaçu, coconut, strawberry, tomato and coffee. Around 30 economically important crops were already investigated and can benefit from stingless bee pollination services. Some of these crops, such as tomato and eggplant are specifically dependent of stingless bee pollination, since they cannot be pollinated by *Apis mellifera*.