

# ECONOMIC IMPORTANCE AND UTILIZATION OF APICULTURE

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## INTRODUCTION

Apart from crop production, horticulture production, dairy production, there are other businesses in India to promote agricultural production, which are helpful in promoting the economy of India, one of them is Apiculture. Apiculture is a process of rearing of Honey bee for various products such as Honey, Wax, Propolis, etc. Apiculture is a business that is very less expensive and can be used by every class farmer or landless farmer to boost their income. We can get various types of substances like honey, beeswax, bee propolis, bee venom etc. by the bee. And by selling them in the market, you can get income of millions. Apart from these, apiculture also plays an important role in increasing agricultural production and horticultural production, as the bee carries out pollination activity in the flowers, which leads to an additional one-fourth increase in crop production.

## ECONOMIC IMPORTANCE OF APICULTURE

Honey bees provides different type of products like honey, wax, Pollination, Bee Royal jelly, Bee Propolis, Bee venom.

### 1. HONEY

Honey is a light brown viscous liquid produced by honey bees. Honey is a mixture of sugars such as fructose (38.5%), glucose (31%), sucrose (1.3%) and maltose (7.1%). To produce honey, honey bees suck nectar from flowers with the help of their proboscis and gloss and gather in the comb. Saliva is also added in minor concentration to the nectar during the sucking process. This collected material is filled into the honey chambers, known as raw honey and then it is dried with the help of wings so that it can become honey. When it is ready opening of honey chamber gets closed with the wax.

#### IMPORTANCE OF HONEY AS A MEDICINE-

- \*Honey is very nutritious food that has medicinal value.
- \*It is majorly used in Ayurvedic medicine.
- \*Fever can be eliminated by taking it.
- \*Blood can be purified by its use.
- \*Also used to treat mental weakness/mental fatigue

and tuberculosis.

\*Apart from this, honey is used to treat stomach diseases, heart disorders, eye diseases and Cosmetic items.

### 2. WAX

It is secreted by the worker honey bees. Wax is produce by wax glands situated in the ventral side of the abdomen of worker honey bees. This dries up and accumulates above the hive, by which the walls of the hive are made.

#### IMPORTANCE AND USES OF BEE WAX-

- \*Wax secreted by bees is very expensive and useful.
- \*The Honey wax is also useful to human being. From this; cream, lipsticks, beauty lotions polish, carbon paper and various models are prepared.
- \*Commonly use in laboratories to prepare blocks of tissue where it's mixed with common wax.
- \*It is used in electric insulator and lithography.
- \*We can get more income by selling bee wax to any private cosmetic medicine companies.

### 3. POLLINATION

Pollinators are insects that transfer pollen from the anthers to the stigma of a flower, enabling the flower to form seed and fruit. Honey bees play very important role in the pollination and the gardens which are not visited by bees bear comparatively less fruits. All bee species aid in pollination. Value of honey bees in pollination is 15-20 times higher than that of the honey and wax it produces. 80-90 % pollination is done by the bees in the plants.

#### PER CENT INCREASE IN YIELD DUE TO BEE POLLINATION IN DIFFERENT CROPS

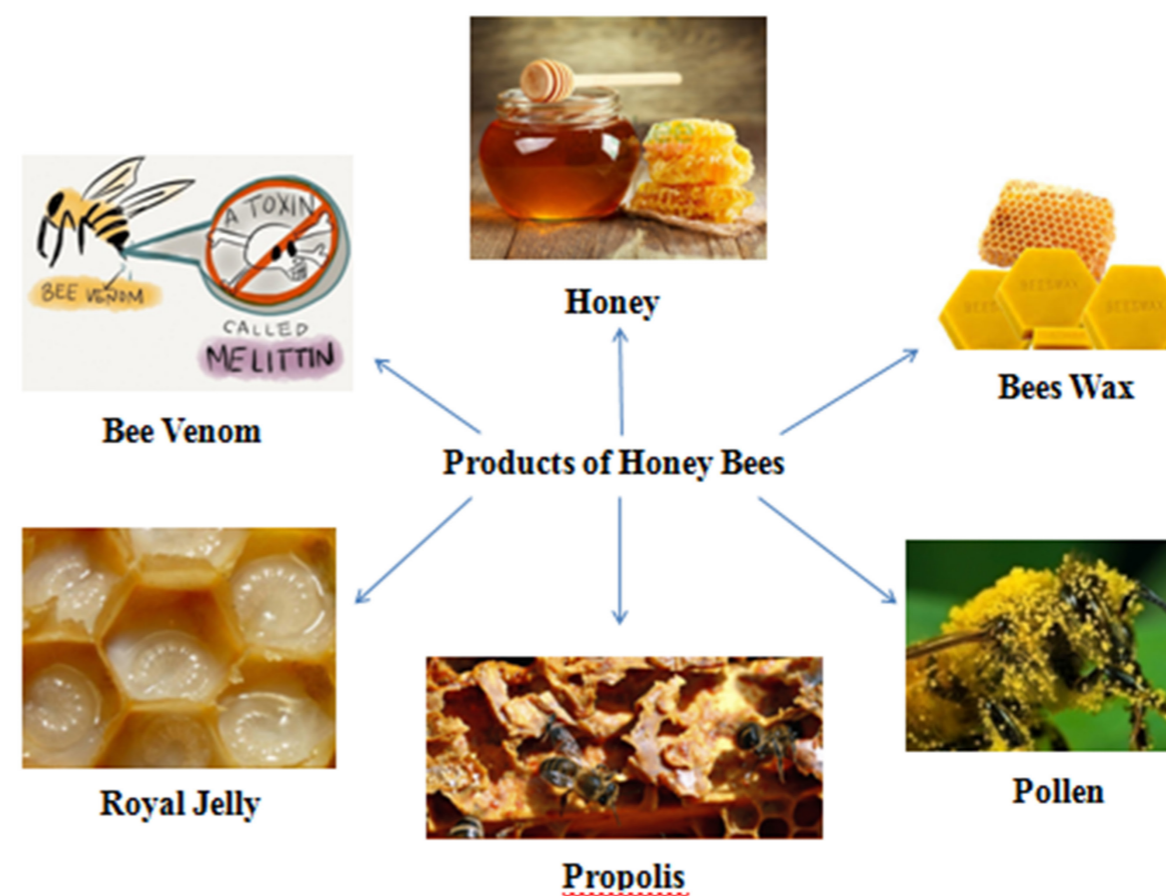
S.No.	Crops	Percent increase in yield due to pollination
1	Mustard	43%
2	Sunflower	32-48%
3	Cotton	17-19%
4	Lucerne	112%
5	Onion	93%
6	Apple	44%
7	Cardamom	21-37%

### 4. BEE ROYAL JELLY

It is also a beneficial and expensive substance, which is secreted by the worker honey bee that is used for the nutrition of larvae, as well as adult queens. Primary secretion of royal jelly is done by "hypopharyngeal salivary glands" of worker bees. This type food of feeding for the development of queen morphology, including the fully developed ovaries needed to lay eggs. It is a rich source of proteins, minerals, vitamins, fats and other substances.

#### IMPORTANCE AND USES OF BEE ROYAL JELLY-

- \*It is also used in the control of various human diseases.
- \*It primarily reduces the risk of heart disease by reducing cholesterol levels in humans.
- \*It is also important for treating eyes.
- \*It helps in diminishing the side effects that occur during the treatment of cancer.
- \*It plays an important role in healing old wounds and repairing skin.
- \*It is also used primarily in the treatment of bacterial and fungal infections.
- \*Royal jelly is available in the market in the form of capsules, cream, soft gels etc.



## 5. BEE PROPOLIS

Bee Propolis is not primarily secreted from the body of the bee. Propolis is a resinous material of waxy consistency that worker honey bees produce by mixing saliva and bee wax with exudates gathered from tree buds, sap flows, and other botanical sources and water. Its color varies depending on botanical sources & it is commonly dark brown. It is used as sealant for unwanted open space in the hive. It is used for small gaps (0.24in) while larger spaces are usually filled with bee wax. It is sticky at and above 20°C, while at lower temperature it becomes hard.

### IMPORTANCE OF BEE PROPOLIS AS A MEDICINE-

- \*We can use honey propolis as a medicine for common cold and sore throat.
- \*It is effective in eliminating mouth ulcers.
- \*It proves effective in the control of skin diseases.
- \*It increases gynecological treatment and fertility in women.
- \*It is important in the treatment of fungal and ringworm.

## 6. BEE VENOM

Bee venom is a colorless acidic liquid that is secreted from the acid glands of worker bees. When bee feels threat, she secretes it through a sting. It contains inflammatory compound including enzymes, sugar, minerals, and amino acids. Honeybee venom contains a toxic protein called **Melittin**, which is antifungal, anti-bacterial & anti-Cancer. Bee venom is the most expensive of all bee substances. A kilogram of bee venom costs up to Rs. 70 lakh, which is bought by various types of pharma- medicinal company. Bee venom can be the best source of income.

### IMPORTANCE OF BEE VENOM AS A MEDICINE-

- \*Bee venom is used for currying pains at joints.
- \*Use in Skin therapy.
- \*Bee venom is useful to lower blood pressure and cholesterol levels.
- \*It can be used in the form of pain relief tablets/injections.

