

**Address**

Vadakkedathu House, Ingoth,  
Po: Padannakkad,  
Kanjangadu  
Dist: Kasargod - 671 328,  
Kerala



## Fungal control in honey bee

**AGRICULTURE NATIONAL THIRD**

**V J Joseph** (45) completed his 12<sup>th</sup> standard in the science group and apiculture has been his passion ever since. His wife is also involved in this work and his son, who is in the 5<sup>th</sup> standard, finds the bees and their life more fascinating than his books. He lives in Kanhangad municipality, Kasargode district, Kerala.

**The Genesis** V J Joseph's interest in honeybees was aroused after attending a week-long class conducted by the Khadi Board on apiculture in 1980. Since then he has been rearing honey-bees and has also been invited to give classes by the Bee-keeping co-operative society. But in 1984 there was a widespread fungal attack(chalkbrood) leading to the honey bee industry almost being wiped out in Kerala. Bees have two distinct life forms (brood and adult) and most diseases are specific to either one stage or the other. The most virulent diseases at present are those of the brood, specifically American foulbrood and European foulbrood. Other brood diseases include chalkbrood, a fungal disease which appears to be on the rise. Chalk brood can happen at any time but there is a greater possibility during the rainy season. During this period the number of bees decreases as there are fewer flowers and hence bees can't collect pollen and honey. The queen lays fewer eggs and thus some of the cells become empty making it easy for the fungus to attack these cells. The disease affects the larvae and they die out. The remaining bees become listless and weak and darker in colour and the queen stops laying eggs in such a situation ultimately leading to the death of the colony.

There was no medicine available for this fungal attack. The only option available was requeening with resistant bee stock which was often not successful. Joseph consulted a number of traditional healers about the medicinal properties of various plants and accordingly experimented with various combinations of these plants for almost 10 years before he succeeded. His focus was on an herbal medicine as he felt that any kind of chemicals would be harmful to the bees who subsist only on pollen and honey.

**The medicine**

It consists of aloe, tulsi, turmeric and Spreng(*Plectranthus amboinicus*) in a sugar solution as bees will take it only if it is sweet. The medicine is placed in a bowl, on the top of the box in which the colony lives, with a towel soaked in it and the medicine drips out through the sides of the towel which overlap the bowl. When the bees start bringing pollen again it is a signal that the colony is healthy and that the queen has started laying eggs.

This is a completely herbal medicine; hence there are no harmful effects for the bees or any contamination to the honey. The cost of medicine for curing a diseased colony in one box would be about Rs.150

and this is quite cost-effective when one considers that during peak season from December to April one can harvest as much as 15-20 kg of honey from a box and sell it at a price of about Rs.60/kg. In addition, during peak season, a colony would fetch a price of about Rs.800.

#### **Future plans**

Along with two other partners Joseph has built a plant for the commercial production of honey and this anti-fungal medicine under the brand of CANAN. The plant is expected to be operational in about two months and



will employ 10 people. They are aiming for producing 1000 bottles of honey per day and 500 bottles of the medicine. They have succeeded in getting AGMARK certification for their honey with a shelf-life of 4-5 years.

The plant is situated on the Mysore-Bangalore road with the nearest railway station 15 km away and the airport at Mangalore 70 km away. The Federal Bank has reportedly sanctioned Rs. 10 lakhs for this project. They were not able to avail of any government scheme as the government provided subsidies only for projects of up to Rs 5 lakhs, but recently the Khadi Board has informed them that the ceiling had been raised to 10 lakhs. As Joseph is planning to produce the medicine commercially, he has avoided any kind of publicity and only a few friends and relatives are aware of it. Currently he is planning to get this herbal medicine patented.

#### **The fruit of dogged determination**

Joseph admits that after the crisis in 1984, when he persisted with the honey-bee industry, he faced lots of criticism and discouragement and was told that the industry had no future and that he was wasting his time. But now the few, like Mr. James, an owner of 600 boxes, who have used the medicine stand by it as "extremely effective." For Joseph, it was a matter of his livelihood and developing a medicine was a necessity not a hobby. His success in finding the cure gives him immense satisfaction as he feels it will help to revive an industry especially as there is great demand for honey as an ingredient for Ayurveda medicines especially in Kerala and also as a food item in other states. His dream is to make a success of his business and establish the brand, CANAN.