PRACTICAL BEEKEEPING

REDUCING THE WATER CONTENT OF TROPICAL HONEY

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Honey is a delicate food and medicine. It is sensitive to heat and light and can become contaminated during collection, handling and storage. Honey harvest and selling is an important livelihood activity and is bound with social and cultural links amongst most indigenous people.

Traditionally in the Nilgiris, honey is harvested from *Apis dorsata (malai thein), Apis cerana (adukkuthein), Apis florea (kombuthein)* and *Trigona* spp (*kosuntheins* pp). These bees have specific seasons and there are numerous methods of harvesting their honey. In recent years the honey quality has varied due to changes in cropping patterns, global climate changes, restriction on collection rights, and sharing of resources amongst people.

One of the main issues with honey harvested from the wild is the moisture content. These honeys have moisture levels ranging from 20%-28% which leads to fermentation and loss in quality. The presence of impurities in honey hastens the fermentation process.

We use a water bath (passive heating) to reduce the water content in the honey. As the consistency of honey varies, this method has its limitations in spreading the heat uniformly. Even though stirring is advised, there are chances for a portion of honey to become over heated.

In India there are a number of honey processing machines available in the market that all function at high temperatures with rapid cooling systems. High temperature is the critical factor. Naturally honey bees store their produce at a temperature of 35°C and heating of honey above this temperature reduces the quality.

Keeping these issues in mind, Keystone has been working on developing a water content reduction chamber. After 15 years of

In the chamber of the honey dryer, honey constantly moves on a thin nylon film and water content is reduced without raising the temperature of the honey

experience with honey, indigenous ways of collection and hive beekeeping, we have a wide knowledge of the properties of honey - in terms of colour, taste, flavour, consistency, crystallisation and the origins of honey from the different honey bee species.

The design of our water content reduction chamber is still being tested. Preliminary results are good and we are working to calculate its cost, efficiency, viability and sustainability. Water content has been reduced by up to 4.6% in 8-9 hours for 100 kg of honey.

We wish to share these early results and will soon be able to make several such machines for community projects and efforts in south and south-east Asia, where honey is harvested from *Apis dorsata*.