APIMONDIA
SCANDINAVIA 2025
SWEDEN | DENMARK | NORWAY

PP-227 [Beekeeping Technology and Quality]

Intervention of modern movable frames in traditional wall hives and for sustainable ecosystem.

Shivilak Natural Products

AUTHOR
ATAR SINGH KAINTURA
FOUNDER AND CEO
SHIVALIK NATURAL PRODUCTS, DEHRADUN
CO- AUTHOR
DR. MAMTA RAWAT
AISSISTANT PROFESSOR PG COLLEGE, KOTDWAR UTTARAKHAND

Introduction

Indigenous honey bee Apis cerana beehives are a part of the architecture of mountain regions of Ghadwal, India. Shivalik's mission is to support village communities conserve their natural resources and biological diversity while utilizing forest products and resources in an equitable, economically and environmentally sustainable manner.

Apis cerana

Geographical Loaction

Geographical location of Uttarakhand

Geographical location of Uttarakhand

Traditional Method

The dominance of peasant based subsistence agriculture is generally perceived in negative terms in its relation with poverty due to declining and low levels of productivity. Earlier strategies to alleviate poverty through a diversified economic structure have not yielded desired results possibly due to reasons of ecological fragility and to an extent the problems posed by inaccessibility.

Located at the height of about 150 cm from the floor

During current study efforts were made to design low cost, eco-friendly movable frames. Provision was made with wooden frames in Khadras. Natural fixed combs prepared by the bees are replaced to the movable frame. Inside the wall, frames are vertically hung parallel to each other. Extra frames are filled with sheets of wax foundation on which the combs are built by the bees. Scientific intervention in the indigenous method makes convenient for inspection of the colonies, pest management, swarm control and division of bee colonies.

Wall Hive

Methodology

Traditional wall Hive

Empty Wall Space

Improve Wall Hive

Improved wall hive with Bee column

4Kg-8kg of harvest is improved to 10Kg-15Kg

Wall hive with frames Incorporation

From such hived Apis cerana families the yield is about 4 to 8 kg of honey per year. A lot of specialists have noticed the problems with proper examinations of such hive construction, and introducing some modern management methods accordingly. On the other hand it is known fact that A. cerana families abscond and swarm much more often from the modern hives than from the traditional ones. 4500 bee keepers adapt to the mobile frame technology in Uttarakhand Garhwal regiom

CONCLUSION

- Shivalik's mission is to support village communities conserve their natural resources and biological diversity while utilizing forest products and resources in an equitable, economically and environmentally sustainable manner.
- Shivalik Natural Products working in the Uttarakhand Trai Bhabar and Garhwal Himalayas with the mission of supporting Beekeepers to Organic Honey Production from Apiary, wall hive, log hive and forest in an equitable, economically and environmentally sustainable manner.

PP-227 [Beekeeping Technology and Quality]

Indigenous honey bee Apis cerana Indica Intervention of modern movable frames in traditional wall hives and for sustainable ecosystem

Atar Singh Kaintura, Dr Mamta Rawat Kaintura
Shivalik Natural Products

Indigenous honey bee Apis cerana Indica
Intervention of modern movable frames in traditional wall hives and for sustainable ecosystem.
Atar Singh Kaintura
Founder and CEO
Shivalik Natural Products
Dehradun, India

Indigenous honey bee Apis cerana beehives are a part of the architecture of mountain regions of Ghadwal, India. Wild colonies of A. cerana used to inhibit in wall hives known as Khadra. A Wall hive is a cavity left in the wall when the house is under construction; usually located at the height of about 150 cm from the floor. Wall hives are more suitable for temperature control in heavy rainfall/snowfall areas and the hives are also protected from wild animals and predators. Honeybees not only provide honey but also help in pollination of flowers to continue the progeny of plants. Thus placement of hives in an area had an important role for the sustainable ecosystem. Even though there is vast potential of flora for beekeeping in Ghadwal region, the bee population is declining due to destroy of the combs while honey harvesting. Decreasing population of A. cerana tends toward the loss of our social and cultural heritage. During current study efforts were made to design low cost, eco-friendly movable frames. Provision was made with wooden frames in Khadras. Natural fixed combs prepared by the bees are replaced to the movable frame. Inside the wall, frames are vertically hung parallel to each other. Extra frames are filled with sheets of wax foundation on which the combs are built by the bees. Scientific intervention in the indigenous method makes convenient for inspection of the colonies, pest management, swarm control and division of bee colonies. Honey is harvested hygienically in honey extractor, thus facilitates to get repeated honey harvesting in the season. Awareness was created and training is provided to the villagers to propagate A.cerana bee colonies, through the use of movable frames in wall hives. Thus improving of the bee population is possible for sustainable ecosystem.