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Migratory Beekeeping in Haryana

A Practical Guide for Commercial Beekeepers

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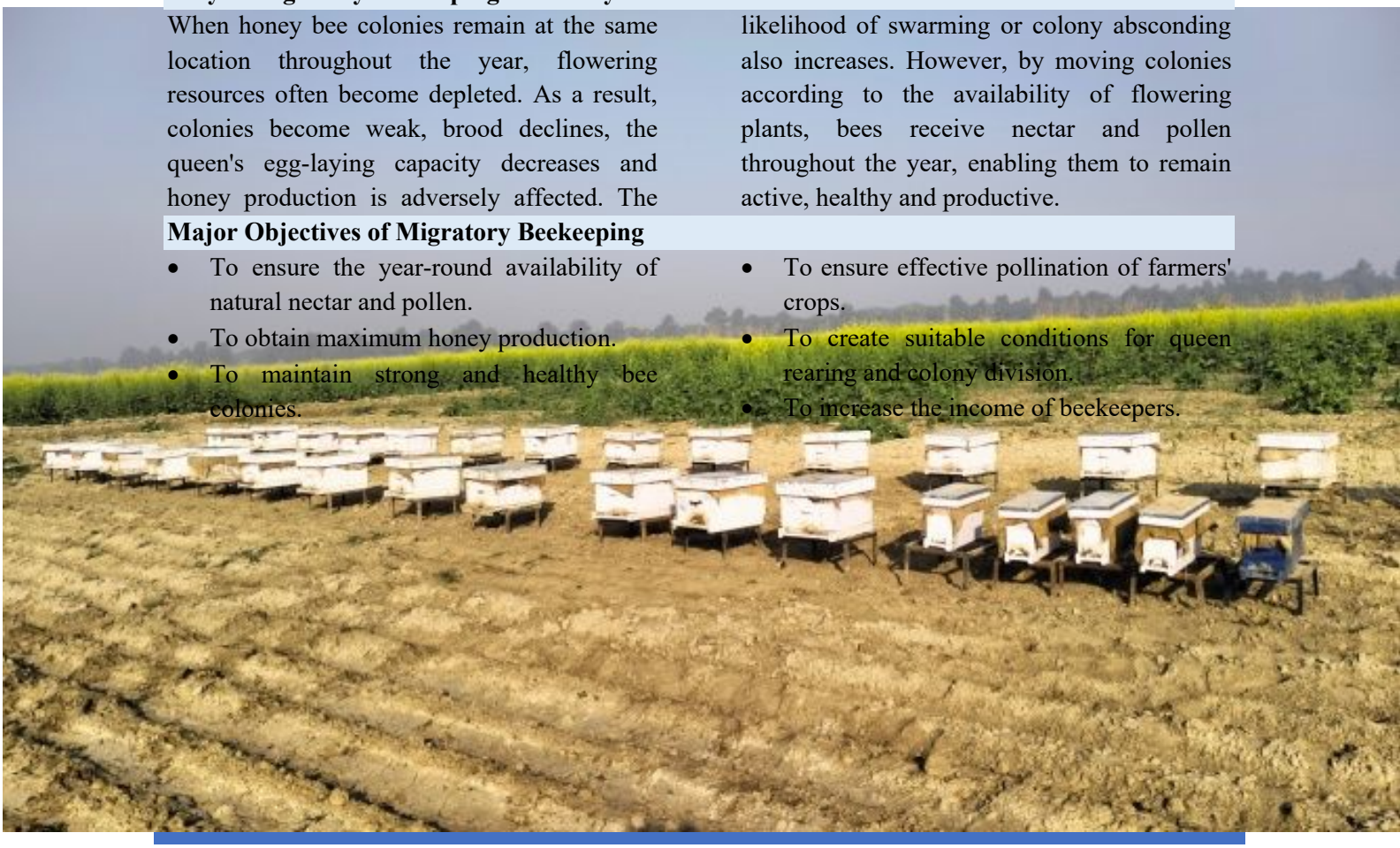
Migratory beekeeping forms the backbone of commercial beekeeping in North India. Most beekeepers in Haryana rear *Apis mellifera* colonies and migrate them throughout the year to different states according to the availability of flowering plants (bee flora). Scientifically planned migration not only enhances honey production but also improves the egg-laying capacity of the queen, brood development and crop pollination. India is one of the leading beekeeping countries in the world, where diverse climatic regions support a wide range of crops, fruit trees, forest vegetation and wild flowering plants at different times of the year. This rich floral diversity makes migratory beekeeping highly successful. The objective of migration is not only to maximize honey production but also to ensure a continuous supply of natural nectar and pollen, maintain strong colonies and provide effective pollination services to agricultural crops.

Why is Migratory Beekeeping Necessary?

When honey bee colonies remain at the same location throughout the year, flowering resources often become depleted. As a result, colonies become weak, brood declines, the queen's egg-laying capacity decreases and honey production is adversely affected. The likelihood of swarming or colony absconding also increases. However, by moving colonies according to the availability of flowering plants, bees receive nectar and pollen throughout the year, enabling them to remain active, healthy and productive.

Major Objectives of Migratory Beekeeping

- To ensure the year-round availability of natural nectar and pollen.
- To obtain maximum honey production.
- To maintain strong and healthy bee colonies.
- To ensure effective pollination of farmers' crops.
- To create suitable conditions for queen rearing and colony division.
- To increase the income of beekeepers.



Monthly Migratory Route and Major Bee Flora for Beekeepers of Haryana

Month	Recommended State/Region	Major Bee Flora
July–August	Punjab, Haryana, Himachal Pradesh, Rajasthan, Madhya Pradesh	Khair, Pearl Millet (Bajra), Ajwain, Pigeon Pea (Arhar), Cotton, Sorghum, Maize, Santhi (weed)
September–October	Punjab, Haryana, Rajasthan	Ber (*Ziziphus mauritiana*)
November	Jammu & Kashmir, Himachal Pradesh	Plectranthus
December–January	Punjab, Haryana, Rajasthan	Toria, Raya (Mustard)
February	Punjab, Haryana, Rajasthan	Mustard, Eucalyptus, Shisham
March	Rajasthan, Madhya Pradesh	Coriander, Fennel, Fenugreek, Dill, Ajwain, Nigella, Kinnow, Orange, Lemon, Lime, Sweet Lime, Grapefruit
March–April	Punjab	Litchi
April	Kandi region of Punjab and Himachal Pradesh	Shisham, Phalahi
April–May	Punjab, Haryana	Sunflower, Berseem

Precautions During Migration

Even a small mistake during migration can weaken honey bee colonies or reduce honey production. Therefore, the following scientific precautions should always be followed:

Select only healthy and strong colonies: Choose colonies that contain a sufficient population of worker bees, a healthy and productive queen, brood in all developmental stages and adequate food reserves. Diseased or weak colonies should not be migrated.

Inspect for diseases and parasites: Carefully examine colonies before migration for Varroa mites, wax moth, and other diseases. If necessary, treat the colonies according to scientific recommendations before transportation.

Pack hives properly: Secure all frames firmly to prevent movement during transport. Fasten hive boxes tightly using strong straps or belts and ensure that the hive lids are properly secured.

Transport colonies during night: Colonies should preferably be moved after sunset or before sunrise. During this period, most bees remain inside the hive and the ambient temperature is relatively low, minimizing stress during transportation.

Provide adequate ventilation: Proper ventilation is essential, especially during summer transportation. Poor ventilation can increase hive temperature, resulting in brood damage and bee mortality.

Carefully select the new apiary site: Place colonies on level, dry, and shaded ground. The site should have access to clean water and should be free from strong winds and waterlogging.

Protect colonies from pesticides: Avoid establishing colonies in areas where excessive pesticide applications are practiced. If pesticide spraying is expected nearby, farmers should be informed in advance so that appropriate precautions can be taken.

Maintain adequate spacing between colonies: Arrange colonies with sufficient distance between them to minimize drifting and help bees recognize their own hives.

Inspect colonies regularly after migration: During the first 2–3 days after relocation, inspect colonies daily to assess queen activity, brood development, and food availability.

Benefits of Migratory Beekeeping

Scientifically managed migratory beekeeping is highly beneficial for beekeepers, farmers, and the agricultural sector.

Year-round availability of natural food: Honey bees receive continuous supplies of nectar and pollen from different flowering plants throughout the year, reducing dependence on artificial feeding.

Higher honey production: By utilizing different honey flows available in various seasons, honey yield per colony increases significantly, making beekeeping a more profitable enterprise.

Strong and healthy colonies: Continuous availability of floral resources encourages higher egg laying by the queen, increased brood production, and growth in the worker bee population.

Improved colony management: Strong colonies are better suited for queen rearing, colony multiplication, nucleus colony production, and commercial pollination services.

Benefits to farmers: Honey bees improve crop pollination, resulting in better seed set, higher fruit setting, improved crop quality, and increased agricultural productivity, thereby enhancing farmers' income.

***Production of diverse types of honey*:** Migration to different floral sources enables the production of mustard, litchi, sunflower, coriander, ajwain, eucalyptus, ber, and other monofloral and multifloral honeys, which often command higher market prices.

Reduced climatic risks: If drought, excessive rainfall, extreme heat, or poor flowering occurs in one region, colonies can be relocated to another suitable area, thereby minimizing losses.

A profitable agricultural enterprise: Beekeepers adopting scientific migratory practices can take advantage of multiple honey flow seasons throughout the year, substantially increase their income, and develop beekeeping into a sustainable and profitable agricultural enterprise.