

Course code: ENT304, Industrial Entomology 2(1+1)
SEASONAL COLONY MANAGMENT



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Seasonal Colony Management

- Seasonal colony management is the set of management practices designed to meet the different needs of a colony over the year.
- Colony management is an integral part of modern beekeeping and is essential to maximize honey production, for colony division, for the production of other bee products, and for providing pollination services.
- The honey flow period is the time when the most flowering plants are available for forage.
- The off season or dearth period is the time when little forage is available and the climatic conditions are unfavourable for foraging.
- The timing of these periods differs in different locations.
- The approximate timings at different altitudes of the Himalayan region are provided as a guide in Table .

Table : Honey flow and dearth periods at different altitudes in the Himalayas

	Honey flow season	Off season (dearth)*
High hills	April, May, June, July, August	September, October, November, December, January, February, March
Mid hills	April, May, September, October, November, February, March	June, July, August, December, January
Foothills and plains areas	April, October, November, December, January, February, March	May, June, July, August, September

* The honey flow and off (dearth) seasons vary according to forage source and exact location

Flow Season Management

The honey flow season is very important for both bees and beekeepers. This is the time for increasing colony strength, honey production, colony multiplication, queen production, swarming control, brood disease control, and migration.

BEFORE AND DURING THE HONEY FLOW SEASON

Before the season

- Establish a healthy colony prior to the honey flow season.
- During the season
- Clean hives.
- Observe the presence and performance of the queen.
- Check the status of the brood and adult bees.
- Widen the entrance of strong colonies.
- Provide a honey super once all the brood frames are full and the colony active to create a good working environment for the bees. Fill all ten slots with frames with previously harvested combs that have been cleaned, or with comb foundation if no used combs are available.
- Add additional frames to the super as needed.

- Wait until 70% of honey cells in the super are capped and then harvest honey.
- Check the combs in the brood chamber and remove any that have been abandoned or that look very old (blackened).
- Control and manage swarming.
- Avoid using drugs to treat a colony during the honey flow season. If disease and pest attacks occur, apply suitable control measures but don't harvest the honey.
- Feed colonies and keep them warm if there is a cold wave during the honey flow season, especially during winter in foothill and plains areas.
- Keep bee colonies in the shade if it is dry and hot.

OFF-SEASON (DEARTH) MANAGEMENT

- The dearth period is very risky for both bees and beekeepers. Colonies may become weak due to scarcity of food, pest and disease attacks, and robbing and absconding. The following management practices should be adopted in the off season (dearth) period.

Winter off season

- Ensure the bee colonies have enough food through feeding management.
- Keep bee colonies warm by narrowing the entrance and ventilator.
- Remove empty combs and use a dummy board(s). Unite weak and queenless colonies.
- Don't harvest honey during a cold period.
- Place the colonies in a sunny location with the entrance facing south to east.
- Migrate colonies to warmer areas if possible.
- Avoid colony division and queen rearing.

WINTER MANAGEMENT

- After preparing the colonies in fall for wintering, protection should be provided to the colonies from winter by:
 - Reducing the hive entrance
 - Plugging all cracks and crevices in the hive
 - Protecting the colonies from direct chilly winds.
- **Storage and protection of combs:** Protect the spare combs from attack of wax moth by fumigating in hive stacks frequently till spring when these drawn combs will be needed by the colonies again. Loss of colonies in winter can be avoided if following four fundamental principles in beekeeping management are kept in mind:
- Every colony must have a young vigorous prolific queen of superior genetic stock and young worker bees.
- Every colony must be properly protected from extreme climatic conditions through reduced entrance and proper packing.
- Every colony must have adequate reserves of honey and pollen.
- Every colony must be maintained in “disease free” condition.



Fig. 11.1 Position beyond dummy board where winter packing is to be given **Figure 11.2 Winter packing being given in the form dry grass packed in newspaper**



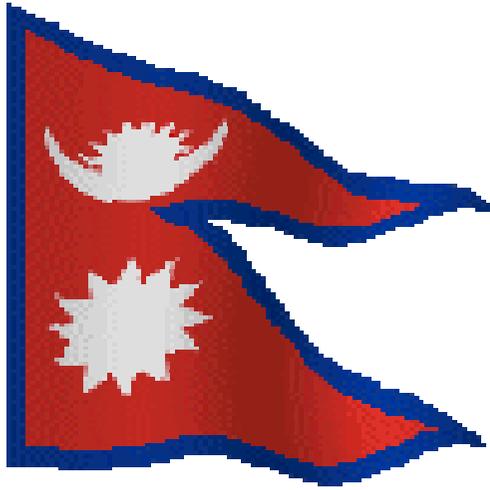
Figure 11.3 Winter packing packed in newspaper before closing the hive

DRY AND SUMMER OFF SEASON

- Ensure the hives have sufficient food and water.
- Keep the bee colony strong by feeding them sugar, and if necessary by uniting weak colonies.
- Take appropriate measures to control pests and disease.
- Take appropriate measures to prevent and control absconding.
- Unite weak and queenless colonies.
- Take appropriate measures to prevent colonies from robbing.
- Keep the bee colonies under a roof or shade during the rainy season.
- Remove empty combs and store in a safe place.
- Avoid colony division and queen rearing.
- Widen the ventilation and entrance to enable better air circulation.

Monsoon management

- In the tropical and sub-tropical regions of the country, June to September represents the monsoon or wet season. Bees face several problems of pests, predators, excessive humidity and starvation. Sometimes due to continuous rains, bees are confined to their hives for a long period. Honey bees become lethargic and may develop dysentery. The colonies need following management to keep them
 - Weak colonies which have become queenless, should be united with queen right colonies, since during this period due to absence of drones new virgin queen can not mate
 - Avoid broodlessness in colonies; if pollen stores and fresh pollen is not available, feed the colonies either pollen substitute or pollen supplement
 - If colonies have poor food stores (below 5kg) provide sugar in the form of candy or dry sugar instead of sugar syrup
 - Keep in check the attack of enemies like wax moth, ants, mites and wasps.
 - The hives are kept on stands sloping towards entrance in order to drain out water and prevent its accumulation inside the hive.



Thank you
for your attention

