


SEASONAL MANAGEMENT IN HONEY BEES

BSA-11-111

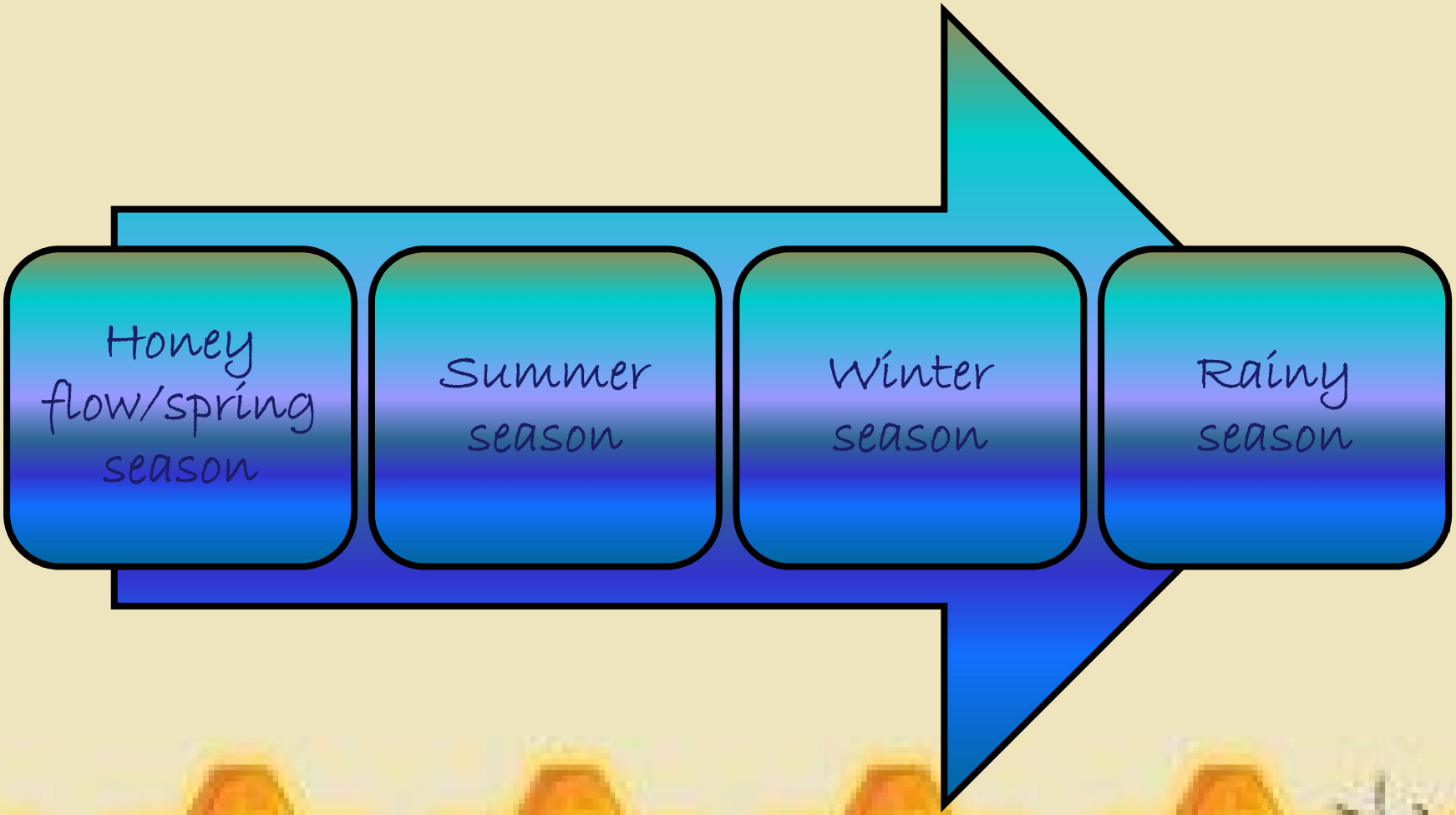
INTRODUCTION

- ✓ The craft of beekeeping is as old as man himself.
- ✓ Many people find the keeping of a hive of bees a rewarding hobby and many farmers need the pollinating service to increase the yield of their crops.
- ✓ The value of honey in food, medicine and cosmetics has long been acknowledged and appreciated.

Why seasonal management…..??

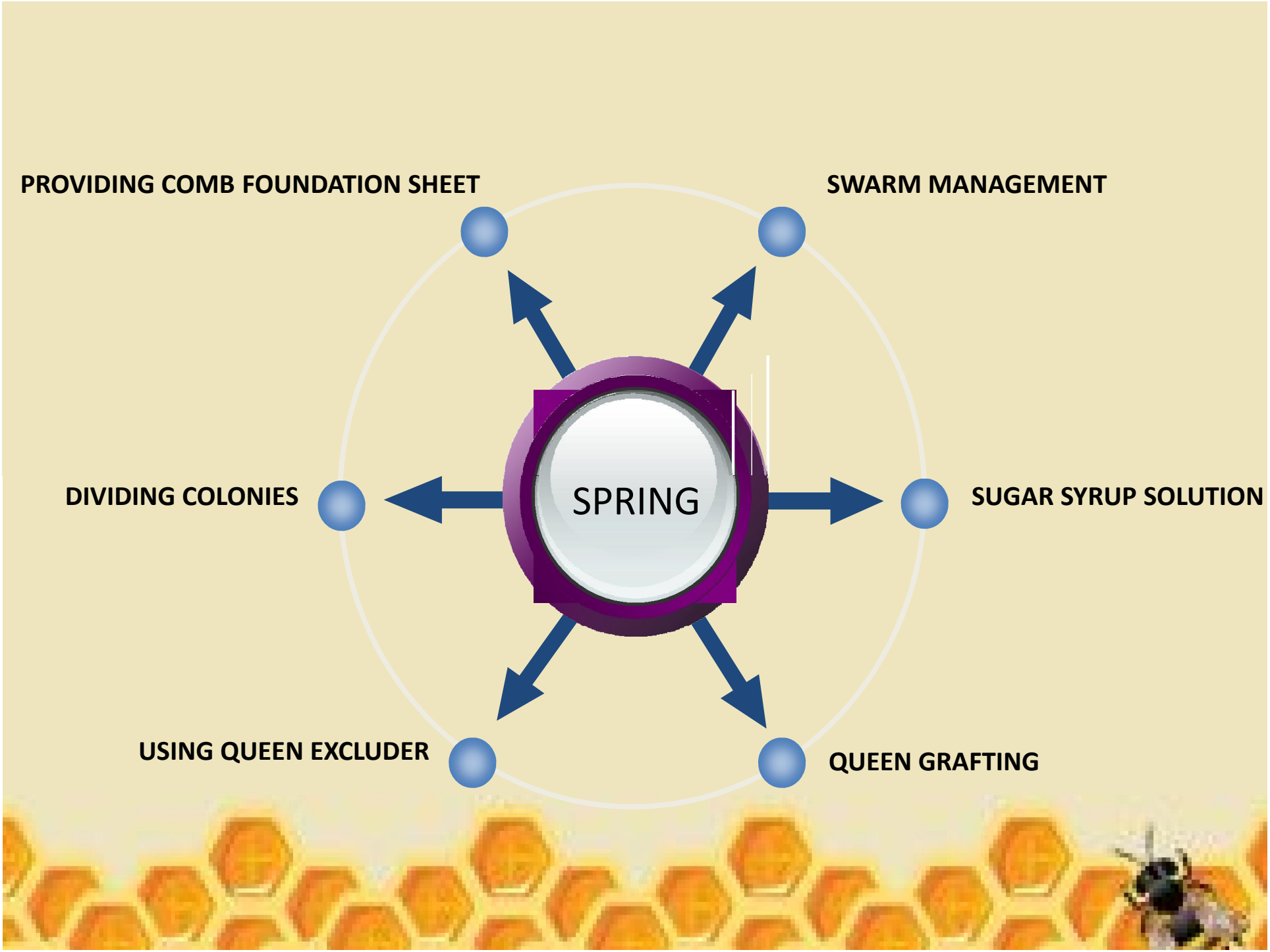
- ✓ Pollen and nectar are available only during certain period.
- ✓ It is inevitable in this case as it may either lead to swarming, death of the queen, occurrence of pests and diseases or low honey storage.
- ✓ During extremes in climate like summer, winter and monsoon certain specific management tactics are required.

SEASONS


Honey flow/spring season
Summer season
Winter season
Rainy season

SPRING SEASON

- ✓ The bees will be out everyday in this season and with the brood nest expanding care must be taken to make sure that there is no shortage of stores.
- ✓ This season coincides with honey flow season.
- ✓ When surplus food source are available it is known as honey flow season.


PROVIDING COMB FOUNDATION SHEET
SWARM MANAGEMENT
DIVIDING COLONIES
SPRING
SUGAR SYRUP SOLUTION
USING QUEEN EXCLUDER
QUEEN GRAFTING

Comb foundation sheet

Bee wax

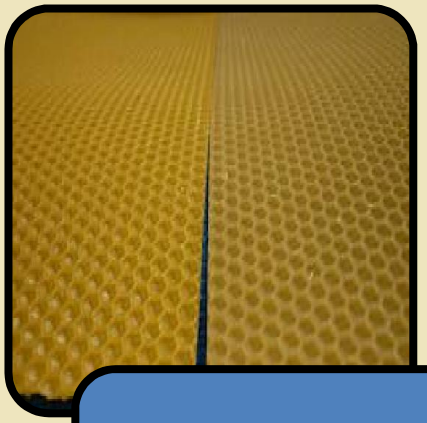
Filtered bee wax leaving the filter

The sheeting machine

Cntd…

Rolls of sheet ready for milling

Sheets entering the printer mill



Comb foundation sheets

Queen excluder

The queen excluder is a selective barrier inside the beehive that allows worker bees but not the larger queens and drones to traverse the barrier.

The queen excluder is either a sheet of perforated metal or plastic or a wire grid in a frame.

The intent of the queen excluder is to limit the queen's access to the honey supers.

QUEEN EXCLUDER

Dividing colonies

- ✓ Dividing colonies or artificial swarming is another way to deal with colonies which are preparing to swarm.
- ✓ This is essentially the swarming process carried out under the control of the beekeeper
- ✓ The best time to divide colonies is early in build-up periods.
- ✓ Making divisions is always done at the expense of honey production from those hives

Making a division

Begin with a strong colony.

Take at least two combs of sealed brood and at least two combs of honey from the colony.

Transfer these combs with the bees and brush some more bees from a few other combs into the new hive. Put the brood combs between the honey combs to insulate the brood nest.

Cntd…

Add queen cells to the new colony. These may be on a comb or they can be cut out from one comb and placed on to another.

Move the two colonies away from each other to minimize drifting.

DIVISION OF COLONIES

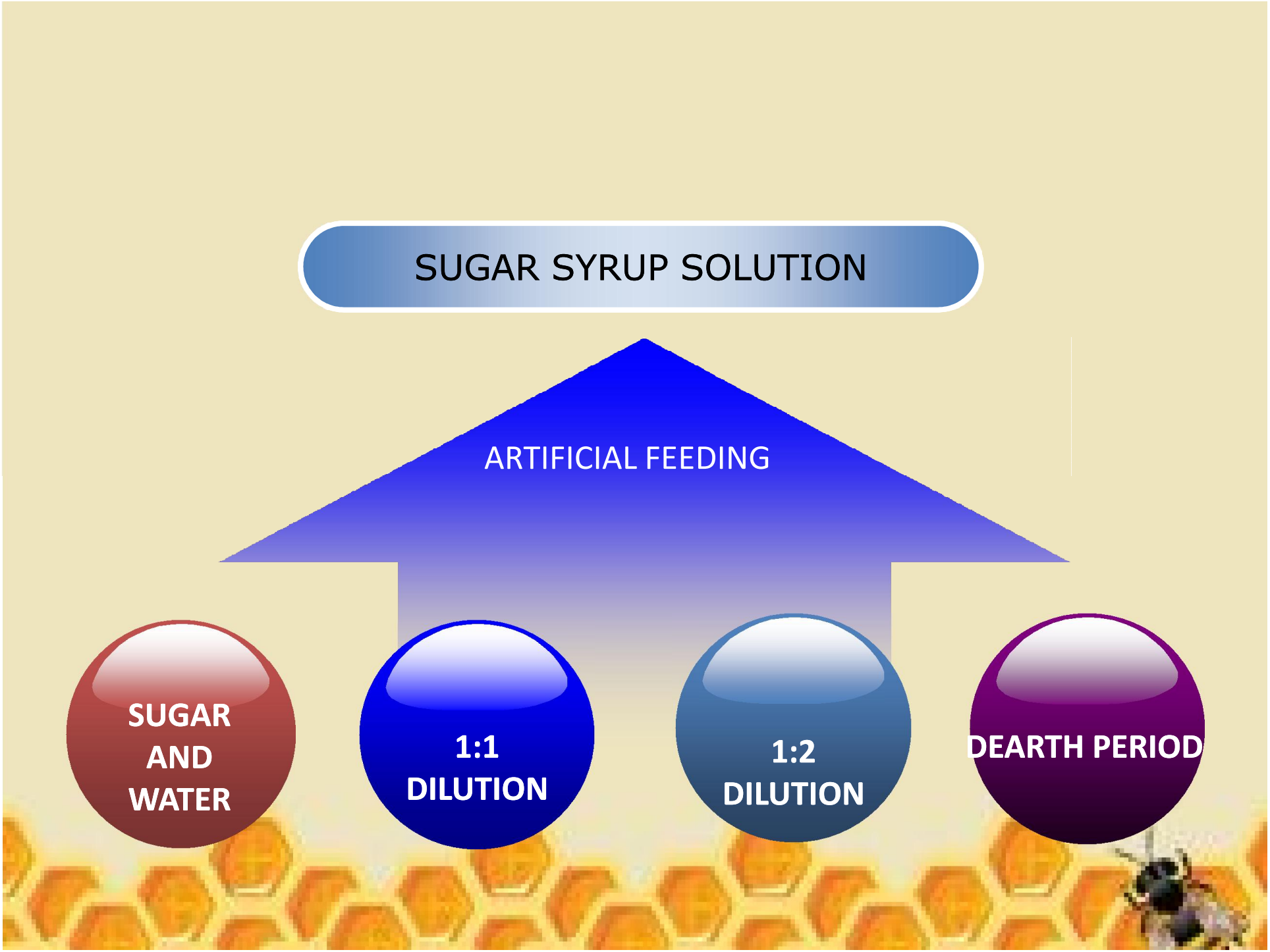
SWARM MANAGEMENT

- ✓ Swarming is a natural method of colony multiplication in which a part of the colony migrates to a new site to make a new colony.
- ✓ Swarming occurs generally in a strong colony when the colony population is high and when the queen's substance falls to a certain limit.
- ✓ Swarming can be prevented mainly by dividing the colonies.

SUGAR SYRUP SOLUTION

Feeding honeybees with sugar syrup is a common task.

To increase the brood buildup, supplemental syrup and pollen substitutes should be given at 3 weeks before the nectar flow.


SUGAR SYRUP SOLUTION
ARTIFICIAL FEEDING
SUGAR AND WATER
1:1 DILUTION
1:2 DILUTION
DEARTH PERIOD

QUEEN GRAFTING

- ✓ Grafting is the most common method of queen rearing.
- ✓ Grafting is simply the transfer of larvae that were intended to be workers into queen cell cups.
- ✓ Grafting is known universally as the "Doolittle" method.
- ✓ The number of successful queens reared increases with due experience.

PROCEDURE INVOLVED

Day 1 - Give breeder hive an empty dark brood comb to lay eggs in.

Day 4 - Transfer (graft) larva into artificial queen cell cups, from the breeder comb. Place the frame into a strong colony (cell builder) made queenless the day before.

Day 14 - Remove completed cells from cell builder. Leave one cell behind to replace the queen. Keep queen cells warm (80-94 F) until they are placed in queenless hives.

Cntd..

Day 22 - Virgin queens are ready to mate. They require nice weather (69 F), and an abundance of drones to mate with. A few colonies within a mile are adequate for providing drones for mating.

Day 27 - If queens mate without weather delay, they should now be laying eggs

Queen cell cups

Transferring young larvae

Young larvae

Provision of royal jelly

Enlarged queen cells

SUMMER SEASON

- Sufficient shade or artificial structure
- Providing pollen substitute and sugar syrup
- Increasing ventilation
- Harvesting honey
- Place gunny bag on hive and sprinkling water

POLLEN SUBSTITUTE

- Bees get their vitamins, proteins and fats from pollen.
- Without stores of pollen adult bees become weak and there is little to feed the winter brood or available for the spring build up.
- As a rule of thumb, one kilogram of pollen is needed for every one kilogram of bees (9,000 - 10,000 bees).

Red gram or green gram

SOY BEAN

Chick pea

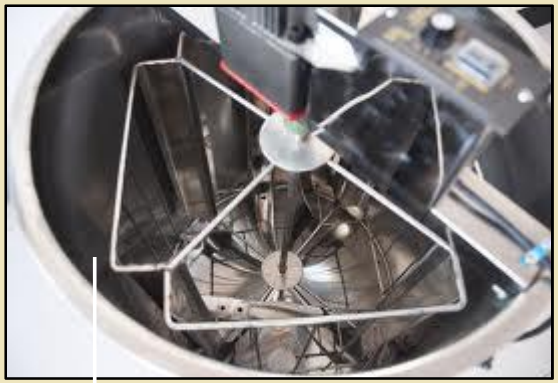
HARVESTING HONEY

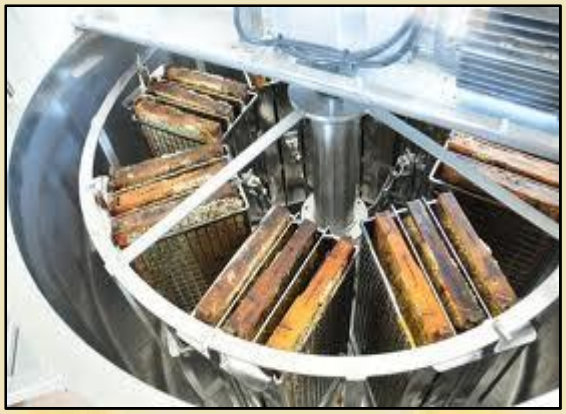
Bee escape board

Uncapping the honey

Honey extractor

HONEY EXTRACTORS!!





WINTER MANAGEMENT

- Preventing pests and diseases
- Providing sugar syrup
- Moving hive to a new position
- Providing new queen

PESTS

Minor pests/predators

Ant

Death Head's moth

Yellow banded wasp

Varoa mite

DISEASES

American foul brood virus

Sac brood virus

Thai sac brood virus

Chalk brood virus

MONSOON MANAGEMENT

Avoid dampness in the hive and provide any protective covering.

Use dummy division board to confine the bees to a limited area

REFERENCES

Practical Beekeeping by R.J.Howe and W.E.Howe

The behaviour and physiology of bees by L.J.Goodman & R.C.Fisher

Honeybees and their management by Stanly B.Whitehead.(1951)

TNAU Agritech Portal

Applied Entomology


THANK YOU...!!!