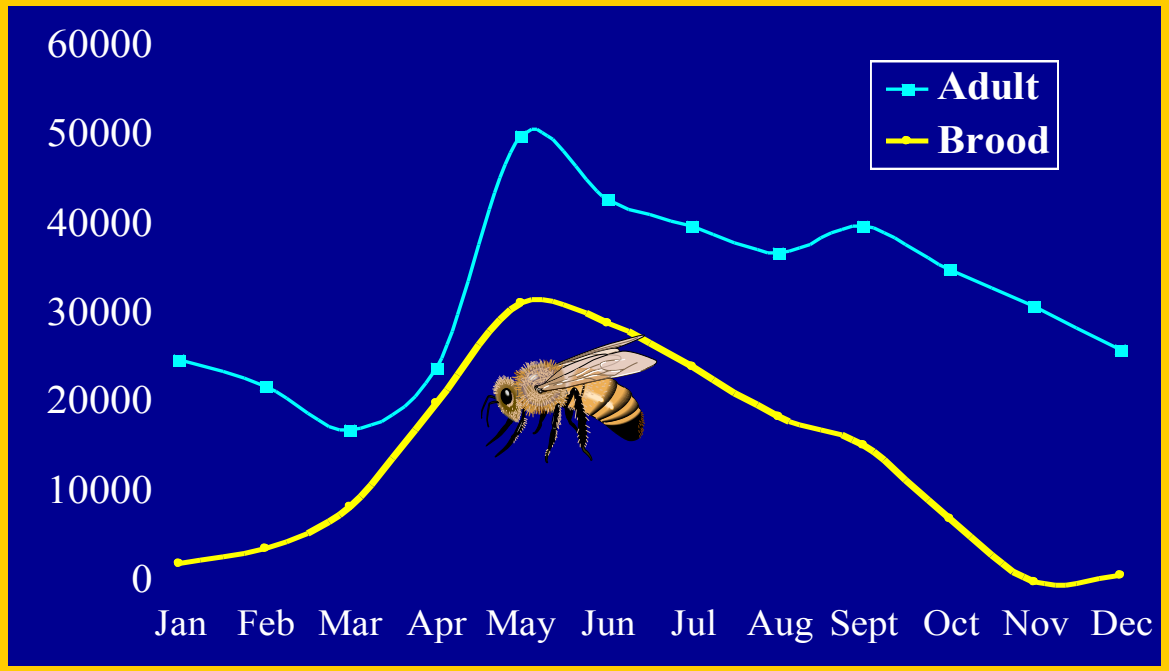
Overview of Yearly Management

What do I Need to Prioritize and When?

Beginning Beekeeping

Webb Flowers, Carroll County VA Extension

December 18, 2009



Primary Goals in Beekeeping

- Obtain a large population of bees that coincides with the major nectar flows
- Utilize the population to the greatest advantage for honey production or pollination
- Maintain healthy colonies, high probability of survival

Overview of the Yearly Management Cycle

- Late Winter - Early Spring
  - insure colony survival
- Spring
  - encourage colony build-up, prevent swarming
- Early to Mid Summer
  - super colonies for honey production, remove and extract honey
- Late Summer
  - queen replacement, disease and mite treatment
- Fall
  - colony preparations for wintering

Annual Cycle of the Honey Bee Colony

Successful management of honey bee colonies requires an understanding of the annual cycle.

The cycle varies in different areas of the country, because of environmental factors and plant diversity.

Differences are reflected in:

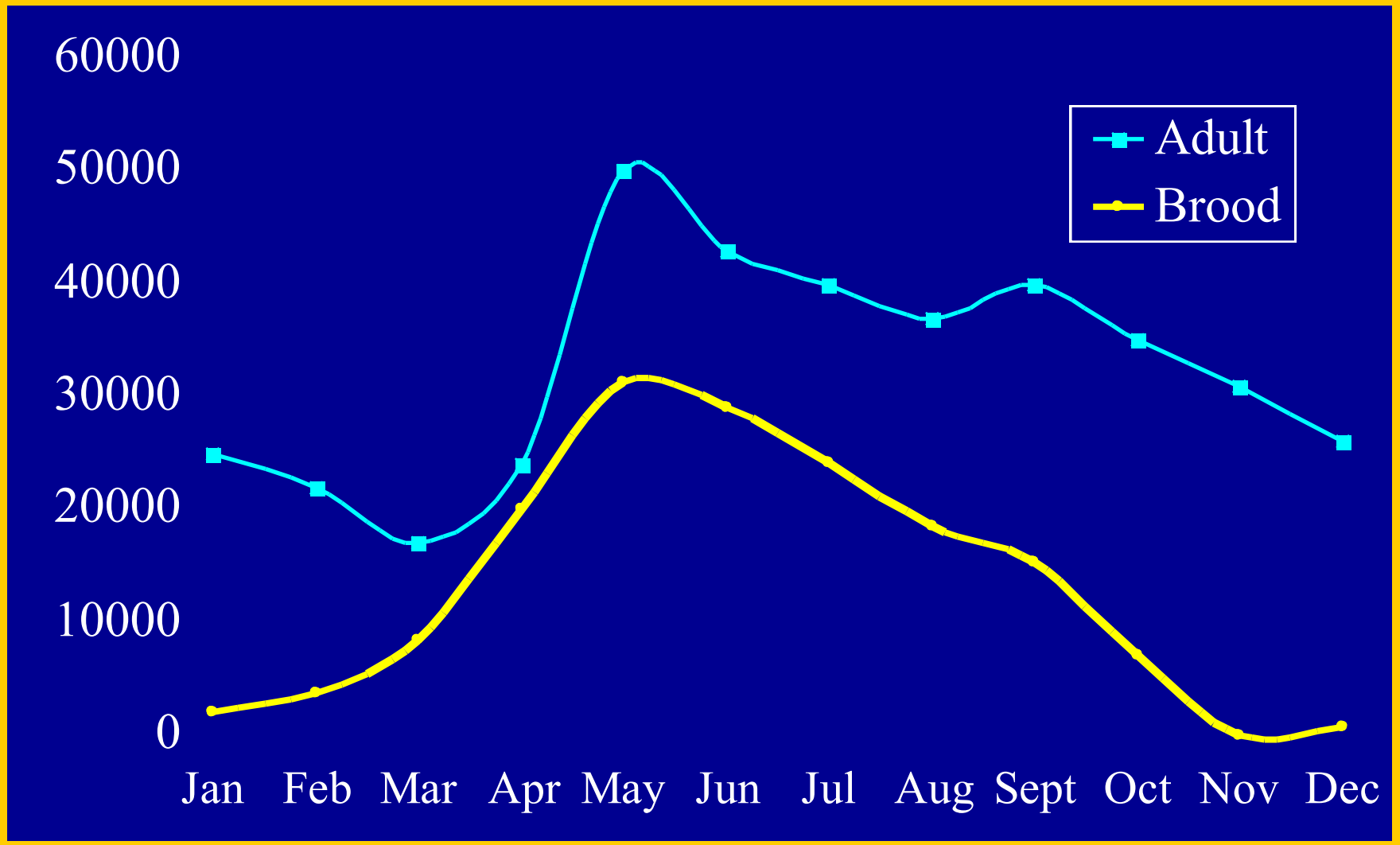
a) population size

b) time of peak population

c) brood production

Annual Cycle of a Honey Bee Colony

Data collected in Blacksburg Virginia



Spring Management

Objectives:

1) Ensure survival of colonies
2) Encourage colony growth
3) Prevent swarming

Late Winter / Early Spring Exam

(Early February)

Quick Check of Colony Condition

1) **Colony alive?**
2) **What is the amount of food stores?**

If Colony has died.

1) **Seal up and remove to prevent robbing and possible disease spread**

Early Spring Exams are Important

Food supply is critical in the spring

- Most colonies starve in late winter or early spring (February and March)
- Colonies should have a minimum of 3-4 full depth frames of honey

Feeding colonies in the spring:

- Feed 1:1 sugar syrup
- Feed pollen supplement to help increase brood rearing
- Now recommend feeding in late January

First Spring Exam

The time of the first real colony exam can vary, but generally should be made around the 1st or 2nd week of March.

Functions:

1) **Evaluation of food condition**
2) **Check on queen condition**
3) **Evaluation of strength**
4) **Check equipment, clean bottom board**

Second Spring Exam

The second exam should be made during the last week of March.

This exam should involve:

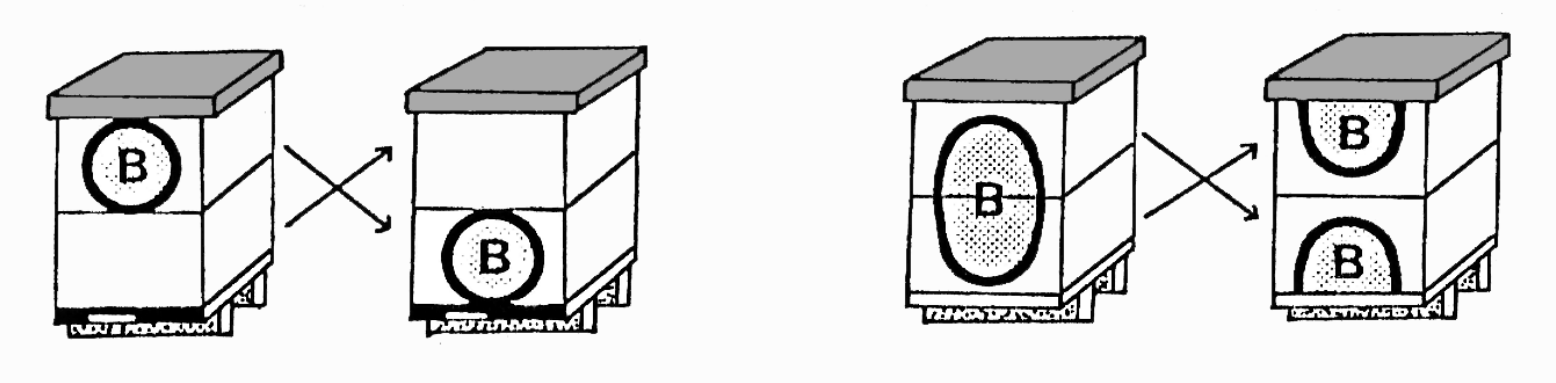
1) Brood nest inspection
   - queen evaluation, disease check (American foulbrood, stress diseases)
2) Initiation of swarm prevention practices

The Problem of Swarming

- Major problem in the spring
  - 10 - 40% of colonies in an unattended apiary will swarm
- Do not have perfect techniques to prevent swarming
- Do not know the specific causes of swarming
  - Important factors include: crowding, age of the queen

Swarm Prevention Techniques

<u>Reversing</u>: a technique that involves switching the position of the hives bodies, allowing for upward expansion of the colony. Reversing needs to done at least two times.



Late March - Early April Reversal

Mid to Late April Reversal

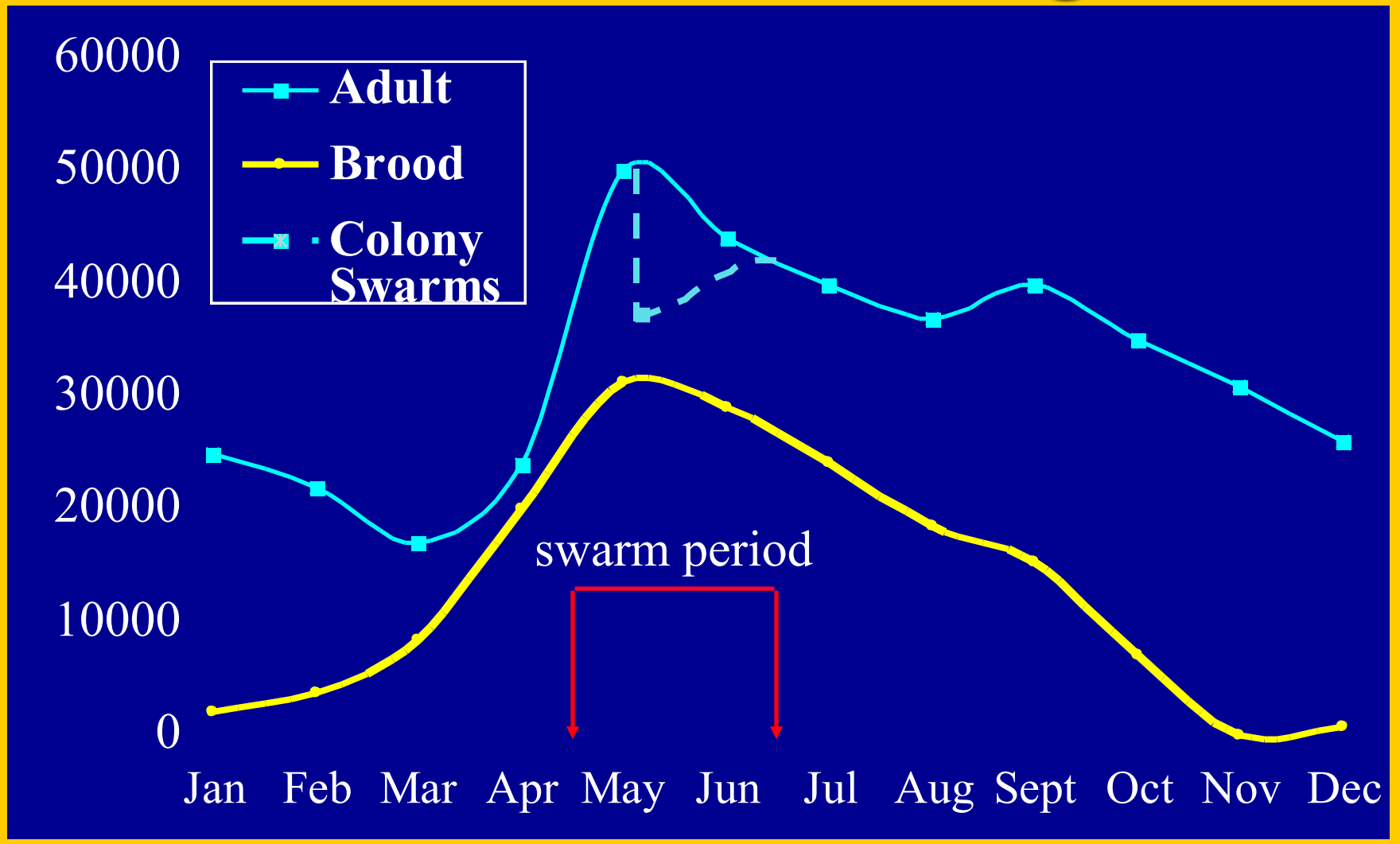
How Much Space is Needed?

Very strong colonies may require additional space, especially after second reversal.

If needed, add a third hive body (medium or full depth).

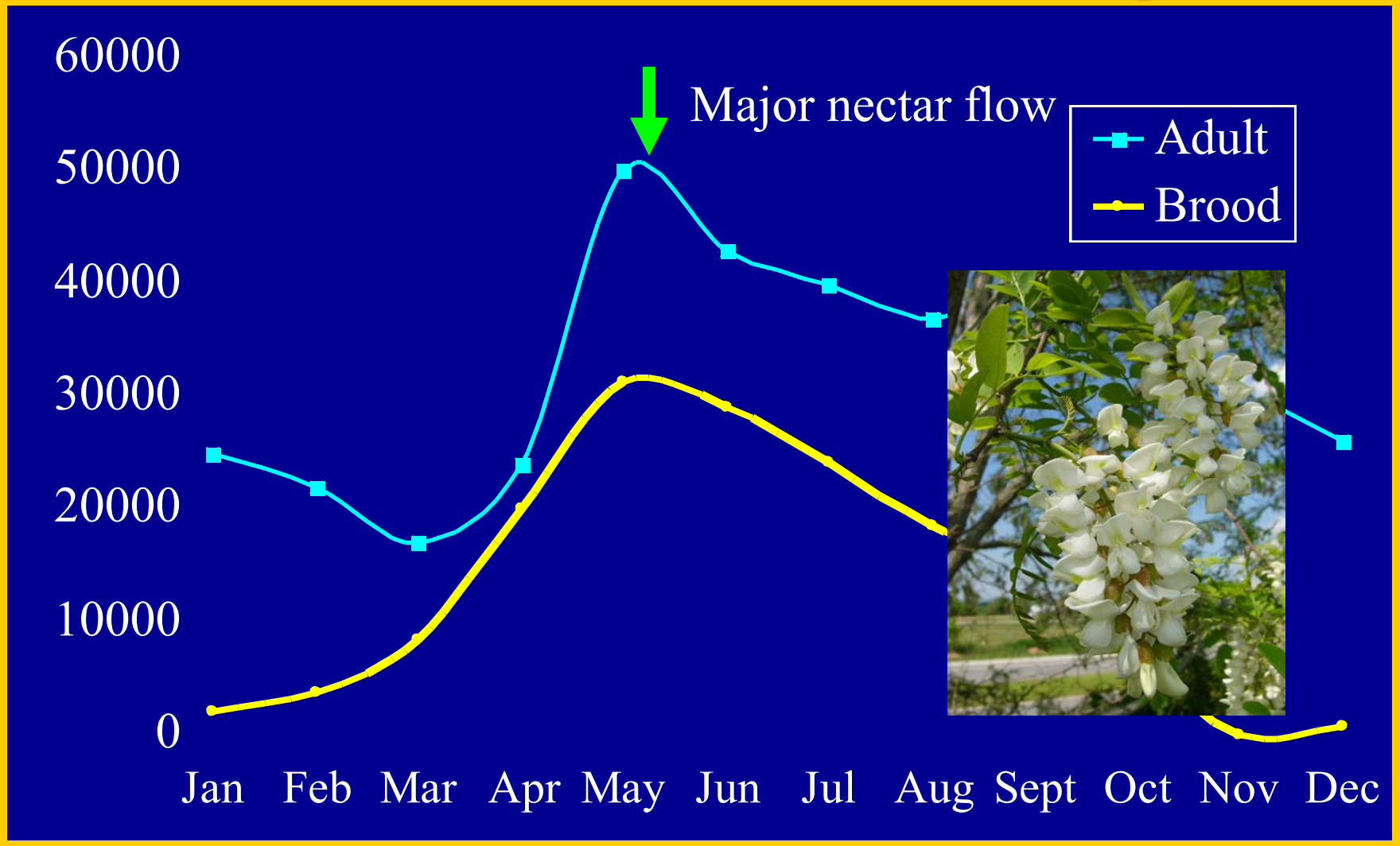
Remember goal is to build strong hives with as large a population as possible.

Annual Cycle of a Honey Bee Colony
Effects of Swarming



Annual Cycle of a Honey Bee Colony

Nectar Flows and Summer Management



Summer Management

- Honey production
- Disease / parasite prevention and control
- Queen management

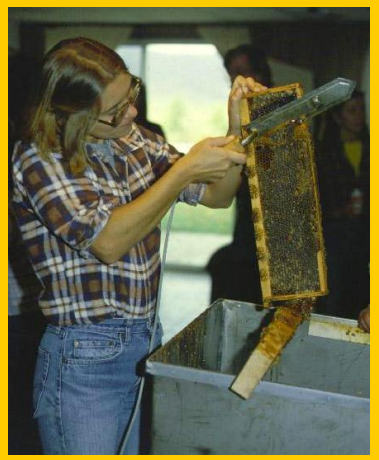
Supering Colonies

1. Bees need space for nectar storage
2. Provide place for bees to congregate
3. Empty space stimulates nectar gathering
4. Potential problem - bees may use supers for brood: avoid by use of queen excluder

Use of the Queen Excluder

Removal and Extraction of Honey

- Remove honey supers from hives after removing bees
- Extraction and processing of honey



Uncapping honey frame

Extraction

Course straining

Fine straining

Summer Management

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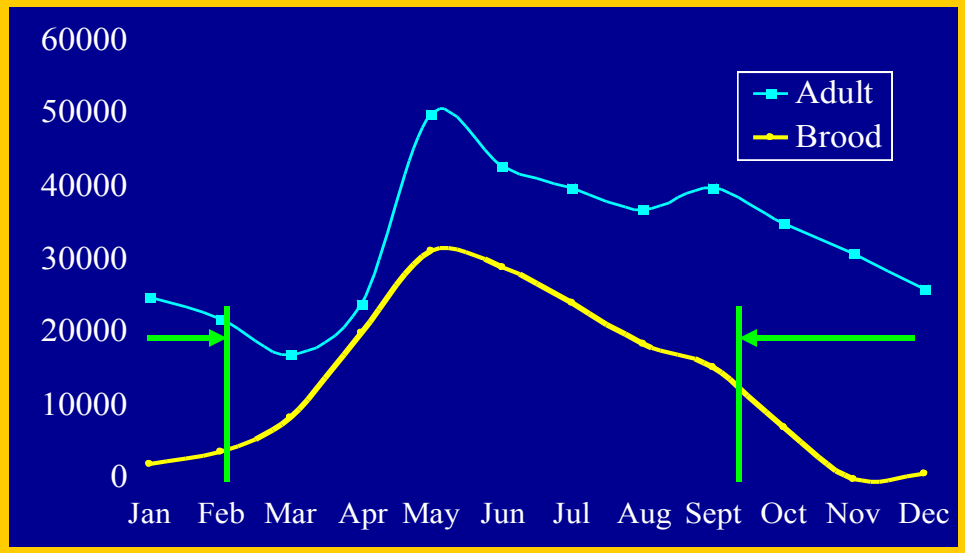
Fall and Winter Management of Honey Bee Colonies



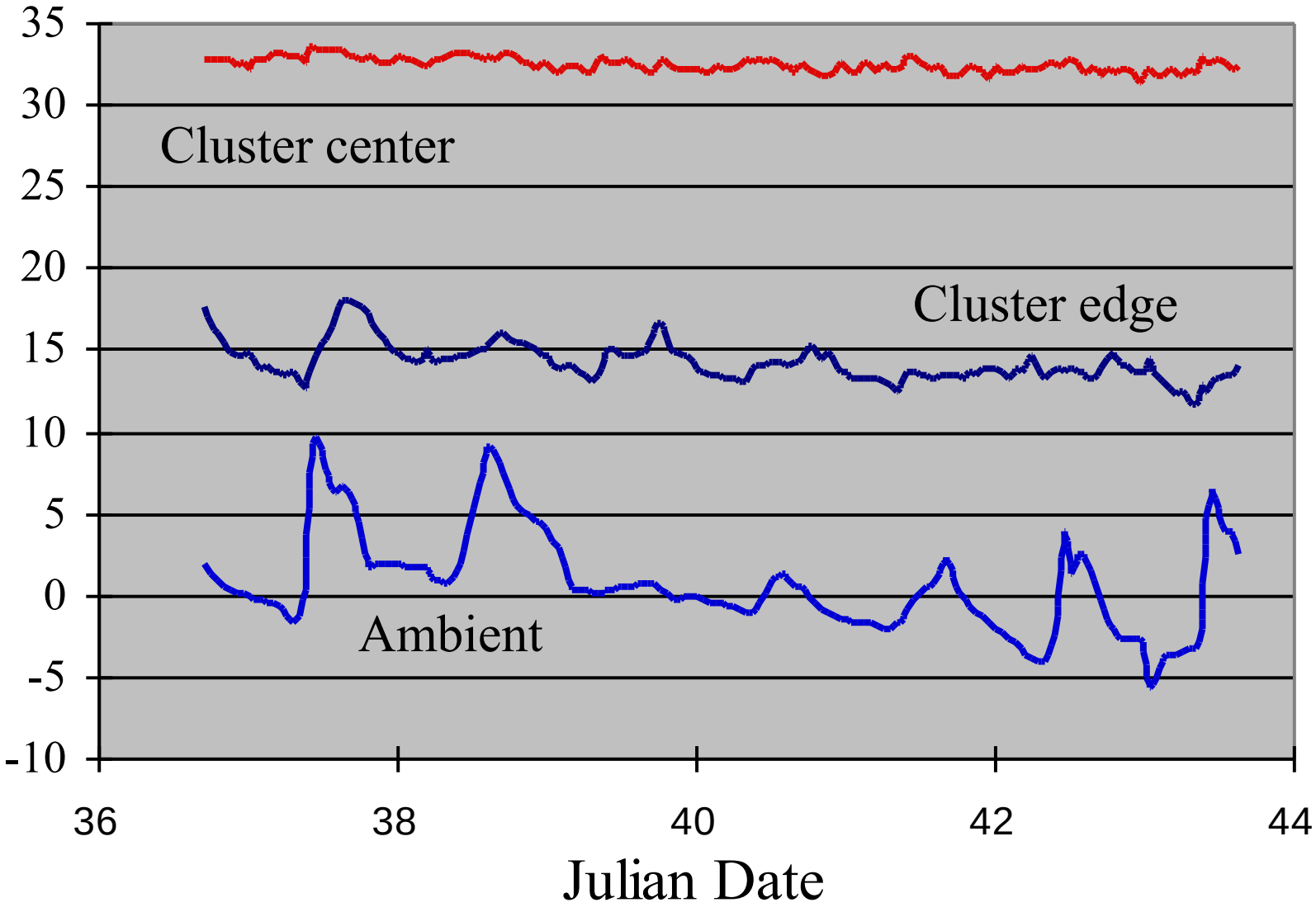
Importance of Good Management in the Fall and Winter

- Colony survival
  - » mistakes are costly; average losses were 10 - 20%, now 40 - 60%
  - » winter hazardous period for honey bee colony
- Better prepared colonies improve productivity the following year

Honey Bee Colony in Winter Adaptations for Survival

- Store food (honey)
- Increased lifespan: winter bees live 3-7 months (summer bees live 30 - 35 days)
- Suspend broodrearing
- Form winter cluster to control temperature (Do not heat the hive - only the cluster; temperatures - early winter 76-80ºF, late winter > 90ºF)

Temperatures in the Winter Hive



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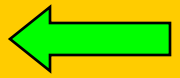
- Form winter cluster to control temperature (Do not heat the hive - only the cluster; temperatures - early winter 76-80ºF, late winter > 90ºF)
- Utilize periodic cleansing flights 

Cleansing Flights

Cleansing flights during the winter. Dead bees are commonly found on snow after a warm day with flight activity.

Fall and Winter Management

- **Early fall management - primary concern is colony strength**
- **Late fall / early winter - concern is for proper preparations of each colony for winter**

Colony Preparations for Winter

1. Every colony must have a good queen
2. Colonies must be protected from climatic extremes
   - selection of a good overwintering site
   - protection of individual hives

Entrance reducers - good winter practice

Upper entrances increase air circulation, allow moisture escape

Should We Insulate Hives?

- Honey bees cluster to maintain temperature; cluster provides the insulation
- Insulation is designed to slow temperature changes
- Insulating a hive can have a negative effect - holds in cold temperatures and prevents the hive from warming
- Warming allows for cleansing flights and cluster shifts for feeding

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3. Every colony must have adequate honey (55 - 60 lbs) and pollen stores

Winter Food Needs

- Storage of honey in excess of summer needs is a key factor in wintering success
  - Colony requires 50-60 pounds of honey

- Colonies also require pollen stores for successful wintering
  - Minimum of 3 - 5 frames of pollen are required
  - Pollen provides protein for winter brood rearing

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4. Every colony must be maintained in a disease and parasite free condition

Varroa mites

Questions?