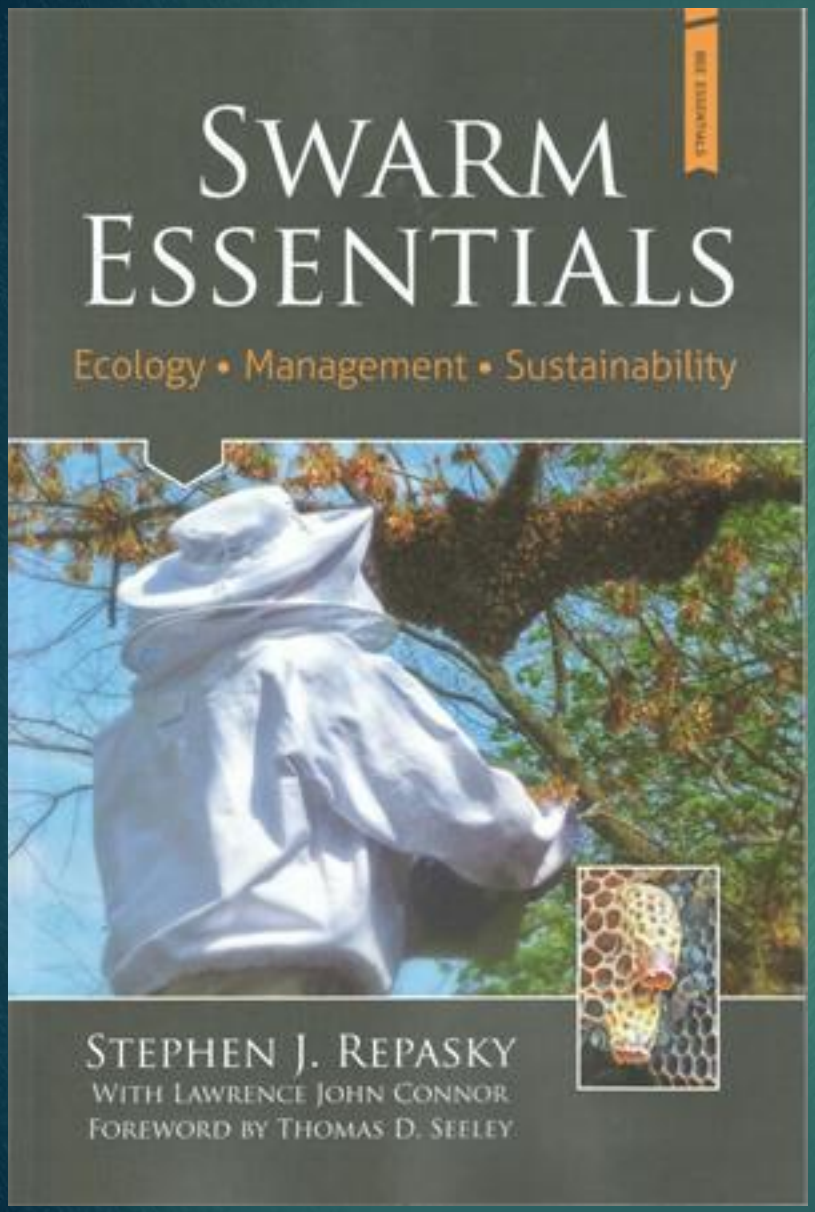

SWARM ESSENTIALS
Ecology • Management • Sustainability
STEPHEN J. REPASKY
WITH LAWRENCE JOHN CONNOR
FOREWORD BY THOMAS D. SEELEY

Events of Swarming

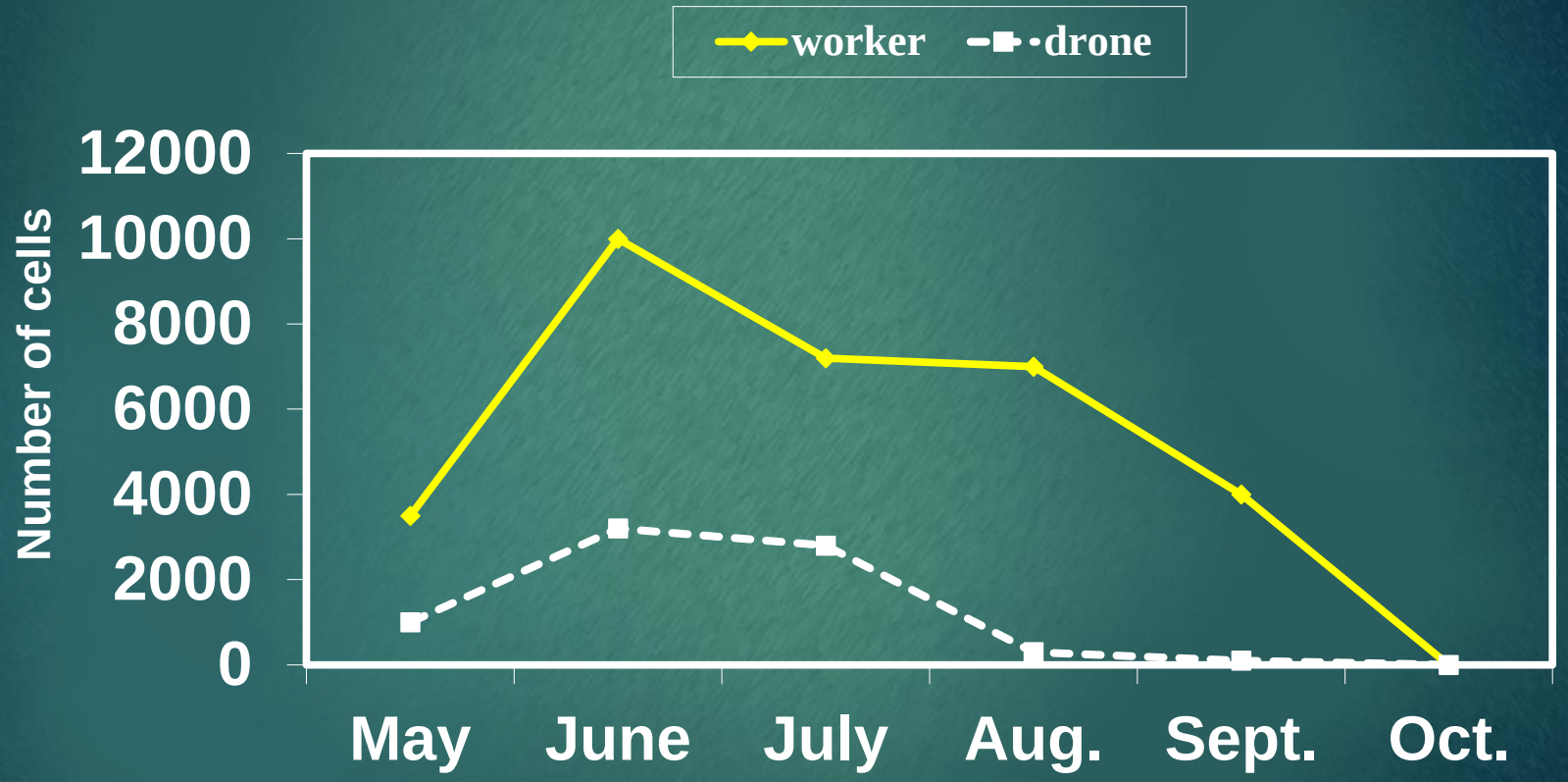
- Rapid growth in amount of worker brood
- Crowding of the colony
- Queen cup construction
- Queen cell construction (10-15 days prior)
- Good weather
- Engorgement of Honey
- Exodus

Causes of Swarming

- Dilution of queen pheromone
- Lack of space for queen to lay eggs
- Abundance of resources
- Genetic strain of bees
- Age of queen
- Environmental conditions

Pre-Swarm Conditions

Colony Growth



Crowded with Good Nutrition

Timing of Swarming

- **New York: May-June, peaks in June**
- **Pennsylvania: May-June, peaks in late May**
- **Arkansas: April-May, peaks in early May**
- **Louisiana: March-May, peaks in April**

Many Queen Cups → weeks from swarming

Getting Ready to Swarm

Broodnest	Time until Swarming
Many queen cups	go time, swarming in weeks
Eggs in cups	will swarm in 8-10 days
Capped cells	any moment

Swarm Cells located on bottom of combs (easily seen by tilting back brood boxes)

Emergency Queen Cells located anywhere, and they are usually shorter than swarm cells

Queen cells being chewed down after a virgin queen has emerged

It Already Swarmed!

Broodnest	Likely time of Swarm
Open brood is present	recent, 0-4 days
Sealed but no open brood	more than 4-5 days
No brood but there are remains of queen cells	swarmed > 3 weeks, new queen not laying yet
Multiple eggs in cells	> 28 days ago, new queen failed, laying workers

Timing of Splits or Nucs

1. **Wrong time – waste of time, bees and money**
2. **Best time – mid-spring but before major honey flow**
3. **Good sign – 1st drone flights and swarm season beginning**
4. **MUST have adequate food in all units that are budded or split from a hive**

General Rule: Earlier and Stronger Spilts Ensure Greater Success or Survival of Splits or Nucs

Timing of Splits or Nucs

1. Earliest good pollen → maples in Jan.
2. Begin feeding 50:50 syrup in Feb. – March
3. Add protein supplement if pollen becomes intermittent (start end of Jan. – March)
4. Must be prepared to split in March – April to avoid swarming

Feeding Sucrose

- **33% Syrup: trickle; stimulates brood rearing**

4.2 lbs. sucrose + 1 gallon water (makes 1.2 gallons syrup)

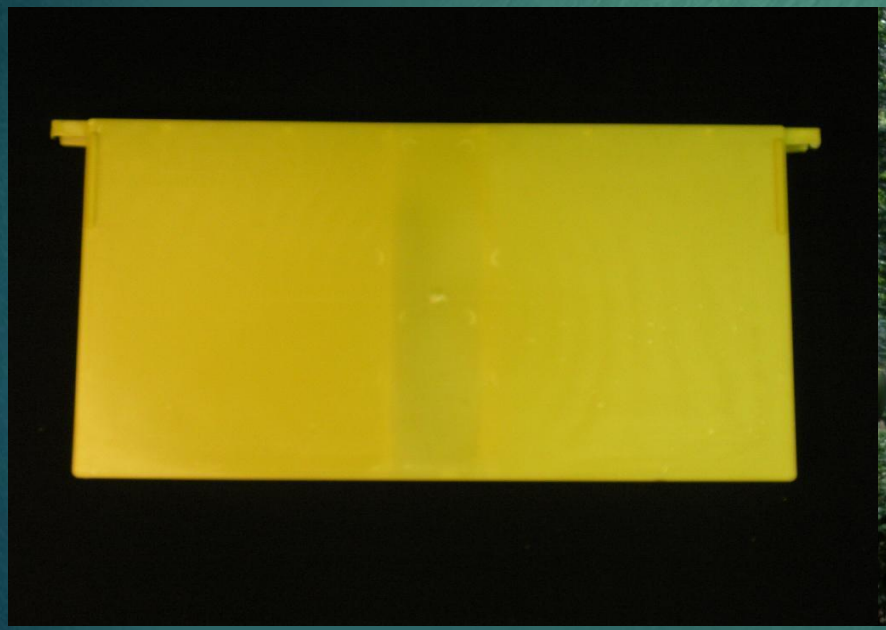
- **50% Syrup: spring feeding**

8.3 lbs. sucrose + 1 gallon water (makes 1.6 gallons syrup)

- **Thick Syrup (67%): autumn feeding**

16.6 lbs. sucrose + 1 gallon water (makes 2.3 gallons syrup)

Feeding Colonies
(division board)



Bee Bread

Pollen + Microflora

Commercial Protein Supplements

- Global Patties
- MegaBee
- BeePro
- Bee-Pol
- Feed-Bee

Protein Supplements

- Place patties close to broodnest
- Feed a light syrup at the same time; helps stimulate brood rearing
- Be careful in cooler periods!

Measures of Quality

- Increased brood production; colony growth
- Increased worker longevity
- Increased blood vitellogenin
- Boost in immune functions (e.g. pro-phenol oxidase)

Timing of Splits or Nucs

1. The best colony size for splits is 2-3 deeps full of bees and brood

2. Splitting can be governed by availability of QUEENS

3. Bees will respond best to feeding during the natural period of spring build-up

How much to Feed

1. 1-2 gallons of sugar syrup during 3-4 weeks prior to splitting
2. One third pollen patty every 2-4 days for the same period of time
3. Add empty combs to avoid becoming honey bound – delicate balance between growing and crowding!