

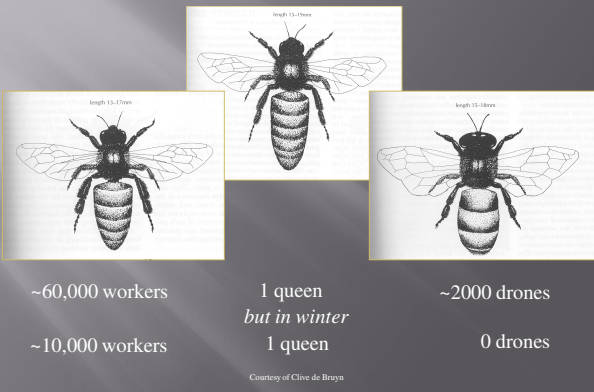
INTRODUCTION TO BEEKEEPING

- Lifecycle of the Honeybee

Honey bees and other insects



Number of bees in a colony



The Queen

- ❑ Female
- ❑ Anatomically different to other females
- ❑ Characterises the colony
- ❑ Lives for 3-5 years
- ❑ Mates in early life
- ❑ Only leaves colony when swarming



Queen Development

- ❑ Egg laid in cup
 - 3 days to hatch
- ❑ Fed royal jelly from hatching
 - Fed for 5 days

16 Days

- ❑ Cell hangs downward
 - Food in cell when sealed
- ❑ Pupal development quite different
 - Proteins switch on different genes
- ❑ Emerges after 8 days as pupa



Adult queen

- ❑ Accepted into any colony when hatched
 - 4 days to mature
 - Then fed by workers
- ❑ Goes on mating flights
 - First 3 weeks
 - Stays in hive afterwards
- ❑ Lays up to 1500 eggs a day
 - More than body weight
 - High energy digested food
 - Egg laying controlled by food intake





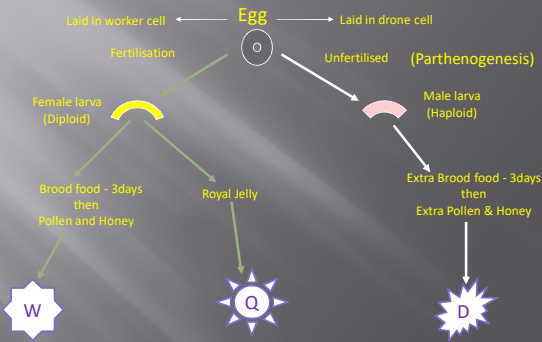
Mating



- ❑ Drone collection areas
- ❑ Pheromone attractants
- ❑ Drone paralysed
- ❑ Multiple flights
- ❑ 15-20 matings
- ❑ ~10,000 drones
- ❑ ~50 m diameter



Gender & Castes



Drone Development

- ❑ Egg laid in large cell
 - 3 days to hatch
- ❑ Fed brood food for 7 days
- ❑ Pupates for 14 days
- ❑ Adult matures for 10 days
 - Feeds itself
- ❑ Lives 3 -6 months
 - Fed by workers
 - Dies when mating

24 Days



34 Days

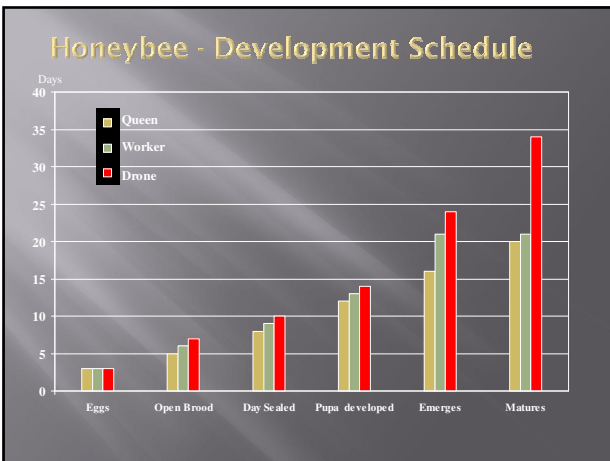


Workers - Division of labour with age

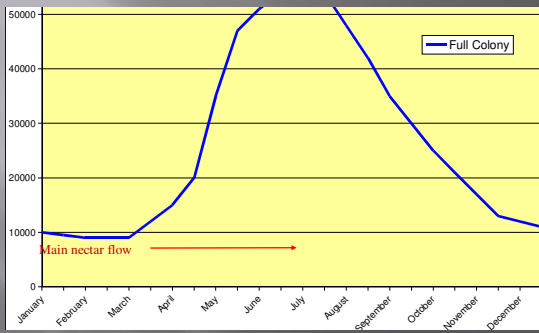
- ☐ 0 - 6 days cell cleaning, general hive cleaning
- ☐ 3 - 9 days feeding the brood
- ☐ 3 - 15 days attending the queen
- ☐ 6 - 18 days honey processing
- ☐ 12 - 20 days wax production and comb building
- ☐ 15 - 25 days hive ventilation
- ☐ 18 - 35 days guard duty

- ☐ 20 days - death nectar collection
- ☐ 20 days - death pollen collection
- ☐ 25 days - death water & propolis collection





Number of bees in a colony



Colony Characteristics

- ❑ Gentle but robust
- ❑ Healthy
- ❑ Hard working
 - Cold weather
 - opportunists
- ❑ Large colony
 - Slow to swarm
- ❑ Economic in winter