

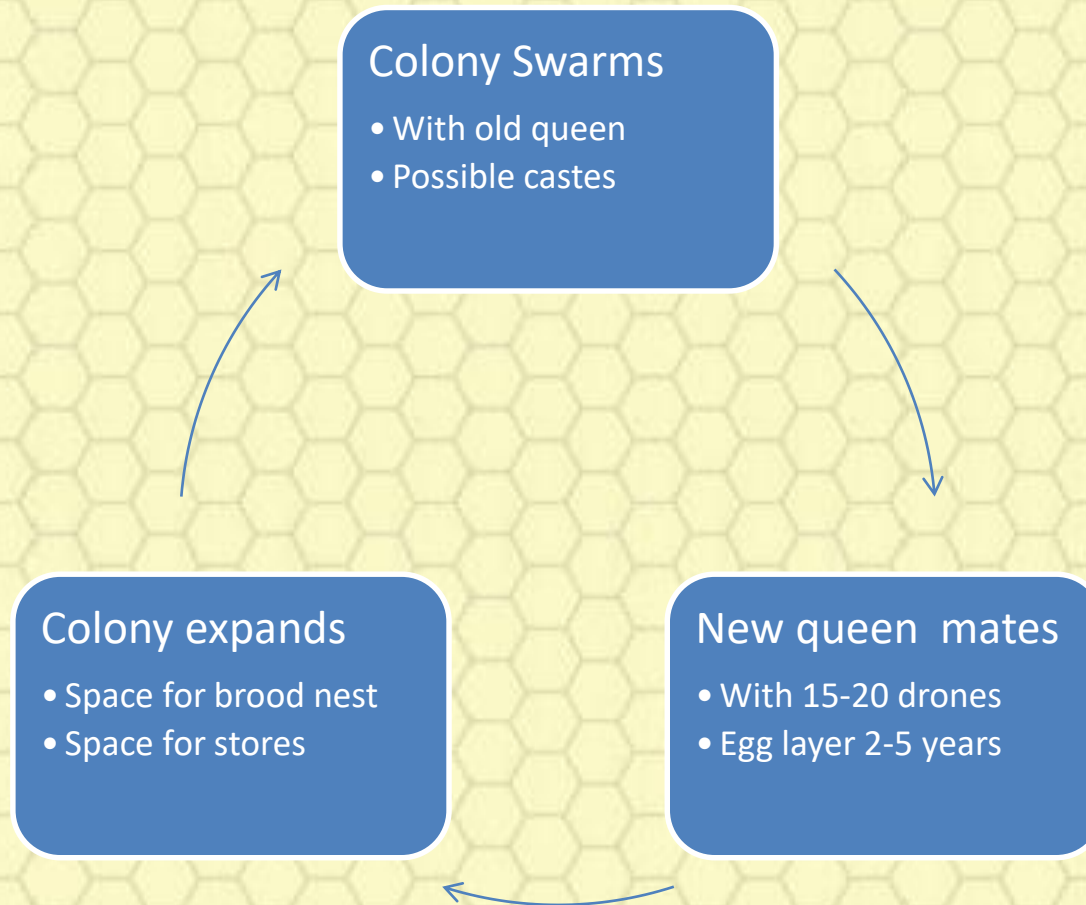
Queen Rearing

Sean Stephenson

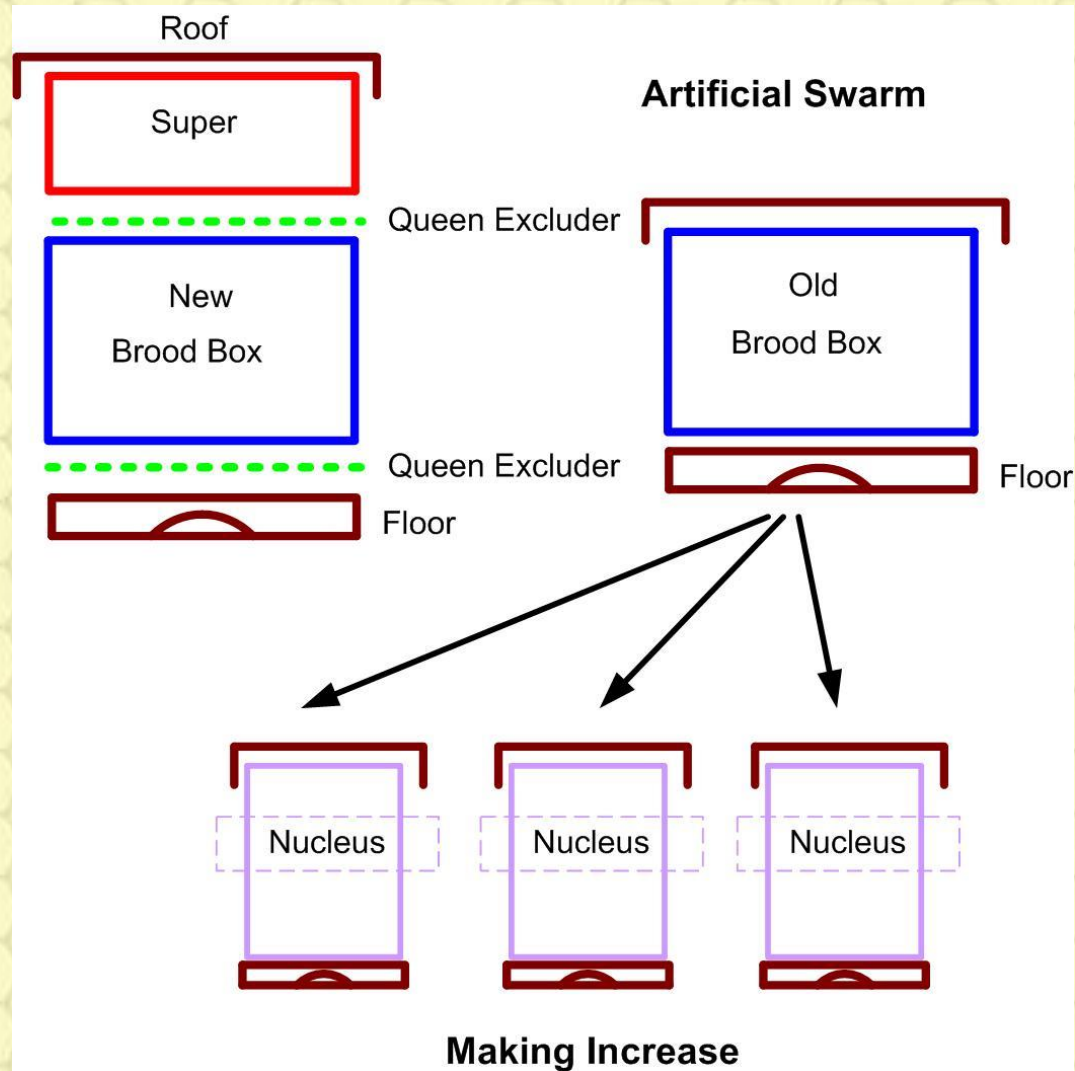
Who has Done What?



Honey bee colony life cycle



Queen rearing or making increase



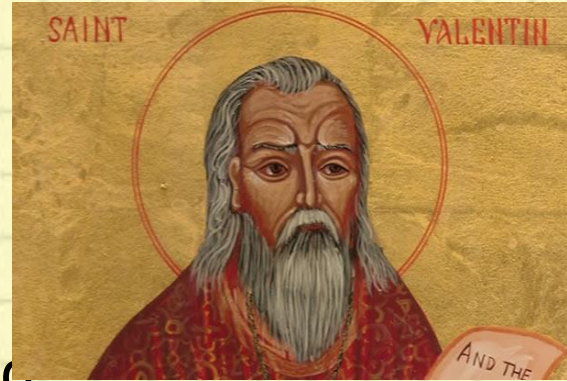
Queen rearing definition

- Use material of beekeeper choosing
 - Queen
 - Drone
- Timing dictated by the beekeeper
- Queen mating environment controlled by the beekeeper



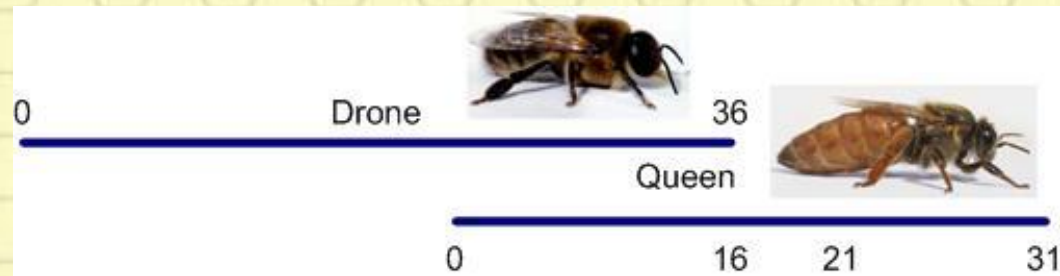
Successful Queen Rearing

- Have a plan
 - When and where
 - Equipment
 - Colonies to be employed
- Get the timing right
 - It starts with the drones
 - Ends with a mated queen introduced into a colony
- Do more than one cycle in a season
- Have a beekeeping saint on your side



Timing

- Lifecycle of a drone
 - 24 days egg to emergence
 - 12 days to become sexually mature
 - Minimum of 20 days before queen emergence there must be drone cells in several colonies
- Lifecycle of a queen
 - Egg 3 days
 - Cell capped day 8
 - Emerges day 16
 - Sexually mature 5 days after emergence
 - Laying within 10 days, **with luck!**



Required Resources

- Location
 - Needs regular visits
 - Weather does not stop queen rearing
- Source for queen
 - Colony the Beekeeper enjoyed most the previous season
- Bees for tending the queen
 - Strong, young and healthy
- Equipment
 - Hive/Nucs
 - Mating nucs
- Time



All Methods are Based upon the same Principles

- Breeder queen to provide the eggs
- Cell building colony, sometimes split to a starter and finisher colony
- Mating environment such as a mating nuc



Some considerations on breeder queen

- Handling
 - Calm, not bothered by manipulation
 - Not aggressive/defensive
- Productive
- Low swarm tendency
- Large colony
- Over winter's well
- Hygienic



Collection of eggs – methods differ

- Let the bees do it
 - Miller
 - Hopkins
 - Demaree
- Beekeeper selects the material
 - Grafting
 - Jenter



Cell Builder

Stores

Pollen

Eggs from Breeder

Young Brood

Sealed and Hatching

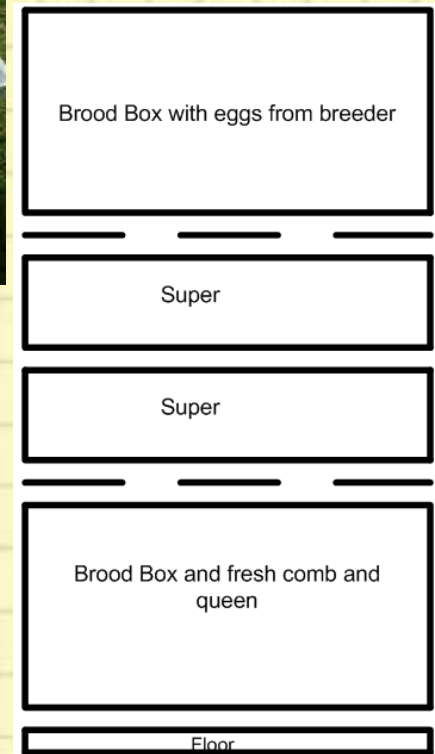
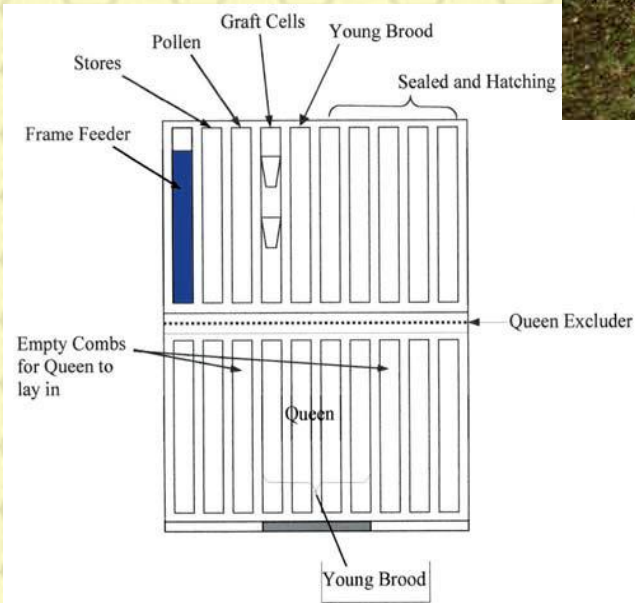
Sealed and Hatching

Sealed and Hatching

Stores

Cell Builder Setups

Queenless

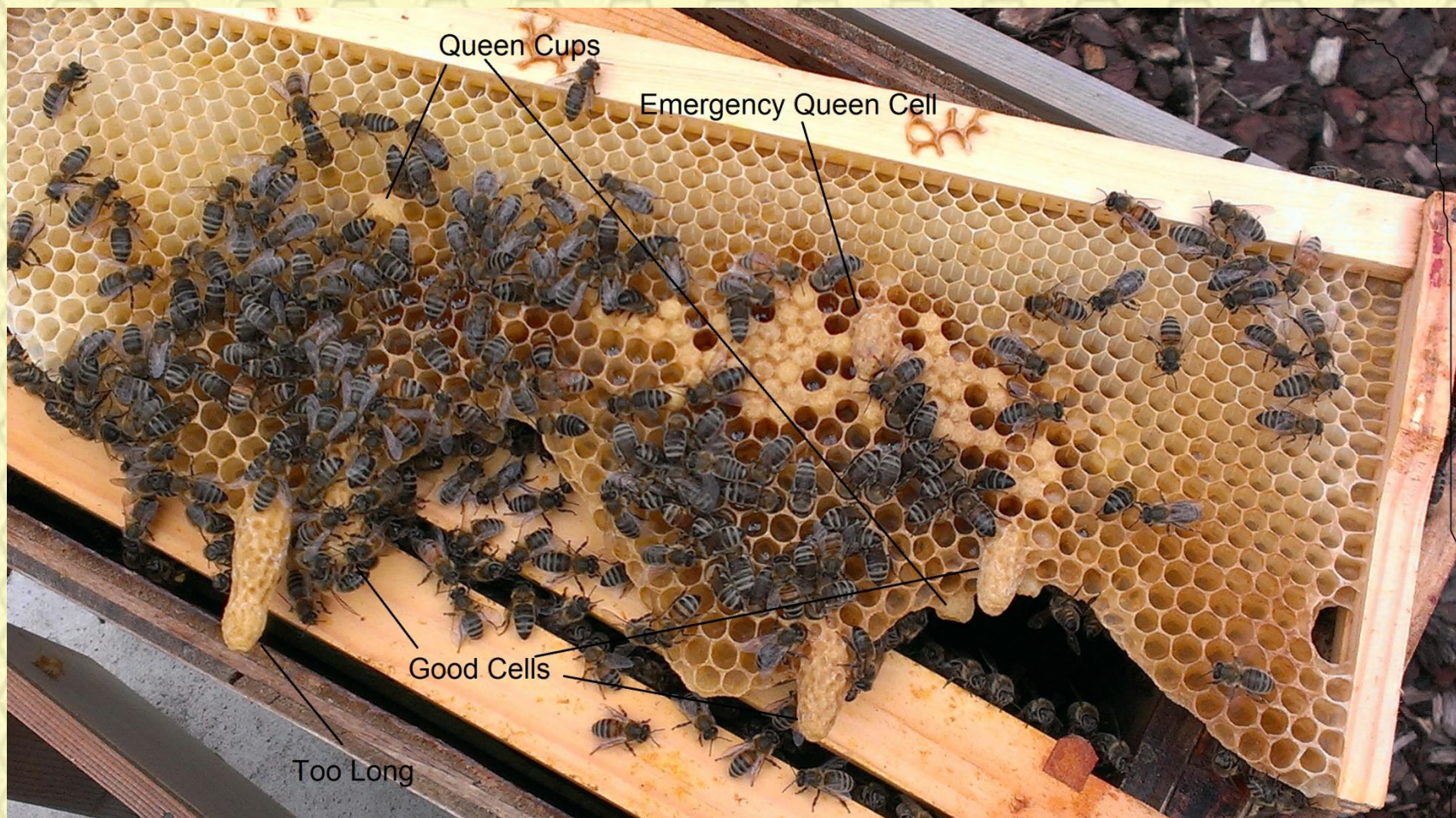


Queen right

Queen Cells 😊



Good and bad queen cells



Mating Nuc

- **Mini Nuc**
 - Small so fewer bees required
 - Fewer bees so keener to push queen out to mate
 - Good for volume production of queens
 - What do you do once you have a mated queen?
- **Standard Nuc**
 - Requires more bees
 - Bees will wait for queen to mate
 - Compatible with full size hive
- Personal preference for small scale queen rearing
if possible use standard nuc box.

Timetable – Miller/Demaree/Hopkins

- Day 1 – take frame from breeder colony and place in cell raiser
- Day 3 – check frame for queen cells, pinch out sealed cells and make space around good cells
- Day 10 – place queen cells in mating nuc
- Day 24 – check for laying queen
- Variation for grafting

Day No.	Stage of Bee	Activity	Example Dates
-1		Put graft frame in hive for acclimatisation	28 th June
0	Larva 1-2 days old	Graft larvae into cups	29 th June
3	Open Queen Cups	Check for acceptance, destroy sealed cells	2 nd July
6		Check colony for emergency QCs	5 th July
10	Day before emergence	Transfer QCs to mating Nuc/Colony	8 th July
13	Emerged queen	Quick check that QC accepted	11 th July
24	Mated queen	Move queen to permanent home	22 nd July