

New Method for Mating Queens

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New Method for Mating Queens

It is impossible to have good selection,
economic operations or create strong new
colonies without a proper mating system



Sign of Last Mating



New Method for Mating Queens Method

Drone production in Selection Hive is very important

- The nutrition (protein) level in the Selection Hive must be high. This is accomplished with Caspian Solution, pollen, honey, sugar and water
- Place drone comb between frames of brood
- Move drone eggs to other strong hives and place new empty drone comb
- Drone production depends on the nutrition level in the hive not the temperature

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Method (continued)

Mating Box Design – The Next Critical Step



Colourful Three Compartment Mating Boxes

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Method (continued)



Colourful 6 Frame Nucleus Mating Boxes

New Method for Mating Queens

Method (continued)



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Method (continued)



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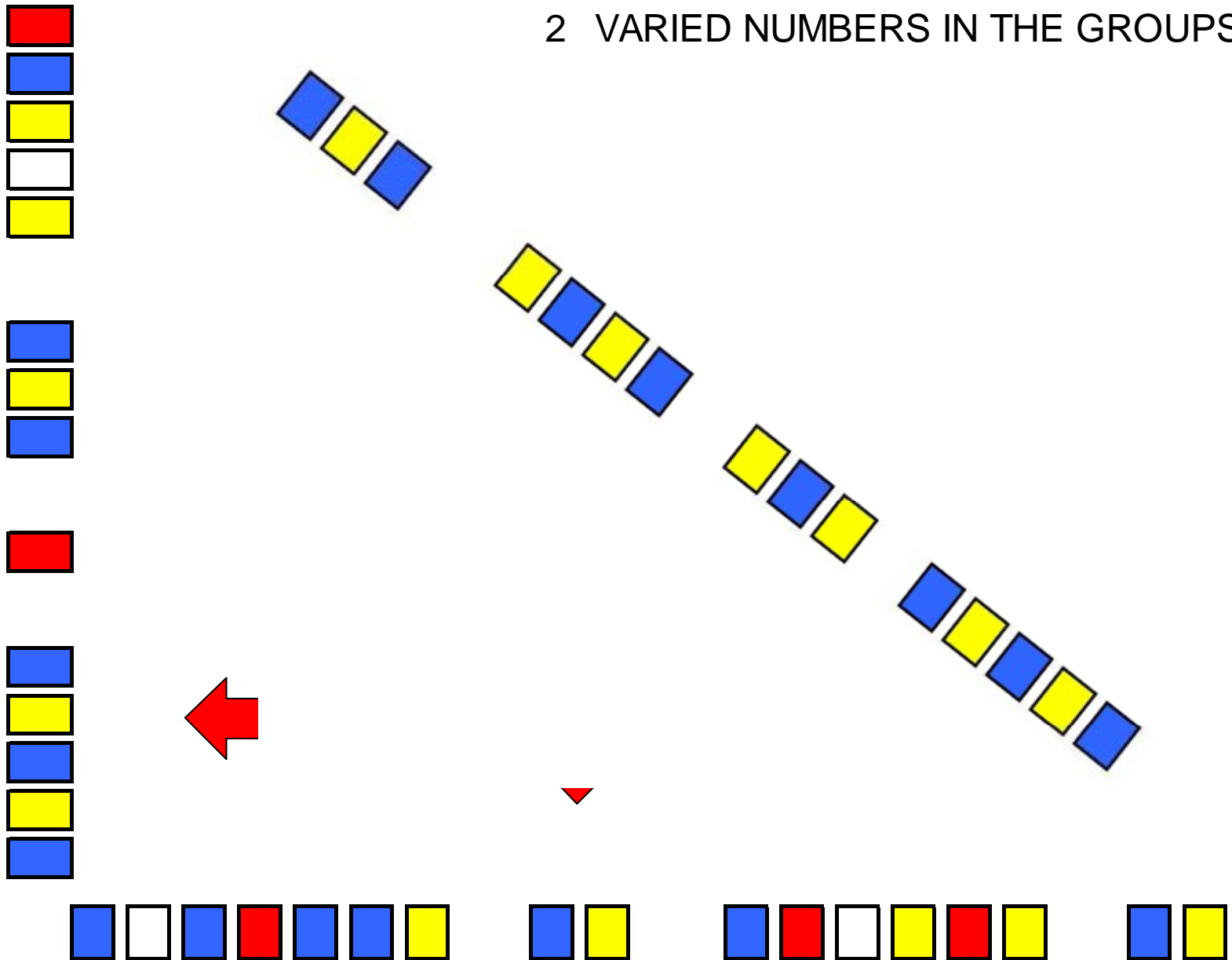
Methods (continued)

Mating Yard Layout and Numbers Is Very Important

- Colour schemes and mating yard layout guide the queens home
- For every 50 mating boxes there should be 1 father line hive (at least 1,000 drones for 50 queens)
- Father line hives must have high nutrition levels

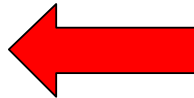
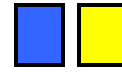
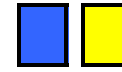
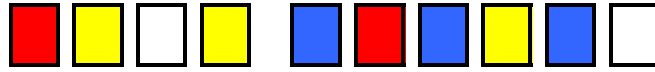
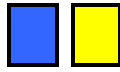
OVERHEAD VIEW OF A GOOD MATING YARD

- 1 ALTERNATING COLOURS
- 2 VARIED NUMBERS IN THE GROUPS



OVERHEAD VIEW OF A GOOD MATING YARD

- 1 ALTERNATING COLOURS
- 2 VARIED NUMBERS IN THE GROUPS
- 3 PROPER ORIENTATION



WEST

SOUTH



Bad Layout and Overuse of a Colour in a Mating Yard

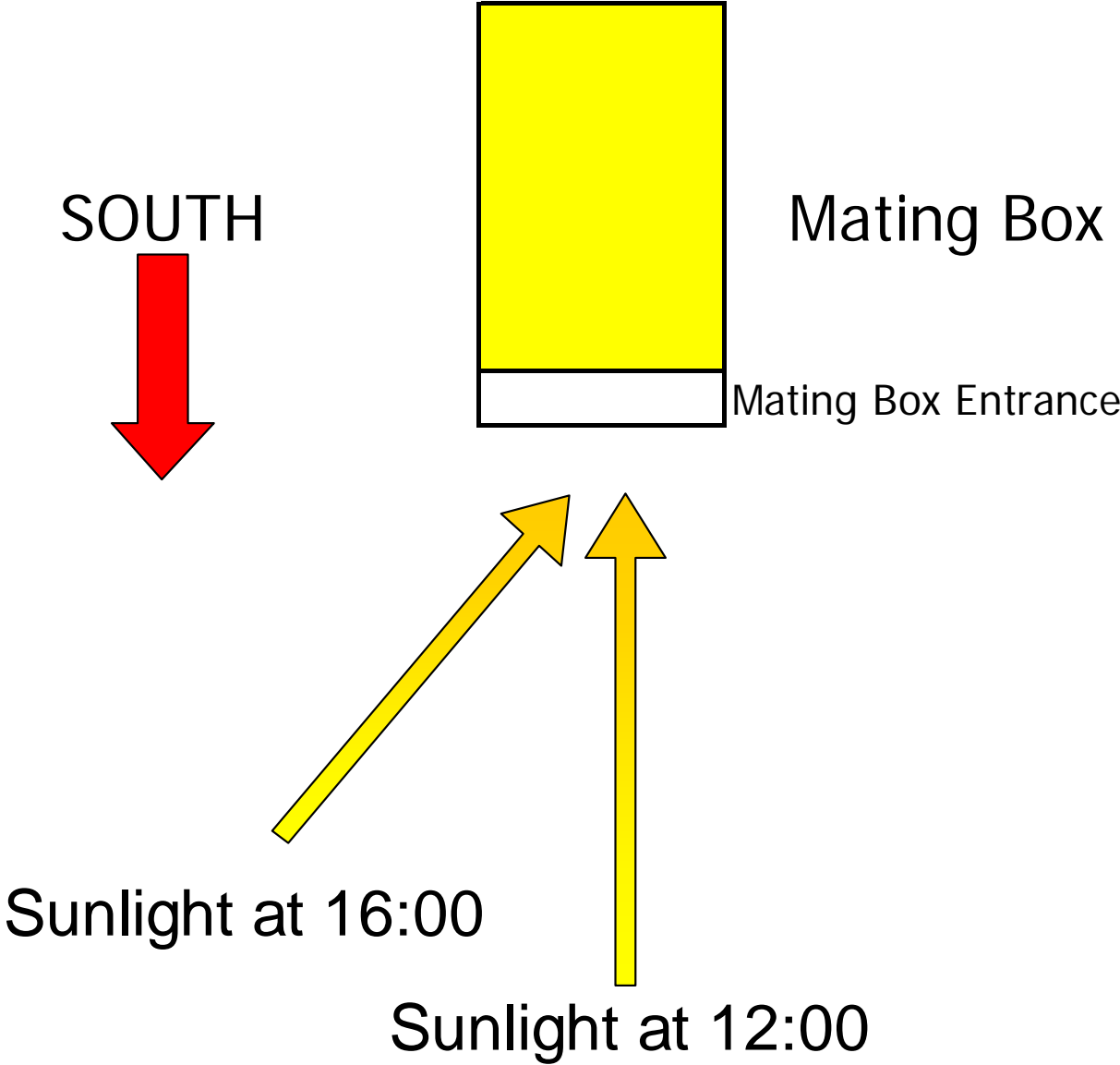


Bad Layout and Overuse of One Colour in a Mating Yard



Optimum Mating Box Orientation

Most Mating Flights Are to the South



The Queen's Mating Behaviour	
Mature	4 days
Time to First Mating Flight [95% to 100%]	7 to 10 days
Time to First Mating Flight With Feeding [95% to 100%]	6 to 8 days
Maximum Time for Flight	22 days
Time to First Eggs [> 90%]	14 days
Time to First Eggs With Feeding [> 90%]	9 to 12 days
Time of Day for Flight	noon to 4:00
Time of Day for Flight [90%]	2:00 to 4:00
Optimum Time for Feeding	1:00 to 2:30
Average Number of Mating Flights	6 to 10
Minimum Number of Mating Flights Observed	1
Maximum Number of Mating Flights Observed	14
Average Number of Mating Flights With Feeding	2 to 3
Typical Duration of Mating Flight	3 minutes
Maximum Observed Duration of Mating Flights	30 minutes
The Drone's Mating Behaviour	
Mature	18 to 25 days

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Results

- Early spring drone production is improved by nutrition not temperature
- Nutrition is important for mating success
- Queen losses can be reduced to 0 to 5 percent with improved nutrition
- Less than 0.1% of the queens mated in this way are superceded by their colonies

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Discussion

Increased nutrition levels improve all aspects of the mating process

- Drones will be more plentiful and more active and Queens will be more active

Therefore

- It will be easier to perpetuate a selected father-line and
- The queens will mate more quickly which greatly reduces the losses

Table One - Maturation of Drones and Queens

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- Drones Emerge
- Drones Mature
- New Queens Emerge
- New Queens Mature
- New Queens Fly to Mate
- New Queens Fly to Mate in Hot Weather
- New Queens Lay Eggs for the first time
- New Queens Lay Eggs for the first time in Hot Weather

20		
21		
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Days After Queen Eggs Laid	New Queens Emerge	New Queens Mature	New Queens First Mating	New Queens Lay First Eggs	New Queens First Mating In Hot Weather	New Queens Lay First Eggs In Hot Weather
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