

# Breeding Methods



Garrett Dodds  
1157 Ben Hur Road  
Baton Rouge, LA 70820  
garrett.dodds@ars.usda.gov  
<https://www.ars.usda.gov/southeast-area/baton-rouge-la/honeybeelab>

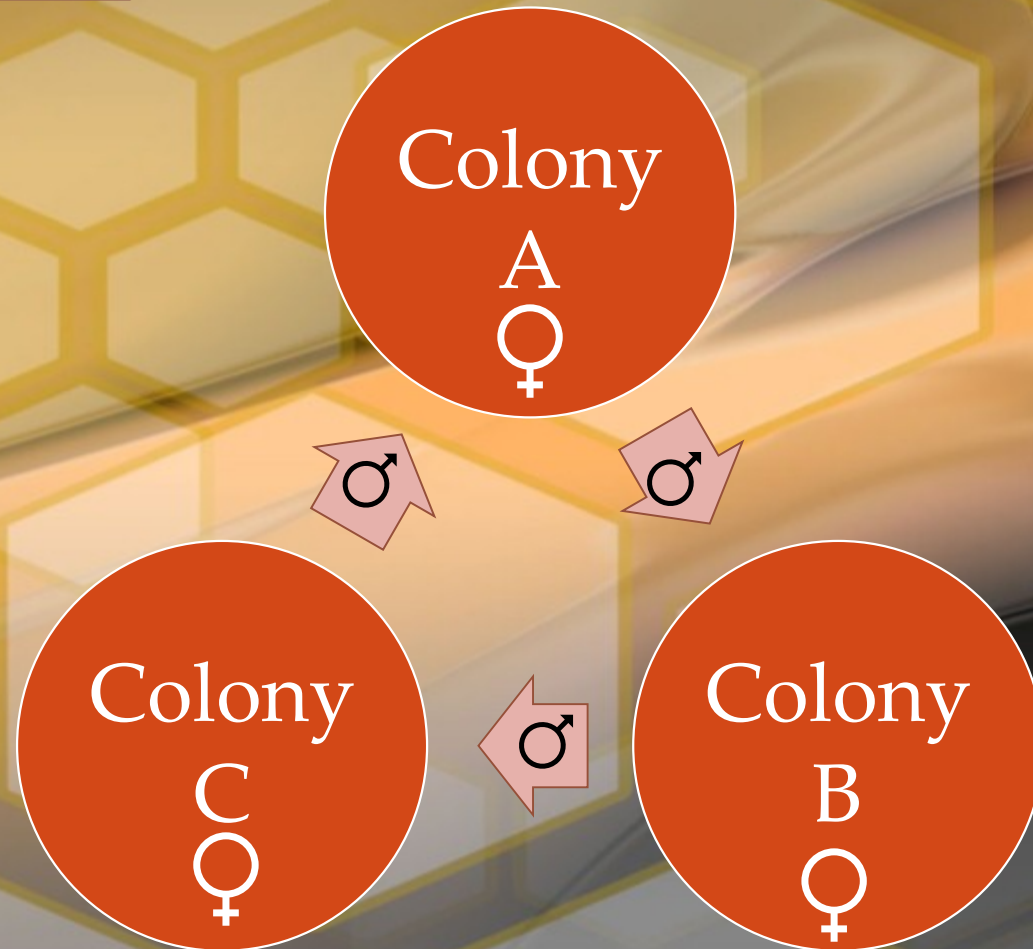
# Breeding Requirements

- Queen Rearing
- Attention to details
  - A lot of moving parts
- Note taking
  - Records in some form
- Large number of colonies
  - 200 colonies
- Time
  - Greater per colony
  - Years!



# Circular Mating

Usually on a colony basis

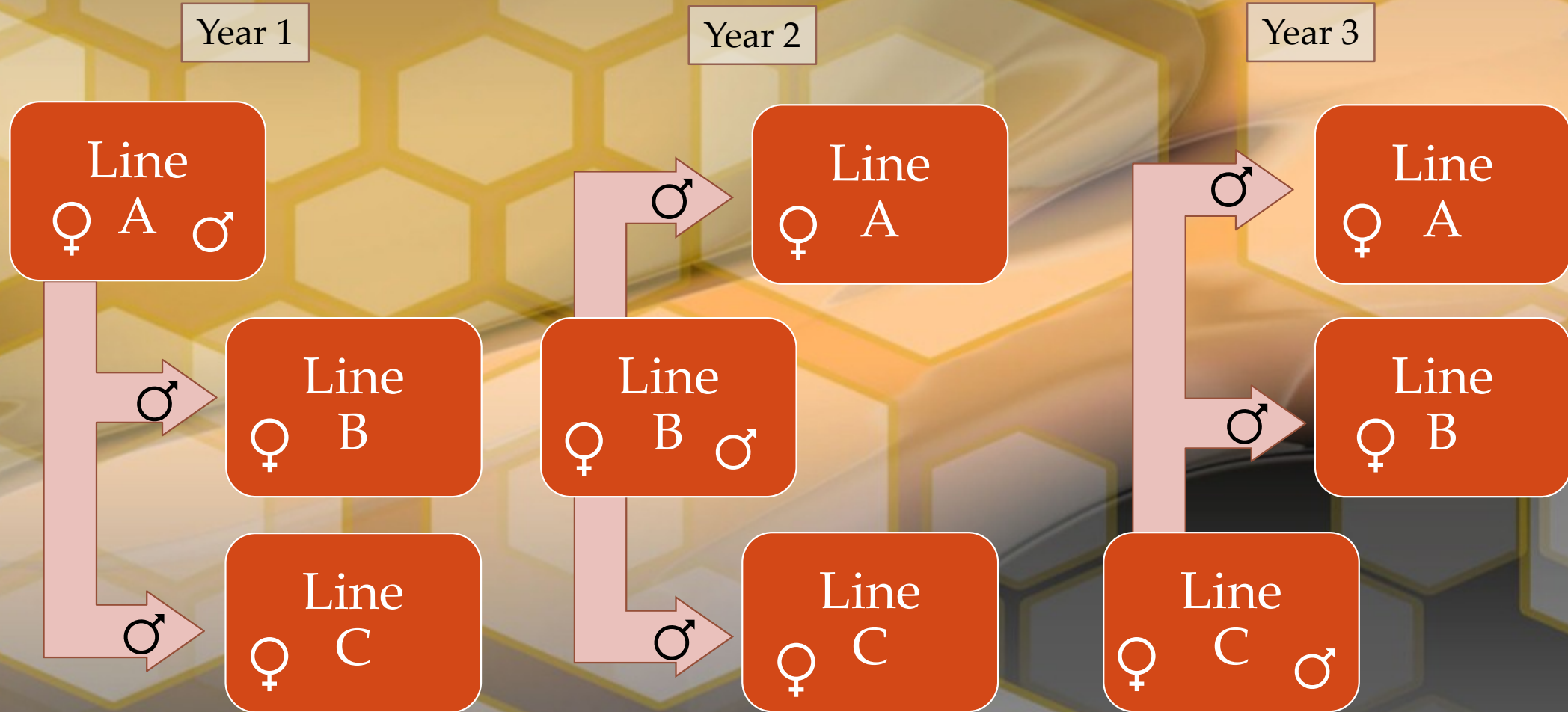


# Circular Mating (Round Robin)

- Rob Page – Pollen Hoarding
- Quick selection
- Quick inbreeding
- Easy to introduce new lines

# Line Breeding

Line is made up of several colonies



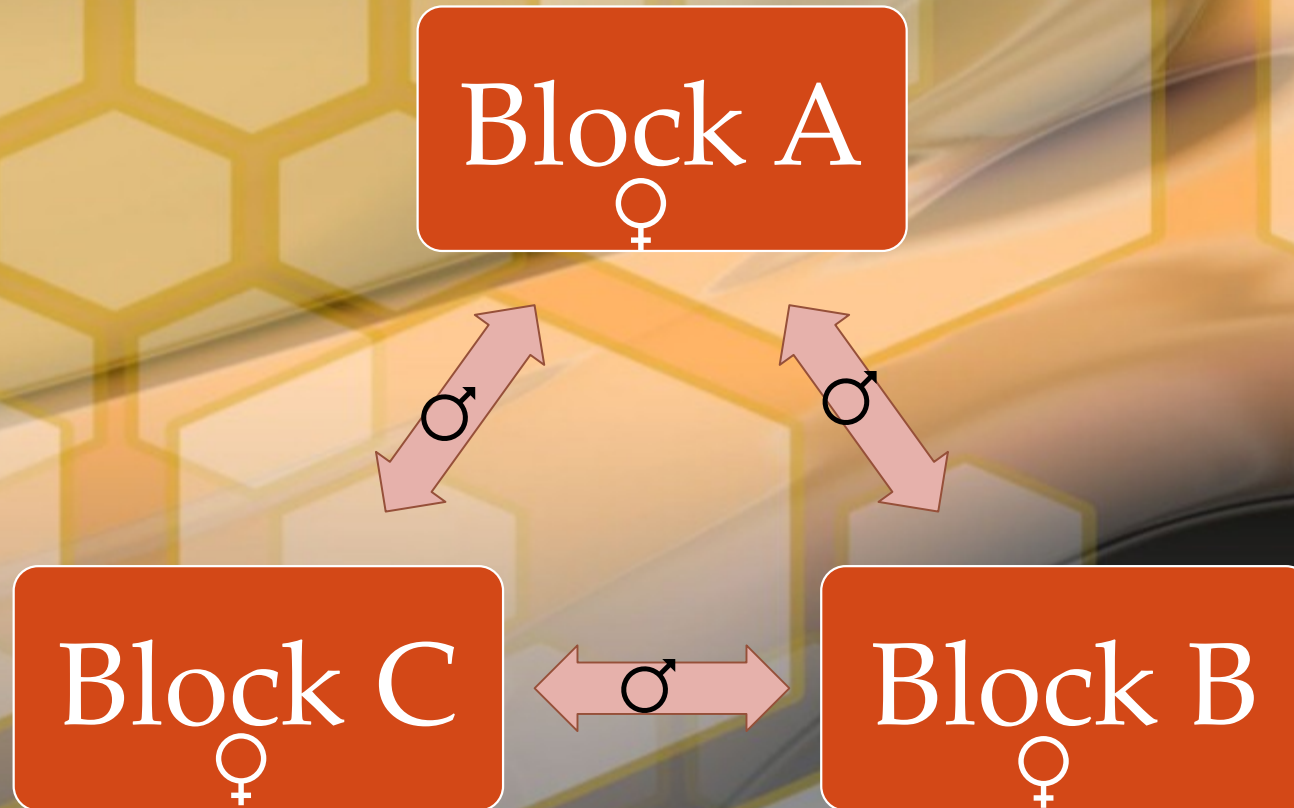


# Line Breeding

- Europe
  - Carniolan
  - German Black Bee
- Complicated
- Attention to Detail
- Accidental inbreeding
- Recovery difficult

# Block Breeding

Block is made up of several lines



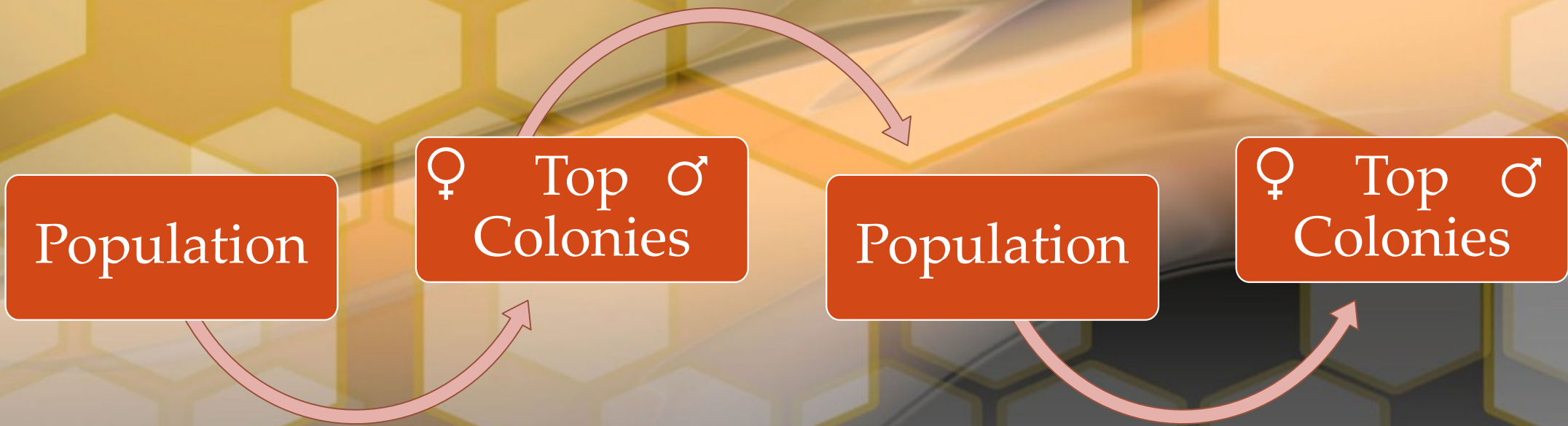
# Block Breeding

- Russian Honey Bees
- Good for a group or breeding association
- Maintains genetic diversity
- Hard to recover lost lines
- Complicated



# Population Breeding

Population is made up of many colonies

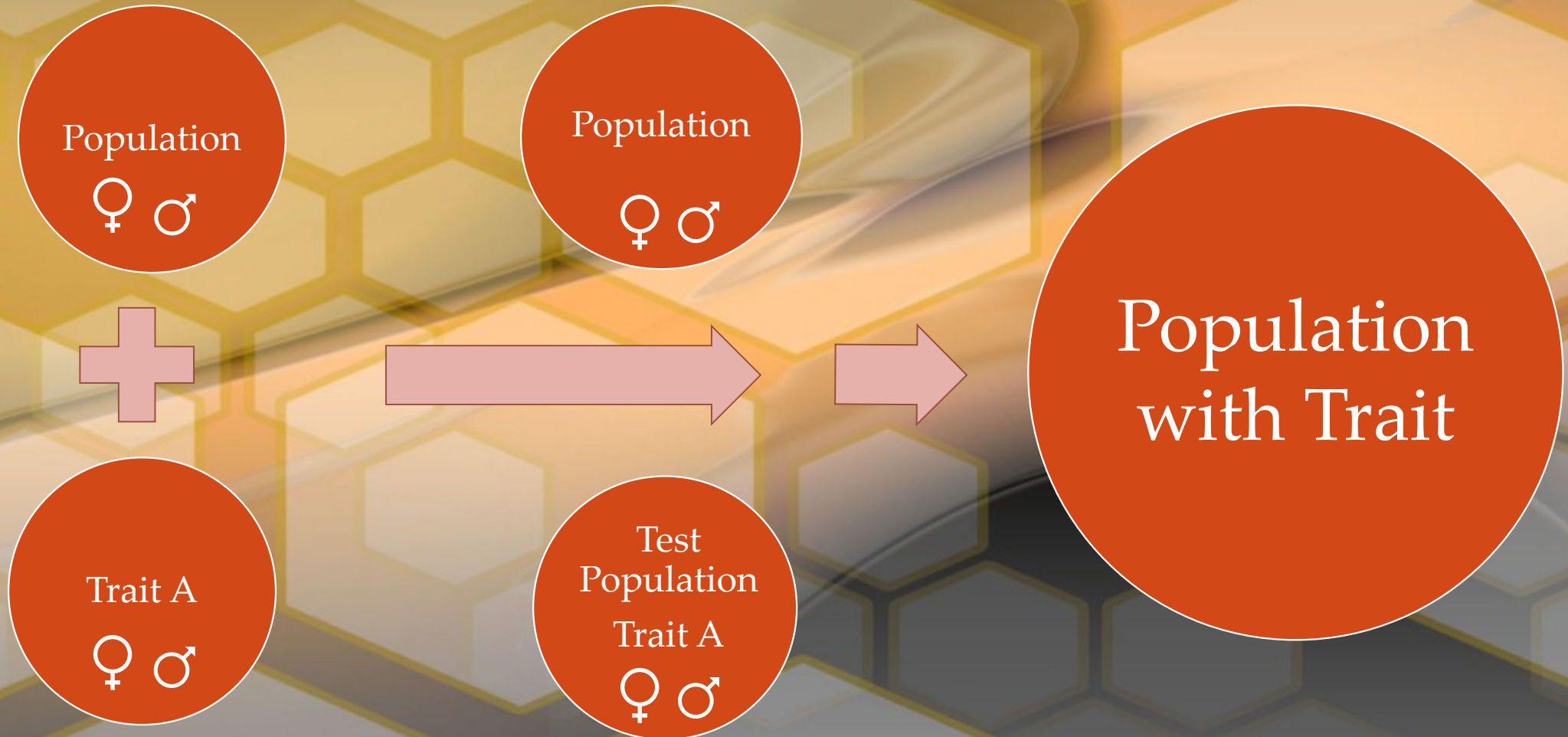


# Population Breeding

- New World Carniolans
- Most queen producers
- Pol-line
  
- Simple
- Flexible
- Slow

# Combination Breeding

Adding new traits to a population





# Combination Breeding

- Buckfast Bee
- Used with other breeding methods
- Safe way to add in new traits
- Success is slow
- Many unsuccessful combinations