Reproductive Strategies

Sexual vs. asexual
Selfing vs. outcrossing
Sexual vs. Asexual

- Sexual reproduction.
  - Recombination.
    - Reduces genetic load.
    - Breaks up adaptive gene combinations.
  - Economics.
    - Cost of specialized structures (flowers).
    - Unreliable gamete vectors.
  - Dispersal.
    - Colonization of new sites.
    - Maintains the metapopulation.
    - Propagule loss (predators, inappropriate sites).

- Economics.

- Dispersal.
Sexual vs. Asexual

- Asexual reproduction.
  - No recombination.
    - Maintains advantageous genetic combinations.
    - Reduced efficiency for purging genetic load.
      - But what about cell lineage competition?
      - Could somatic mutations result in a eunuch?
  - Economics.
    - No specialized structures required for vegetative reproduction.
    - Apomixis
      - Requires flowers
      - Increases dispersal ability.
        - But, appropriate sites may be more limited.
Selfing vs. Outcrossing

- **Outcrossers.**
  - Recombination among genotypes allows more experimentation.
    - Combine novel mutations.
      - Faster rate of evolution.
    - Breaks up advantageous gene combinations.
  - Unreliable gamete vectors.
Selfing vs. Outcrossing

- **Selfers.**
  - Recombination within genotypes.
    - Allows purging of genetic load.
      - Cell lineage competition.
      - Gametophytic competition.
      - Lineage sorting.
    - Advantageous mutations will be retained.
  - Rare outcrossing events generate new lineages.
  - Slower rates of evolution.