* Changing climate 🡪 increased temps
  + Increased temps 🡪 increased seasonal temps
  + Increased seasonal temps 🡪 increased growing seasons
  + Increased growing seasons 🡪 increased insect generations
  + Increased insect generations ***can lead to*** pest pressure
  + Increased pest pressure 🡪 increased damage
  + Increased damage 🡪 increased management
  + Increasing management ***requires an understanding how insects will respond***
* Responding to climate 🡪 winners and losers
  + Losers 🡪 less genetic variability and extinction
  + Winners 🡪 stable or increased genetic variability (Increased insect generations)
  + Stable or increased genetic variability 🡪redistribution or plasticity
    - Redistribution 🡪 range expansion or shifting
    - Range expansion 🡪 pest insects in novel habitats
    - Pest insects in novel habitats 🡪 effects food security
  + Plasticity 🡪 shifts in dormancy; ***could be a way insects mitigate the effects of a changing climate***
  + Response to seasonal environment 🡪 changes in seasonal light/temp relationship
  + Seasonal Light/temp relationship 🡪 changes in environment when diapause is initiated
  + Environmental difference 🡪 plasticity (shifts) in dormancy initiation
  + Shifts in dormancy 🡪 pest coping with reduced resources
  + Pests coping with reduced resources 🡪 effects food security
* Plasticity in Dormancy 🡪 response to environment
  + degrees of dormancy
  + Degrees of Dormancy 🡪 immediate/preparative responses
    - Immediate response 🡪 quiescence
  + Preparative 🡪 genetically determined diapause
  + Genetically determined diapause 🡪 behavior and physiological events
    - Accumulation of resources 🡪 survival during diapause
      * Survival 🡪 protective resources
      * Survival 🡪 accumulation of resources like proteins and fats
        + Fats 🡪 reservoir of energy and water
        + Proteins 🡪 reservoir of energy, amino acids, enzymes, stabilizers
* European corn borer
  + Pest
  + Genetic Facultative diapause
  + Clinal distribution of facultative diapause