Introduction

* + Effects of seasonal warming
    - Seasonal temperature changes to this degree are unrecorded
  + Pest of temperate environments could gain more range as winter temps increase
    - + pests could have more competition
    - - pests could have more time in the field
      * More generations possible
        + Increased pest range could mean more access to host plants
        + More access to host plants could mean more generations and increased pest pressure
* Ways to estimate these effects?
  + ECB
    - ECB as an agricultural pest
      * Annual damage
      * Cost to manage pest
    - Univoltine and Bivoltine life history strageties
      * Dopman work describing the discovery of the banded pattern of univoltine and bivoltine life histories,
        + distribution and seasonal influence
      * Predictions
        + Suitable pest range is currently limited by temperature
        + expansion of annual generations
        + increase in the pest range
    - Provides opportunity to pest range expansion and increased generations and allows us to make predictions about these adaptative changes in pest populations.
* Understanding resource management