

Obligatory perfunctory information on HLB



HLB is Devastating the Florida Citrus Industry

Courtesy of Dr. McCollum

HLB research is challenging

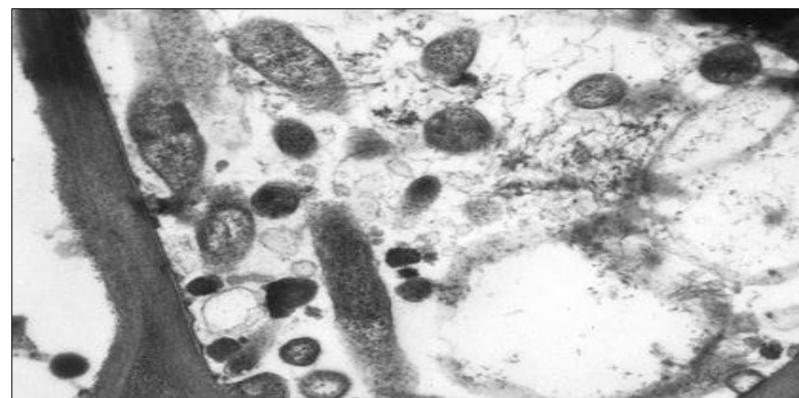
Host
Perennial
Large
Space
Non-uniform



Vector
Insect (!#?#\$)
Rearing
Behavior



Pathogen
Insect-vectored
Phloem-limited
Uneven distribution
Detection?





Proposed experiments

- Use E. coli that contains a prophage and expose it EM waves
 - Variables time, power, and frequency
- Measure the amount of phages and E. coli cells 2 ways
 - qPCR measures the abundance of a specific gene
 - Plating
- Inoculate E. coli in lettuce and then expose inoculated lettuce to EM wave

Proposed experiments

- Repeat the first experiment with *Ralstonia solanacearum* a plant pathogen
 - First in media
 - In planta
- Then move into Citrus

Questions

- How do we determine which frequency?
- How do we determine the power and time?
- How do we expose the bacteria to the EM?
- Is the EM wave specific to strain, species, genus, or all bacteria?