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2021 Agricultural Outlook Forum

***Building on Innovation:  
A Pathway to Resilience***

# Issues in pest management: Citrus greening

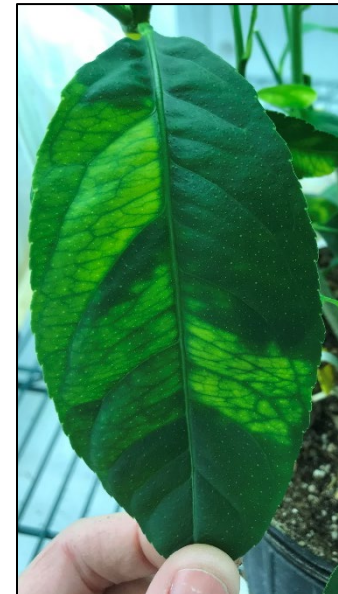
Introduced by Laura A. Fleites, PhD

AgroSource, Inc.



# Citrus greening disease (Huanglongbing)

- Associated with *Ca. Liberibacter asiaticus* (CLas), *africanus* (CLaf) or *americanus* (CLam)
- Vector, *Diaphorina citri* present in FL since 1992
- CLas first detected in the U.S. in Miami-Dade county in 2005
  - Georgia, Louisiana and Mississippi, 2008
  - South Carolina, 2009
  - California and Texas, 2012
  - Alabama, 2017

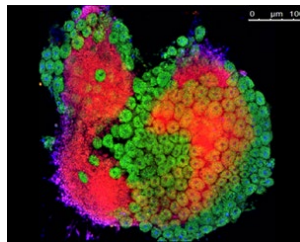


# The pathosystem

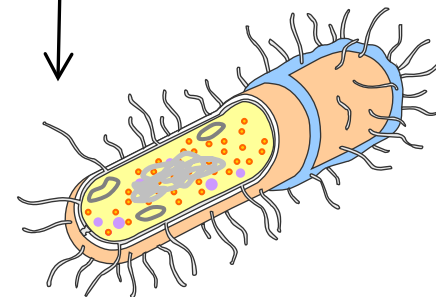
- No resistant cultivars
- Delayed onset of disease symptoms



*Diaphorina citri*  
(ACP)



Proffella= red  
Carsonella = green  
DAPI= blue



*Candidatus*  
*Liberibacter asiaticus*

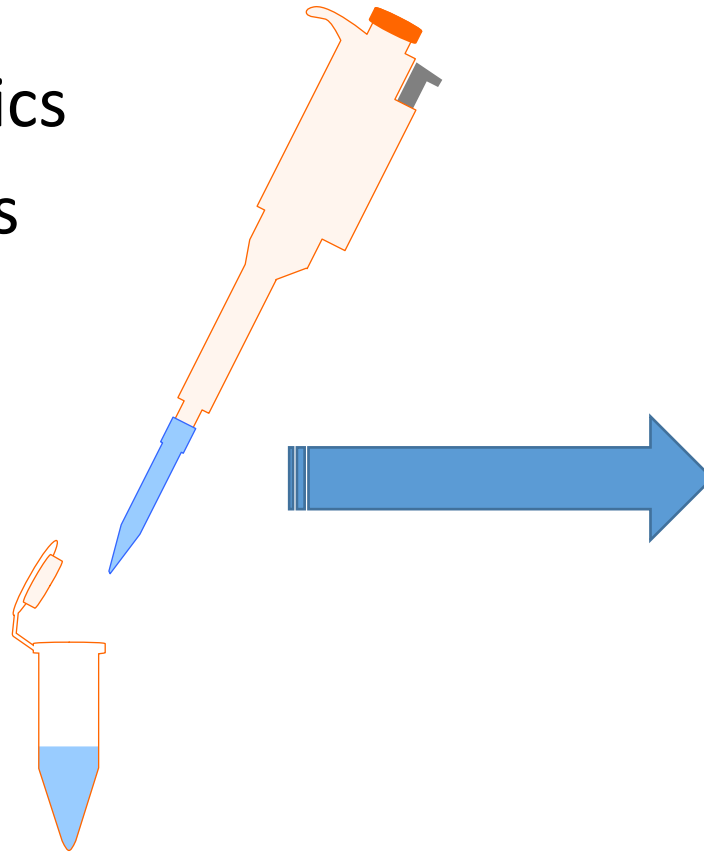
- Highly efficient disease transmission
- Amenable to CLas infection

- Unculturable
- *L. crescens* as a model
- Prophage



# Intensive research efforts for HLB management

- Multi 'omics
- Many candidate therapeutics
- Progress in culturing efforts
- Gene editing of psyllids
- Transgenic approaches
- New delivery strategies for therapeutics



# Upcoming speakers

- Monique Rivera, Cooperative Extension Specialist, UC Riverside
- Bryony Bonning, Professor of Entomology and Nematology, UF
- Michelle Heck, Research Molecular Biologist, USDA-ARS EPPRU

