



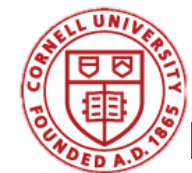
Cotton Leafroll Dwarf Virus Planning Meeting

Jenny Wilson

PhD Candidate, Cornell University

On behalf of

Michelle Heck, USDA-ARS

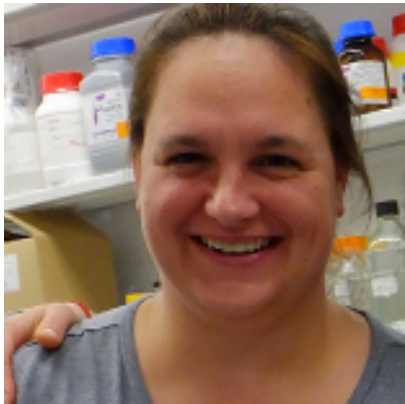


The Heck Lab for Vector Biology

Polerovirus Team



Michelle Heck
USDA-ARS



Stacy DeBlasio
Staff Scientist
Virus-Host Interactions



Jenny Wilson
PhD Candidate
Virus-Vector
Interactions

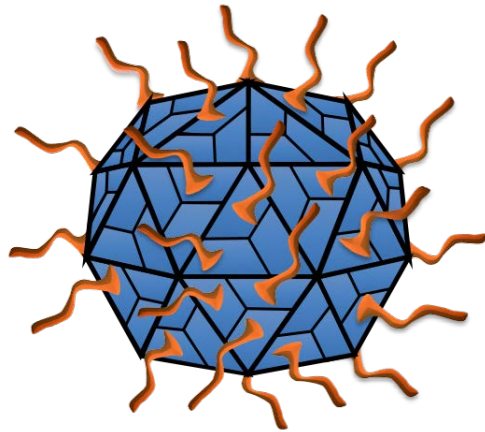


**Maria Gutierrez-
Feliciano**
*Plant and Aphid
Caretaker*



TBD
Postdoctoral Researcher
(We're hiring!)

Diagnosics: Developing a CLRDV ELISA test



poliovirus capsid



Coat protein



“Spike” protein

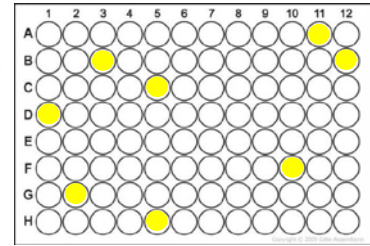
METHOD:



purify spike protein



raise antibody against spike protein



develop ELISA and dip stick tests using antibody



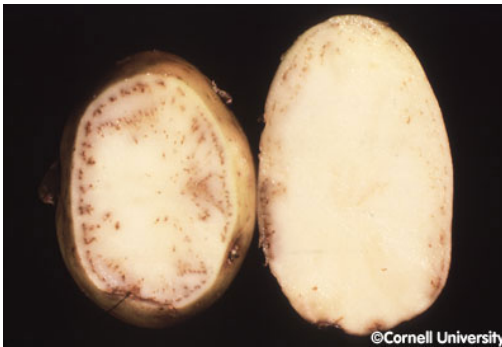
Josh Chappie
protein purification whiz



We can also help purify virus!

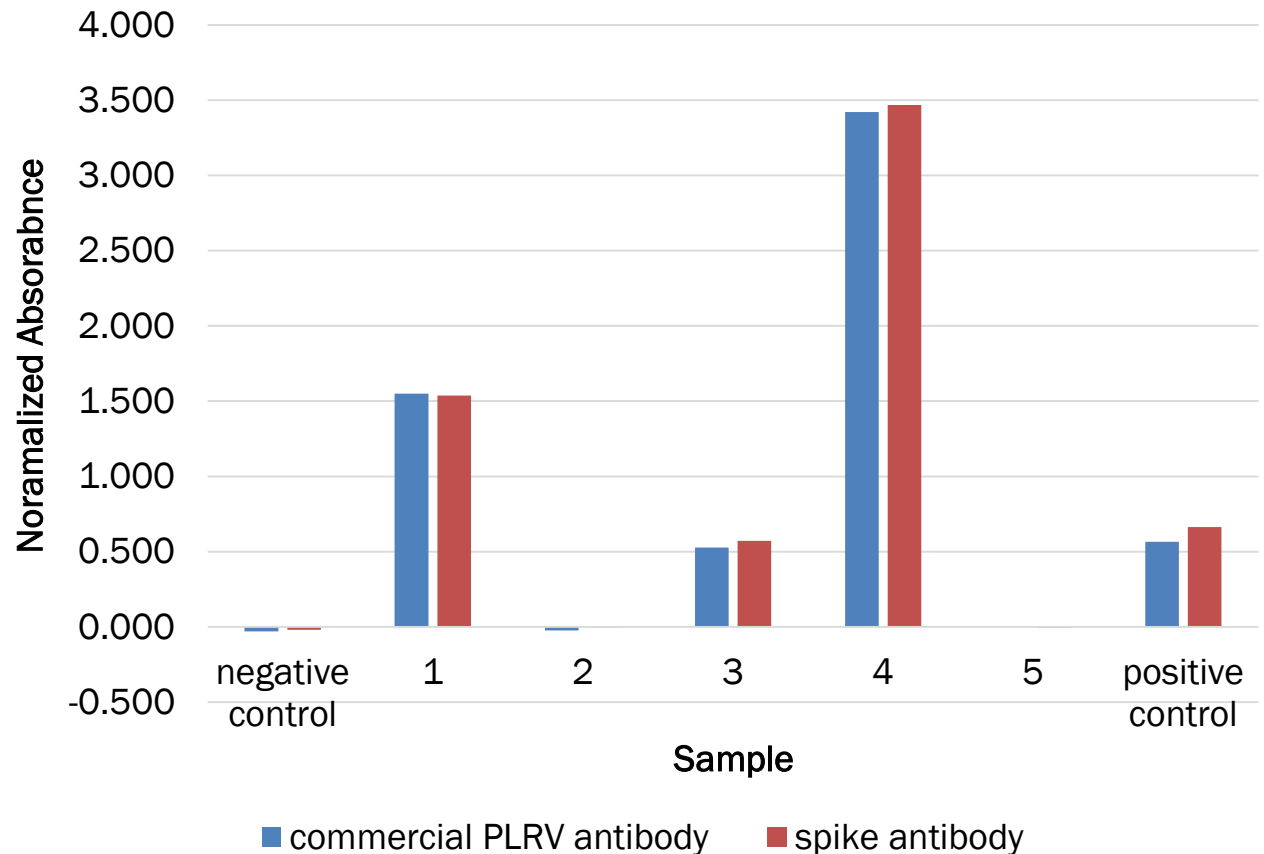
Diagnositics: Developing a CLRDV ELISA test

Already works for *Potato leafroll virus!*



Potato leafroll virus
(PLRV)

Genus: *Polerovirus*



Diagnostics: High throughput methods for RT-PCR



Smash leaf discs into
FTA cards at room
temperature

Viral RNA can be extracted
from punches of these cards

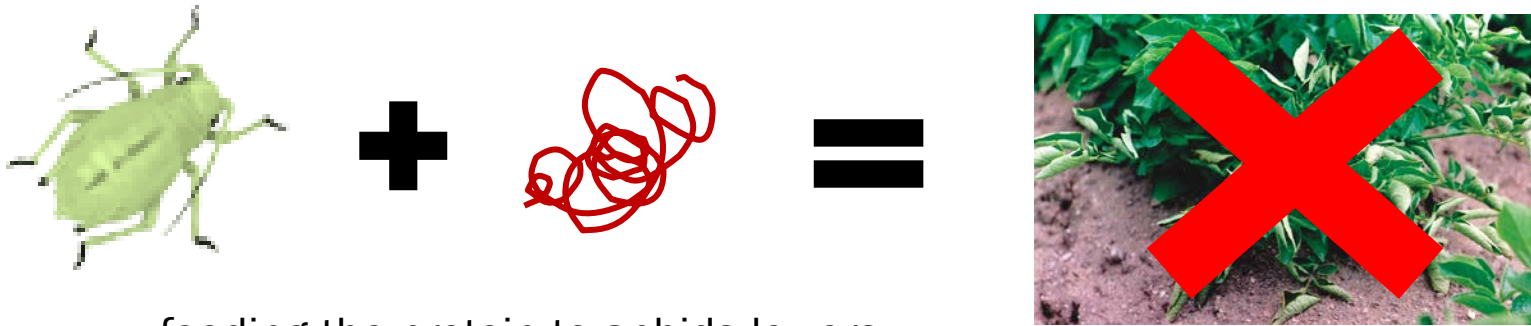
Stewart Gray
USDA-ARS
Superstar
Potato
Virologist



Diagnostics: High throughput methods for RT-PCR

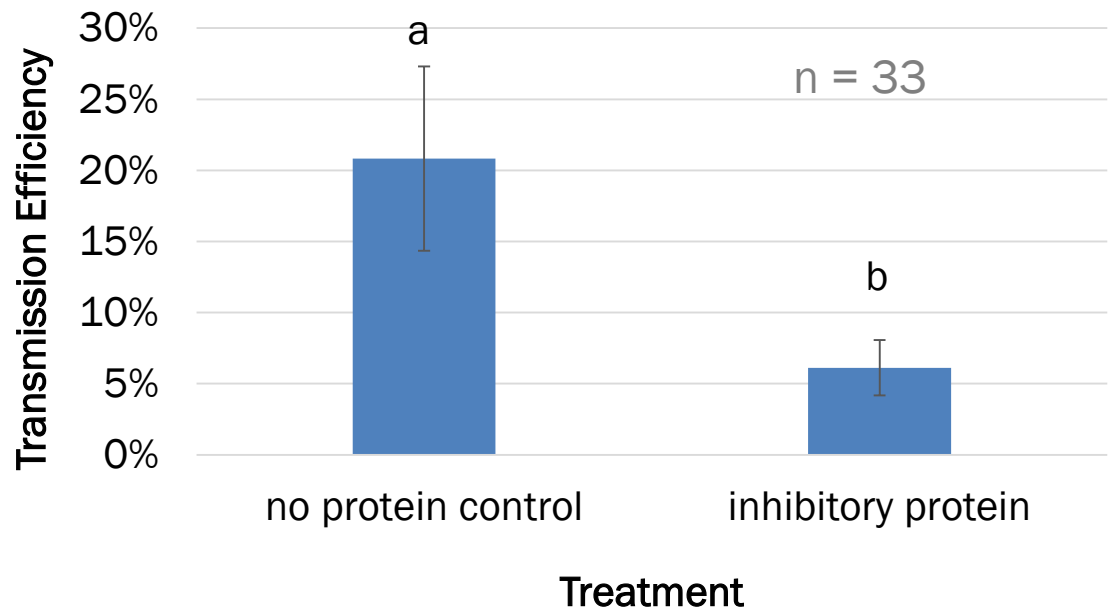


Management: Blocking aphid transmission of CLRDV



feeding the protein to aphids lowers transmission

Reduces the chance of a plant becoming infected by an average of 55%, with efficacy ranging from 20% to 74% reduction.



What can the Heck Lab do for you?

Expertise in...

- Molecular virology
- Transmission biology
- Novel control strategies
- Bioprospecting
- Protein-protein interactions
- Proteomics
- Transcriptomics
- Small RNA sequencing
- Microscopy
- Bioinformatics

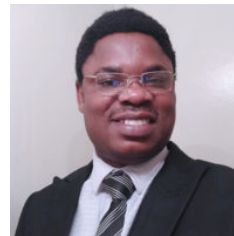


Michelle Heck

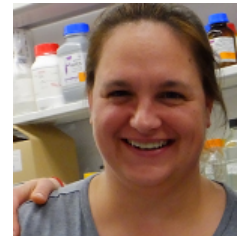
Team Citrus Greening



John Ramsey



David Igwe



Stacy DeBlasio



Angela Kruse



Laura Fleites

Team Polerovirus



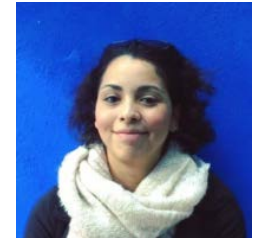
Jenny Wilson



Saeed
Hoissenizadeh



Kevin Howe



Maria Gutierrez-
Feliciano



Marina Mann



Olivia Gomez

