



Cotton Leafroll Dwarf Virus Planning Meeting

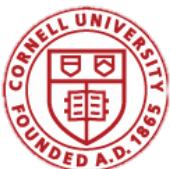
.....

Jenny Wilson

PhD Candidate, Cornell University

On behalf of

Michelle Heck, USDA-ARS

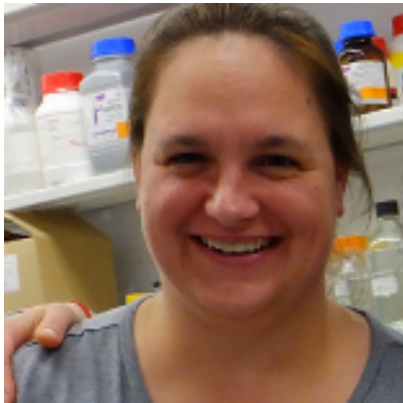


The Heck Lab for Vector Biology

Polerovirus Team



Michelle Heck
USDA-ARS



Stacy DeBlasio
Staff Scientist
Virus-Host Interactions



Jenny Wilson
PhD Candidate
Virus-Vector
Interactions

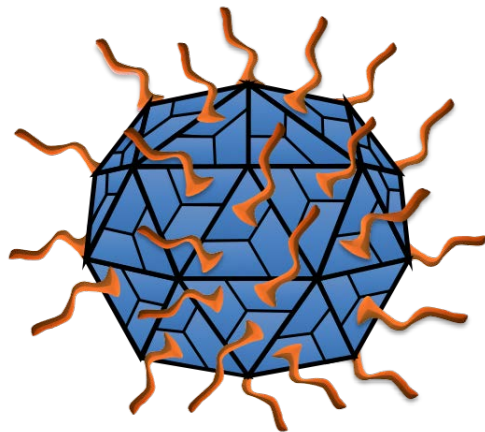


**Maria Gutierrez-
Feliciano**
*Plant and Aphid
Caretaker*



TBD
Postdoctoral Researcher
(We're hiring!)

Diagnostics: Developing a CLRDV ELISA test



poliovirus capsid



Coat protein



“Spike” protein

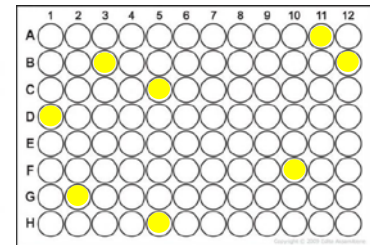
METHOD:



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!

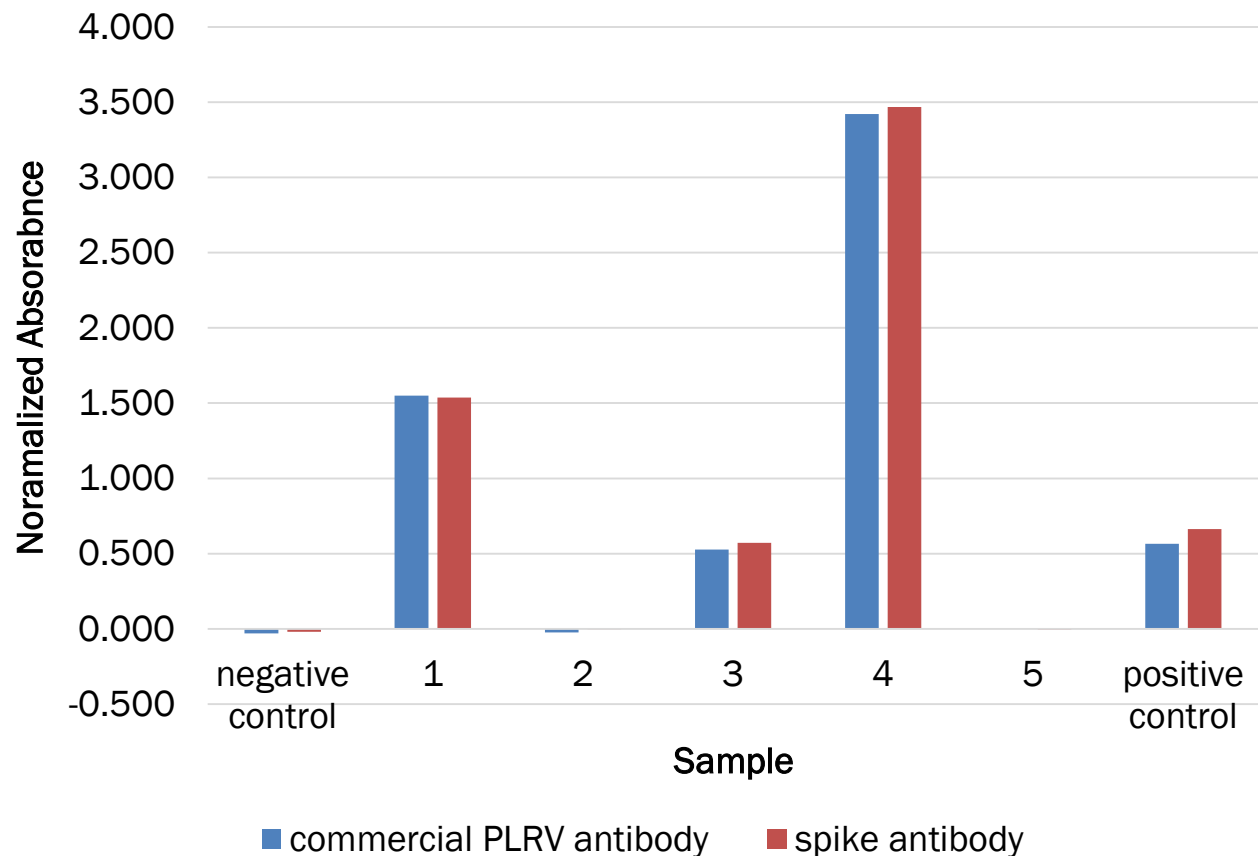
Diagnostics: Developing a CLRDV ELISA test

Already works for *Potato leafroll virus*!



Potato leafroll virus
(PLRV)

Genus: *Potavirus*



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

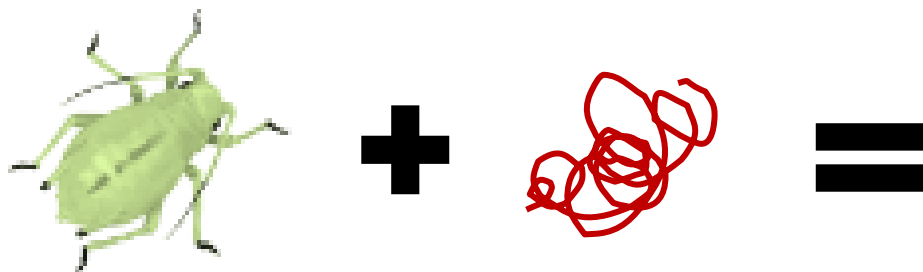
Stewart Gray
USDA-ARS
Superstar
Potato
Virologist



Diagnostics: High throughput methods for RT-PCR



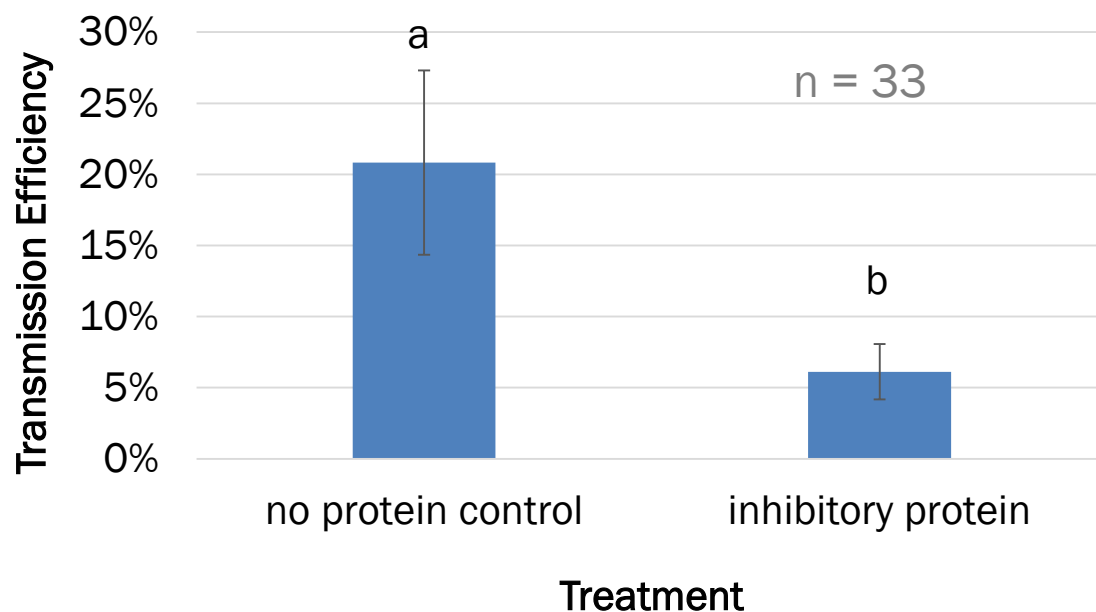
Management: Blocking aphid transmission of CLRDV



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...

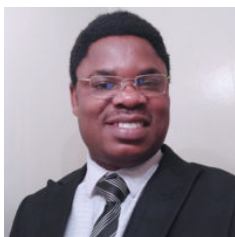
- Molecular virology
- Transmission biology
- Novel control strategies
- Bioprospecting
- Protein-protein interactions
- Proteomics
- Transcriptomics
- Small RNA sequencing
- Microscopy
- Bioinformatics



Michelle Heck



John Ramsey



David Igwe

Team Citrus Greening



Stacy DeBlasio



Angela Kruse



Laura Fleites

Team Polerovirus



Jenny Wilson



Saeed
Hoissenizadeh



Kevin Howe



Maria Gutierrez-
Feliciano



Marina Mann



Olivia Gomez

