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Surveying CTV presence in Florida

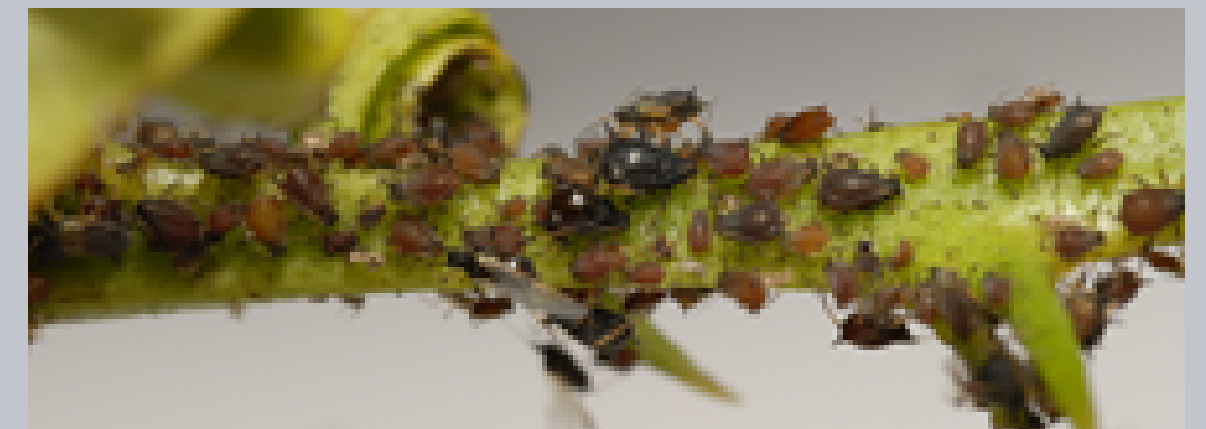
Funding



Surveying CTV presence in Florida

Citrus tristeza virus (CTV)

- Causal agent of several important citrus diseases, including decline and stem pitting
- Virus thrives in the phloem
- Brown citrus aphids is the most dangerous vector of CTV



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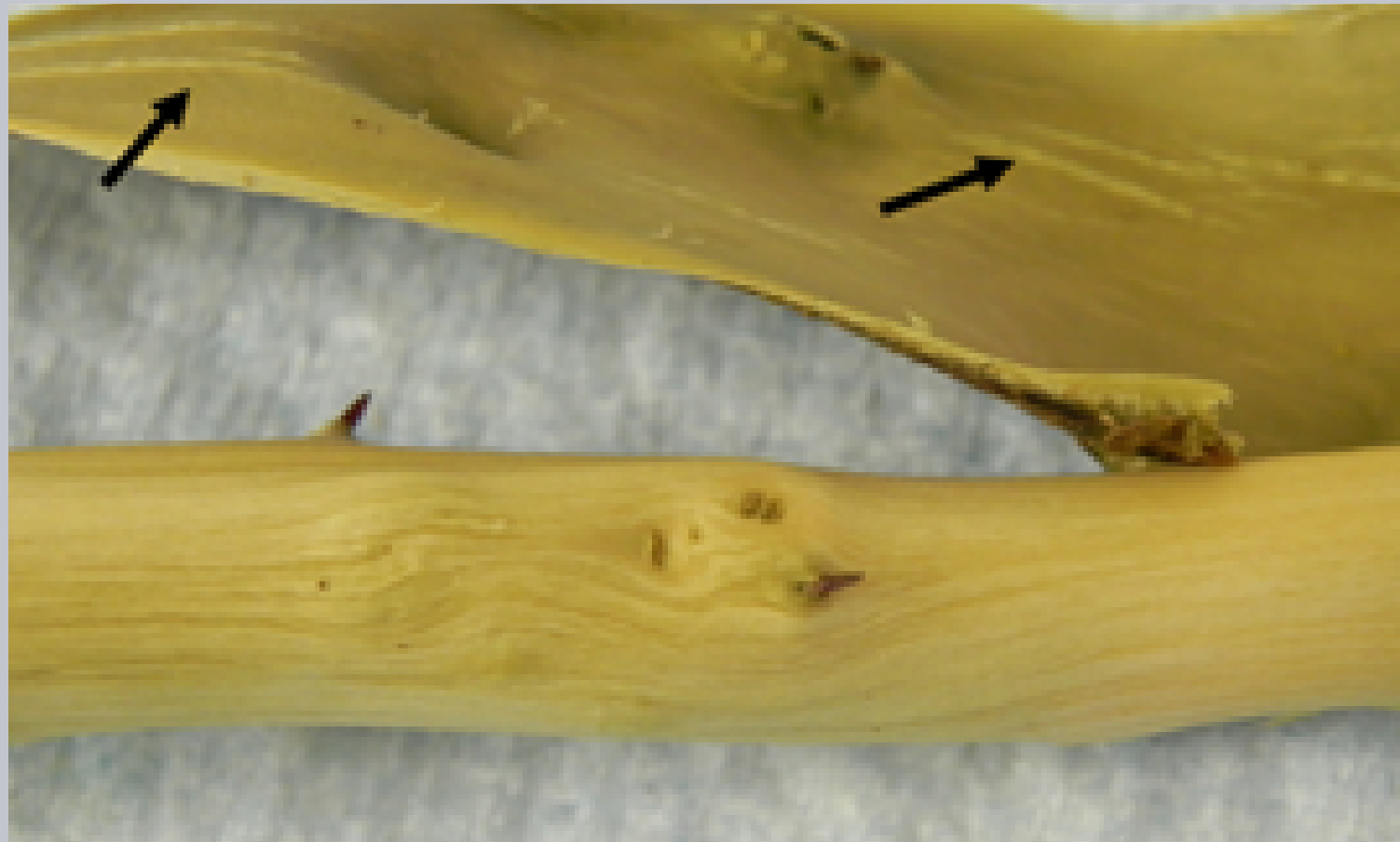
CTV decline (T-36 isolate)

- Caused the loss of almost 100 million trees worldwide
- Only trees on sour orange rootstock are affected by tristeza decline
- New blocks with sweet orange and grapefruit on sour orange rootstocks sometimes have stunted trees next to normal looking ones



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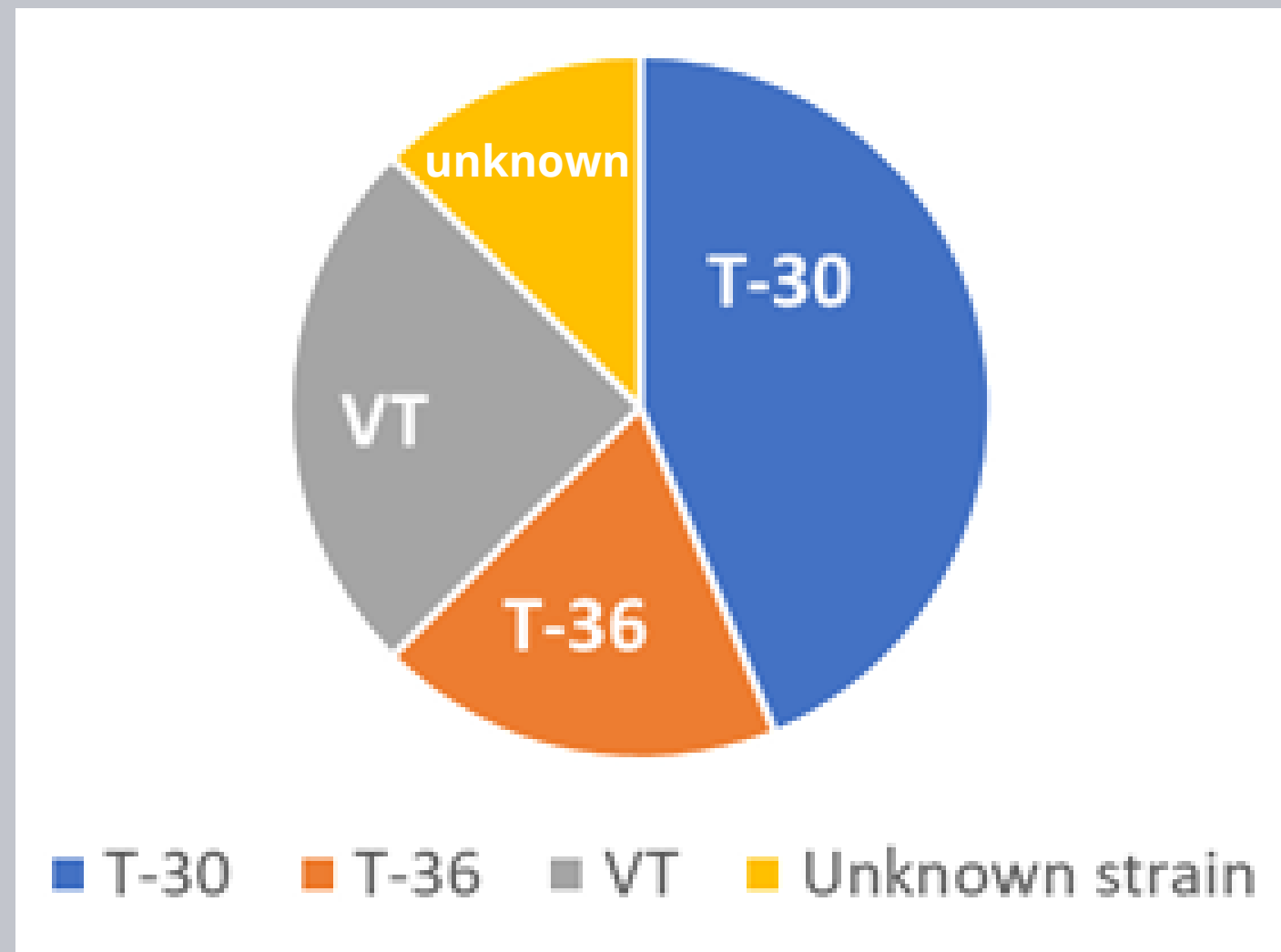
CTV stem pitting (VT isolate)



- Causes extensive pitting in the trunk and branches
- Causes extensive disruption in the normal differentiation of cambial cells into wood and bark, stunting, small and misshapen fruit. Long term effects can be worst than decline
- We consistently identify mild stem pitting throughout Florida

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CTV is present in citrus trees

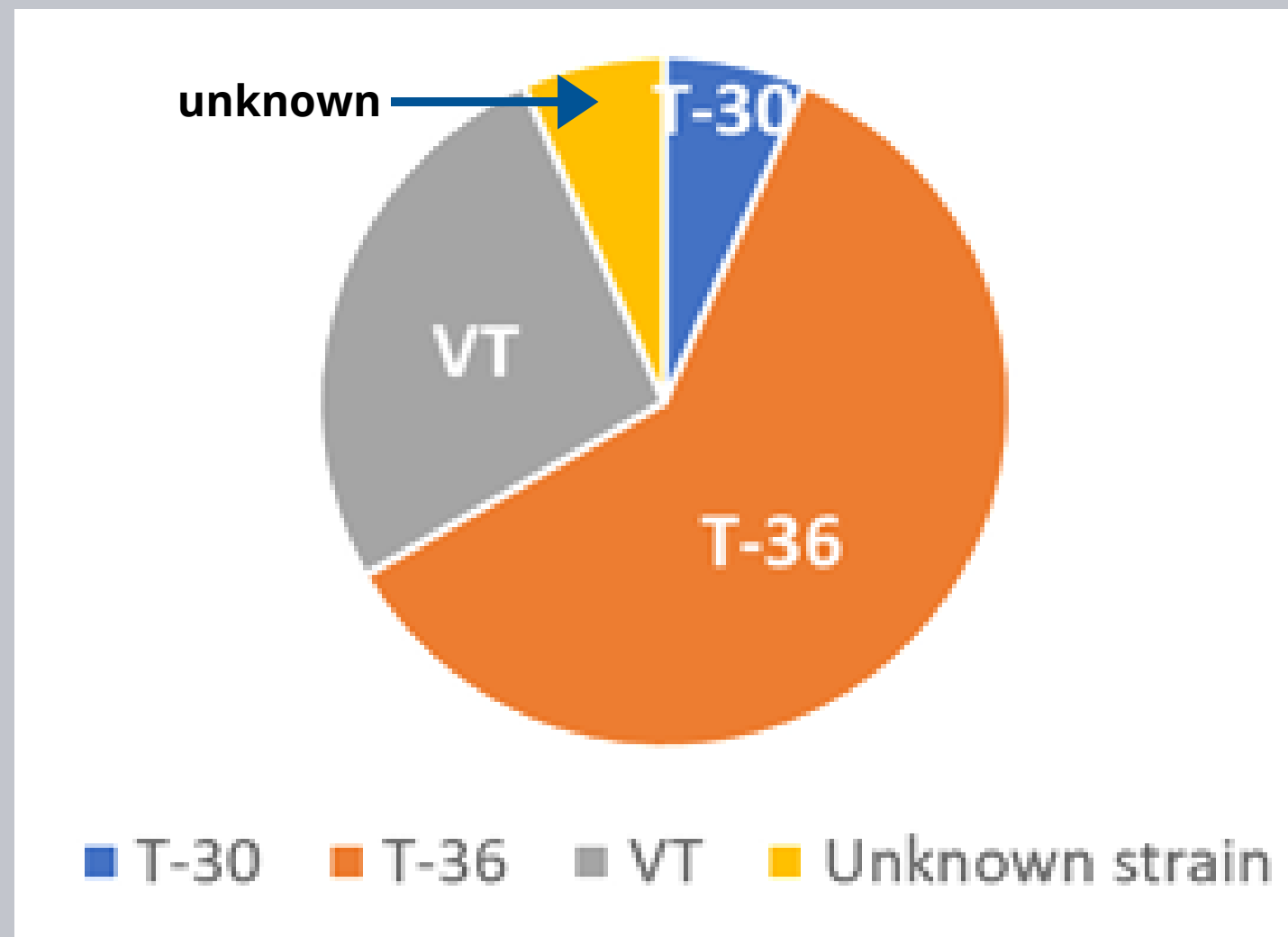


Percentage of isolates identified in field trials

- We have conducted surveys to study the presences of CTV isolates in trees (T-36 decline isolate, VT stem pitting isolate, and T-30 mild isolate)
- Plants were collected from Polk, St. Lucie, and Indian River counties
- We found CTV, including decline and stem pitting strains, in trees on sour orange rootstocks
- Also, unknown strains were found

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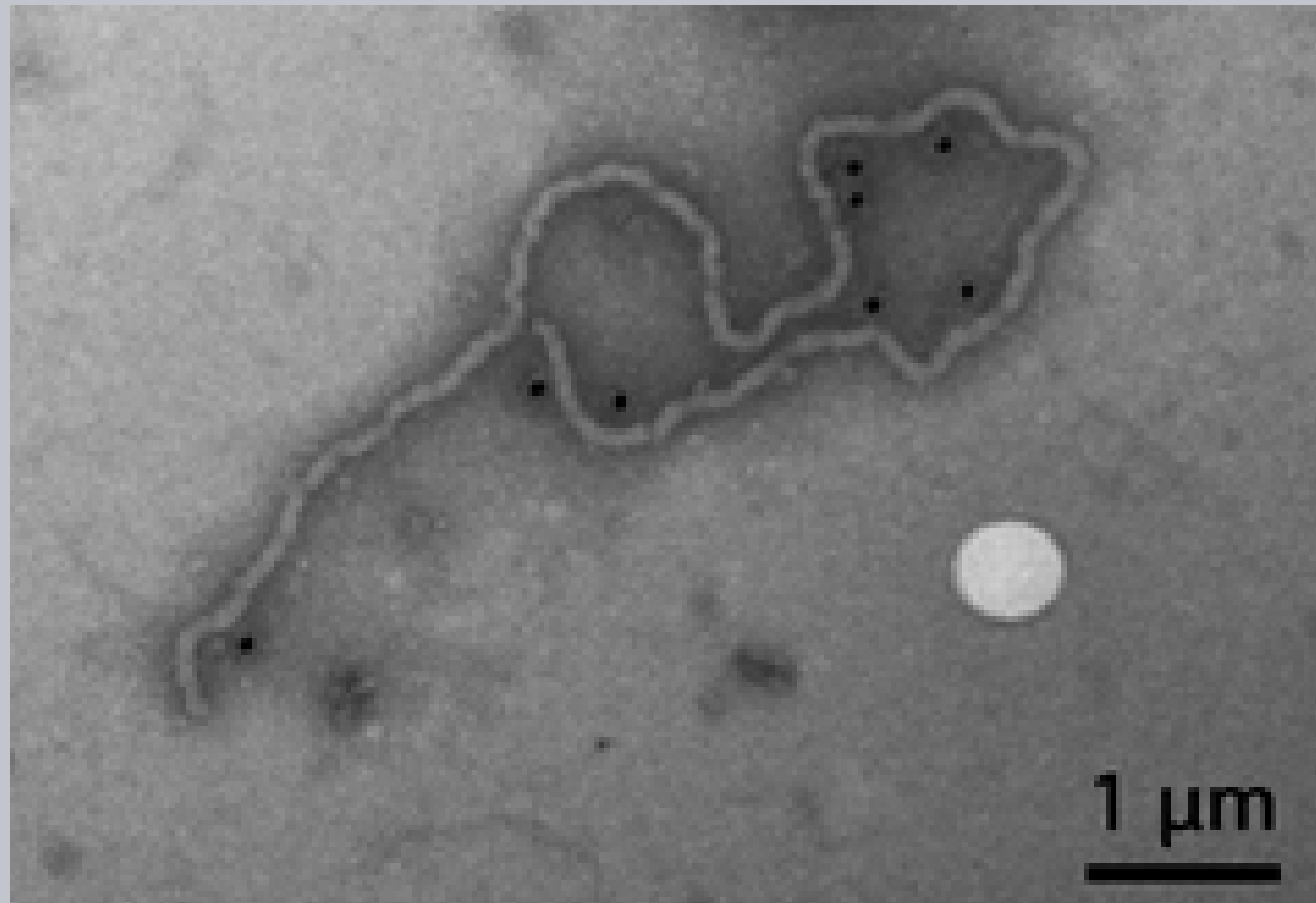
CTV is present in psyllids



Percentage of isolates identified in psyllids

- We also used psyllids to survey CTV
- Psyllids don't transmit CTV, but acquire the virus
- Collected from Glades, Collier, Pasco, Orange, Hendry, and Desoto counties
- 85% of psyllids had CTV, including decline and stem pitting isolates
- Also multiple isolates and unknown strains

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- In conclusion, growers should be aware that CTV is still present in Florida, and that the virus can be transmitted to new plants, especially during aphid outbreaks.
- **Switching to sour orange rootstock increases the potential of CTV infection and tree decline.**