

Cotton leafroll dwarf virus

Research Review and Planning Meeting

October 8, 2019

Objective

Identify Needs for a 2020 Research Plan

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- 1. What do we know? - AM**
- 2. What do we need to know? - AM**
- 3. How will we find it? - PM**

Cotton leafroll dwarf virus

History in North America

2017 – Discovery in AL & FL – Lawrence et al. Aug. 2017

2018 – Alarm at the Wiregrass Meeting - Hagan et al. Aug. 2018

2019 - Greatly Increased Recognition of Incidence.

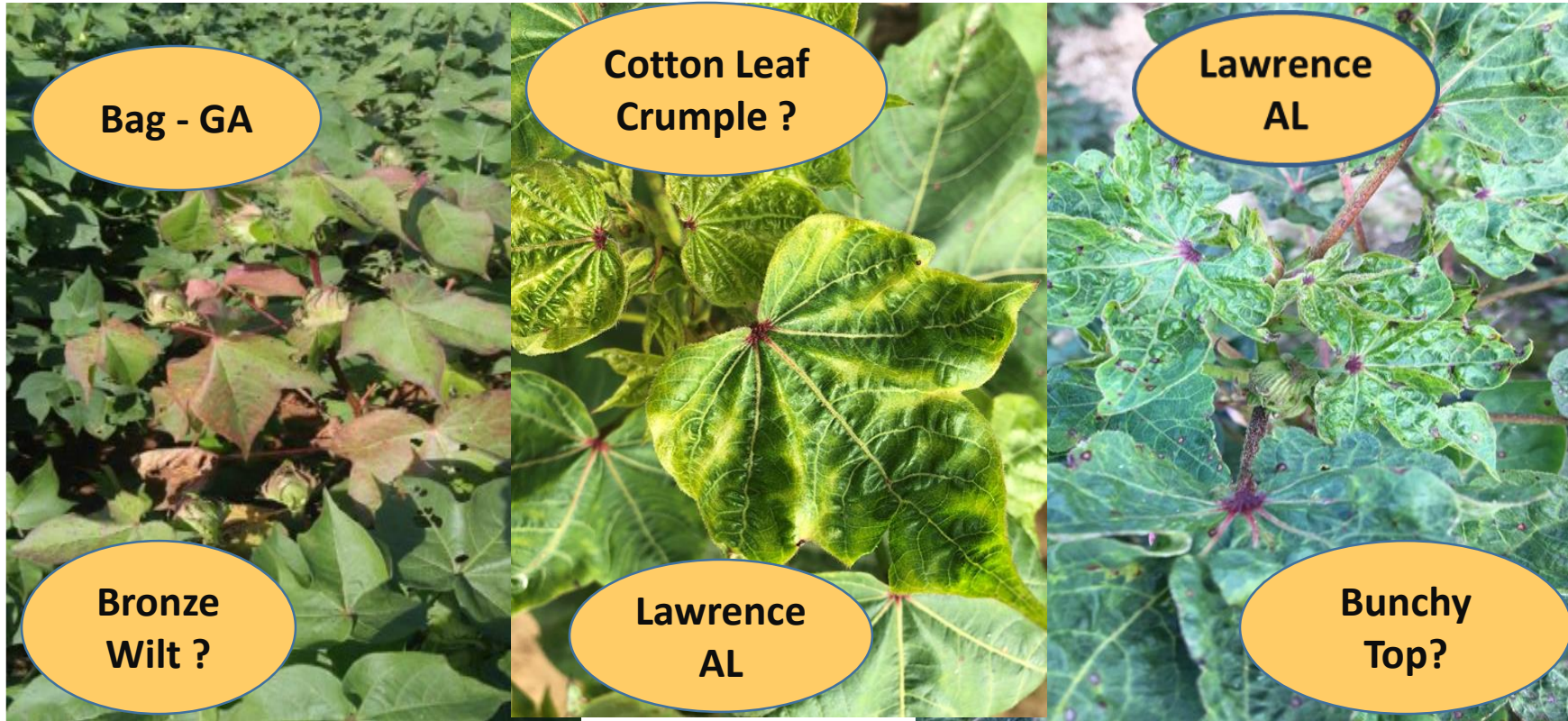
- Probable Decreased Estimation of Severity

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2020 What Threat is Posed by this Disease ?

What can we do about it?

2018 - Symptoms of CLRDV



All these plants tested positive for CLRD-like Virus

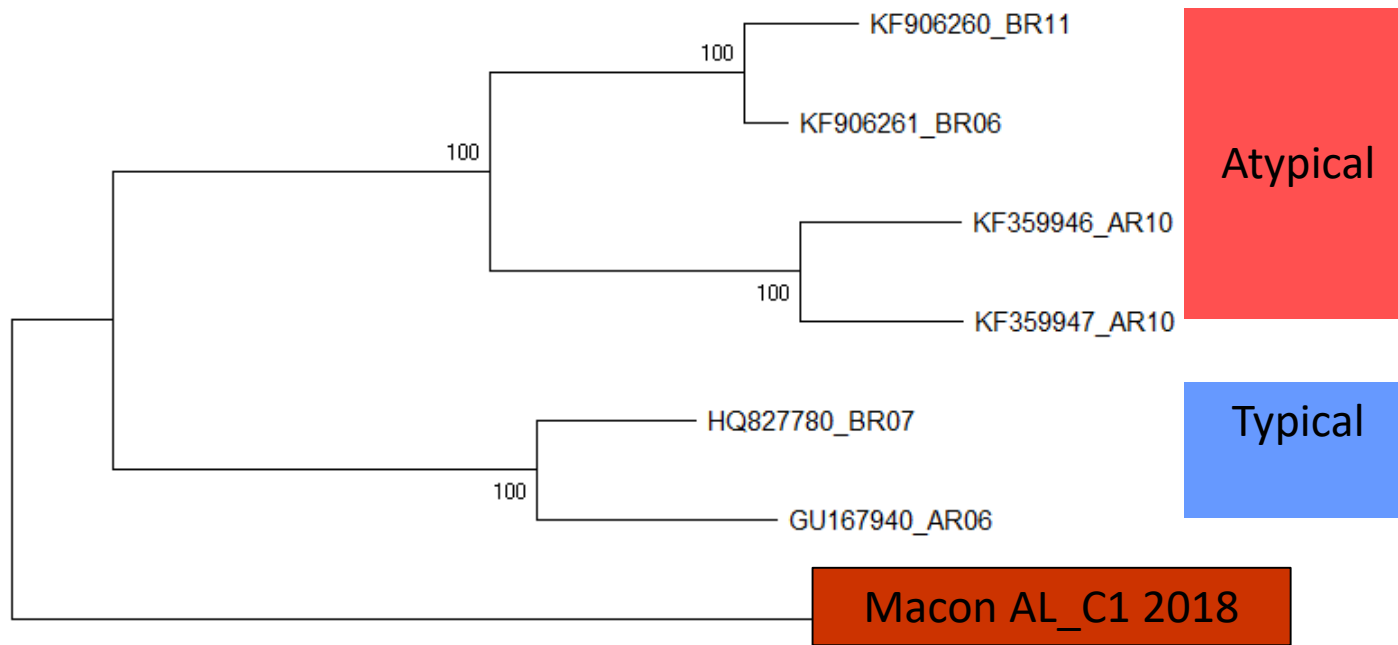
Genome of a North American CLRDV Strain

Description of CLRDV – AL (based on isolates from 3 AL counties)

Avelar et al. Characterization of the complete genome and ORF0 protein for a previously unreported strain of Cotton leafroll dwarf virus, an introduced polerovirus in the USA. (accepted by Plant Disease 9/17/19))

CLRDV - Macon isolate

Phylogenetic analysis



- MEGAX software
- Maximum Likelihood (ML)
- 1000 bootstrap iterations

Three clades

- Atypical
- Typical
- USA Macon AL_C1 2018

Based on information from
Judy Brown – Jan. 2019

Recommended Nomenclature – 10/3/19

The Virus is *Cotton leafroll dwarf virus*
The Disease is Cotton leafroll dwarf disease

Collaborating Virologists:

Judy Brown – University of Arizona

Sead Sabanadzovic – Mississippi State

Sudeep Bag – University of Georgia

Olufemi Alabi – Texas AgriLife Research

Cotton leafroll dwarf disease

Edisto, SC Aug. 26, 2019
BRS 293 – resistant to CBD & ACBD

