



Managing Foliar Diseases in Louisiana Cotton

LATMC – 2/18/2016



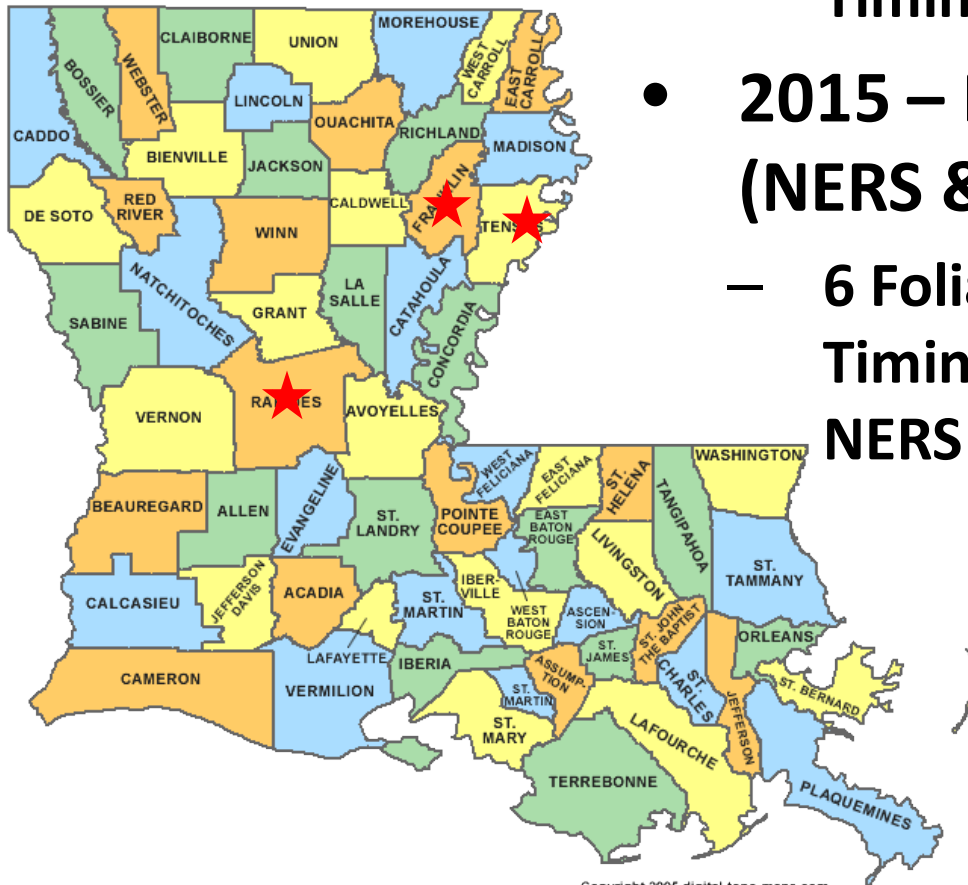
Trey Price
318-235-9805

pprice@agcenter.lsu.edu

Twitter: @ppp_trey

Trials & Locations – 2014,2015

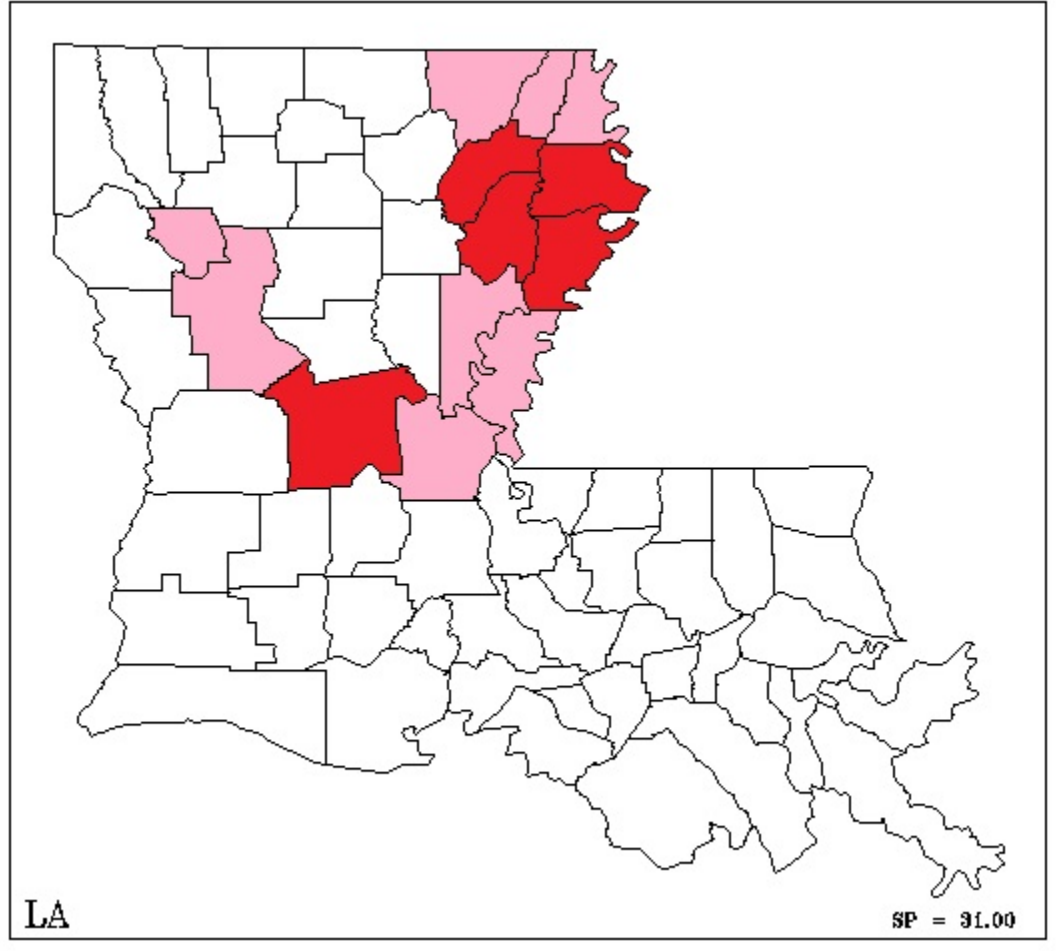
- **2014 – Regional Target Spot Project (NERS & MRRS)**
 - 7 Foliar Fungicide Type, Rate, and Timing Trials at DLRS & MRRS
- **2015 – Regional Target Spot Project (NERS & MRRS)**
 - 6 Foliar Fungicide Type, Rate, and Timing Trials at DLRS, MRRS, and NERS



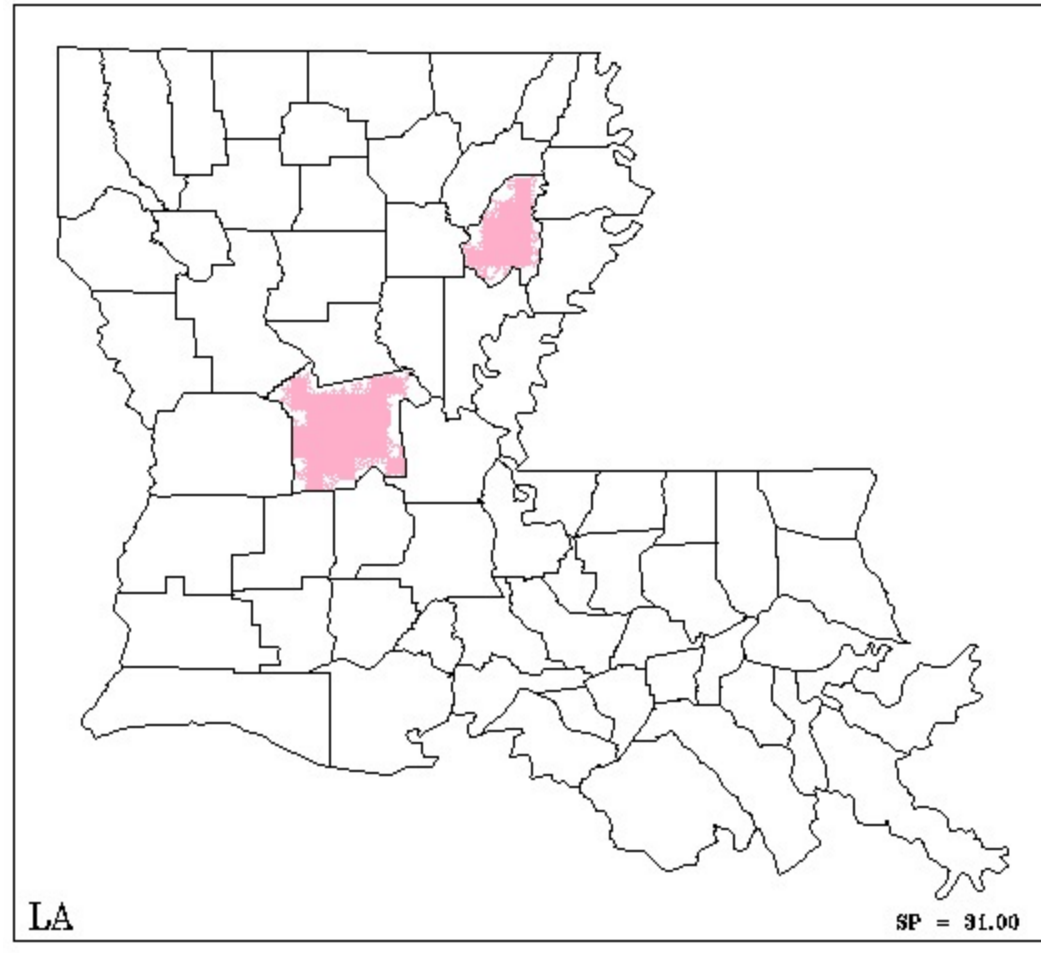
Target Spot – *Corynespora cassiicola*



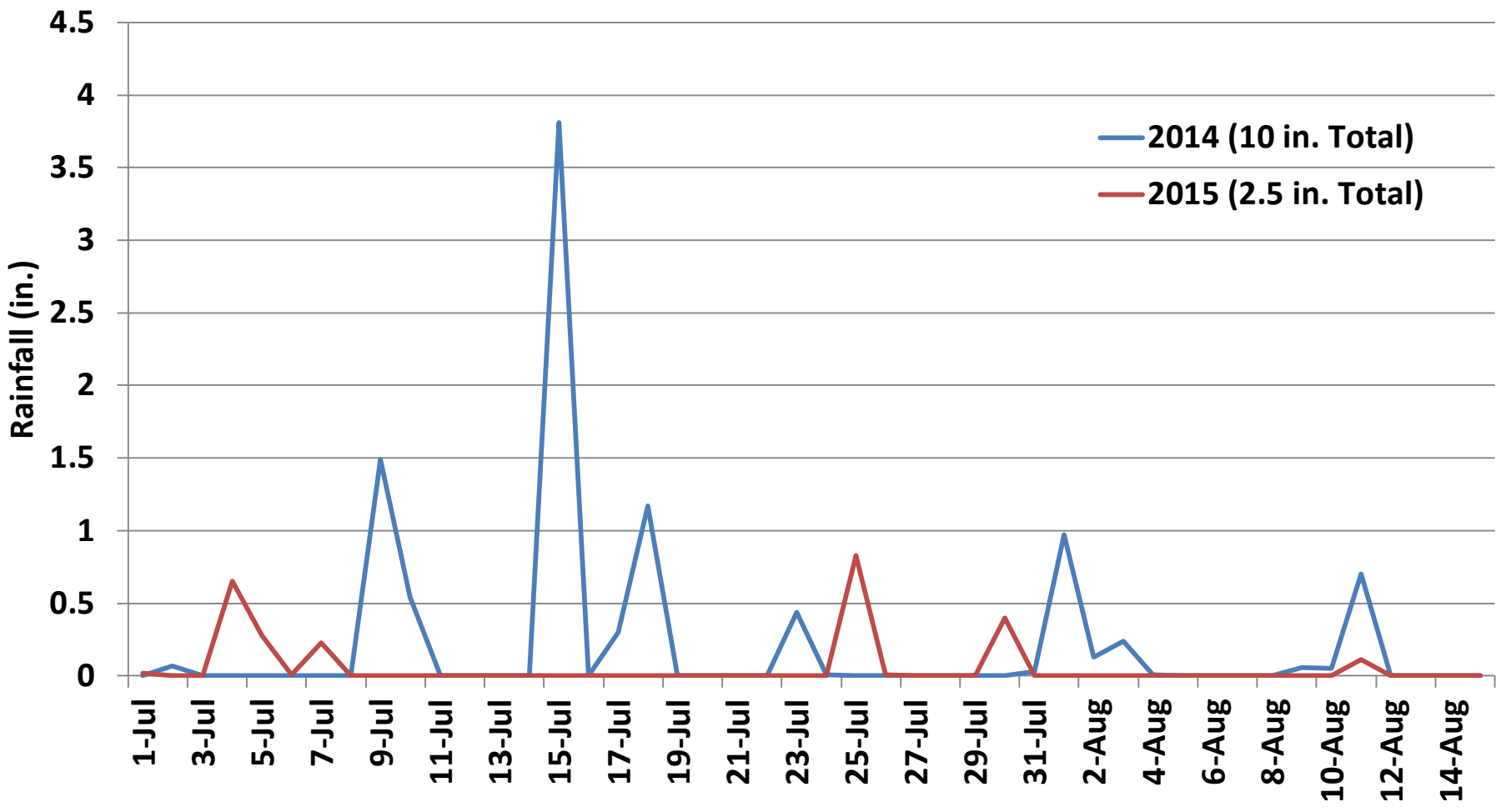
Target Spot Distribution - 2014



Target Spot Distribution - 2015

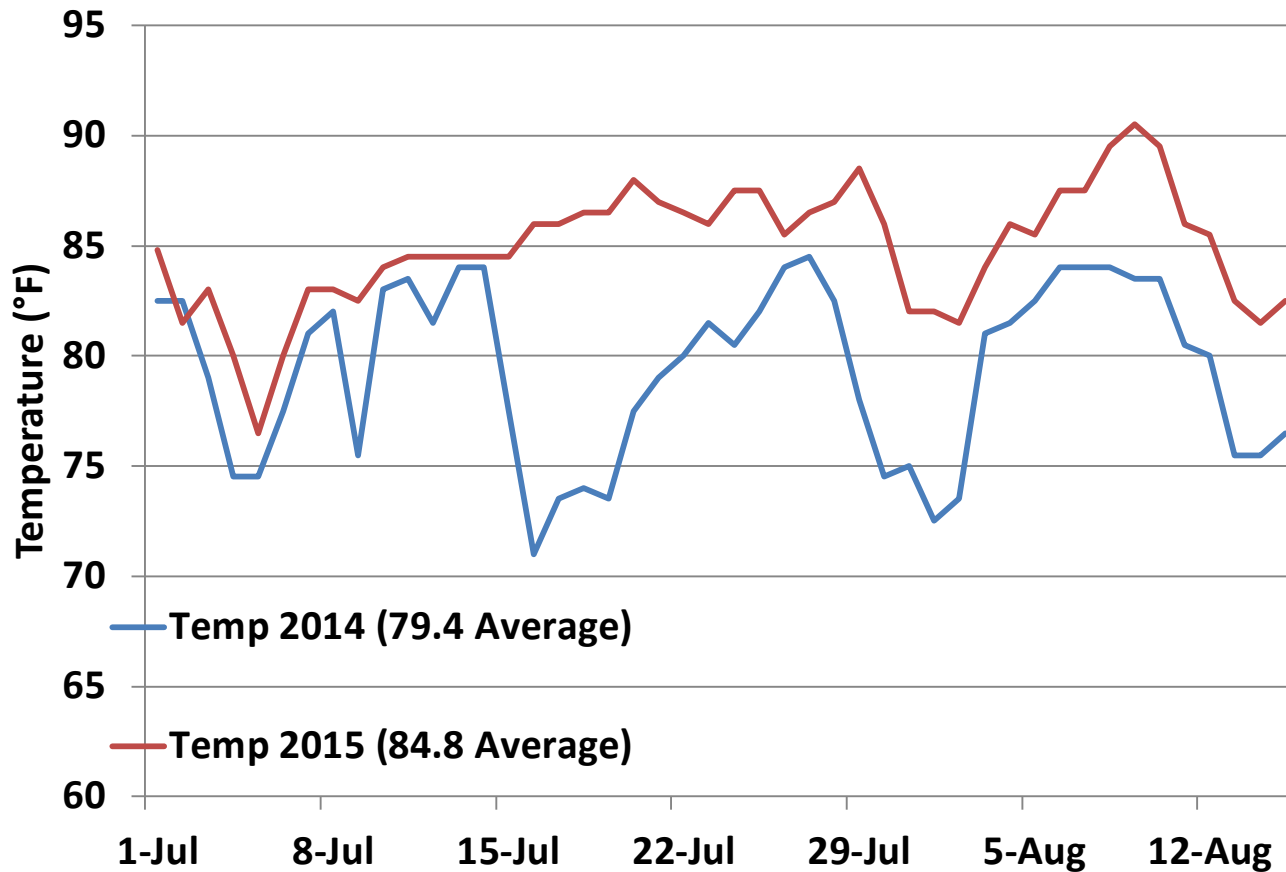


Rainfall – 2014,2015 – Chase, LA

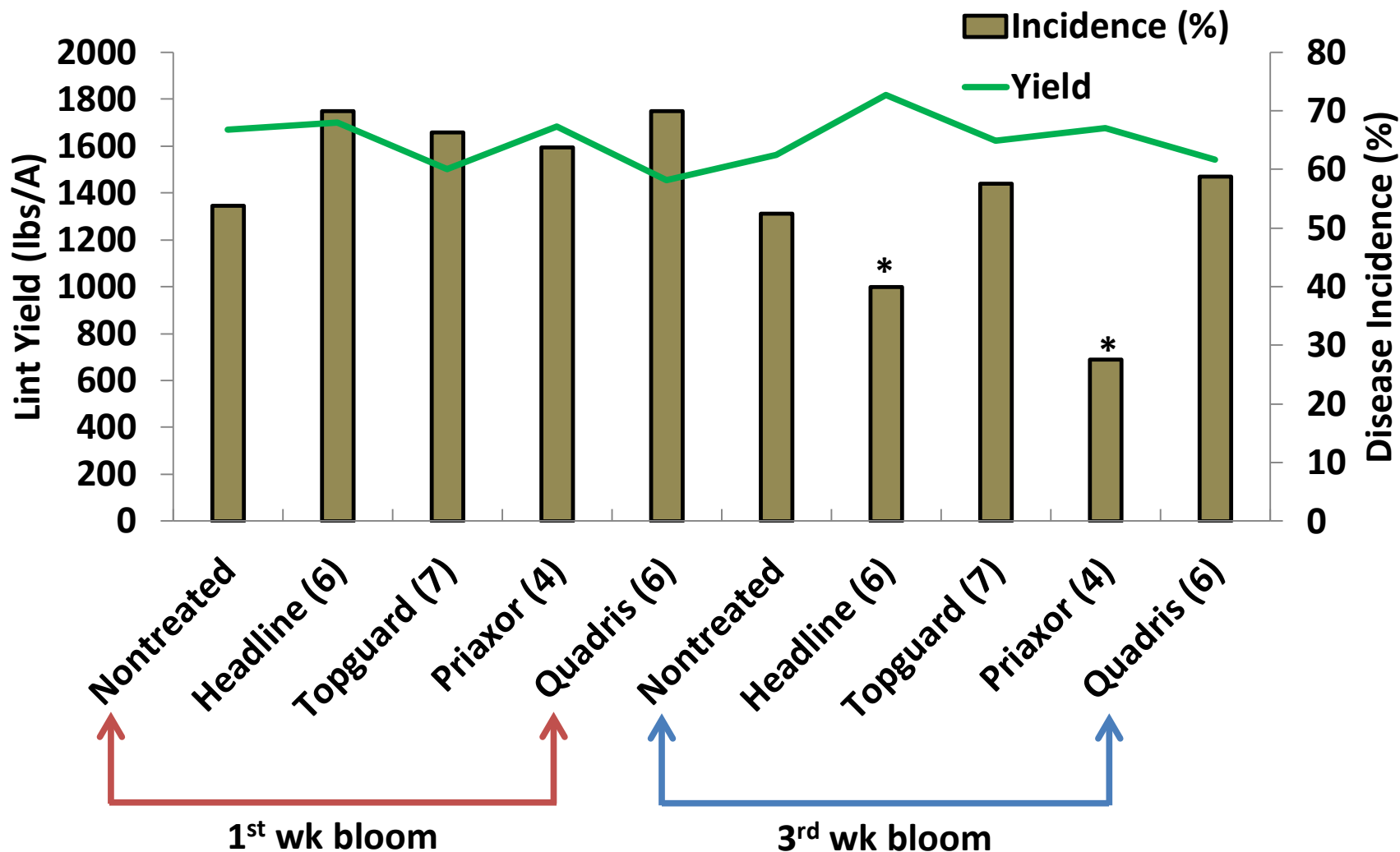


Average Temperatures – 2014,2015

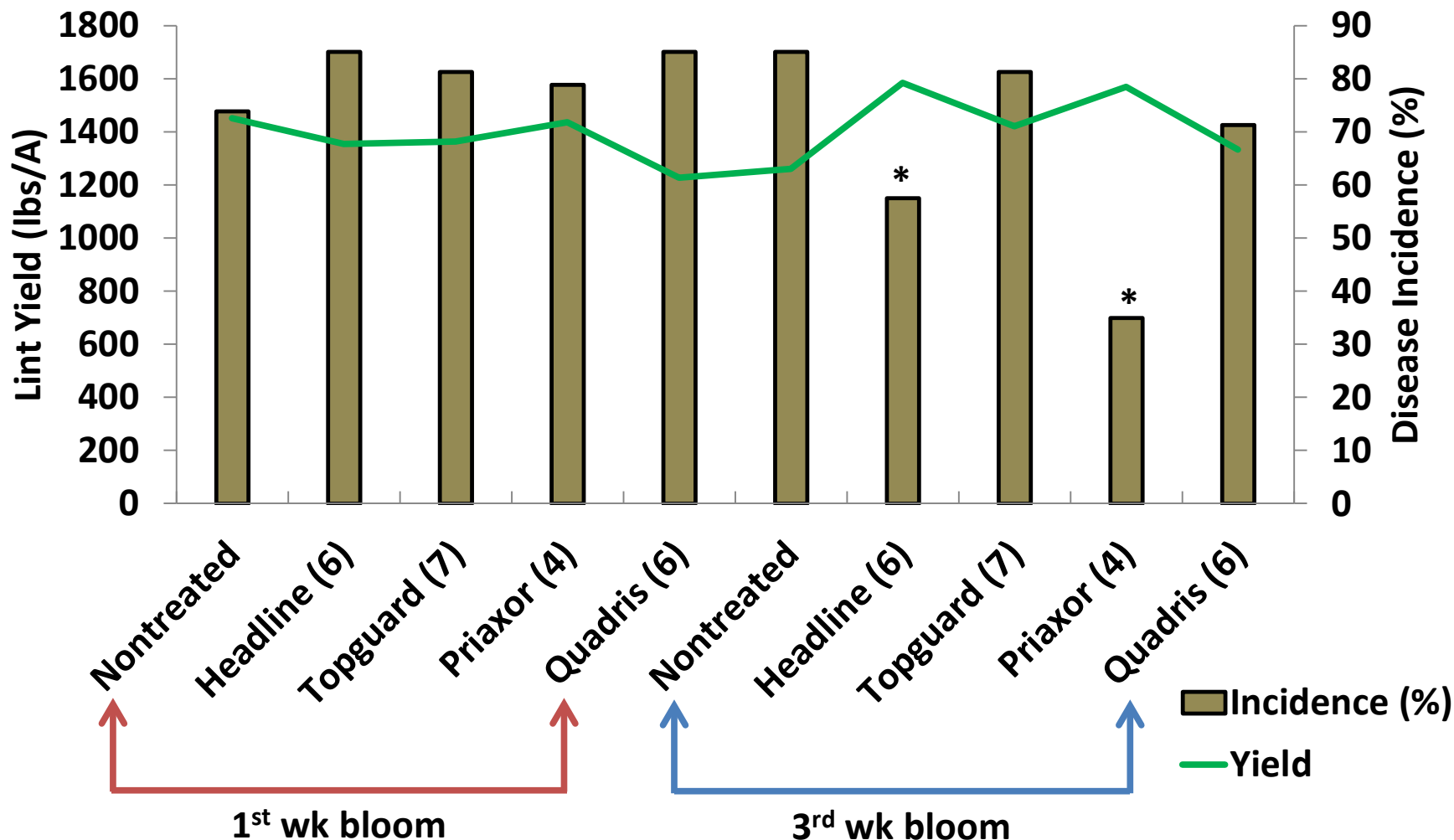
Chase, LA



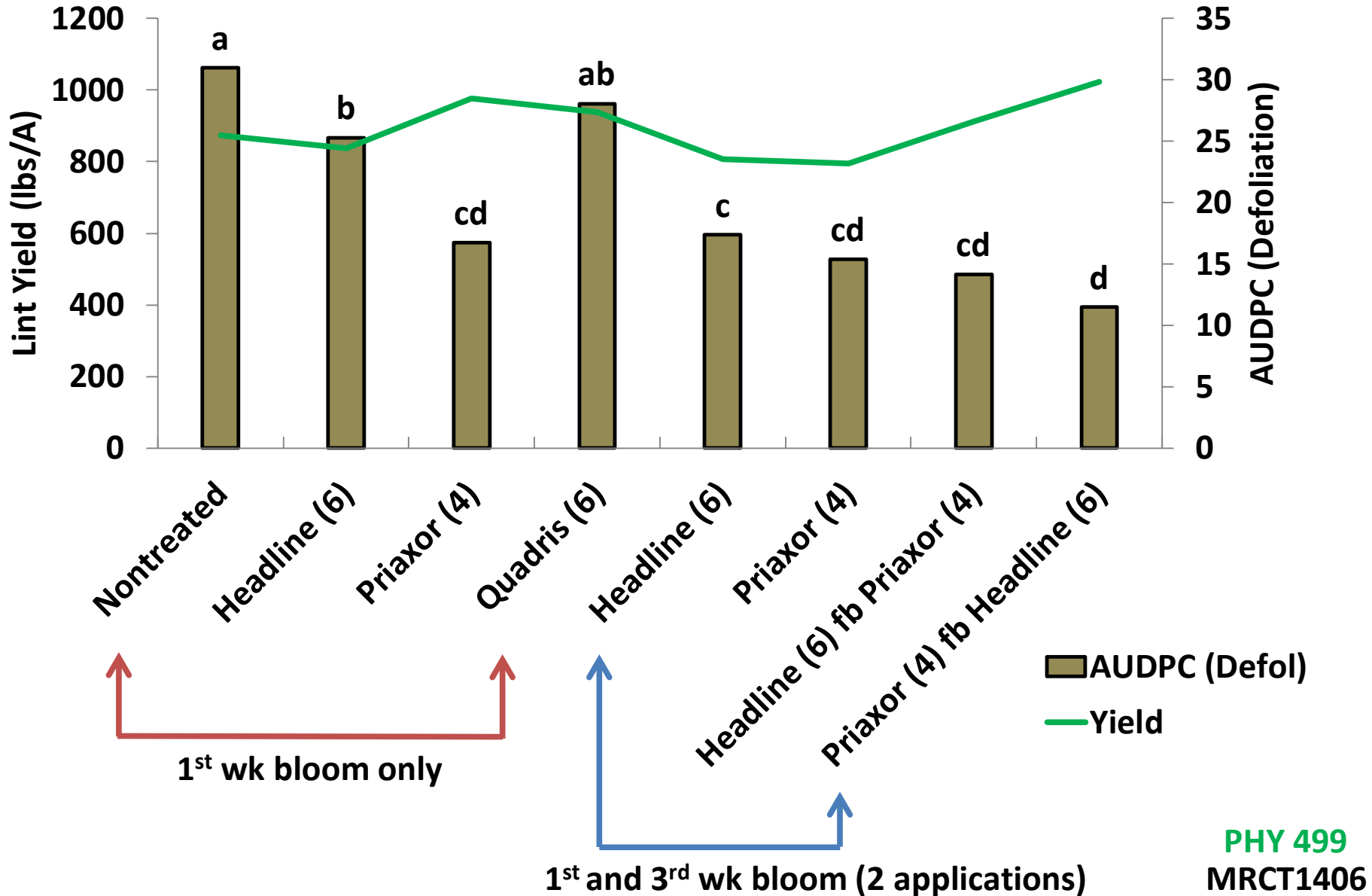
Fungicide Trial, DLRS, Alexandria, LA, 2014



Fungicide Trial, DLRS, Alexandria, LA, 2014



Fungicide Trial, MRRS, Winnsboro, LA, 2014 - TARGET SPOT



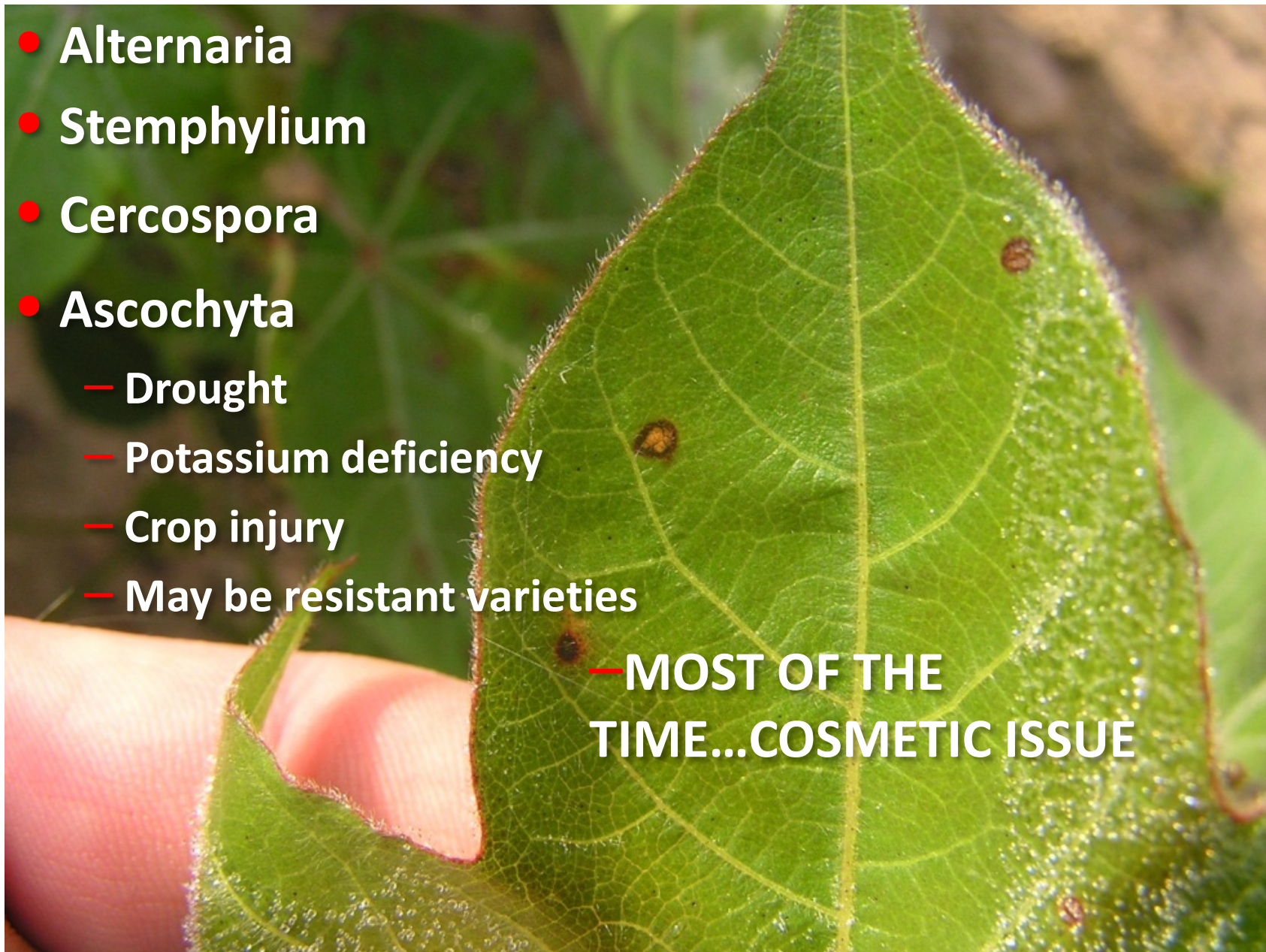
Future Research Needs – Target Spot

- Repeat target spot field trials in 2016 (NERS, MRRS, and DLRS). Need more information on fungicide efficacy, yield loss, and economic feasibility. Plan to inoculate in 2016.
- Conduct basic epidemiology research with *Corynespora cassiicola* (dew period, optimum temperature, inoculum concentration, light effects?, PGR effects?. Toxins?...etc.).
- Relate defoliation timing with yield loss (early, mid, and late season).

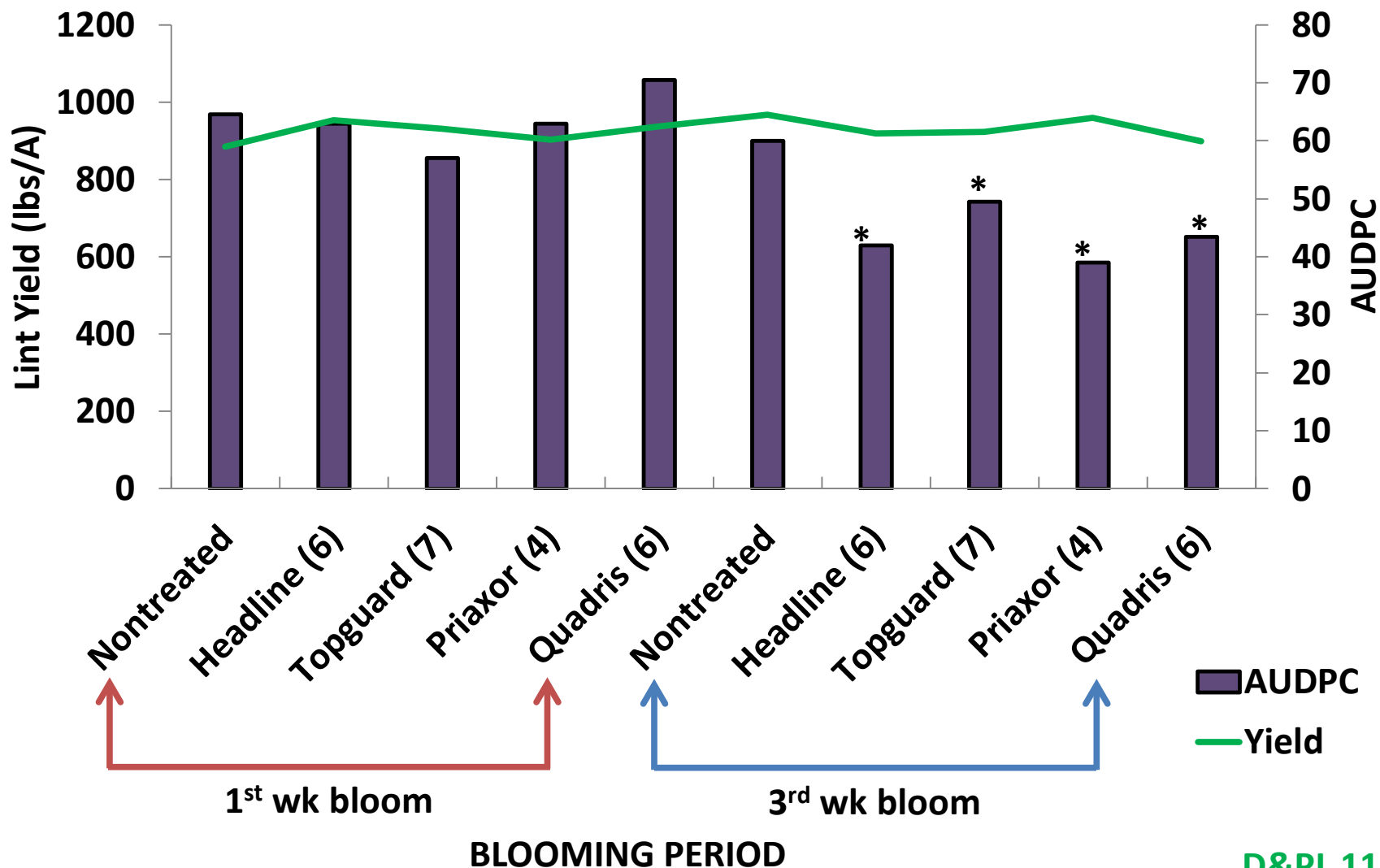
Cotton Diseases - Leaf Spot Complex

- Alternaria
- Stemphylium
- Cercospora
- Ascochyta
 - Drought
 - Potassium deficiency
 - Crop injury
 - May be resistant varieties

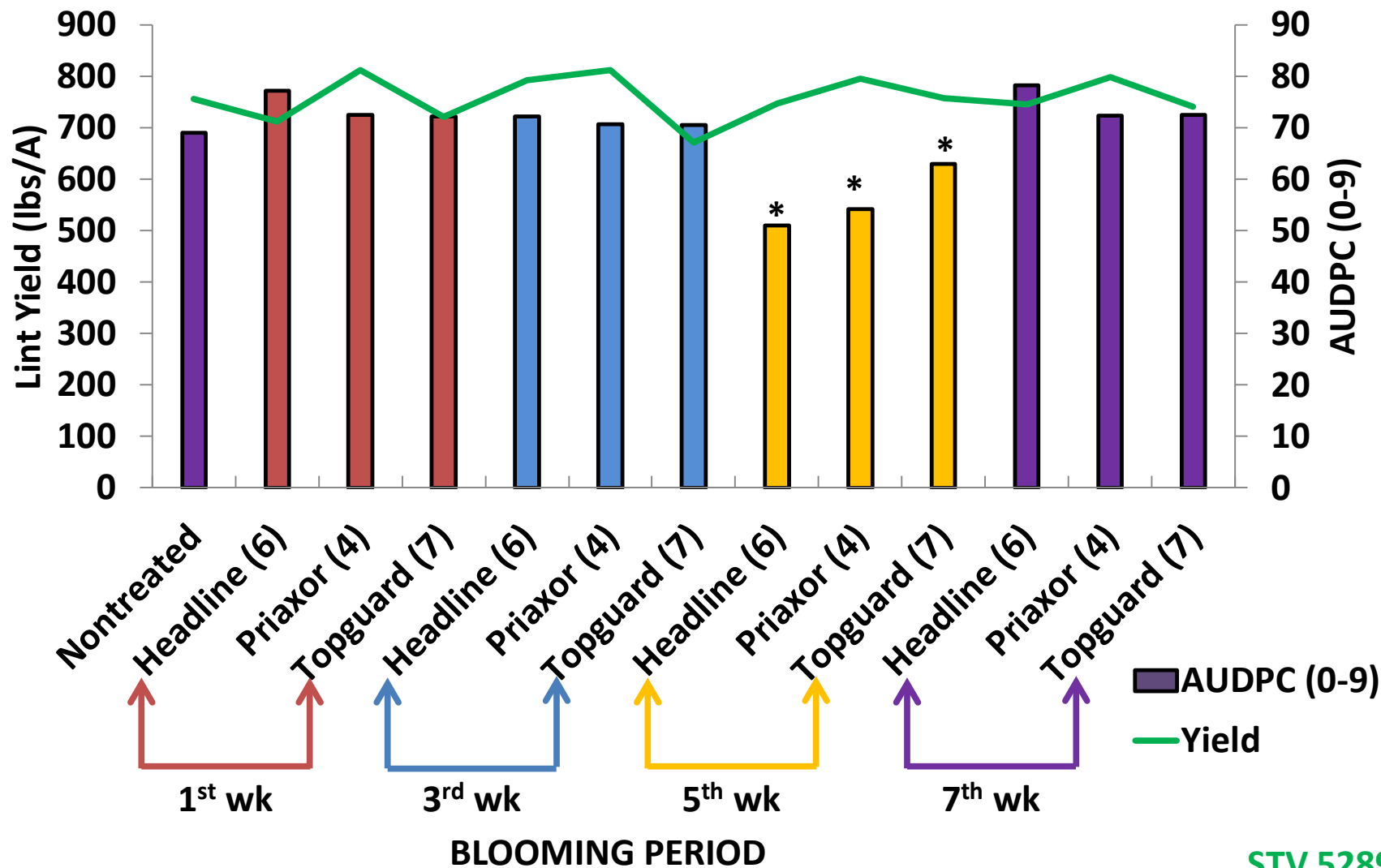
— MOST OF THE
TIME...COSMETIC ISSUE



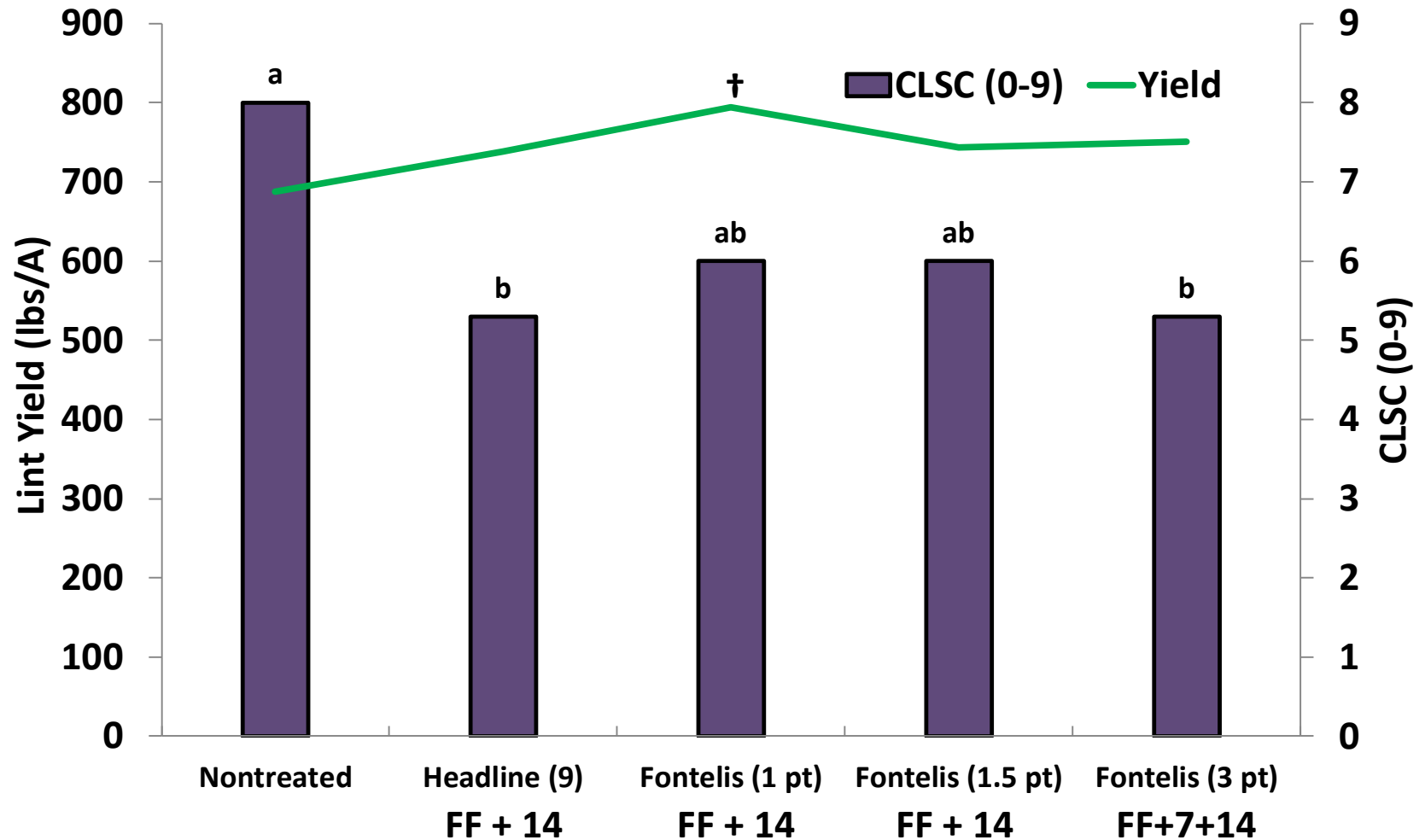
Fungicide Trial, MRRS, Winnsboro, LA, 2014 –



Fungicide Trial, MRRS, Winnsboro, LA, 2014



DuPont Fungicide Trial, MRRS, Winnsboro, LA, 2015



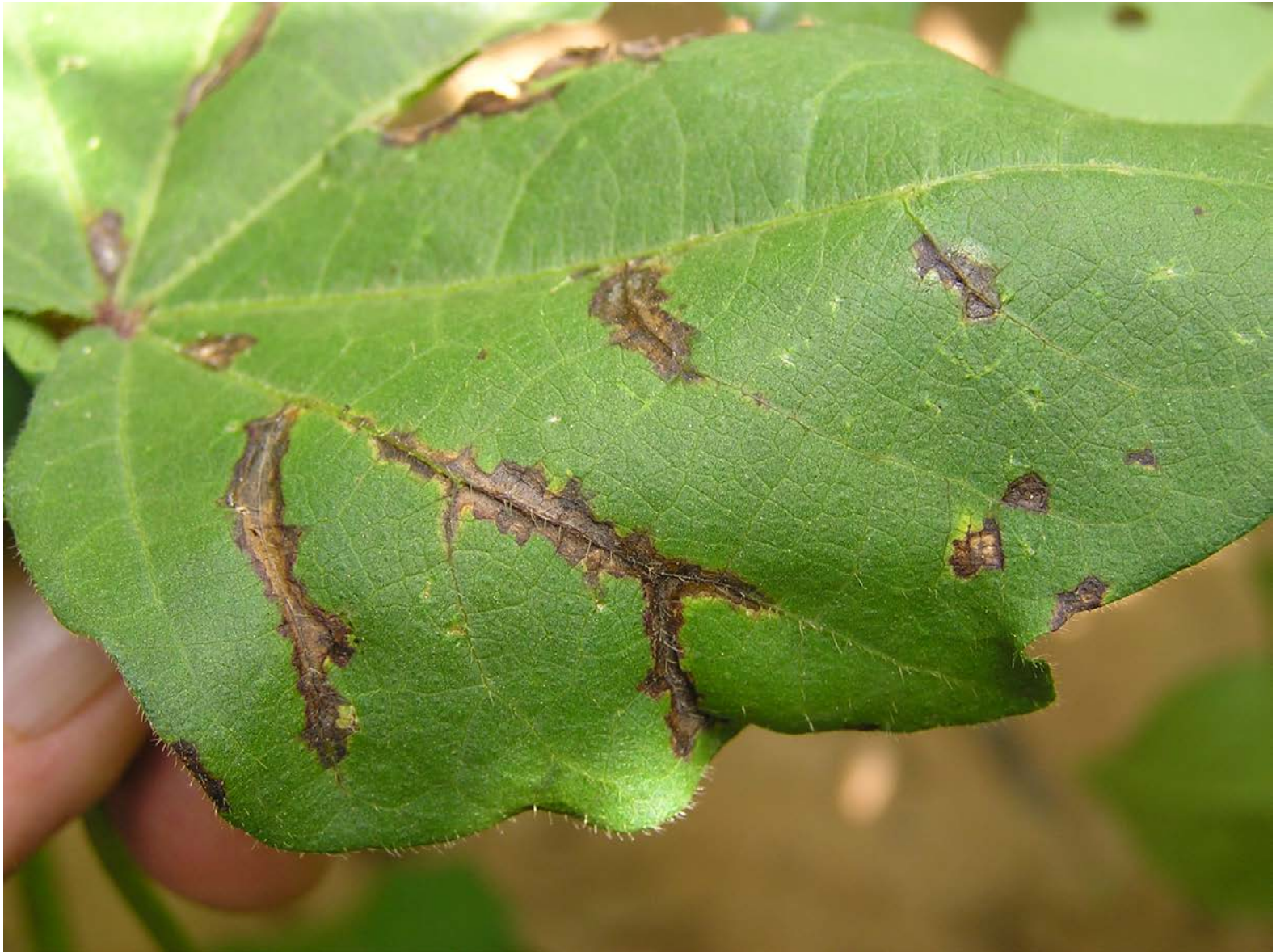
Future Research Needs - CLSC

- Develop more information on fungicide efficacy with screening and timing trials.
- Will applications pay?
- Determine disease severity at which CLSC will affect yield.
- Basic epidemiological research (K effect). Why are these diseases so prevalent now?
- Are there resistant varieties?

Bacterial Leaf Blight (Angular leaf spot)



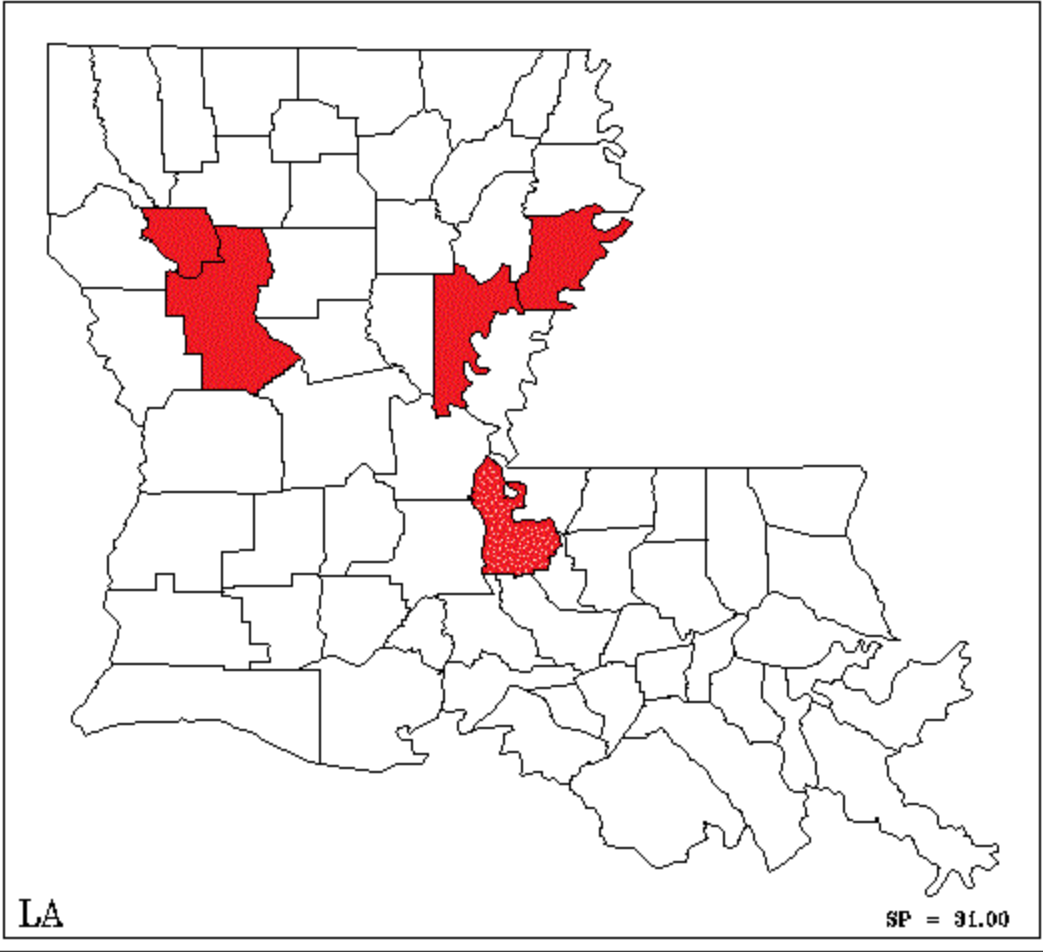
Bacterial Leaf Blight (Angular leaf spot)



Bacterial Leaf Blight (Angular leaf spot)



Bacterial Leaf Blight Distribution - 2014



Handful of Resistant Varieties

- Deltapine 1133
- Fibermax 1740
- Fibermax 9058
- Phytogen 375
- Stoneville 5288

Source: Mississippi State OVTs

Future Research Needs - BLB

- Further define disease distribution in Louisiana.
- Develop and initiate a greenhouse variety screening protocol to ID resistant varieties.
- Identify and develop cultural practices that may aid in disease management.
- We need up-to-date information on optimum temperatures, dew periods, methods of spread, etc... to be able to predict outbreaks.

Selected Accomplishments

- P. Price. 2014. **Bacterial blight (Angular leaf spot) observed in Louisiana cotton fields.** Web Blog. www.louisianacrops.com.
- P. Price, M. A. Purvis, and H. Pruitt. 2015. **Fungicide and application timing effects on target spot of cotton in Louisiana, 2014.** Plant Dis. Manag. Rep. 9:FC101.
- P. Price, M. A. Purvis, H. Pruitt, and J. B. Guice. **The effect of selected fungicides and application timings on target spot of Louisiana cotton, 2014.** Plant Dis. Manag. Rep. 9:FC102.
- H. L. Mehl, P. Price, et al. 2015. **Regional evaluation of one and two applications of registered and experimental fungicides for the management of target spot on two cotton varieties.** Proc. Beltwide Cotton Conf.
- P. Price, M. Purvis, H. Pruitt, and J. Bartleson. 2015. **Effect of fungicide and application timing on target spot in Louisiana.** Proc. Beltwide Cotton Conf.
- P. Price, M. Purvis, and H. Pruitt. 2015. **Effect of fungicide and application timing on target spot.** Phytopathology 105(Suppl. 2)S2.9.
- P. Price and R. Singh. 2016. **First report of target spot caused by *Corynespora cassiicola* in Louisiana.** doi:10.1094/PHP-BR-15-0036.
- **We have extended results of this research via many producer meetings, field days, and other activities throughout cotton producing areas in the state.**

Thanks to Cooperators!

Myra Purvis

Brandi Woolam

Hunter Pruitt

Jerry Bartleson

Warren Ratcliff

Darrell Franks

Daniel Stephenson

Donnie Miller



COTTON INCORPORATED

Dan Fromme

David Kerns

Scott Washam

Producers

Consultants

Industry

Raj Singh

