

Target Spot and Fungicide Use in Cotton



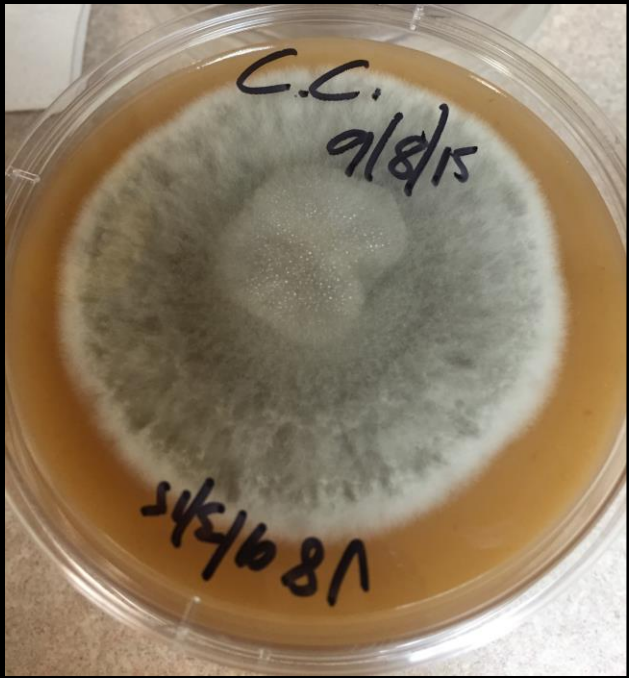
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***Corynespora cassiicola* (Berk. & M. A. Curtis) causes target spot**



Epidemiology

- **Hosts: cucumber, sweet potato, soybean, tomato, cotton**
- **There may be differences among isolates.**
- **Fungus prefers warm conditions with high humidity.**
- **May be a toxin involved with defoliation? (unknown).**
- **The pathogen can overwinter as a saprophyte on debris.**
- **Spores are spread by wind, rain, overhead irrigation, etc.**

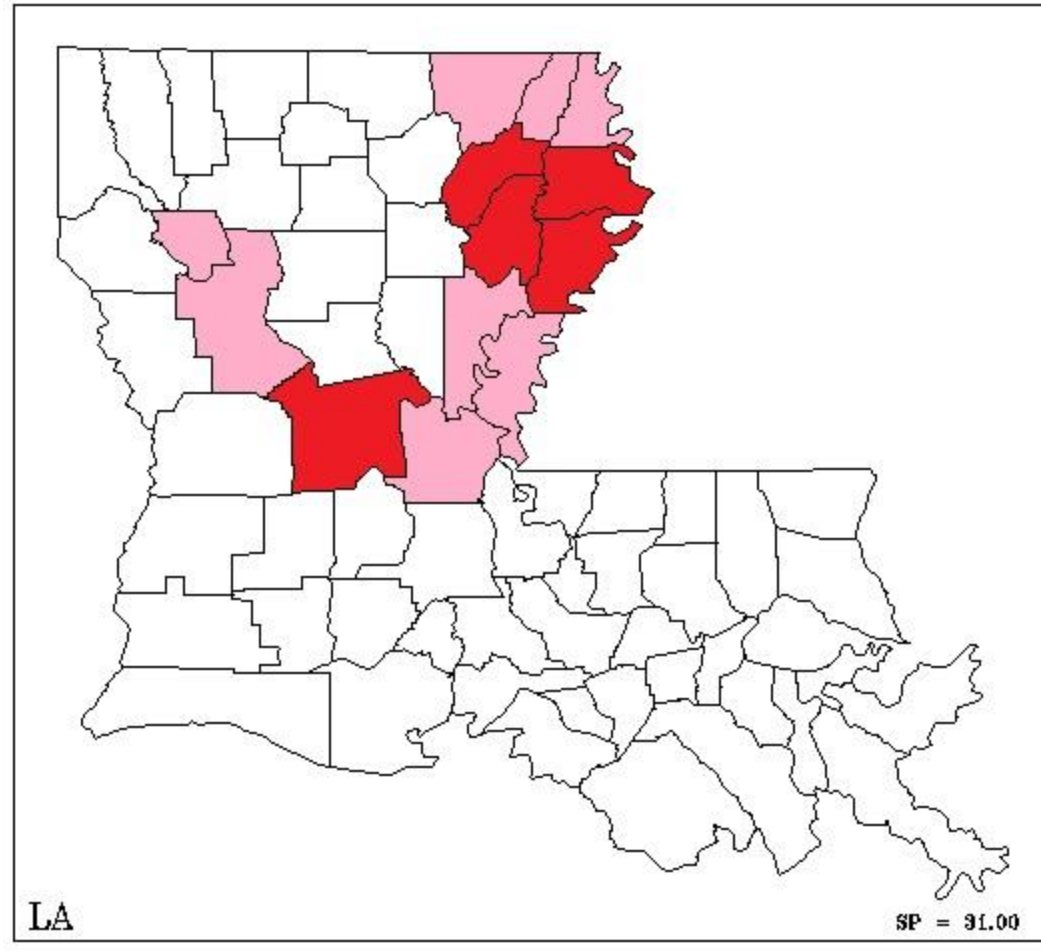


Target Spot

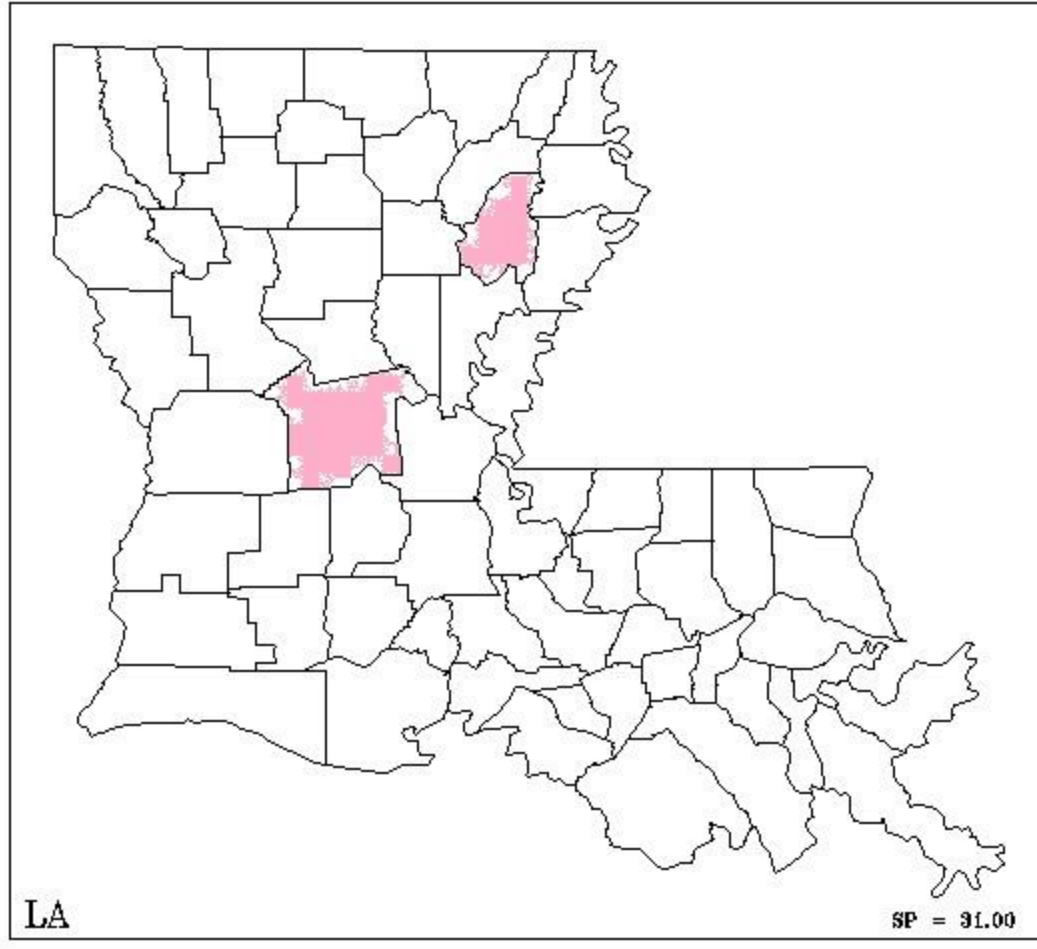




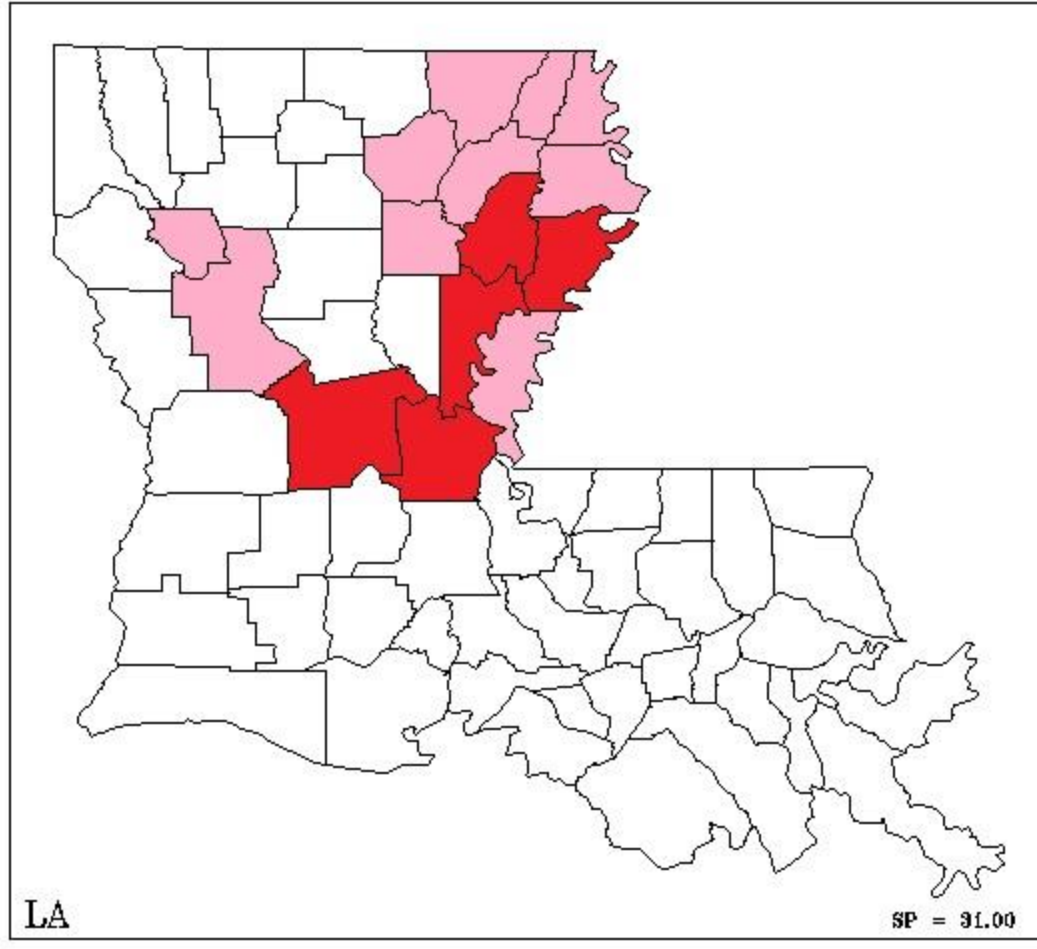
Target Spot Distribution - 2014



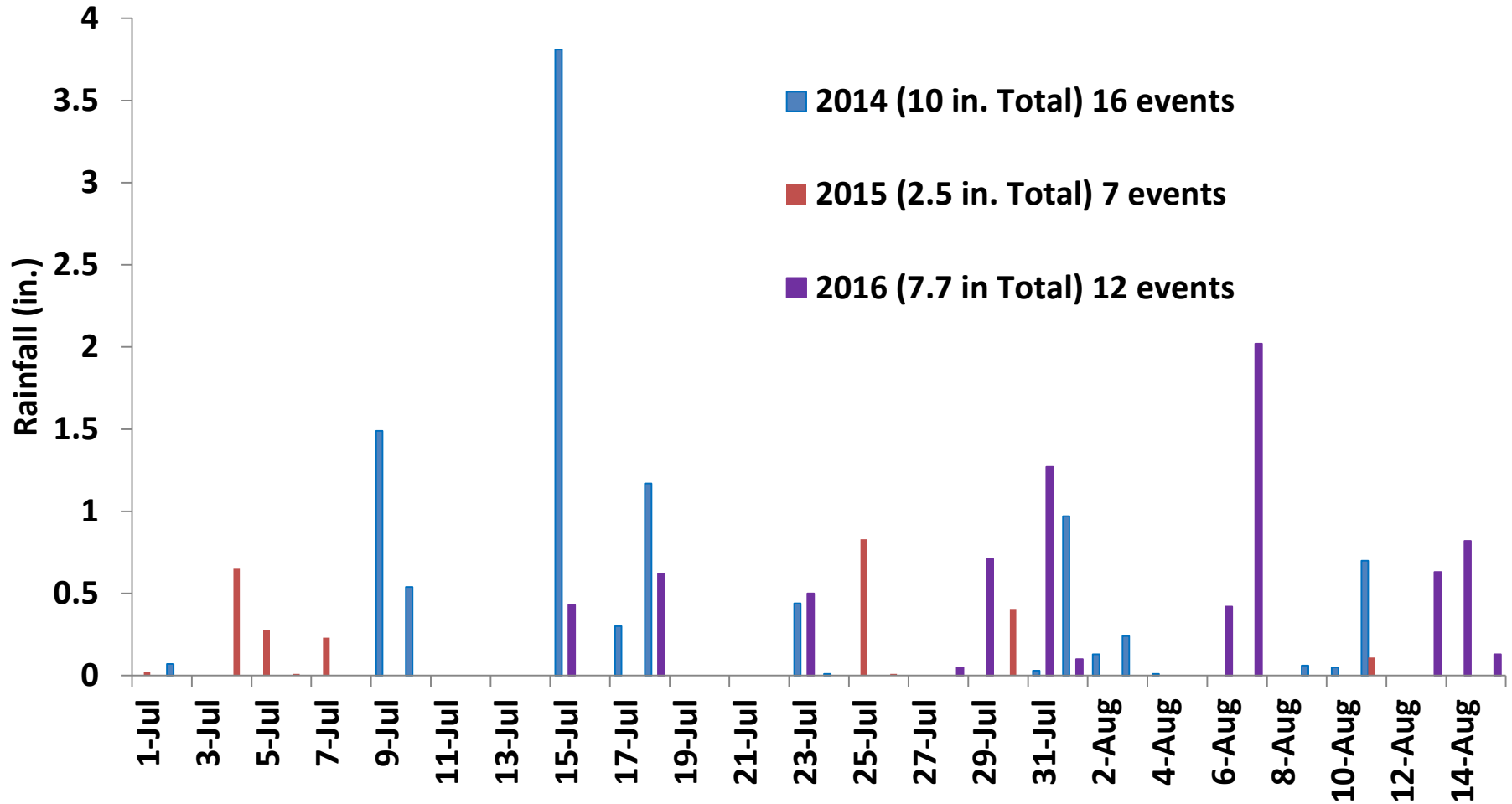
Target Spot Distribution - 2015



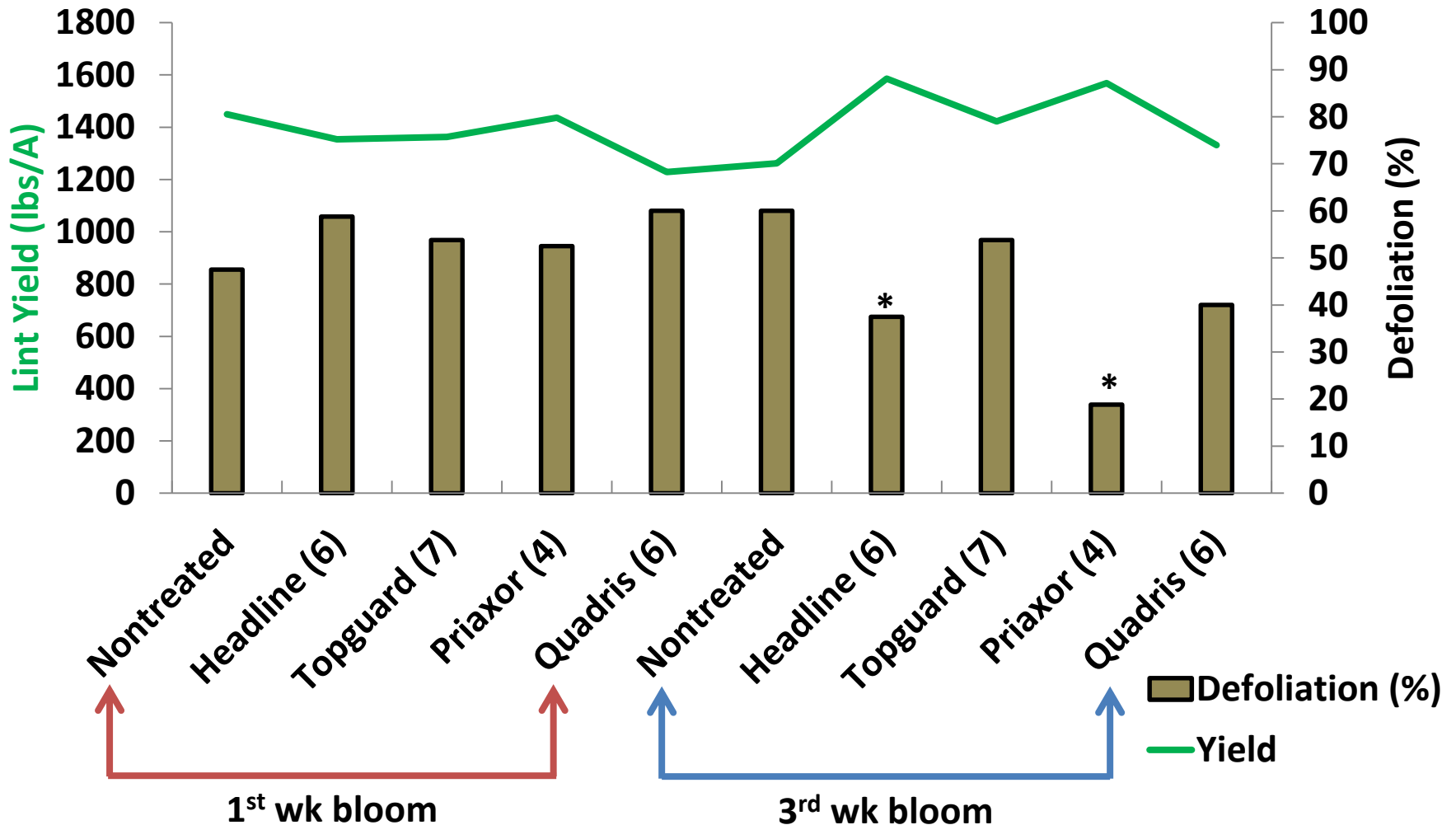
Target Spot Distribution - 2016



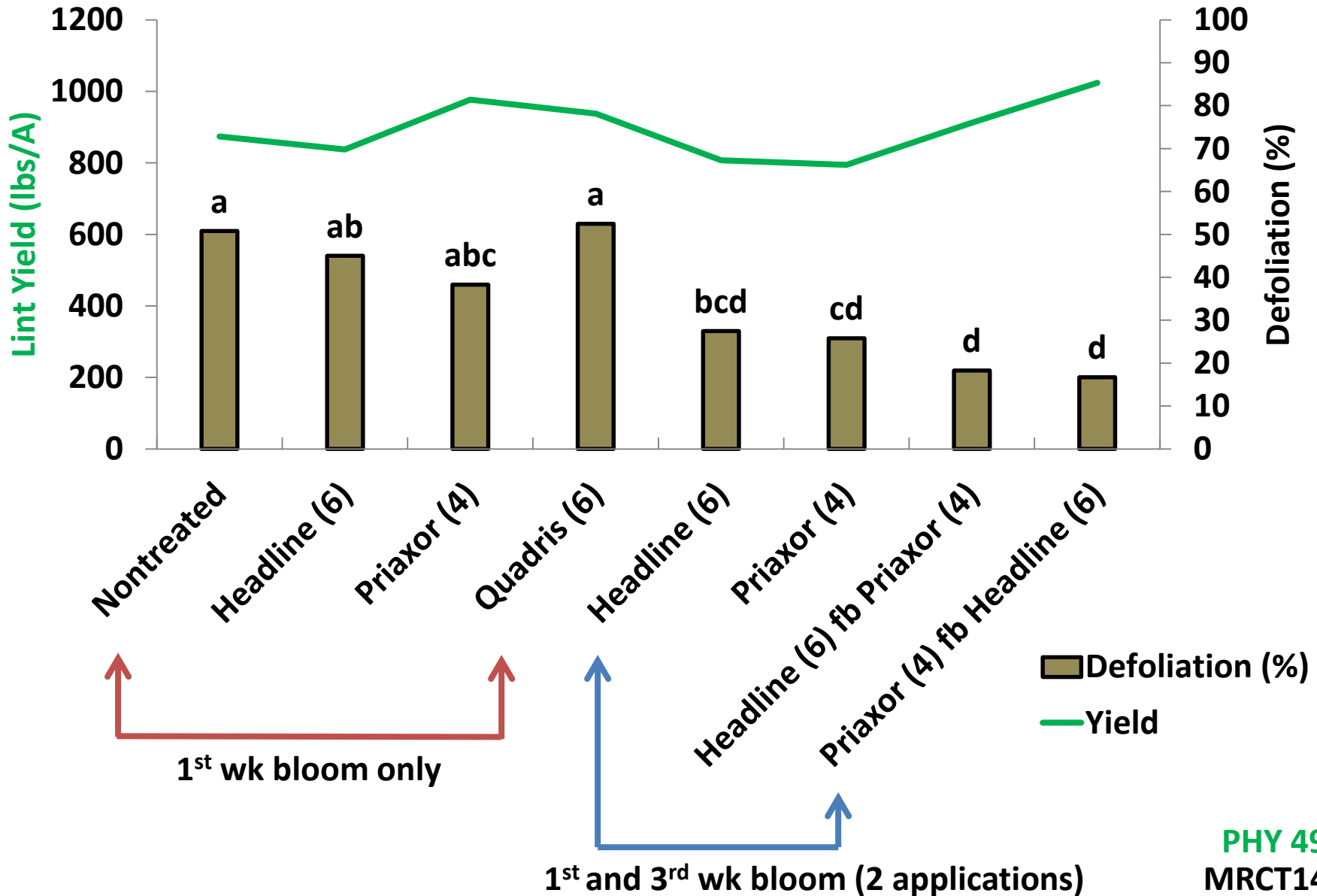
Rainfall, 2014-2016, Chase, LA



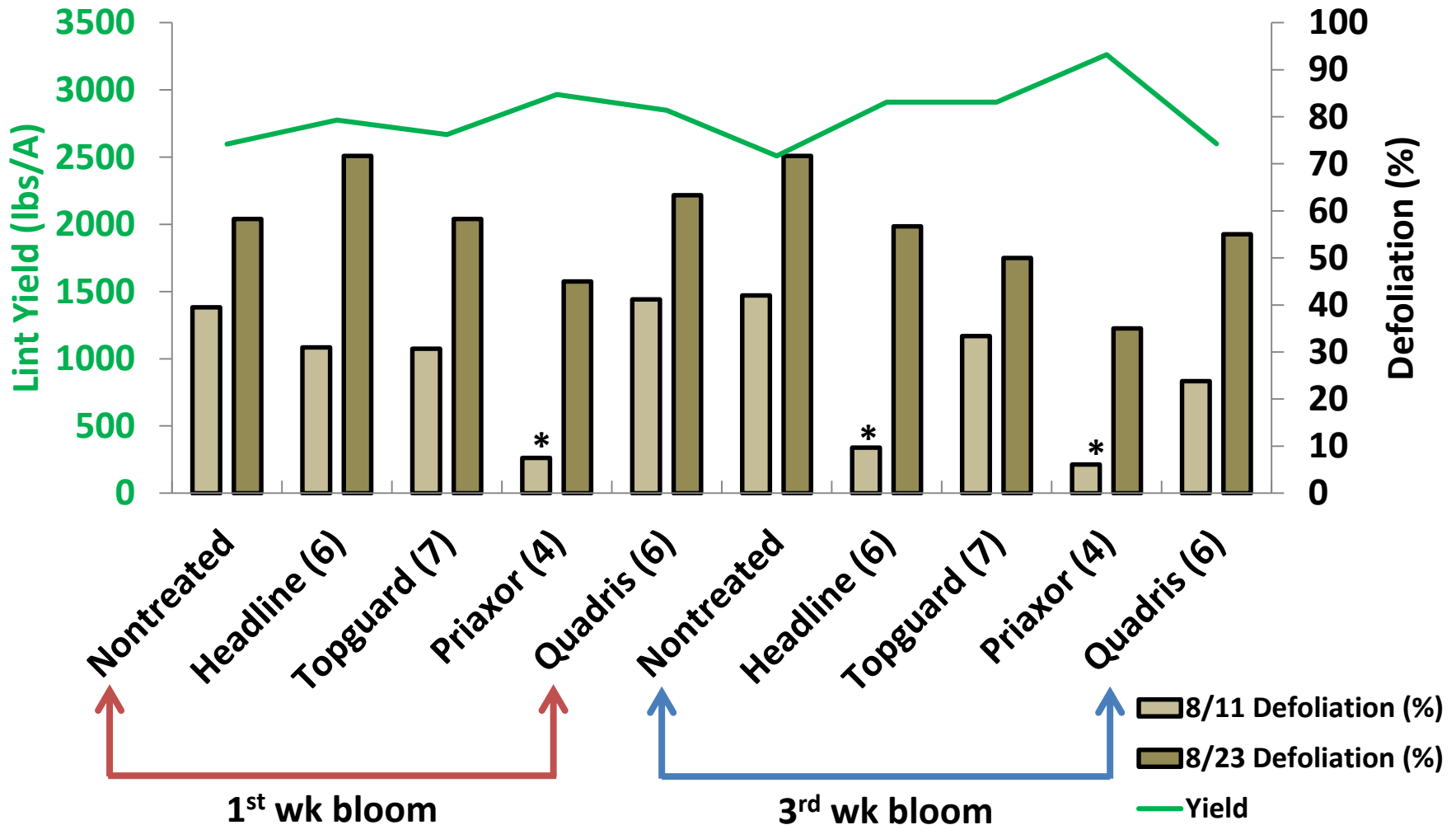
Regional Fungicide Trial Mimic Alexandria, LA, 2014



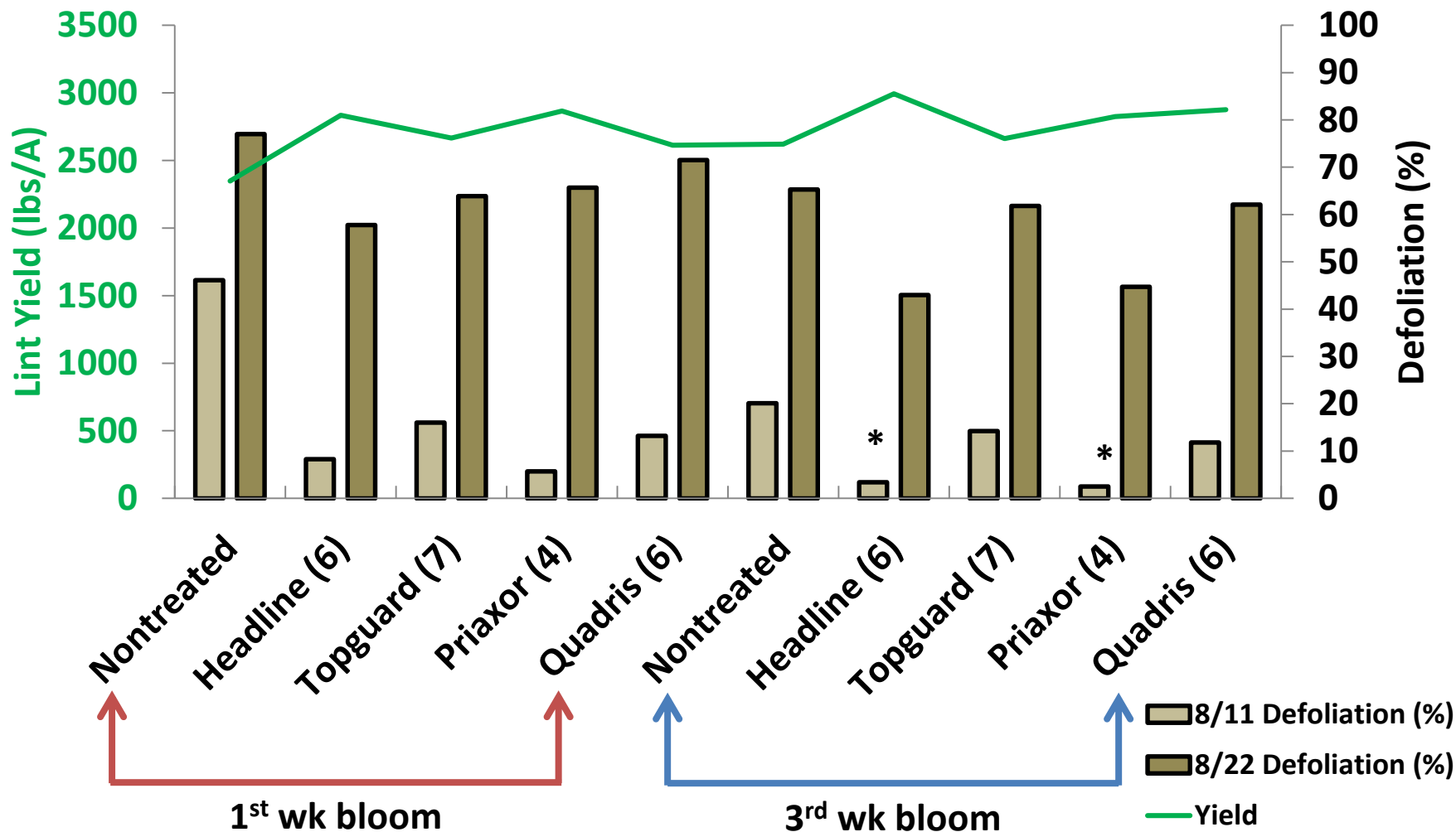
BASF Fungicide Trial Winnsboro, LA, 2014



Regional Fungicide Trial – St. Joseph, LA – 2016



Regional Fungicide Trial – Winnsboro, LA – 2016



Multi-year Regional Evaluation of One and Two Applications of Registered and Experimental Fungicides for the Management of Target Spot on Two Cotton Varieties

H. L. Mehl, N. Dufault, M. Mulvaney, A. Hagan, H. Kelly, R. Kemerait, P. Price, T. Allen, and R. L. Nichols

- **1st and or 3rd wk bloom applications**
 - **16 site-years**
 - **1 of 12 locations in '14 and '15 showed significant yield increase**
- **3 of 8 in '16 showed significant yield increase**

- **AVERAGE YIELD RESPONSE = 5%**



Target Spot Management

- **Scout!** If disease starts during the 1st 3 weeks of blooming, yield loss may occur.
- **Watch the weather.** Frequent rain favors target spot.
- **Watch neighboring soybeans.** Disease is usually spotted in early beans before cotton.
- **Manage excessive canopy growth.** Any rank cotton variety can get target spot. Timely application of PGRs.
- **Timely application of fungicides.** Fungicides are effective on target spot. The likelihood of a return on the investment are not high to begin with and decreases as the season progresses.
- **Use maximum total water volume.** High volume and pressure are needed to deliver product low in the canopy. Ideal timing is just prior to canopy closure.
- **Don't panic!** If target spot develops late, yield loss due to disease is less likely.
- **Don't seek revenge!** Rescue applications usually will not provide economic returns.

Research Questions

- **Are preventative fungicide applications necessary for target spot?**
- **What are the odds of getting a return on a preventative fungicide investment?**
- **At what point during the growing season can we not worry about target spot?**
- **How much defoliation due to target spot can cotton tolerate before yield losses are realized?**
- **Is there a relationship between target spot and boll rot/hardlock?**
- **Do we have target spot resistant varieties?**

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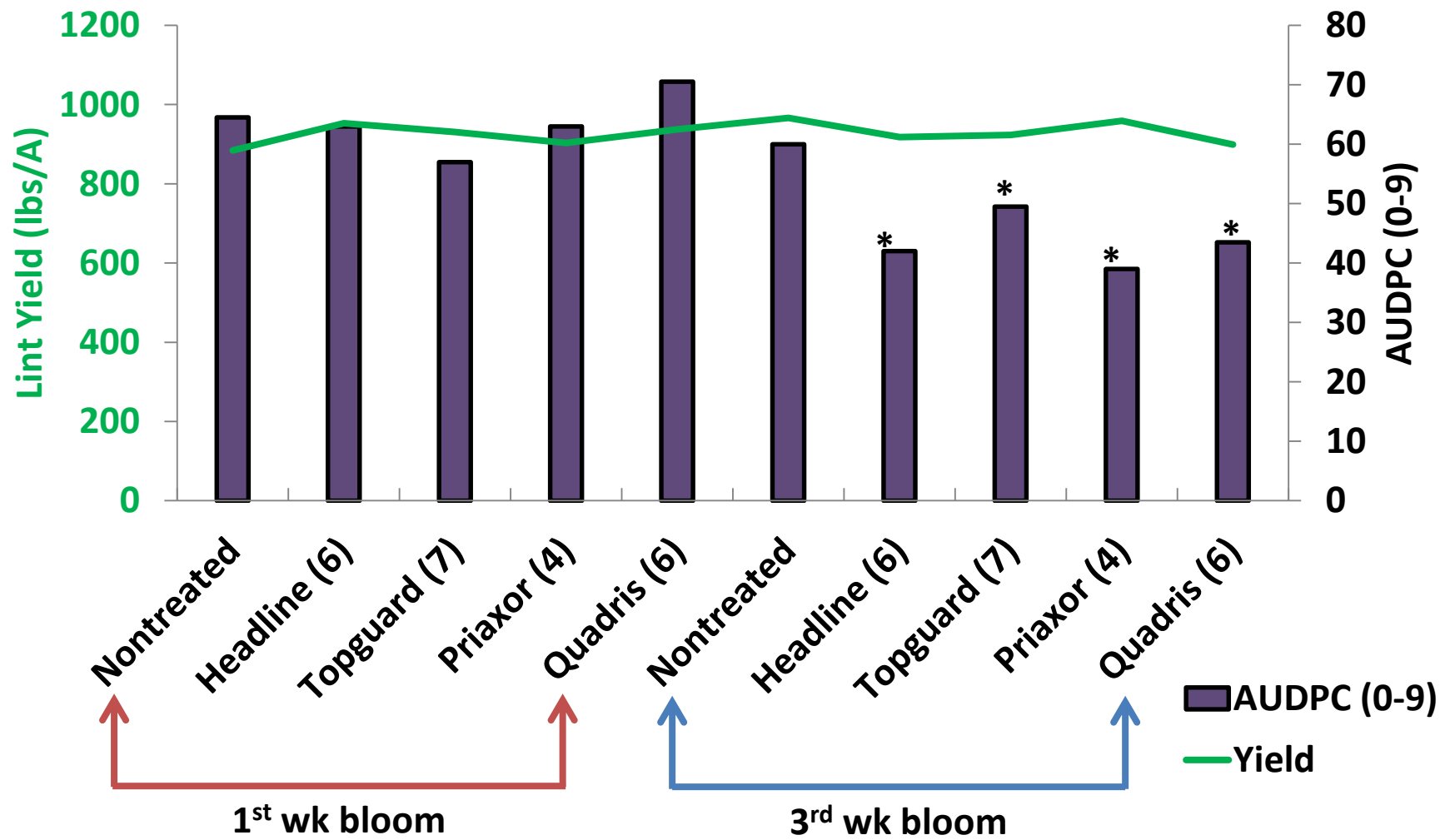
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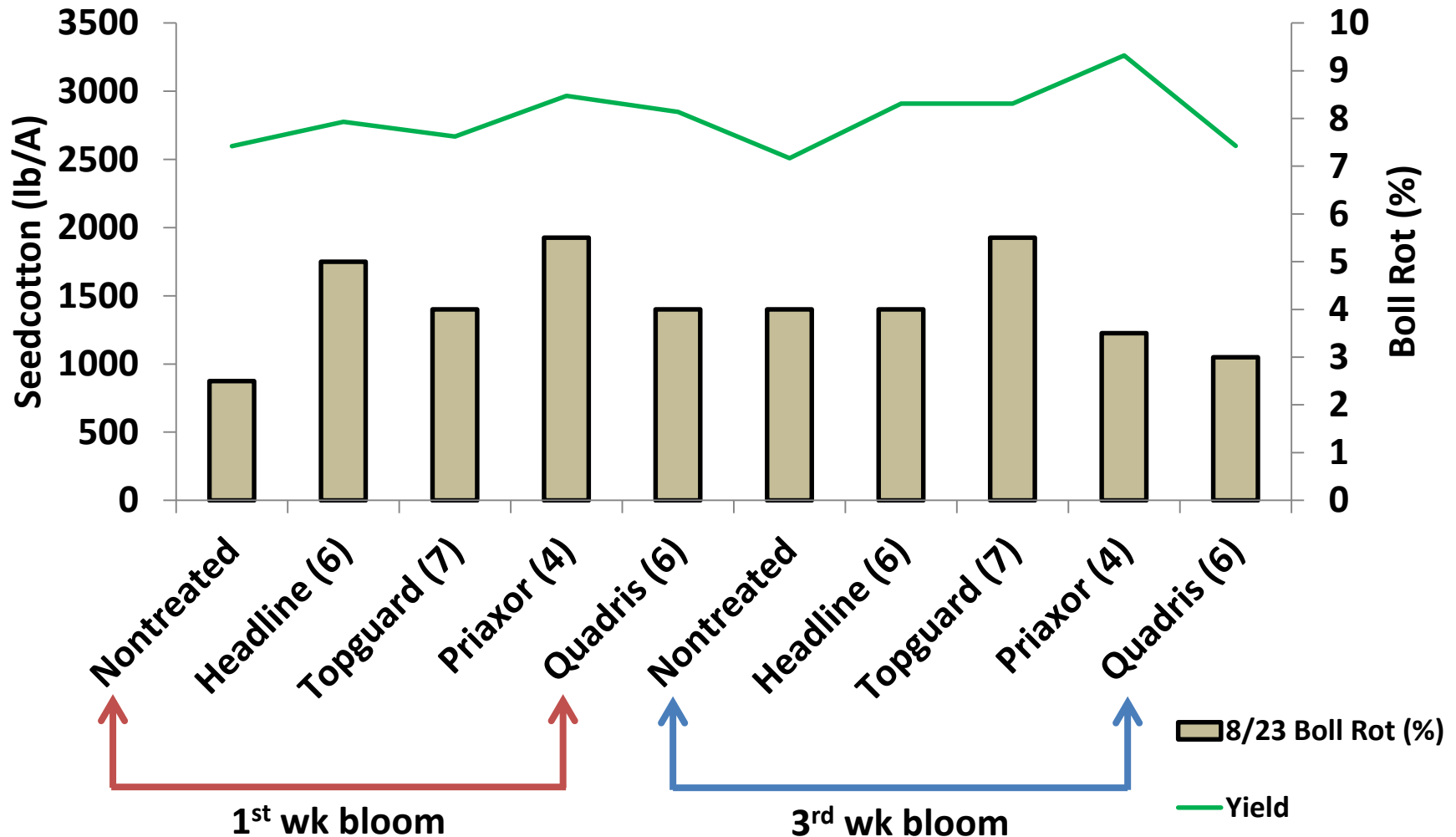
Cotton Diseases - Leaf Spot Complex

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- Alternaria
 - Stemphylium
 - Cercospora
 - Ascochyta
 - Drought
 - Potassium deficiency
 - Crop injury
 - Fungicides effective....NOT RECOMMENDED
 - MOST OF THE TIME...COSMETIC ISSUE

Fungicide Trial, MRRS, Winnsboro, LA, 2014 – COTTON LEAF SPOTS



Regional Fungicide Trial – St. Joseph, LA – 2016 – Boll Rot Ratings



Regional Fungicide Trial – St. Joseph, LA – 2016 – Boll Rot Ratings

