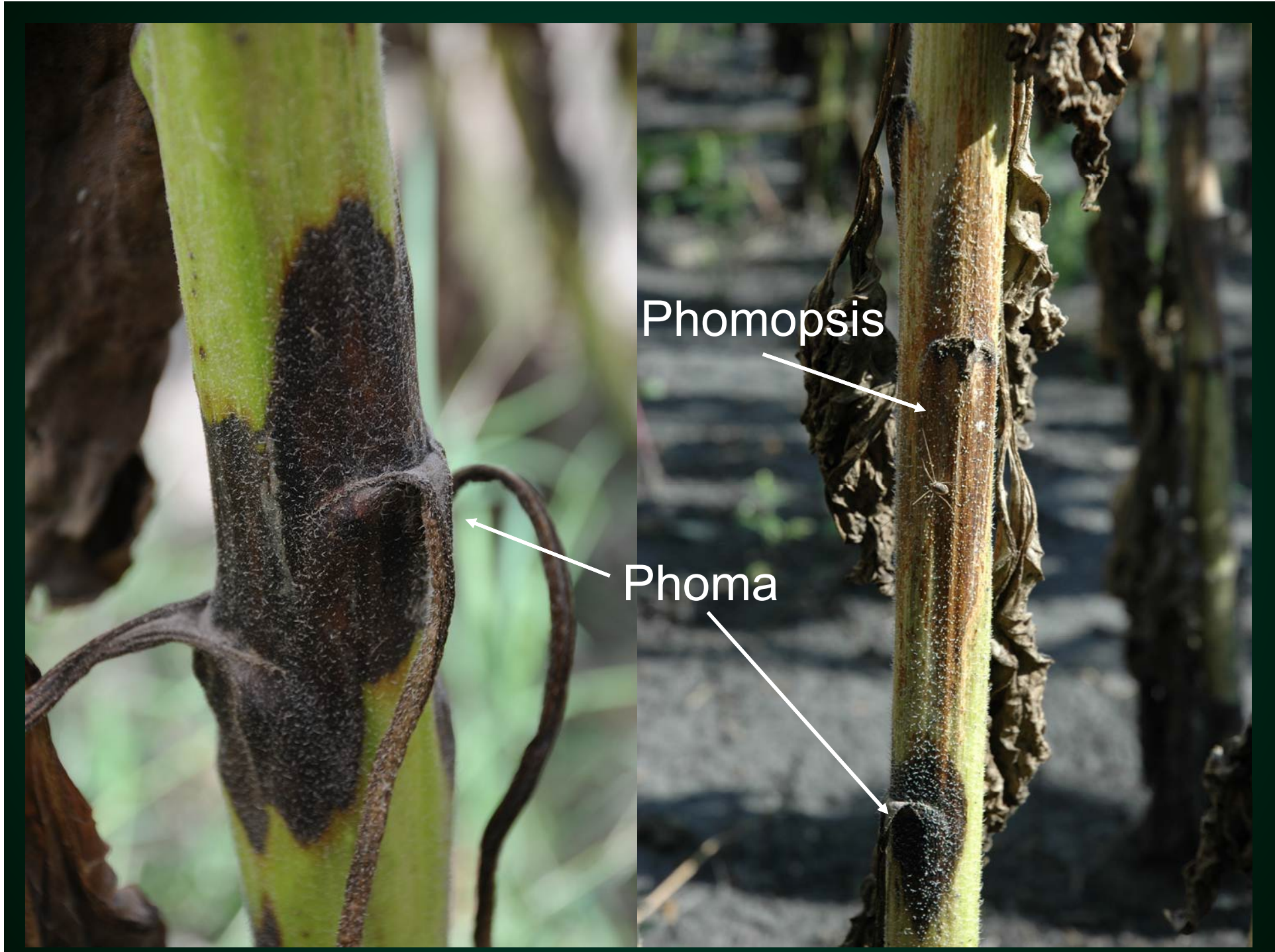


The Importance and Management of Phoma Black Stem in Sunflowers

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Phomopsis

Phoma

Impact of Phoma?

- NSA Survey
 - 2013- 66% of fields
 - 2015- 80% of fields
 - 2017- 56% of fields
- Previous research (Gilley 2017)
 - Indicates QoIs can manage disease
 - Indicates there may be yield effects



Objective

Evaluate fungicide efficacy and timing on management of Phoma Black Stem

Materials and Methods

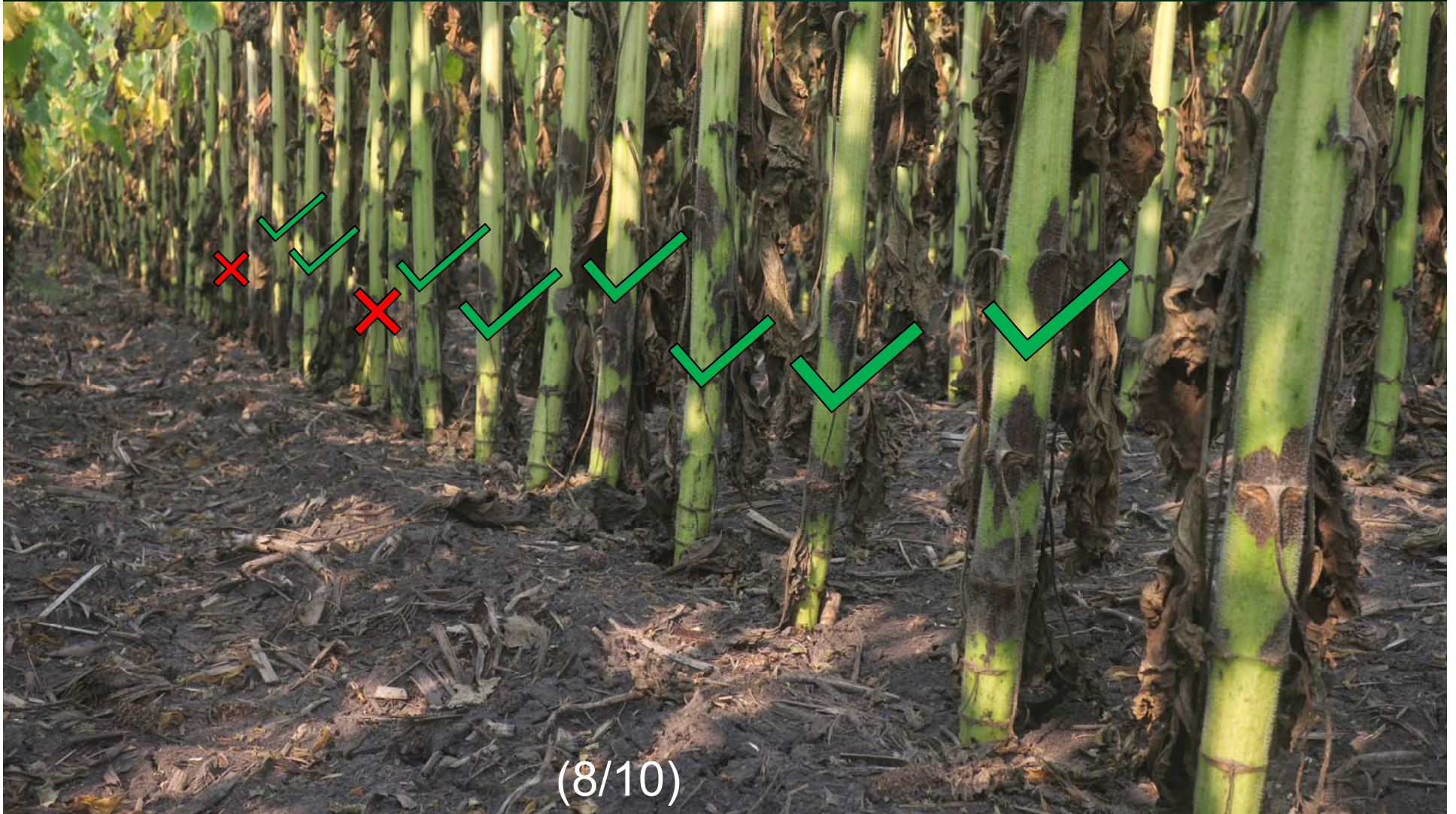
Timing Trials

- Two oil-type hybrids
- RCBD and four replications
- Davenport, ND - history of Phoma
- All treatments Headline 6 fl oz/ac
- Applied singly and in combination at the V8-V10, R1, and R5 growth stages





Disease Severity = (plot incidence)*(mean # of lesions/plant)

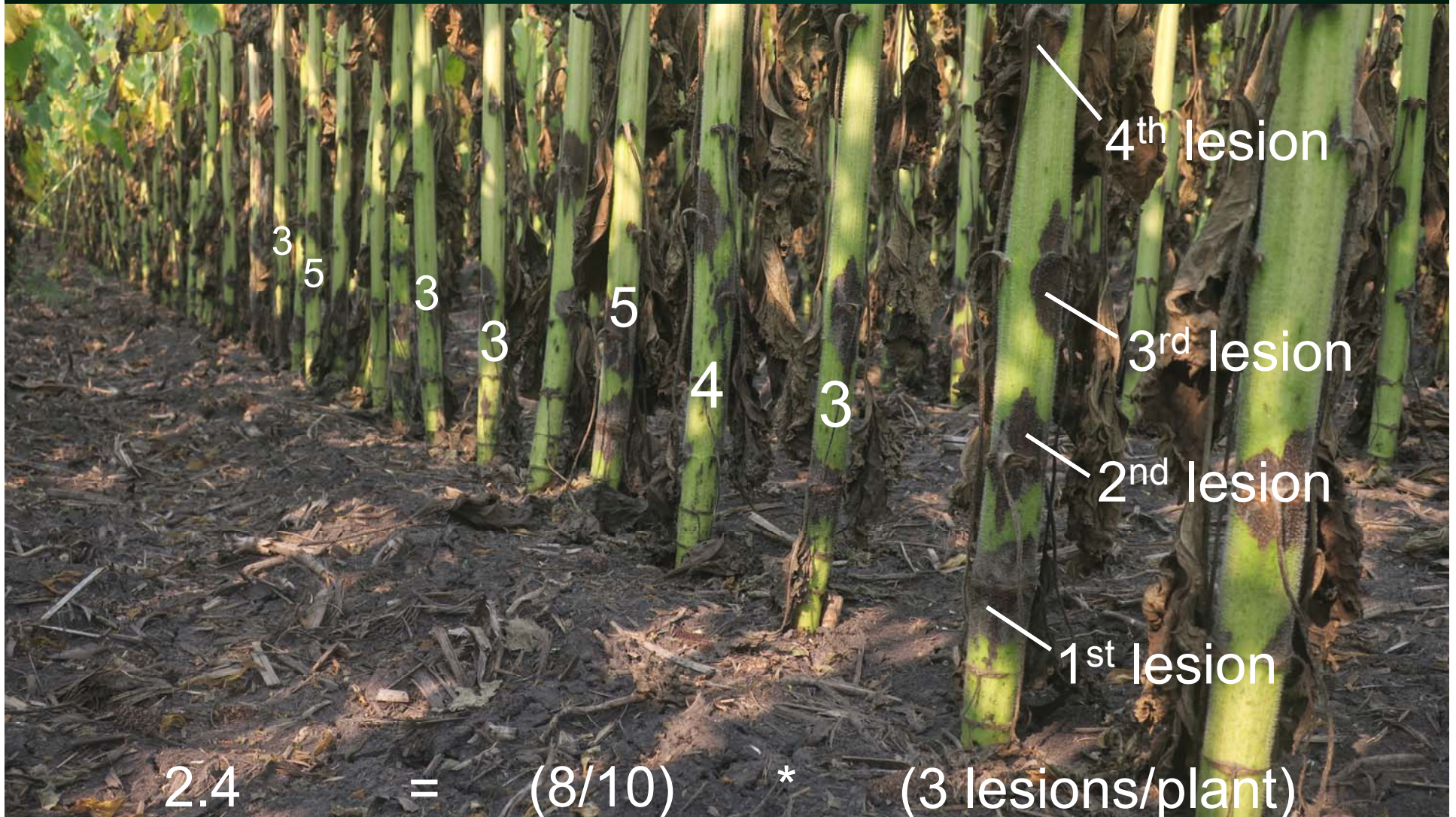


(8/10)

Disease Severity = (plot incidence)*(mean # of lesions/plant)

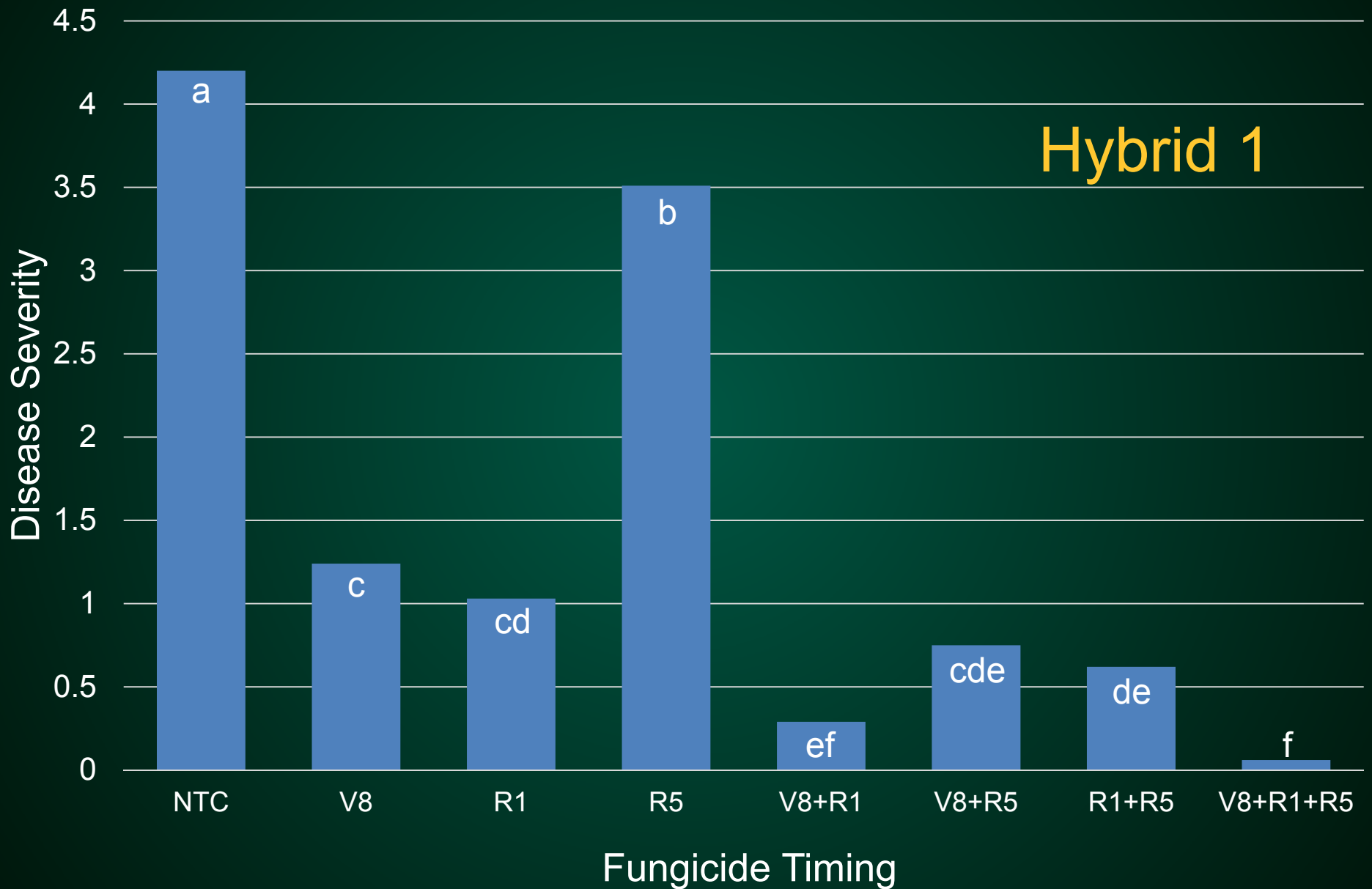


Disease Severity = (plot incidence)*(mean # of lesions/plant)



Disease Severity = (plot incidence)*(mean # of lesions/plant)

Disease Severity x Timing

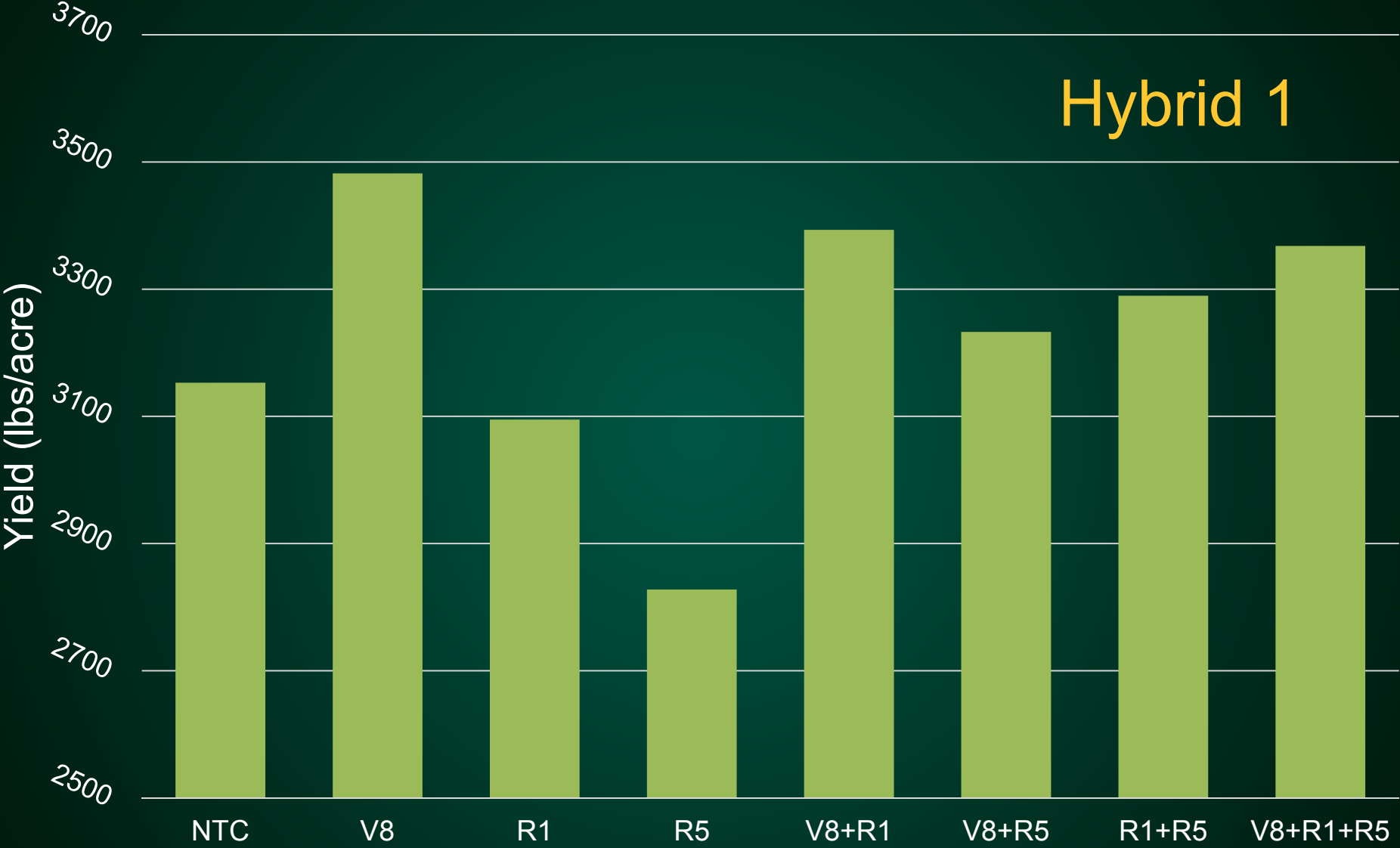


Headline 6fl oz/ac in 20 gal/ac

($P \leq 0.05$)

Yield x Timing

Hybrid 1

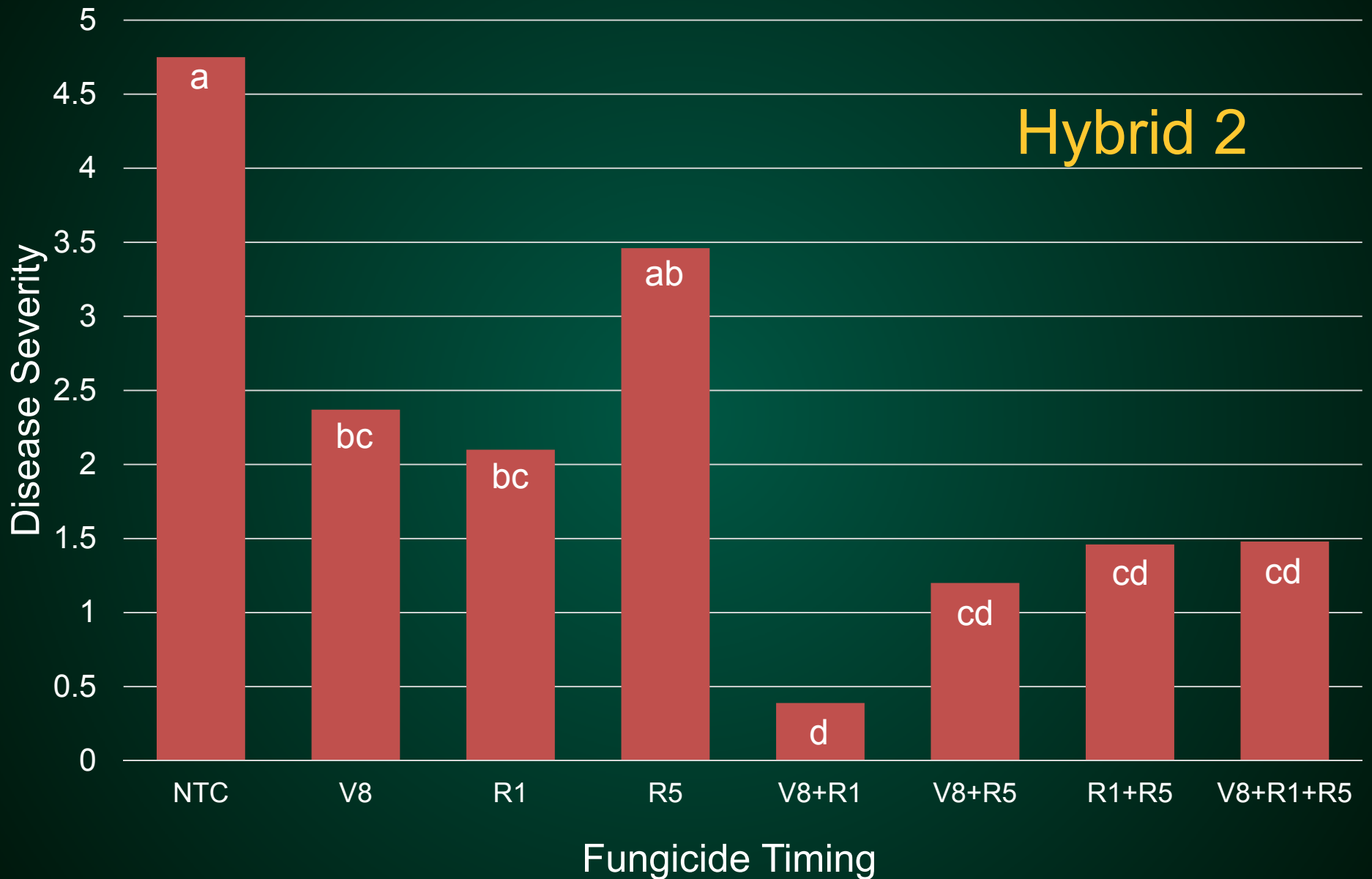


Headline 6fl oz/ac in 20 gal/ac

Fungicide Timing

Not Significant

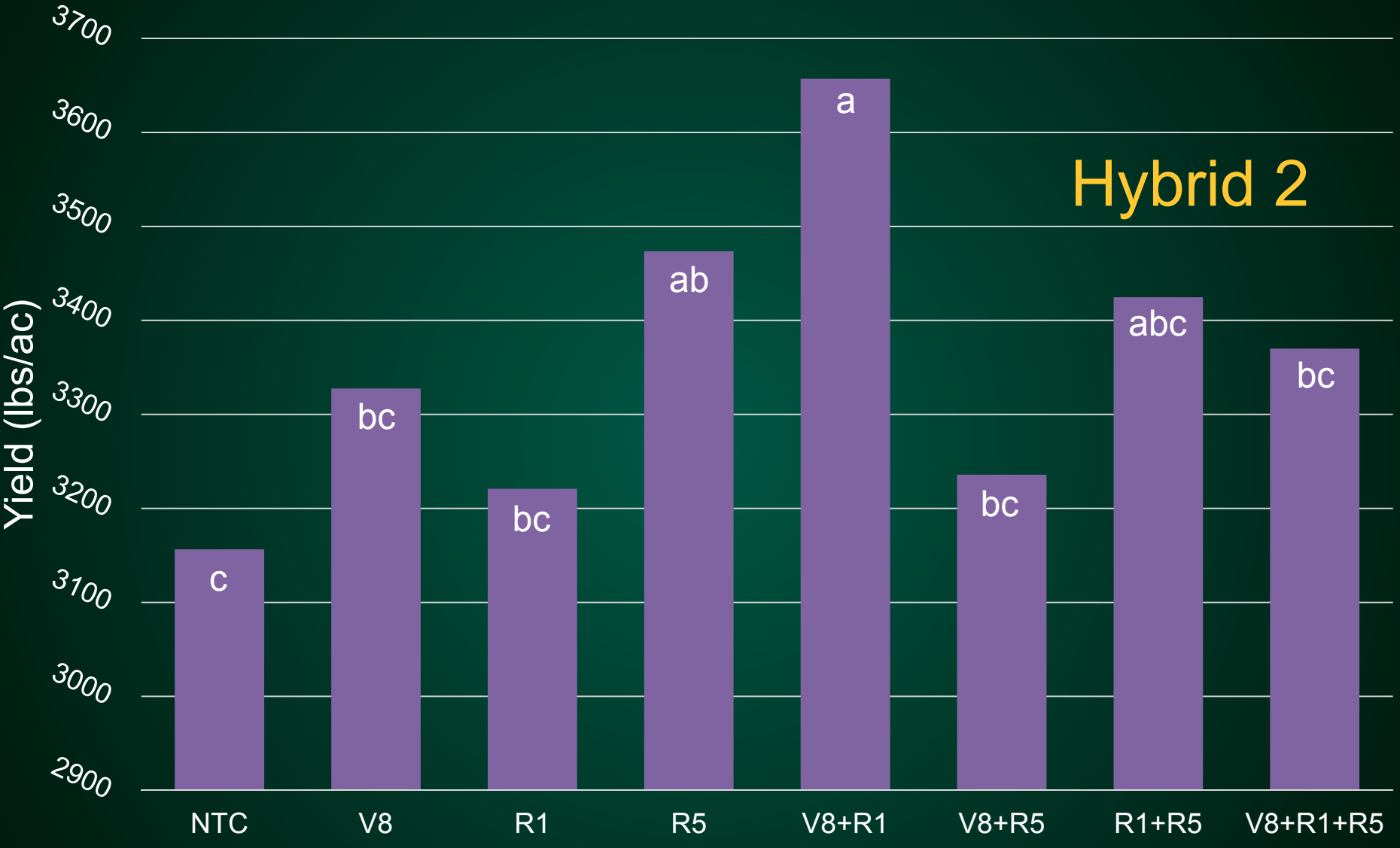
Disease Severity x Timing



Headline 6fl oz/ac in 20 gal/ac

($P \leq 0.05$)

Yield x Timing



Hybrid 2

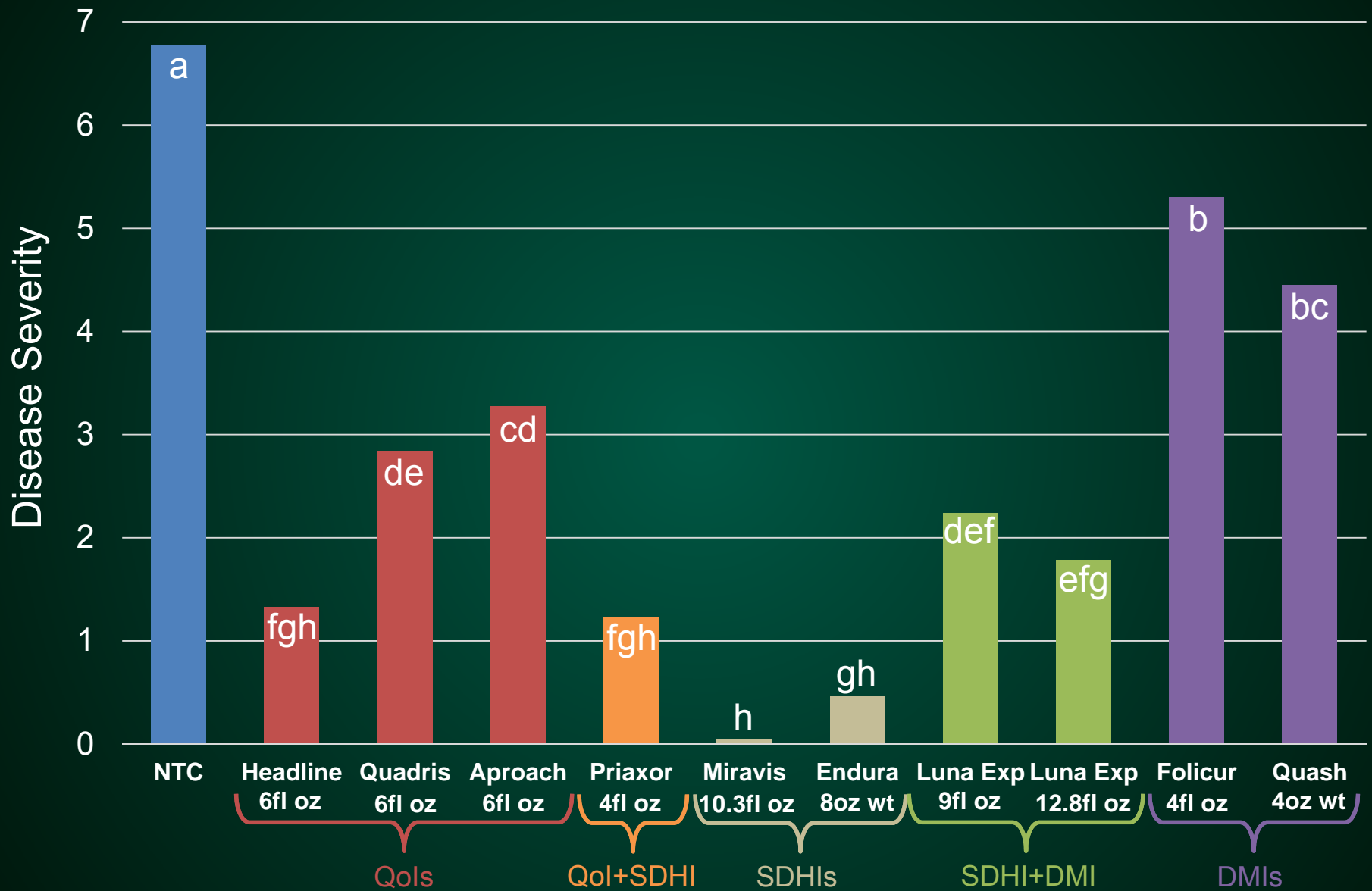
Headline 6fl oz/ac in 20 gal/ac (P≤0.10)

Materials and Methods

Efficacy Trial

- RCBD with four replications
- Davenport, ND
- Nine different chemicals from three fungicide modes of action (QoIs, SDHIs, and DMIs)
- Applied at R1
- Disease Severity = (incidence)*(mean # of lesions/plant)

Disease Severity x Fungicide

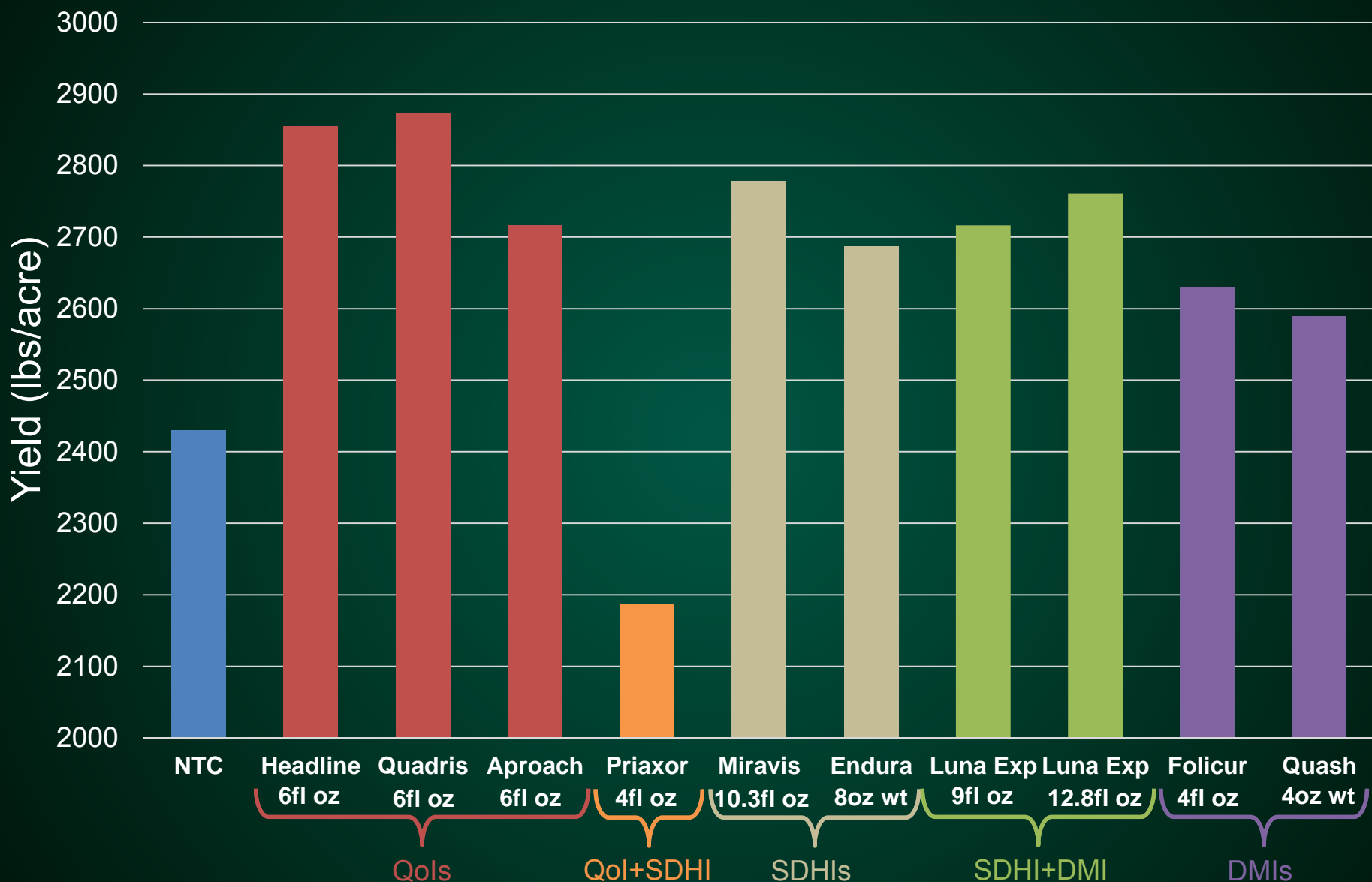


Applied at R1 growth stage

Fungicide

($P \leq 0.05$)

Yield x Fungicide



Applied at R1 growth stage

Fungicide

(P≤0.05)

Conclusions

- All fungicide applications at V8 or R1 significantly ($P \leq 0.05$) affected disease severity
- All fungicides significantly ($P \leq 0.05$) affected disease severity
- Yield was not significantly affected ($P \leq 0.05$) in any of the trials

Acknowledgments

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