

Cercospora Management in Rice

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General Rule of Thumb!

- Management of the Cercospora complex should be approached holistically!
 - Site selection /residue management
 - Variety selection
 - Fertility program
 - Seeding rate
 - Time of planting

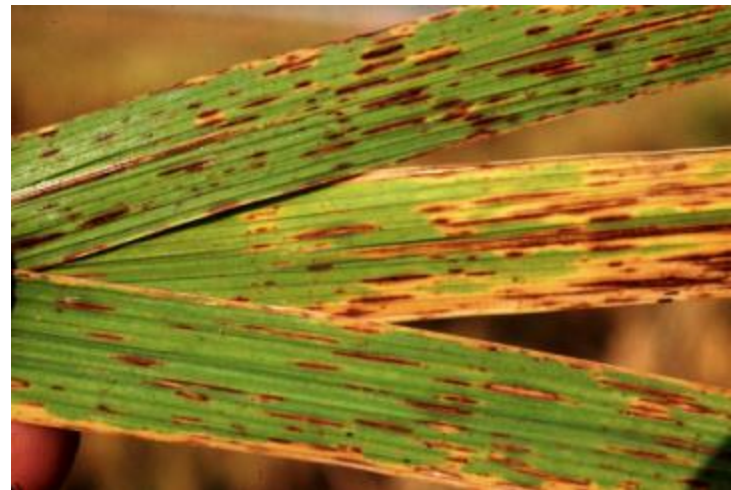


Image: Courtesy of Don Groth, PhD, Rice Research Station

Cercospora Management

- The **initial inoculum** comes from infected **crop residues** from previous crops and from nearby **weeds**. Therefore, a clean seed bed is preferred to a stale seedbed for the management of *Cercospora* spp.



Image: Courtesy of Don Groth, PhD, Rice Research Station

Cercospora Management

- Cercospora development differs with the susceptibility/resistance level of the rice variety. Resistance does not imply immunity; therefore disease **does** develop on resistant varieties. The disease develops more rapidly on susceptible varieties than on resistant ones.

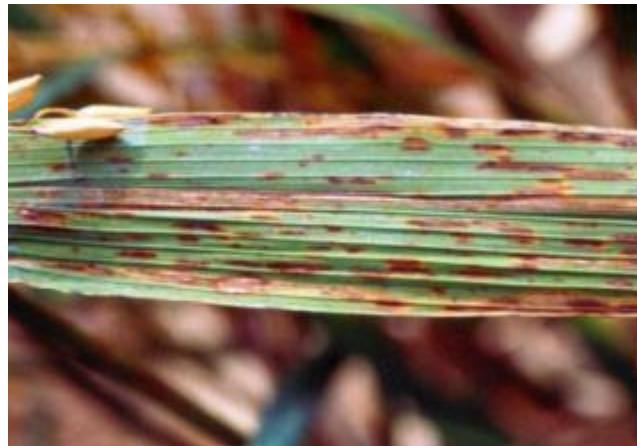


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Cercospora Management

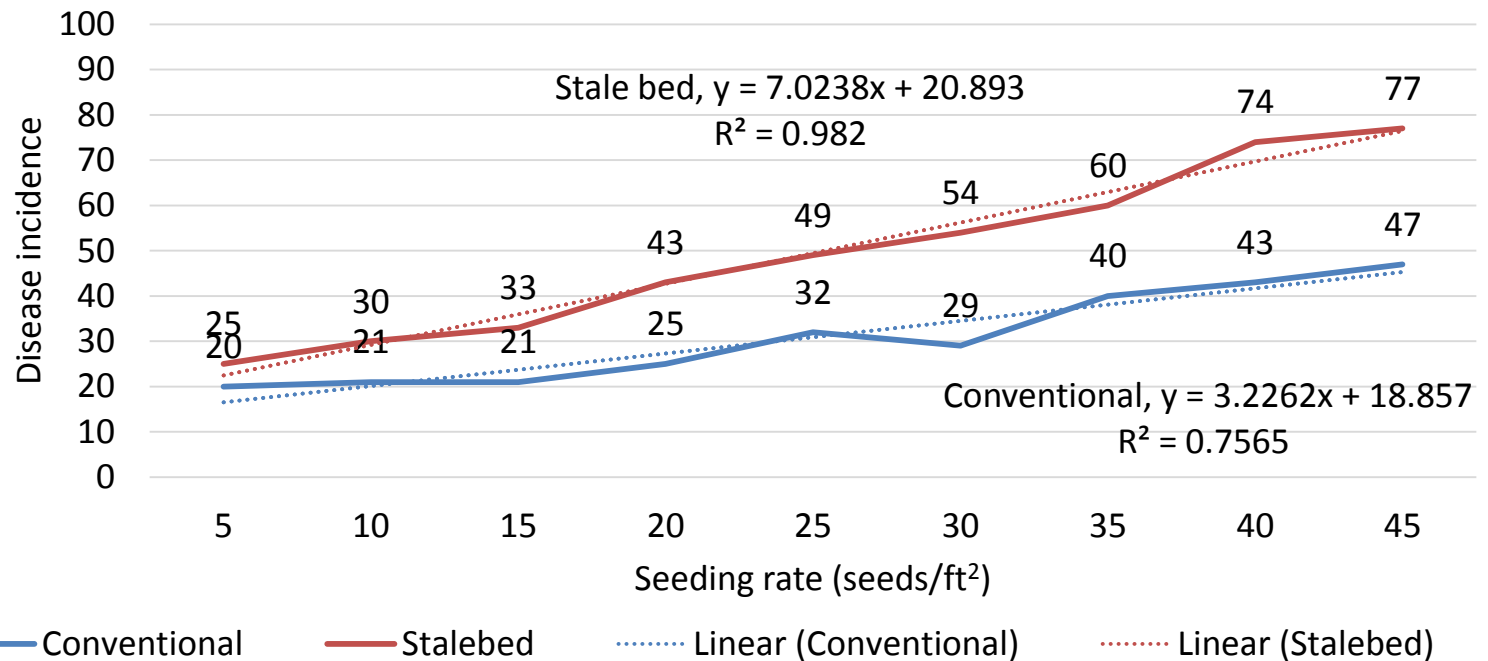
- The micro-environmental conditions within the lower canopy must be at least 82°F and 15 hours of leaf wetness (usually in the form of dew) to germinate Cercospora spores and establish the disease.



Image: Courtesy of Don Groth, PhD, Rice Research Station

Tillage Practices and Seeding Rates

Comparison of incidence of NBLS in conventional and stale bed in very susceptible CL131 (VS) in different seeding rates



Cercospora Management

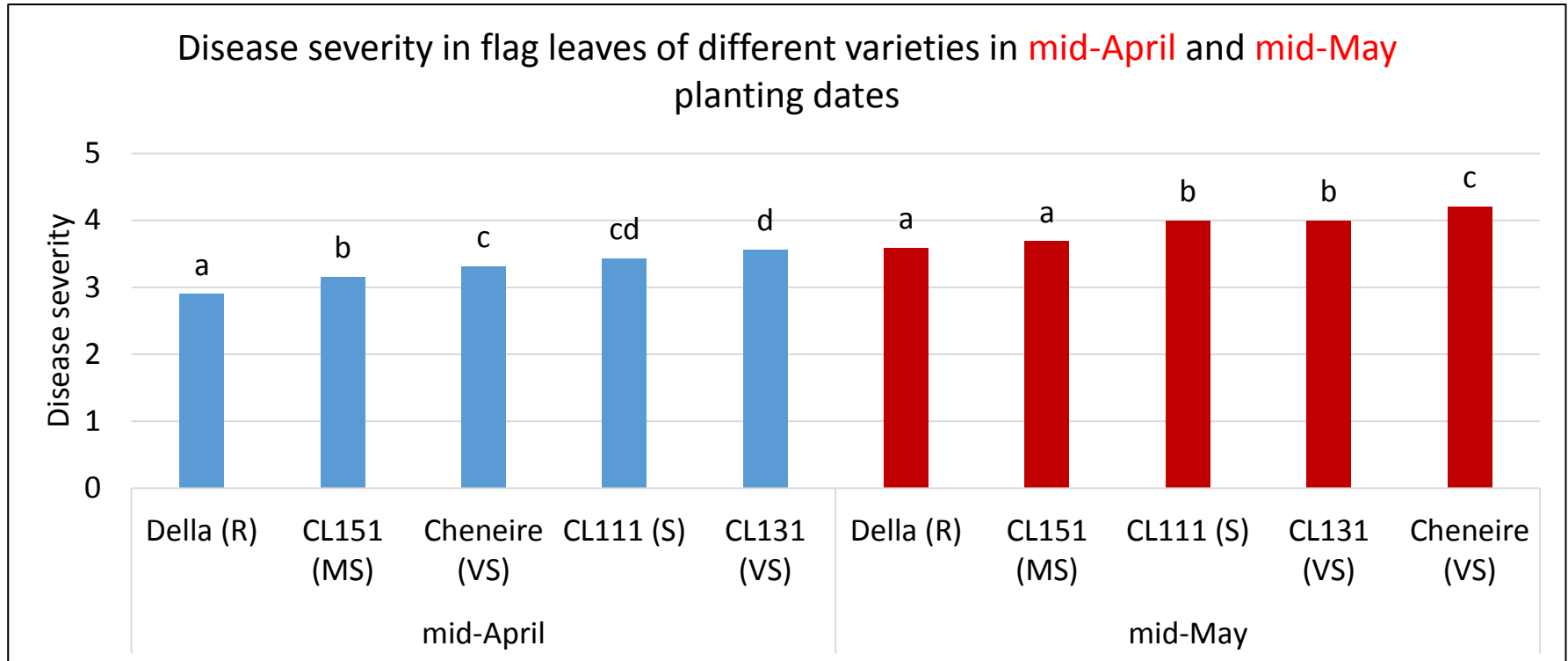
- Nitrogen deficient or over applying nitrogen (above recommended rates) increases Cercospora development in rice.

Cercospora Management

- At present only one fungicide (propiconazole) gives adequate management of Cercospora on rice.

Propiconazole: 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]Methyl]-1H-1,2,4-triazole

Evaluation of Cercospora Development



R – Resistant variety

MS – Moderately susceptible variety

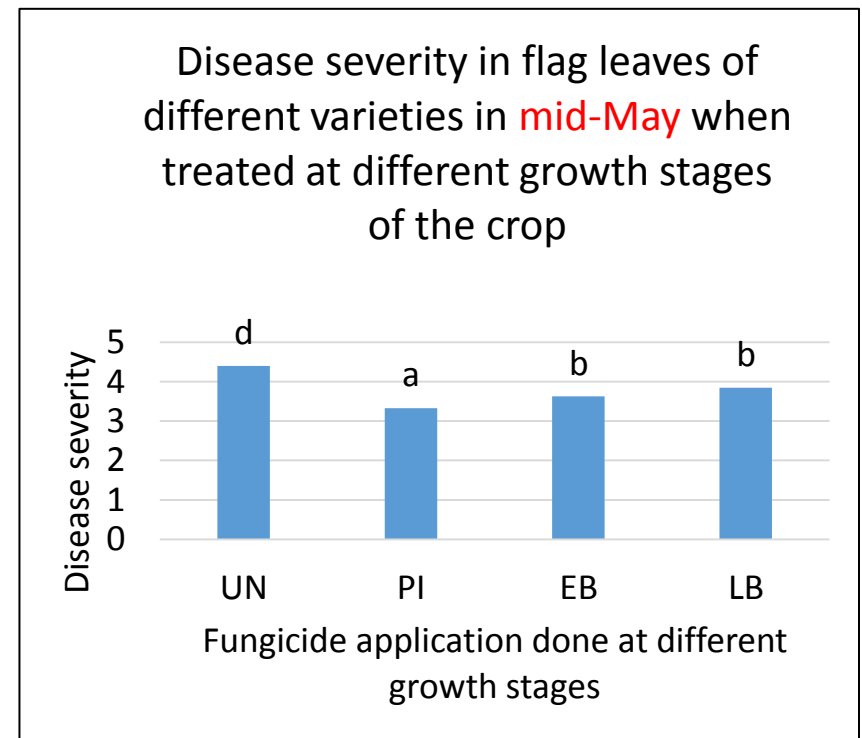
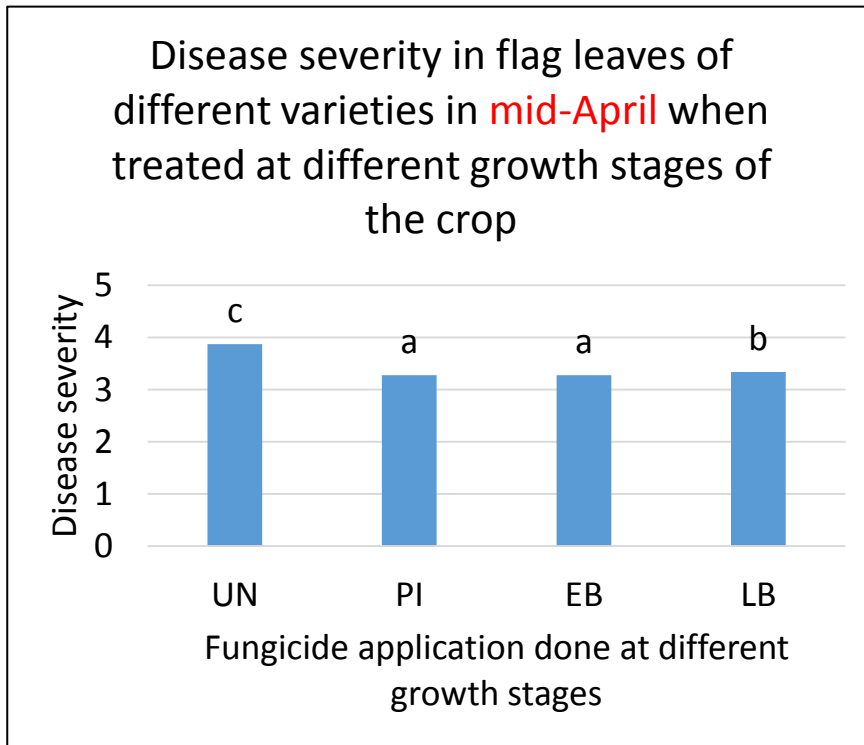
S – Susceptible variety

VS – Very susceptible variety

* Different letters represent different level of significance. Comparison of the treatments is done within the planting date

Evaluation of Fungicide Timing

(All varieties combined)



UN - Untreated control
PI - Panicle initiation
EB - Early boot stage
LB - Late boot stage

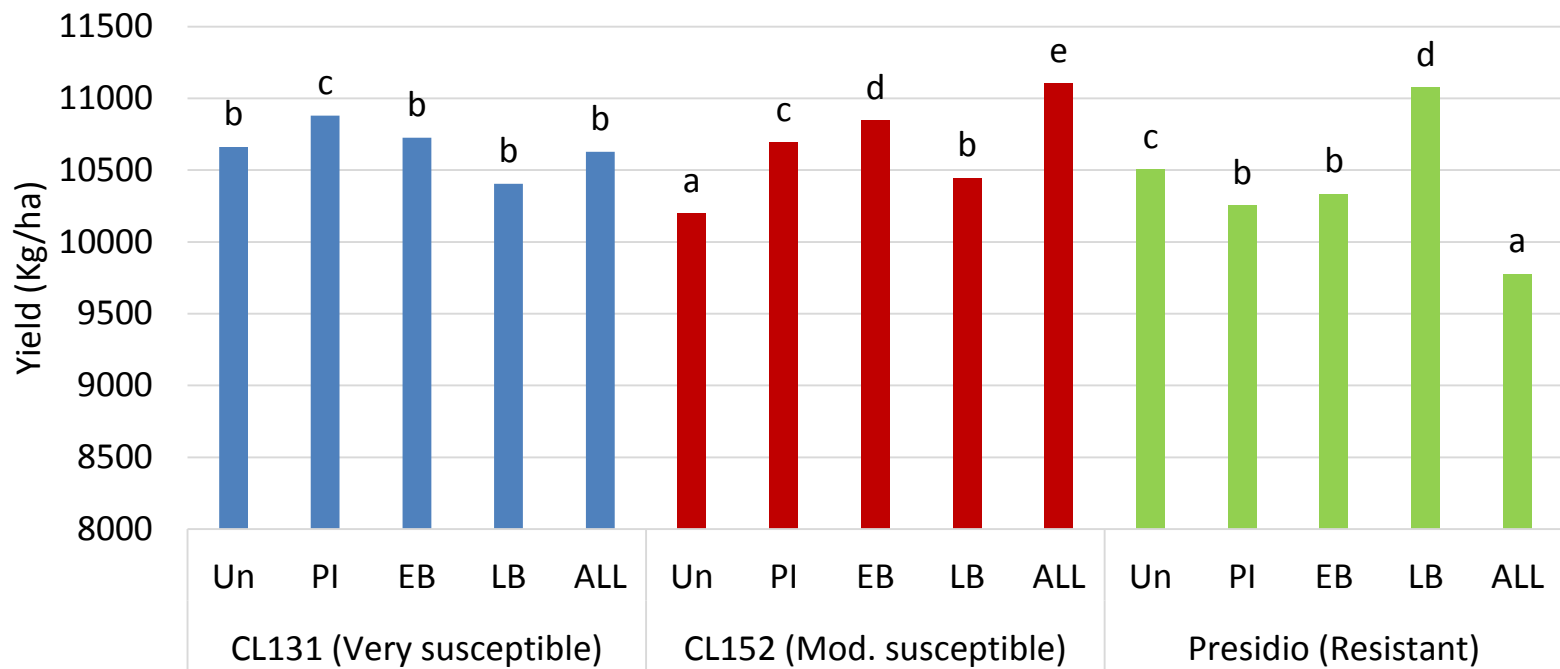
* Different letters represent different level of significance

Cercospora Management

- Rice planting date influences development of Cercospora. If planting is in March to mid-April and if propiconazole is applied for Cercospora management, the application time should be at early to late boot. If planting date is later than mid-April, then the propiconazole fungicide application should be earlier, at panicle initiation to early boot, due to the buildup of inoculum over time for disease development.

Yield Comparison Studies

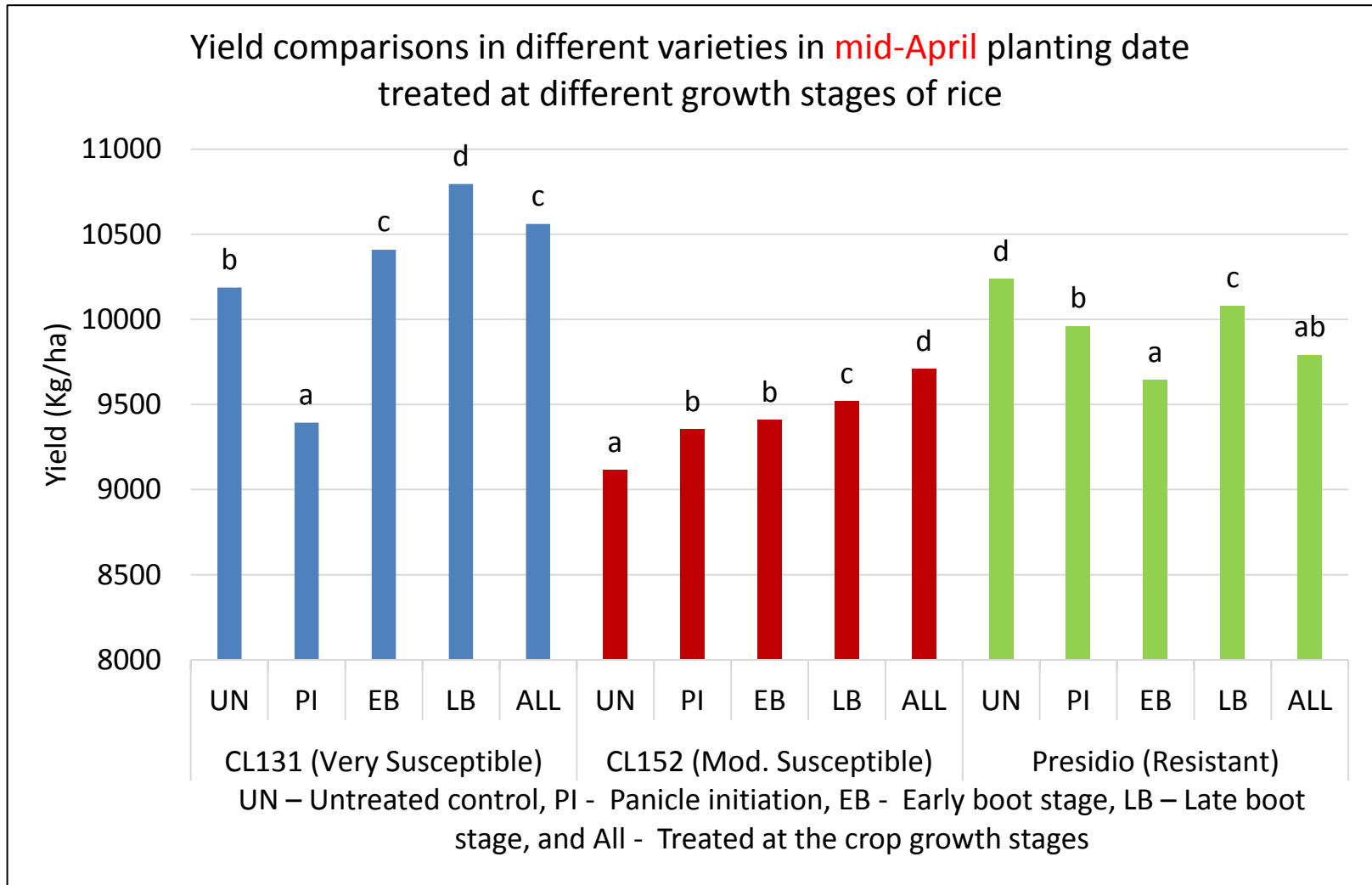
Yield comparisons in different varieties in **mid-March** planting date treated at different growth stages of rice



Un-Untreated, PI- Panicle Initiation, EB- Early boot stage, LB-Late boot stage, All- Treated all the stages of the crop

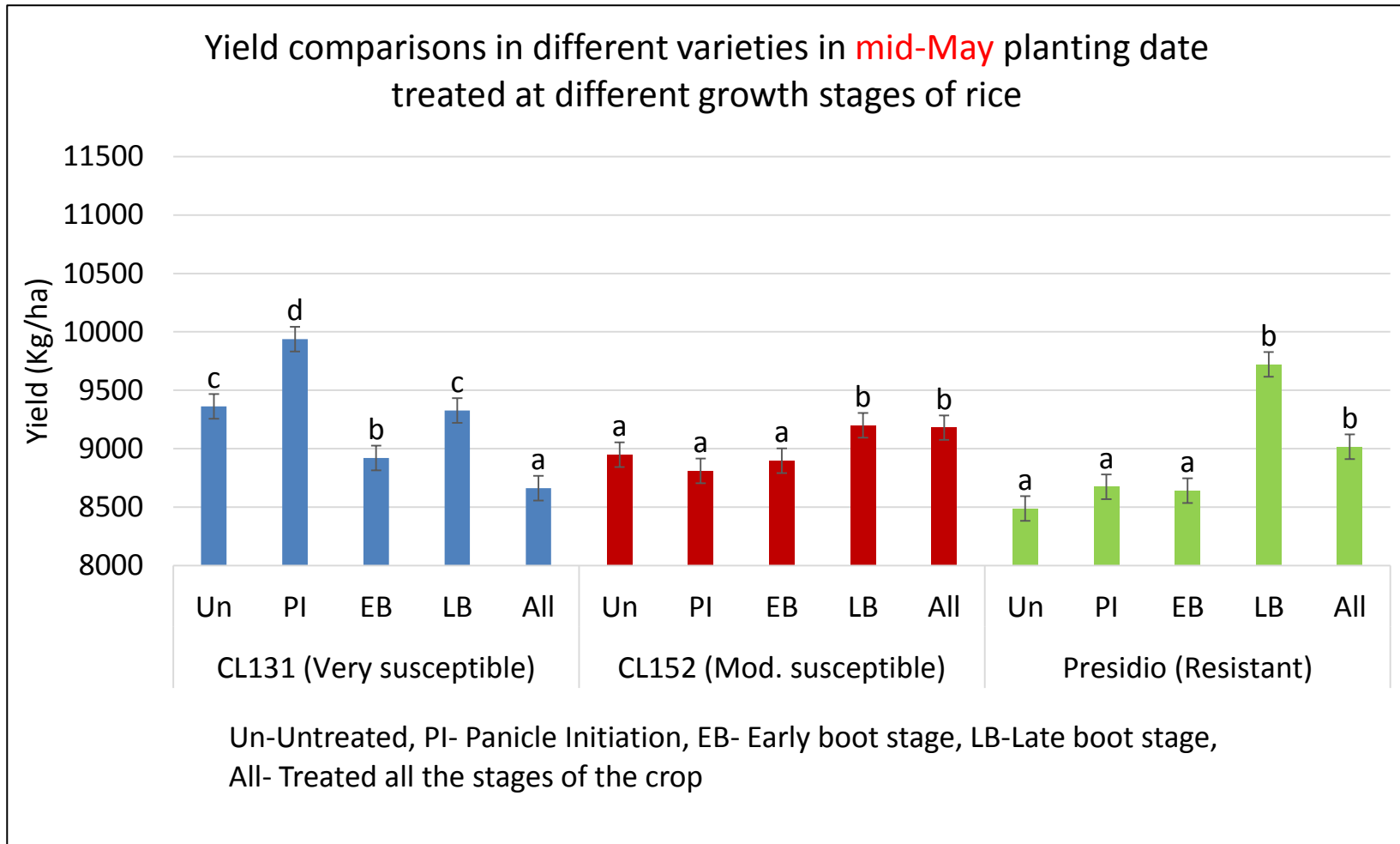
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Cercospora Management Summary

(assuming conditions favorable for Cercospora Complex)

- **Site selection /residue management**
 - Bury residues
- **Variety selection**
 - When choosing a VS/S variety expect to make fungicide appl.
- **Fertility program**
 - Use the rate recommended for the variety grown
- **Seeding rate**
 - Use the rate recommended for the variety grown
- **Time of planting**
 - Will influence Cercospora development and fungicide use