

Update on Herbicide Technology

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DELTA RESEARCH AND EXTENSION CENTER

Paraquat Drift



Early Paraquat Exposure



EPOST



MPOST



7 d PTFLD

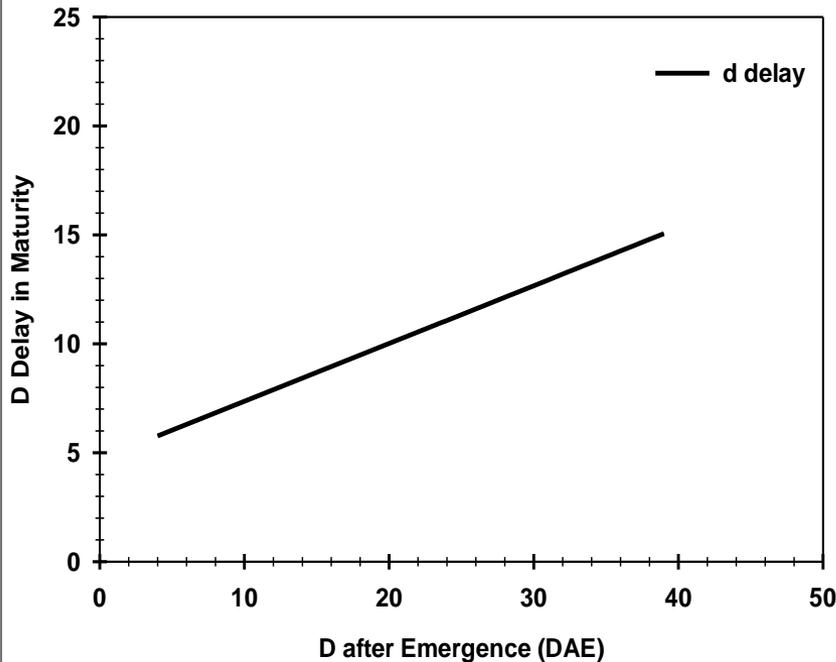


PD

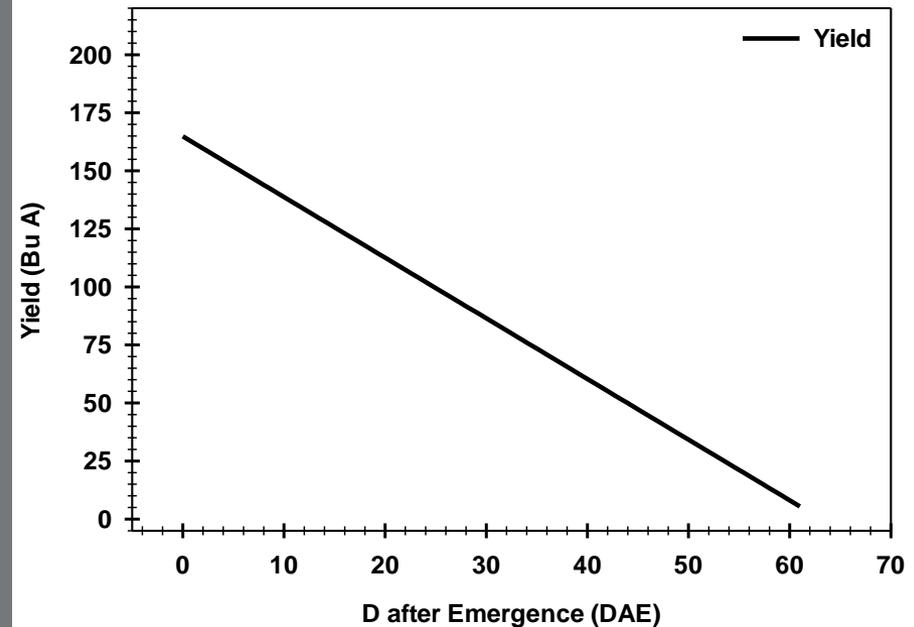
Early Paraquat Exposure

- Delay in rice maturity was 1.9 days for each week after emergence that exposure occurred.
- Rice yield reduction was 2.6 bushels/A for each day after emergence that exposure occurred.

D delay in rice maturity following exposure to a sub-lethal rate of paraquat applied at various rice growth stages



Rough rice yield following exposure to a sub-lethal rate of paraquat applied at various rice growth stages



Late Paraquat Exposure

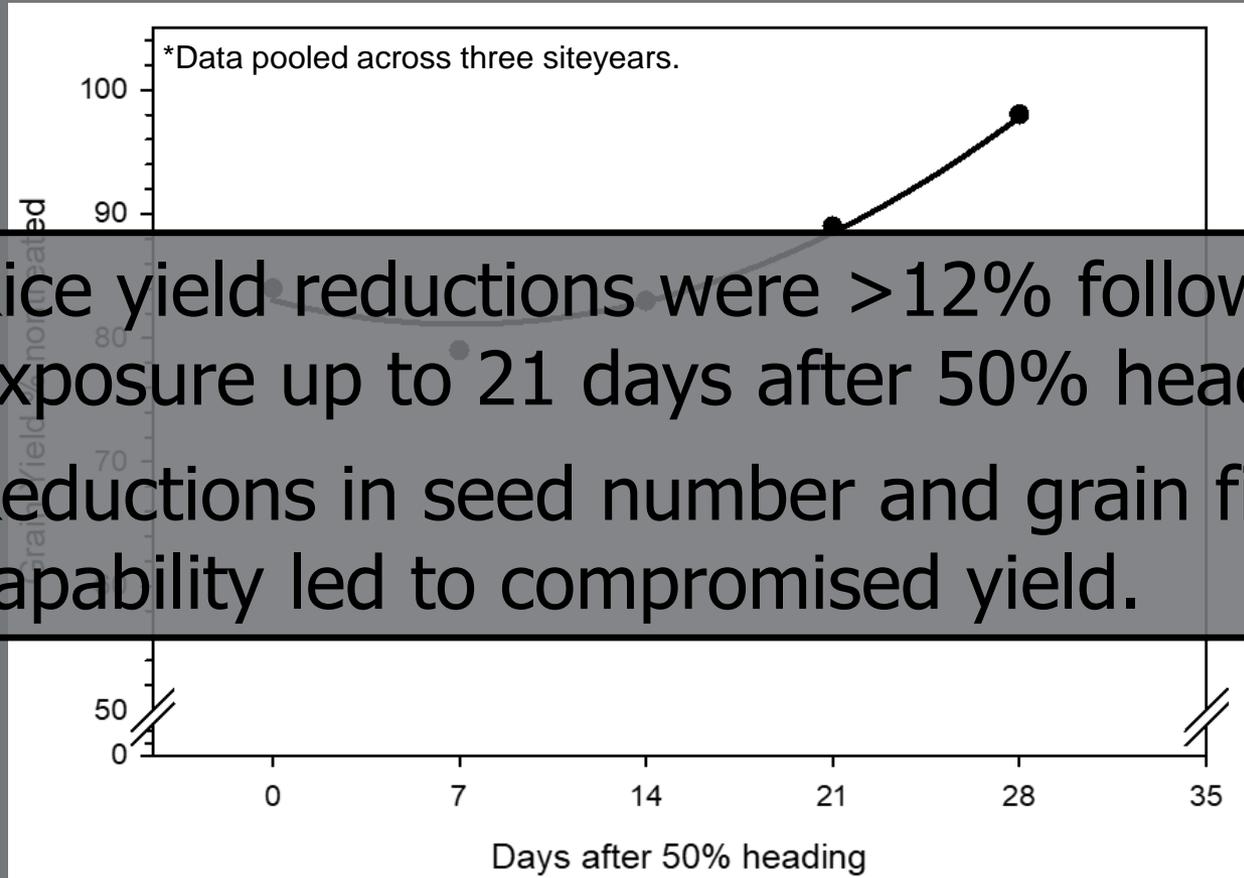


Photo: Justin McCoy



Late Paraquat Exposure

Rice yield affected by exposure to sub-lethal concentrations of paraquat late in the season

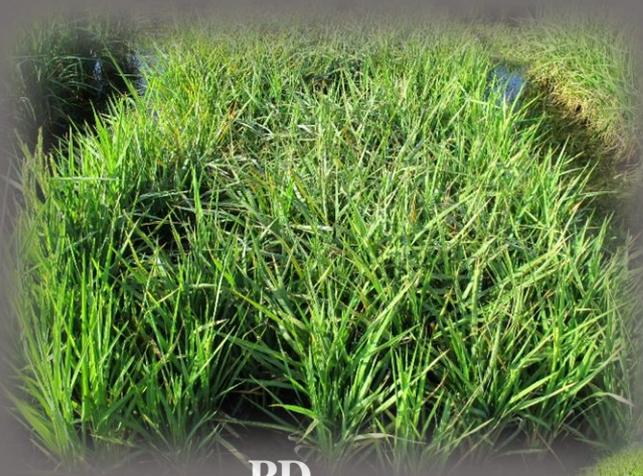


- Rice yield reductions were $>12\%$ following exposure up to 21 days after 50% heading.
- Reductions in seed number and grain filling capability led to compromised yield.

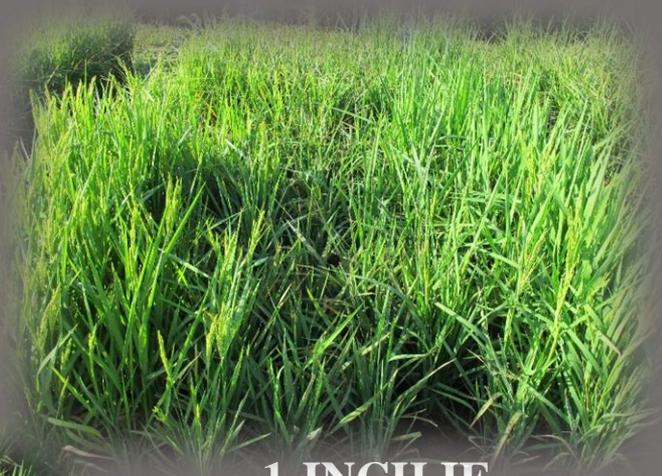
Source: Justin McCoy



Injury 28 DAT



PD



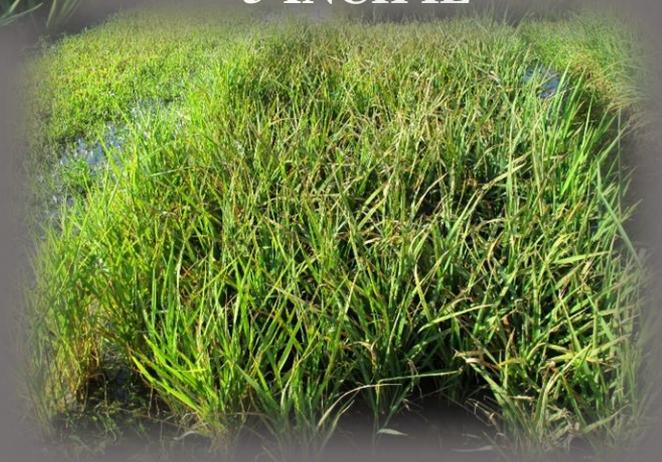
1-INCH IE



NONTREATED



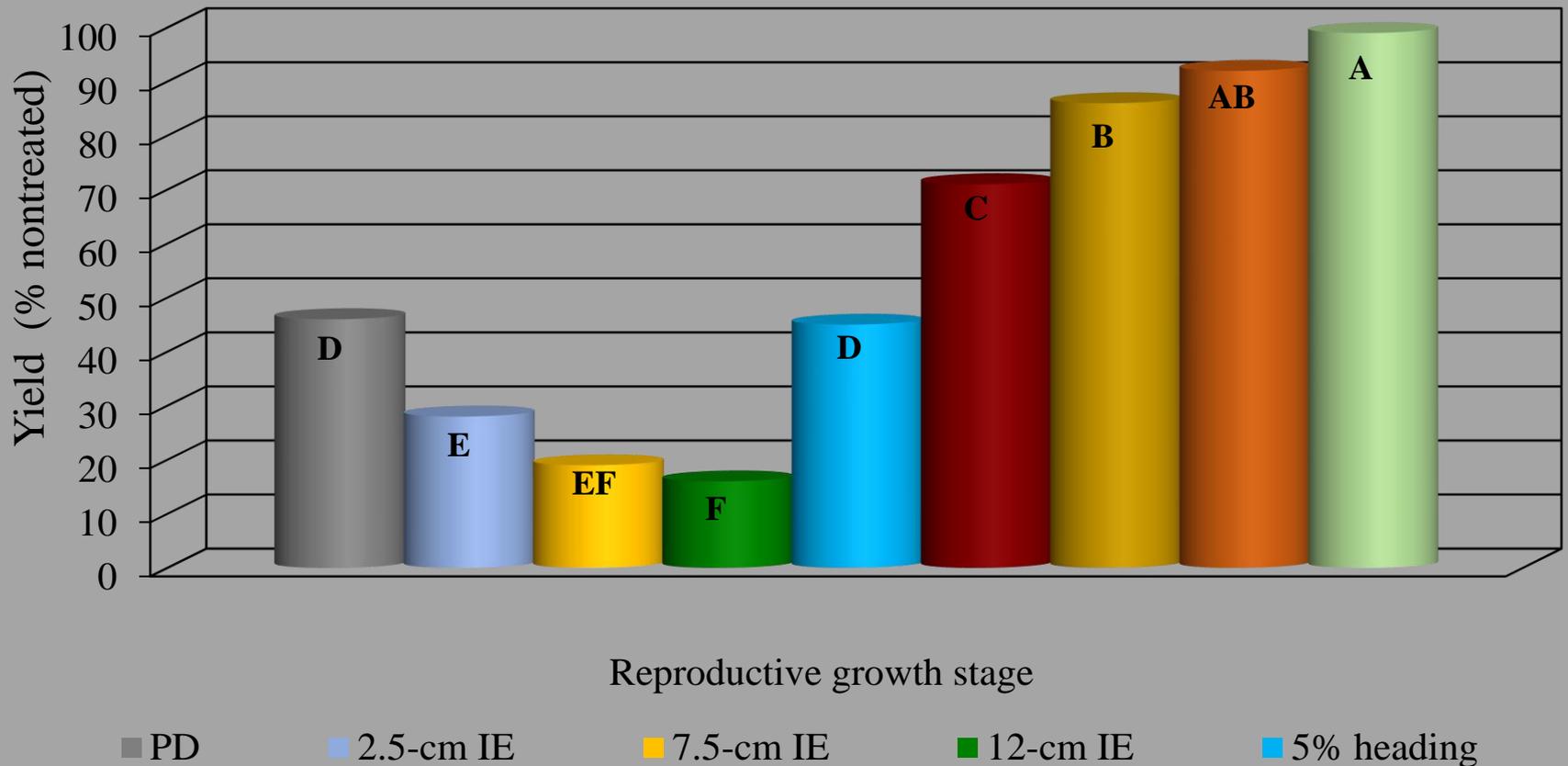
3-INCH IE



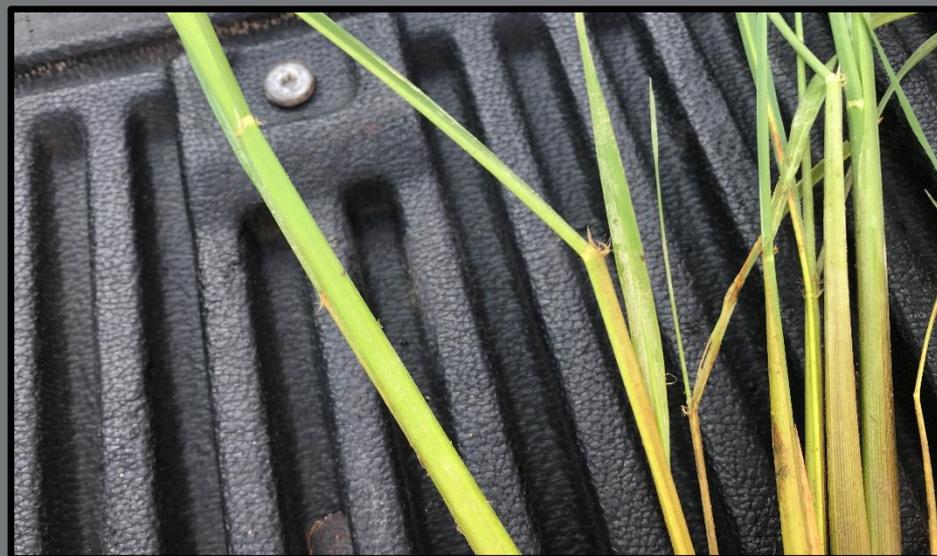
5-INCH IE

Reproductive Timing Study

Rough rice yield following exposure to a sub-lethal concentration of paraquat at different stages of reproductive growth

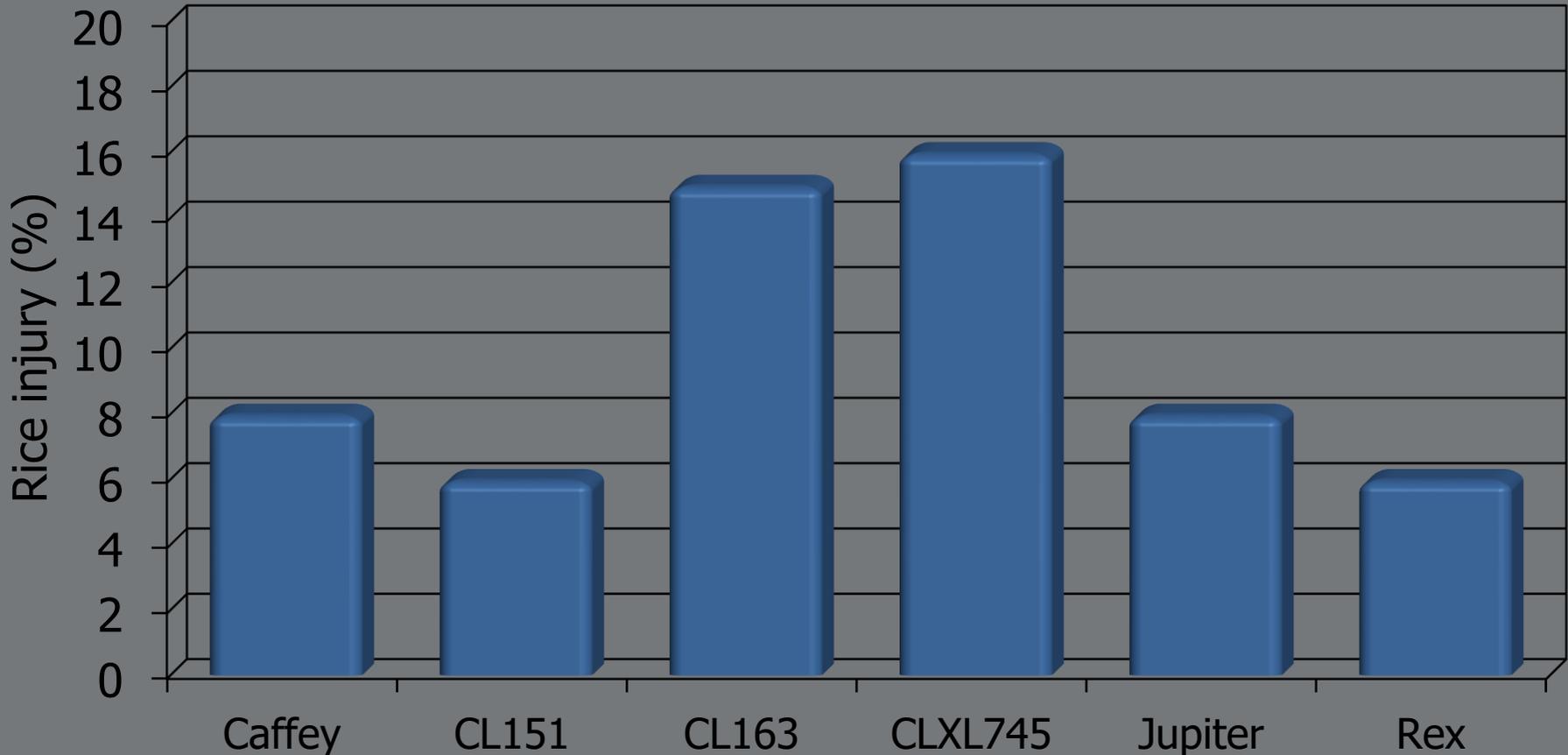


Rice Tolerance to Loyant



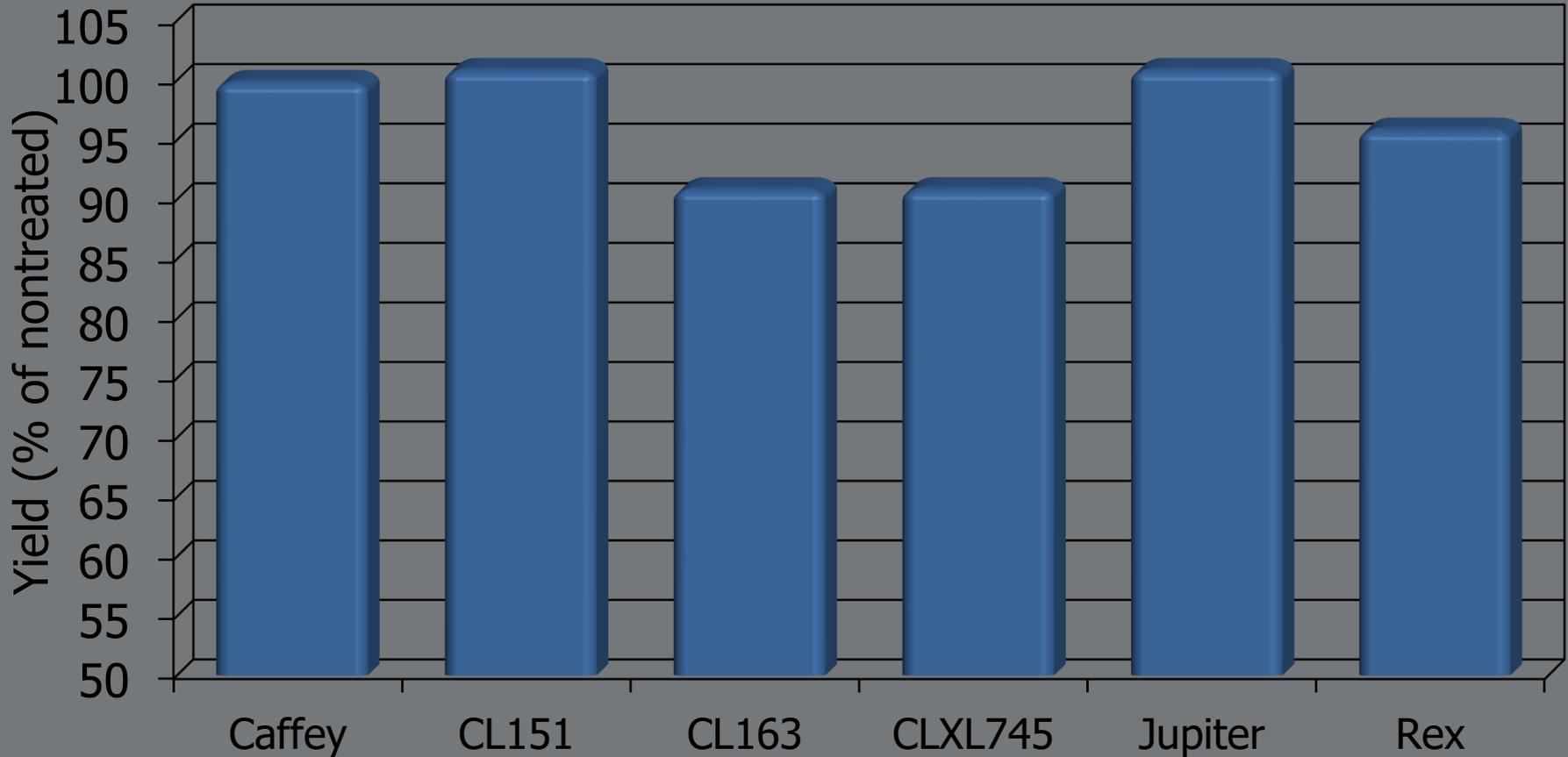
Rice Tolerance to Loyant

Rice injury 28 days following sequential treatment with Loyant at twice the labeled rate



Rice Tolerance to Loyant

Rough rice yield following sequential treatments with Loyant applied at twice the labeled rate



Rice Tolerance to Loyant



CLXL745; Nontreated



CLXL745; Loyant 2 PT/A fb 2 PT/A



CL163; Nontreated



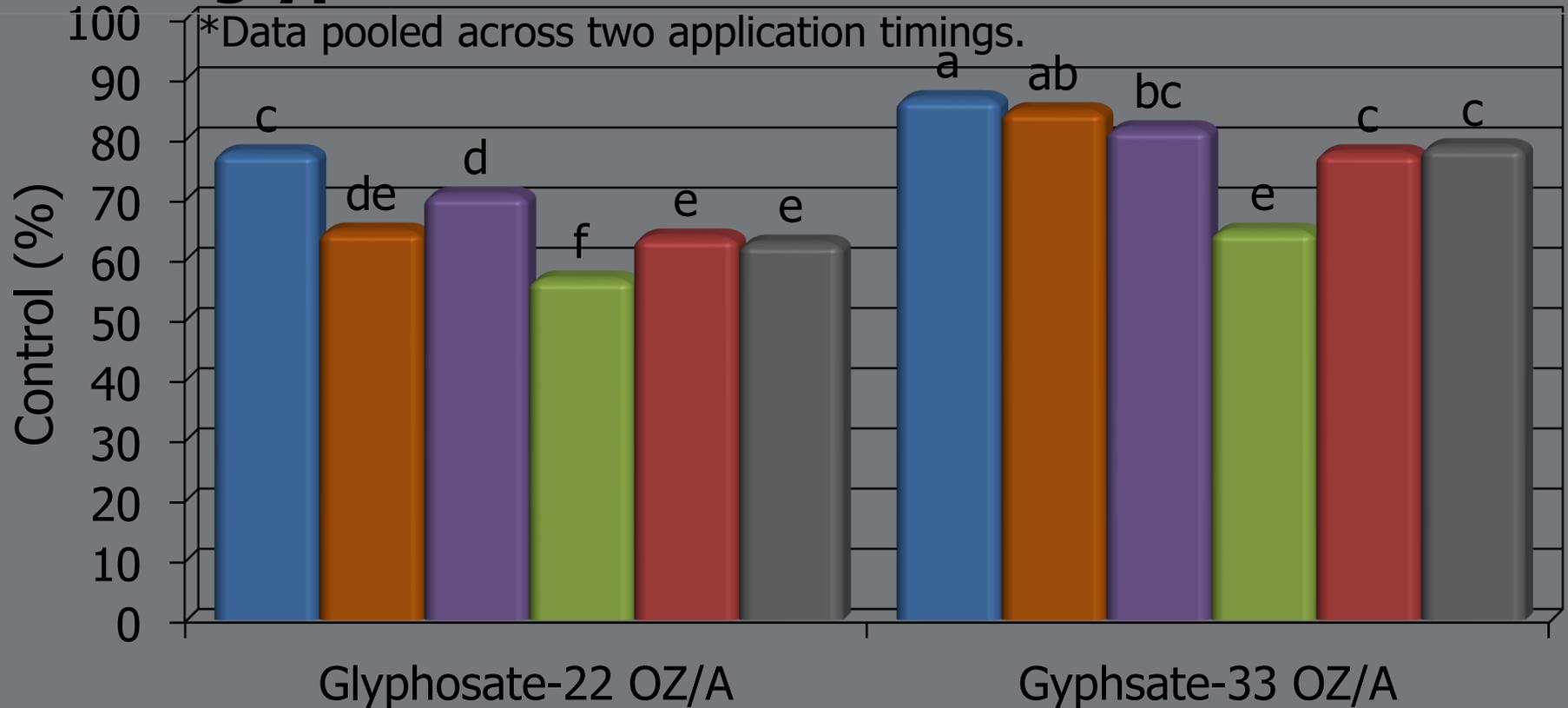
CL163; Loyant 2 PT/A fb 2 PT/A

Poor Grass Control



Glyphosate Mixtures

Barnyardgrass control 14 d after application of glyphosate-based herbicide mixtures



■ No tank mix ■ Dicamba ■ 2,4-D ■ Flexstar ■ Sharpen + Command ■ Sharpen



Glyphosate Mixtures



Nontreated



Glyphosate-22 OZ



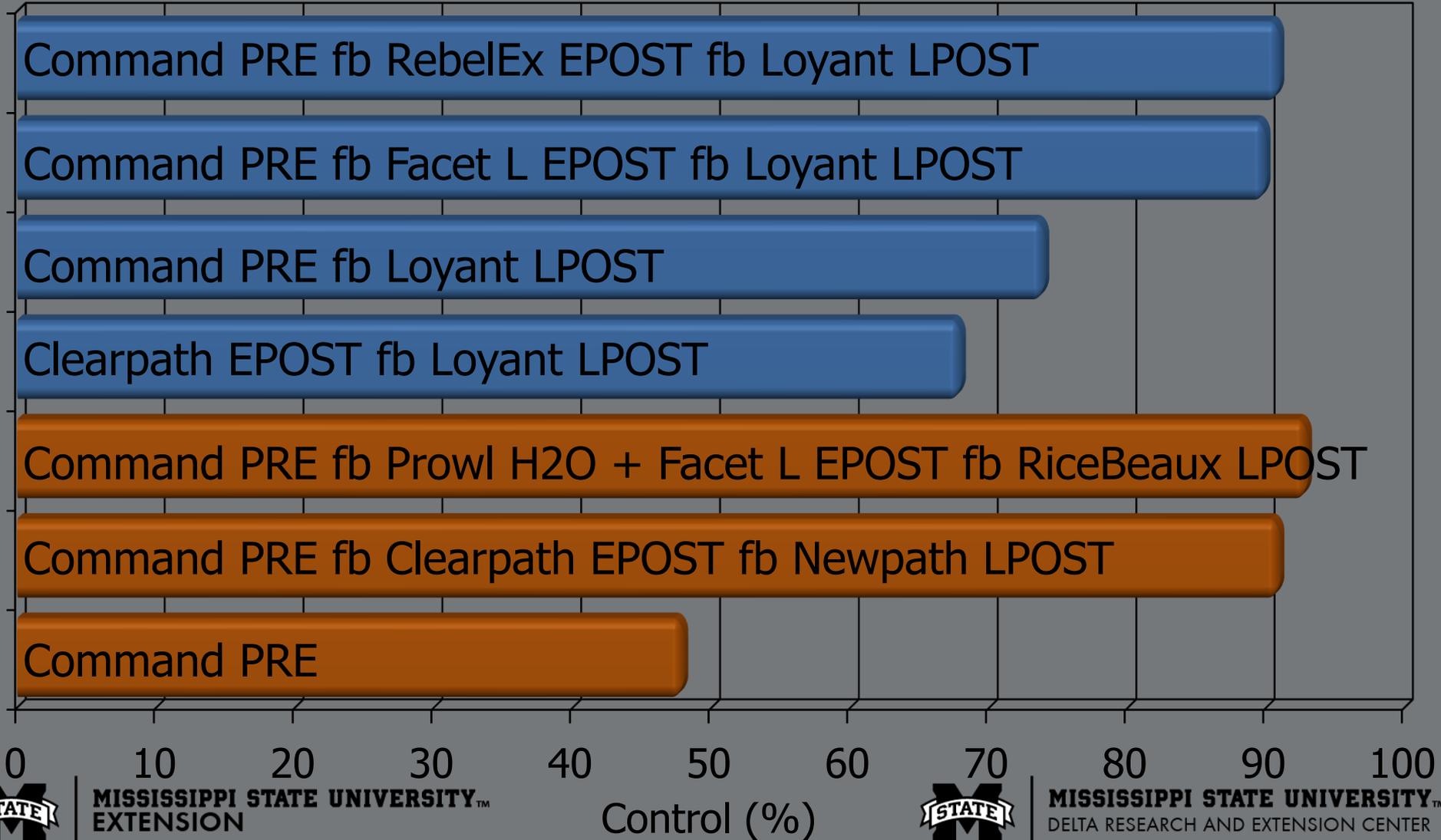
Glyphosate-22 OZ + Command



Glyphosate-22 OZ + Flexstar

Weed Control with Loyant

Barnyardgrass control 10 days after flooding



Weed Control with Loyant



Command fb Loyant



**Command fb Prowl H2O + Facet L
fb RiceBeaux**



Command fb RebelEx fb Loyant



Clearpath fb Loyant

Provisia

Difference in barnyardgrass control 14 days after early-POST applications

*All treatments contained Provisia at 15.5 FL OZ/A.



Provisia



Nontreated



Provisia



Provisia + Stam M4



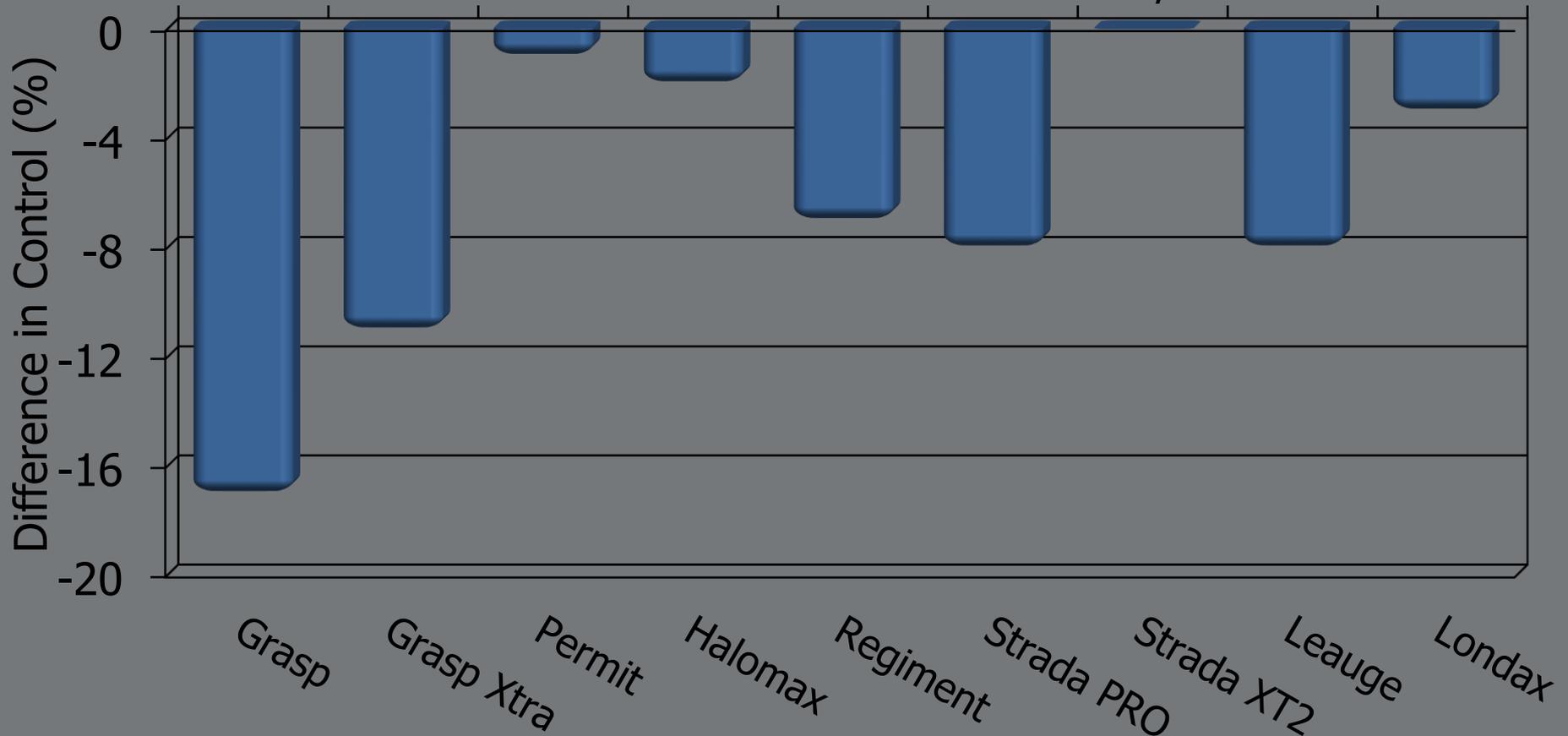
Provisia + Sharpen



Provisia

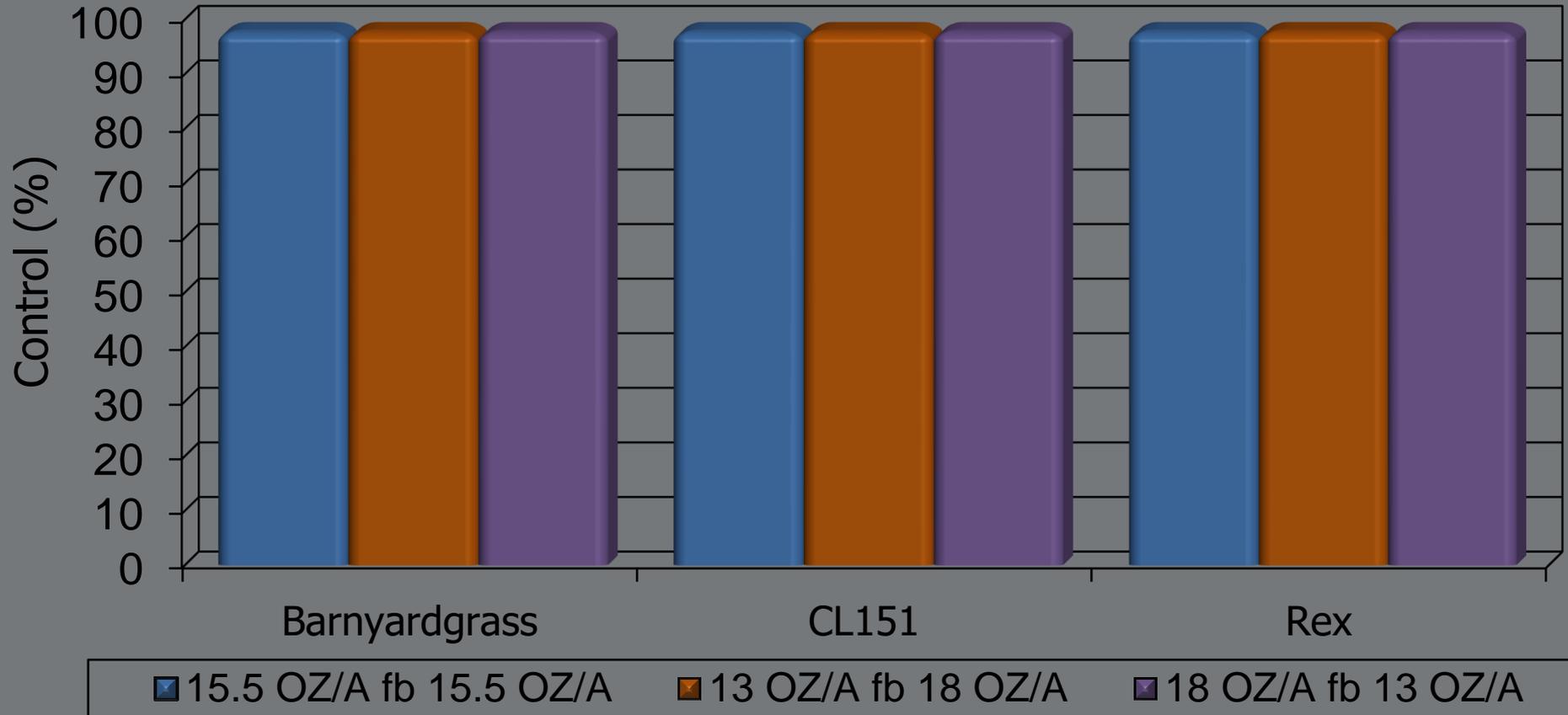
Difference in barnyardgrass control 14 days after early-POST applications

*All treatments contained Provisia at 15.5 FL OZ/A.



Provisia

Weed control 14 days after sequential preflood applications of Provisia at different rates



Data: Tameka Sanders



Questions?



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