

No effective herbicides for nutsedge control in strawberry?



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No effective fumigants after MB
and MI are out



S-metolachlor (Dual Magnum)

- Good nutsedge efficacy and safety:
 - + in vegetable crops
 - + in strawberry under HDPE and LDPE
- ? **What about TIF in summer and fall planted strawberry?**

Yellow and purple nutsedge at Santa Paula, CA in summer-planted strawberry, 2009

- Nutsedge tubers placed in pots into beds
- DM 0.95 lb a. i. /acre on June 9
- Applied to beds and covered by mulch
- Strawberry transplanted 30 d later

Purple nutsedge

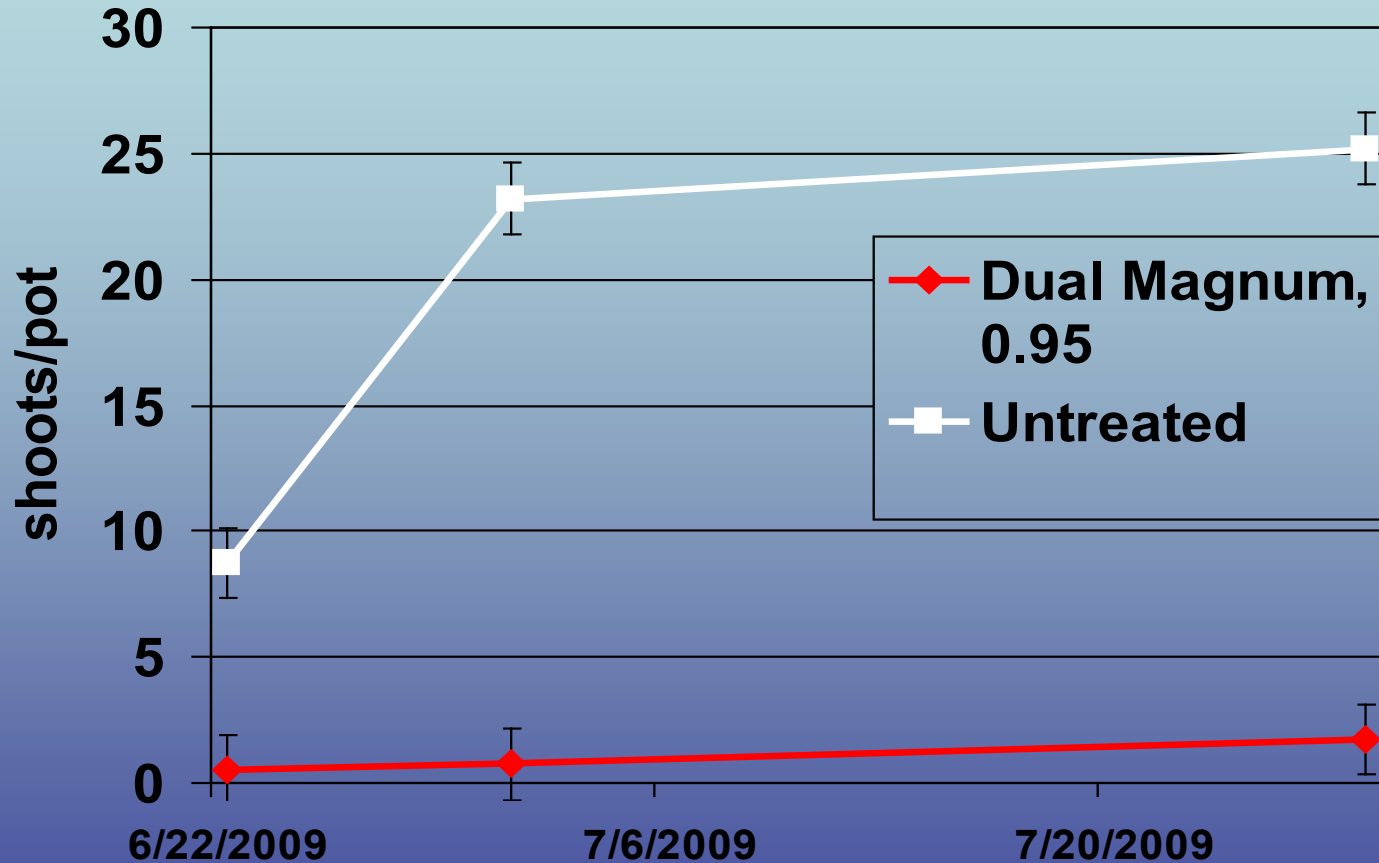
Untreated control



DM 0.95lb a. i./acre

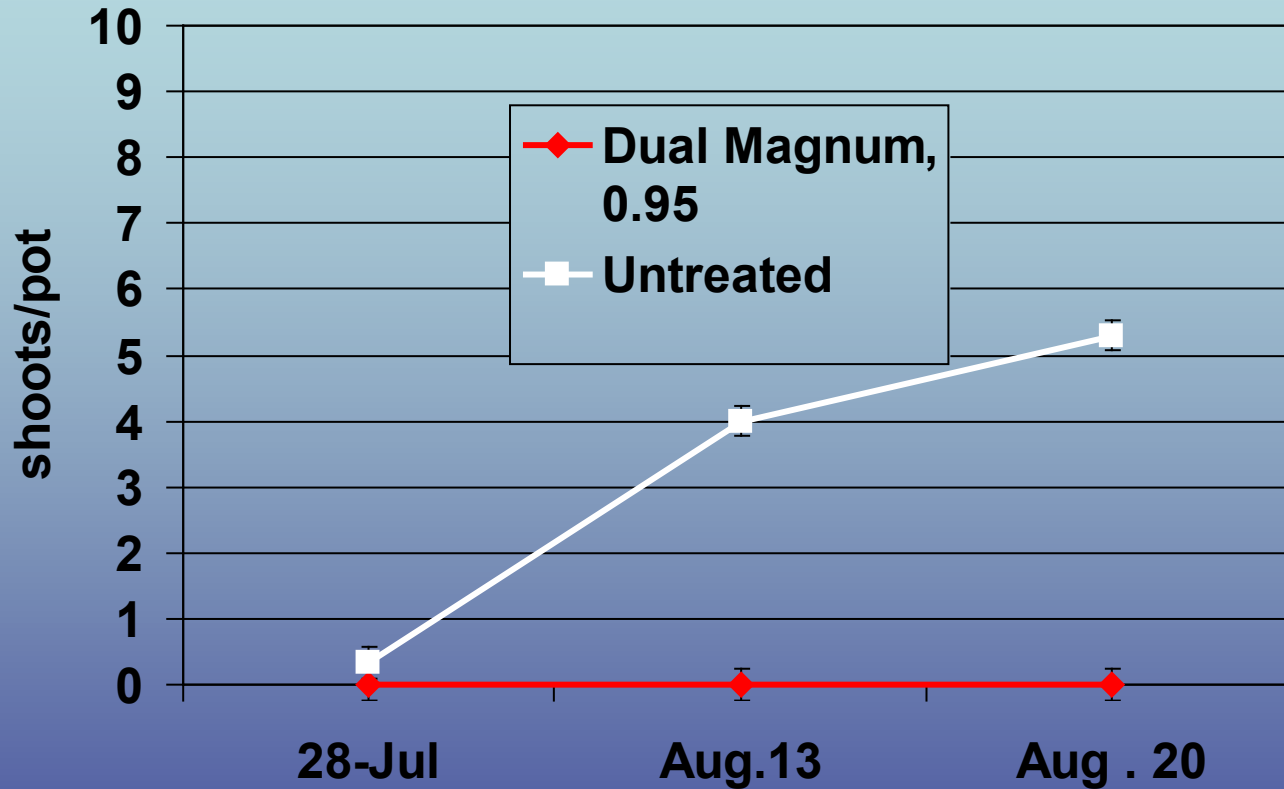


Purple nutsedge counts



No significant injury to strawberry

Yellow nutsedge counts



injury was not determined : poor quality transplants

March 19, 2010: yellow nutsedge re-emergence in untreated

DM 0.95



Untreated



**2010:
Nov 22**

DM 0.63



DM 0.95

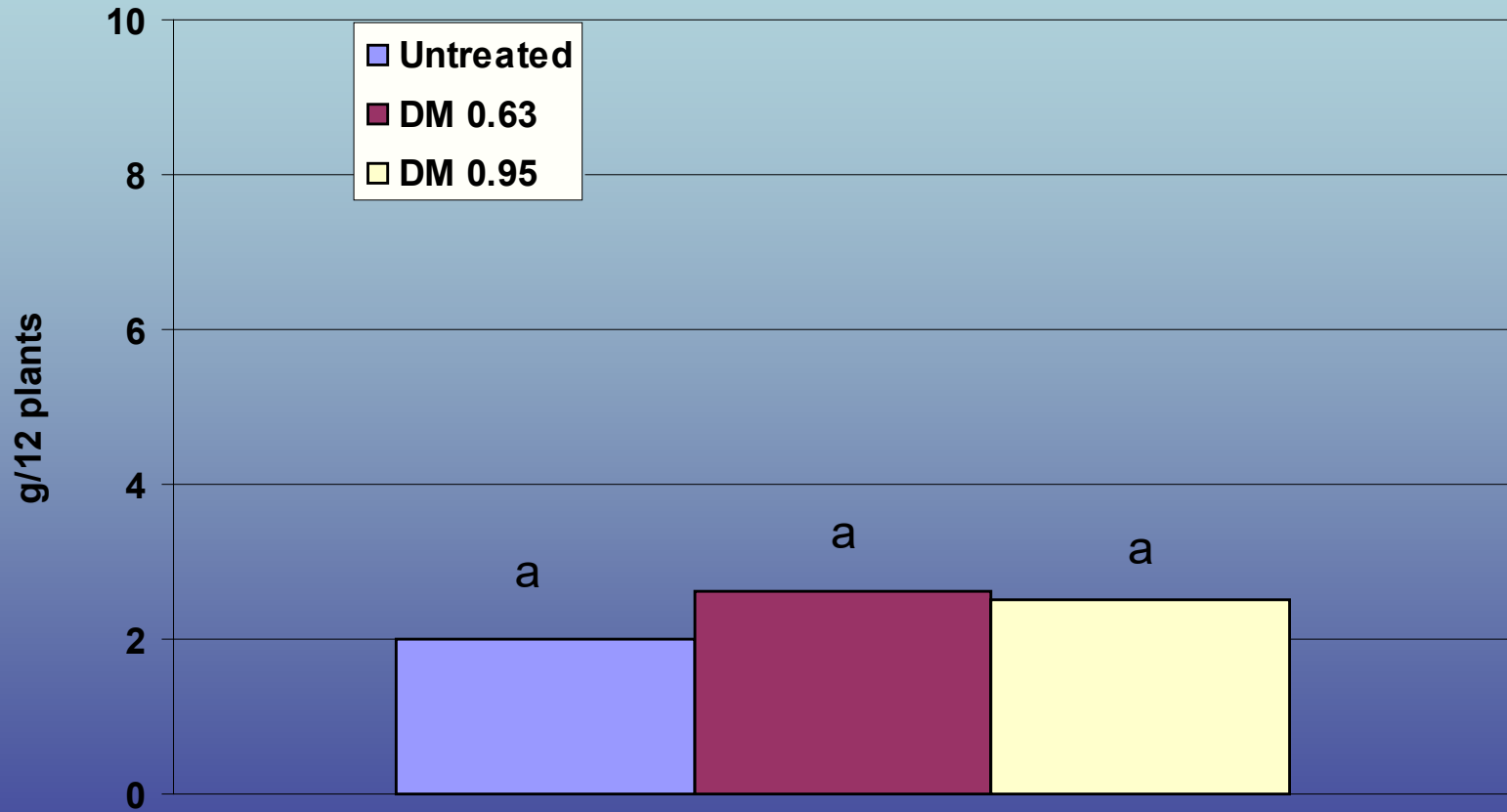


Untreated



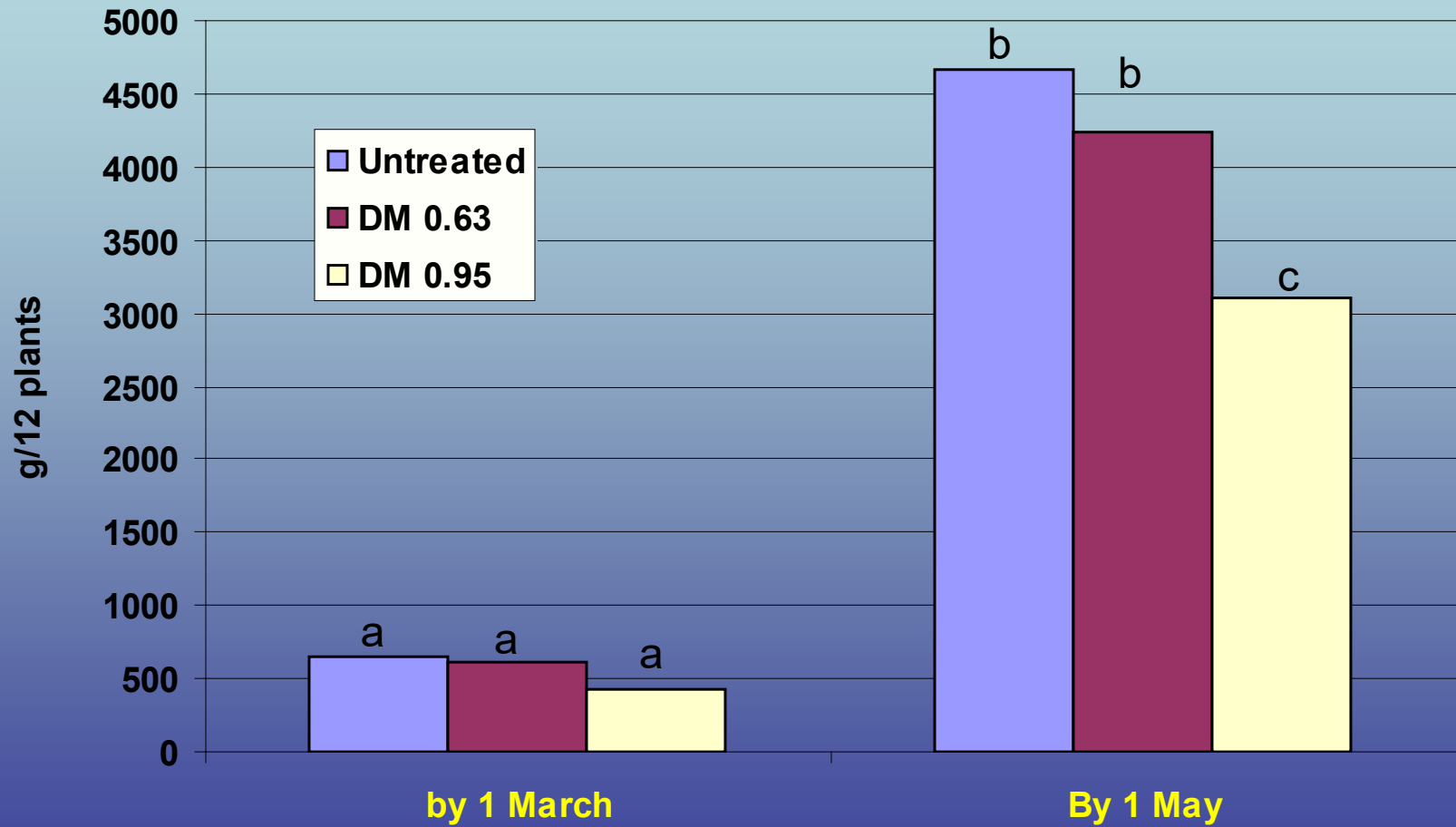
2010

Injury (1=none to 10 =dead)



Mortality: identical in all treatments ~1.5%

Marketable fruit yield, 2011



Unmarketable yield: similar trend

2013:

Look at lower rates

DM 0.33

Untreated



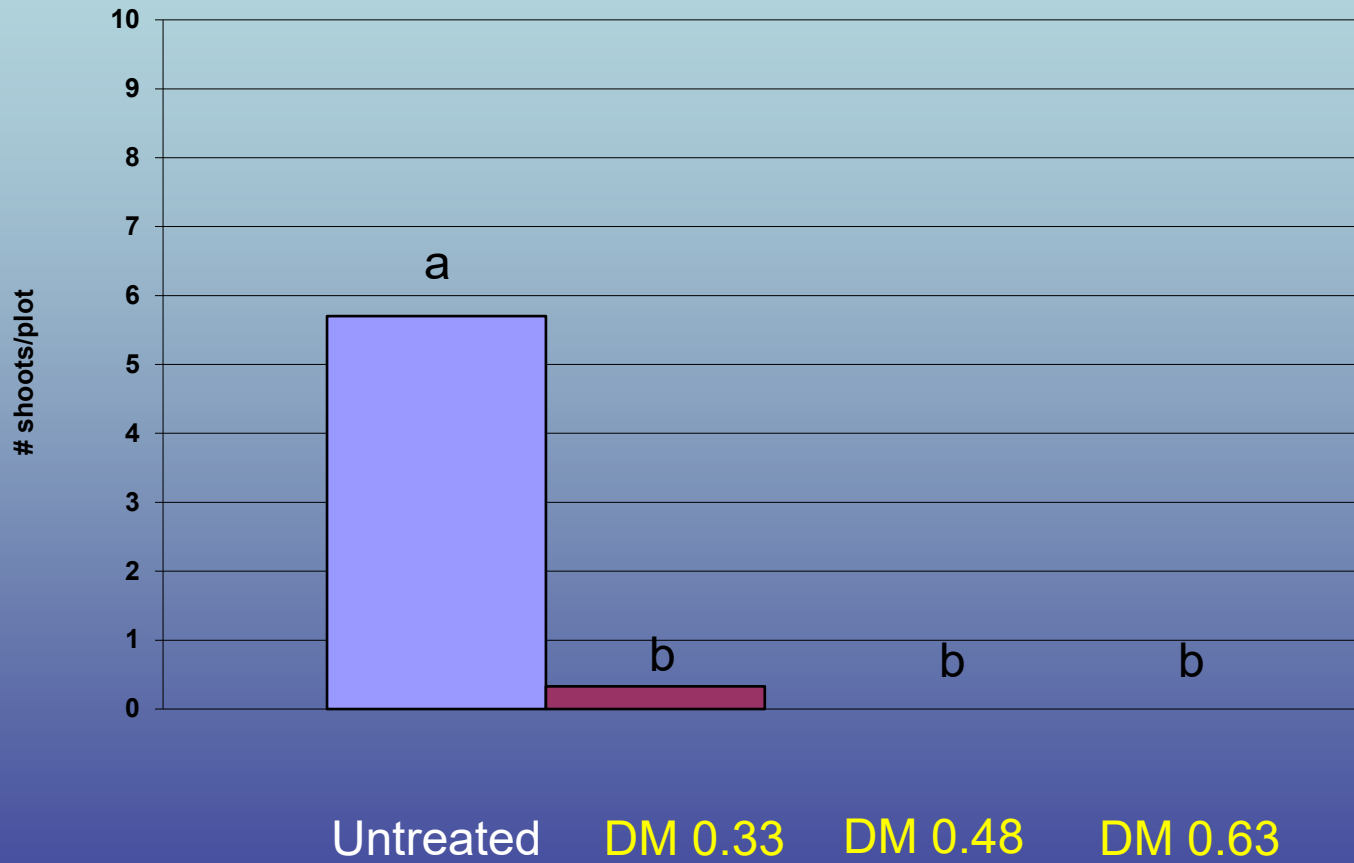
DM 0.48



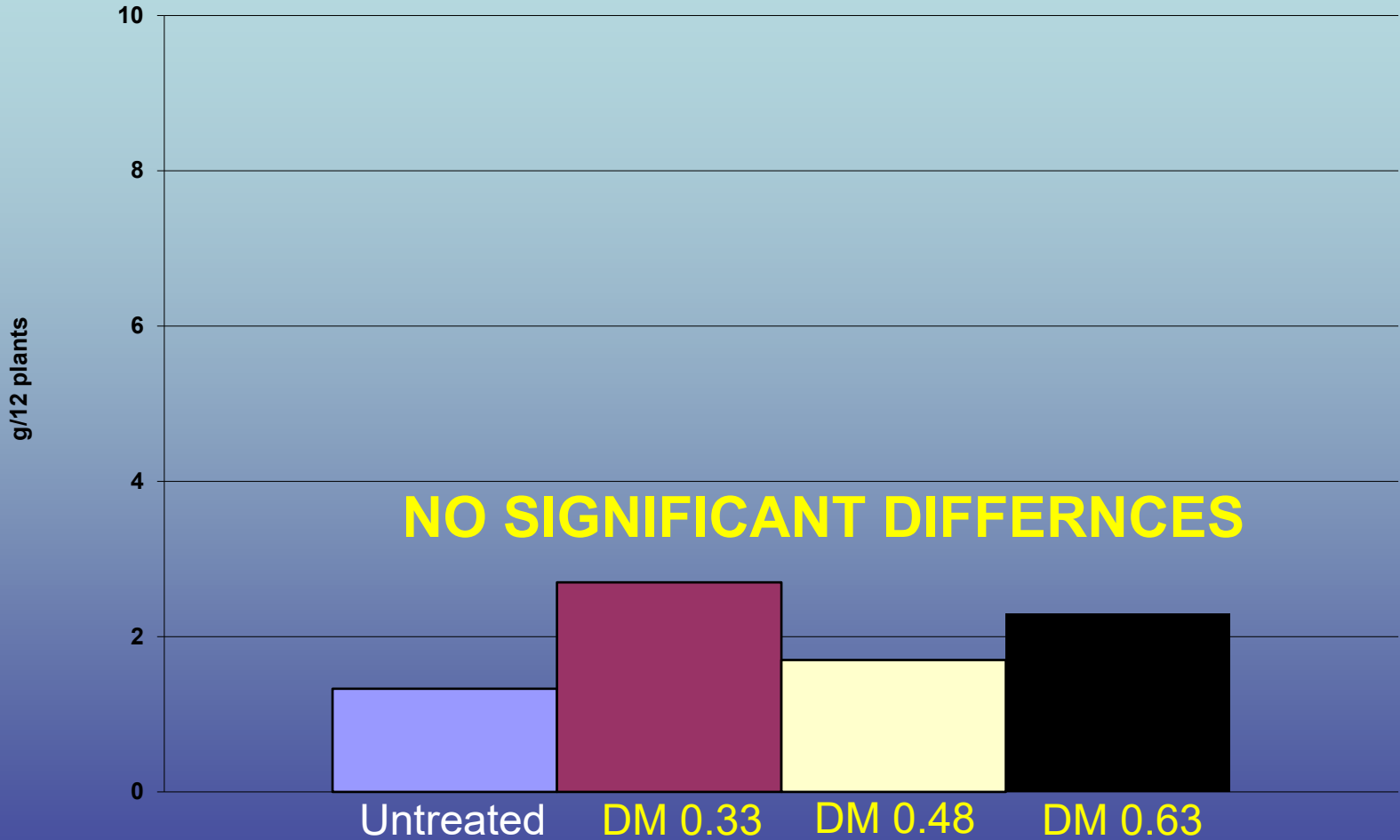
DM 0.63



Yellow nutsedge shoots

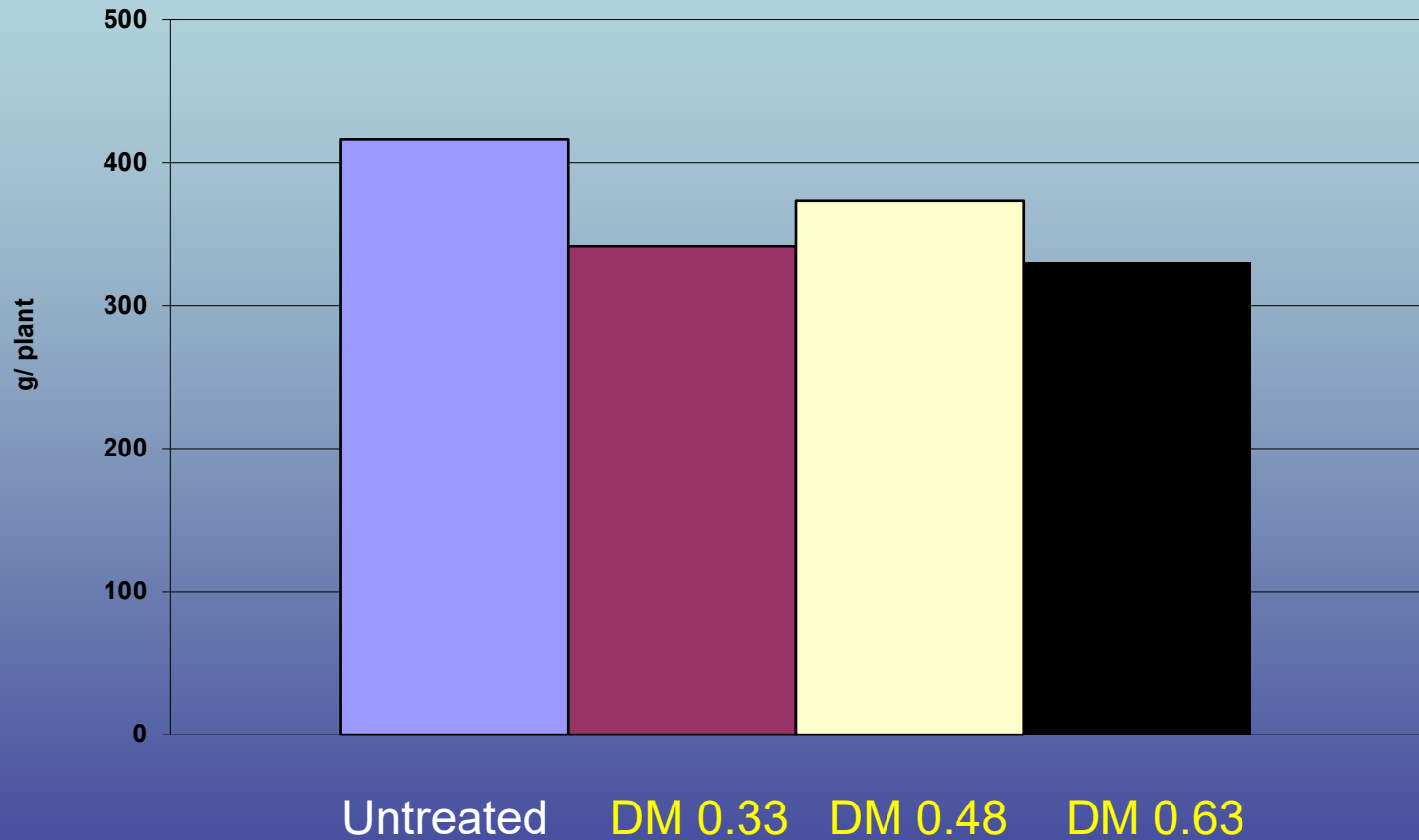


Injury (0=none to 10 =dead)



Mortality: identical in all treatments <2%

Fruit yield (first 4 harvests)



NO SIGNIFICANT DIFFERENCES

S-metolachlor (Dual Magnum)

- Use pattern: 30 d pre-plant to bed tops; Similar to our current herbicides and can be tank mixed
- Petition submitted to EPA in Feb 2014.

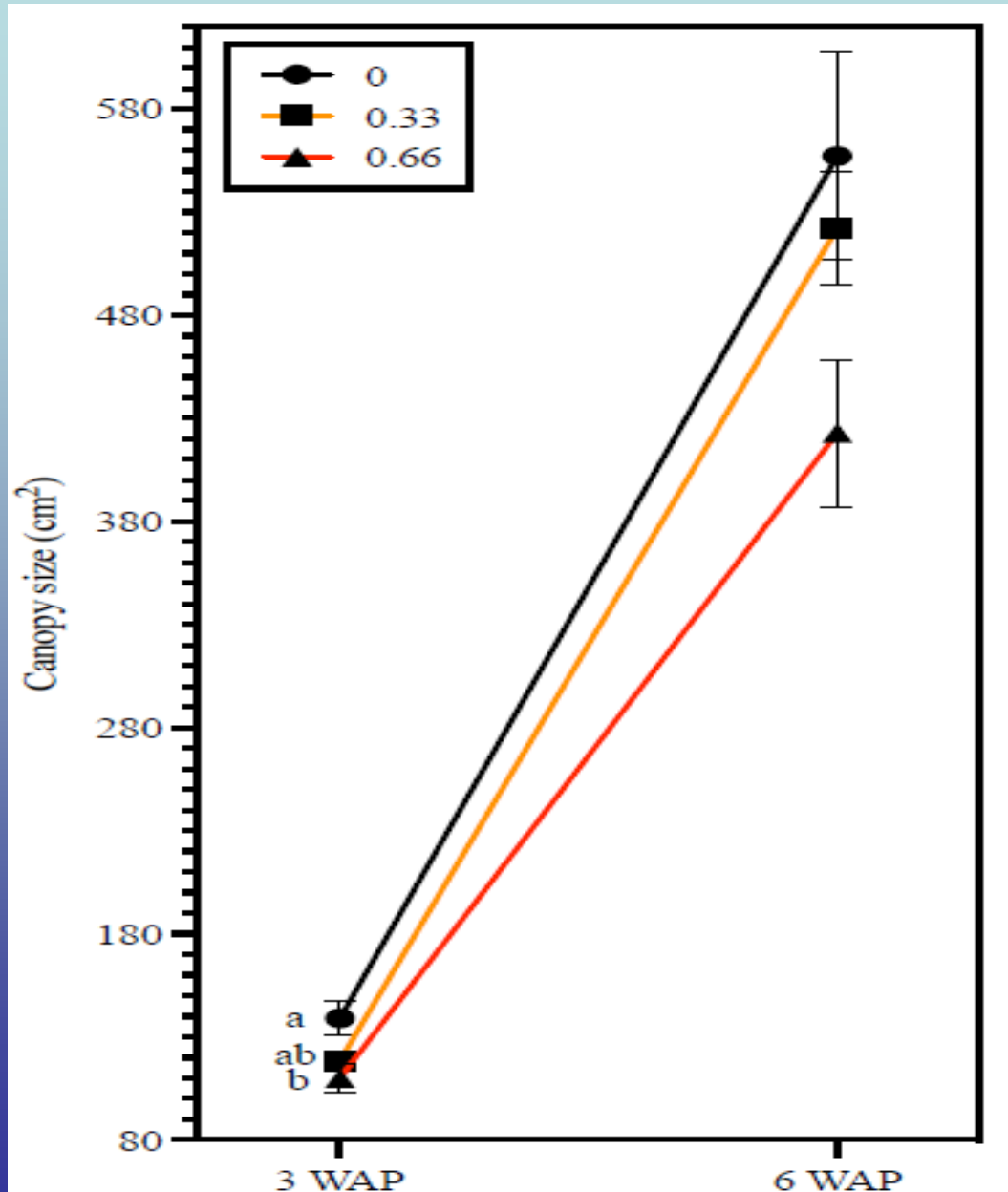
If crops are grown on plastic mulch, the Dual Magnum pre-emergence application should be made before laying the plastic. Dual Magnum may also be applied as a row middle application after the laying of the plastic mulch.

- 30 d pre-harvest if applied to furrows

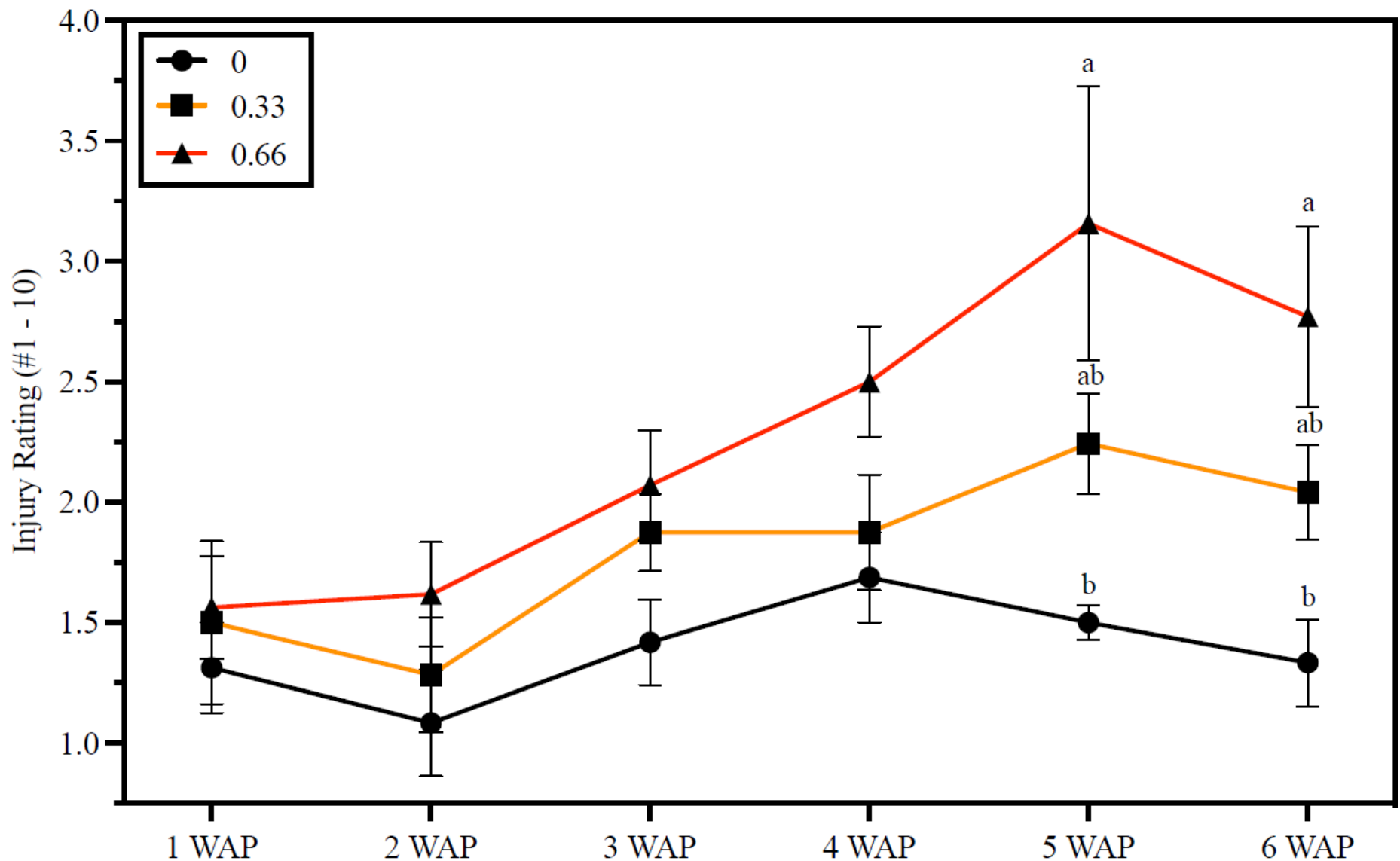
2021: Sumer planting

- Dual Magnum at 0, 0.33 and 0.66 lbs a. i. /A
- TIF
- 35 Days before transplanting
- Crop performance and injury

2021 Summer planting: plant sizes



2021 Summer planting: injury 1 (none)-10 (dead)



Untreated



DM 0.33 lb a.i. /A



Untreated



DM 0.66 lb a.i. /A



DM 0.66 lb a.i. /A

Untreated



Finding effective yet safe DM rate under TIF

- Summer planting: early fruit harvests
- Winter planting: look at these and lower rates, include nutsedge tuber viability
- Light vs heavy soils

Acknowledgements

- Cal Strawberry Commission (support)
- Syngenta
- Juan Hernandez and Paul Penza

Quiz questions

- 1) Did Dual Magnum (S-metolachlor) cause strawberry mortality? **Yes/No**
- 2) Was there rate response in summer strawberry to Dual Magnum (S-metolachlor) ? **Yes/No**