

# 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
- Added to IR-4 (minor crop) list for strawberry:

**Supporting data on nutsedge control in strawberry and crop safety**

# 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

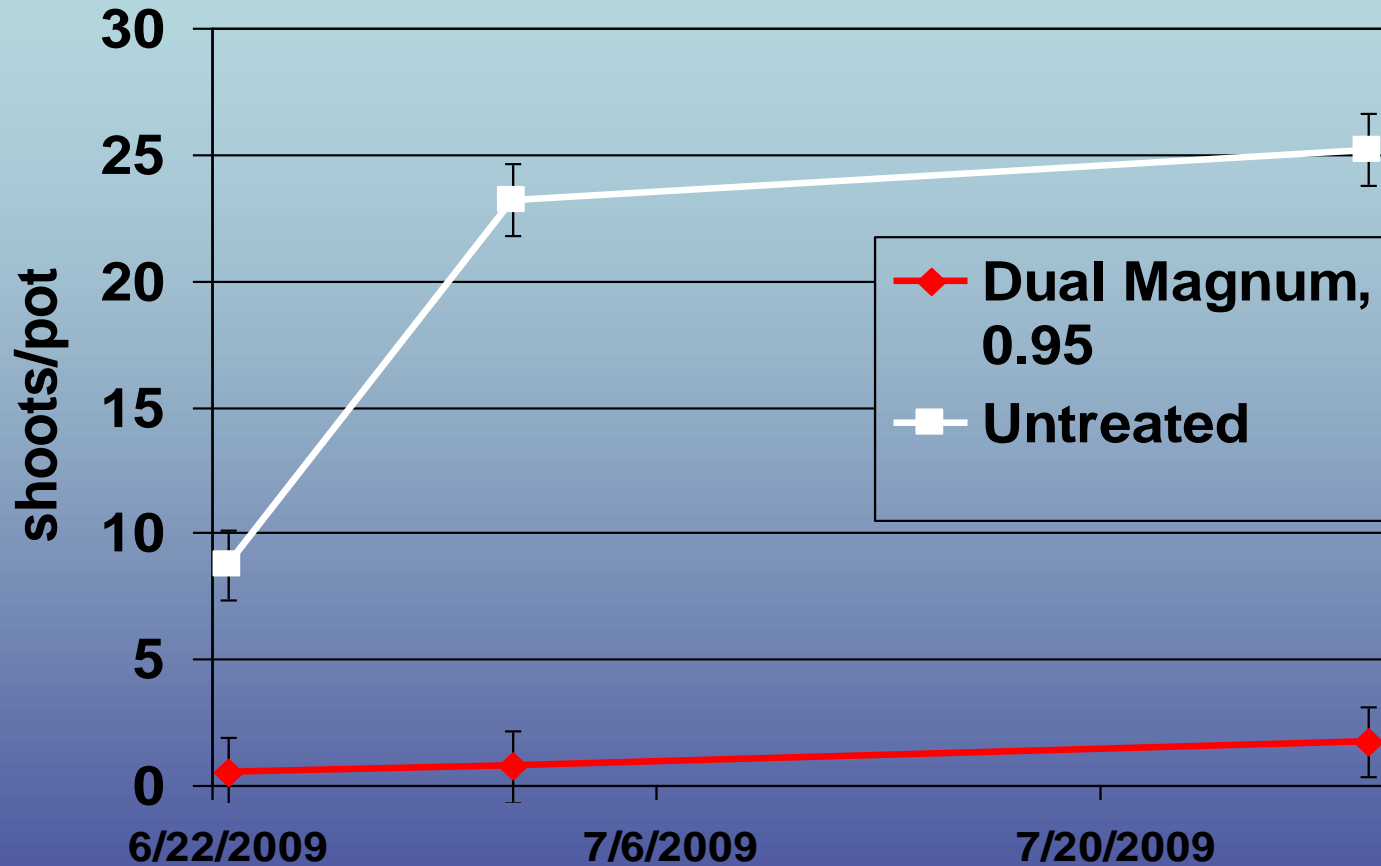
Untreated control



DM 0.95lb a. i./acre

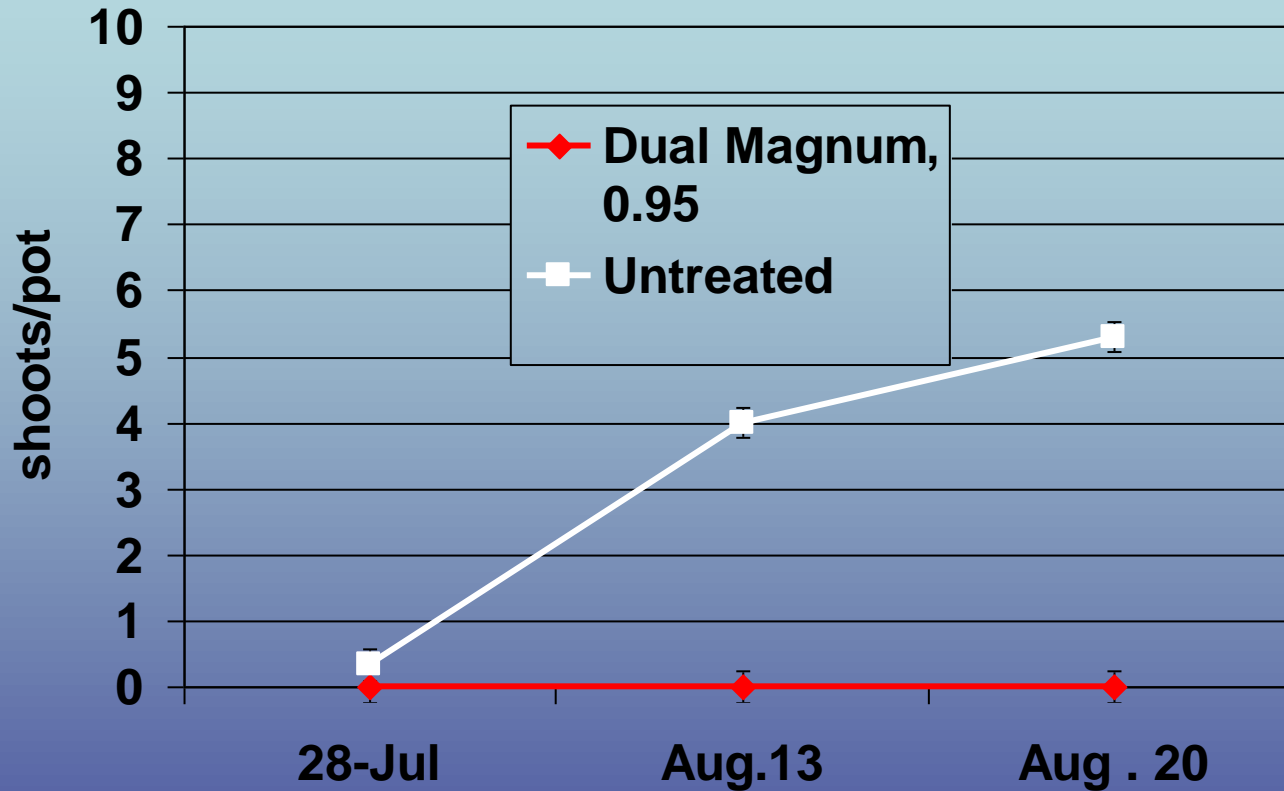


# Purple nutsedge counts



**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**

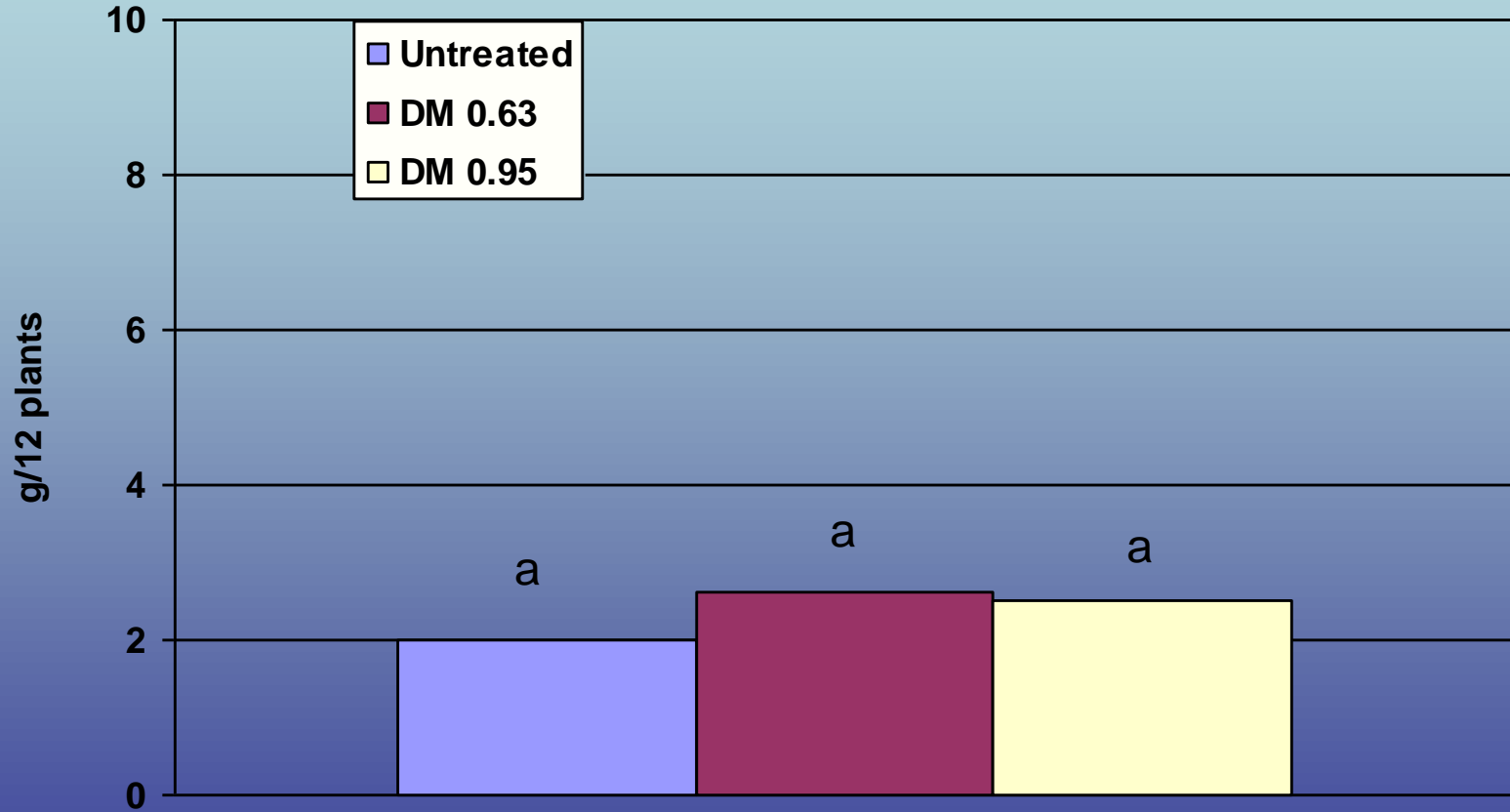


**Untreated**



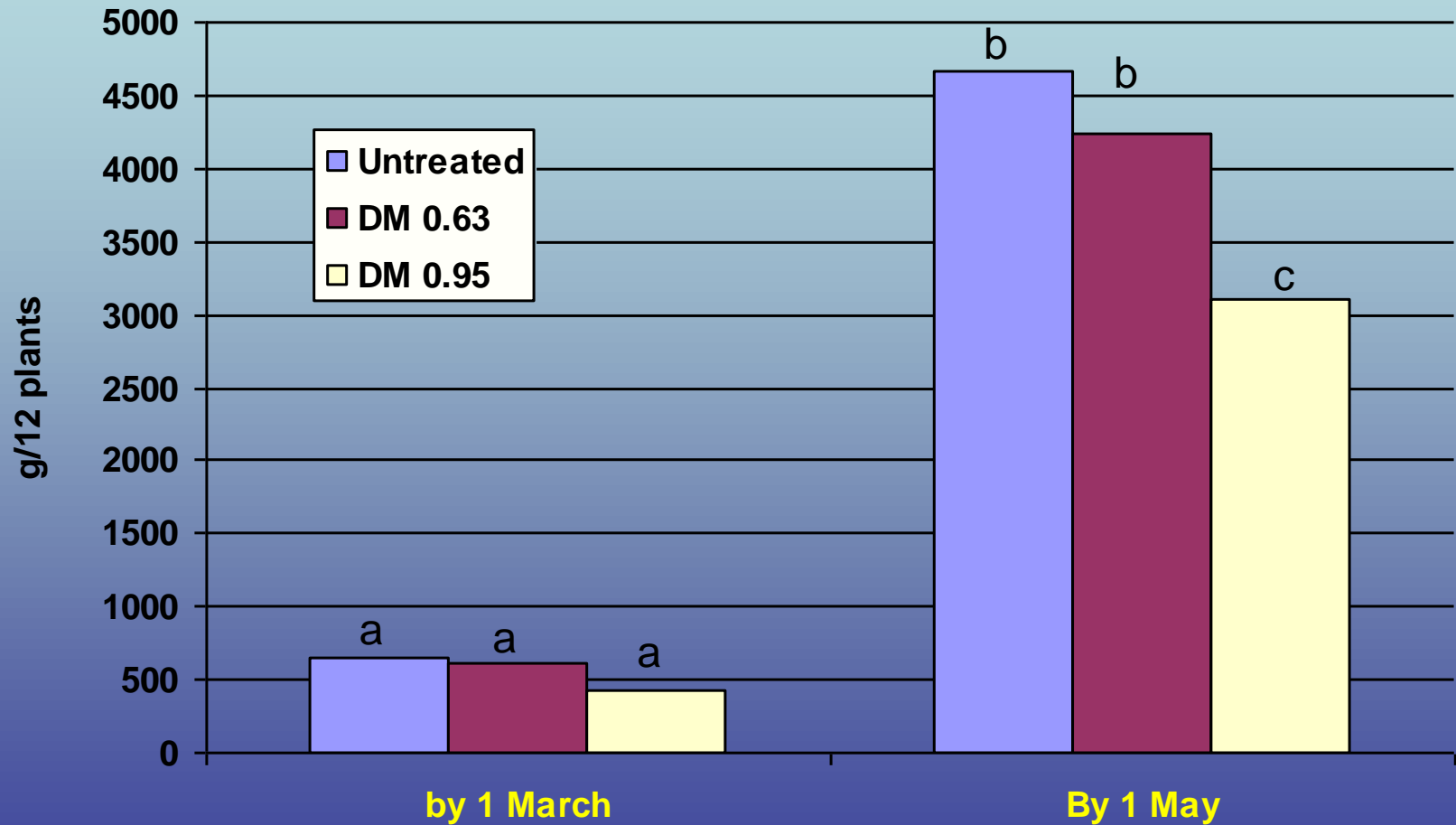
# 2010

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**



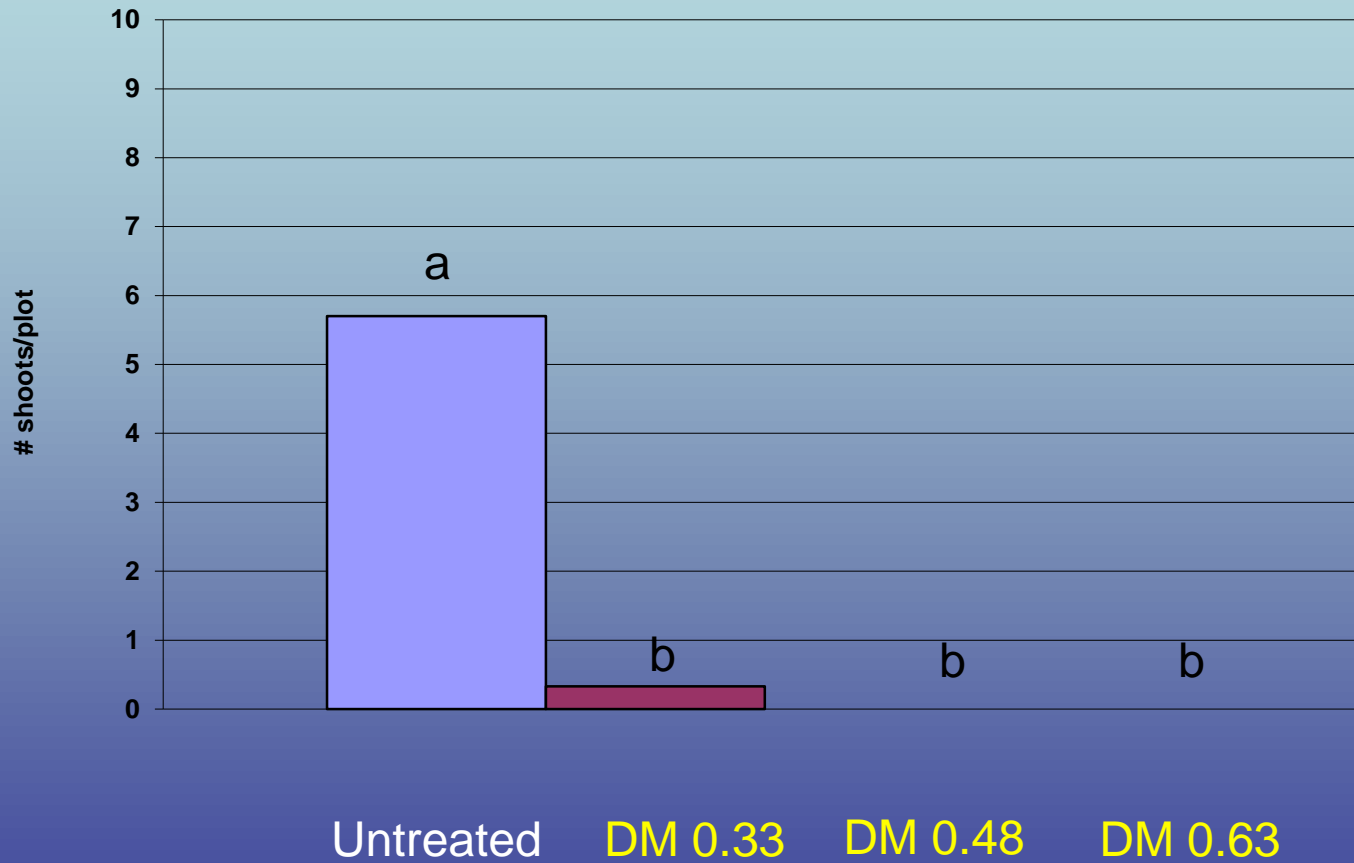
**DM 0.48**



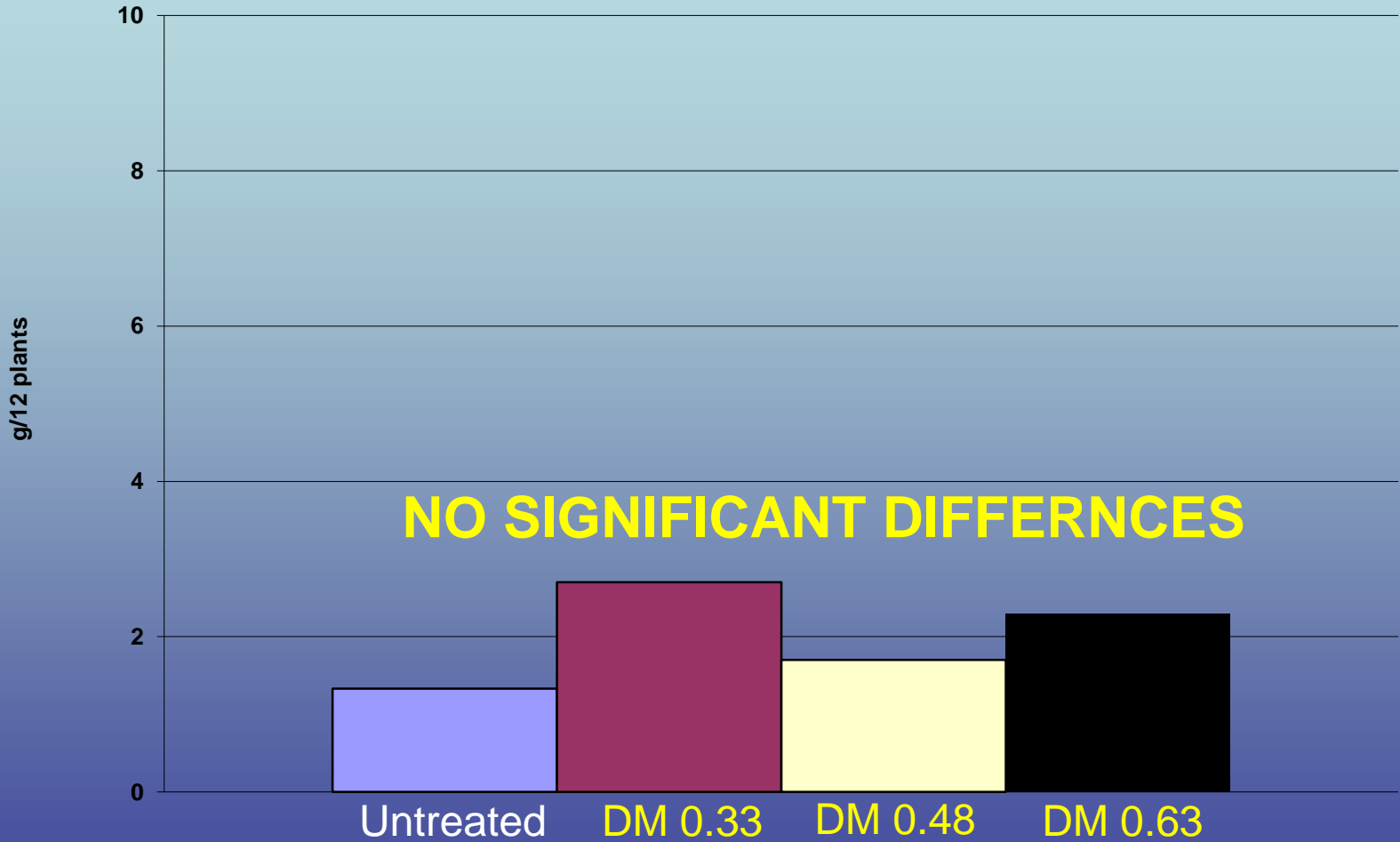
**DM 0.63**



# Yellow nutsedge shoots

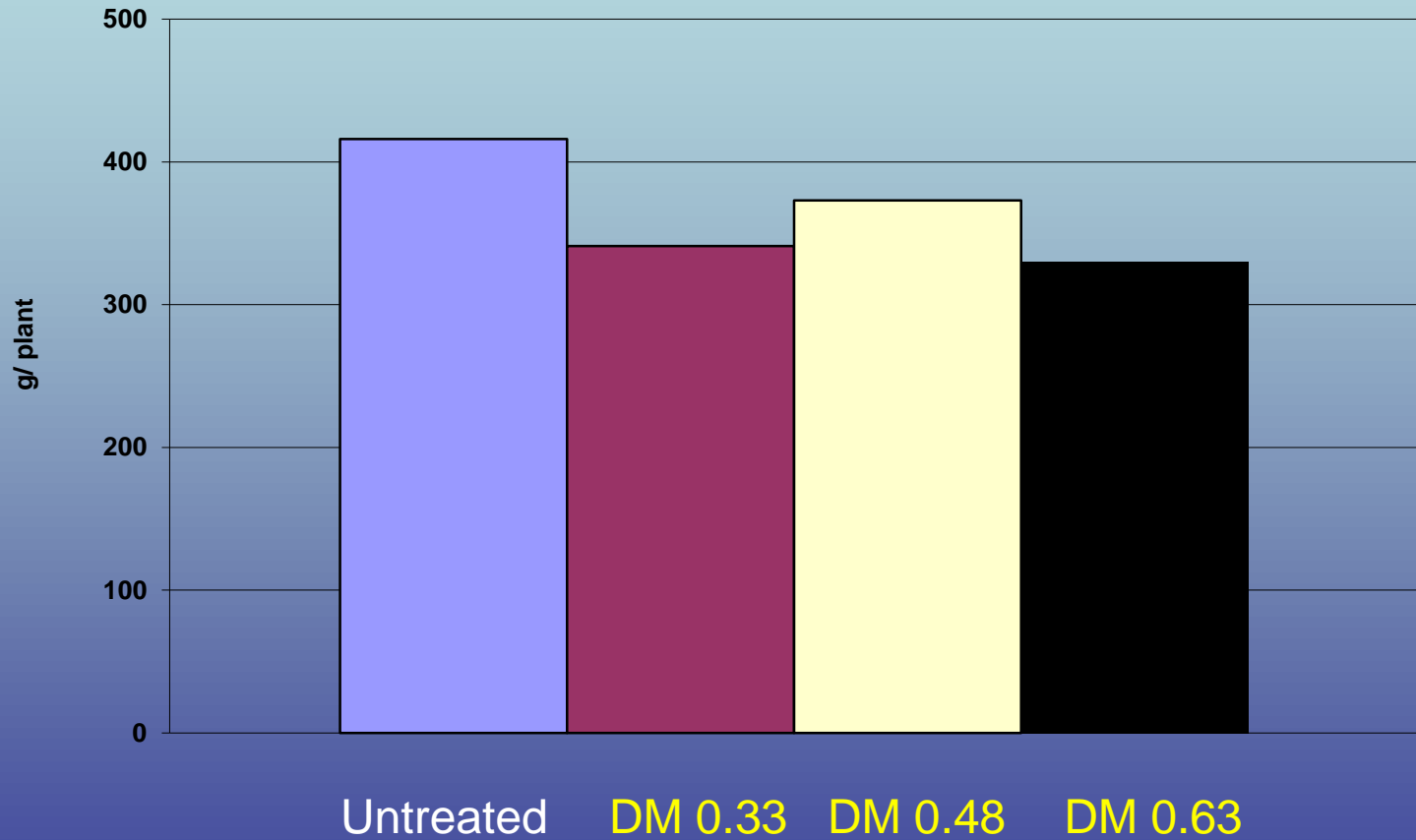


# Injury (0=none to 10 =dead)



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.

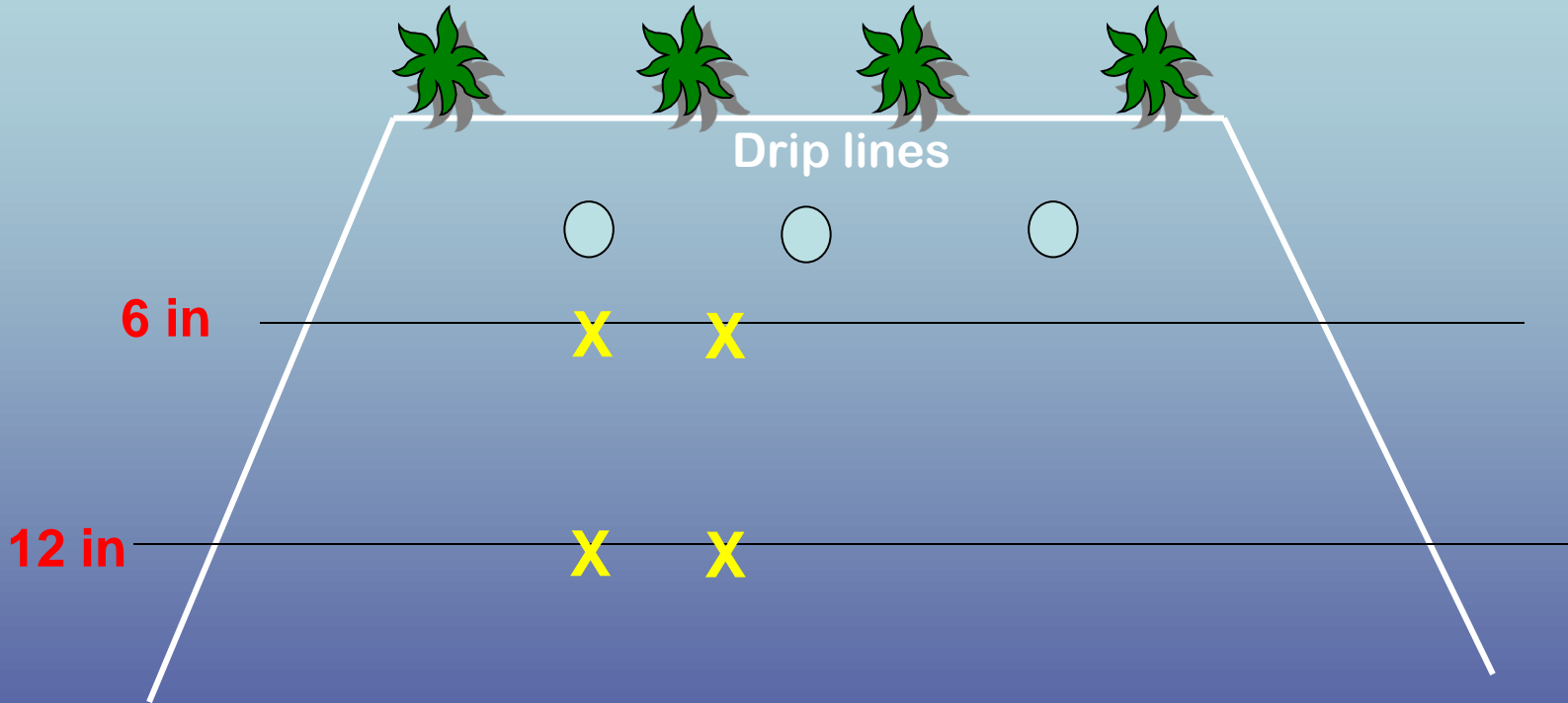
- 30 d pre-harvest if applied to furrows
- Supplemental indemnified 24 C label (SLN), registrant expects 2015



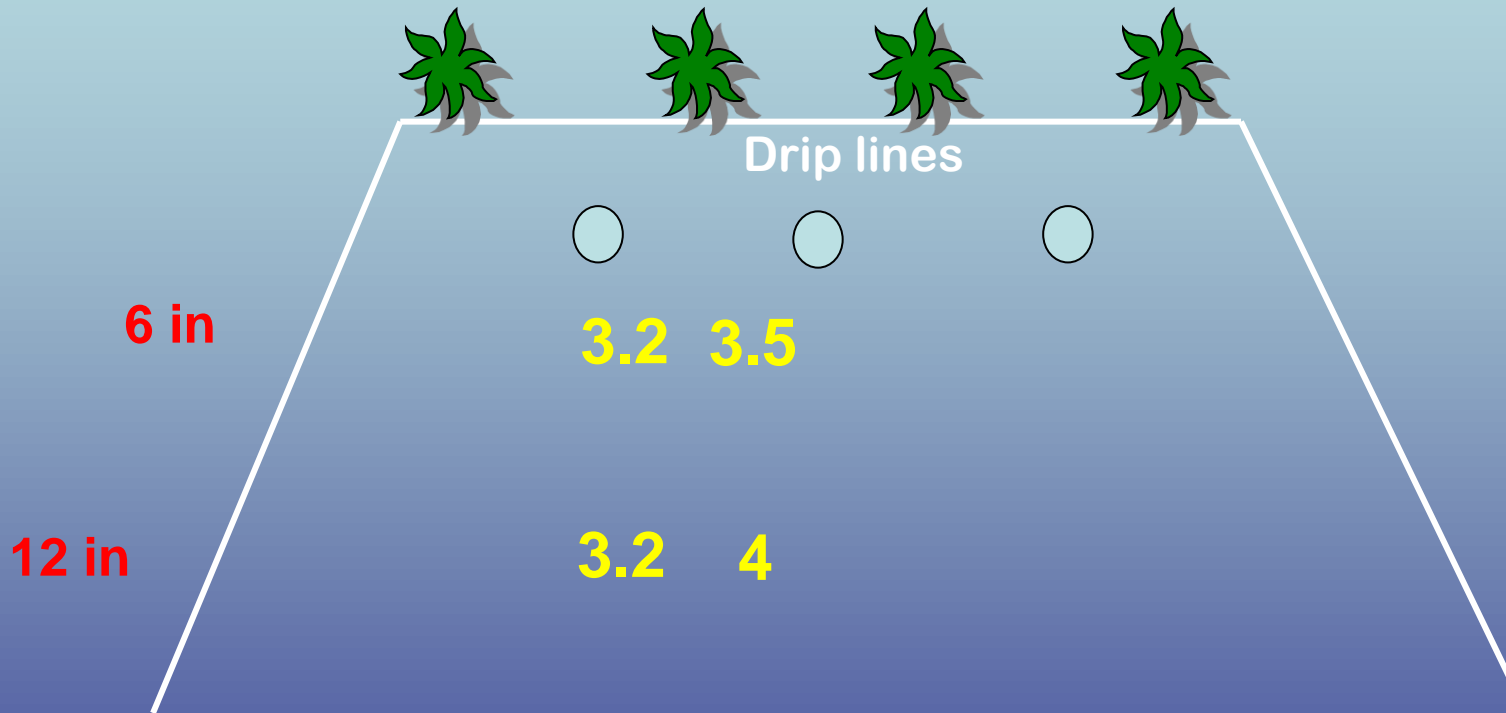
# S-metolachlor (Dual Magnum): rates

<b>Application Timing</b>	<b>Crop Growth Stage</b>	<b>Rate (pt/A)<sup>1</sup></b>
Preplant <sup>3</sup>	Before transplanting	0.67 - 1.33 (0.64-1.27 lb ai/A)

# End of the season Vapam via drip 50 gal/acre



# Yellow nutsedge shoots / 4 tubers

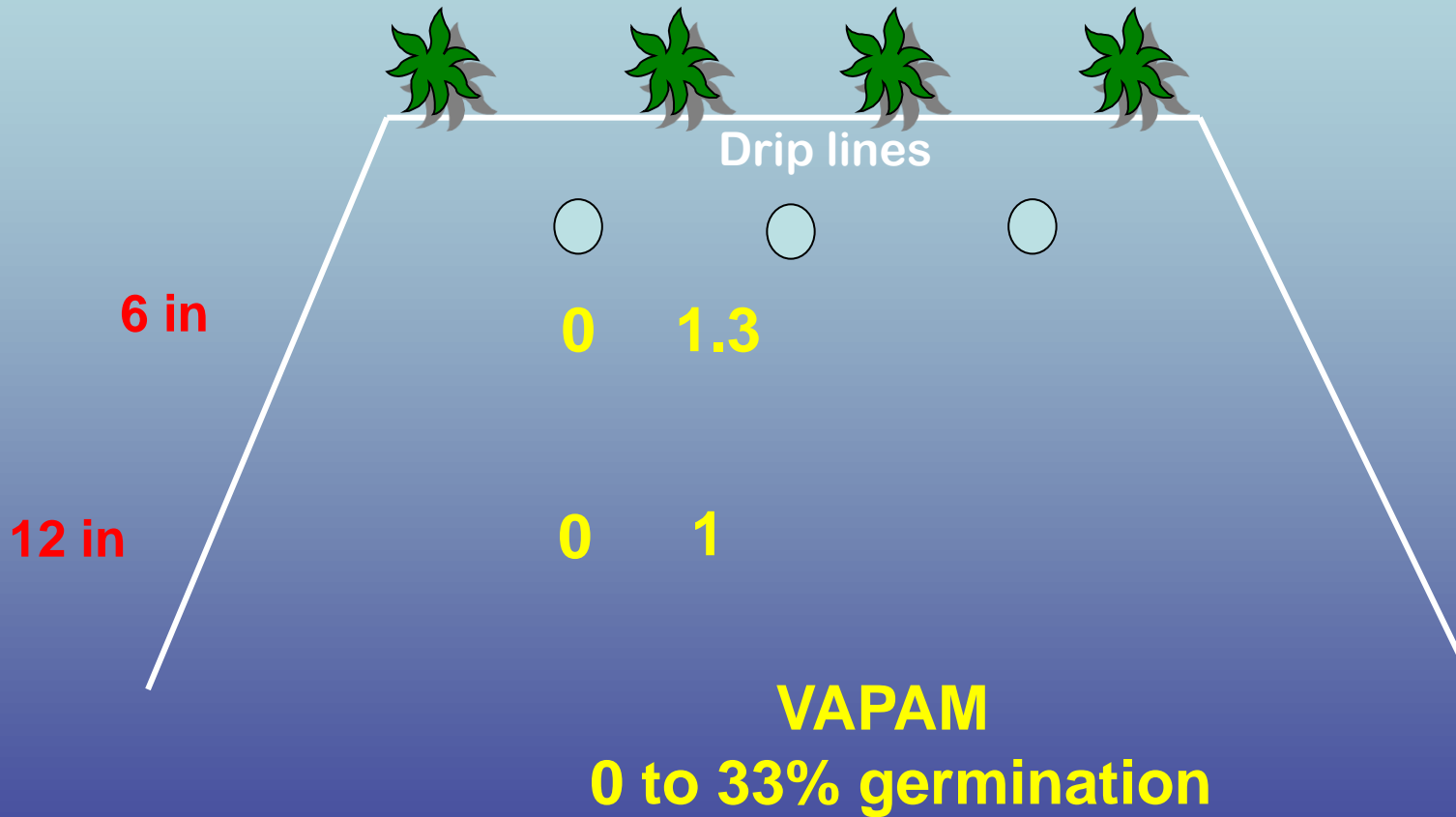


**UNTREATED CHECK:  
80-100% germination**

# UNTREATED CHECK



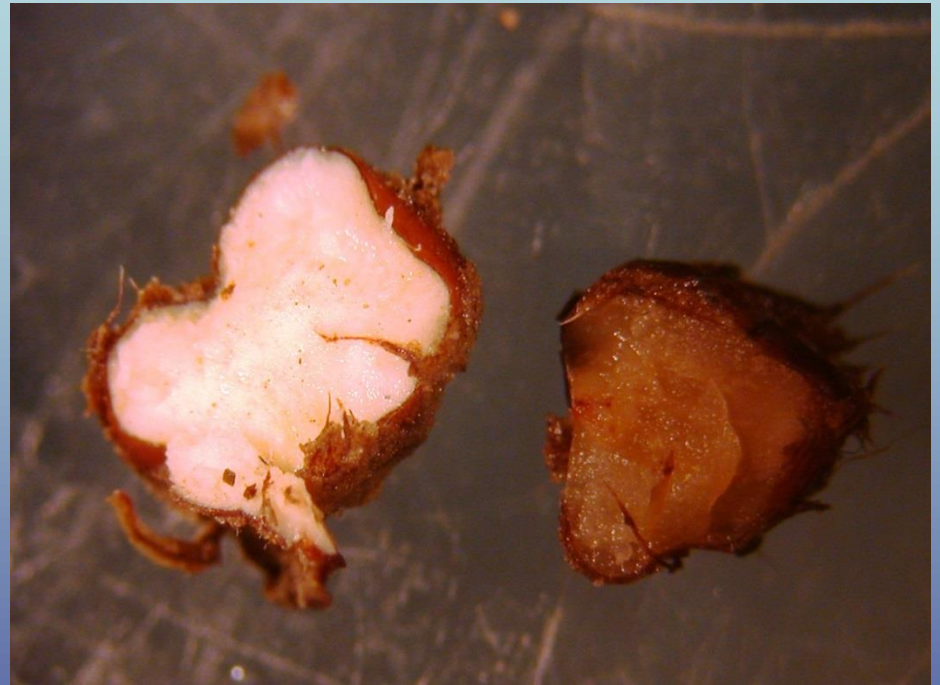
# Yellow nutsedge shoots / 4 tubers



**Depth was not important but location was**



**After VAPAM in  
PLANT ROWS**

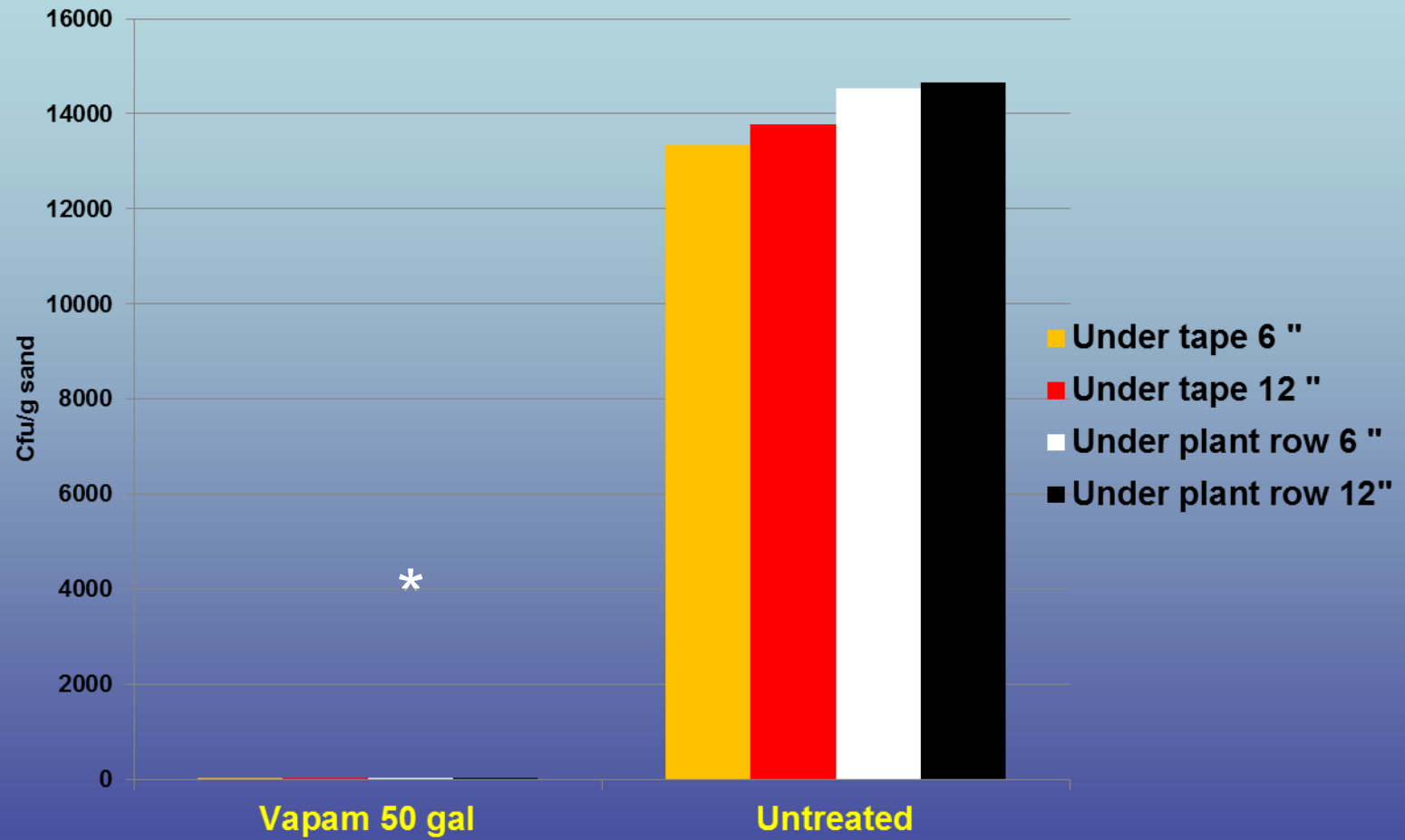


**After VAPAM under the  
DRIP LINES**

# What about Fusarium?

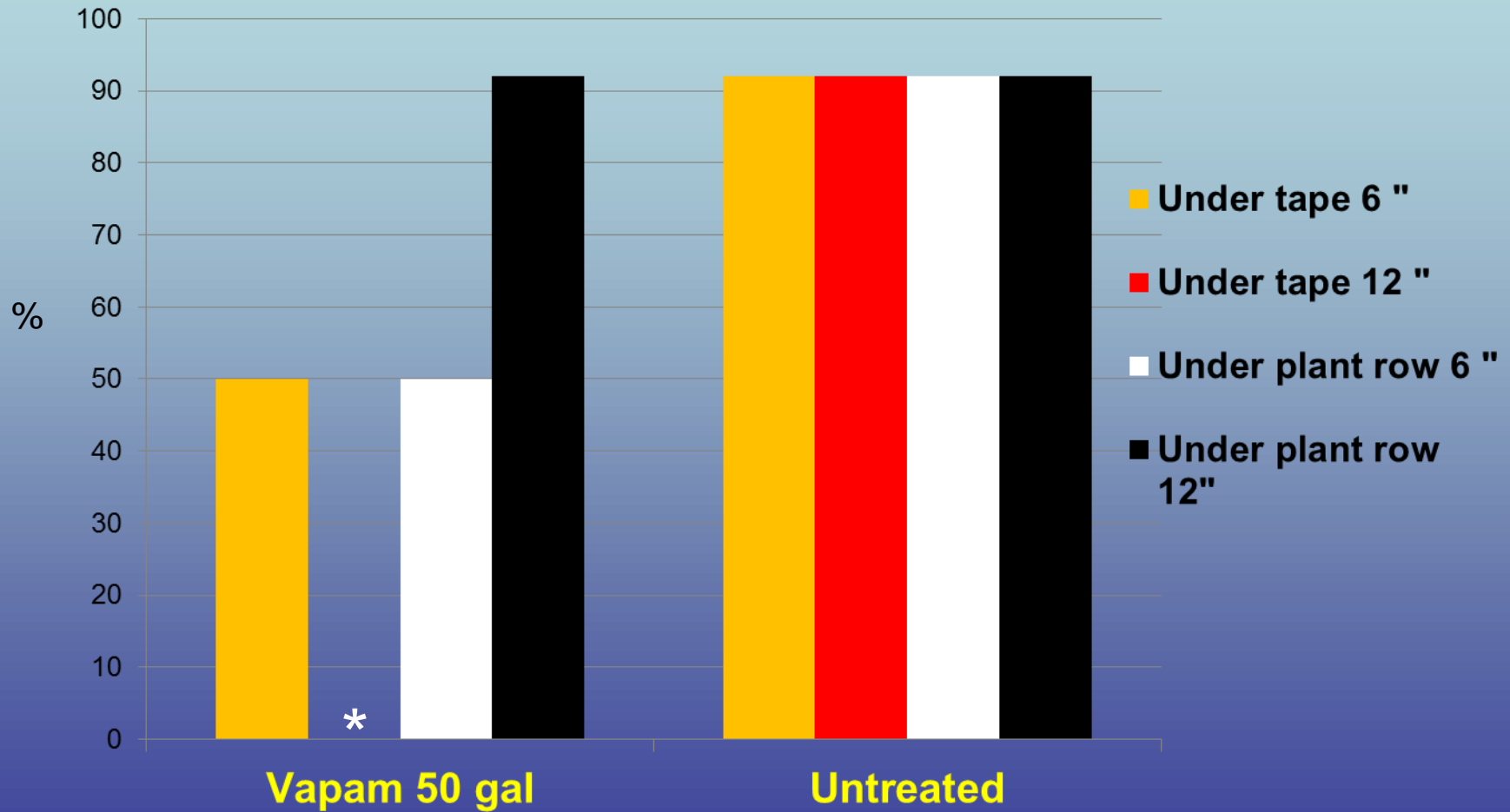


# *F. oxysporum* in sand inoculum





# Recovery of *F. oxysporum* from infested crowns



# Acknowledgements

- Will Doyle with DW Berry Farms
- Cal Strawberry Commission (support) and Mark Edsall (inoculum burial).