

# Evaluation of New Nematicides Against Root-Knot Nematodes in Processing Tomato Production



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## Trial location: South Coast R&E Center

- Sandy loam infested with Southern root-knot nematodes, *Meloidogyne incognita* (average: 66 J2/100 cm<sup>3</sup> soil)
- single rows, 20 ft x 2 ft plots
- RCB, 5 replications
- cv Halley 3155



## Trial location: South Coast R&E Center

#	Treatment <sup>1</sup>	rate (fl oz/A)	application method and timing
1	nt control		water only @ planting
2	Dp1	3x 15.5	drip @ planting, 14 dap, 28 dap
3	Dp1	1x 31, 2x 15.5	drip @ planting, 14 dap, 28 dap
4	MCW-2	85	14 dbp incorp plus 2 gal + 2 gal water 7 dbp
5	MCW-2	112	14 dbp incorp plus 2 gal + 2 gal water 7 dbp
6	Dp2	384	3 dbp incorporated
7	Dp2	768	3 dbp incorporated
8	Vydate L	2x 64	drip @ planting and 14 dap
9	Dp3	2x 8.5	drip @ planting and 14 dap

dbp: days before planting, dap: days after planting; D1-3: development products

drip applied: surface drip tubing, 1 ft emitter spacing, 2 qt/hr output

incorporated: 2 ft band, rototilled

# SCREC: tomato trial 4 weeks after planting



# SCREC: Representative tomato roots at 48 dap



Nt check (#1)

Dp1 (#2)

Dp1 (#3)

Vydate L (#8)

# SCREC: Representative tomato roots at 48 dap



Nt check (#1)    MCW-2 (#4)    MCW-2 (#5)    Vydate L (#8)

# SCREC: Representative tomato roots at harvest



Nt check (#1)

MCW-2 (#5)

Vydate L (#8)

# SCREC: Representative tomato roots at harvest

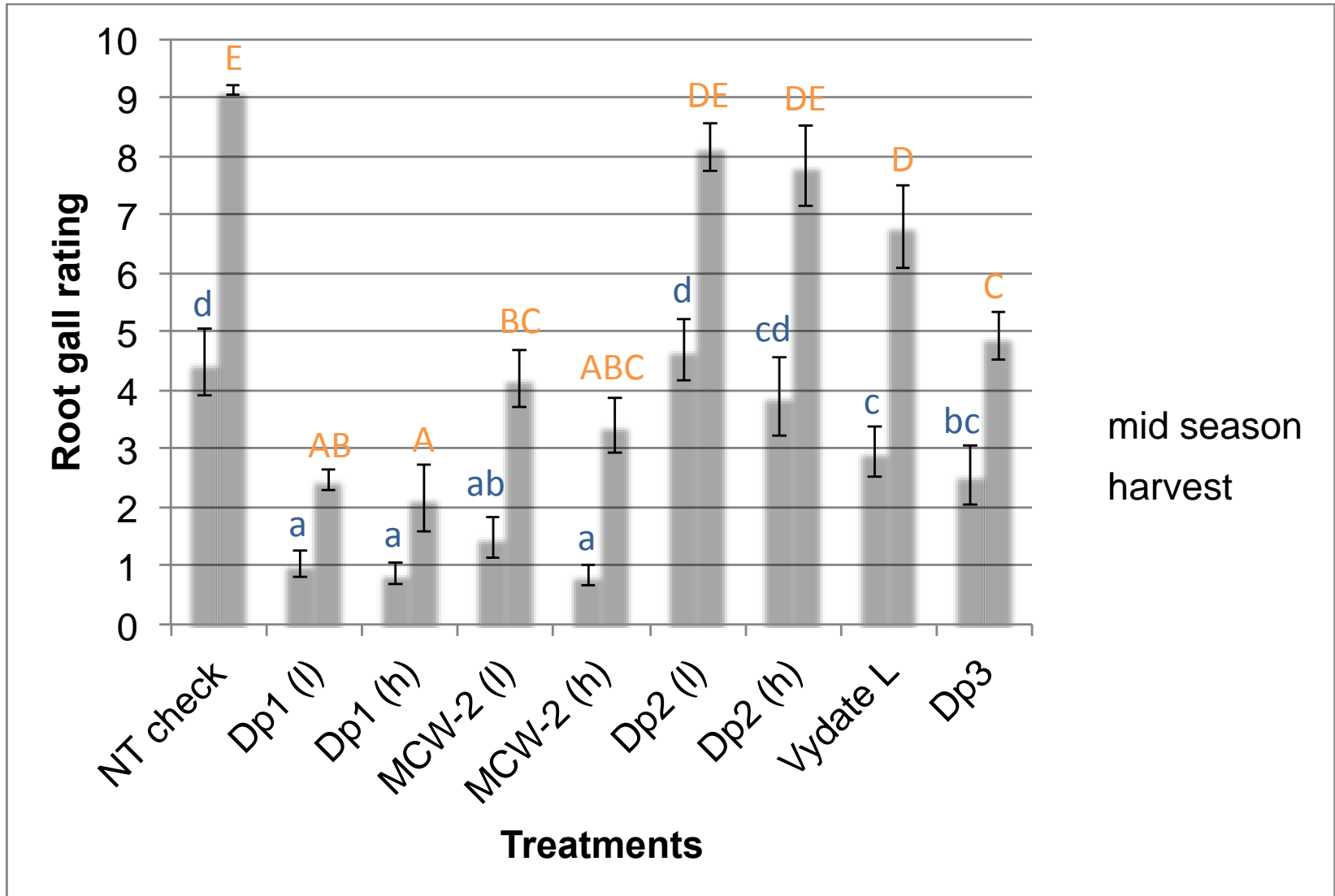


Nt check (#1)

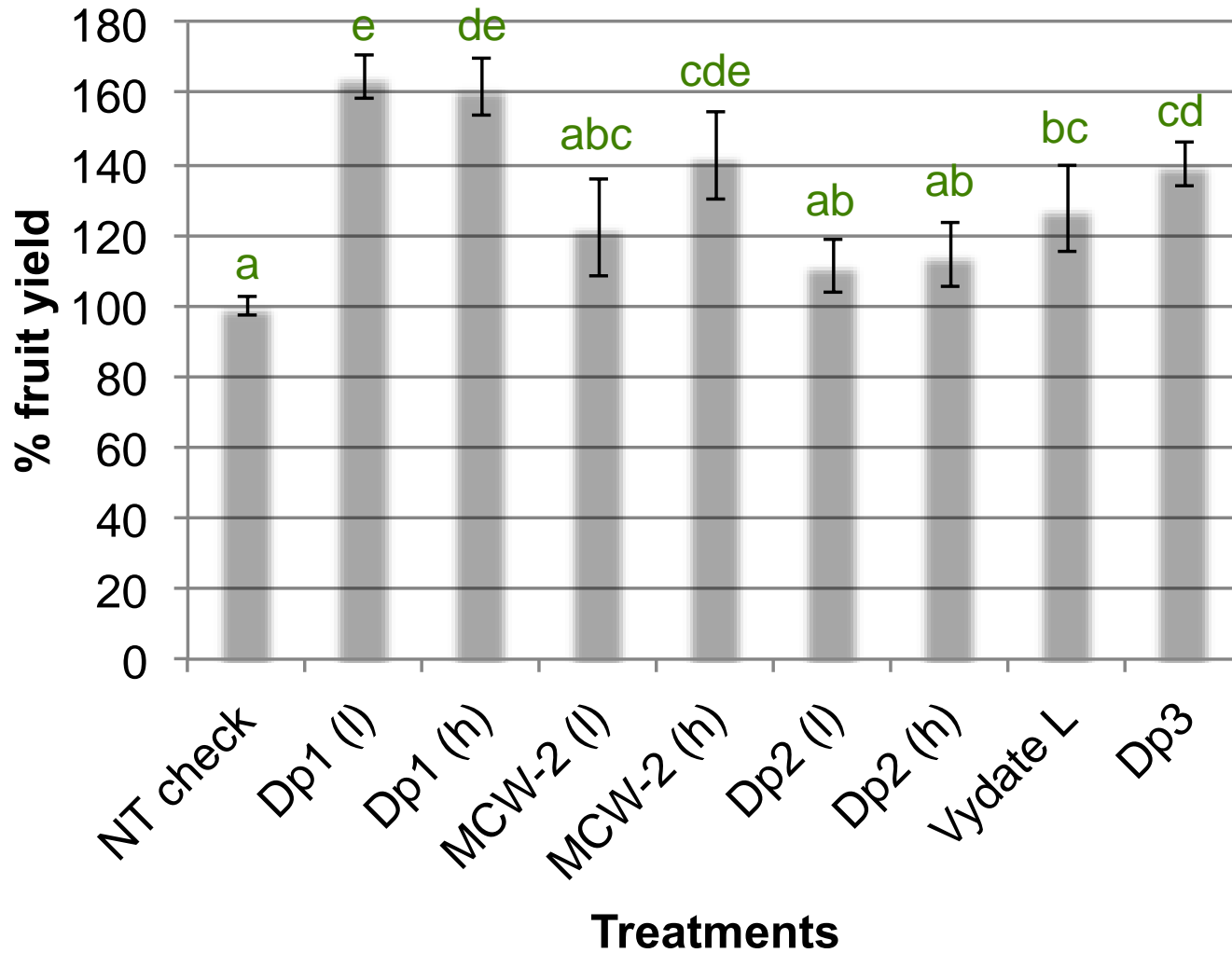
Dp1 (#3)

Vydate L (#8)

# SCREC: Rkn disease at mid-season and harvest



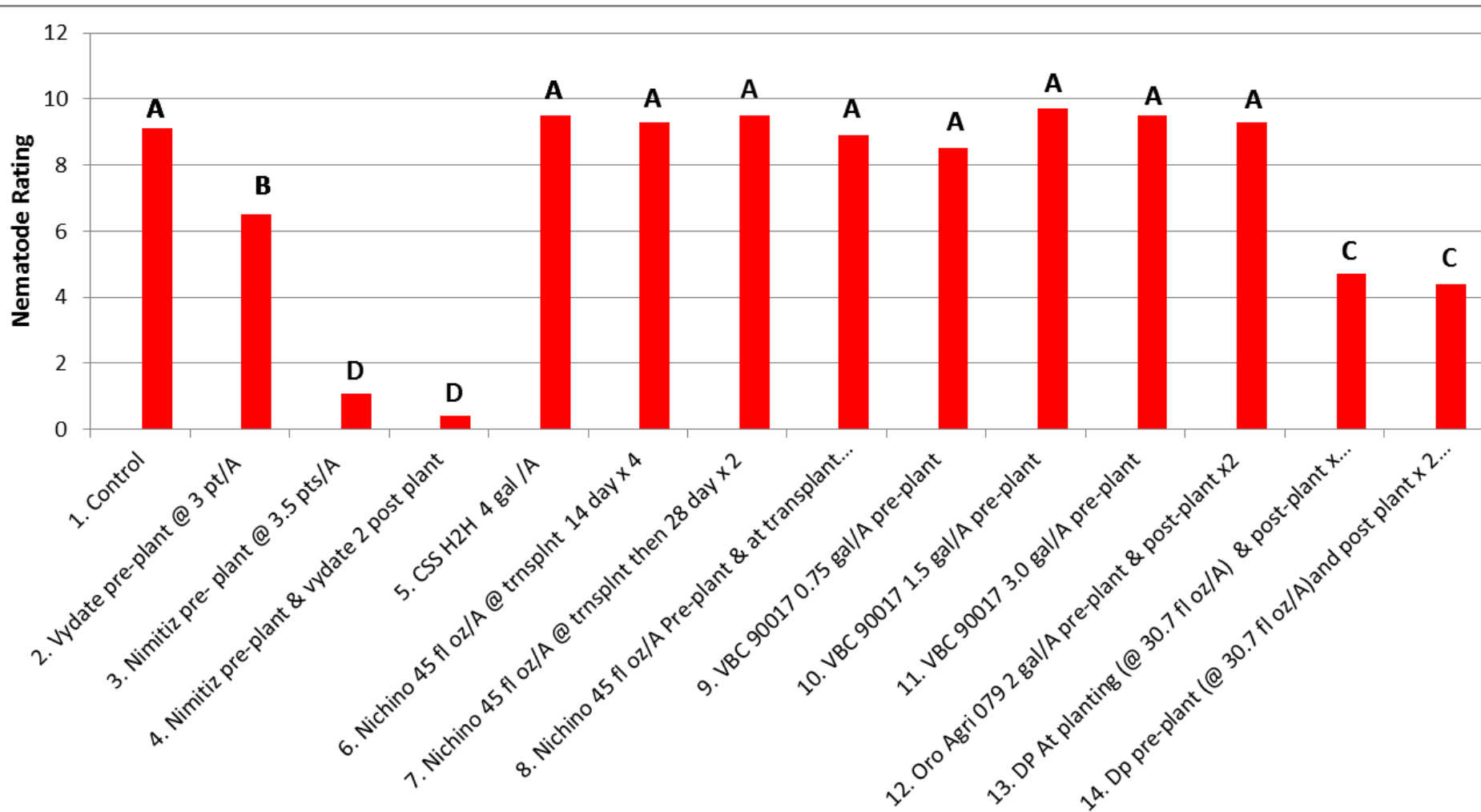
# SCREC: Harvest yield



# 2014 Tomato Nematode Trial - Shafter

	Nematode Gall
Treatments	Rating (1-10)
1. Control	9.1 A
2. Vydate pre-plant @ 3 pt/A	6.5 B
3. Nimitz pre- plant @ 3.5 pts/A	1.1 D
4. Nimitz pre-plant & vydate 2 post plant	0.4 D
5. CSS H2H 4 gal /A	9.5 A
6. Nichino 45 fl oz/A at transplant then 14 day x 4	9.3 A
7. Nichino 45 fl oz/A at transplant then 28 day x 2	9.5 A
8. Nichino 45 fl oz/A Pre-plant & at transplant then 28 day x 2	8.9 A
9. VBC 90017 0.75 gal/A pre-plant	8.5 A
10. VBC 90017 1.5 gal/A pre-plant	9.7 A
11. VBC 90017 3.0 gal/A pre-plant	9.5 A
12. Oro Agri 079 2 gal/A pre-plant & post-plant x2	9.3 A
13. DP At planting (@ 30.7 fl oz/A) & post-plant x 2 (@15.4 fl oz/A)	4.7 C
14. DP pre-plant (@ 30.7 fl oz/A)and post plant x 2 (@15.4 fl oz/A)	4.4 C
Probability	0.0000
%CV	17.96
LSD p=0.05	1.648
	<i>1= no visable galls</i>
	<i>10=Roots completely galled</i>

# 2014 Shafter Nematode Trial



# Reduced nematode stress resulted in reduced curly top incidence



<b>Treatments</b>	<b>Curly Top * Rating (1-5)</b>	<b>Incidence of * CT/plot</b>
1. Control	4.2 A	7.6 A
3. Nimitz pre- plant @ 3.5 pts/A	2.2 BC	3.2 B
4. Nimitz pre-plant & vydate 2 post plant	1.0 C	1.4 B
13. DP At planting (@ 30.7 fl oz/A) & post-plant x 2 (@15.4 fl oz/A)	2.6 B	3.4 B
14. DP pre-plant (@ 30.7 fl oz/A)and post plant x 2 (@15.4 fl oz/A)	2.0 BC	3.0 B
	Probability	0.0087
	%CV	48.86
	LSD p=0.05	1.572
	1=0% curly top	Number of plants
	2=1 to 25 % curly top	per 30 ft plot
	3=26 to 50%	displaying Curly Top
	4=51 to 75%	symptoms
	5=76 to 100%	

Control

1. control

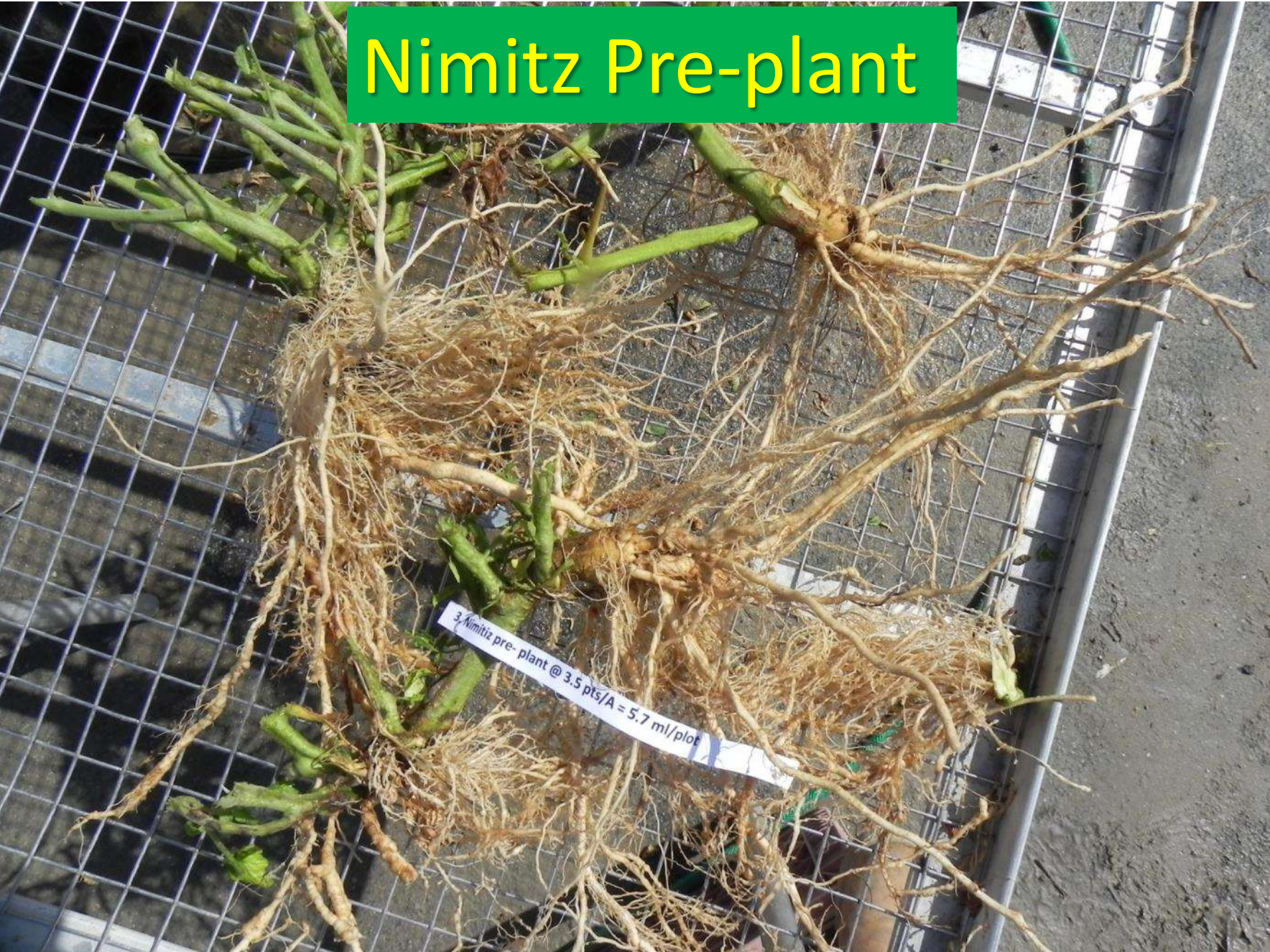


# Vydate Pre-plant

2. Vydate pre-plant @ 3 pt/A = 4.8 fl/plot



# Nimitz Pre-plant



3 Nimitz pre-plant @ 3.5 pts/A = 5.7 ml/plot

# Nimitz pre-plant & 2 Vydate post plant



# DP 1 @ planting & 2 post-plant



# DP 1 @ pre-plant & 2 post-plant



# Pointers

- Both Dp1 and MCW-2 (Nimitz) continued to show excellent performance; superior to Vydate L.
- Dp3 showed good potential in first test at very low rate; requires further optimization.
- Nimitz received federal EPA registration for fruiting vegetables. Only CAUTION label, no reentry interval. CA registration expected within a few months.

Thanks to the **California Tomato  
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