



# THE EFFECT OF HHDG & **REDUCED MAP** ON PROCESSED TOMATO YIELDS

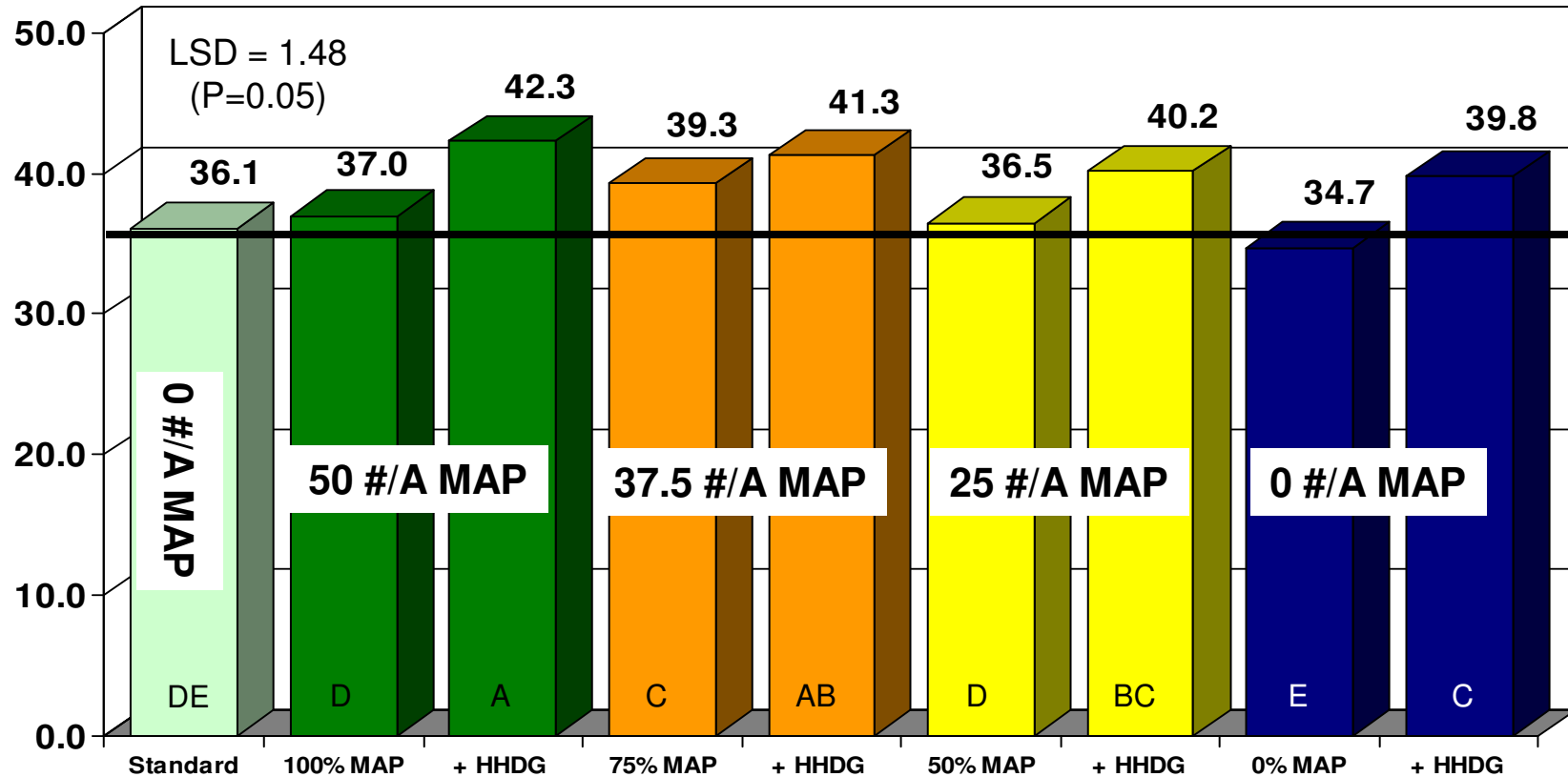
Bill L. Weir, Ph.D.  
University of California

Crivelli Farms  
2008

# REDUCED MAP &



## ON TOMATO YIELDS (tons/A) California – 2008



### Plot Information:

Cooperator: Bill Weir, Ph.D. & Crivelli Farms, Dos Palos, CA  
 Variety: AV2 (Processed Tomatoes)  
 Planted: April 23, 2008      Harvested: August 28, 2008  
 Replications: 4      Plot Design: RCBD  
 Treatments: 3 rows x 60 inch beds x 50 ft in length

### Fertility:

Standard = March pre-plant – 200 lbs of K<sub>2</sub>SO<sub>4</sub> + 40 lbs/A of 10-34-0; April 20 side dress of 30 gal/A of UAN 32; July 18 – water run 10 gal/A CAN 17; ENC was applied as a foliar on May 1, June 1, & July 1.

### Application Information:

MAP & HHDG were b-cast on top of the beds on April 21. Treatments 2-9 received the corresponding % of MAP with 100% MAP = 50#/A. HHDG was applied @ 40#/A.

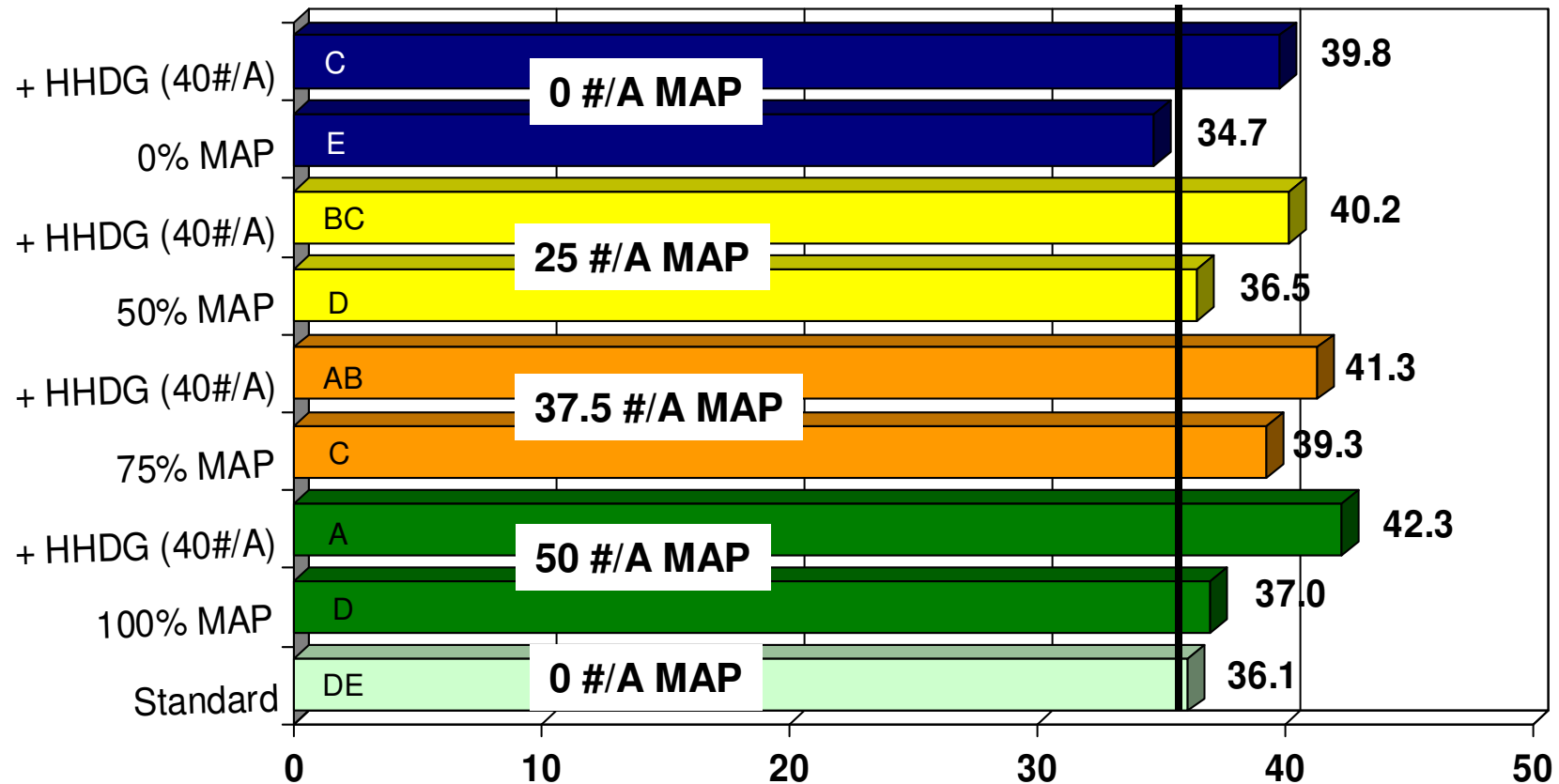


# THE EFFECT OF REDUCED MAP

## ON TOMATO YIELDS (tons/A)

### California – 2008

LSD = 1.48 (P=0.05)



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# SUMMARY

- Dr. Weir said “these data show that fruit yields apparently can be increased by additions of MAP and HM9754A. These positive yield responses occurred even though the soil tested very high in PO<sub>4</sub>-P and the petiole tissue analyses indicated sufficient P in the plants.

# SUMMARY cont.

- There were highly significant differences among treatment means of marketable tomatoes. Treatment #3 consisted of an application of 50 pounds per acre of MAP and 40 pounds per acre of HHDG was significantly higher in yields than the other eight treatments.
- Treatments #4, #9, #5, and #7 were significantly lower than treatment #3. These treatments received either MAP alone or MAP and HM9754A.
- Three treatments that were significantly lower in yields than those mentioned were, #1, #2 and #6. These treatments received only MAP in various amounts.
- Finally the lowest yielding plot was #8, which received no extra P and no HM9754A.

# TREATMENTS:

TRT #	TREATMENTS	RATE	RATE UNIT
1	Grower Standard		
2	100% MAP	50	#/A
3	100% MAP +	50	#/A
+	HM9754A	40.0	#/A
4	75% MAP	37.5	#/A
5	75% MAP +	37.5	#/A
+	HM9754A	40.0	#/A
6	50% MAP	25	#/A
7	50% MAP +	25	#/A
+	HM9754A	40.0	#/A
8	0% MAP	0	#/A
9	0% MAP +	0	#/A
+	HM9754A	40.0	#/A

HHDG & MAP were top dressed in a band just after transplanting

# SOIL ANALYSES:

Results of Complete Soil Analyses on Three Different Dates

	PRE-APP	TRANSPLANT	HARVEST
NUTRIENT:			
OM	2.9	3.3	2.6
PO4 (ppm)	23	62	92
K (ppm)	291	192	178
Mg (ppm)	980	1106	123
Ca (ppm)	4630	5212	4949
Na (ppm)	167	475	466
pH	7.6	7	6.2
CEC	32.6	37.7	42.4
NO3 (ppm)	49	394	415
SO4 (ppm)	57	498	587
EC (mmohs/cm)	1.1	7.2	7.7

SOIL ANALYSES: the soil analyses showed that all nutrients were in the sufficient range.

# TISSUE ANALYSIS:

	BLOOM			2 WEEKS			4 WEEKS		
NUTRIENT:	N	P	K	N	P	K	N	P	K
TREAT:									
1	4339	3440	5.34	12686	4035	4.95	11180	1181	1.85
2	4083	2901	4.79	8715	4446	5.23	13330	1379	2.11
3	2252	3549	4.96	12727	4150	5.28	12212	2576	3.29
4	3813	3309	5.22	6279	4792	5.66	12966	2835	3.06
5	2180	3428	4.84	12002	4882	5.89	11300	1981	2.36
6	1535	4225	5.71	14658	4327	5.55	12280	3966	3.49
7	1539	5870	6.85	17685	5207	5.73	13326	1783	1.63
8	1291	5533	6.49	12965	5691	5.82	12306	1896	1.22
9	4381	3787	5.31	11944	6140	6.48	12860	3445	2.44

# TISSUE ANALYSIS:

- Leaf petiole analyses indicated that PO<sub>4</sub>-P increased in the plants between bloom and two weeks, then decreased dramatically during the next two weeks (see above). There does not seem to be a correlation between MAP applications and petiole level of PO<sub>4</sub>-P. N, P and K remained in the adequately sufficient range throughout the four week period of tissue sampling.