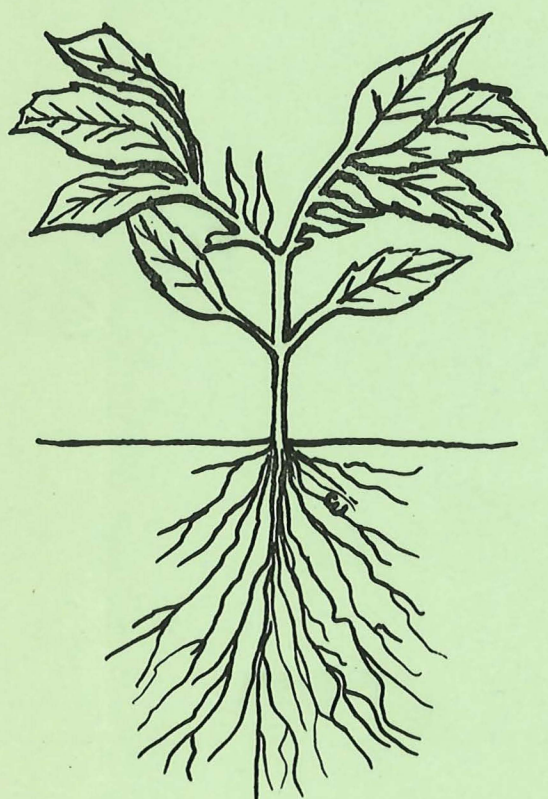


WEED CONTROL IN TOMATOES GROWN FOR PROCESSING

SACRAMENTO COUNTY

JACK P. ORR - FARM ADVISOR



1979 RESEARCH REPORT

COOPERATIVE AGRICULTURAL EXTENSION
UNIVERSITY OF CALIFORNIA

An evaluation of various types of plug mix in relation to various herbicides.
Orr, J.P.

A crop tolerance trial with GS-12 processing tomato was established 5/22/79 in a heavy clay soil. Herbicides; pebulate; pebulate + extender; pebulate + enide + devrinol; metolachlor; ethafluralin & ethofumesate were pre-planted incorporated. GS-12 was mixed in solar soil (decomposed rice hulls); 1/2 solar soil + 1/2 peatmoss + vermicullite; and redi-grow (decomposed redwood bark) and plug planted into various herbicide treatments in comparison to drilled seed. There were large differences in growth between the plug mixes. The 1/2 solar soil + 1/2 peatmoss + vermicullite had the best crop tolerance of the mixes. Redi-grow had the poorest crop tolerance. Norton and Sonolan had severe stand and vigor reductions. Pebulate; pebulate + extender; pebulate + enide and metolachlor had acceptable tomato tolerances.

Treatment	Tons/ac drilled	Tons/ac solar	Tons/ac. Solar + *PV 1/2	Tons/ac redi-grow	Ave. tons/ac
1. Devrinol 4F	28	31	--	21	27.1
2. Devrinol 2E	35	23	33	23	28.8
3. Tillam 6	23	26	25	21	24.1
4. Tillam 10	26	26	33	11	24.5
5. Tillam 12	30	35	36	13	28.8
6. Tillam Ex 6	33	18	23	21	24.1
7. Tillam Ex 7	28	35	--	8	23.8
8. Tillam Ex 12	36	30	25	--	30.5
9. Tillam + Devrinol + Enide	30	31	35	30	31.6
10. Dual 3	28	21	25	16	30.8
11. Dual 6	--	31	31	15	26.6
12. Sonolan 3	30	38	46	20	33.3
13. Sonolan 6	13	15	26	11	16.6
16. Control	30	35	28	--	31.0
Average	28.6	26.6	31.6	18.3	

PV = Plug + Vermicullite 50:50

5% Carbon added to all mixes

Canning Tomato-Plug Mix-Tolerance Study 1979

Cosumnes College

Treatment	a.i. lb/ac	Drilled		Solar Soil		Solar 1/2 + *PV 1/2		Redi-Grow	
		stand reduc.	vigor reduc.	stand reduc.	vigor reduc.	stand reduc.	vigor reduc.	stand reduc.	vigor reduc.
1. Devrinol 4F	2.0	0	0.5	1.5	4.0	0	0	4.5	6.5
2. Devrinol 2E	2.0	0	2.5	0	3.5	0	5.0	4.5	7.0
3. Tillam 6E	6.0	0	4.0	0	3.0	0	0	0	7.0
4. Tillam 6E	10.0	1.5	4.0	0	4.5	0	2.5	3.0	8.0
5. Tillam 6E	12.0	3.5	4.5	2.5	5.5	1.5	1.0	7.5	8.5
6. Tillam + Ex 6E	6.0	0	0	1.0	1.5	0	0.5	0.5	6.0
7. Tillam + Ex 6E	10.0	1.0	1.0	2.5	5.0	0	2.0	1.5	6.5
8. Tillam + Ex 6E	12.0	2.0	7.0	5.5	7.5	0	4.0	10.0	10.0
9. Tillam+Enide+ Devrinol 90W 6+6+2	0	0	2.5	3.5	6.0	0	4.0	4.5	7.5
10. Dual 8E	3.0	1.0	1.0	2.0	4.5	0	0	0	7.0
11. Dual 8E	6.0	0.5	0.5	0	2.0	0	3.5	2.0	5.5
12. Sonolan 3E	3.0	1.5	6.5	2.0	7.5	0	3.5	1.5	8.0
13. Sonolan 3E	6.0	10.0	10.0	2.0	8.0	0	4.0	4.0	8.5
14. Nortron 1.5E	1.5	0	6.0	0	6.5	0	7.0	0	8.0
15. Nortron 1.5E	3.0	5.0	7.5	7.5	0	0	3.0	1.5	8.5
16. Control --	--	0	0	2.5	5.0	0	1.0	5.0	9.0
Average		3.2	3.7	1.5	4.7	0.09	2.6	3.1	7.6

PV = Plug + Vermiculite 50:50

5% carbon added to all mixes.

An evaluation of pebulate at various rates for control of H. nightshade in plug planted and drilled processing tomatoes. Orr, J.P.

A weed trial with Pace Setter 510 processing tomato was established 4/5/79 pre-planted incorporated 2 inches deep in a sandy loam soil and furrow irrigated. The trial was replicated 3 times in plots 2 feet x 25 feet long. The trial was harvested 8/8/79 for yield data and to see if there is a difference between plug and drilled tomatoes regarding earliness. Excellent H. nightshade control was obtained with pebulate at rates from 6.0 to 24.0 lbs/acre with relatively no difference in yield in the plug planted tomatoes. The plug tomatoes had 50% fewer greens than the drilled. Thus, showing the plug planted tomatoes were mature earlier than the drilled.

Treatment	a.i. lbs/ac	Plug		Drilled		%H. night- shade control
		Reds tons/ac	Greens tons/ac	Reds tons/ac	Greens tons/ac	
1. Tillam 6E	6.0	20.8	3.7	17.5	6.6	9.8
2. Tillam 6E	8.0	21.3	3.8	17.0	8.3	9.0
3. Tillam 6E	10.0	19.3	3.0	16.6	5.0	10.0
4. Tillam 6E	12.0	19.0	3.9	17.9	8.9	9.8
5. Tillam 6E	24.0	19.0	4.1	-----	---	10.0
6. Control	-----	21.0	3.7	19.3	13.7	0

Harvested 8/8/79

An evaluation of pebulate at various rates for control of H. nightshade in plug planted and drilled processing tomatoes. Orr, J.P.

A weed trial with Castle 2416-10 processing tomato was established 3/14/79 incorporated 2 inches deep in a sandy loam soil and furrow irrigated. The trial was replicated 3 times in plots 2 rows x 25 feet long. The trial was harvested 8/6/79 for yield data. Fair H. nightshade control was obtained with pebulate at 6 lbs/acre; good control at 8 lbs/acre and excellent control at 10 and 12 lb/acre. Yields ranged from 25 tons/acre with 6 lbs of pebulate to 31.7 tons/acre with 12 lbs/acre pebulate. Drilled tomatoes had significantly less tons/acre at equivalent rates of pebulate.

<u>Treatment</u>	<u>a.i. lbs/ac</u>	<u>8/6/79 Plug tons/ac</u>	<u>8/6/79 Drilled tons/ac</u>	<u>% H. nightshade control</u>
1. Tillam 6E + Devrinol 2E	6+2	25.2	26.0	72
2. Tillam 6E + Devrinol 2E	8+2	27.1	24.1	85
3. Tillam 6E + Devrinol 2E	10+2	27.7	20.5	92
4. Tillam 6E + Devrinol 2E	12+2	31.7	20.7	96
5. Eptam 6.7E	6.0	---	---	75
6. Control	---	23.0	24.5	0

An evaluation of pebulate, pebulate + extender and eptc for control of H. nightshade in plug planted processing tomatoes. Orr, J.P.

A weed trial with Petro 86 processing tomato was established 4/20/79 pre-planted incorporated 2 inches deep in a sandy loam soil and furrow irrigated. The trial was replicated 4 times in plots 2 feet x 25 feet long. The trial was harvested 8/29/79 for yield data. Pebulate at the 6 lb/acre rate gave fair to poor H. nightshade control. Rates of 8 to 12 lbs/acre gave good control with good tomato tolerance in the plug planted tomatoes. Pebulate + extender gave poor H. nightshade control with slight injury. The 8.0 lbs/acre rate gave good H. nightshade control with slight injury. Pebulate + extender was slightly more injurious than without the extender. Eptc gave poor H. nightshade control and the plug planted tomatoes had poor tolerance. Yield data shows slightly lower yields with the pebulate + extender compared to pebulate alone. The higher rates of pebulate showed yield reductions compared to the lower rates.

Treatment	a.i. lbs/ac	Plug planted tons/ac	At Harvest		% H. nightshade control
			Stand reduction	Vigor reduction	
1. Tillam 6E	6.0	37.2	1.0	.5	6.2
2. Tillam 6E	8.0	36.3	1.5	1.5	8.5
3. Tillam 6E	10.0	36.6	1.0	1.5	8.2
4. Tillam 6E	12.0	29.8	3.5	3.5	9.2
5. Tillam 6E	24.0	26.9	.5	1.0	10.0
6. Tillam + Extender	4.0	36.9	5.0	5.0	6.0
7. Tillam + Extender	6.0	35.5	1.0	1.0	6.2
8. Tillam + Extender	8.0	34.9	2.5	3.0	8.2
9. Devrinol 4F	2.0	32.4	1.5	1.5	0
10. Devrinol 2E	2.0	33.3	5.5	5.5	0
11. Eptam 7E	6.0	30.2	6.5	6.5	5.0
12. Control	----	33.3	2.5	2.5	0

0 = 0%

10 = 100%