2005 Blight Plot Tehama County Rainfall Simulation – Chandler Variety

- Pretest bud samples indicated high pathogen population.
- Smaller trees for better spray coverage
- Improved rainfall uniformity
- Chandler a more important cultivar
- PBB 4/5, FB 4/18 Sprays 4/5, 4/15, 4/21, 4/29, 5/12 and 5/23

Date	Estimated Amount		Condition
3/18	0.07”		Nat.[1]
3/19	0.58”		Nat.
3/20	0.11”		Nat.
3/21	0.46”		Nat.
3/22	0.22”		Nat.
3/23	0.41		Nat.
3/27	0.12”		Nat.
3/28	0.01”		Nat.
4/3	0.17”		Nat.
4/7	0.24”	+10 hrs (0.40”)	Nat. & Sim.[2]
4/8	0.32”		Nat.
4/13	0.04”		Nat.
4/16	10 hrs (0.40”)		Simulated
4/22	0.08”	+10 hrs (0.40”)	Nat. & Sim.
4/23	0.24”		Nat.
4/24	0.41”		Nat.
4/30	0.01”	+10 hrs (0.36”)	Nat. & Sim.
5/3	0.02”		Nat.
5/4	0.54”		Nat.
5/5	0.47”		Nat.
5/8	0.93”		Nat.
5/9	0.04		Nat.
5/13	10 hrs (0.46”)		Sim.
5/15	0.01”		Nat.
5/16	0.03”		Nat.
5/17	0.08”		Nat.
5/18	0.57”		Nat.
5/24	10 hrs (0.44”)		Sim.

[1]Natural rain — 25 events for 6.18 inches. Measured off site using the local CIMIS station.
[2]Simulated rain — 6 events, 10 hours per simulated rainfall, 2.46 inches. Average applied water was calculated using flow meters on individual risers.

Data to Support the Efficacy of Famoxate Liquid and GX569 (USA-05-631)

Treatment	Rate
1. JE874-425 (famoxadone)	39 fl. oz./Ac.
2. JE874-426 (famoxadone)	6 fl. oz./Ac.
3. JE874-425 + Kocide 2000	39 fl. oz.+6 lbs./Ac.
4. JE874-426 + Kocide 2000	6 fl. oz.+6 lbs./Ac.
5. Kocide 2000	6 lbs./Ac. (2.1 lbs. ai-cu)
6. GX569 (copper) + Manex	3.5 lbs.+58 oz./Ac. (1.05 lbs. ai-cu)
7. Kocide 2000 + Manex	3.0 lbs. + 58 oz./Ac. (1.05 lbs. ai-cu)
8. Kocide 2000 + Manex	4.0 lbs. + 58 oz./Ac. (1.40 lbs. ai cu)
9. Kocide 2000 + Manex	6 lbs. + 58 oz./Ac. (2.1 lbs. ai-cu)
10. Control (simulated rainfall)	—
11. Control (natural rainfall)	—

Data to Support the Efficacy of Famoxate Liquid and GX569 (USA-05-631)

Treatment	% Blight	Phytotoxicity
1. JE874-425	68.54 [1]a	0
11. Control (natural rainfall)	65.76 [2]	0
2. JE874-426	62.68 ab	0
10. Control (simulated rainfall)	58.16 ab	0
3. JE874-425 + Kocide 2000	49.29 bc	0
5. Kocide 2000	38.60 c	0
7. Kocide 2000 (3.0 lbs.) + Manex	36.73 c	0
4. JE874-426 + Kocide 2000	34.59 c	0
6. GX569 + Manex	34.48 c	0
9. Kocide 2000 (6 lbs.) + Manex	15.62 d	0
8. Kocide 2000 (4.0 lbs.) + Manex	15.60 d	0

[1]Duncan's multiple range test for treatment means at the 5% level.

[2]Control (natural rainfall) trees were not part of the RCB design and were not included in the statistical analysis.

Data to Support the Efficacy of Nordox 75WG and Nordox 30/30

Treatment	Rate
1. Control (natural rainfall)	—
2. Control (simulated rainfall)	—
3. Kocide 2000	6 lbs./Ac. (2.1 lbs. ai-cu)
4. Nordox 75WG + Manex	2.8 lbs. + 58 oz./Ac. (2.1 lbs ai-cu)
5. Nordox 30/30 (copper/zinc)	7 lbs./Ac. (2.1 lbs ai-cu)
6. Kocide 2000 + Manex	6 lbs. + 58 oz./Ac. (2.1 lbs. ai-cu)

Data to Support the Efficacy of Nordox 75WG and Nordox 30/30

Treatment	% Blight	Phytotoxicity
1. Control (natural rainfall)	65.76 [1]	0
2. Control (simulated rainfall)	58.16 a[2]	0
3. Kocide 2000	38.60 b	0
4. Nordox 75WG + Manex	32.85 bc	0
5. Nordox 30/30	28.09 bc	0
6. Kocide 2000 + Manex	15.62 c	0

[1]Control (natural rainfall) trees were not part of the RCB design and were not included in the statistical analysis.

[2]Duncan's multiple range test for treatment means at the 5% level.

Kocide 2000 Rate Evaluation — 2004

Treatment	% Blight[1]
5. Untreated (simulated rainfall)[2]	30.39 a[3]
1. Kocide 2000 (6 lbs.)	21.55 ab
3. Kocide 2000 (4 lbs.) + Manex	15.76 b
4. Kocide 2000 (2 lbs.) + Manex	13.68 b
1. Kocide 2000 (6 lbs.) + Manex	12.77 b
6. Untreated (natural rainfall)[4]	12.03

[1]Canopy counts for blighted walnuts 6/8/04.

[2]Untreated under simulated rain using over tree sprinklers.

[3]Duncan's multiple range test for treatment means at the 5% level.

[4]Untreated under natural conditions (random trees outside sprinkler plot).

Reduced Rates of Kocide 2000 for Walnut Blight Control — 2005

Treatment	% Blight	Phytotoxicity
8. Control (natural rainfall)	65.76	0
6. Kocide 2000 (1 lb.) + Manex (32 oz.)	58.32 a	0
7. Control (simulated rainfall)	58.16 a[1]	0
5. Kocide 2000 (6 lbs.)	38.60 b	0
3. Kocide 2000 (3 lbs.) + Manex	36.73 b	0
4. Kocide 2000 (2 lbs.) + Manex	33.82 b	0
1. Kocide 2000 (6 lbs.) + Manex	15.62 c	0
2. Kocide 2000 (4 lbs.) + Manex	15.60 c	0

[1]Duncan's multiple range test for treatment means at the 5% level.

Tehama Variety Plot for Blight Resistance

Blight counts and nut drop for unsprayed trees in the Tehama blight variety trial planted in 1996

Variety	% Blight[1] Canopy	Blighted Nut Drop[2]
Tulare	2.32 e[4]	90.4 b
76-80	2.43 e	28.2 d
Chenovo[3]	3.38 –	27.6 d
Hartley	4.44 de	23.0 d
Adams 10	5.40 de	57.8 bcd
Chandler	5.95 de	20.8 d
Franquette	6.62 de	27.4 d
90028-30	7.60 de	61.0 bcd
Chase D-9	15.07 de	56.6 bcd
PI 18256[3]	22.62 –	52.8 bcd
Serr	20.09 d	73.0 bc
PI 159568[3]	22.62 –	31.2 cd
91028-1	46.73 c	50.8 bcd
Payne	62.76 b	55.0 bcd
Sinesis 5	96.23 a	205.4 a

[1]Canopy counts 6/7/05.
[2]Nut drop counted 5/25/05.
[3]Not enough crop to get reliable counts for statistical analysis.
[4]Duncan's multiple range test for treatment means at the 5% level.

2006 Objectives

- Cooperating with Lindow, tag individual buds and evaluate spray efficacy based upon bud development.
- Characterize bud break and growth for first spray decisions.
- Support data for Manex Sectin 18 and new materials.
- Continue evaluating genetic resistance to walnut blight.