

FUNGICIDE EFFICACY TRIALS ON ALMOND, PISTACHIO, AND APPLE

2002

by
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2002 Brown Rot Fungicide Trial
Crop: Almond (Neplus)
Disease: Brown Rot (*Monilinia laxa*)

Date rated: 5/10/02
Objective: Efficacy
Location: Madera, S&J Ranch

Color	20 % Bloom 2/15/02	Full Bloom 2/22/02	Petal Fall 3/7/02	2-5 Week PF Not Sprayed	Strikes/Tree
1. O	ROV + OIL	ROV + OIL	ROV + OIL	ROV + OIL	0.8b
2. G ^{dot}		ROV + OIL	ROV + OIL	ROV + OIL	3.2b
3. Bl	ROV+OIL+BM8	ROV+OIL+BM8	ROV+OIL+BM8	ROV+OIL+BM8	1.0b
4. Y	BM8	BM8	BM8	BM8	7.2b
5. Bl st	VAN	ABD 3	BRA	ABD 2	1.6b
6. YBk st	VAN	VAN	ABD 2	ABD 2	0.8b
7. O st	VAN+ABD 1	VAN+ABD1	ORB	ORB	1.2b
8. YBk ^{dot}	PRI 1	PRI 1	PRI 1	PRI 1	1.2b
9. Lime	PRI 2	PRI 2	PRI 2	PRI 2	0.4b
10. RBk ^{dot}	ELI 6+IND	ELI 6+IND	ELI 6+IND	ELI 6+IND	0.4b
11. RY st	ELI 1+FLT 1	ELI 1+FLT 1	ELI 1+FLT 1	ELI 1+FLT 1	2.0b
12. OBk st	ELI 2+FLT 2	ELI 2+FLT 2	ELI 2+FLT 2	ELI 2+FLT 2	3.6b
13. Y+Bl	ELI 3+FLT 3	ELI 3+FLT 3	ELI 3+FLT 3	ELI 3+FLT 3	1.4b
14. R+Bl	ELI 5+IND	ELI 5+IND	FLT 3	FLT 3	2.0b
15. RBk st	ELV+ELI 4	ELV+ELI 4	ELV+ELI 4	ELV+ELI 4	0.8b
16. PBk st	LAR 1	LAR 2	LAR 2	LAR 2	2.8b
17. G st	LAR 1	LAR 1	LAR 1	LAR 1	1.4b
18. G	LAR 1+ZIR 2	LAR 1+ZIR 2	LAR 1+ZIR 2	LAR 1+ZIR 2	0.8b
19. R	TOP+OIL	TOP+ZIR 2	ZIR 1	ZIR 2	2.0b
20. P st	BOT+TOP	BOT+TOP	BOT+TOP	BOT+TOP	4.6b
21. W	Control 1	Control 1	Control 1	Control 1	15.6ab
	Control 2	Control 2	Control 2	Control 2	33.2a

Code	Material	Rate / acre
ABD 1	About 2EC	11.0 fl oz
ABD 2	About 2EC	12.8 fl oz
ABD 3	About 2EC	15.4 fl oz
BRA	Bravo Weatherstik	4.0 pt
BM8	BM86	2.0 qt
BOT	Botran 5F	25.02 oz
ELV	Elevate	1.0 lb
ELI 1	Elite 45 DF	2.32 oz
ELI 2	Elite 45 DF	2.89 oz
ELI 3	Elite 45DF	3.46 oz
ELI 4	Elite 45DF	4.0 oz
ELI 5	Elite 45 DF	6.0 oz
ELI 6	Elite 45 DF	8.0 oz
FLT 1	Flint 50 WG	2.08 oz
FLT 2	Flint 50 WG	2.6 oz
FLT 3	Flint 50 WG	3.0 oz
FLT 4	Flint 50 WG	3.11oz
IND	Induce	0.06%
LAR 1	Laredo 2EC	10.0 oz
LAR 2	Laredo 2EC	12.8 oz
OIL	Volck Supreme Oil	1.0 %
ORB	Orbit	4.0 oz
PRI 1	Pristine	0.658 lb
PRI 2	Pristine	0.92 lb
ROV 1	Rovral 4F	16 fl oz
TOP	Topsin M	1.0 lb
VAN	Vangard 75 WG	5.0 oz
ZIR 1	Ziram 76DF	6.0 lb
ZIR 2	Ziram 76DF	8.0 lb

Application:	Hand-gun, 90 spray nozzle
Psi:	200
Gal/tree:	4.0
Spray Dates:	2/15/02, 2/22/02, 3/7/02
Tree/acre:	76
Age:	28
Design:	RCB Randomized Complete Block
Replication	5

Rainfall and average daily high temp (F) CIMIS Station #80, Fresno State			
	Inches	Days	T-max
0-20% Bloom	0.27	4	67
20%-Full Blm	0.00	0	78
FB-Petal fall	0.44	2	74
PF- 5 Wk PF	0.75	3	85
20% Bloom = 2/18/02 , Full Bloom = 2/22/02			
Petal Fall = 3/7/02, 5 Week Past PF = 4/11/02			
Treatment Dates = 2/15/02, 2/22/02, 3/7/02			

2002 Almond Scab Fungicide Trial

Crop: Almond (Neplus)

Disease: Almond Scab (*Fusicladium carpophilum*) Location: Madera, S&J Ranch

Date rated: (No disease present)

Objective: Efficacy

Color	20% Bloom (not applied)	Full Bloom 3/1/02	Petal Fall 3/11/02	2-5 Week Past Petal Fall (not applied)
1. O	ROV + OIL	ROV + OIL	ROV + OIL	ROV + OIL
2. G ^{dot}	ROV+OIL+BM8	ROV+OIL+BM8	ROV+OIL+BM8	ROV+OIL+BM8
3. Bl	ABD 3	ABD 3	ABD 3	ABD 3
4. Y	VAN	VAN	VAN	VAN
5. Bl st	BRA	BRA	BRA	ABD3
6. YBk st	ABD 1 + ORB	ABD + ORB	ABD 3	ABD 3
7. O st	VAN	VAN	ABD 3	ABD 3
8. YBk ^{dot}	VAN + ABD 2	VAN + ABD 2	ORB	ORB
9. Y st	VAN	BRA	ABD 3	ABD 3
10. RBk ^{dot}	VAN	VAN	BRA	ABD 3
11. RY st	VAN	ORB	BRA	ABD 3
12. OBk st	PRI 1	PRI 1	PRI 1	PRI 1
13. Y+Bl	PRI 2	PRI 2	PRI 2	PRI 2
14. R+Bl	FLT 1	FLT 1	FLT 1	FLT 1
15. RBk st	FLT 4	FLT 4	FLT 4	FLT 4
16. PBk st	ELI 1 + FLT 2	ELI 1 + FLT 2	ELI 1 + FLT 2	ELI 1 + FLT 2
17. G st	ELI 2 + FLT 3	ELI 2 + FLT 3	ELI 2 + FLT 3	ELI 2 + FLT 3
18. G	ELI 3 + FLT 5	ELI 3 + FLT 5	ELI 3 + FLT 5	ELI 3 + FLT 5
19. R	ELI 4 + IND	ELI 4 + IND	ELI 4 + IND	ELI 4 + IND
20. O st + P st	TOP + OIL	TOP + ZIR	ZIR	ZIR
21. P st	LAR 1	LAR 2	LAR 2	LAR 2
22. O ^{dot}	LAR 1	LAR 1	LAR 1	LAR 1
23. Bl ^{dot}	LAR 1 + ZIR	LAR 1 + ZIR	LAR 1 + ZIR	LAR 1 + ZIR
24. R + Y	BOT + ZIR	BOT + ZIR	BOT + ZIR	BOT + ZIR
25. W	CONTROL 1	CONTROL 1	CONTROL 1	CONTROL 1
26. P st + W	CONTROL 2	CONTROL 2	CONTROL 2	CONTROL 2

Code	Material	Rate / acre
ABD 1	About 2EC	4.1 fl oz
ABD 2	About 2EC	11.0 fl oz
ABD 3	About 2EC	12.8 fl oz
BRA	Bravo Weatherstik	4.0 pt
BM8	BM86	2.0 qt
BOT	Botran 5F	25.02 oz
ELI 1	Elite 45 DF	2.32 oz
ELI 2	Elite 45 DF	2.89 oz
ELI 3	Elite 45 DF	3.46 oz
ELI 4	Elite 45 DF	6.0 oz
FLT 1	Flint 50 WG	2.0 oz
FLT 2	Flint 50 WG	2.08 oz
FLT 3	Flint 50 WG	2.6 oz
FLT 4	Flint 50 WG	3.0 oz
FLT 5	Flint 50 WG	3.11oz
IND	Induce	0.06%
LAR 1	Laredo 2EC	10.0 oz
LAR 2	Laredo 2EC	12.8 oz
OIL	Volck Supreme Oil	1.0 %
ORB	Orbit	4.0 oz
PRI 1	Pristine	0.658 lb
PRI 2	Pristine	0.92 lb
ROV 1	Rovral 4F	16 fl oz
TOP	Topsin M	1.0 lb
VAN	Vanøard 75 WG	5.0 oz

Application:	Hand-gun, 90 spray nozzle
Psi:	200
Gal/tree:	4.0
Spray Dates:	3/1/02, 3/11/02
Tree/acre:	82
Age:	21
Design:	RCB Randomized Complete Block
Replication	5

Rainfall and average daily high temp (F) CIMIS Station #80, Fresno State			
	Inches	Days	T-max
0-20% Bloom	0.00	0	78
20%-Full Blm	0.00	0	74
FB-Petal fall	0.44	2	71
PF- 5 Wk PF	0.75	3	87
20% Bloom = 2/22/02 , Full Bloom = 3/1/02			
Petal Fall = 3/11/02, 5 Week Past PF = 4/15/02			
Treatment Dates = 3/1/02, 3/11/02			

2002 Apple Fungicide Trial

Date Rated: 5/20/02

Crop: Apple (Pink Lady)

Objective: Efficacy

Disease: Fire Blight (*Erwinia amylovora*) Location: Chowchilla, Mike Hedberg

Color	1 st spray 3/27/02	2 nd spray 4/3/02	3 rd spray 4/10/02	4 th spray 4/17/02	5 th spray 4/23/02	strikes/tree
Blue	506	506	506	506	506	8.0a
Blue st	506 + SER 2	506 + SER 2	506 + SER 2	506 + SER 2	506 + SER 2	6.6a
Yellow	SER 1	SER 1	SER 1	SER 1	SER 1	6.6a
Yellow st	SER 2	SER 2	SER 2	SER 2	SER 2	7.6a
YBk ^d	SER 2	STR	SER 2	STR	SER 2	1.4a
YBk st	506 + SER 2	APO + ALI	506 + SER 2	APO + ALI	506 + SER 2	5.2a
O	APO + ALI	APO + ALI	APO + ALI	APO + ALI	APO + ALI	8.2a
Bk st	STR	STR	STR	STR	STR	2.2a
Lime		STR (MAR)	STR (MAR)	STR (MAR)	STR (MAR)	4.6a
G st	MYO	MYO	MYO	MYO	MYO	5.6a
GBk st	STA 1	STA 1	STA 1	STA 1	STA 1	3.2a
PBk ^d	STA 2	STA 2	STA 2	STA 2	STA 2	2.8a
RBk ^d	VAC 1	VAC 1	VAC 1	VAC 1	VAC 1	7.2a
R st	VAC 2	VAC 2	VAC 2	VAC 2	VAC 2	7.6a
RY st	VAC 3	VAC 3	VAC 3	VAC 3	VAC 3	10.2a
OBk st	AUX	AUX	AUX	AUX	AUX	7.0a
RBk st	GWM 1	GWM 1	GWM 1	GWM 1	GWM 1	6.0a
PBk st	GWM 2	GWM 2	GWM 2	GWM 2	GWM 2	7.8a
Bl ^d	CUP	CUP	CUP	CUP	CUP	4.0a
White	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	8.4a

Code	Material	Rate/Acre
506	A506	150 ppm
ALI	Aliette	3 lb
APO	Apogee	6 oz
AUX	AuxiGro	8.0 oz
BRU	Breakthru	0.05%
CUP	Cuprofix	4.0 lb
GWM 1	GWM-9200	250 ppm
GWM 2	GWM 9200	500 ppm
MAR	Maryblight	
MYO	Mycoshield	1 lb/100G
SER 1	Serenade	4 lb
SER 2	Serenade	6 lb
STA 1	Starner	0.33 lb a.i.
STA 2	Starner	0.5 lb a.i.
STR	Streptomycin	1 lb/100G
VAC 1	Vacciplant	7.23 oz
VAC 2	Vacciplant	14.4 oz
VAC 3	Vacciplant	21.7 oz

Application:	Eco-Backpack Sprayer
Gal/tree:	0.6
Dates:	3/27/02, 4/3/02, 4/10/02, 4/17/02, and 4/23/02
Trees/acre:	302
Age:	11
Design: RCB	Randomized complete block

Rainfall and average daily high temp (F) CIMIS Station# 145 Madera A			
	Inches	Days	T-Max
3/22-3/27	0.67	3	65
3/28-4/3	0.00	0	78
4/4-4/10	0.00	0	71
4/11-4/17	0.13	1	73
4/18-4/23	0.00	0	75

2002 A-506 Trial**Date Rated: 5/20/02****Crop: Apple (Pink Lady)****Objective: Efficacy****Disease: Fire Blight (*Erwinia amylovora*) Location: Chowchilla, Mike Hedberg**

Color	3/20/02	3/28/02	4/3/02	4/10/02	4/16/02	Strikes/Rep
	1% Bloom					
Yellow	506					81a
Lime	506+BRK 1					119a
Red	506	506	506	506	506	119a
Orange	506+BRK 2					215a
Pink st	506+SEQ	506+SEQ	506+SEQ	506+SEQ	506+SEQ	218a
White	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	124a

Code	Material	Rate / acre
BRK 1	Breakthru	0.2%
BRK 2	Breakthru	0.5%
506	A506	5.3 oz
SEQ	Sequestrene 138	1 lb
CON	Control	

Application:	Hand-gun, 90 spray nozzle
Psi:	200
Gal/Acre	100
Stage/Dates:	10% bloom through end of bloom 3/20, 3/28, 4/3, 4/10, 4/16
Tree/acre:	302
Age:	11
Design: RCB	Randomized complete block
Replication/ Trees per rep	6, 44

Rainfall and average daily high temp (F) CIMIS Station# 145 Madera A			
	Inches	Days	T-Max
3/22-3/27	0.67	3	65
3/28-4/3	0.00	0	78
4/4-4/10	0.00	0	71
4/11-4/17	0.13	1	73
4/18-4/23	0.00	0	75

2002 Pistachio Fungicide Trial
Crop: Pistachio (Kerman)
Disease: Botryosphaeria dothida

Date Rated: 10/9/02
Objective: Efficacy
Location: Madera, Agri-World.

Bloom				% Leaves	Botryosphaeria
4/12/02	5/23/02	7/11/02	8/8/02	with Alternaria	Strikes/Tree
ROV + IND	ROV + IND	ROV + IND	ROV + IND	35.4a	0.2a
ROV + OIL	ROV + OIL	ROV + OIL	ROV + OIL	91.8a	1.0a
SCA	SCA	SCA	SCA	64.4a	1.0a
PRI 1	PRI 1	PRI 1	PRI 1	90.8a	0.0a
PRI 2	PRI 2	PRI 2	PRI 2	49.0a	0.0a
CAB	CAB	CAB	CAB	47.0a	0.2a
BEN	ABD 2 + IND	ABD 2 + IND	ABD 2 + IND	70.8a	0.0a
TOP 2	ABD 2 + IND	CUP	ABD 2 + IND	34.8a	0.0a
TOP 1 + OIL	ABD 1 + IND	CUP	ABD 1 + IND	73.0a	0.6a
TOP 2	ABD 2 + IND	TOP 1	ABD 2 + IND	57.0a	0.4a
CUP	CUP	CUP	CUP	70.2a	0.0a
ELI + FLT	ELI + FLT	ELI + FLT	ELI + FLT	62.2a	0.0a
LLS	LLS	LLS	LLS	71.2a	0.4a
MIC	MIC	MIC	MIC	60.4a	0.2a
GBS	GBS	GBS	GBS	46.0a	1.0a
THY	THY	THY	THY	77.0a	9.0a
NONE	ABD 1	BRA	ABD 1	78.0a	1.0a
NONE	ABD 1	ORB	ABD 1	59.8a	0.8a
Control 1	Control 1	Control 1	Control 1	77.0a	0.6a
Control 2	Control 2	Control 2	Control 2	75.3a	0.0a
Control 3	Control 3	Control 3	Control 3	88.6a	1.0a

Code	Material	Rate/Acre	Application:	Hand-gun, 90 spray nozzle
ABD 1	Abound 2 EC	12.8 fl oz	Psi:	200
ABD 2	Abound 2 EC	15.4 fl oz	Gal/tree:	4.0
BRA	Bravo Weatherstik	6 pt	Dates:	4/12/02, 5/23/02, 7/11/02, 8/8/02
BEN	Benlate SP	1 lb	Tree/acre:	130
CAB	Cabrio	1 lb	Age:	31
CUP	Cuprofix Disperss	12 lb	Design: RCB	Randomized complete block
ELI	Elite 45 DF	2.32 oz	Replications:	5
FLT	Flint 50 WG	2.08 oz		
GBS	GBS	0.4 G/Tree		
IND	Induce	1 pt		
LLS	Liquid Lime Sulfur	5 G		
MIC	Microthiol 80 DF	20 lb		
ORB	Orbit	4 oz		
PRI 1	Pristine	0.658 lb		
PRI 2	Pristine	0.92 lb		
ROV	Rovral 4F	1.5 pt		
SCA	Scala	27.4 oz		
THY	Thyme Oil	0.25 oz/1 G		
TOP 1	Topsin M 70 W	1.5 lb		
TOP 2	Topsin M 70 W	2.0 lb		
OIL	Volck Supreme Oil	1 %		

Rainfall and average daily high temp (F) CIMIS Station# 145 Madera A			
	Inches	Days	T-Max
April			
1-15	0.00	0	75
16-30	0.16	2	70
May			
1-15	0.00	0	79
16-31	0.54	2	82
June			
1-15	0.02	1	88
16-30	0.00	0	90
July			
1-15	0.04	1	96
16-31	0.00	0	92
August			
1-15	0.00	0	92
16-31	0.00	0	89
September			
1-15	0.05	1	90
16-30	0.00	0	87

2002 Botran Hull Rot Trial**Date rated: (8/26/02)****Crop: Almond (Nonpareil)****Objective: Efficacy****Disease: Hull Rot (*Rhizopus stolonifer*)****Location: Madera, Ken Groefsema**

Color	<1% hull split 7/17/02	1% hull split 7/24/02	40% hull split 7/31/02	Strikes/Tree	% infested nuts
Yellow	Botran 5F 3qt/ac	Botran 5F 3qt/ac	Botran 5F 3qt/ac	28.5a	36.3a
Blue	Botran 5F 3qt/ac	Botran 5F 3qt/ac		46.1b	58.8b
White	Control	Control	Control	56.3b	90.0c

Application:	Hand-gun, 90 spray nozzle
Psi:	200
Gal/tree:	4.0
Dates:	7/17/02, 7/24/02, 7/31/02
Tree/acre:	115
Age:	7
Design: RCB	Randomized complete block
Replications:	8

Rainfall and average daily high temp (F) CIMIS Station# 145 Madera A			
	Inches	Days	T-Max
July/August			
7/17-7/23	0.00	0	92
7/24-7/30	0.00	0	91
7/31-8/6	0.00	0	88