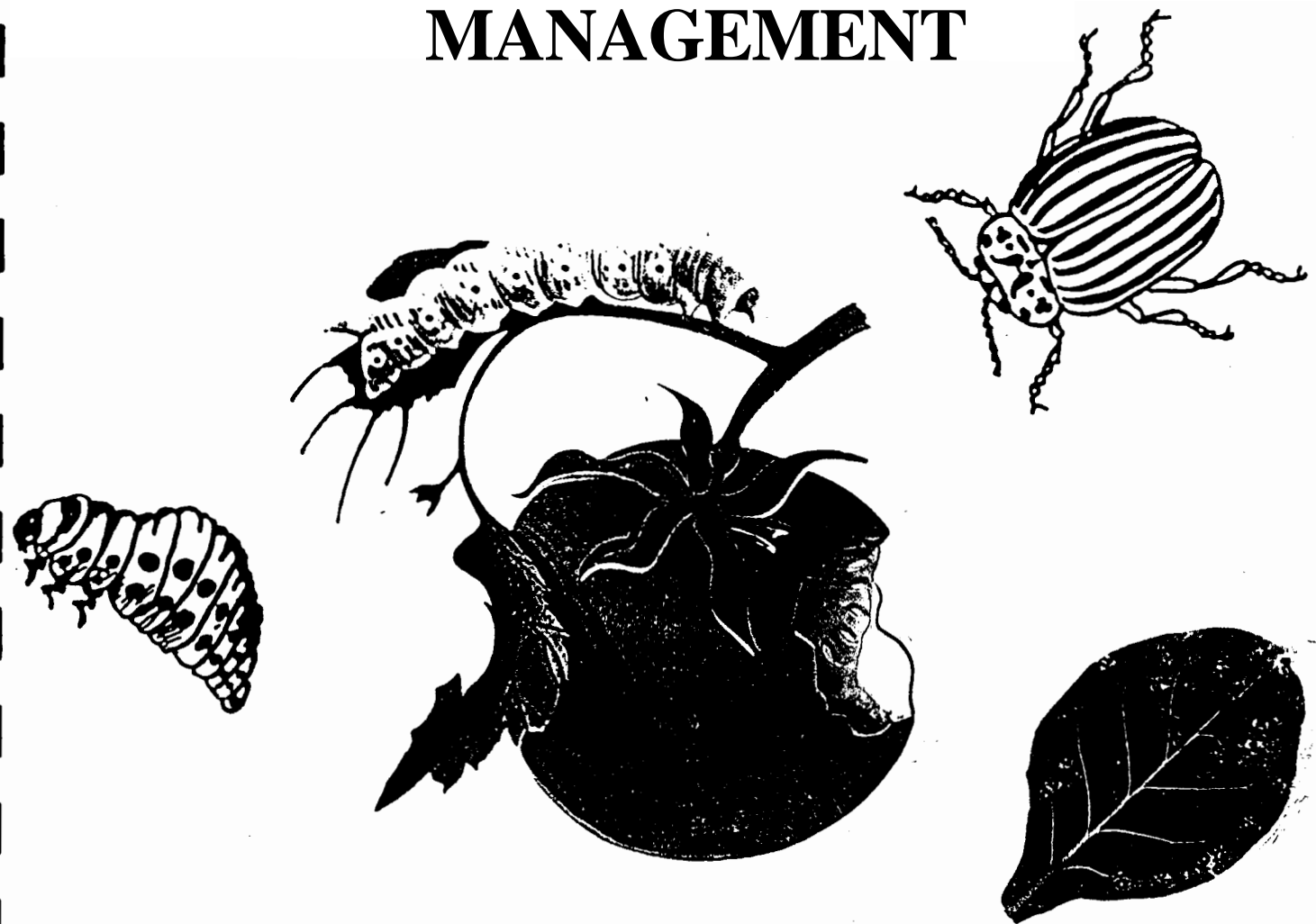


LeBeuf

1999
**INSECT AND DISEASE
MANAGEMENT**



**RIDGETOWN COLLEGE
UNIVERSITY OF GUELPH
Ridgetown, Ontario
R. E. Pitblado**

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We appreciate the cooperation and assistance provided by the chemical companies and their representatives: their ideas, the chemical samples they have provided for the research work carried out at Ridgetown College, as the monetary assistance so **kindly** provided by a number of the chemical companies, and grower organizations.

We also appreciate the cooperation of our **farmer** cooperators who have provided land and assisted in **working** the land, applying fertilizer and planting the crop.

We ~~trust~~ that the information provided by this research will **further** the science of insect and plant disease **control**, assist the companies in registration, labeling and proper extension to the grower, and assist the field crop and vegetable committees in making recommendations.

RE. Pitblado

RANGE SUMMARY - 1999

Range A5

G	6R	6R	5R	G	22R	6R	10R	G
	TOM1	TOM2	TOM3		TOM4	TOM5	TOM6	

Range A6

10R	14R	14R	6R	13R
TOM7	TOM8	TOM9	TOM10	TOM11

Range A7

GGGG	10R	14R	26R	12R	20R	G
	PEP1	PEP2	PEP3	PEP4	PEP5	

Range A8

Chieftan															
6R	2R	1R	1R	2R	1R	1R	10R	6R	27R	4R	G	10R	GG	20R	GG
Sweet	A	B	C	D	E	F	POT1	POT2	POT3	POT4		POT5		POT6	

Potatoes

- A - Ranger Russet D - Snowden
- B - Russet Burbank E - Russet Norkotah
- C - Gold Rush F - Yukon Gold

Range J1

GGGG	32R	GGGG	3R	12R	4R
	SC1		Sweet	CAB1	PEP6
			Potatoes		

Range J2

22R	24R	38R	12R	24R	18R
SB1	SB2	SB3	SB4	SB5	SB6

CABBAGE INSECT TRIAL

Trial 1: CONTROL OF CABBAGE PESTS USING RH-5992 240 F

Location: Range **A7**
Crop: High Nova
Pest: Imported Cabbage Worm, Cabbage Looper
Plot Design: Randomized complete block, 2 row plots, **1m x 8m** row spacing,
4 replications
Transplanted: June 30
Assessments: **Foliar** Insect Control

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 206 303 405
2	RH-5992 240F	0.3 L/HA	102 204 306 401
3	RH-5992 240F + 3 Companion	0.3 L/HA 0.1 % V N	103 205 302 406
4	RH-5992 240F	0.6 L/HA	104 202 305 403
5	RE-5992 240F + 5 Companion	0.6 L/HA 0.1 % V N	105 201 304 402
6	Cymbush 250EC	0.14 L/HA	106 203 301 404

PEPPER INSECT TRIAL

Trial 1: INSECT CONTROL IN FIELD PEPPERS

Location: Range A7
Pest: European Corn Borer
Plot Design: Randomized complete block, 2 row plots, 1m x 7m row spacing,
4 replications
Transplanted: June 8
Assessments: Insect Control

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 203 305 402
2	EXP 61486A 70WP	40 G/HA	102 204 301 405
3	EXP 61486A 70WP	80 G/HA	103 205 302 401
4	EXP 61486A 70WP	121.4 G/HA	104 201 303 404
5	Admire 240 F	200 ML/HA	105 202 304 403

PEPPER INSECT TRIAL

**Trial 2: EVALUATION OF RH-5992 240F FOR THE CONTROL OF ECB
IN FIELD PEPPERS**

Location: Range A7
Pest: European Corn Borer
Plot Design: Randomized complete block, 2 row plots, 1m x 7m row spacing,
4 replications
Transplanted: June 8
Assessments: Insect Control

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 205 303 406
2	RH-5992 240F	0.3 L/HA	102 204 306 403
3	RH-5992 240F + 3 Companion	0.3 L/HA 0.1 % V/V	103 206 301 402
4	RH-5992 240F	0.6 L/HA	104 207 302 405
5	RH-5992 240F + 5 Companion	0.6 L/HA 0.1 % V/V	105 202 304 407
6	RH-2485 80WP + 6 Companion	100 G/HA 0.1 % V/V	106 201 307 404
7	Decis 5EC	0.3 L/HA	107 203 305 401

PEPPER DISEASE TRIAL

Trial 3: BACTERIAL SPOT CONTROL IN PEPPERS

Location: Range A7

Pest: Bacterial Spot

Plot Design: Randomized complete block, 2 row plots, 1m x 7m row spacing,
4 replications

Transplanted: June 8

Assessments: Foliar disease control

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 205 309 406
2	Kocide 101	2.25 KG/HA	102 209 312 408
3	Champ 2	2.34 L/HA	103 206 308 402
4	Ultra Champ	2.24 KG/HA	104 201 310 413
5	CGA 245704 50WP	0.14 KG/HA	105 211 304 409
6	Bravo Ultrex	2.0 KG/HA	106 203 307 401
7	ICIA5504 250SC	0.3 L/HA	107 212 302 404
8	Bravo Ultrex +	2.0 KG/HA	108 210 305 411
8	Kocide 101	2.25 KG/HA	
9	ICIA5504 250SC +	0.14 L/HA	109 204 313 405
9	Kocide 101	2.25 KG/HA	
10	Bravo Ultrex +	2.0 KG/HA	110 213 303 407
10	Champ 2	2.34 L/HA	
11	ICIA5504 250 SC +	0.14 L/HA	111 202 306 412
11	Champ 2	2.34 L/HA	
12	Bravo Ultrex +	2.0 KG/HA	112 207 301 410
12	Ultra Champ	2.24 KG/HA	

13 ICIA5504 250 SC +
13 Ultra Champ

0.14 L/HA
2.24 KG/HA

113 208 311 403

PEPPER DISEASE TRIAL

Trial 4: USE OF SURFACTANTS TO IMPROVE THE EFFECTIVENESS OF COPPER FOR THE CONTROL OF BACTERIAL DISEASES IN PEPPERS

Location: Range A7
Pest: Bacterial Spot
Plot Design: Randomized complete block, 2 row plots, 1m x 7m row spacing, 4 replications
Transplanted: June 8
Assessments: **Foliar** disease control

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 206 303 405
2	Kocide 101	2.25 KG/HA	102204306401
3	Bravo Ultrex +	2.0 KG/HA	103 205 302 406
3	Kocide 101	2.25 KG/HA	
4	Nufilm-17+	1.17 L/HA	104 202 305 403
4	Kocide 101	2.25 KG/HA	
5	Sil Wett	0.1 % V N	105 201 304 402
5	Kocide 101	2.25 KG/HA	
6	Ag Balance +	10.0 L/HA	106 203 301 404
6	Kocide 101	2.25 KG/HA	

PEPPER DISEASE TRIAL

Trial 5: RESISTANCE LEVELS IN PEPPER CULTIVARS TO BACTERIAL SPOT

Location: Range A7

Crop: Pepper cultivars

Pest: Bacterial Spot

Plot Design: Randomized complete blocks, 1 row plot, 1 m x 7m row spacing,
4 replications

Transplanted: June 16

Assessments: Foliar disease control

Trt	Treatment	Plot No.	By	Rep
No	Name			
1	PZ 304496	101	215	319 407
2	PX 333694	102	212	310 420
3	PS213896	103	219	313 401
4	PS 334094	104	208	305 416
5	Sweet Spot	105	220	306 418
6	Hot Spot	106	211	318 413
7	EX 12285	107	213	309 419
8	EX 12262	108	205	312 402
9	PR 9701R-4	109	214	302 405
10	PR 9701R-3	110	203	315 410
11	Boynton Bell	111	209	301 406
12	Victoria	112	206	304 415
13	Diego	113	216	311 409
14	ACX 209	114	202	317 412

15 ACX 217 Y

115 218 314 404

16 SS 830

116 207 316 408

17 Aladdin X3R

117 204 320 414

18 King Arthur

118 201 303 417

19 Camelot X3R

119 217 307 403

20 Wizard X3R

120 210 308 411

PEPPER INSECT TRIAL

Trial 6: GARLIC BARRIER ON PEPPERS

Location: Range J1

Pest: European Corn Borer

Plot Design: Randomized complete block, 1 row plot, 1m x 8m row spacing,
4 replications

Transplanted: June 8

Assessments: Foliar disease control

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101203302404
2	Garlic Barrier	2 L/HA	102 204 301 403
2	Fish Oil	2 L/HA	
3	Garlic Barrier	4 L/HA	103 201 304 402
3	Fish Oil	2 L/HA	
4	Garlic Barrier	8 L/HA	104 202 303 401
4	Fish Oil	2 LMA	

POTATO INSECT TRIAL

Trial 1: EXP61486A FOR THE CONTROL OF CPB
Location: Range A8
Crop: Chieftan
Pest: Colorado Potato Beetle
Plot Design: Randomized complete block, 2 row plots, 1m x 7m spacing,
4 replications
Planted: April 30
Assessments: Foliar insect counts and damage ratings

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 203 305 402
2	EXP61486A	40 G/HA	102 204 301 405
3	EXP61486A	80 G/HA	103 205 302 401
4	EXP61486A	121.4 G/HA	104 201 303 404
5	Admire 240F	200 ML/HA	105 202 304 403

POTATO INSECT TRIAL

Trial 2: BANSHEE ON POTATOES

Location: Range A8

Crop: Superior

Pest: Colorado Potato Beetle

Plot Design: Randomized complete block, 3 row plots, 1m x 7m row spacing,
4 replications

Planted: April 30

Assessments: **Foliar** insect counts and damage ratings

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 202 301 402
2	Banshee 0.83EC	0.455 LMA	102 201 302 401

POTATO INSECT TRIAL

Trial 3: **MPO62 ON POTATOES**

Location: Range A8

Crop: Superior

Pest: Colorado Potato Beetle

Plot Design: Randomized complete block, 3 row plots, 1m x 7m row spacing,
4 replications

Planted: April 30

Assessments: **Foliar** insect counts and damage ratings

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 206 302 407
2	MP062 30WDG +	83.3 G/HA	102 207 309 404
2	PBO	146 GMA	
3	MP062 30WDG +	83.3 GMA	103 209 304 406
3	PBO	292 G/HA	
4	MP062 30WDG +	116.7 G/HA	104 201 306 408
4	PBO	146 G/HA	
5	MP062 30WDG +	116.7 G/HA	105 202 308 403
5	PBO	292 G/HA	
6	MP062 30WDG +	166.7 GMA	106 208 305 402
6	PBO	146 G/HA	
7	MP062 30WDG +	166.7 G/HA	107 205 303 409
7	PBO	292 G/HA	
8	MP062 30WDG	166.7 GAIA	108 204 301 405
9	Admire 240F	200 ML/HA	109 203 307 401

POTATO INSECT TRIAL

Trial 4: INSECT CONTROL IN POTATOES USING GARLIC BARRIER

Location: Range A8
Crop: Superior
Pest: Colorado Potato Beetle
Plot Design: Randomized complete block, 2 row plots, 1m x 7m row spacing,
4 replications
Planted: April 30
Assessments: Foliar insect counts and damage ratings

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 203 305 402
2	Garlic Barrier	2 L/HA	102 204 301 405
2	Fish Oil	2 L/HA	
3	Garlic Barrier	4 L/HA	103 205 302 401
3	Fish Oil	2 L/HA	
4	Garlic Barrier	8 LMA	104 201 303 404
4	Fish Oil	2 LMA	
5	Admire 240F	0.2 LMA	105 202 304 403

POTATO INSECT TRIAL

Trial 5: ACTARA ON POTATOES
Location: Range A8
Crop: Superior
Pest: Colorado Potato Beetle
Plot Design: Randomized complete block, 2 row plots, 1m x 7m row spacing,
4 replications
Planted: April 30
Assessments: Foliar insect counts and damage ratings

Trt No	Treatment Name	Timing	Rate product	Method of Application	Plot No. By Rep
1	Control				101203305402
2	Actara 25WG	(1-2 ap)	104 G/HA	Foliar	102204301405
3	Actara 25WG		260 GMA	In Furrow	103 205 302 401
4	Admire 240F	(1-2 ap)	208 MLMA	Foliar	104 201 303 404
5	Novador FC	(30% Eh)*	8.0 L/HA	Foliar	105202304403
5	Actara 25WG	(July 1)	104 GMA	Foliar	

*Eh - egg hatch

SUGAR BEET DISEASE TRIAL

Trial 1: INITIAL SPRAY APPLICATION TIMING IN SUGAR BEETS

Location: Range J2
 Crop: E17
 Pest: **Cercospora** Leaf Spot
 Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
 4 replications
 Planted: May 3
 Assessments: **Foliar** damage ratings and yield

Trt	Treatment	Rate	Timing of	Plot No. By Rep
No	Name	product	Application	
1	Control			101 205 309 403
2	Manzate 200DF	2.25 KG/HA	July 1	102 209 306 404
3	Manzate 200DF	2.25 KG/HA	July 15	103 211 301 407
4	Manzate 200DF	2.25 KG/HA	Aug 1	104 202 308 410
5	Manzate 200DF	2.25 KG/HA	Aug 15	105 201 310 406
6	Manzate 200DF	2.25 KG/HA	50 D.S.V.'s	106 210 302 405
7	Manzate 200DF	2.25 KG/HA	65 D.S.V.'s	107 204 311 401
8	Manzate 200DF	2.25 KG/HA	80 D.S.V.'s	108 206 304 409
9	Manzate 200DF	2.25 KG/HA	First sign of spots	109 203 307 411
10	Easout 70WP ; 10 Manzate 200DF	0.454 KG/HA 2.25 KG/HA	First sign of spots	110 208 305 402
11	Easout 70WP ; 11 Manzate 200DF	0.454 KG/HA 2.25 KG/HA	Aug 1	111 207 303 408

"Subsequent sprays every 10 days

SUGAR BEET DISEASE TRIAL

Trial 2: TIMING OF SUBSEQUENT SPRAY APPLICATIONS IN SUGAR BEETS

Location: Range J2

Crop: E17

Pest: **Cercospora** Leaf Spot

Plot Design: Randomized complete block, 4 row plots, .75m x 8m row spacing, 4 replications

Transplanted: May 3

Assessments: **Foliar** damage ratings and yield

Trt No	Treatment Name	Rate product	Timing of Application	Plot No. By Rep
1	Control			101206303405
2	Manzate 200DF	2.25 KG/HA	10 D.S.V.'s	102 204 306 401
3	Manzate 200DF	2.25 KGMA	20 D.S.V.'s	103205302406
4	Manzate 200DF	2.25 KGMA	30 D.S.V.'s	104202305403
5	Manzate 200DF	2.25 KGMA	10 day interval	105 201 304 402
6	Easout 70WP	0.454 KG/HA	20 D.S.V.'s	106203301404
6	Manzate 200DF	2.25 KG/HA		

* Initial spray **July** 15 using Manzate 200 DF at 2.25 **KG/HA**

SUGAR BEET DISEASE TRIAL

Trial 3: FUNGICIDES ON SUGAR BEETS

Location: Range J2
Crop: E17
Pest: Cercospora Leaf Spot
Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
4 replications
Planted: May 3
Assessments: Foliar damage ratings and yield

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 209 319 414
2	Penncozeb 80WP	2.13 KG/HA	102 213 308 418
3	Penncozeb 75DF	2.24 KG/HA	103 214 302 416
4	Easout 70WP	0.425 KGMA	104 217 318 412
5	Easout 70WP	0.56 KGMA	105 203 309 407
6	Kocide 101 + "	4.26 KGMA	106 210 303 408
6	Sil Wett	0.1 % V/V	
7	Eminent 125SL	0.91 LMA	107 205 314 417
8	Bravo 500	3.2 L/HA	108 211 313 409
9	Dithane M-45	2.24 KG/HA	109 219 317 402
10	Manzate 200DF	2.24 KG/HA	110 216 301 413
11	Maneb 80W	2.24 KG/HA	111 207 316 401
12	Agri-Tin	0.365 L/HA	112 218 305 406
13	Champ 2	3.86 L/HA	113 208 310 415

14 Easout 70WP + 14 Kocide 101	0.425 KG/HA 4.26 KG/HA	114 201 312 403
15 Easout 70WP + 15 Manzate 200DF	0.425 KG/HA 2.24 KG/HA	115 212 306 404
16 Kocide 101 + 16 Sil Wett 16 Manzate 200DF	0.425 KG/HA 0.1 % V/V 2.24 KG/HA	116 204 315 411
17 Bravo 500 + 17 Kocide 101	3.2 L/HA 4.26 KG/HA	117 215 304 405
18 ICIA5504 250 SC	0.3 KG/HA	118 206 311 419
19 Stratego 250EC	3.18 L/HA	119 202 307 410

SUGAR BEET VARIETY TRIAL

Trial 4: SUGAR BEET VARIETIES

Location: Range J2
Crop: **Sugar** Beets - see treatments
Pest: Cercospora Leaf Spot
Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
4 replications
Planted: May 10
Assessments: **Foliar** damage ratings and yield

Trt Treatment No Name	Plot No. By Rep
1 Beta 5504	101206303405
2 Beta 5823	102 204 306 401
3 Beta 5977	103 205 302 406
4 Hillehog E17	104 202 305 403
5 Crystal 319	105 201 304 402
6 Crystal 503	106 203 301 404

SUGAR BEET SEED TREATMENT TRIAL

Trial 5: SEED TREATMENTS ON SUGAR BEETS

Location: Range J2
Crop: Sugar Beets - see treatments
Pest: Root rot
Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
4 replications
Planted: May 10
Assessments: **Vigour** ratings, root rot assessment

Trt	Treatment	Plot No.	By Rep
No	Name		
1	Control	101 203 311 407	
2	Allegiance	102 209 304 411	
3	GUS 42S	103 212 307 408	
4	LS022/1-99	104 210 303 406	
5	Allegiance + 5 GUS 42S	105 207 309 402	
6	LS022/1-99 +` 6 Allegiance 50WP	106 201 305 410	
7	LS022/1-99 + 7 Allegiance 50WP + 7 GUS 42S	107 211 306 403	
8	LS274/1-99 + 8 Allegiance 50WP	108 206 301 412	
9	LS274/1-99 + 9 Allegiance 50WP + 9 LS022/1-99	109 204 310 405	
10	Allegiance + 10 GUS 42S + 10 Kodiak Conc.	110 208 312 401	

11 Allegiance +
11 GUS42S

111 205 302 409

12 Allegiance +
12 GUS 42S +
12 Kodiak Conc.

112 202 308 404

SUGAR BEET SEED TREATMENT TRIAL

Trial 6: GAUCHO SEED TREATMENTS ON SUGAR BEETS

Location: Range J2
Crop: Sugar Beets
Pest: Root Rot
Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
4 replications
Planted: May 5
Assessments: **Vigour** rating, stand counts, root rot ratings

Trt Treatment No Name	Plot No. By Rep
1 Treatment 1	101 206 302 407
2 Treatment 2	102 207 309 404
3 Treatment 3	103 209 304 406
4 Treatment 4	104 201 306 408
5 Treatment 5	105 202 308 403
6 Treatment 6	106 208 305 402
7 Treatment 7	107 205 303 409
8 Treatment 8	108 204 301 405
9 Treatment 9	109 203 307 401

SUGAR BEET SEED TREATMENT TRIAL

**Trial 7: GAUCHO SEED TREATMENTS ON SUGAR BEETS -
KNOTEK FARMS**

Location: Knotek Farms - Chatham
Crop: Sugar Beets - see treatments
Pest: Root rot
Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
4 replications
Planted: June 7
Assessments: Vigour ratings, stand counts, root rot ratings

Trt Treatment No Name	Plot No. By Rep
1 Treatment 1	101 206 302 407
2 Treatment 2	102 207 309 404
3 Treatment 3	103 209 304 406
4 Treatment 4	104 201 306 408
5 Treatment 5	105 202 308 403
6 Treatment 6	106 208 305 402
7 Treatment 7	107 205 303 409
8 Treatment 8	108 204 301 405
9 Treatment 9	109 203 307 401

SUGAR BEET SEED TREATMENT TRIAL

Trial 8: SEED TREATMENTS ON SUGAR BEETS - KNOTEK FARMS

Location: Knotek Farms - Chatham

Crop: Sugar Beets - see treatments

Pest: Root rot

Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing,
4 replications

Planted: June 7

Assessments: Vigour ratings, root rot assessment

Trt No	Treatment Name	Plot No.	By Rep
1	Control	101 203 311	407
2	Allegiance	102 209 304	411
3	GUS 42S	103 212 307	408
4	LS022/1-99	104 210 303	406
5	Allegiance + 5 GUS 42S	105 207 309	402
6	LS022/1-99 + 6 Allegiance 50WP	106 201 305	410
7	LS022/1-99 + 7 Allegiance 50WP + 7 GUS 42S	107 211 306	403
8	LS274/1-99 + 8 Allegiance 50WP	108 206 301	412
9	LS274/1-99 + 9 Allegiance 50WP + 9 LS022/1-99	109 204 310	405
10	Allegiance + 10 GUS 42S + 10 Kodiak Conc.	110 208 312	401

**11 Allegiance +
11 GUS42S**

111 205 302 409

**12 Allegiance +
12 GUS 42S +
12 Kodiak Conc.**

112 202 308 404

SUGAR BEET DISEASE TRIAL

Trial 9: INITIAL SPRAY APPLICATION TIMING IN SUGAR BEETS -
KNOTEK FARMS

Location: Knotek Farms - Chatham

Crop: E17

Pest: Cercospora Leaf Spot

Plot Design: Randomized complete block, 3 row plots, 1.5m x 8m row spacing,
4 replications

Assessments: Foliar damage ratings and yield

Trt	Treatment	Rate	Timing of	Plot No. By Rep
No	Name	product	Application	
1	Control			101 206 302 407
2	Manzate 200DF	2.25 KG/HA	July 1	102 207 309 404
3	Manzate 200DF	2.25 KG/HA	July 15	103 209 304 406
4	Manzate 200DF	2.25 KG/HA	Aug 1	104 201 306 408
5	Manzate 200DF	2.25 KG/HA	Aug 15	105 202 308 403
6	Manzate 200DF	2.25 KG/HA	50 D.S.V.'s	106 208 305 402
7	Manzate 200DF	2.25 KG/HA	65 D.S.V.'s	107 205 303 409
8	Manzate 200DF	2.25 KG/HA	80 D.S.V.'s	108 204 301 405
9	Manzate 200DF	2.25 KG/HA	First sign of spots	109 203 307 401

SUGAR BEET DISEASE TRIAL

Trial 10: TIMING OF SUBSEQUENT SPRAY APPLICATIONS IN SUGAR BEETS - KNOTEK FARMS

Location: Knotek Farms - Chatham

Crop: E17

Pest: *Cercospora* Leaf Spot

Plot Design: Randomized complete block, 3 row plots, 1.5m x 8m row spacing, 4 replications

Assessments: Foliar damage ratings and yield

Trt	Treatment	Rate	Timing of	Plot No. By Rep
No	Name	product	Applications	
1	Control			101204306402
2	Manzate 200DF	2.25 KG/HA	10 D.S.V.'s	102 205 302 406
3	Manzate 200DF	2.25 KG/HA	20 D.S.V.'s	103 206 303 401
4	Manzate 200DF	2.25 KG/HA	30 D.S.V.'s	104201304405
5	Manzate 200DF	2.25 KG/HA	10 day interval	105202305403

* Initial spray July 15 using Manzate **200DF** at 2.25 **KG/HA**

SUGAR BEET DISEASE TRIAL

Trial 11: REGISTERED FUNGICIDES FOR THE CONTROL OF
CERCOSPORA LEAF SPOT - KNOTEK FARMS

Location: Knotek Farms - Chatham

Crop: E17

Pest: Cercospora Leaf Spot

Plot Design: Randomized complete block, 3 row plots, 1.5m x 8m row spacings,
4 replications

Assessments: Foliar damage ratings and yield

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	

1	Control		101 205 303 406
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2	Penncozeb 80WP	2.13 KGMA	102 204 306 403
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3	Kocide 101 +	4.26 KGMA	103 206 301 402
3	Sil Wett	0.1 % V/V	

4	Manzate 200DF	2.24 KGMA	104 207 302 405
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5	Maneb 80W	2.24 KG/HA	105 202 304 407
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6	Dithane M-45	2.24 KG/HA	106 201 307 404
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7	Kocide 101 +	4.26 KGMA	107 203 305 401
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7	Sil Wet +	0.1 % V N
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7	Manzate 200DF	2.24 KGMA
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SUGAR BEET DISEASE TRIAL

Trial 12: INITIAL SPRAY APPLICATION TIMING IN SUGAR BEETS -
MARTIN FARMS

Location: Martin Farms - Grande Pointe

Crop: E17

Pest: Cercospora Leaf Spot

Plot Design: Randomized complete block, 4 row plots, .75m x 8m row spacing,
4 replications

Assessments: Foliar damage ratings and yield

Trt	Treatment	Rate	Timing of	Plot No. By Rep
No	Name	product	Application	
1	Control			101 206 302 407
2	Manzate 200DF	2.25 KGMA	July 1	102 207 309 404
3	Manzate 200DF	2.25 KGMA	July 15	103 209 304 406
4	Manzate 200DF	2.25 KGMA	Aug 1	104 201 306 408
5	Manzate 200DF	2.25 KGMA	Aug 15	105 202 308 403
6	Manzate 200DF	2.25 KG/HA	50 D.S.V.'s	106 208 305 402
7	Manzate 200DF	2.25 KG/HA	65 D.S.V.'s	107 205 303 409
8	Manzate 200DF	2.25 KGMA	80 D.S.V.'s	108 204 301 405
9	Manzate 200DF	2.25 KGMA	First sign of spots	109 203 307 401

* Subsequent sprays every 10 days

SUGAR BEET DISEASE TRIAL

Trial 13: TIMING OF SUBSEQUENT SPRAY APPLICATIONS IN SUGAR BEETS - MARTIN FARMS

Location: Martin Farms - Grande Pointe

Crop: E17

Pest: Cercospora Leaf Spot

Plot Design: Randomized complete block, 4 row plots, .75m x 8m row spacing, 4 replications

Assessments: Foliar damage and yield

Trt No	Treatment Name	Rate product	Timing of Application	Plot No. By Rep
1	Control			101 204 306 402
2	Manzate 200DF	2.25 KG/HA	10 D.S.V.'s	102 205 302 406
3	Manzate 200DF	2.25 KG/HA	20 D.S.V.'s	103 206 303 401
4	Manzate 200DF	2.25 KG/HA	30 D.S.V.'s	104201304405
5	Manzate 200DF	2.25 KG/HA	10 day interval	105202305403

*Initial spray July 15 using Manzate 200DF at 2.25 KG/HA

SUGAR BEET DISEASE TRIAL

Trial 14: REGISTERED FUNGICIDES FOR THE CONTROL OF
CERCOSPORA LEAF SPOT - MARTIN FARMS

Location: Martin Farms - **Grande** Pointe
Crop: **E17**
Pest: **Cercospora** Leaf Spot
Plot Design: Randomized complete block, 4 row plots, **.75m** x 8m row spacing,
4 replications
Assessments: **Foliar** damage and yield

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 205 303 406
2	Penncozeb 80WP	2.13 KG/HA	102 204 306 403
3	Kocide 101 +	4.26 KGIHA	103 206 301 402
3	Sil Wett	0.1 % V/V	
4	Manzate 200DF	2.24 KGIHA	104 207 302 405
5	Maneb 80W	2.24 KG/HA	105 202 304 407
6	Dithane M-45	2.24 KG/HA	106 201 307 404
7	Kocide 101 +	4.26 KG/HA	107 203 305 401
7	Sil Wett +	0.1 % V/V	
7	Manzate 200DF	2.24 KGIHA	

SWEET CORN INSECT TRIAL

Trial 1: **DIPEL 2XDF FOR THE CONTROL OF ECB IN SWEET CORN**

Location: Range J1
Crop: Peaches and Cream-Early
Pest: European Corn Borer
Plot Design: Randomized complete block, 4 row plots, 1m x 8m row spacing,
4 replications
Planted: May 20
Assessments: Insect counts

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 206 302 405
2	Dipel 2XDF	0.56 KG/HA	102 205 307 403
3	Dipel 2XDF	1.12 KG/HA	103 201 304 402
4	Dipel 2XDF + 4 BOD Balance	0.56 KG/HA 10 LMA	104 207 303 406
5	Dipel 2XDF + 5 BOD Balance	1.12 KGMA 10 L/HA	105 202 306 408
6	Dipel 2XDF + 6 Nu-Film-17	0.56 KGMA 1.17 LMA	106 208 301 404
7	Dipel 2XDF + 7 Sil Wett	0.56 KGMA 0.1 % V/V	107 204 308 401
8	Furadan 480F	1.1 LMA	108 203 305 407

SWEET CORN INSECT TRIAL

Trial 2: EVALUATION OF RH-5992 240F FOR THE CONTROL OF ECB IN SWEET CORN - CUDDY FARMS

Location: Cuddy Farms- Strathroy

Crop: Sweet Corn

Pest: European Corn Borer

Plot Design: Randomized complete block, 2 row plots, .75m x 8m row spacing, 4 replications

Assessments: Insect Control

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 206 303 405
2	Dipel 2XDF	0.56 KGMA	102 204 306 401
3	Dipel 2XDF	1.12 KGMA	103 205 302 406
4	Dipel 2XDF	0.56 KG/HA	104 202 305 403
4	BOD Balance	10.0 L/HA	
5	Dipel 2XDF	1.12 KG/HA	105 201 304 402
5	BOD Balance	10.0 L/HA	
6	Furadan 480F	1.1 L/HA	106203301404

TOMATO DISEASE TRIAL

Trial 1: PACHLOBUTRAZOLE ON TOMATOES - EARLY

Location: Range A5

Crop: Tomato varieties - see treatments

Pest: Early Blight, **Septoria** Leaf Spot, **Anthracnose**

Plot Design: Randomized complete block, 1 twin row plots, 1.65m x 7m row spacing,
4 replications

Transplanted: May 11

Assessments: Plant **vigour** ratings, Flower initiation rates

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	H9478	Control	101 205 305 403
2	H9478	Treated	102 206 306 404
3	H9230	Control	103 203 301 405
4	H9230	Treated	104 204 302 406
5	Peto 696	Control	105 201 303 401
6	Peto 696	Treated	106 202 304 402

Treated - foliar application of **Pachlobutrazole** applied in the greenhouse on seedlings
2"(10 cm) tall plug plants.

TOMATO DISEASE TRIAL

Trial 2: PACLOBUTRAZOLE ON TOMATOES - LATE

Location: Range A5
Crop: Tomato varieties - see treatments
Pest: Early Blight, **Septoria** Leaf Spot, **Anthraco**nose
Plot Design: Randomized complete block, 1 twin row plots, 1.65m x 7m row spacing,
4 replications
Transplanted: May 27
Assessments: Plant **vigour** ratings, Flower initiation rates

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	H9478	Control	101 205 305 403
2	H9478	Treated	102 206 306 404
3	H9230	Control	103 203 301 405
4	H9230	Treated	104 204 302 406
5	Peto 696	Control	105 201 303 401
6	Peto 696	Treated	106 202 304 402

Treated - foliar application of *Pachlobutrazole* applied in the greenhouse on seedlings 2" (10cm) tall plug plants.

TOMATO DISEASE TRIAL

Trial 3: SCREENING TOMATOES FOR LYCOPENE YIELD

Location: Range A5
Crop: Tomato varieties - see treatments
Plot Design: Randomized complete block, 1 single row plot, 1.65m x 7m row spacing,
4 replications
Transplanted: June 8
Assessments: Lycopene yields and plant vigour ratings

Trt Treatment No Name	Plot No. By Rep
1 PX-221516	101 203 305 402
2 PX-222516	102 204 301 405
3 Tondino PS	103 205 302 401
4 Sweet 100	104 201 303 404
5 Sweet Million	105 202 304 403

TOMATO DISEASE TRIAL

Trial 4: FUNGAL DISEASE CONTROL IN TOMATOES

Location: Range A6
Crop: H9478
Pest: Early blight, **Septoria Leaf Spot, Anthracnose**
Plot Design: Randomized complete block, 2 twin row plots, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: Disease control, rating yields

Trt	Treatment	Rate	Timing of	Plot No. By Rep
No	Name	product	Application	
1	Control			101 205 309 403
2	Penncozeb 75DF	3.4 KGMA	Contin	102 209 306 404
3	Bravo Ultrex	1.94 KG/HA	Contin	103 211 301 407
4	Dithane DF NT	3.25 KGMA		104 202 308 410
5	ICIA5504 250SC	0.4 LIHA	Contin	105 201 310 406
6	Penncozeb 75DF;	3.4 KG/HA	1&2	106 210 302 405
6	ICIA5504 250SC	0.4 LIHA	3&4	
7	Bravo Ultrex;	1.94 KG/HA	1&2	107 204 311 401
7	ICIA5504 250SC	0.4 L/HA	3&4	
8	Penncozeb 75DF;	3.4 KGMA	Altern	108 206 304 409
8	ICIA5504 250SC	0.4 L/HA		
9	Bravo Ultrex;	1.94 KGMA	Altern	109 203 307 411
9	ICIA5504 250 SC	0.4 L/HA		
10	Dithane DF NT;	3.25 KG/HA	1&2	110 208 305 402
10	ICIA5504 250SC	0.4 L/HA	3&4	
11	Dithane DF NT;	3.25 KGMA	Altern	111 207 303 408
11	ICIA5504 250 SC	0.4 L/HA		

TOMATO INSECT TRIAL

Trial 5: GARLIC BARRIER FOR THE CONTROL OF CPB

Location: Range A6
Crop: H9478
Pest: Colorado Potato Beetle
Plot Design: Randomized complete block, 1 twin row plot, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: **Foliar** insect counts and leaf damage

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 206 303 405
2	Garlic Barrier	2 L/HA	102 204 306 401
2	Fish Oil	2 L/HA	
3	Garlic Barrier	4 L/HA	103 205 302 406
3	Fish Oil	2 L/HA	
4	Garlic Barrier	8 L/HA	104 202 305 403
4	Fish Oil	2 L/HA	
5	Garlic Barrier	8 L/HA	105 201 304 402
6	Admire 240F	0.2 L/HA	106 203 301 404

TOMATO INSECT TRIAL

Trial 6: INSECT CONTROL IN TOMATOES USING ACTARA

Location: Range A6
Crop: H9478
Pest: Colorado Potato Beetle
Plot Design: Randomized complete block, 2 twin row plots, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: Foliar insect counts and leaf damage

Trt	Treatment	Rate	Method of	Plot No. By Rep
No	Name	product	Application	
1	Control			101203305402
2	Actara 25WG	104 G/HA	Foliar	102204301405
3	Actara 25WG	260 G/HA	In Furrow	103205302401
4	Admire 240F	200 ML/HA	Foliar	104 201 303 404
5	Novodor FC + (30% Eh)	80 L/HA	Foliar	105202304403
5	Actara 25WG	104 G/HA	Foliar	

Eh - Egg Hatch

TOMATO INSECT TRIAL

Trial 7: INSECT CONTROL IN FIELD TOMATOES

Location: Range A6
Crop: H9478
Pest: Colorado Potato Beetle
Plot Design: Randomized Complete Block, 2 twin row plots, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: **Foliar** insect counts and leaf damage

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 203 305 402
2	EXP61486A 70WP	40 G/HA	102 204 301 405
3	EXP61486A 70WP	80 G/HA	103 205 302 401
4	EXP61486A 70WP	121.4 G/HA	104 201 303 404
5	Admire 240 F	200 ML/HA	105 202 304 403

TOMATO DISEASE TRIAL

Trial 8: FUNGAL DISEASE CONTROL IN TOMATOES USING
ICIA5504 240 SC

Location: Range A5
Crop: **H9478**
Pest: Early blight, Septoria Leaf Spot, **Anthracnose**
Plot Design: Randomized complete block, 2 twin row plots, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: Disease control and rating yields

Trt	Treatment	Rate	Timing of	Plot No. By Rep
No	Name	product	Application	
1	Control			101 205 303 406
2	Bravo Ultrex; 2 ICIA5504 250SC	1.94 KGMA 0.3 LMA	alternate	102 204 306 403
3	Bravo Ultrex; 3 ICIA5504 250SC	1.94 KGMA 0.4 LMA	alternate	103 206 301 402
4	Bravo Ultrex; 4 ICIA5504 250SC	1.94 KGMA 0.5 LMA	alternate	104 207 302 405
5	ICIA5504 250SC	0.4 LMA	continuous	105 202 304 407
6	Bravo Ultrex	1.94 KGMA	continuous	106 201 307 404
7	Manzate 200DF; 7 Bravo Ultrex	44 KG/HA 1.94 KGMA	1st applic all other	107 203 305 401

TOMATO DISEASE TRIAL

Trial 9: TOM-CAST SPRAYING USING NEW TOMATO FUNGICIDES

Location: Range A5

Crop: H9478

Pest: Early blight, Septoria Leaf Spot, **Anthracnose**

Plot Design: Randomized complete block, 2 twin row plots, 1.65m x 7m row spacing,
4 replications

Transplanted: May 18

Assessments: Disease control and rating yields

Trt No	Treatment Name	Rate product	Timing of Application	Plot No. By Rep
1	Control			101 205 303 406
2	Bravo Ultrex	1.94 KG/HA	20 DSV	102 204 306 403
3	Bravo Ultrex	1.94 KG/HA	30 DSV	103 206 301 402
4	Bravo Ultrex	1.94 KG/HA	40 DSV	104 207 302 405
5	ICIA5504 250SC	0.4 L/HA	20 DSV	105 202 304 407
6	ICIA5504 250SC	0.4 L/HA	30 DSV	106 201 307 404
7	ICIA5504 250SC	0.4 L/HA	40 DSV	107 203 305 401

* Initial spray on July 11

TOMATO DISEASE TRIAL

Trial 10: USE OF SURFACTANTS TO IMPROVE THE EFFECTIVENESS OF
COPPER FOR THE CONTROL OF BACTERIAL DISEASE IN
TOMATOES

Location: Range A5

Crop: H9478

Pest: Early blight, Septoria Leaf Spot, Anthrocnose

Plot Design: Randomized Complete block, 1 twin row, 1.65m x 7m row spacing,
4 replications

Transplanted: May 18

Assessments: Disease control and rating yields

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 206 303 405
2	Kocide 101	2.25 KG/HA	102 204 306 401
3	Bravo Ultrex +	2 KGMA	103 205 302 406
3	Kocide 101	2.25 KG/HA	
4	Nufilm-17 +	1.17 KG/HA	104 202 305 403
4	Kocide 101	2.25 KG/HA	
5	Nufilm-17 +	0.1% v/v	105 201 304 402
5	Kocide 101	2.25 KGMA	
6	Ag Balance +	10 L/HA	106 203 301 404
6	Kocide 101	2.25 KGMA	

TOMATO DISEASE TRIAL

Trial 11: BACTERIAL DISEASE CONTROL IN TOMATOES

Location: Range A5

Crop: H9478

Pest: Early blight, *Septoria* leaf spot, Anthracnose

Plot Design: Randomized complete block, 1 twin row plot, 1.65m x 7m row spacing,
4 replications

Transplanted: May 18

Assessments: Disease control and rating yields

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 205 309 406
2	Kocide 101	2.25 KG/HA	102 209 312 408
3	Champ 2	2.34 KG/HA	103 206 308 402
4	Ultra Champ	2.24 KG/HA	104 201 310 413
5	CGA 245704 50WP	0.14 KGMA	105 211 304 409
6	Bravo Ultrex	2 KG/HA	106 203 307 401
7	ICIA5504 250 SC	0.3 L/HA	107 212 302 404
8	Bravo Ultrex + 8 Kocide 101	2 KGMA 2.25 KG/HA	108 210 305 411
9	ICIA5504 250 SC + 9 Kocide 101	0.3 LMA 2.25 KGMA	109 204 313 405
10	Bravo Ultrex + 10 Champ 2	2 KG/HA 2.34 KG/HA	110 213 303 407
11	ICIA5504 250 SC + 11 Champ 2	0.3 L/HA 2.24 KGMA	111 202 306 412
12	Bravo Ultrex + 12 Ultra Champ	2 KGMA 2.24 KG/HA	112 207 301 410

13 ICIA5504 250 SC +
13 Ultra Champ

0.3 L/HA
2.24 KG/HA

113 208 311 403



TOMATO DISEASE TRIAL

Trial 12: PACHLOBUTRAZOL ON TOMATOES - EARLY - HEINZ RESEARCH FARM

Location: **Heinz Research Farm - Leamington**

Crop: Tomato varieties - **see** treatments

Pest: Early Blight, Septoria leaf spot, **Anthracnose**

Plot Design: Randomized complete blocks, 1 twin row plots, 1m x 7m or less row spacing, 4 replications

Transplanted: May 11

Assessments: Plant **vigour** ratings, Flower initiation rates

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	H9478	Control	101 205 305 403
2	H9478	Treated	102 206 306 404
3	H9230	Control	103 203 301 405
4	H9230	Treated	104 204 302 406
5	Peto 696	Control	105 201 303 401
6	Peto 696	Treated	106 202 304 402

Treated - foliar application of **Pachlobutrazole** applied in the greenhouse on seedlings 2" (10 cm) tall plug plants

TOMATO INSECT TRIAL

Trial 13: INSECT CONTROL USING ACTARA - SELECT PLOTS

Location: Range A5
Crop: H9478
Pest: Colorado Potato Beetle
Plot Design: Randomized complete block, 1 twin row, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: Insect counts

Trt No	Treatment Name	Rate product	Plot No. By Rep
1	Control		101 201 301 401
2	Actara 25WG	104 GMA	102 202 302 402
3	Actara 25WG	208 GMA	103 203 303 403
4	Admire 240 F	200 ML/HA	104 204 304 404

TOMATO INSECT TRIAL

**Trial 14: INSECT CONTROL IN FIELD TOMATOES USING EXP61486A -
SELECTED PLOTS**

Location: Range A5
Crop: H9478
Pest: Colorado Potato Beetle
Plot Design: Randomized Complete block, 1 twin row plot, 1.65m x 7m row spacing,
4 replications
Transplanted: May 18
Assessments: Insect counts

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 201 301 401
2	EXP61486A 70WP	40 G/HA	102 202 302 402
3	EXP61486A 70WP	80 G/HA	103 203 303 403
4	EXP61486A 70WP	121.4 G/HA	104 204 304 404
5	Admire 240F	200 ML/HA	105 205 305 405

TURF DISEASE TRIAL

Trial 1: EVALUATION OF TRIFLOXYSTROBIN AND PROPICONAZOLE
FOR THE CONTROL OF DOLLAR SPOT IN TURF

Location: RC - Turf
Crop: Bentgrass
Pest: Dollar Spot
Plot Design: Randomized complete block, 1 m x 8m row spacing, 4 replications
Assessments: Disease control rating

Trt	Treatment	Rate	Plot No. By Rep
No	Name	product	
1	Control		101 209 313 405
2	Compass 50WG	153 GMA	102 211 305 414
3	Compass 50WG	306 GMA	103 207 301 412
4	Compass 50WG	610 G/HA	104 214 308 402
5	Banner 130EC	3823 MLMA	105 201 309 413
6	Banner Maxx	1590 MLMA	106 213 302 409
7	Banner Maxx	3186 ML/HA	107 210 314 401
8	Compass 50WG + 8 Banner Maxx	153 GMA 1590 MLMA	108 212 306 403
9	Compass 50WG + 9 Banner Maxx	153 GMA 3186 MLMA	109 202 312 406
10	Compass 50WG + 10 Banner Maxx	306 G/HA 3186 MLMA	110 206 303 408
11	Banner 130EC + 11 Daconil 2787F	3823 MLMA 1270 MLMA	111 203 310 404
12	Banner Maxx + 12 Daconil 2787F	3186 MLMA 1270 MLMA	112 205 311 407

13 Stratego 250EC 3184 ML/HA

113208304410

14 Thiabendazole 500g ai/L 5000 ML/HA

114204307411

1999
WEATHER DATA
RAINFALL IN MM.

DATE	APRIL	MAY	JUNE	JULY	DATE
1	5.2		4	2.2	1
2	0.2		3.6		2
3	3.6				3
4	11.4				4
5	0.2				5
6	0.4			0.2	6
7		0.2			7
8	0.4	3.4			8
9	8.8				9
10					10
11	20				11
12					12
13					13
14			22.6		14
15					15
16	12.4				16
17	2.8				17
18					18
19		0.2			19
20					20
21					21
22	8.2	9.8			22
23	48.6	0.4			23
24		2	3.4		24
25		4.6			25
26					26
27			2.4		27
28			0.2		28
29			13.6		29
30					30
31		4.2			31
TOTAL	122.2	24.8			TOTAL