

IDEAS TO GROW WITH®



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WILBUR-ELLIS

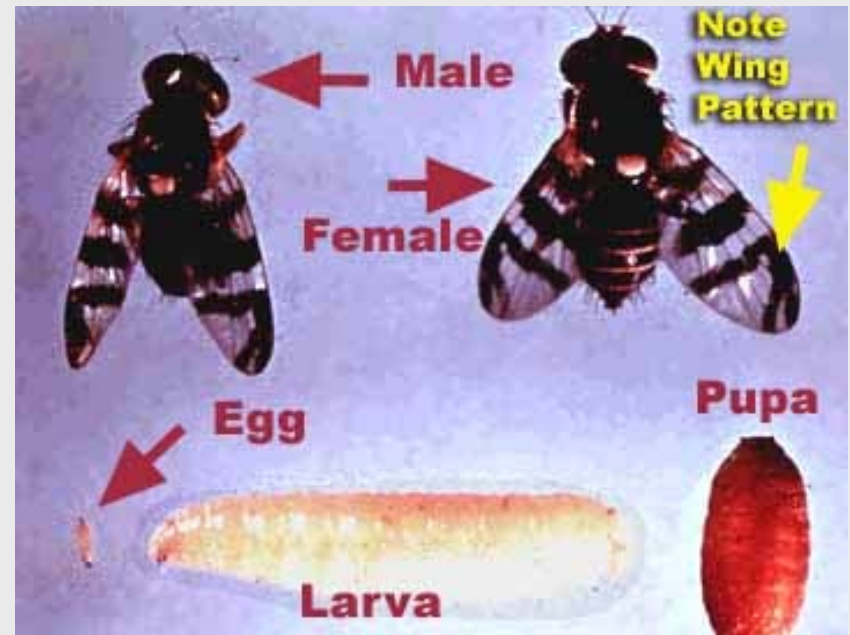
# Cherry Fruit Fly



- Control *without* Guthion

# Life Cycle of Cherry Fruit Fly

- As it relates to control
- Adult Control - i.e fly control



# Materials Available

## Other than Guthion:

- Sevin
- Malathion ULV
- Success
- Provado
- Diazinon (phyto potential on light colored cherries)
- Dimethoate

Residue concerns especially on fresh pack.

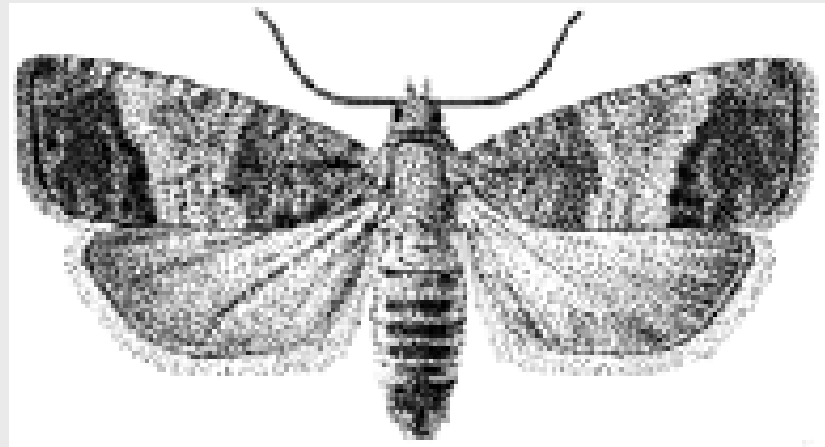
# Codling Moth



- Control *without* Guthion

# 30 Year History of Codling Moth Control

- Personal Experience
- 1970's
- 1980's
- 1990's



# Present Day Codling Moth Control Without Gution

## Use of various *pheromones*

- Mating Disruption

  - Ties

    - Isomate C Plus

    - No Mate CM

    - Disrupt CM

- Sprayables

- Puffers

- Attract and Kill

- Mops, squirrel cages and phone cord

Degree days, timing and trapping for success using pheromone.

# Chemical Insecticides

- Assail
- Calypso
- Intrepid
- Esteem
- Auvant
- Success
- Imidan
- Sevin
- Pyrethroids
- Oil
- Carpovirusine  
(granulosis virus)

Degree days, timing and trapping for success using chemicals.



# Codling Moth Control Trials - Assail 2000

<b>Design #2</b> Treatment	Rate AI/acre	Number of appl.	<u>% Fruit Injury</u>	
			1st gen.	Harvest
Assail 70WP	0.15 lb		1.3b	5.5b
Guthion 50WP	1.00 lb		0.0b	2.3b
Untreated	NONE	NONE	8.3a	55.0a

<b>Design #2</b> Treatment	Rate AI/acre	Number of appl.	<u>% Fruit Injury</u>	
			1st gen.	Harvest
Assail 70WP	0.15 lb		0.3b	2.5b
Guthion 50WP	1.00 lb		0.0b	1.0b
Untreated	NONE	NONE	4.1a	28.5a

# Codling Moth Control Trials - Assail 2001

<b>Design #2</b> Treatment	Rate AI/acre	Number of appl.	<u>% Fruit Injury</u>	
			1st gen.	Harvest
Assail 70WP	0.15 lb	4	3.5b	4.8b
Imidan 70WP	3.5 lb	4	0.7c	1.4c
Untreated	NONE	NONE	19.0a	38.5a

<b>Design #1</b> Treatment	Rate form per acre	Number of appl.	<u>% Fruit Injury</u>	
			1st gen.	Harvest
Intrepid 2F	16 fl. oz.	6 (ovip.)	1.7 b	5.4 bc
Intrepid 2F	16 fl. oz.	6 (hatch)	2.4 b	10.5 b
Assail 70WP	0.21 lb.	4	1.6 b	2.8 cd
Imidan 70WP	5.0 lb.	4	0.3 b	2.4 cd
Guthion 50WP	2.0 lb.	4	0.0 b	0.5 d
Untreated	NONE	NONE	23.6 a	56.8 a

# Mite Counts - Assail 2001



<b>Design #2</b>	<b>July 17</b>			<b>August 21</b>		
	ERM	TSSM	Typhs	ERM	TSSM	Typhs
<b>Treatment</b>						
<b>Assail 70WP</b>	1.3	1.2	0.0	13.9	68.8	0.16
<b>Imidan 70WP</b>	0.4	0.2	0.3	1.6	1.2	3.0
<b>Untreated</b>	0.6	0.2	1.7	3.4	1.1	2.3

<b>Design #1</b>	<b>July 18</b>			<b>August 24</b>		
	ERM	TSSM	Typhs	ERM	TSSM	Typhs
<b>Treatment</b>						
<b>Intrepid 2F</b>	6.8	2.0	1.0	6.4	1.3	2.7
<b>Intrepid 2F</b>	6.5	2.7	0.6	5.8	1.9	1.6
<b>Assail 70WP</b>	14.6	8.2	0.2	27.4	6.7	0.2
<b>Imidan 70WP</b>	5.8	3.0	0.5	4.2	1.1	3.8
<b>Guthion 50WP</b>	6.6	8.2	0.0	2.6	1.3	2.6
<b>Untreated</b>	5.1	4.5	1.4	6.2	1.3	7.7

# Codling Moth Control Trials - 2001

Design #1 Treatment	Rate g AI/100	Number of appl.	% Fruit Injury	
			1st gen.	Harvest
Avaunt 30WG	7.4 g	10	2.8b	28.8bc
Avaunt 30WG	12.5 g	10	4.0b	28.6bc
Avaunt 30WG	7.4 g	10	7.2b	35.0b
Avaunt 30WG	12.5 g	10	3.2b	25.4bc
Guthion 50WP + Avaunt 30WG	28.4 g 7.4 g	10	0.8b	17.2cd
Guthion 50WP	28.4g	10	3.6b	16.8cd
Guthion 50WP	113.5 g	4	0.4b	7.4d
Untreated	NONE	NONE	20.4a	74.6a

# Codling Moth Control Trials - 2001

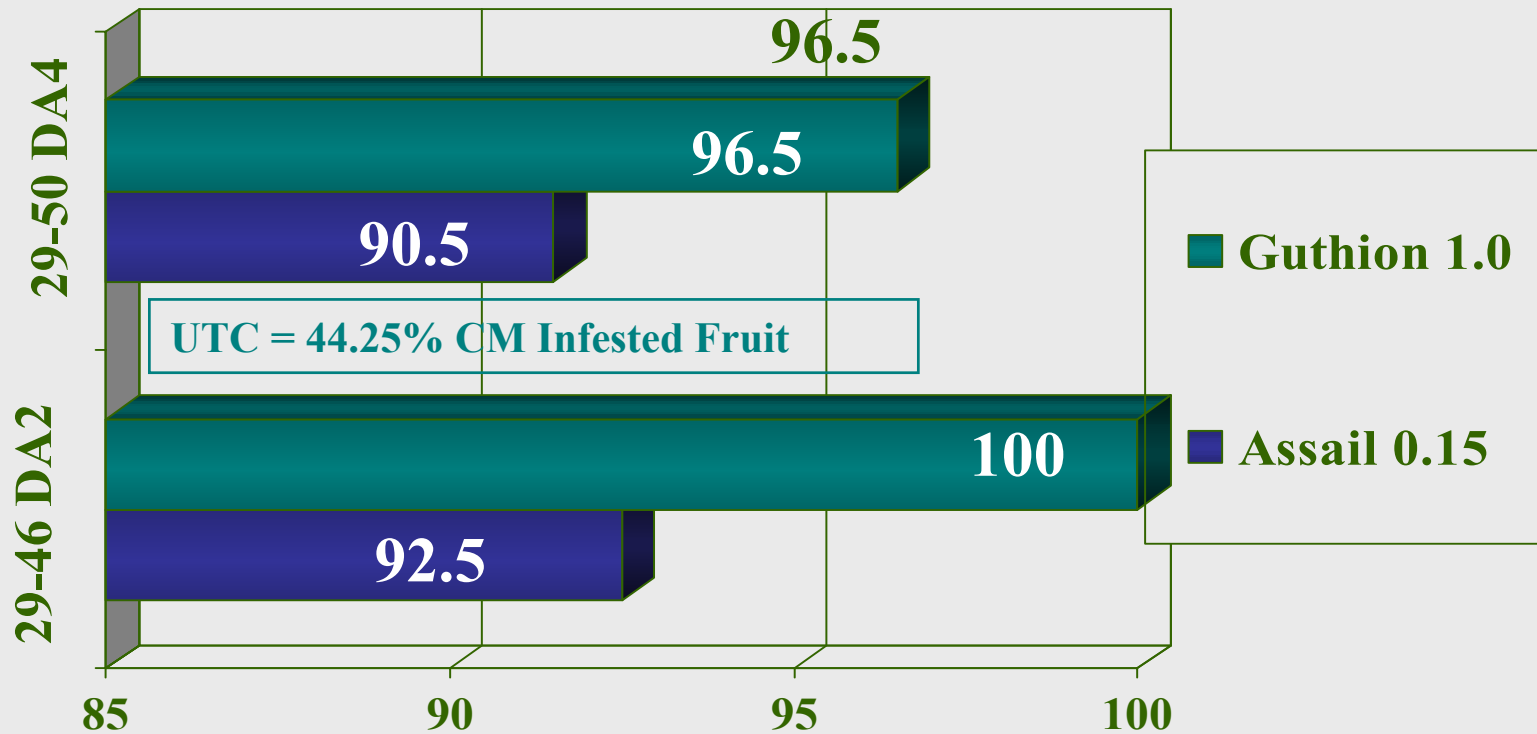
<b>Design #1</b> Treatment	Rate/ 100 gpa	Number of appl.	<u>% Fruit Injury</u>	
			1st gen.	Harvest
Virosoft CP4	1.1 fl oz	7 days	10.4bc	61.6b
Virosoft CP4	1.1 fl oz	10 days	18.0ab	70.0ab
Virosoft CP4	1.1 fl oz	14 days	18.0ab	77.2a
Oil (Orchex 796)	1% v/v	14 days	6.2cd	33.0c
Assail 70WP	0.07	21 days	2.4d	9.4d
Untreated	NONE	NONE	30.2a	81.0a

# Relative Efficacy

<u>Insecticides</u>	<u>Codling moth</u>	<u>Leafroller</u>	<u>Lacania</u>
Assail	High	Low	Low
Calypso	Low	Low	Low
Intrepid	Moderate	High	High
Confirm	Low	Moderate	High
Esteem	Moderate	High	
Avaunt	Low	High (PLR)	High
Novaluron	Moderate (?)	???	???
Surround	Moderate	???	High
Proclaim	???	High	High?
Success	Moderate	High	High

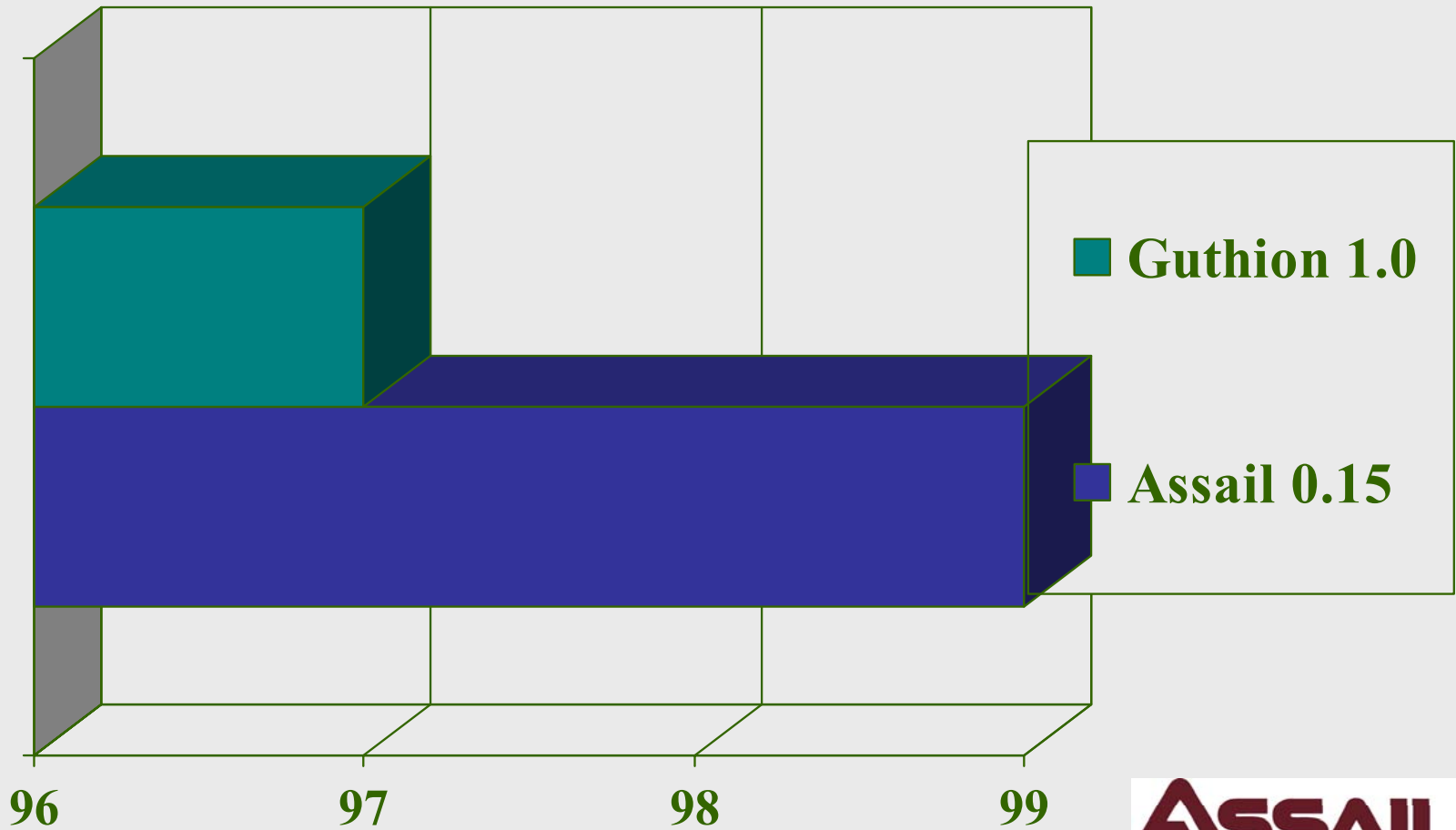
# 2000 Assail Codling Moth Control

*Brunner - Large Plots*



*Percent Control-based on fruit stings and entries*

# 2000 Assail Codling Moth Control





# Combination Control Tactics

- Pheromone and chemical
- Mating disruption enhanced with the use of chemicals