

Peach Pest Management



Celeste Welty
February 2008

Insecticides new for peach

- **Assail (Nov. 2007)**
- **Delegate (Sept. 2007)**
- **Avaunt (July 2007)**

- **Beleaf (2007)**
- **Mustang Max (2007)**
- **Baythroid (2006)**
- **Actara (2004)**
- **Proaxis (2004)**
- **Warrior (2003)**

**Insecticides NOT yet
registered for peach
(but we are keeping watch)**

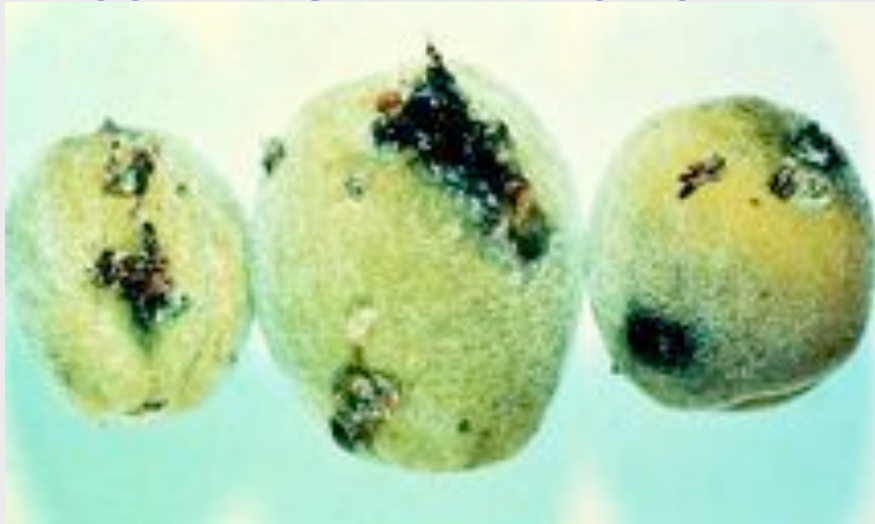
- **Altacor**
- **Rimon**
- **Danitol**
- **Belt**

Peach: Key Pests

- **Oriental fruit moth**
- **Plum curculio**
- **Tarnished plant bug**
- **Stink bugs**

Oriental Fruit Moth

- 1st & 2nd broods:
tunnel in terminal
shoots
- 2nd & 3rd broods:
tunnel in fruit



Oriental Fruit Moth



- Full grown larvae overwinter in cocoons in bark crevices (lower 2' trunk) & in litter
- Pupate in March
- First adults: pink to early bloom
- Eggs laid singly on twigs or undersides of terminal leaves
- Egg hatch: 3 weeks if cool; 3-4 days if hot
- Larvae feed for about 3 weeks

Plum curculio



- **Adults feed on young fruit**
- **Crescent-shaped scars from egg-laying**
- **Fruit internal injury by larvae burrowing**
- **Larvae feed for about 16 days**

Cat-facing insects: Tarnished plant bug & Stink bugs

- Deep sunken deformities
- Fuzzless corky areas
- Water-soaked depressions



Timing of peach insecticides

	<i>OFM</i>	<i>PC</i>	<i>TPB</i>	<i>SB</i>
pink	-	-	++	-
petalfall	++	-	++	+
shuckfall	+	++	++	+
1C	+	++	+	+
2C	++	+	+	+
3C	++	-	+	+
4C	++	-	+	++
5C	++	-	+	++

++ = ideal; + = helpful

Managing Oriental fruit moth



- **Better timing**

- **Trap-based biofix** (biofix is date when traps detect start of sustained flight)
- **Use degree-days, base 45°F:**
- **Spray at 150 degree-days for 1st gen.**
- **Spray at 1125 degree-days for 2nd gen.**
- **Spray at 2250 degree-days for 3rd gen.**

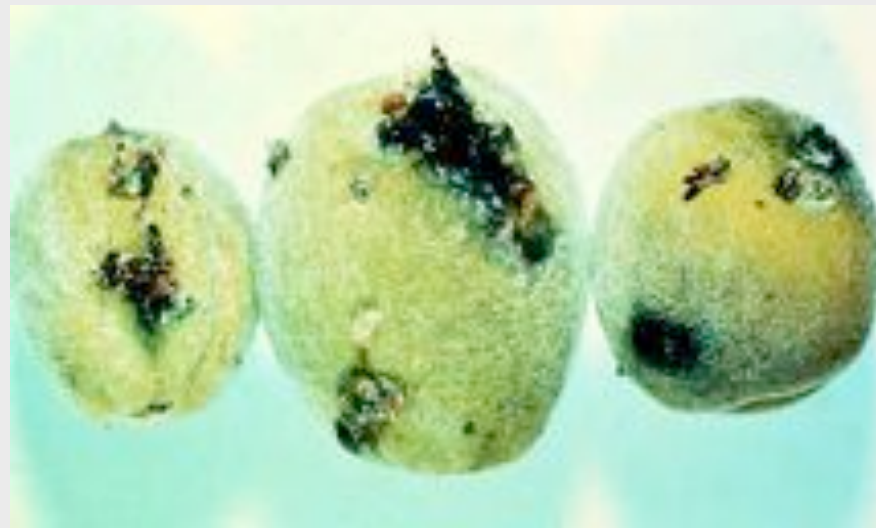
Managing Oriental fruit moth

- **Insecticides**
 - **Better timing**
 - **More water**
 - **50 gpa minimum**
 - **100 gpa in problem blocks**
 - **100 gpa for late-season**
 - **Rotate insecticides**
- **Pheromone mating disruption**

Mating disruption products

Brand	Company	Manual	Sprayable
Isomate	Pacific Biocontrol	*	
CheckMate	Suterra	*	*
NoMate	Scentry	*	
3M Sprayable	3M		*

Recent field trials on OFM



- **Michigan 2007**
- **West Virginia 2007**
- **New Jersey 2007**

Recent OFM trials: Michigan 2007

<i>Treatment</i>	<i>% shoots with flagging</i>	<i>% fruit injured</i>	
		<i>mid season</i>	<i>harvest</i>
Asana, 9.6 fl oz/A	0 c	0 b	0.0 d
Altacor, 3 oz/A	1 c	1 b	0.5 cd
Altacor, 4 oz/A	5 bc	2 b	2.0 cd
Avaunt, 5 oz/A	7 bc	3 b	3.5 cd
Untreated	21 a	18 a	31.0 a

Data from J. C. Wise

Recent OFM trials: West Virginia 2007

<i>Treatment</i> (<i>Petalfall, 1st, 2nd, 3rd brood</i>)	<i>Injured terminals per tree</i>	<i>Fruit injury (%)</i>
Asana/Avaunt/Altacor/Altacor(med.)	1.3 b	0 a
Baythroid/Assail/Imidan/Assail(low)	1.8 b	1.0 a
Asana/Imidan/Imidan/Asana	1.8 b	0 a
Mustang/Beleaf+Imidan/Imidan/Be.+Im.	2.0 b	0 a
Baythroid/Assail/Imidan/Assail(high)	2.8 b	1.5 a
Asana/Avaunt/Altacor/Altacor (low)	3.0 b	0 a
Asana/Avaunt/Altacor/Altacor (high)	4.0 b	0.5 a
Asana/Avaunt/Altacor/Altacor (v.low)	4.8 b	1.0 a
untreated	33.3 a	1.5 a

Data from H. W. Hogmire

Recent OFM trials: New Jersey 2007

<i>Treatments in small plot trial</i>	<i>Shoot strikes per tree (7/10)</i>	<i>% OFM-damaged fruit</i>
Rimon	47 bc	2 b
secret	33 bcd	9 b
Avaunt/Assail	40 bcd	10 ab
Imidan	14 e	13 ab
Altacor 3 oz/A	53 bc	16 ab
Altacor 2 oz/A	73 ab	19 ab
Delegate	21 de	20 ab
Imidan/Assail	27 cde	21 ab
untreated	132 a	42 a

Data from P. W. Shearer & A. Rucker

Recent OFM trials: New Jersey 2007

<i>Treatments in LARGE PLOT trial</i>	<i>Shoot strikes per tree</i>	<i>% damaged fruit</i>
Delegate	0.8 b	0.0 b
Altacor	1.0 b	0.0 b
Standard (Intrepid & Imidan)	2.0 b	0.0 b
Untreated	40.8 a	7.3 a

Data from P. W. Shearer & A. Rucker

Recent field trials on cat-facing insects



- **New Jersey 2007**
- **West Virginia 2007**

Recent peach trials: New Jersey 2007, late-season catfacing (SB/TPB) control

<i>Treatments</i>	<i>% injured fruit</i>
Avaunt(1)/Assail(2,3)	5 b
Delegate	10 ab
Altacor 3 oz/A	12 ab
Imidan(1)/Assail(2,3)	13 ab
secret	15 ab
Altacor 2 oz/A	17 ab
Rimon	20 ab
Imidan	21 ab
untreated	27 a

Data from P. W. Shearer & A. Rucker

Recent peach trials: New Jersey 2007, late-season catfacing (SB/TPB) control

<i>Treatment</i>	<i>% injured fruit</i>
Danitol	9.0 b
Baythroid	15.0 ab
Asana	27.5 ab
Beleaf	36.0 a
untreated	34.0 a

Data from P. W. Shearer & A. Rucker

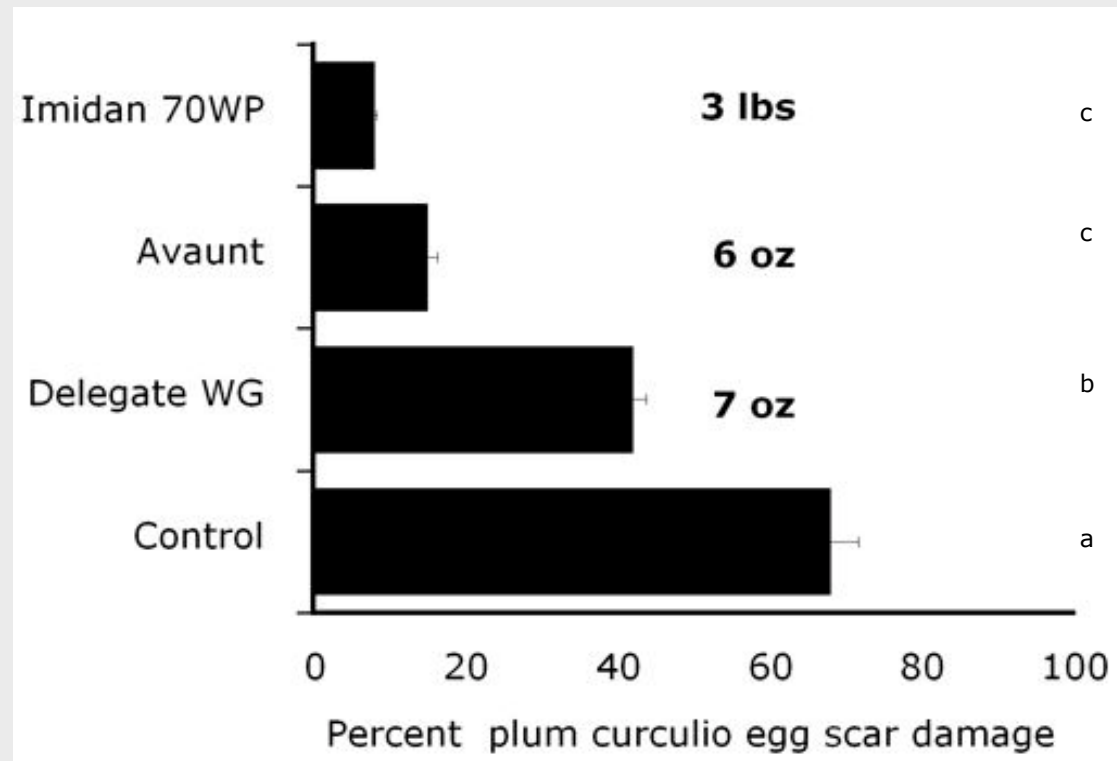
Recent TPB/SB trial: W. Virginia 2007

<i>Treatment (Petalfall, 1st, 2nd, 3rd brood)</i>	<i>% Fruit injury by TPB/SB (12 Jul)</i>
Asana/Imidan/Imidan/Asana	1.0 c
Mustang/Beleaf+Imidan/Imidan/Be.+Im.	2.0 bc
Asana/Avaunt/Altacor/Altacor (med.)	2.5 bc
Asana/Avaunt/Altacor/Altacor (v.low)	3.0 bc
Asana/Avaunt/Altacor/Altacor (low)	4.0 bc
Baythroid/Assail/Imidan/Assail (low)	4.0 bc
Baythroid/Assail/Imidan/Assail (high)	4.5 b
Asana/Avaunt/Altacor/Altacor (high)	5.0 b
untreated	9.0 a

Data from H. W. Hogmire

Plum curculio: NJ 2007

3 airblast applications, 100 gpa



Data from P. W. Shearer

Efficacy for Oriental Fruit Moth

<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Poor</i>
Delegate pyrethroids: -Asana -Baythroid -Pounce -Proaxis -Warrior	Assail Avaunt Diazinon Esteem Imidan Intrepid Lannate Sevin	Spintor	BT

Efficacy for Plum Curculio

<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Poor</i>
Actara Avaunt Diazinon Imidan	Baythroid Pounce	Asana Assail Delegate Lannate Sevin Warrior	Intrepid Spintor

Efficacy for Tarnished Plant Bug (& Stink Bugs)

<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Poor</i>
Asana Baythroid Beleaf Delegate Pounce	Actara Assail Carzol Lannate Thionex Warrior	Avaunt Diazinon Imidan Provado Sevin	Intrepid Spintor

