

Oriental Fruit Moth Summary - 2019

Bill Shane

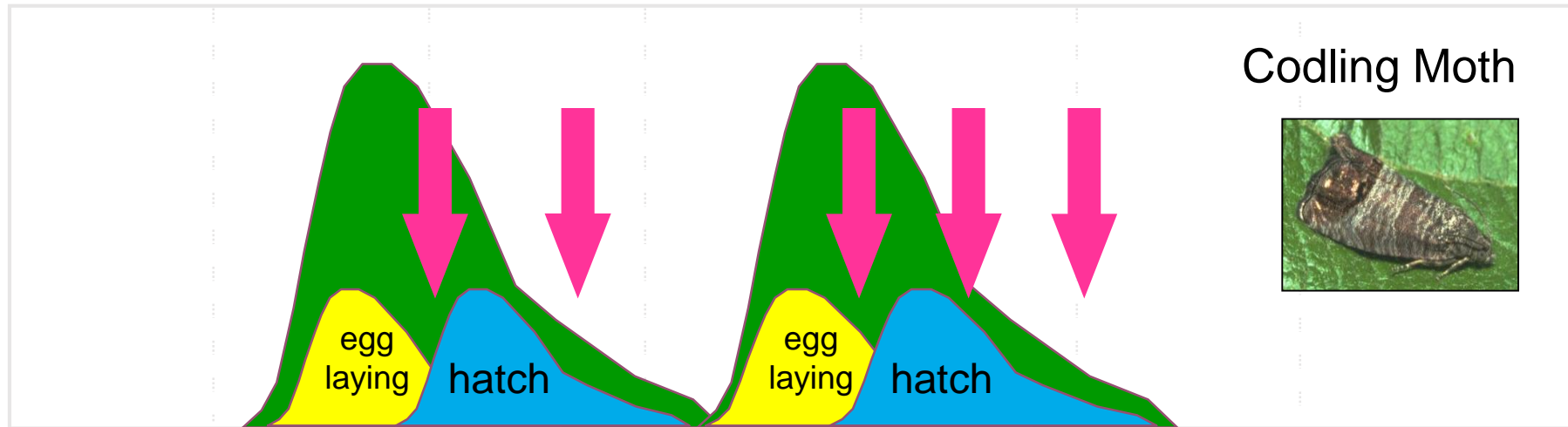
Michigan State University Extension

Oriental fruit moth develops resistance to insecticides

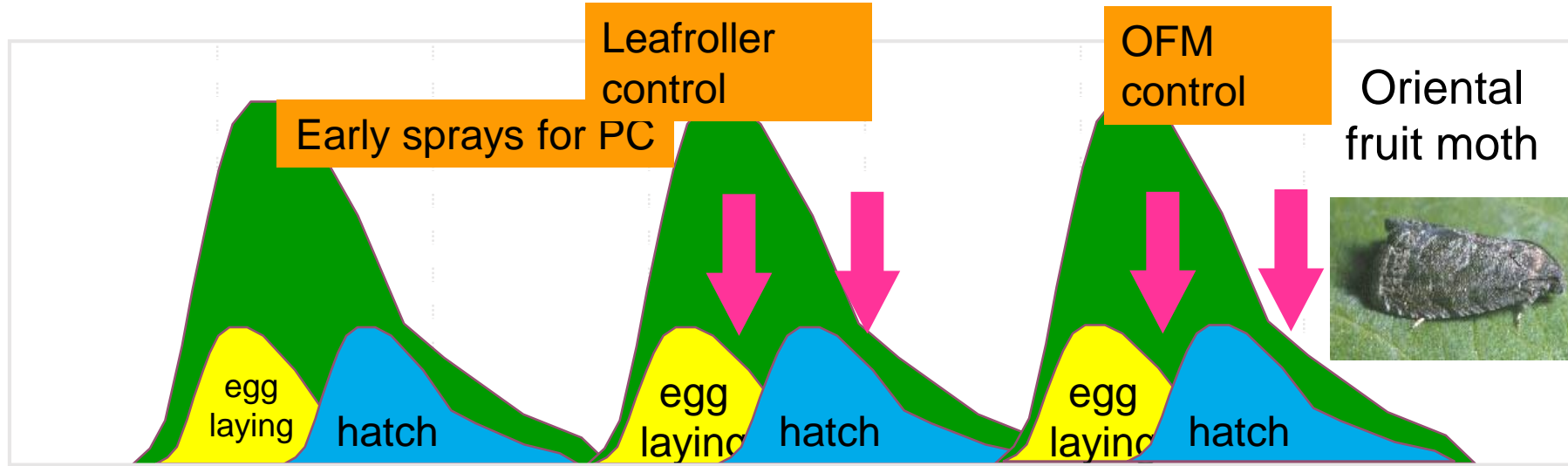
- Widespread resistance of OFM to pyrethroid and organophosphate insecticides in Eastern US in late 1990s and early 2000s.
- However...MI resistance assays in 1998-2000 indicated continued efficacy
- In recent years damage to peaches by OFM in Michigan has been on the increase, suggesting resistance problems.
- High trap catches 80+ per week are sometimes an indication that resistance problems are building



Life histories and spray timings on apple



Apple maggot, WAA, BMSB



Apr May June July Aug Sep Oct

*Insecticide relative effectiveness for Oriental fruit moth
and tarnished plant bug*

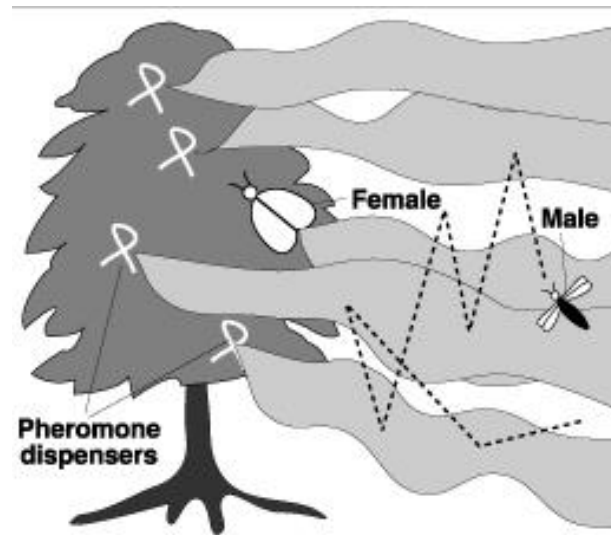
Chemical class	Compound trade name	OFM	Tarn plant bug	Rate per acre	Cost per acre
OP	Imidan 70 WP	+++	+	2 lb	\$24
Pyrethroid	Asana XL	+++	+++	8 fl oz	\$ 5
	Ambush/Pounce	++	+++		
	Danitol	+++	+++	10 fl oz	\$14
	Lambda-Cy	+++	+++		
	Baythroid	+++	+++	2.5 fl oz	\$13
	Perm-up	++	+++	6 fl oz	\$ 3
Diamide	Exirel	+++		12 oz	\$54
	Altacor	+++			
Spinosyn	Delegate	+++		5 oz	\$48
Neonicotinoid	Assail	+++	+++	6 oz	\$38
	Belay	++	++		
IGR	Rimon	+++			
	Intrepid	++			
Pyrethroid & Avermectin	Gladiator	+++	+++		

Insecticide relative effectiveness for OFM and SJS

Chemical class	Compound trade name	OFM	San jose scale crawlers	Preharvest interval (days)
OP	Imidan 70 WP	+++	+	14
Pyrethroid	Asana	+++	+	14
	Ambush/Pounce	++	+	14
	Danitol	+++	+++	3
	Baythroid	+++	+++	7
	Warrior II	+++	+++	14
Diamide	Exirel	+++		
	Altacor	+++		
Spinosyn	Delegate	+++		
Neonicotinoid	Assail	+++	++	7
	Belay	++	++	21
IGR	Rimon	+++		
	Intrepid	++		
Tetramic	Movento		+++	7

Summary of pheromone disruption use in tree fruit crops

- Strategy is to confuse or mislead males and prevent mating
- Useful for codling moth, oriental fruit moth, peach tree borers, and dogwood borers



Twin tube type
pheromone
dispenser

Summary of pheromone disruption use in tree fruit crops

- Need at least 3/4 acre orchard, more or less solid stand
- Not as effective if surrounded by orchards where the insect is not being well managed.
- If 1st year of use, won't see benefit until 2nd generation. This is because disruption does not kill, it only helps to block the next generation
- Disruption is a good strategy to bring down a big populations



Twin tube type
dispenser

Pheromone source

Great Lakes IPM



		DESCRIPTION	FIELD LIFE	ORDER NO.	QTY	PRICE	ACRES TREATED
		Codling Moth	120 - 140 days	ISM-C+	400/pk	\$ 100.00	1
		Codling Moth Twin Tube	120 - 140 days	ISM-CTT	400/pk	\$ 200.00	2
		Codling Moth Flex	Full Season	ISM-CM FLEX	400/pk	\$ 105.00	1 - 2
		CM/LR TT	120 - 140 days	ISM-CM/LR TT	300/pk	\$ 135.00	1
		CM Mist	Full Season	ISM-CM Mist	1 Can	Call for Pricing	1/2 - 2
For apple	➔	CM/OFM Twin Tube	180 days	ISM-CM/OFM TT	400/pk	Call for Pricing	2
		Dogwood Borer	Full Season	ISM-DWB	500/pk	\$ 200.00	3.3
		Oriental Fruit Moth Rosso	120 days	ISM-OFM Rosso	400/pk	\$ 156.00	2
For peach	➔	Oriental Fruit Moth TT	180 days	ISM-OFMTT	200/pk	\$ 125.00	1 - 2
For peach	➔	Peachtree Borer Dual	180 days	ISM-PTBD	500/pk	Call for Pricing	3.3

Useful products



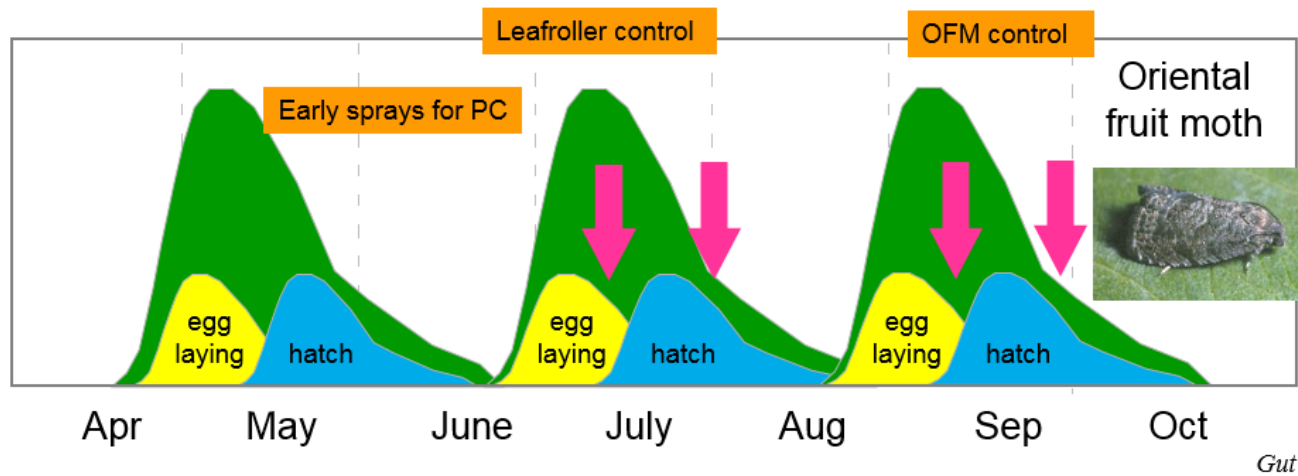
most disruption programs, a plot of at least 5 acres is recommended. Convenient plastic ties are placed in blocks at a specific density for each target insect. It is important to maintain a trapping program as a check to ensure that the disruption is working. When disruption is working, male moths will not appear in the pheromone traps. If moths are caught, one can conclude that disruption is failing, mating is occurring, and insect damage may result. We recommend using the Pherocon CM/DA Combo lure for trap monitoring in Codling Moth disruption blocks (see page 25). Remember to order monitoring traps for use during disruption programs.

PLEASE CONTACT US TO PROPERLY PLAN YOUR PROGRAM FOR EACH INSECT.

ISOMATE PRODUCTS ARE REGISTERED IN THE FOLLOWING STATES:	
C+	CO, MT, WA
CTT	CA, CO, ID, MI, MN, OR, UT, WA, WI
CM FLEX	AZ, CO, ID, IL, MI, NM, OH, OR, UT, WA
CM/LR TT	MI, OR, WA
CM MIST	CA, ID, MI, OR, WA
CM/OFM TT	IL, MI, OH
DWB	MI
OFM ROSSO	CO, ID, IL, MI, MO, OH, OR, WA
OFM TT	CA, MI, WA
PTB DUAL	AZ, IL, MI, OH

Weight: 2 # per package.

DESCRIPTION	FIELD LIFE	ORDER NO.	QTY	PRICE	ACRES TREATED
Codling Moth	120 - 140 days	ISM-C+	400/pk	\$ 100.00	1
Codling Moth Twin Tube	120 - 140 days	ISM-CTT	400/pk	\$ 200.00	2
Codling Moth Flex	Full Season	ISM-CM FLEX	400/pk	\$ 105.00	1 - 2
CM/LR TT	120 - 140 days	ISM-CM/LR TT	300/pk	\$ 135.00	1
CM Mist	Full Season	ISM-CM Mist	1 Can	Call for Pricing	1/2 - 2
CM/OFM Twin Tube	180 days	ISM-CM/OFM TT	400/pk	Call for Pricing	2
Dogwood Borer	Full Season	ISM-DWB	500/pk	\$ 200.00	3.3
Oriental Fruit Moth Rosso	120 days	ISM-OFM Rosso	400/pk	\$ 156.00	2
Oriental Fruit Moth TT	180 days	ISM-OFMTT	200/pk	\$ 125.00	1 - 2
Peachtree Borer Dual	180 days	ISM-PTBD	500/pk	Call for Pricing	3.3



Mating disruption

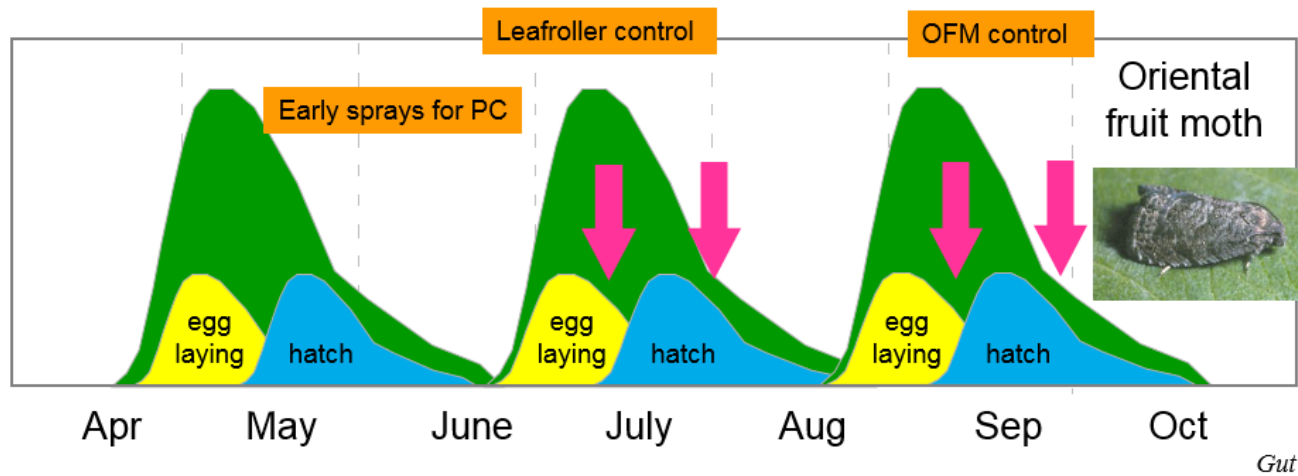
OFM has three generations per year which are tracked by pheromone-baited traps.

Mating disruption is typically deployed to reduce reproduction. Insecticides are timed with the peak of each adult flight based on trap catch numbers.

The current standard practice in the industry is to place a single pheromone lure baited trap three to four rows into the block towards the center.

If the block is being disrupted with pheromone, put additional monitoring traps outside the orchard to track moth activity in the area.





Mating disruption

Preliminary results indicated that pheromone-baited traps placed in the wood line may be more effective at catching OFM than those placed inside of orchards, particularly at both the beginning and the end of a generation.

New Trécé™ plant volatile OFM lure is more effective for OFM trapping in orchards where pheromone disruption is being used



Pherocon OFM Combo Dual

- has a proprietary blend of pheromones and plant extracts.
- Catches both male and female moths.
- Can help indicate if OFM is still present in pheromone disrupted orchards

