



Insect & Insecticide Update

Duke Elsner & Rufus Isaacs

Michigan State University Extension
and Department of Entomology

follow-up questions can be sent to isaacsr@msu.edu

Outline

- Insecticide label changes
- Trial results
 - Movento for phylloxera (not PLH)
 - Insecticides for GBM/JB
- Invasives - SWD and BMSB

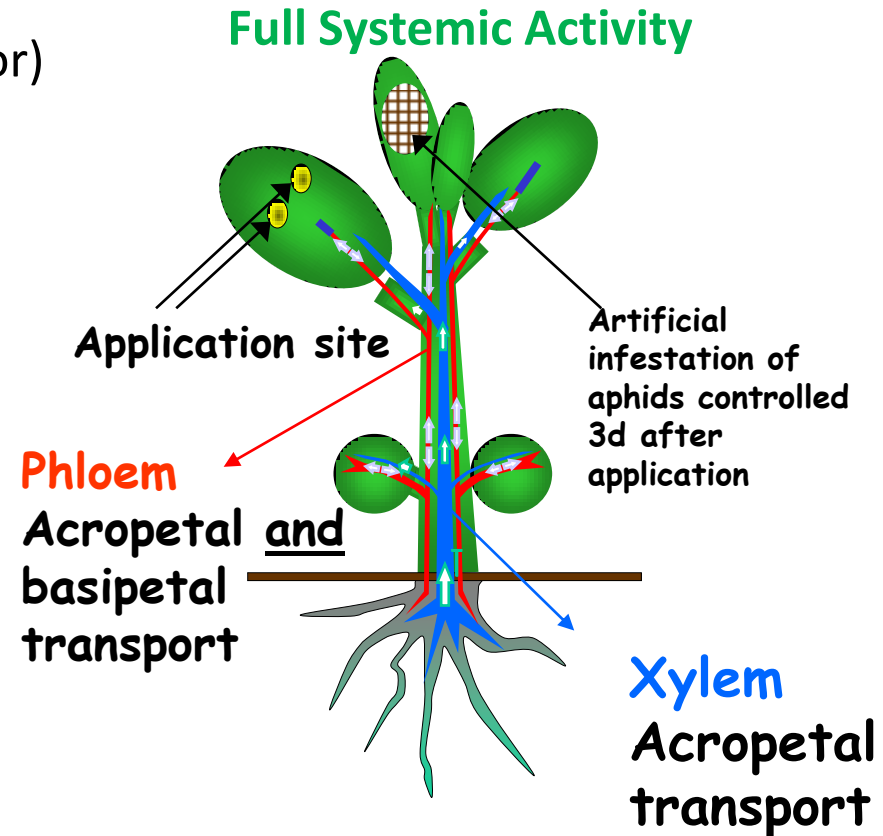
2011 grape insecticide label update

- **Lannate (methomyl) banned later this spring**
 - Lannate not allowed in grapes after May 9, 2011
- **Two formulations of dinotefuran (neonicotinoid) labeled**
 - Venom 70 SG (Valent). Registered, with a 2ee label for use in Michigan as foliar or soil application. Mealybug, leafhopper, Asian ladybeetle, berry moth (2-3 oz/ac). 1 day PHI.
 - Scorpion 35 SL (Gowan). Foliar (2-5 oz) or soil (9-10.5 oz) application. Leafhoppers, mealybugs, Japanese beetle, Asian ladybeetle, flea beetle, berry moth. 28 day PHI.
- **Movento (spirotetramat) fully labeled**

Spirotetramat = Movento 240SC (Bayer)

MOVENTO[®]
Two-way systemic

- A new chemical class: tetramic acids
- New mode of action (lipid synthesis inhibitor)
- Low risk to natural enemies
- Moves up and down plants in the vascular system
- Potential to treat leaves and achieve root pest control
- Does this provide new opportunity for phylloxera control??

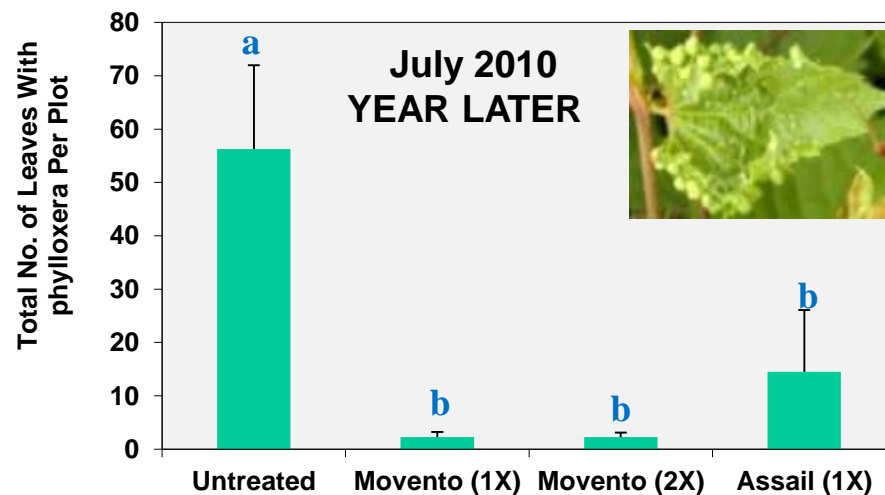
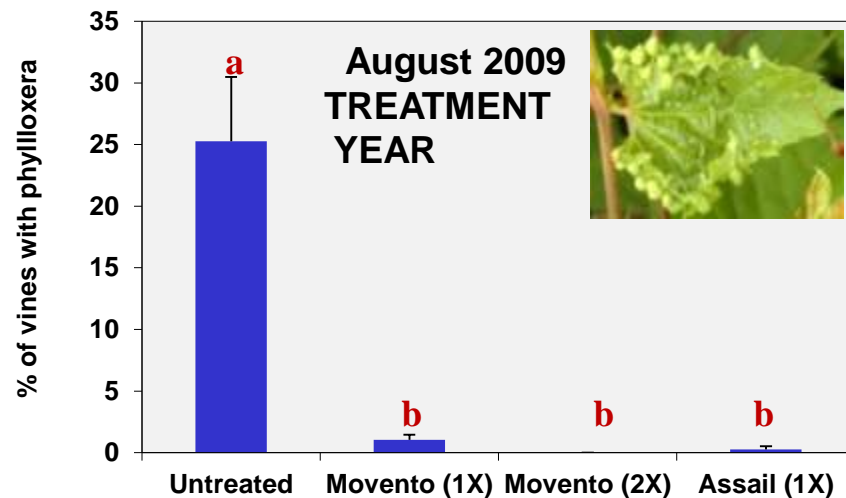




Movento tested against phylloxera

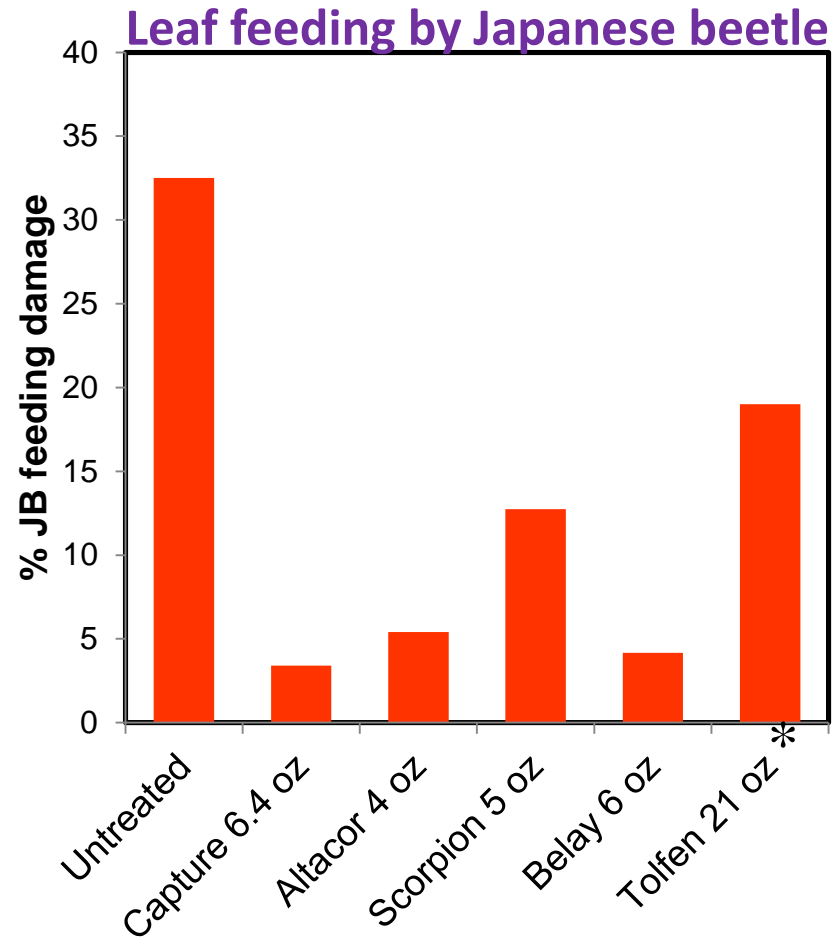
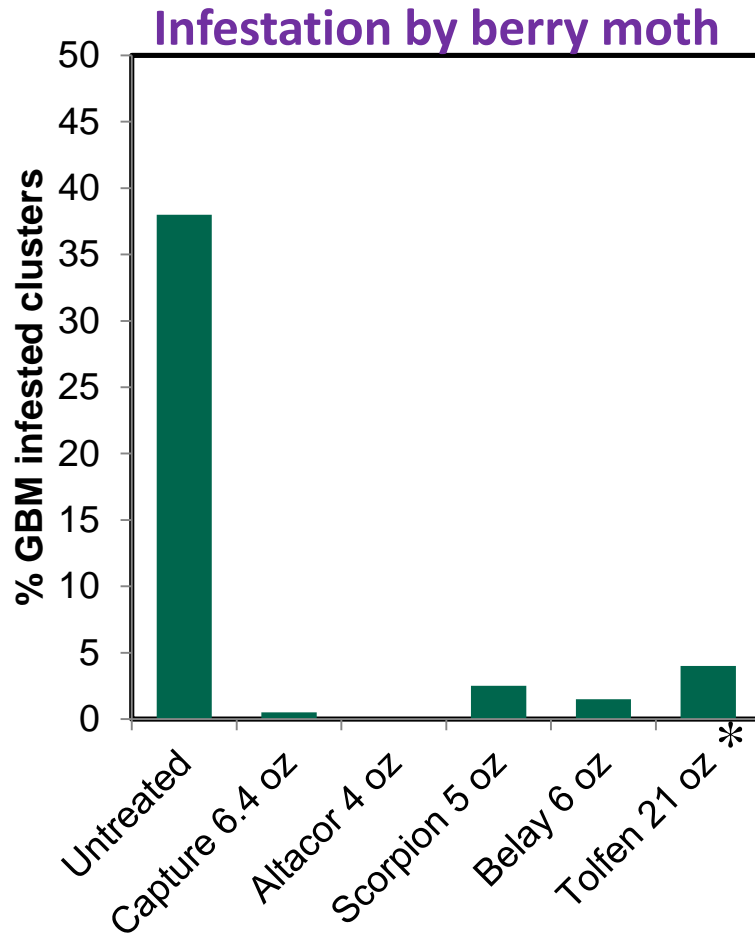
- Treatments to a phylloxera-infested Rougeon vineyard in 2009 (SW Michigan)
- Comparison of
 - Assail 30SG at 2.5 oz/ac (July 5)
 - Movento 240SC* at 6 oz/ac 1x (July 5)
 - Movento 240SC* at 6 oz/ac 2x (+Aug 6)
- All treatments worked well in Year 1.
- With no more application, maintained control in Year 2.

**plus non-ionic surfactant (e.g. R-11), or 1 % stylet oil has worked well in grape trials*



Control of berry moth and Japanese beetle, 2010

- Repeated airblast applications to 7-vine plots of Concord grape at TNRC
- Capture (pyrethroid), Altacor (diamide), and Belay (neonic) provided control of both pests
- Scorpion (neonic) and Tolfen (METI) more specific to berry moth



* Not yet registered for use in grape

Insecticides for vineyard pest management, 2011

Insecticide	Chemical class	Mode of cont.	Longevity	PHI (d)	REI	Beetle activity	'Hopper activity	GBM activity	Nat. Enem. Tox
Sevin	Carb	C	**	7	12 h	***	***	**	Toxic
Imidan	OP	C	***	14	14 d	***	**	***	Moderate
Danitol	Pyrethroid	C	***	21	24 h	***	****	***	T
Brigade/Capture	Pyrethroid	C	***	30	12 h	***	****	***	T
Mustang Max	Pyrethroid	C	***	1	12 h	***	****	***	T
Baythroid	Pyrethroid	C	***	3	12 h	***	****	***	T
Intrepid	Growth Reg.	I	****	30	4 h	-	-	***	Safe
Delegate	Naturalyte	C, I	**	7	4 h	*	*	***	M
SpinTor/Entrust	Naturalyte	C, I	**	7	4 h	-	*	**	M
Avaunt	Oxadiazine	C, I	**	7	12 h	**	*	**	M
Altacor	Diamide	C, I	***	14	4 h	**	*	***	M
Belt	Diamide	C, I	***	7	12 h	-	-	***	M
Provado	Neonicotinoid	S, C, I	****	0	12 h	***	****	-	M
Admire Pro (soil)	Neonicotinoid	S, I	****	30	12 h	**	***	-	S
Venom, Scorpion	Neonicotinoid	S, C, I	****	1	12 h	***	****	**	M
Assail	Neonicotinoid	S, C, I	***	7	12 h	***	***	-	M
Actara	Neonicotinoid	S, C, I	****	5	12 h	***	***	**	M
Belay	Neonicotinoid	S, C, I	****	0	12 h	***	****	**	M
<i>B.t.</i> ▲	Biological	I	*	0	4 h	-	-	**	S
Neem▲	Biological	C, I	*	0	12 h	**	**	**	M
Pyganic	Pyrethrum	C	*	0	12 h	**	*	*	M
Evergreen	Pyrethrum	C	*	0	12 h	***	*	*	M
Leverage	Neonic+Pyreth	S, C, I	****	3	12 h	***	***	***	M
Voliam Flexi	Neonic+Diamide	S, C, I	****	14	12 h	***	***	***	M
Brigadier	Neonic+Pyreth	S, C, I	****	30	12 h	***	***	***	T
Tourismo	Diamide + IGR	C, I	****	7	12 h	-	-	***	M
Movento	Tetramic acid	S, C, I	***	7	24 h	<i>phylloxera control</i>			M

Organic insecticide

Alternate chemical classes to minimize resistance

S = systemic locally or through vine
 C = contact activity, usually nerve poison
 I = ingestion needed for best activity

Longevity ratings

* = 3-5 days ** = 7 days
 *** = 7-10 days **** = 10-14 days

Prepared by Rufus Isaacs
 Michigan State University
 March 2011



Potential invasive insects to be aware of

Light brown apple moth & European grapevine moth

In CA only, quarantine pests.

MSU monitoring for LBAM and EGVM in 2011.



Brown marmorated stink bug

Detected in Berrien and Ingham counties in 2010.

Major injury in Mid-Atlantic fruit crops (ask Mark!).

MSU monitoring for BMSB in 2011.



Spotted Wing Drosophila

Found in 13 Michigan counties in 2010, not NW MI.

Grape is not a high risk host (cherries, blueberries are).

Egg laying, larval development once berries are ripe.

MSU monitoring for SWD in 2011.

