

Medicating onions for thrips infestations: New remedies to consider

Empire State Producers EXPO
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Topics

- I. Performance of Minecto Pro
- II. Evaluating thresholds for Exirel
- III. Comparing thrips control early in the season - Movento vs. Radiant
- IV. Impact of surfactants on diseases
- V. Controlling thrips with Radiant – results over past decade

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Minecto Pro 

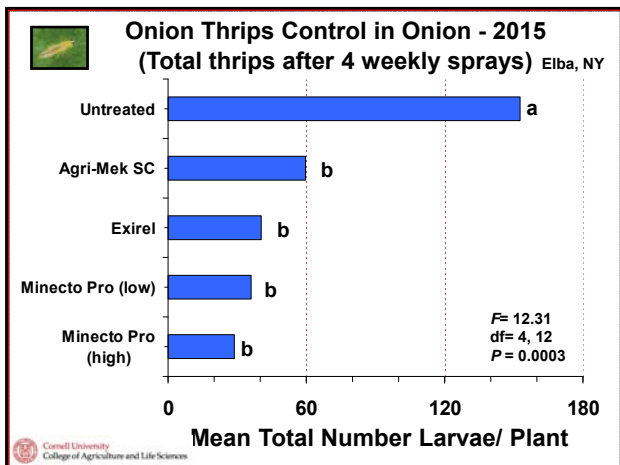
- Active ingredients: abamectin + cyantraniliprole
- Chemical classes: Avermectin (Group 6) + Anthranilic Diamide (Group 28)
- Section 3 label submitted to EPA in 2015
- How well does it control onion thrips?

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Evaluating Efficacy of Minecto Pro for Onion Thrips Control – 2015

Product	Active Ingredient	Rate per Acre
Untreated	-	-
Agri-Mek SC	abamectin	3.5 fl oz
Exirel	cyantraniliprole	13.5 fl oz
Minecto Pro	cyantraniliprole + abamectin	7 fl oz
Minecto Pro	cyantraniliprole + abamectin	10 fl oz


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Exirel[®]
insecticide




DU PONT[®]

- Active ingredient: cyantraniliprole
- Chemical class: Anthranilic Diamide (Group 28)
- Registered in New York State in 2015
- Controls onion thrips, but what threshold?




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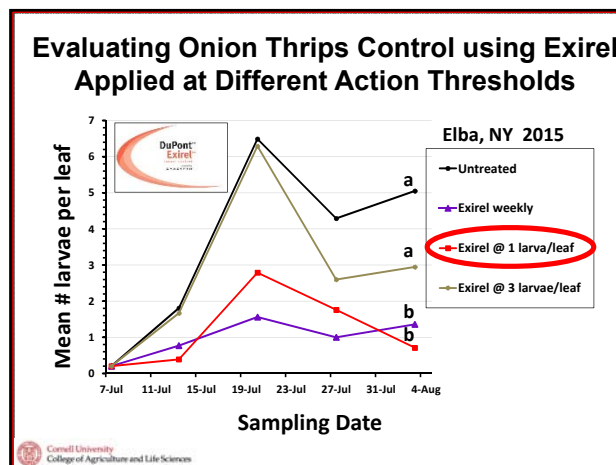
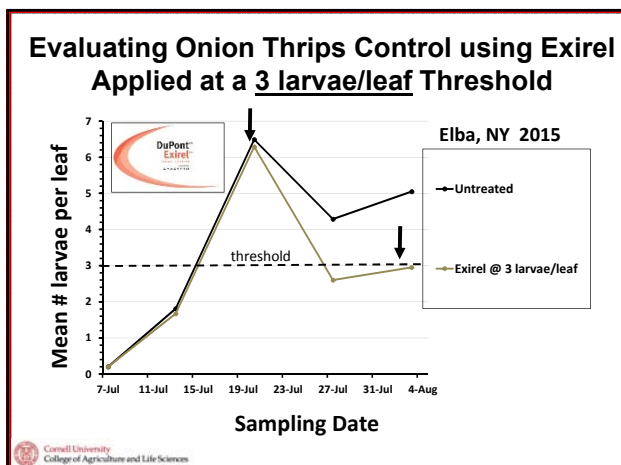
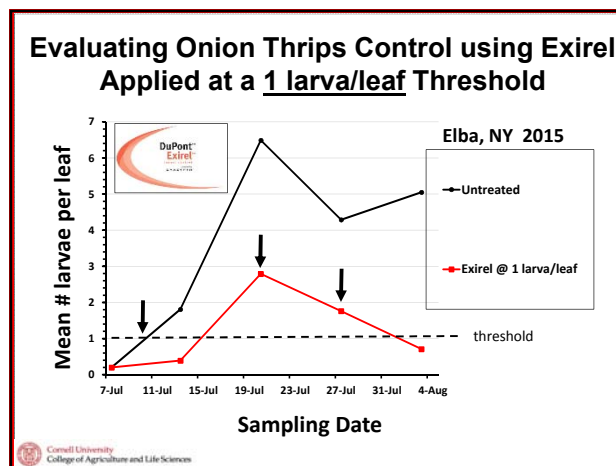
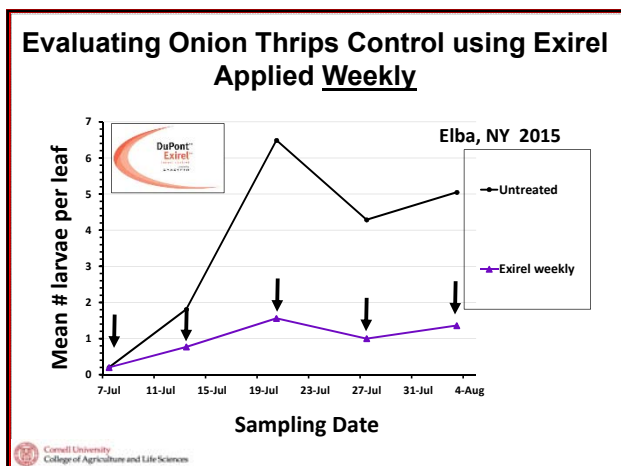
Evaluating Exirel for managing thrips - 2015



Product	Rate per Acre	Timing
Untreated	-	-
Exirel	13.5 fl oz	Weekly
Exirel	13.5 fl oz	1 thrips larva/leaf
Exirel	13.5 fl oz	3 thrips larvae/leaf



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Guidelines for Season-Long Thrips Control Using a Sequence of Products

*Spray when threshold ≥ 1 thrips/leaf for most products

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Which Product is Best to Begin Sequence?

*Spray when threshold ≥ 1 thrips/leaf for most products

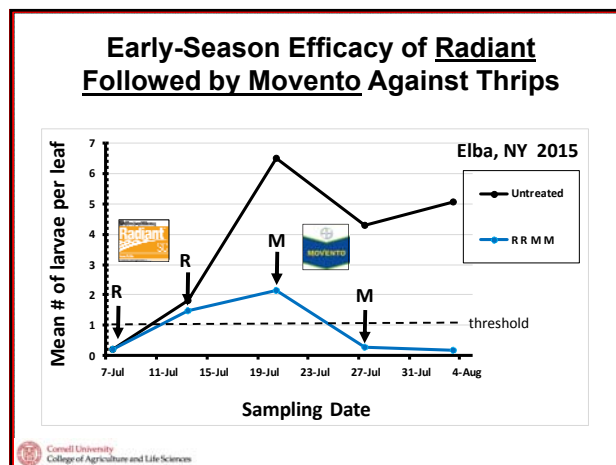
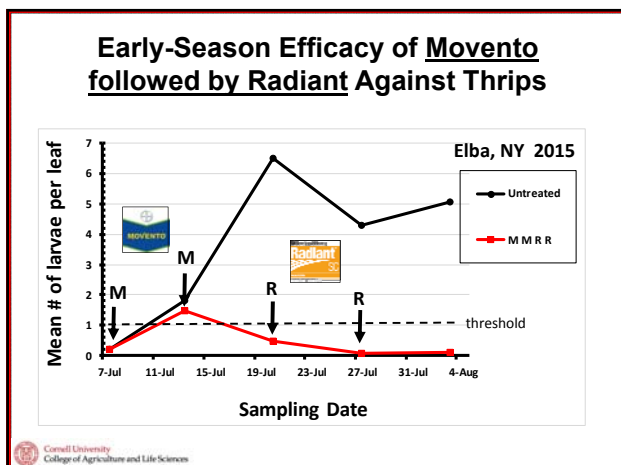
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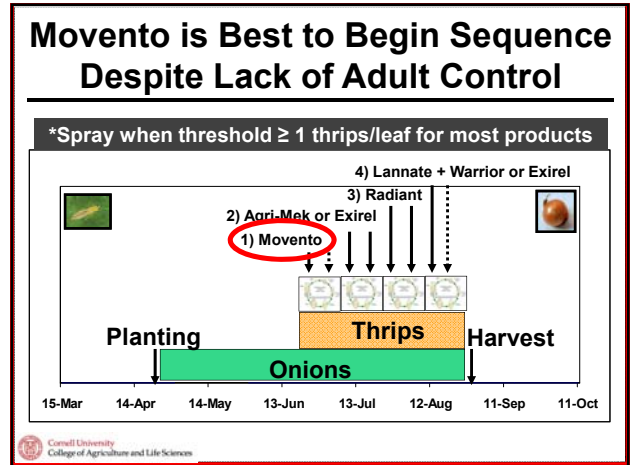
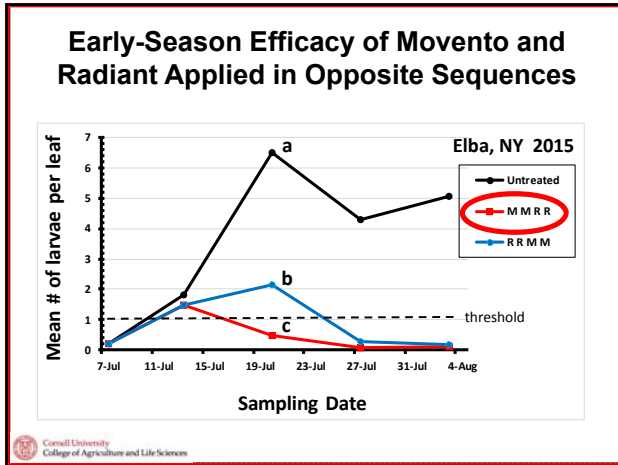
Movento vs. Radiant to Start an Onion Thrips Control Program - 2015

Period to Manage Thrips		
Treatment	First 2 weeks	Second 2 weeks
Untreated	-	-
1 (M,M,R,R)	Movento	Radiant SC
2 (R,R,M,M)	Radiant SC	Movento

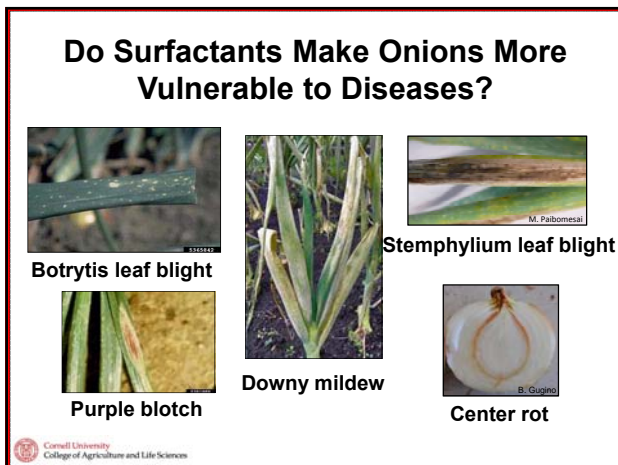
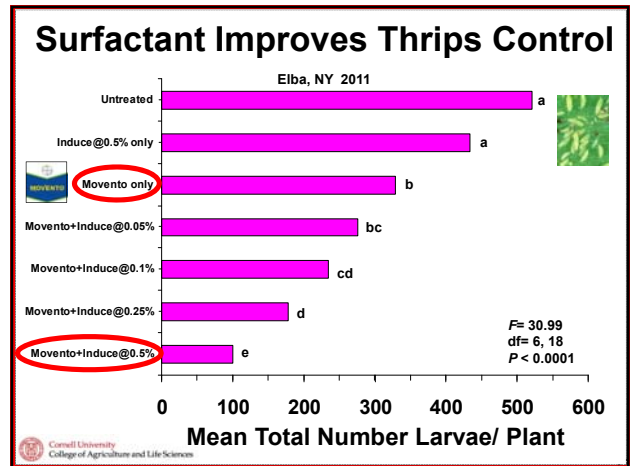
Products	(Rate per acre)
Movento	@ 5.0 fl. oz
Radiant SC	@ 6.0 fl. oz

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Evaluating Co-Applications of Insecticides and Surfactants for Thrips Control and Disease Incidence - 2015

Product	Surfactant Type	Rate (amount/acre)	Manufacturer
Induce	non-ionic	0.5% v:v	Helena Chem. Co.
MSO	methylated seed oil	0.25% v:v	Helena Chem. Co.
JMS Stylet oil	mineral oil	1.5% v:v	JMS
Silwet L-77	organosilicone	0.25% v:v	Helena Chem. Co.

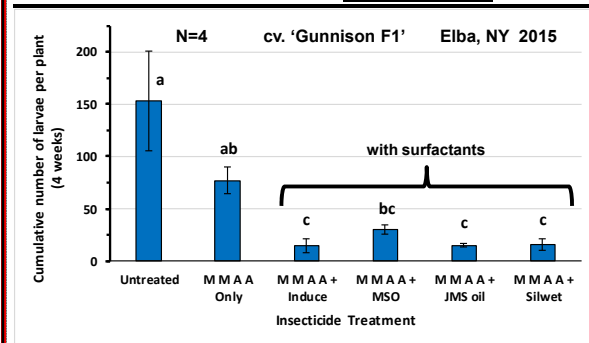
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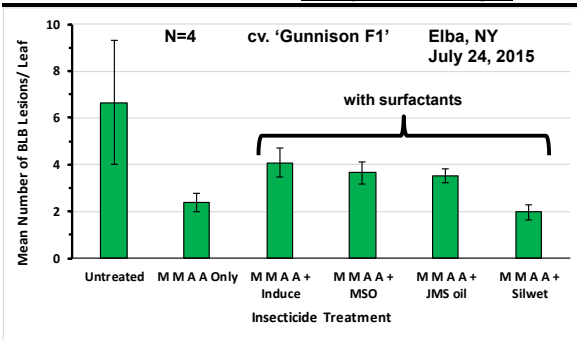
All treatments received the same weekly sequence of insecticides: Movento, Movento, Agri-Mek, Agri-Mek (=M M A A)



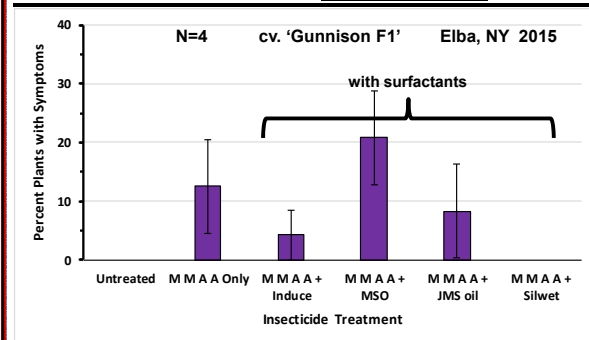
Evaluation of Insecticides Co-applied with Surfactants on Onion Thrips



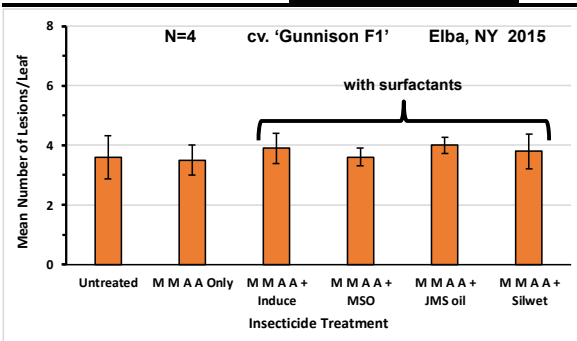
Evaluation of Insecticides Co-applied with Surfactants on Botrytis leaf blight



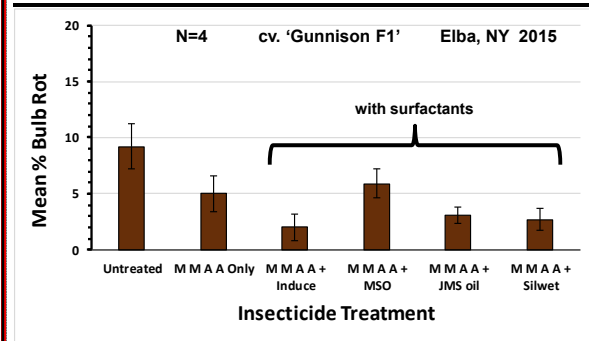
Evaluation of Insecticides Co-applied with Surfactants on Downy Mildew




Evaluation of Insecticides Co-applied with Surfactants on Target Spot Lesions




Evaluation of Insecticides Co-applied with Surfactants on Bulb Rot




Do Surfactants Make Onions More Vulnerable to Diseases - **NO**




Botrytis leaf blight




Stemphylium leaf blight



Purple blotch



Downy mildew



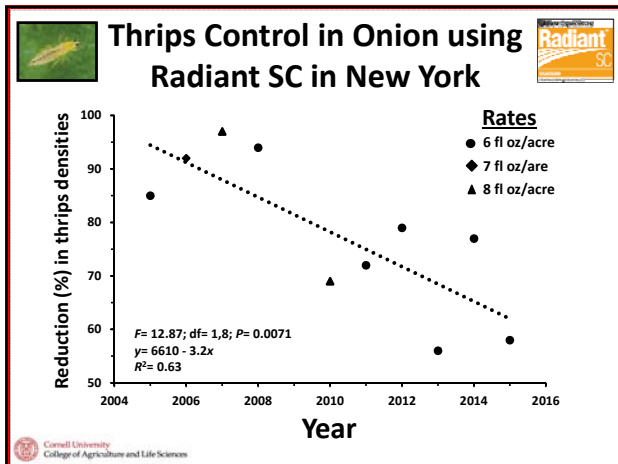
Center rot

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Summary

- I. Minecto Pro effectively controlled thrips
- II. Exirel should be applied @ 1 thrips/leaf
- III. Movento should start sequence, not Radiant
- IV. Surfactants did not impact disease incidence
- V. Radiant's performance appears to be declining

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Future Research

- **Improve performance of insecticide programs**
 (e.g., identify new materials; optimize spray timings - Movento applied earlier?; examine impact of tank mixes - Goal herbicide + insecticide, etc.)
- **Determine extent of spinetoram resistance in thrips populations throughout New York**
- **Encourage adoption of Onion Thrips Management Program**
 (discussed by Christy Hoeping)
- **Need to identify non-chemical tactics for thrips control**
 (e.g., host plant resistance, cultural controls and biological controls - discussed by Ashley Leach)

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Acknowledgements



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