

Evaluating a tri-partite IPM program to manage onion thrips in onion

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Outline

- Purpose of study
- Introduction of factors evaluated
- Results of trial in Elba, NY
- Conclusions

IPM approach to managing onion thrips

- Provide effective control of onion thrips
- Slow onset of insecticide resistance
- Reduce potential environmental contamination

Three factors



Cultivar selection

- Cultivars with **blue-green leaves** tend to have higher thrips densities, compared to those with **yellow-green leaves** (Diaz-Montaño et al 2012)
- Cultivars with **higher amounts of epicuticular wax** tend to have higher thrips densities (Damon et al 2014)



Nitrogen application at planting

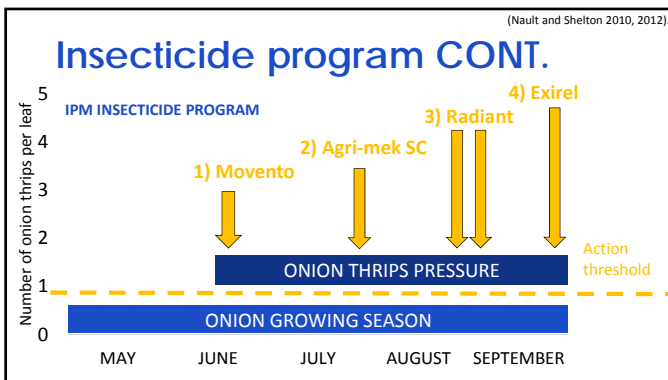
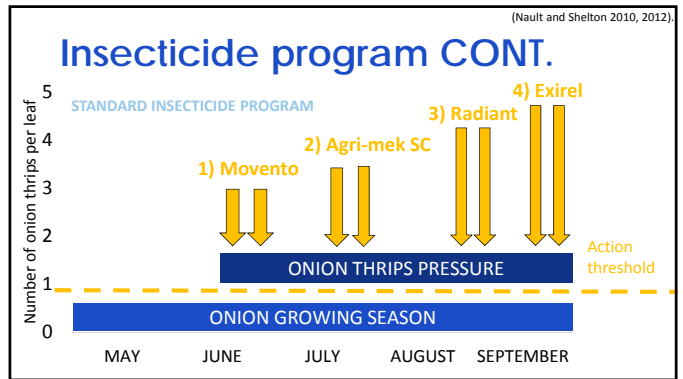
- Onion thrips densities increase with **increasing nitrogen application** (Malik et al 2009, Hsu et al 2011)



Insecticide program

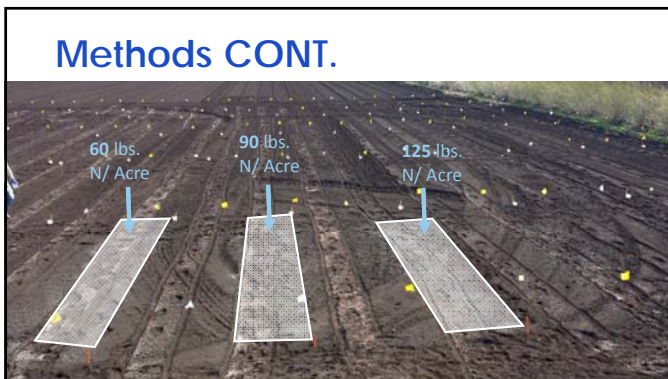
- Using scouting and action thresholds, growers can obtain same level of thrips control when compared to a standard insecticide program.

<p style="color: #0056b3; font-weight: bold; font-size: small;">STANDARD INSECTICIDE PROGRAM</p> <p style="font-size: x-small;">Insecticide applied every week once thrips surpassed threshold of 1 thrips larva per leaf</p>	<p style="color: #0056b3; font-weight: bold; font-size: small;">IPM INSECTICIDE PROGRAM</p> <p style="font-size: x-small;">Plots monitored weekly. Insecticide applied ONLY when thrips surpassed threshold of 1 thrips larva per leaf</p>	<p style="color: #0056b3; font-weight: bold; font-size: small;">UNTREATED CONTROL</p> <p style="font-size: x-small;">No insecticide applied.</p>
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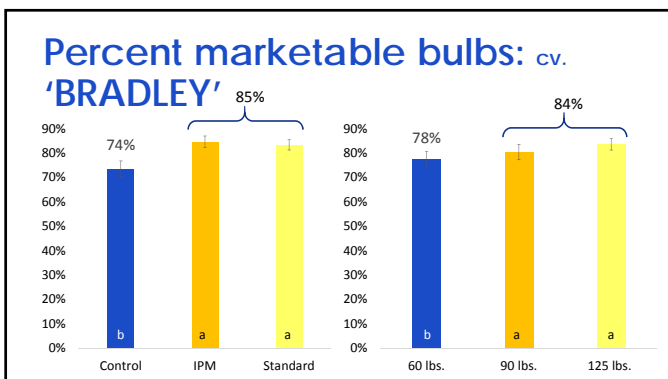
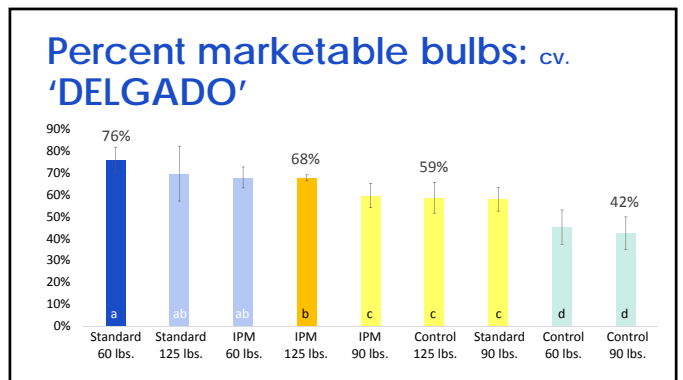
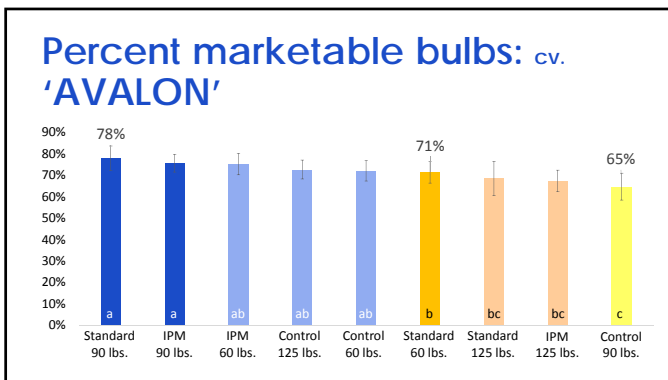
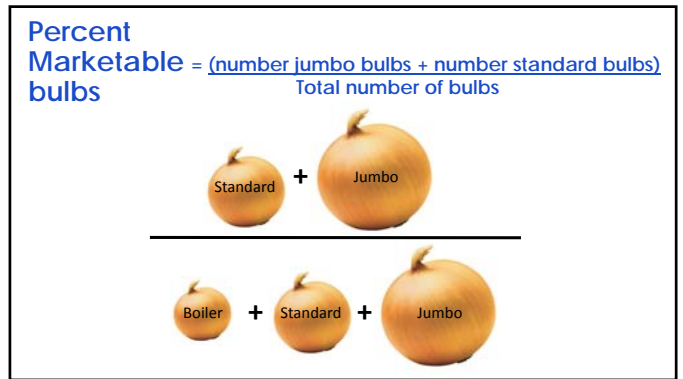
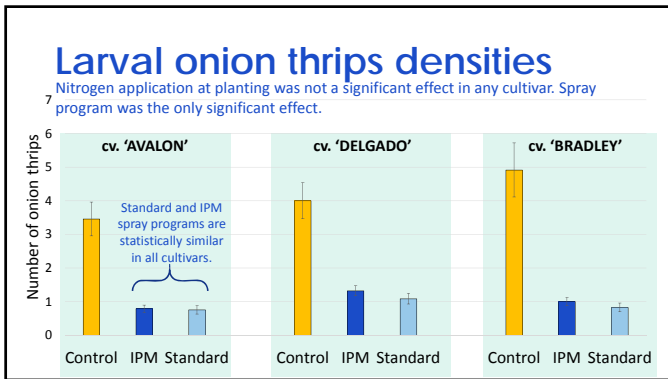
Methods

cv 'BRADLEY'	cv 'DELGADO'	cv 'AVALON'			
[Onion]	[Onion]	[Onion]			
					1. 60 lbs. N X IPM
					2. 90 lbs. N X STANDARD
					3. 125 lbs. N X CONTROL
					4. 60 lbs. N X IPM
					5. 90 lbs. N X STANDARD
					6. 125 lbs. N X CONTROL
					7. 60 lbs. N X IPM
					8. 90 lbs. N X STANDARD
					9. 125 lbs. N X CONTROL



Methods CONT.

Onions harvested and graded in September



Conclusions

- Using an IPM program based on scouting and action threshold is just as effective as a standard spray program

- Nitrogen can be reduced from 125 lbs. to 90 lbs. without negatively impacting percent marketable bulbs
- This is the first year of data! We will be replicating this trial in 2016

Acknowledgements

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Thank you! Questions?

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