Vidalia Onion Crop and Disease Update

March 17, 2021

Chris Tyson, Area Onion Agent

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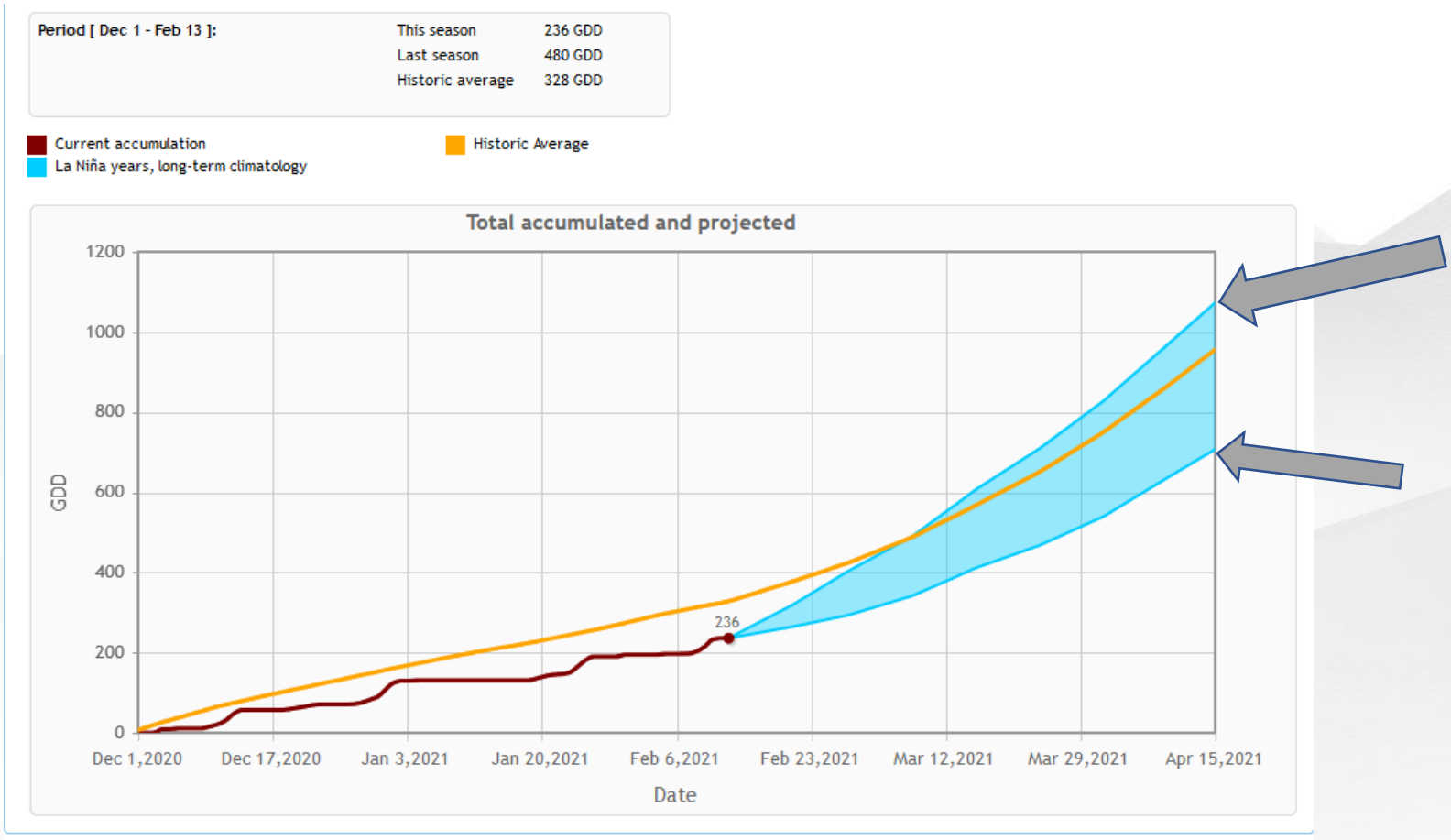
Please sign in

- Write your name and pesticide number in chat box
- Will need to sign out with your name at the end
- GA Pesticide credit

Weather Summary

- Rainfall at VOVRC since Dec. 1st - 13 inches
- Average 2 inch soil temps since Dec. 1st – 52 degrees F (last years average was 55)
- Average daily temp since Dec 1st – 49 degrees F (last year was 54)
- DD50 heat units since Dec 1st – 236 (last year we were at 480)

Heat Unit Accumulation- 50F



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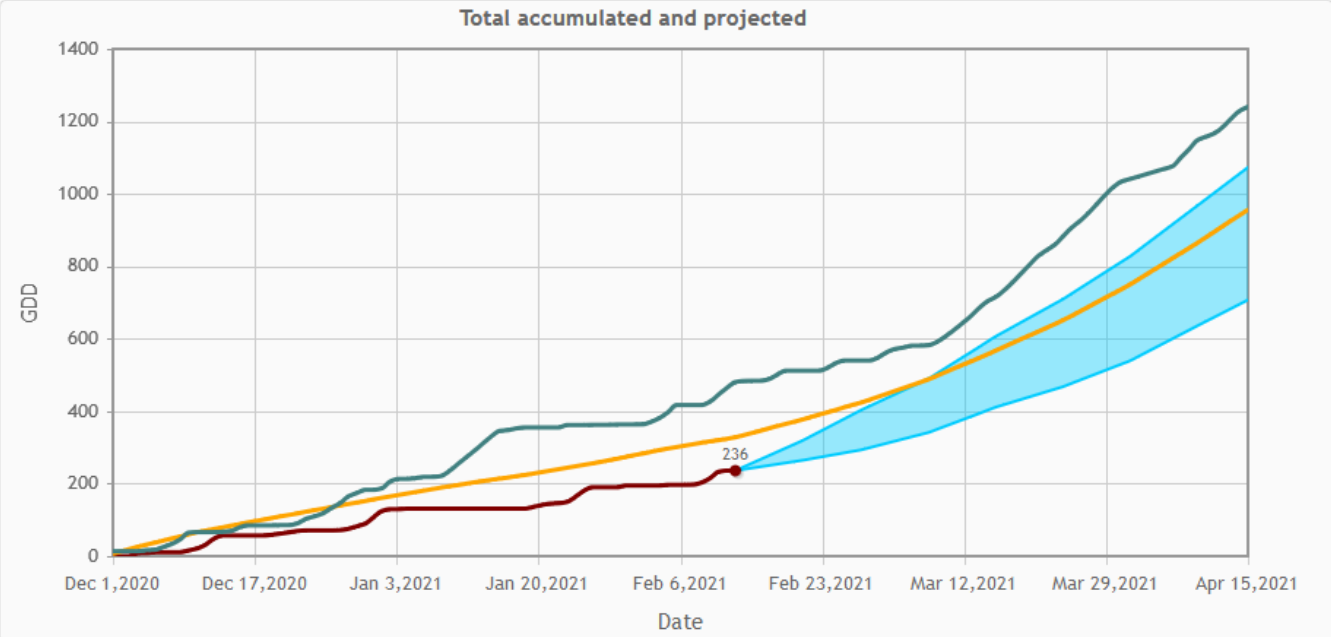
Heat Unit Accumulation-50F

Model: 50 °F - Toombs County (GA)

Period [Dec 1 - Feb 13]:		
	This season	236 GDD
	Last season	480 GDD
	Historic average	328 GDD

Current accumulation
Historic Average
Last season
La Niña years, long-term climatology



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How does the crop look?

- Overall, good stands and healthy plants, but smaller than usual.
- Isolated stand issues
- Wet, Causing delays in fertilizer/fungicide
- Botrytis/disease pressure has been suppressed by cool temps, but is starting to build.
- Many December planted onions reaching 6 leaves, earlier may have 8-10 leaves.

How does crop look?

How does the crop look?

Looking ahead

- Disease control
  - Botrytis
  - Stemphyllium/Purple Blotch
  - Downy Mildew
  - Center rot/other bacteria

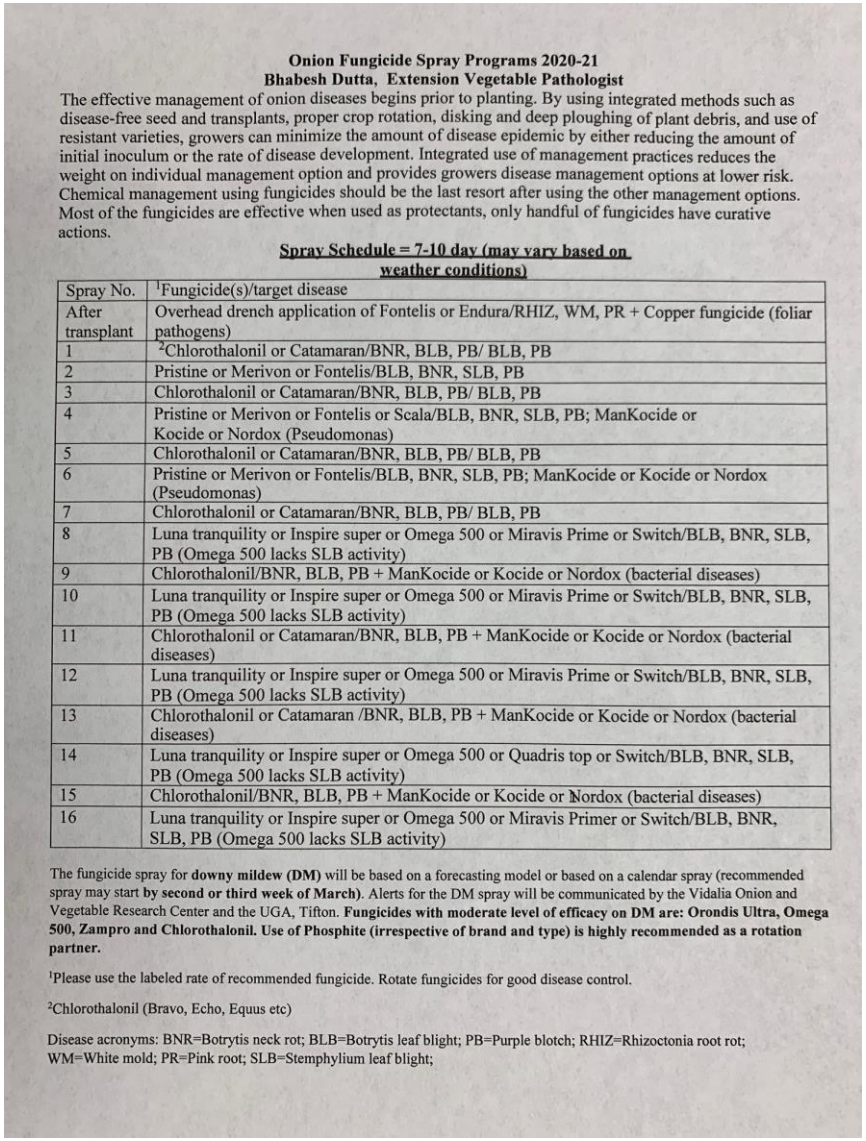
  Downy Mildew Monitoring

  Thrips Control

Sample Spray Program

Available on Vidalia Onion Extension blog

https://site.extension.uga.edu/vidaliaonion/



Onion Fungicide Spray Programs 2020-21

Bhabesh Dutta, Extension Vegetable Pathologist

The effective management of onion diseases begins prior to planting. By using integrated methods such as disease-free seed and transplants, proper crop rotation, disking and deep ploughing of plant debris, and use of resistant varieties, growers can minimize the amount of disease epidemic by either reducing the amount of initial inoculum or the rate of disease development. Integrated use of management practices reduces the weight on individual management option and provides growers disease management options at lower risk. Chemical management using fungicides should be the last resort after using the other management options. Most of the fungicides are effective when used as protectants, only handful of fungicides have curative actions.

Spray Schedule = 7-10 day (may vary based on weather conditions)

Spray No.	[1]Fungicide(s)/target disease
After transplant	Overhead drench application of Fontelis or Endura/RHIZ, WM, PR + Copper fungicide (foliar pathogens)
1	[2]Chlorothalonil or Catamaran/BNR, BLB, PB/ BLB, PB
2	Pristine or Merivon or Fontelis/BLB, BNR, SLB, PB
3	Chlorothalonil or Catamaran/BNR, BLB, PB/ BLB, PB
4	Pristine or Merivon or Fontelis or Scala/BLB, BNR, SLB, PB; ManKocide or Kocide or Nordox (Pseudomonas)
5	Chlorothalonil or Catamaran/BNR, BLB, PB/ BLB, PB
6	Pristine or Merivon or Fontelis/BLB, BNR, SLB, PB; ManKocide or Kocide or Nordox (Pseudomonas)
7	Chlorothalonil or Catamaran/BNR, BLB, PB/ BLB, PB
8	Luna tranquility or Inspire super or Omega 500 or Miravis Prime or Switch/BLB, BNR, SLB, PB (Omega 500 lacks SLB activity)
9	Chlorothalonil/BNR, BLB, PB + ManKocide or Kocide or Nordox (bacterial diseases)
10	Luna tranquility or Inspire super or Omega 500 or Miravis Prime or Switch/BLB, BNR, SLB, PB (Omega 500 lacks SLB activity)
11	Chlorothalonil or Catamaran/BNR, BLB, PB + ManKocide or Kocide or Nordox (bacterial diseases)
12	Luna tranquility or Inspire super or Omega 500 or Miravis Prime or Switch/BLB, BNR, SLB, PB (Omega 500 lacks SLB activity)
13	Chlorothalonil or Catamaran /BNR, BLB, PB + ManKocide or Kocide or Nordox (bacterial diseases)
14	Luna tranquility or Inspire super or Omega 500 or Quadris top or Switch/BLB, BNR, SLB, PB (Omega 500 lacks SLB activity)
15	Chlorothalonil/BNR, BLB, PB + ManKocide or Kocide or Nordox (bacterial diseases)
16	Luna tranquility or Inspire super or Omega 500 or Miravis Primer or Switch/BLB, BNR, SLB, PB (Omega 500 lacks SLB activity)

The fungicide spray for **downy mildew (DM)** will be based on a forecasting model or based on a calendar spray (recommended spray may start **by second or third week of March**). Alerts for the DM spray will be communicated by the Vidalia Onion and Vegetable Research Center and the UGA, Tifton. **Fungicides with moderate level of efficacy on DM are: Orondis Ultra, Omega 500, Zampro and Chlorothalonil. Use of Phosphite (irrespective of brand and type) is highly recommended as a rotation partner.**

[1]Please use the labeled rate of recommended fungicide. Rotate fungicides for good disease control.

[2]Chlorothalonil (Bravo, Echo, Equus etc)

Disease acronyms: BNR=Botrytis neck rot; BLB=Botrytis leaf blight; PB=Purple blotch; RHIZ=Rhizoctonia root rot; WM=White mold; PR=Pink root; SLB=Stemphylium leaf blight;

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Botrytis Leaf Blight

Botrytis Leaf Blight

Ranking of Fungicides with Respect to their Efficacy on BLB

Fungicides	Efficacy
Omega 500	High-to-moderate
★ Scala	High-to-moderate
Miravis Prime	High-to-moderate
★ Luna Tranquility	Moderate
Inspire super	Moderate
Fontelis/Merivon	Moderate
Quadris top	Moderate-to-low
Pristine	Moderate-to-low
Switch	Moderate-to-low
Quadris	Moderate-to-low
Rovral	Low

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★ Note: Scala and Luna showed reduced efficacy in last years UGA trials.

Stemphyllium Leaf Blight

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Stemphyllium Leaf Blight

Ranking of Fungicides with Respect to their Efficacy on Stemphylium

Fungicides	Efficacy
Luna Tranquility	High-to-moderate
Inspire super	Moderate
Miravis Prime	Moderate-to-low
Quadris top	Moderate-to-low
Pristine	Moderate-to-low
Switch	Moderate-to-low
Quadris	Moderate-to-low
Rovral	Low
Omega 500	No efficacy
Scala	No efficacy

Downy Mildew

Downy Mildew

Ranking of Fungicides with Respect to their Efficacy on Downy Mildew

Fungicides	Efficacy
Omega 500	Moderate
Orondis Ultra	Moderate
Bravo	Moderate-to-low
Zampro	Moderate-to-low
Phosphites	Low (but can help)
Previcur Flex	No efficacy
Ranman	No efficacy
Reason	No efficacy
Revus	No efficacy
Presidio	No efficacy

Downy Mildew Monitoring

Year	Date Downy Mildew Discovered
2020	March 23
2019	February 28
2018	March 19
2017	???
2016	April 13
2015	April 20
2014	April 14
2013	April 11
2012	early March

- Using "NEWA" system from Cornell to monitor weather conditions favorable for disease
- At a minimum, growers need to begin using protective products such as Bravo and Phosphites
- Growers urged to consider including Omega and Orondis into their rotation
- Good scouting can be valuable

Center rot of onion: *Pantoea* sp.

Bactericide trial; UGA (natural inoculum was relied upon)

Treatment and rate of product per acre	Application No. [z]	Initial disease severity (%) on 25 Mar	Final disease severity (%) on 28 Apr[y]	AUDPC[x]	Center rot incidence in bulb (%)[w]
Mankocide 2.5 lb	1-6	10.7 b[x]	43.8 c	358.8 c	9.1 c[v]
Kocide 3000 1.5 lb	1-6	28.9 ab	50.0 bc	540.7 bc	29.8 bc
Champ 1.5 lb	1-6	15.1 ab	51.3 b	464.8 bc	18.0 c
Oxidate 5.0 32 fl oz per 100 gal	1-6	40.0 a	71.3 a	791.2 ab	55.2 a
Agrititan 800 ppm	1-6	29.4 ab	58.8 b	602.8 bc	19.5 c
LifeGuard 2 fl oz	1-6	22.7 ab	48.8 bc	469.2 bc	26.8 bc
Nordox 1 lb	1-6	18.0 ab	53.8 b	502.4 bc	17.2 c
Mastercop 1 pt	1-6	23.7 ab	48.9 bc	489.6 bc	12.2 c
Leap 1 qt	1-6	32.4 ab	70.0 a	703.8 ab	52.5 ab
Actigard 0.5 fl oz	1-6	34.9 ab	70.0 a	699.5 ab	57.5 ab
NUCop 1.5 lb	1-6	15.2 ab	55.0 b	485.4 bc	18.8 c
Non-treated check	**-**	**44.9 a**	**87.5 a**	**1012.2 a**	**74.8 a**

LifeGard can be used as a rotation partner with Copper Bactericides

Treatment and rate per acre	Frequency of application	Final disease severity (%)	AUDPC
LifeGard 2 fl oz	6	48.8 b	433.2 b
LifeGard 2 fl oz Kocide 3000 1.5 fl oz	3 3	53.8 b	451.3 b
Kocide 3000 1.5 fl oz	6	49.2 b	481.6 b
Nordox 1 lb	6	51.5 b	450.6 b
Non-treated check	-	74.2 a	770.1 a

LifeGard® WG

BIOLOGICAL PLANT ACTIVATOR

- OMRI certified and also for Conventional Use

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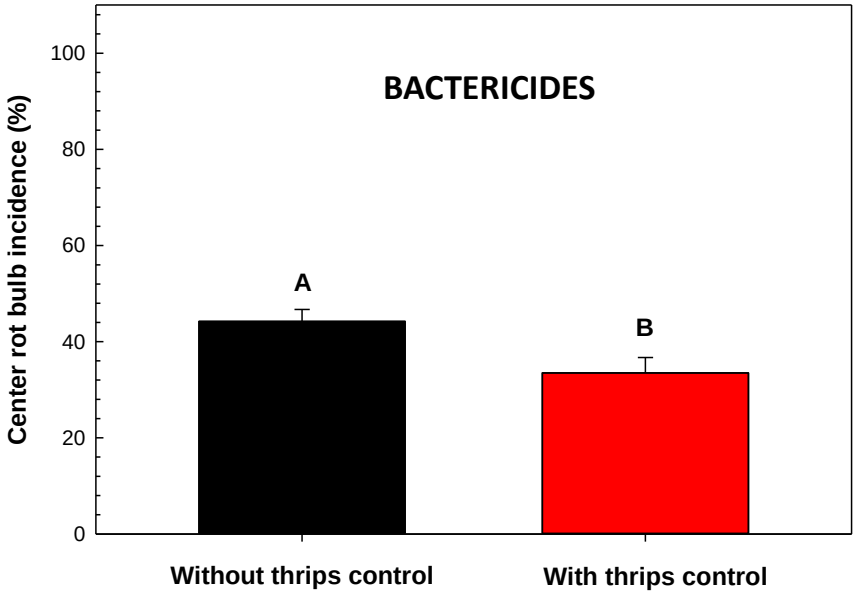
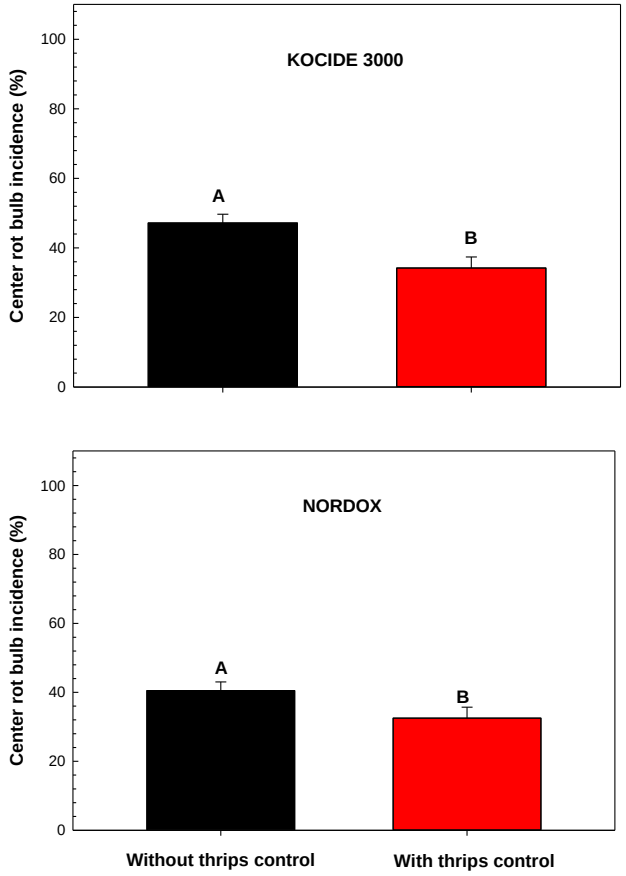
Bactericides work efficiently under good thrips control program





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Thrips Control

- When to spray?
- Threshold is 5 thrips per plant (avg), BUT:
- Prior research has shown that **spraying at avg 1 thrip per plant** can also be successful by reducing future populations and # spray trips across the field.

Thrips Control- What to use?

- Radiant – need to use 8-10 oz, $50 – 65, 4-5 days residual
- Exirel – 13.5-20.5 oz, $40-65, 1+ week residual
- Torac – 24 oz, $35, 1+ weeks residual
- Lannate- 1.5-3pts, $10-25, No residual
- Pyrethroids (Mustang Maxx, Warrior) – Cheap, not much residual

- Pyrethroids only work on *Fusca* thrips. May be other types in your fields. Fusca accounted for ½ of population in 2019 trial.

Center Rot-Things to consider

- Need to be using copper in 2nd half of season, as much as possible
- Not going to argue about specific copper products
- Consider trying Lifegard in your copper rotation, not at the same time/tank-mix as copper
- Thrips control may help to some degree. May want to try and knock them back as early as possible.

Organic Options

- Copper-bacteria
- Lifegard- bacteria
- Serenade- Botrytis
- Howler-Botrytis

Thank You!

- Please sign out with your name.

- Chris Tyson, 912-551-2204
- https://site.extension.uga.edu/vidaliaonion/

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