2015 Fungicide Update
New Labeled Products in 2014

2 New Fungicides
Merivon - BASF
Proline - Bayer

1 New Nematicide
Nimitz - ADAMA= (formerly MANA)
• Non-Fumigant Nematicide
  • Active: Fluensulfone
  • True Nematicide (effective on all nematode species)
• EC Formulation
• Signal word “Caution” Telone EC “Warning” Vydate L “Danger”
• Fruiting Veg (Crop Group 8) Cucurbits (Crop Group 9)
• 3-5 Pt Rate (7pt Max/Acre/Year)
• Pre-plant Incorporated or Drip Applied (7day pre plant)
• Strobilurin (Group 11) + SDHI (Group 7)
  Pyraclostrobin (21.2%) + Fluxapyroxad (21.2%)

• Similar to (sweet corn + fruiting veg)
  Pyraclostrobin (28.6%) + Fluxapyroxad (14.3%)

• Broad Spectrum Fungicide
• High Risk for Resistance
Bulb Vegetables (Onions)
- Purple Blotch
- Botrytis neck rot
- Botrytis leaf blight
- Downy Mildew

Cucurbit Crops
- Powdery Mildew
- Gummy Stem Blight
- Alternaria
- Anthracnose
- Target Spot

Root Vegetables (not sugar beets)
- Alternaria, Cercospora, Powdery mildew

Leafy Vegetables (not brassicas)
2012
Onion Trial
Gummy Stem Blight Severity

- Luna Experience (10floz)
- Inspire Super (20 floz)
- Bravo (3pt)
- Merivon (5.5 floz)
- Fontelis (1pt)
- Untreated

Gummy Stem Blight

- 2013 Watermelon Trial
- 2014 Watermelon Trial
Powdery Mildew

Powdery Mildew Severity

2011 Summer Squash Trial

2014 Summer Squash Trial

Torino (3.4 floz)
Luna Experience (10 floz/a)
Merivon (5.5 floz)
Fontelis (1 pt)
Procure (8 floz)
Untreated

Powdery Mildew
SUMMARY

Onion Diseases:
- Excellent control on most onion diseases

Cucurbit crops
- Fluxapyroxad provides similar control on Gummy Stem Blight as Fontelis (Penthiopyrad). Activity on Powdery Mildew.
  Resistance Management is critical.
- Pyraclostrobin component (Cabrio, Headline) should provide control of Anthracnose, and Alternaria
• Prothioconazole Group (3) Fungicide (sterol inhibitor)
• Cucurbit Crops
  • Fusarium Wilt
  • Gummy Stem Blight
  • Powdery Mildew
  • Southern Blight
Fusarium wilt % incidence

Watermelon Fusarium Wilt Trials (inoculated)
Powdery Mildew

2014 Summer Squash Trial

Powdery Mildew Severity (0-100)

- Proline (5.7 floz)
- Torino (3.4 floz)
- Procure (8 floz)
- Untreated

Proline (5.7 floz) received a d grade, Torino (3.4 floz) received a d grade, Procure (8 floz) received a bc grade, and Untreated received an a grade.
Gummy Stem Blight Severity

2011 Gummy Stem Blight Trial (Attapulgus)

2014 Gummy Stem Blight Trial (VORC)

Gummy Stem Blight
• Best Fungicide we have tested against Fusarium Wilt
• Excellent Activity on Powdery Mildew
  • Good rotation partner
    • Torino on Squash
    • Torino, Quintec on Watermelons and Cantaloupe
• Has Activity on Anthracnose
• Excellent Activity on Gummy Stem Blight
  • Resistance management is critical
    • Do not rotate with Tebuconazole products
Fungicide Issues

- Reduced efficacy SDHI Fungicides on Powdery Mildew of Cucurbit crops
- Tebuconazole resistance in Gummy Stem Blight
- Downy Mildew Fungicides on Cucurbit crops

2014 Disease Management Update
Reduced Efficacy of the SDHI (Group 7) Fungicides to Powdery Mildew in Georgia
### Watermelon Trials

#### Gummy Stem Blight Severity

<table>
<thead>
<tr>
<th></th>
<th>2013 Attapulgus</th>
<th>2014 VORC</th>
<th>2014 Attapulgus</th>
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<tbody>
<tr>
<td>Luna Experience (10 floz)</td>
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<tr>
<td>Inspire Super (20 floz)</td>
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<td>Bravo (3 pt)</td>
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<td>Tebuzol (8 floz)</td>
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<td>Proline (5.7 floz)</td>
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<tr>
<td>Untreated</td>
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**Triazole insensitivity to Gummy Stem Blight**
Valent Downy Mildew Trials

Cucumber Downy Mildew AUDPC

- V-10208 (.25 lb ai)
- Ranman (2.75 floz)
- Zampro (14 floz)
- Untreated

Legend:
- Red: 2011 Trial
- Brown: 2012 Trial
- Orange: 2013 Trial
- Blue: 2014 Trial

* indicates significant difference from untreated control.
Syngenta Downy Mildew Trials

*C or # = significantly different than other treatments*
• Summary

• All of the SDHI Fungicides show lower efficacy for control of Powdery Mildew on Cucurbit Crops

• Tebuconazole resistance has been found in Gummy Stem Blight. Resistance management is critical.

• Efficacy of Downy Mildew Fungicides for cucurbit crops may be slipping, though further work is required to clarify.

• Syngenta expects (a.i. Oxathiapiprolin) to be registered mid-late 2015. When available, it will be used with Bravo and not as a solo product.

• Valent V-10208 possible label in 2016.

2014 Disease Management Update
<table>
<thead>
<tr>
<th>UGA Plant Pathology Black Shank Farm</th>
<th>Attapulgus Research and Education Center</th>
<th>Vidalia Onion and Vegetable Research Center</th>
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<tbody>
<tr>
<td>Eric Goodwin</td>
<td>Billy Mills</td>
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<td>Student Workers</td>
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**Thanks**