Coastal Vegetables: Disease Developments and Farm Advisor Diagnostic Errors

Steven Koike
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Cooperative Extension
Coastal Vegetables: Disease Developments and Advisor ______ Diagnostic Errors

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Coastal Vegetables:
Disease Developments and
Advisor Koike’s Diagnostic Errors

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Cucumber mosaic virus
Cucumber mosaic virus
Beet curly top virus / Beet western yellows virus
Alfalfa mosaic virus?
Alfalfa mosaic virus
Sclerotinia / Botrytis / Phoma / Fusarium
Pythium uncinulatum
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Pythium</th>
<th>Sclerotinia</th>
<th>Botrytis</th>
<th>Fusarium</th>
<th>Verticillium</th>
<th>Thielaviopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small, stunted plants</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Wilted leaves</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Yellowed leaves</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Collapsed plants</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Decayed crowns</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Vascular discoloration</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Rotted root system</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Brown bands on roots</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>
# Dangers of windscreen diagnosis

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Pythium</th>
<th>Sclerotinia</th>
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<th>Fusarium</th>
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<td>yes</td>
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<td>yes</td>
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<td>no</td>
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<td>no</td>
<td>no</td>
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<td>no</td>
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<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>
Verticillium wilt
Fusarium wilt
Lettuce wilt diseases: Symptoms

- **Verticillium**
  - Leaf wilt and death
  - Plant collapse
  - Vascular discoloration: **black**
  - Iceberg most susceptible
  - Occur close to harvest
  - Only on mature plants

- **Fusarium**
  - Leaf wilt and death
  - Plant collapse
  - Vascular discoloration: **red-brown**
  - Iceberg most susceptible
  - Occur throughout season
  - On young and mature plants
Lettuce wilt diseases: Symptoms

- **Verticillium**
  - Leaf wilt and death
  - Plant collapse
  - Vascular discoloration: mostly black
  - Iceberg most susceptible
  - Occur close to harvest
  - Only on mature plants

- **Fusarium**
  - Leaf wilt and death
  - Plant collapse
  - Vascular discoloration: mostly red-brown
  - Iceberg most susceptible
  - Occur throughout season
  - On young and mature plants
Investigation of a Leaf Speck Problem of Lettuce and Celery

Steven Koike, Richard Smith, Barry Pryor
University of California, Univ. Arizona
Investigation of a Leaf Speck Problem of Lettuce and Celery

Or

What Not to Say to a Grower/PCA

Steven Koike, Richard Smith, Barry Pryor
University of California, Univ. Arizona
What not to say

• “That fungus will never infect this crop.”
• “I am 100% sure about that.”
• “Yes, I am absolutely certain.”
• “No way.”
• “You must’ve burned the crop.”
• “Where did you go to school?”
Alternaria dauci from carrot
<table>
<thead>
<tr>
<th>Original Host</th>
<th>A. dauci isolated?</th>
<th>Recovered isolate pathogenic on: carrot / lettuce / celery?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrot</td>
<td>yes</td>
<td>+++ / ++ / +</td>
</tr>
<tr>
<td>Lettuce</td>
<td>yes</td>
<td>+++ / ++ / +</td>
</tr>
<tr>
<td>Celery</td>
<td>yes</td>
<td>+++ / ++ / +</td>
</tr>
</tbody>
</table>
## Fungicides for carrot Alternaria on lettuce

<table>
<thead>
<tr>
<th>Treatment</th>
<th>no. leaves w/ specks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endura 11 oz</td>
<td>0.0</td>
</tr>
<tr>
<td>Quadris 15.4 fl oz</td>
<td>0.0</td>
</tr>
<tr>
<td>Bravo Weatherstik 2 pt*</td>
<td>0.1</td>
</tr>
<tr>
<td>Switch 14 oz</td>
<td>0.1</td>
</tr>
<tr>
<td>Dithane F45 1.6 qt</td>
<td>0.5</td>
</tr>
<tr>
<td>Fontelis 20 fl oz</td>
<td>1.4</td>
</tr>
<tr>
<td>Rovral 2 pt</td>
<td>2.0</td>
</tr>
<tr>
<td>Untreated</td>
<td>10.9</td>
</tr>
</tbody>
</table>

LSD (P = 0.05) 1.37

* Not registered on lettuce
Field inoculated, untreated control
Field inoculated, Endura 11 oz / acre
Fusarium wilt
Fusarium wilt

Rhizoctonia root rot
Cercospora Septoria
Alternaria head rot

Brown bead physiological disorder
ALMOND ROCA

THE ORIGINAL BUTTERCRUNCH TOFFEE®
WITH ALMONDS

NET WT 10 OZ (284 g)