

Are Greasy-green and Rind Blotch Two Faces of the Same Coin?

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Greasy-green compared to rind blotch

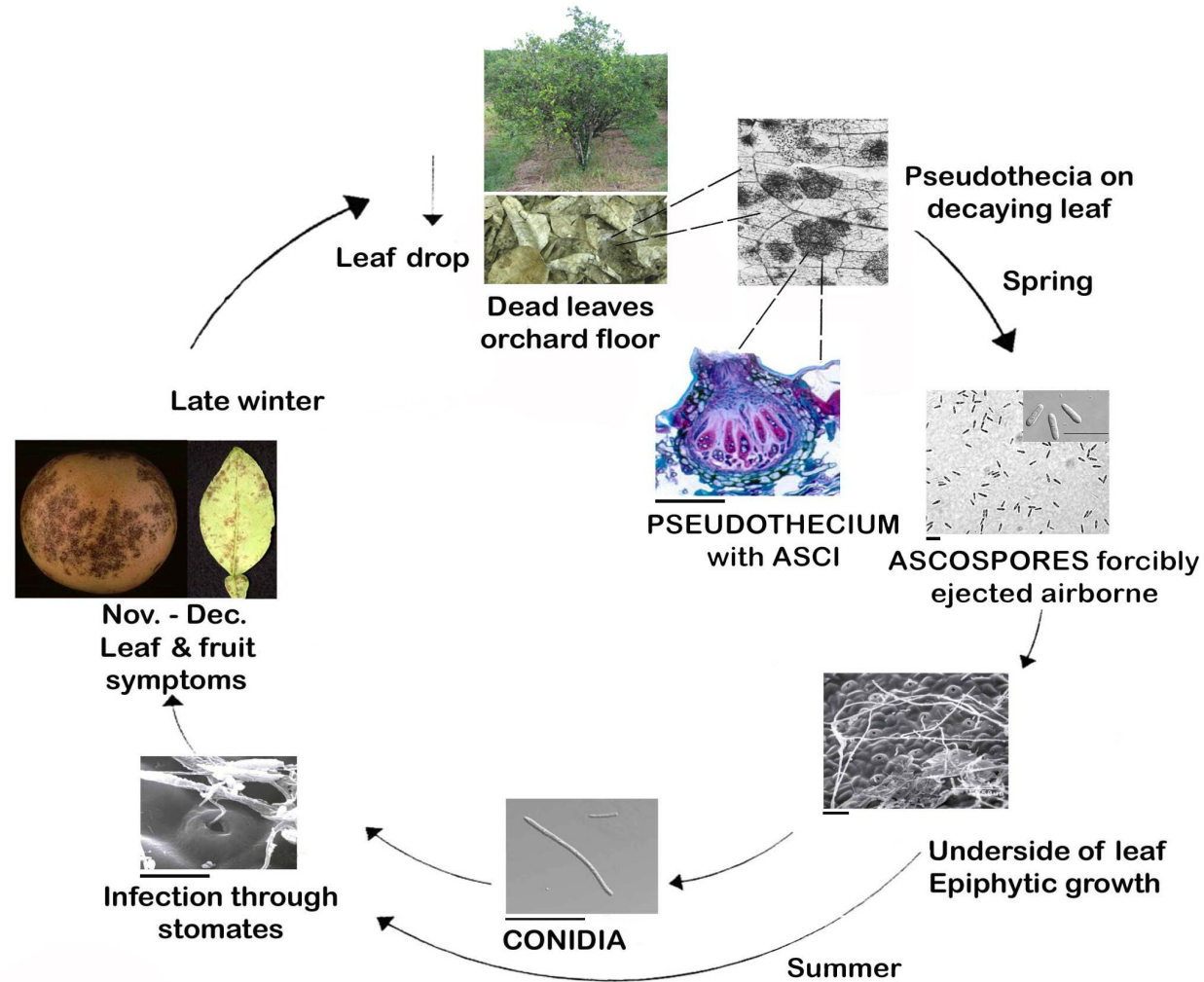
Greasy-green

- A green coloration on fruit that does not respond to degreening
- Occurs in early season when fruit should be losing green color
- Area between oil glands is green
- Few to no leaf symptoms

Rind blotch

- Can make it difficult to degreen fruit
- Lesions are small dark points between oil glands
- Causes large black patches on fruit
- Usually accompanied by greasy spot symptoms on leaves

Greasy spot/Rind blotch disease cycle *Zasmidium citri-griseum*



Block information

- Two blocks: 40 fruit from each block were collected



Grove in Fort Pierce area

Block B2



White seedless
grapefruit on Sour
orange or Swingle
Citrumelo
rootstocks

Block A3



Red seedless
grapefruit on
Sour orange
rootstock

How the fruit were treated

1. Harvested Nov 9 and color measured
 - 2 cultivars with 4 reps of 10 fruit each
2. Degreening at 85°F, 95% RH, 4 ppm of ethylene for 4 days
3. Color measured on Nov 13
4. Fruit moved to post-harvest facility (~73 °F) Nov 14
5. Color measured Nov 16

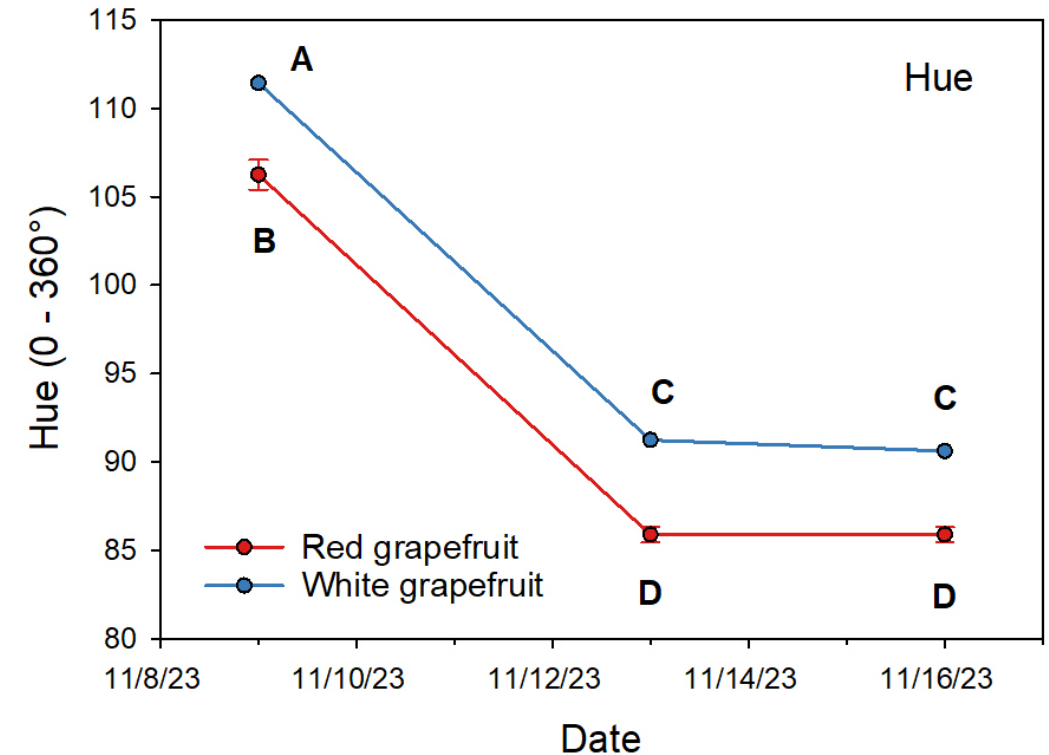
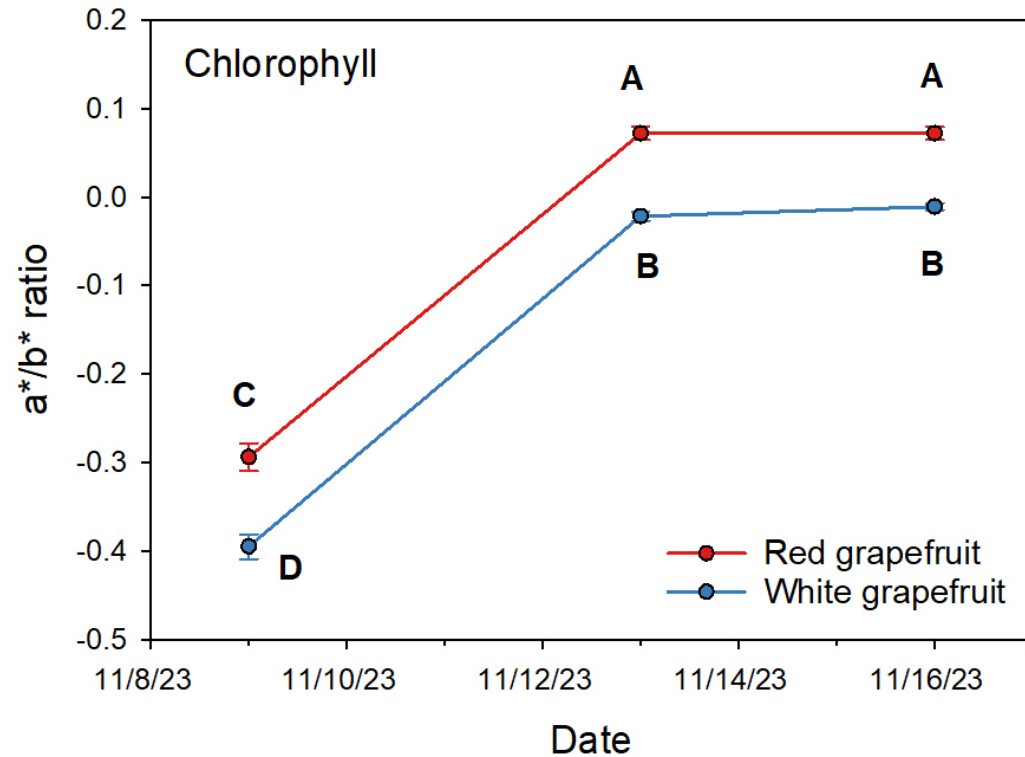


Red grapefruit

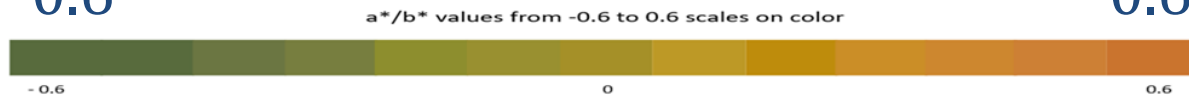


White grapefruit

Fruit responses to degreening



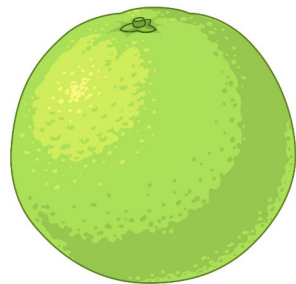
a*/b* values from -0.6 to 0.6 scales to color



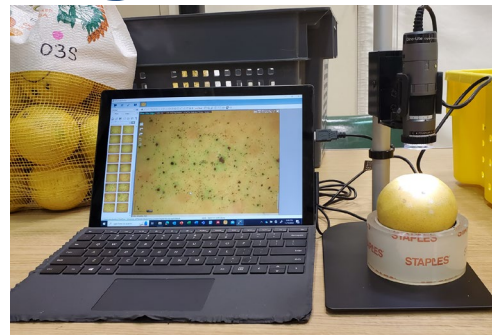
○ Green (higher) to orange (lower)

What we measured from the fruit surface

- 20 fruit of each cultivar with greasy-green symptoms were selected to assess epiphytic growth



Symptomatic
fruit selected



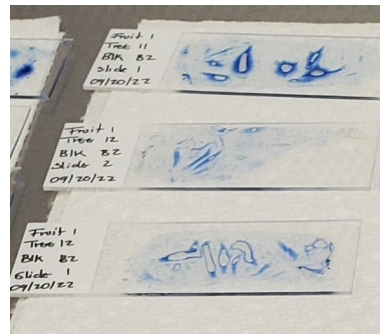
Symptoms
photographed



Clear nail polish

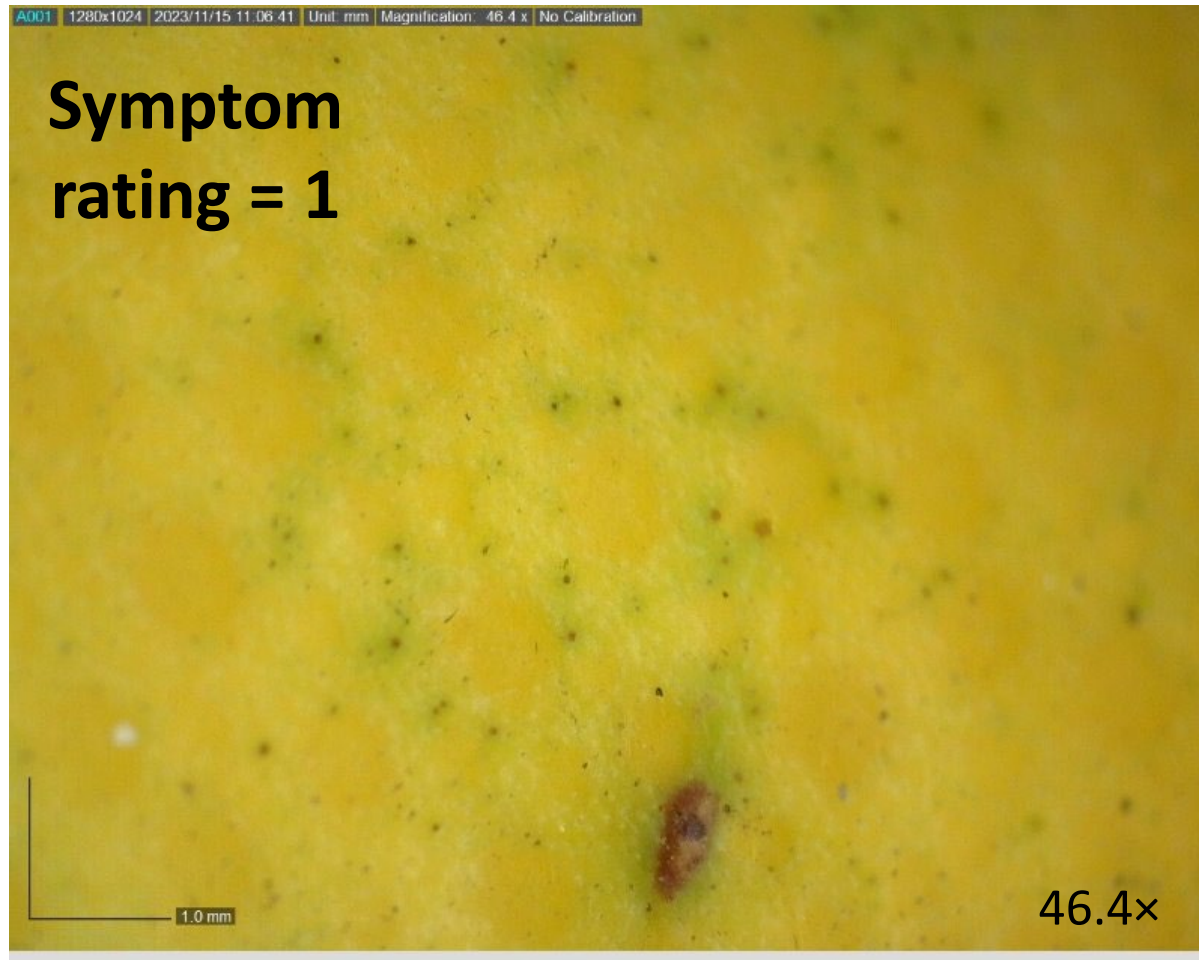


Symptomatic area
coated

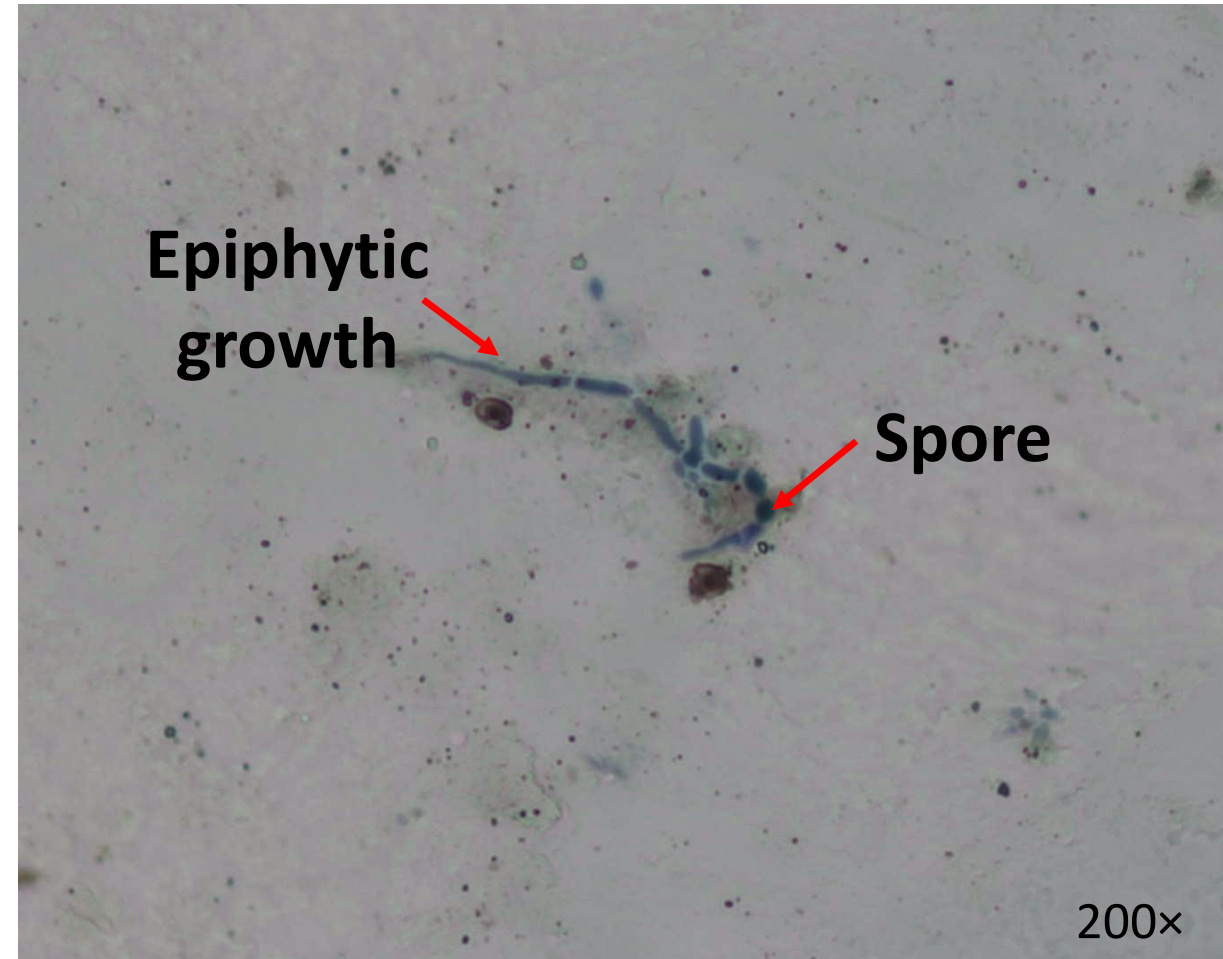
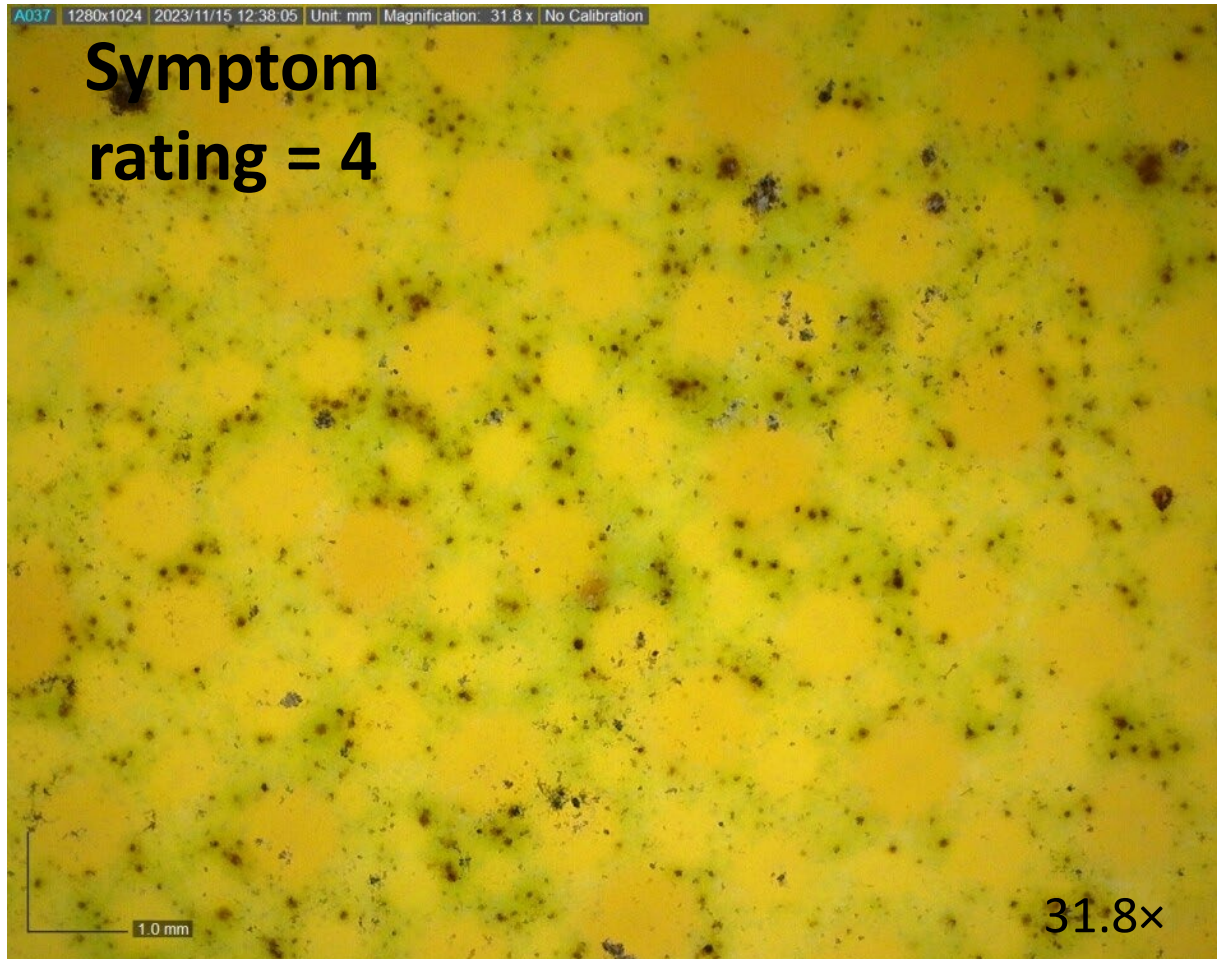


Dried nail polish examined
under the microscope

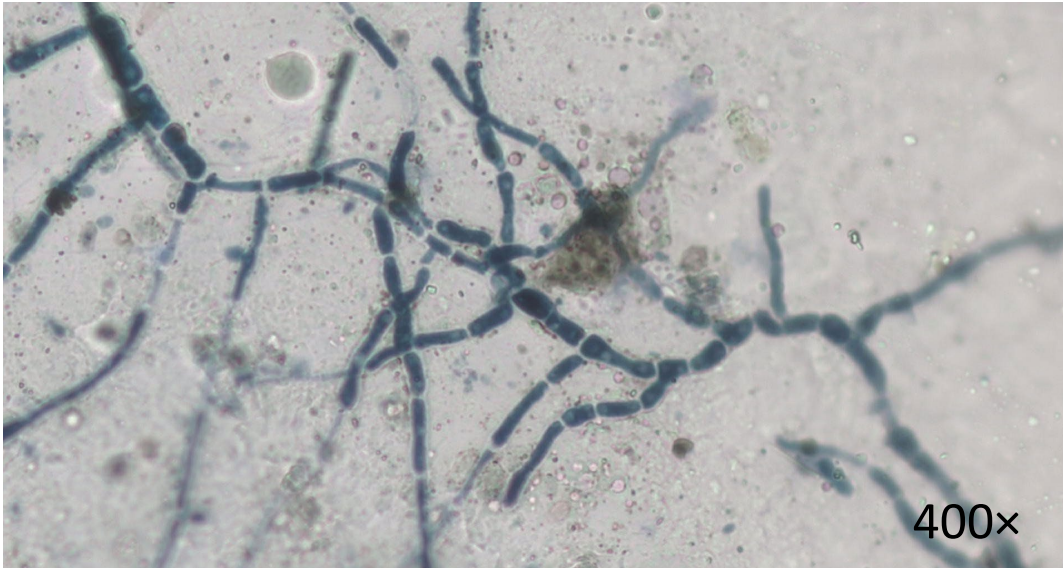
What we see: White grapefruit



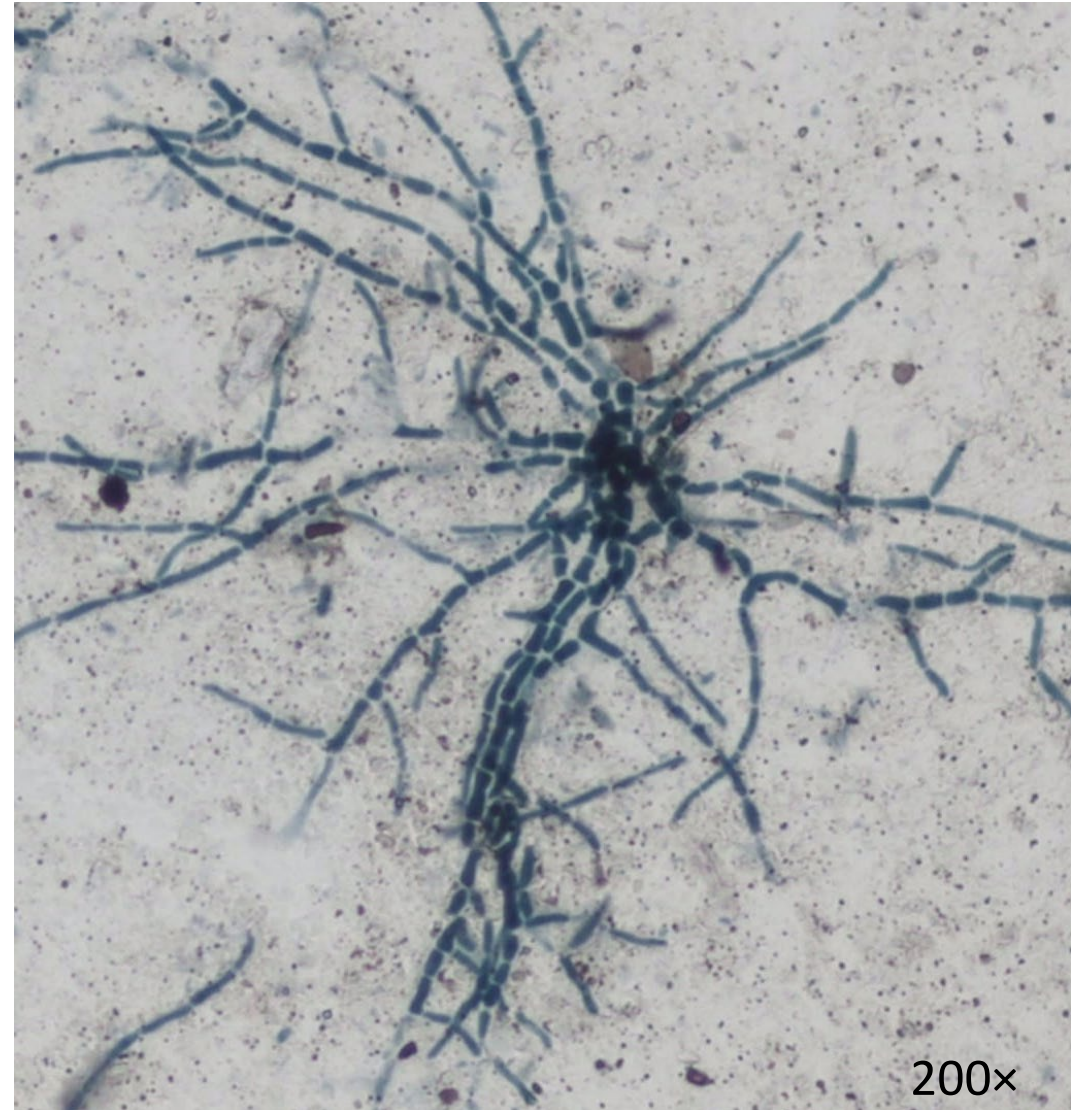
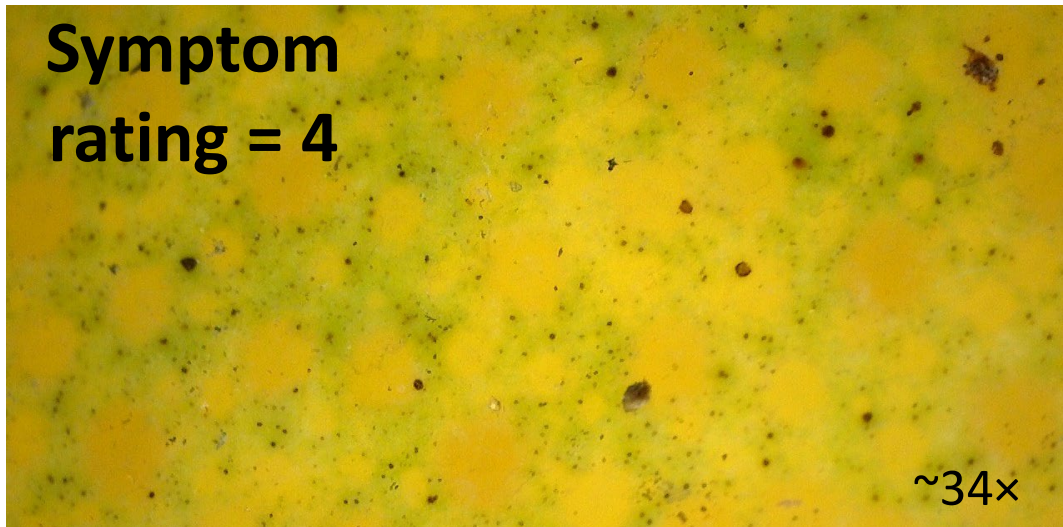
What we see: Red grapefruit



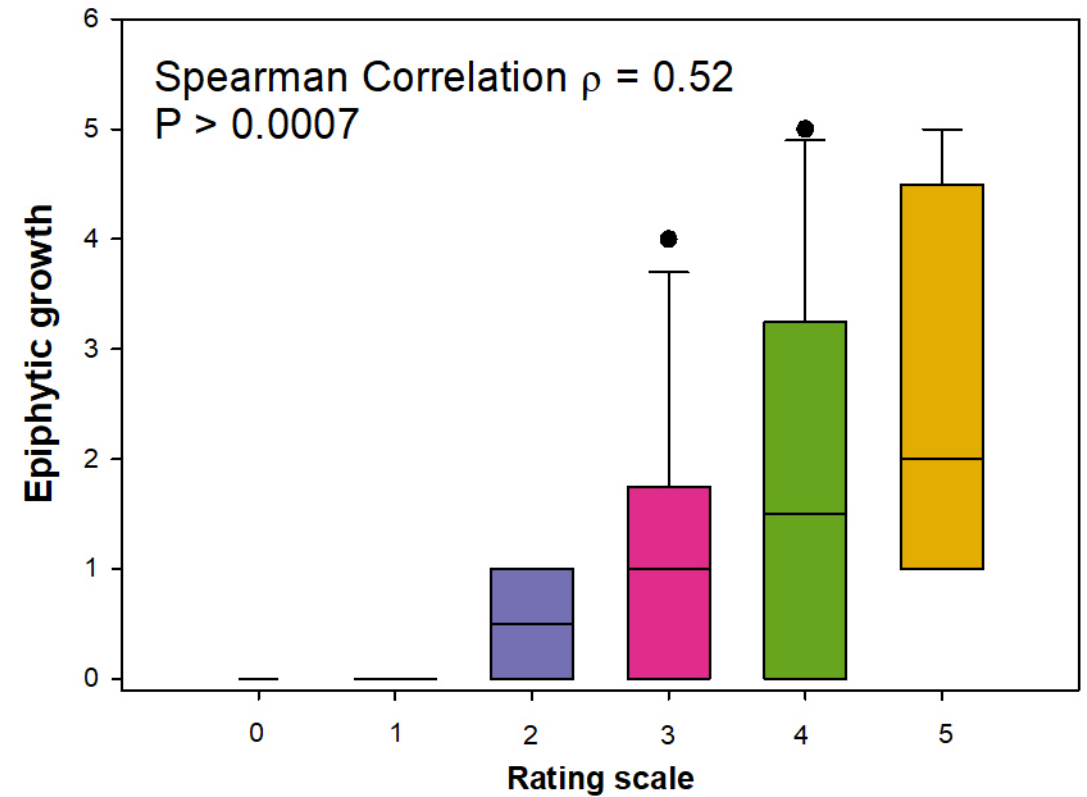
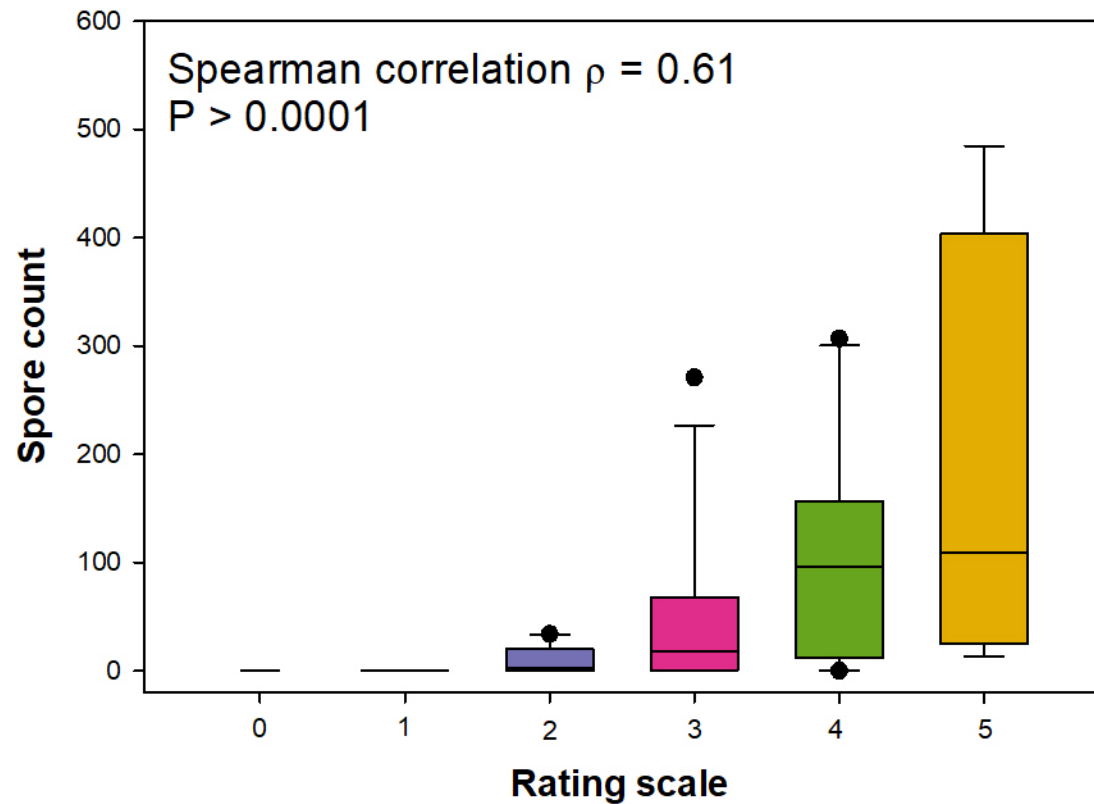
What we see: Red grapefruit



Symptom
rating = 4



Was there more fungal growth with more severe symptoms?



Still in progress

- Need to confirm what we visually identify as *Z. citri-griseum* is what the correct fungus
 - Working with Liliana Cano on molecular diagnostics
- More data matching peel symptoms and spore or epiphytic growth presence
- Need information from growers about what practices contribute to greasy-green in blocks
 - Mark Ritenour is collecting information

Take home message

- It is very likely greasy-green and rind blotch are related disorders
 - Need the molecular confirmation
- Grove condition may contribute to greasy-green
- When we look at higher magnification, we see similar tiny lesions as rind blotch
 - Seems to be a low severity level of disease
 - Probably from all the disease management products used throughout the season
- It only takes very little fungal inoculum to cause symptoms
 - We are evaluating fungicides for efficacy pre- and post-harvest

Acknowledgements

- Monty Myers
- Cuifeng Hu
- Liliana Cano



Thank you for your
support

Any Questions?