

Dealing with Diagnosis

Northeast Greenhouse Conference

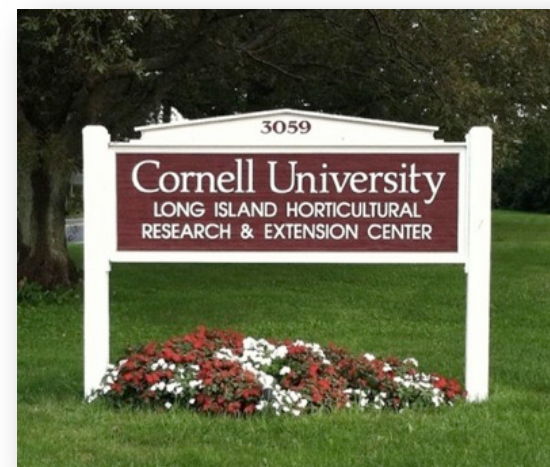
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Correct diagnosis is the
1st step effective and economic
management practices

- Identifying problems early
- Correct diagnosis

Avoid costly mistakes by correct diagnosis

- Misidentification can result in
 - failure of control measures
 - spread of pathogen
 - wasted time and \$\$\$
- Examples:
 - Treating abiotic problem with fungicide or insecticide
 - A particular fungicide might be effective for one disease but not another
 - Using a fungicide for a bacterial disease, or insect,



Channel your
inner slueth



Got Plant Problems? LOOK CAREFULLY

- Regularly **scout plants** / show staff what to look for
- Always **inspect incoming plants** and cuttings
- Look at **entire plant**
 - Get close to plants; flip leaves over
 - Look at entire plant: leaves, flowers, roots, stems
 - Magnification helps! Use a hand lens
- Don't forget to step back for big picture
 - Look for **patterns**

Look at the big picture
Random patterns = biological cause
(diseases / insects / mites)



Exceptions?

There can be exceptions:

- Malfunctioning drip emitter
- Propagated from a mother plant with virus
- Uneven distribution of lime
- Plants moved, taking away pattern



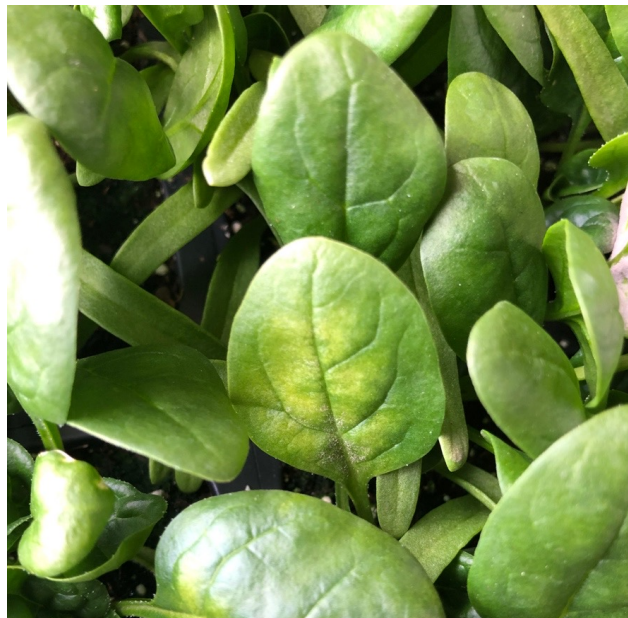


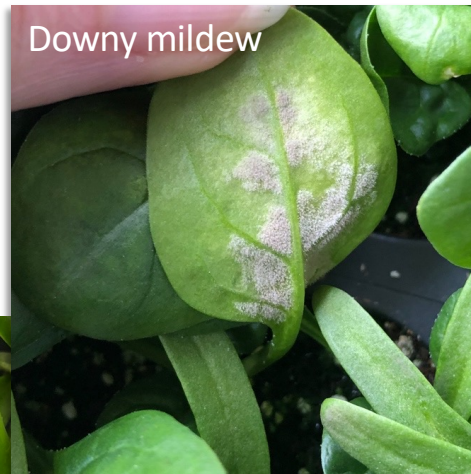
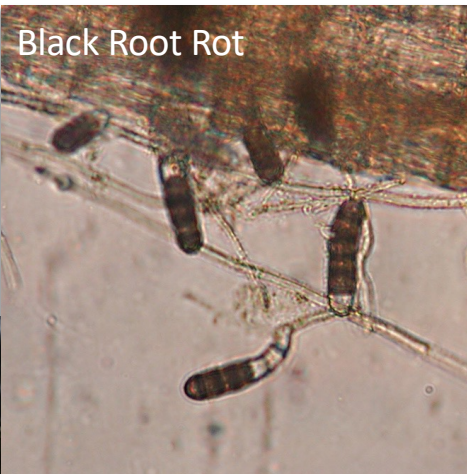
Regular patterns
on a leaf usually
indicate nutritional
or cultural issue



What would be the
exceptions?

Nutritional deficiency?



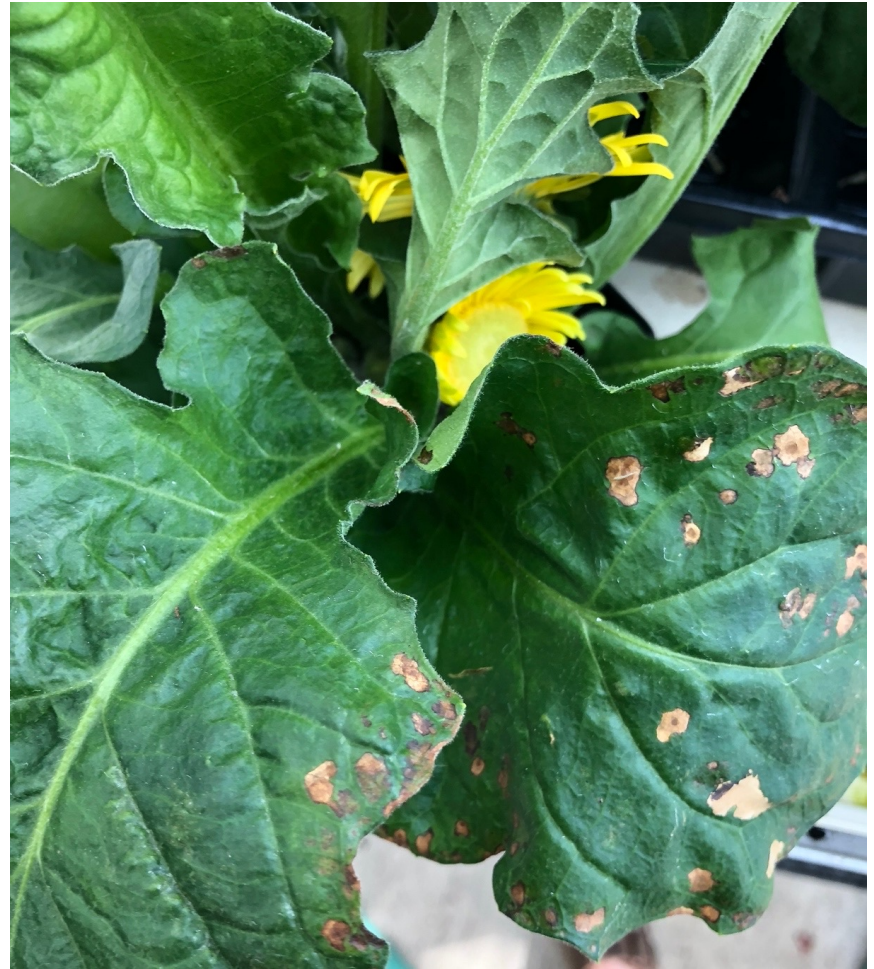


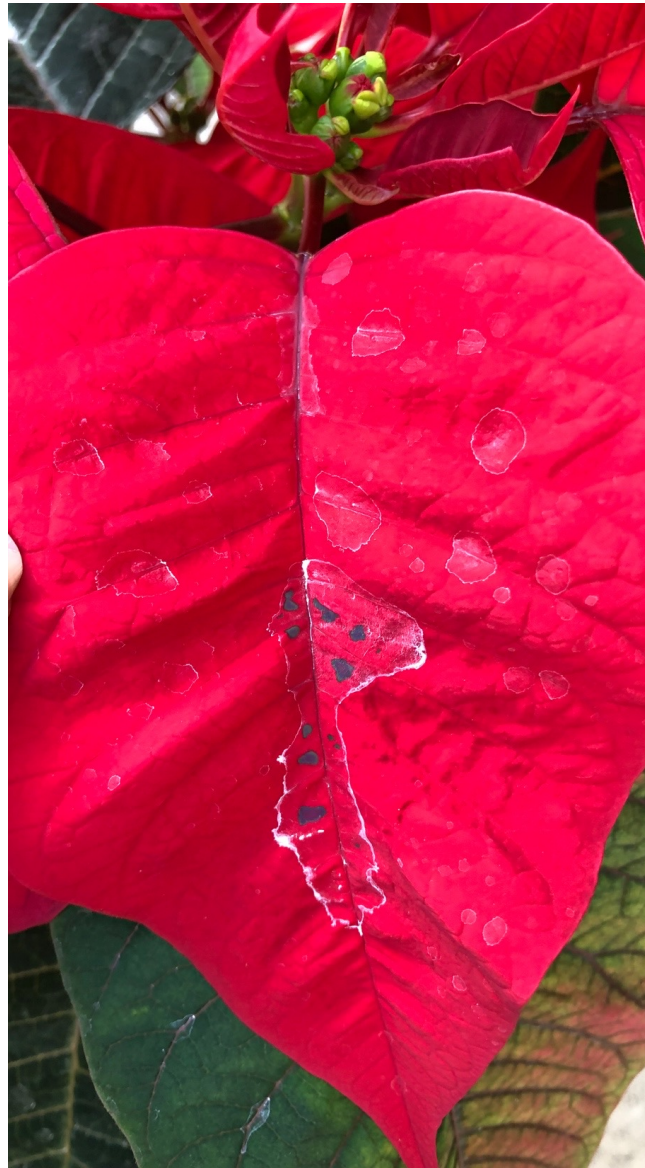
Some look-a-likes for nutrition/cultural issue

Irregular patterns = pathogens (usually)



An exception:
leaf spots from phytotoxicity





Clues for
phytotoxicity: look
for shadows,
injury along drip line,
or areas where spray
might accumulate

And case history too

for more info:

<https://www.e-gro.org/pdf/2023-12-15.pdf>

Look for broad
patterns:
are symptoms
occurring on edges?
in only certain
areas?

Herbicide injury at edge of landscape bed



DETERMINE CASE HISTORY of plant problem

- **When** did you see symptoms and signs?
- **Where** are you seeing symptoms?
 - New/upper foliage or older/lower?
 - On what plant parts?
 - On certain plants or cultivars?
- **What** are you seeing?
 - What patterns are you seeing?



DETERMINE CASE HISTORY of crop management

- New practices?
- New fertilizer? Growing mix? Employee? Plant?
- What has been sprayed and when?
- Plant stress?
- Are growing conditions optimal?
- Anything else inside or outside the greenhouse?





Avoid
assumptions



Gather info
and facts

And eliminate or confirm possible causes

Get some help
when you need it

Your local Sherlock Holmes
= your local extension
specialist or diagnostic lab

Many print and online
resources to help






***FREE Diagnostic Newsletter
for Greenhouse Growers***

Visit **www.e-gro.org**
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Time for some quizzes...



For questions or
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full presentation,
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