Diagnosis of Plant Diseases

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THE Fred C. Gloeckner FOUNDATION, INC.

DIAGNOSIS

- Key Techniques for Diagnosis
- Look Carefully
- Ask Questions
- Consult References
- Do Tests
- Test Your Conclusion (conduct experiments; make use of a diagnostic laboratory)

LOOK CAREFULLY

- Whole plant
- Use a hand lens
- Whole area, even outside
- Look for patterns
- Look on the flip side
- Don't ignore the roots!

Look . . .

Tissue missing?

LOOK CAREFULLY

LOOK CAREFULLY

Lab View

Cercospora violae spores

Use a hand lens

Two-spotted spider mites

Look at the flip side

Look at the flip side

Chrysanthemum White Rust

Flip Side

Flip Side

Flip Side

Calibrachoa-black root rot

Calibrachoa-black root rot

Pythium-Begonia roots

Ask Questions!

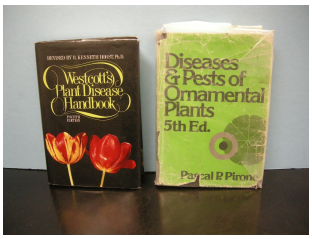
(you may find you are talking to yourself!)

Any new practices?
New fertilizer, new mix, new employee, new cultivar?
New pesticide?

Has there been a plant stress period?
Was there any major dry-down of the pots?

Were herbicides used just outside the greenhouse?
Was the road paved recently?
Is there a new well?

Consult References

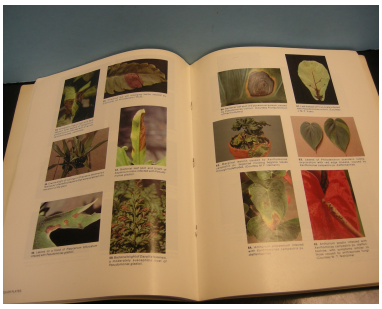


The Classics

Consult references

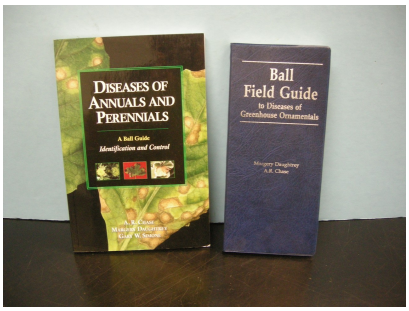
Compendia from the American Phytopathological Society (APS)
See: http://www.apsnet.org/apsstore/shopapspress/Pages/Horticulture.aspx

Consult references

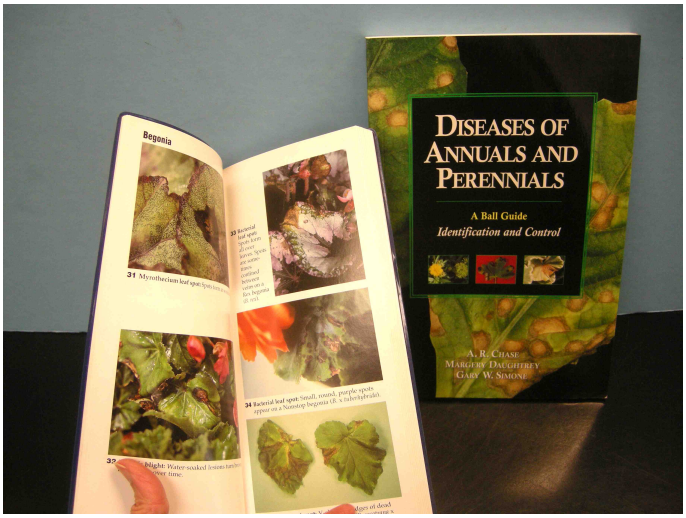


Some of the photographs in the *Compendium of Tropical Foliage Plant Diseases*
APS PRESS

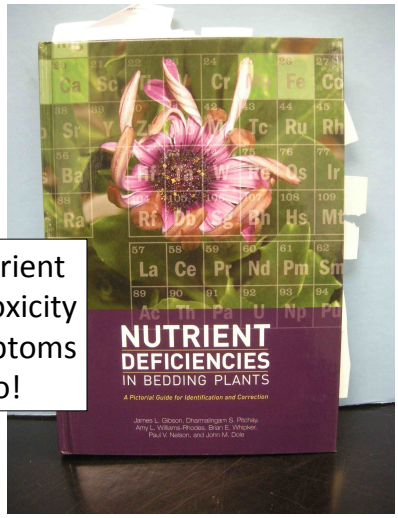
Consult References



Available from APS:
http://www.apsnet.org/apsstore/shopapspress/Pages/Horticulture.aspx



Remember nutrient deficiency or toxicity will cause symptoms of ill health, too!

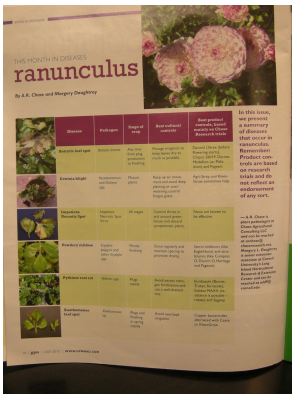


Low pH

Consult References

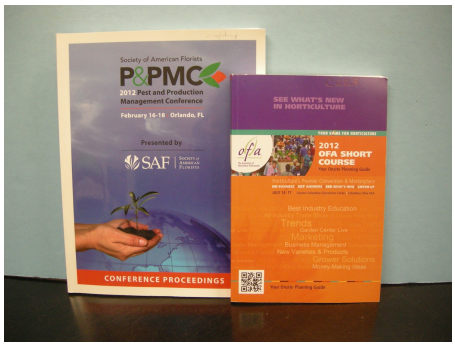
Trade magazines, newsletters, Cooperative Extension bulletins

Consult references



Articles on diagnosis
of greenhouse problems

Go to Meetings



. . . And webinars

Conduct Tests!

Send off soil and/or foliage for analysis

Send a sample to a plant disease diagnostic lab

Test for viruses or other pathogens with
quick on-site test kits, when available

e.g. certain Viruses
Xanthomonas
Ralstonia

VIRUS ID

. . . Can be bewildering!

Use test kits to check your hunches

INSV-impatiens

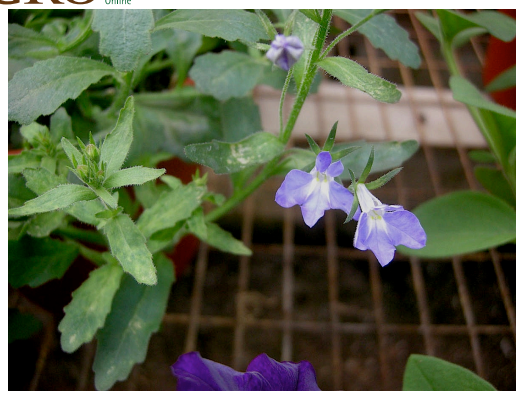
Impatiens necrotic spot virus causes widely different symptoms on different species of plant

INSV-cyclamen

INSV-Coleus

INSV-Campanula

INSV-blue lobelia



INSV-begonia

INSV-Begonia

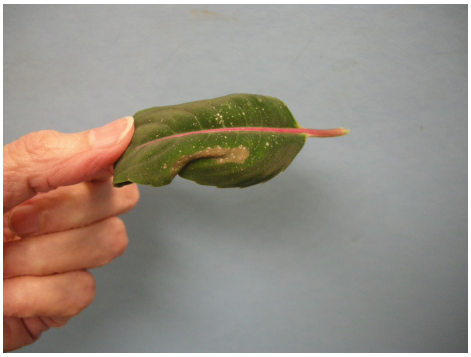
INSV-Begonia

INSV-African violet

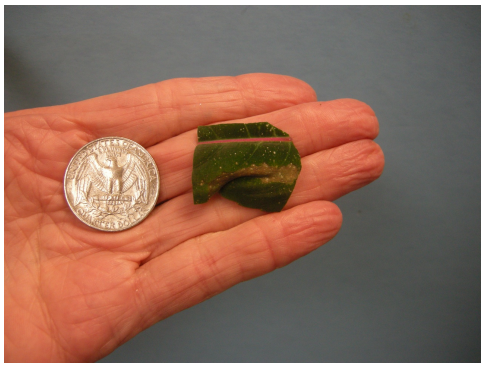
TSWV-Cineraria

Test

Test



Test



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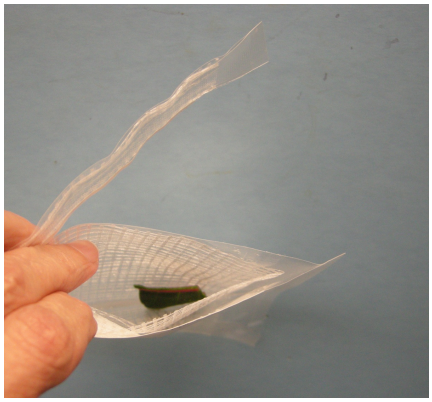

Test

Test

Balloon Flower - INSV

Trick: Test plants where it is obvious that thrips have fed

Test Your Conclusions

Make use of university or private diagnostic labs – for soil tests, pathogen analysis, etc.

Become a better diagnostician

Keep a notebook of things you learn

Take photos & take notes

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e-GRO Electronic Grower Resources Online

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