



Scouting for Bacterial Diseases

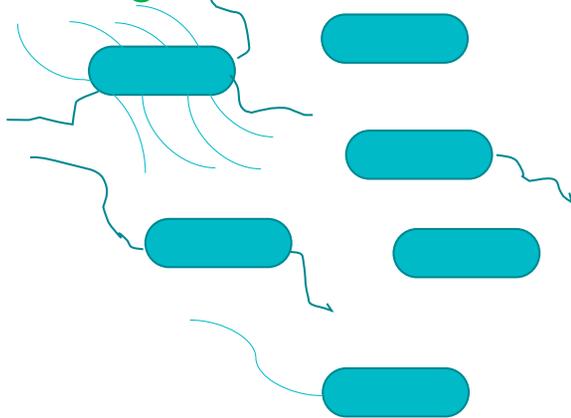
M. Daughtrey

Cornell University

Bacteria

Symptoms:

Leaf spots, cankers, galls (including shoot proliferation), vascular wilt, soft rot, virescent (green) flowers



Bacteria

Some Genera that include
plant pathogens:

Xanthomonas

Pseudomonas

Agrobacterium

Rhodococcus

Dickeya

Candidatus Phytoplasma



Characteristics of Bacterial Diseases

- Galls, shoot proliferation and soft rot - broad host range
- Leaf spots and wilts - often quite host-specific
- Leaf lesions may look very wet - “water-soaked”
- Leaf lesions may be angular and have a yellow halo
- There will not be fungus spore structures on the dead areas



Bacterial Galls and Shoot Proliferation

Argy-bargy
With
Crown gall
Disease

(*Argyranthemum*
Infected with
Agrobacterium
tumefaciens)





CROWN GALL
On MUM

*Agrobacterium
tumefaciens*



Dahlia
symptoms - possibly
bacterial (*Rhodococcus fascians*?)



Bacterial Leaf Spot Diseases



Xanthomonas leaf spot
of zinnia

Bacterium is seed-borne



Xanthomonas campestris pv
zinniae.

Zinnia







Black rot of cabbage and kale - *Xanthomonas campestris*



Black rot of cabbage and kale

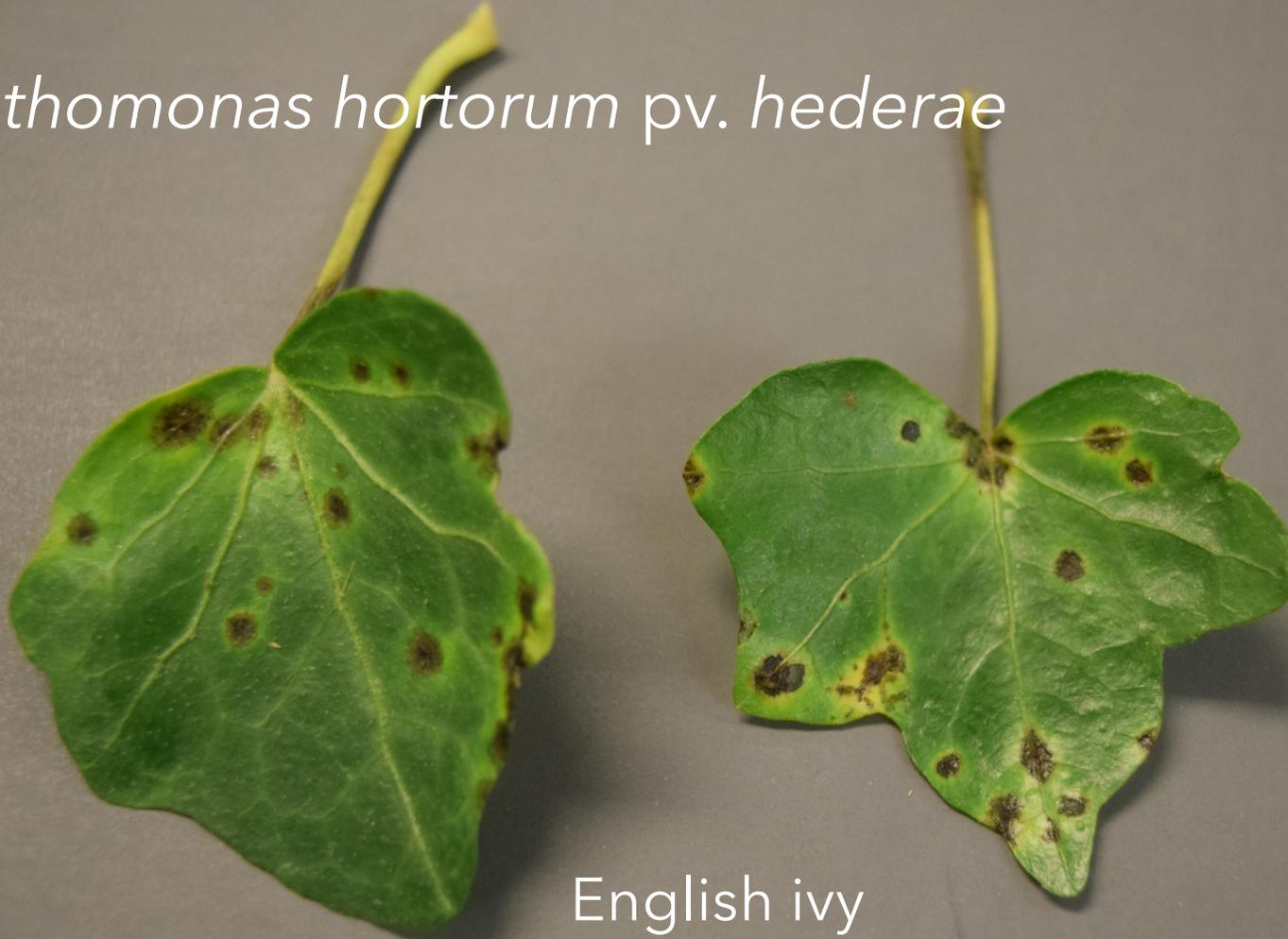
Bacterium is seed-borne



Poinsettia

Xanthomonas leaf spot

Xanthomonas hortorum pv. *hederae*



English ivy

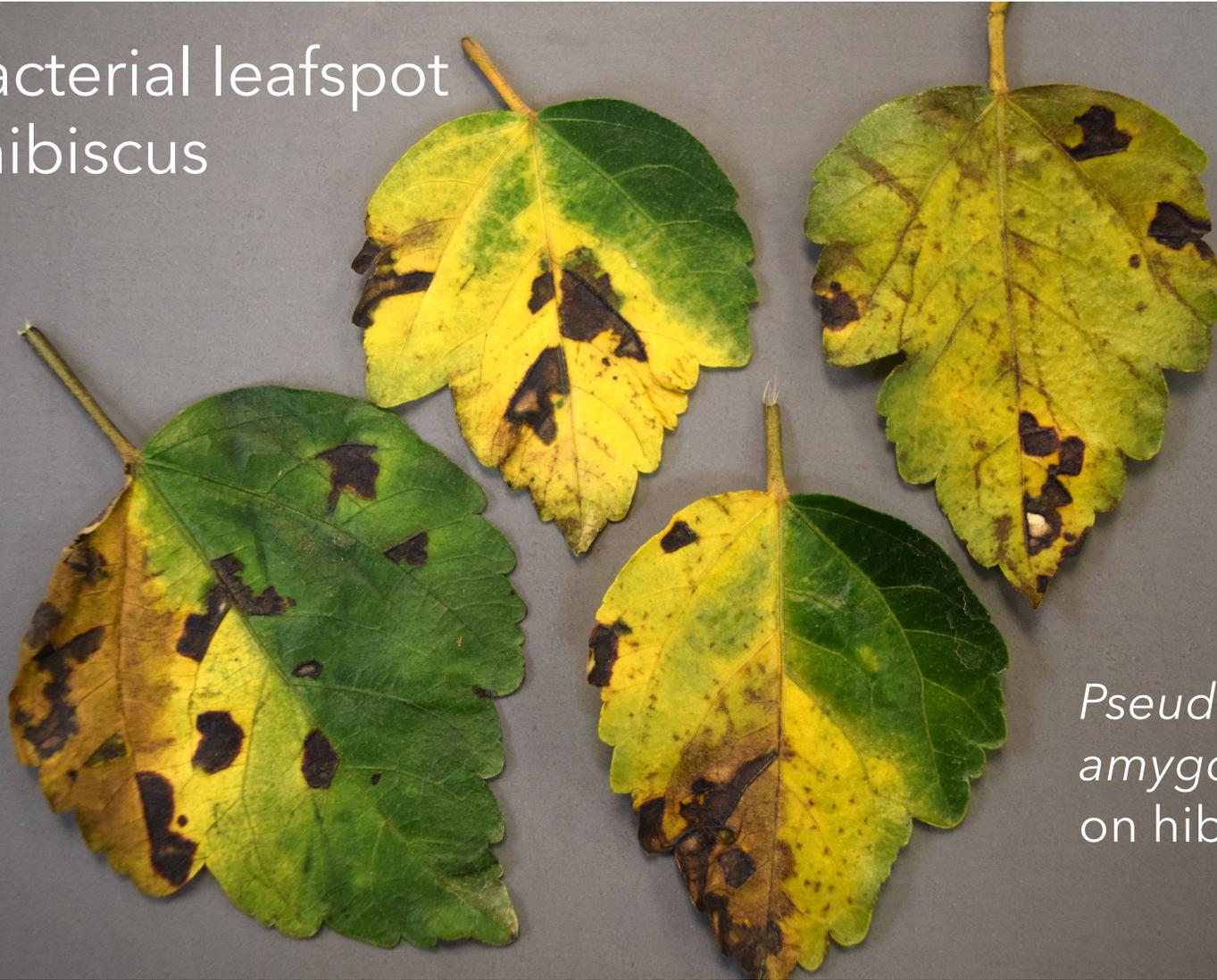


Xanthomonas axonopodis pv. *begoniae*



Bacterial leaf spot
Xanthomonas axonopodis pv. *begoniae*

A bacterial leafspot
on hibiscus



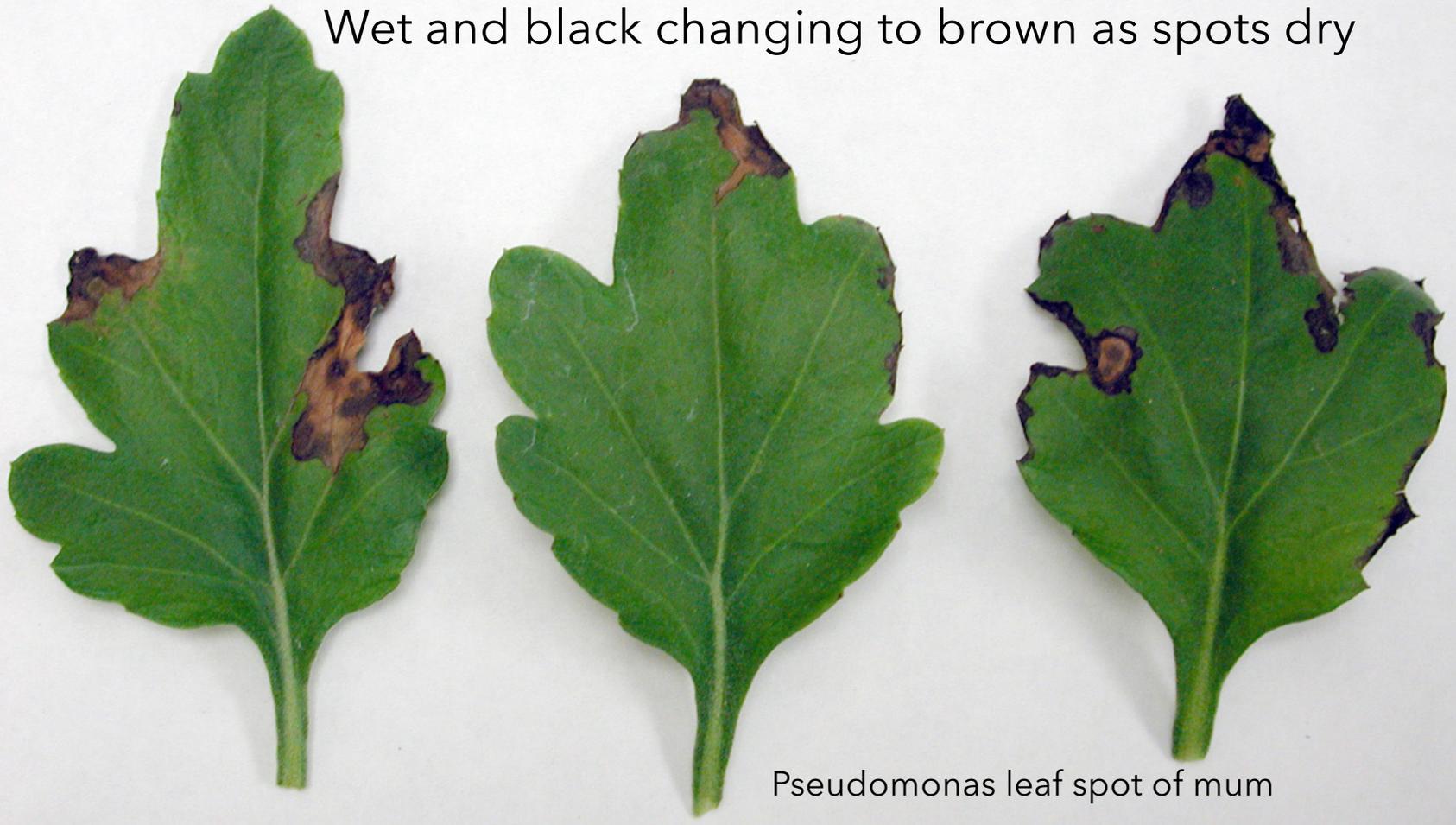
*Pseudomonas
amygdali*
on hibiscus



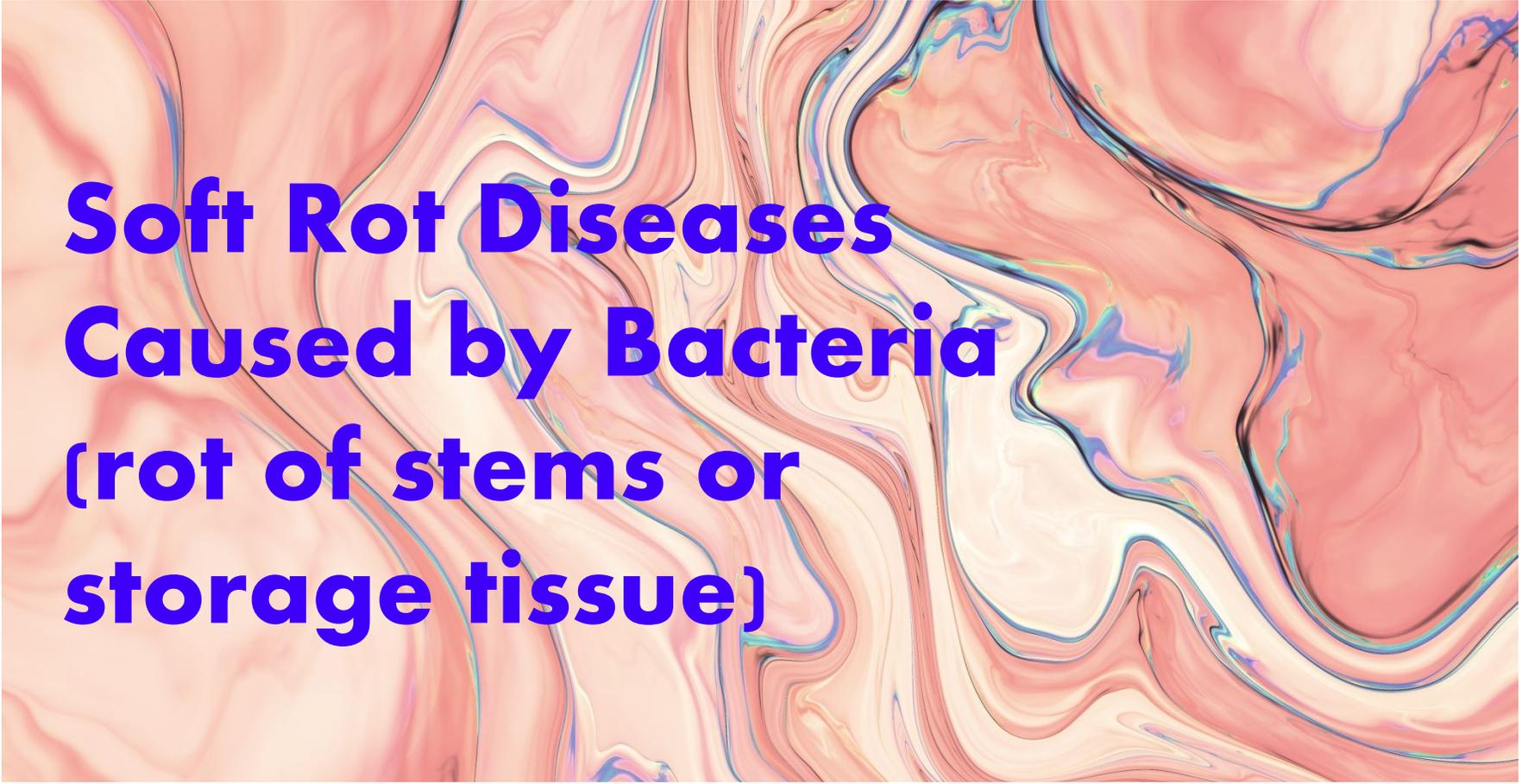
Bacterial leaf spot
of mum

*Pseudomonas
cichorii*

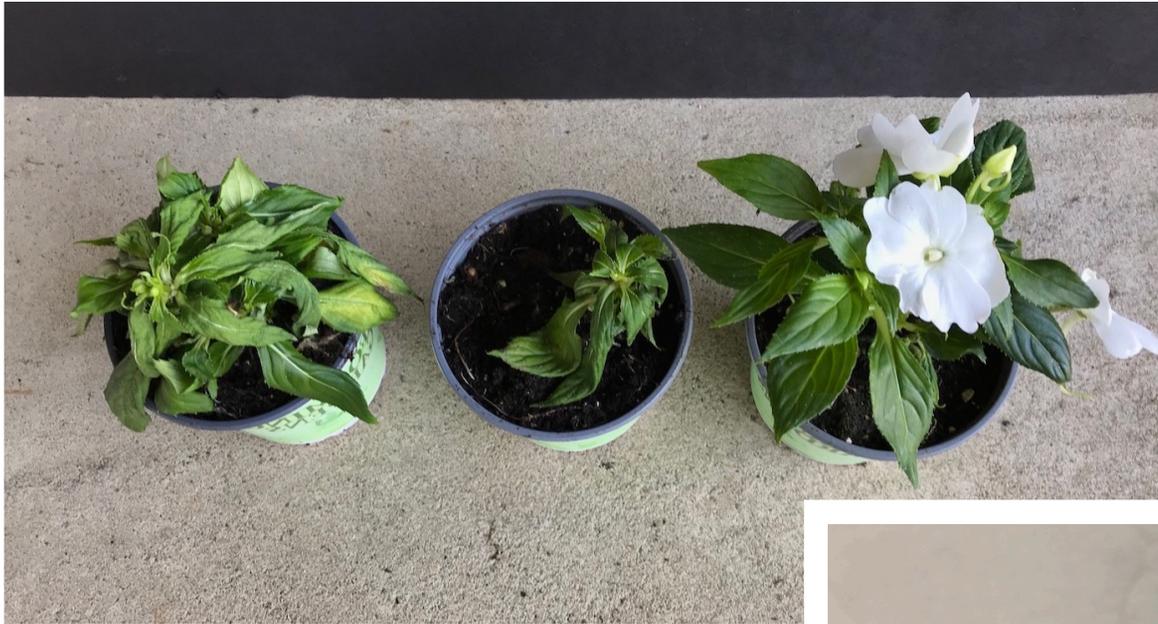
Wet and black changing to brown as spots dry



Pseudomonas leaf spot of mum



**Soft Rot Diseases
Caused by Bacteria
(rot of stems or
storage tissue)**



Dickeya dianthicola
Causing Blackleg on New
Guinea Impatiens

Yingyu Liu, Sakshi Vasiu,
Melanie Filiatrault

Control

a

b



Soft Rot

c

d





**Two Vascular Wilt
Diseases
Caused by Bacteria**

Bacterial Blight Disease

Xanthomonas hortorum
pv.
pelargonii
(Specific to Geraniaceae)

spots





Bacterial Blight
Disease

Pelargonium x hortorum
vs.
Xanthomonas hortorum pv. *pelargonii*.

wedges



Bacterial blight of
geranium

wilting



Wedges and
wilting



Bacterial Wilt Disease – *Ralstonia solanacearum*

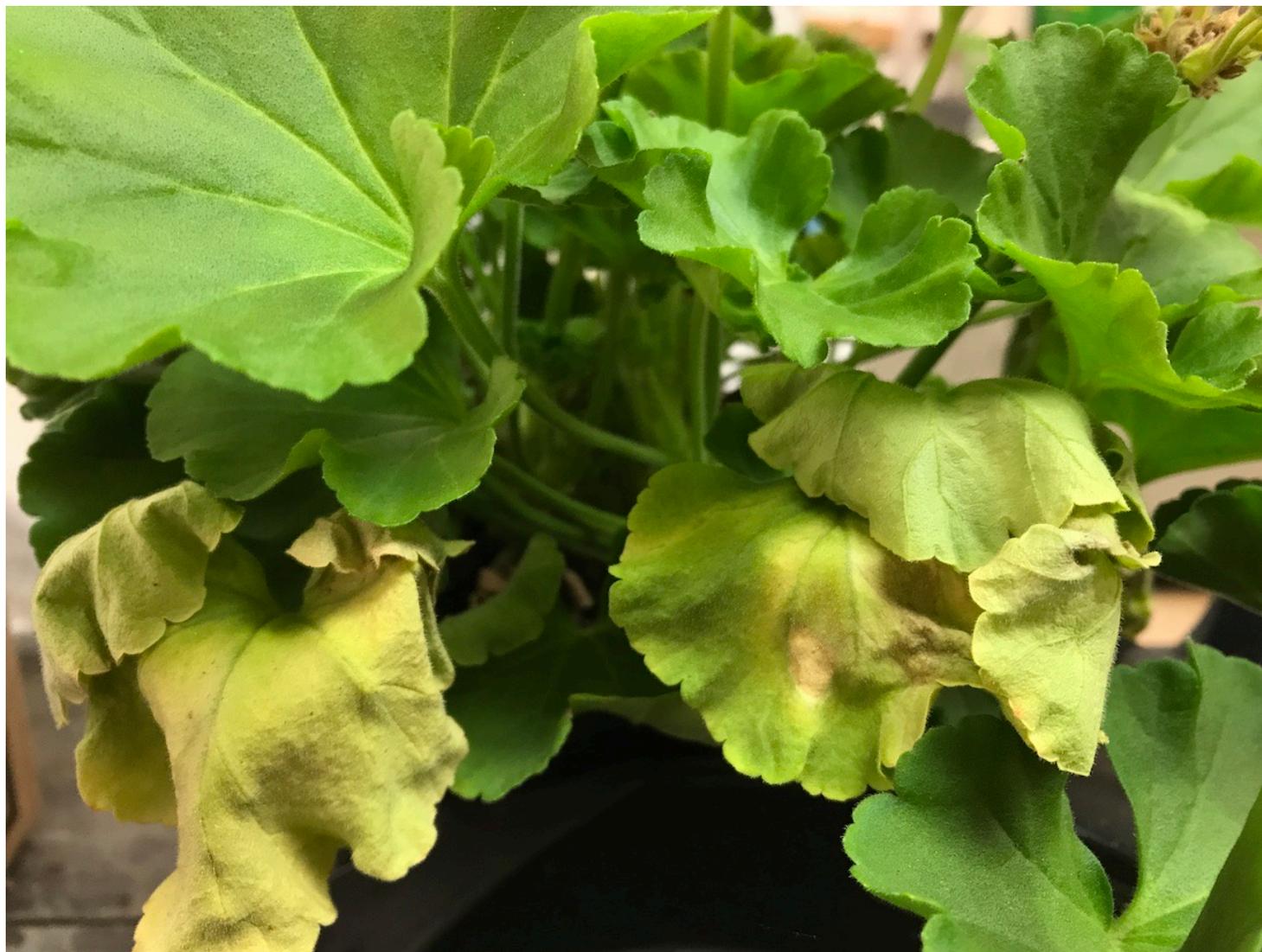


Affects
Mostly
Solanaceous
Plants

Causes Brown
Rot of Potato

Kathleen Holman

Wilt,
No spots



Wilty Wedge - Ralstonia



Either

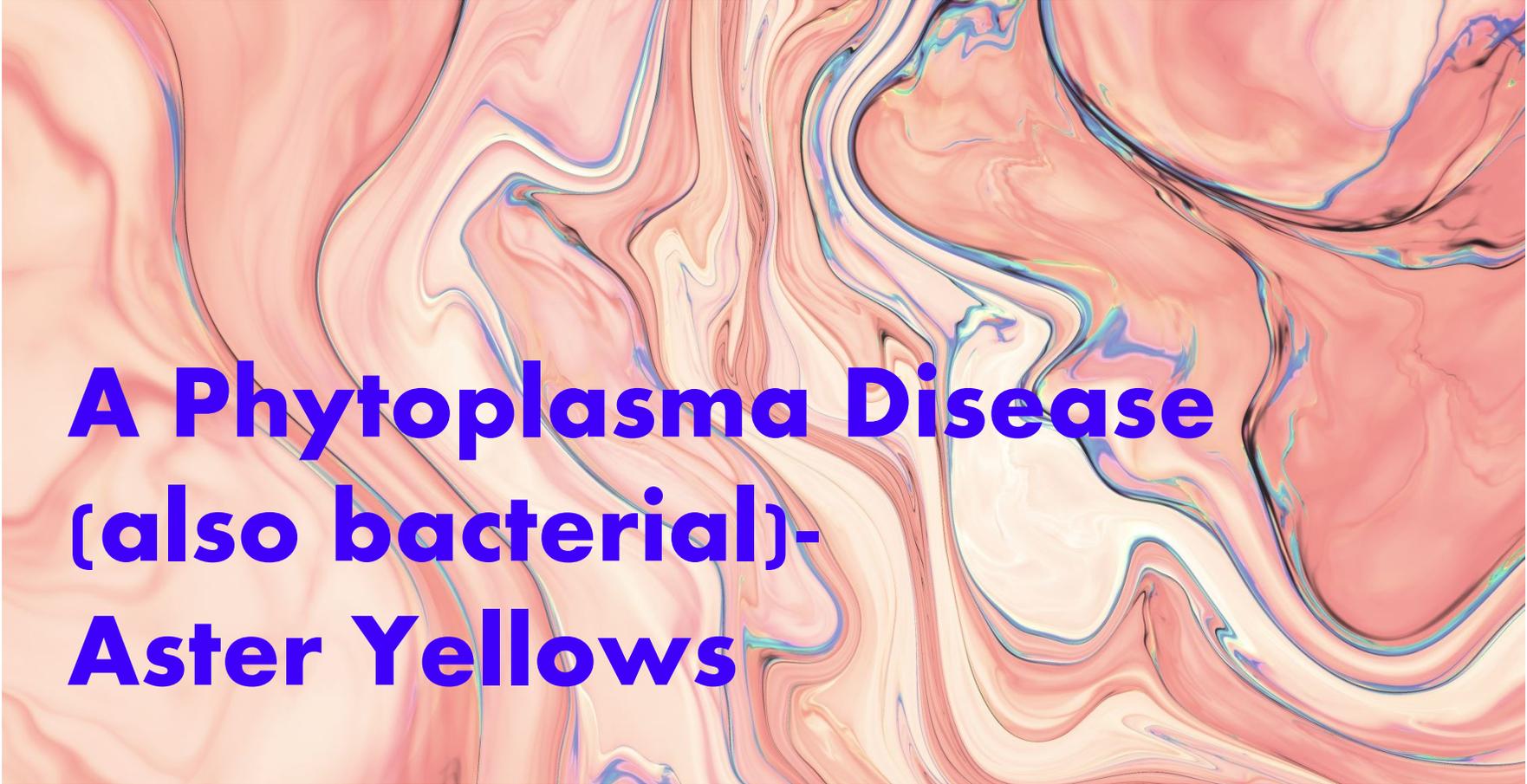
Bacterial Blight (*Xanthomonas*)

or

Bacterial Wilt (*Ralstonia*)

Should be sent to a lab for diagnosis

Don't guess on these!



**A Phytoplasma Disease
(also bacterial)-
Aster Yellows**



Echinacea - normal flower



Coreopsis – Aster Yellows



Virescent flowers

Aster Yellows
Disease



Aster Leafhopper-borne
See outdoors in
Late summer primarily

Echinacea



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