

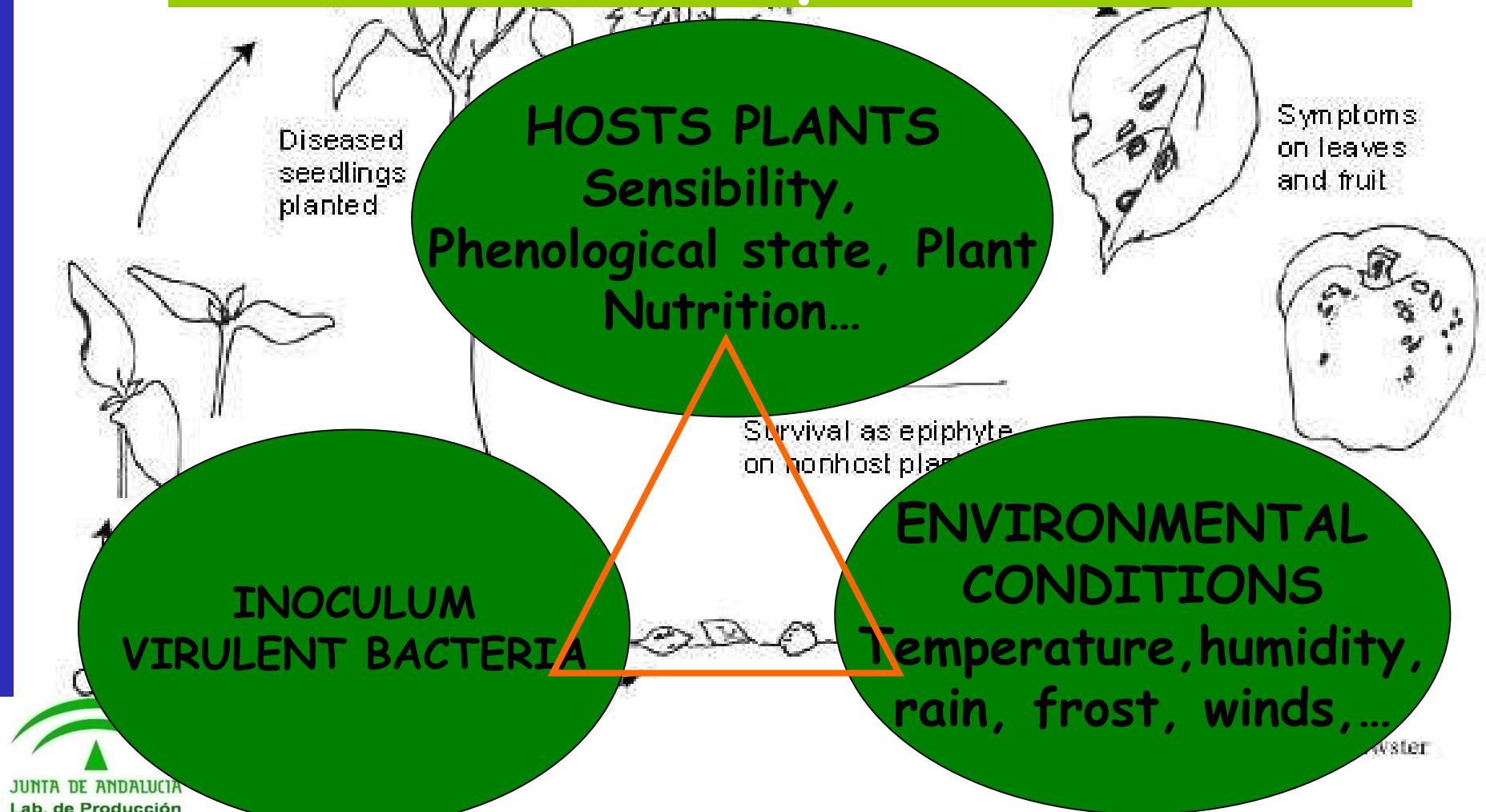
DIAGNOSIS of BACTERIAL DISEASES OF PLANTS

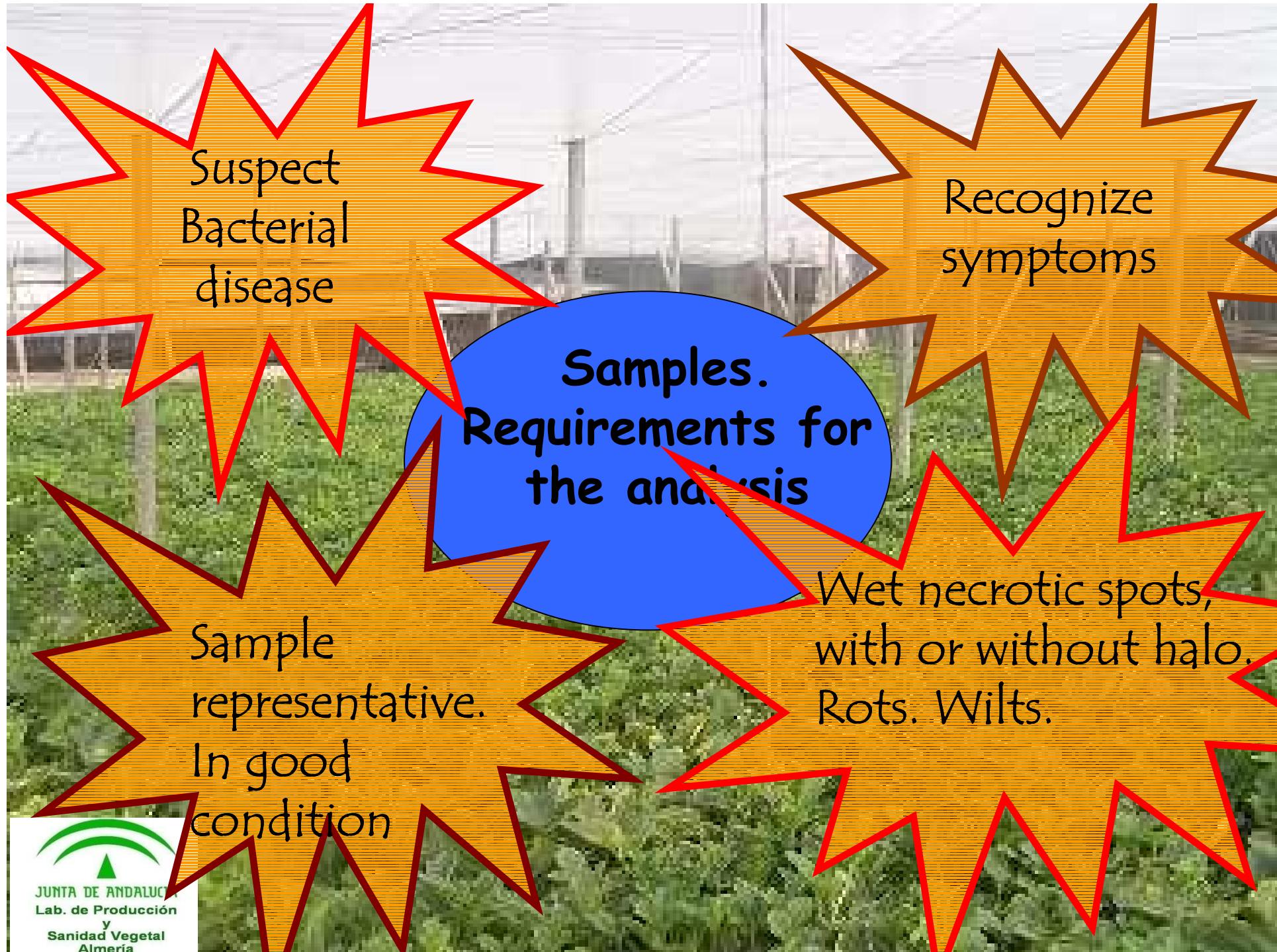
DIAGNÓSTICO DE BACTERIAS
FITOPATÓGENAS



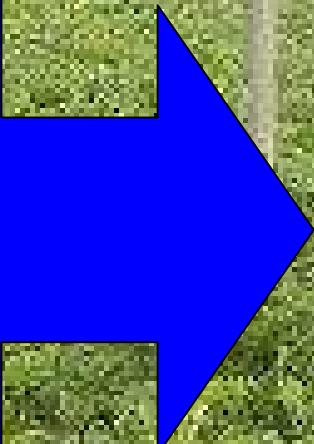
DISEASE

Ocurrence and epidemic development





Bacterials
Diseases on
Vegetable in
greenhouse



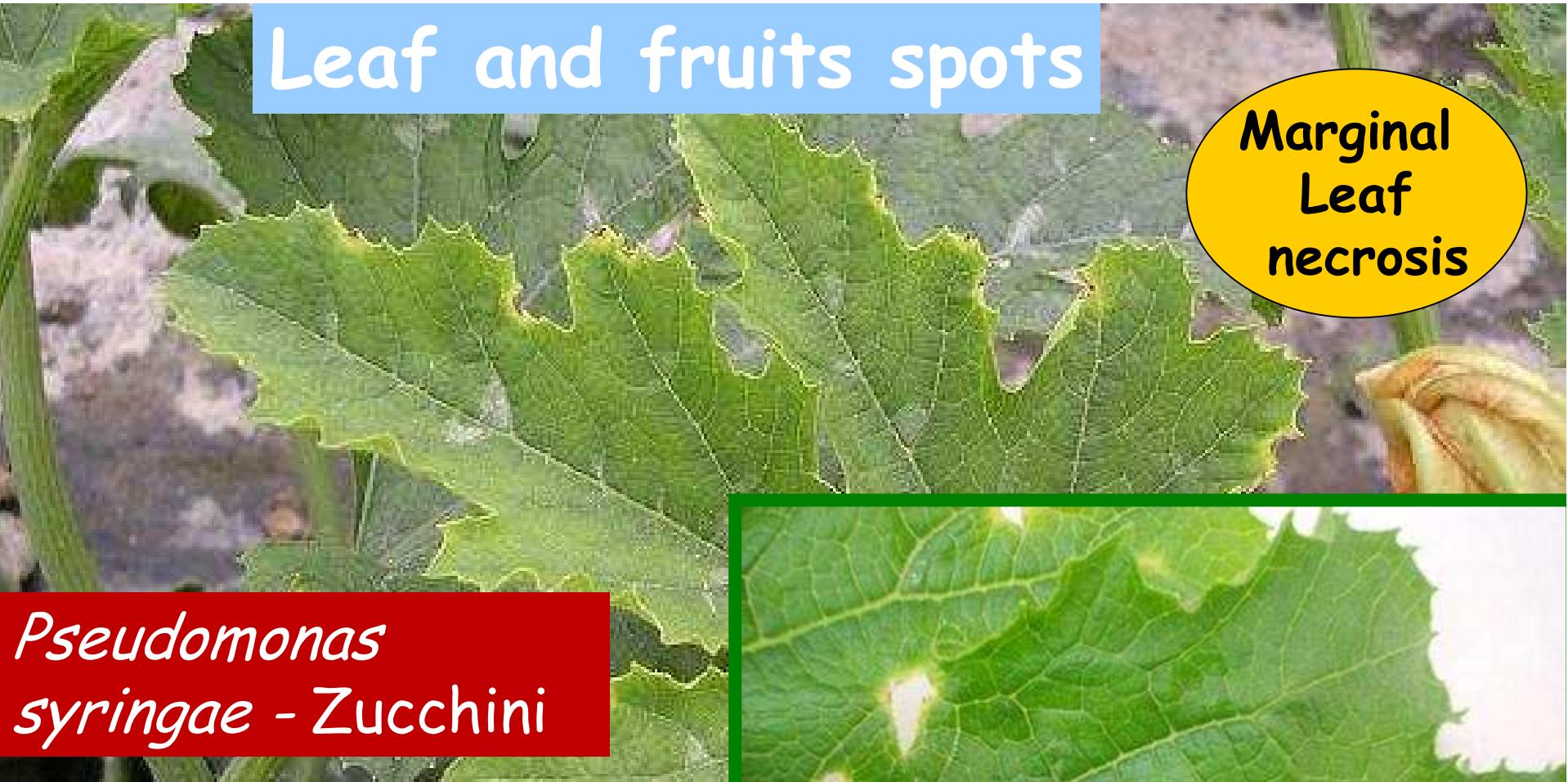
Leaf and fruit spot
disease: *Pseudomonas*
spp., *Xanthomonas spp.*,
A.avenae subsp citrulli

Pith necrosis, stem rot:
Pectobacterium spp.,
Pseudomonas spp.

Wilts: *Ralstonia*
solanacearum,
Clavibacter γ
Curtobacterium.

Leaf and fruits spots

Marginal
Leaf
necrosis



*Pseudomonas
syringae* - Zucchini





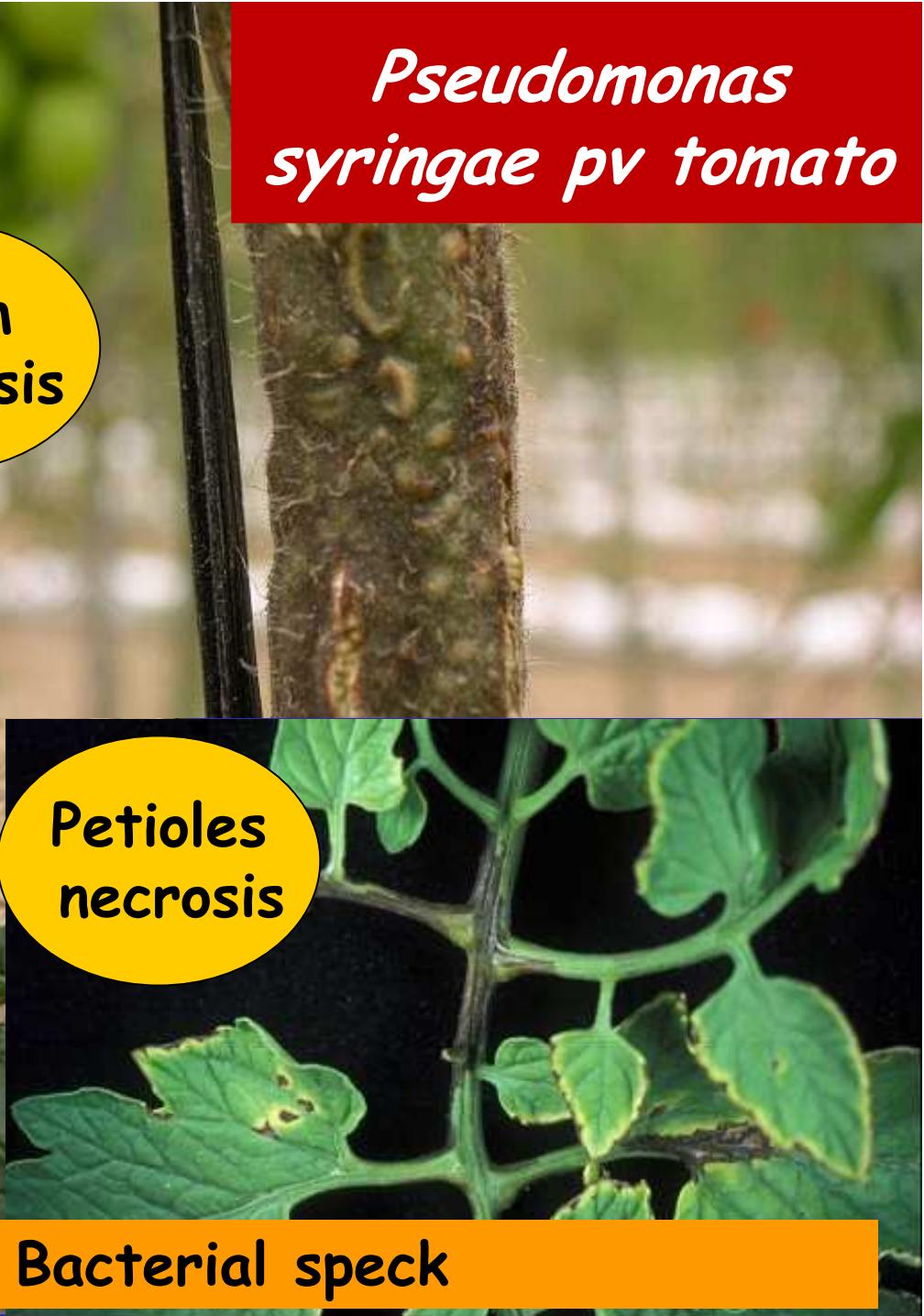
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Lab. de Producción
y
Sanidad Vegetal
Almería

Pseudomonas syringae - melon





Stem
necrosis



Petioles
necrosis

Bacterial speck

*Pseudomonas
syringae pv tomato*



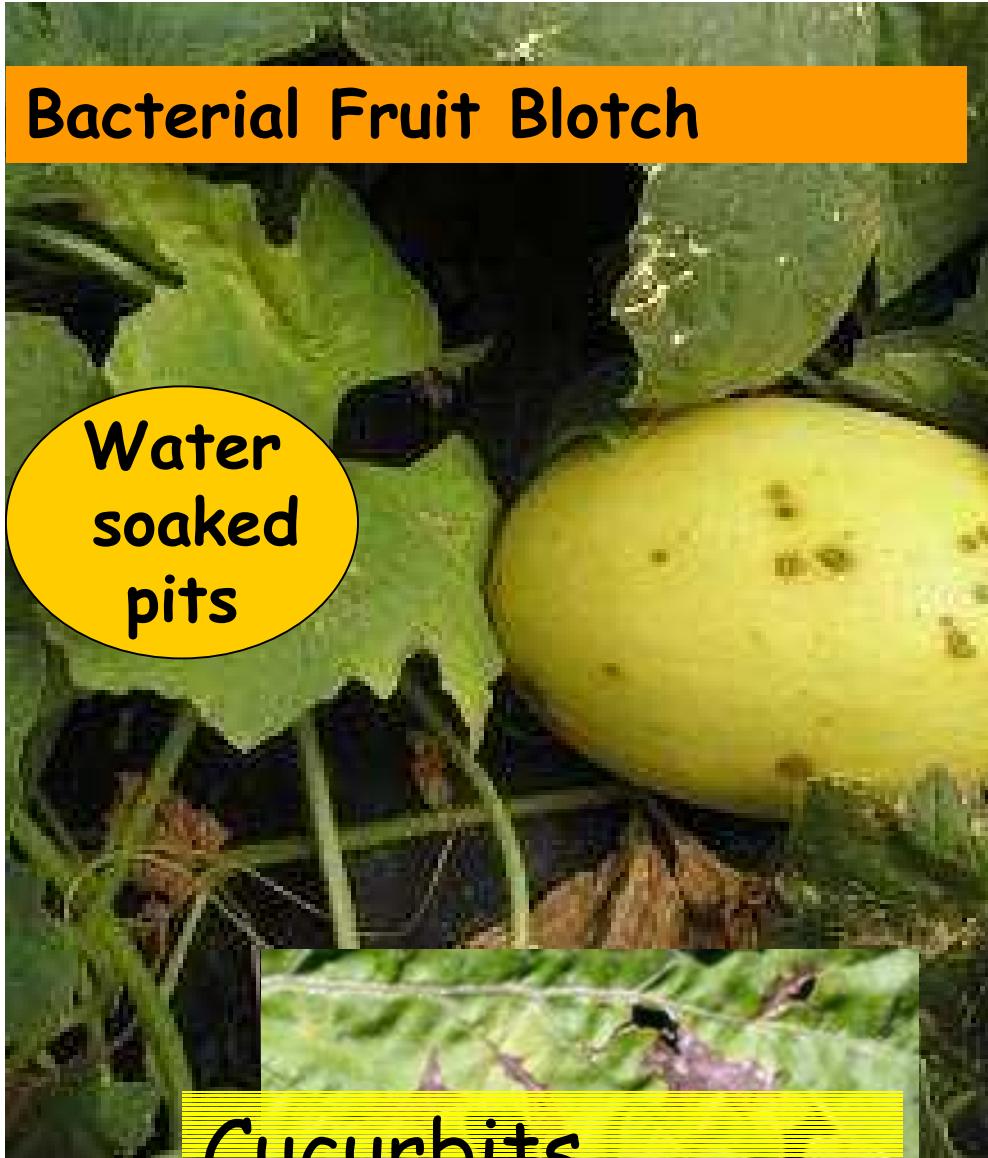
Fruit
lesions

*Pseudomonas
syringae pv
lachrymans*



Bacterial Fruit Blotch

Water
soaked
pits



Cucurbits



*Acidovorax avenae
subsp citrulli*

Xanthomonas sp. - Tomato



Bacterial spot

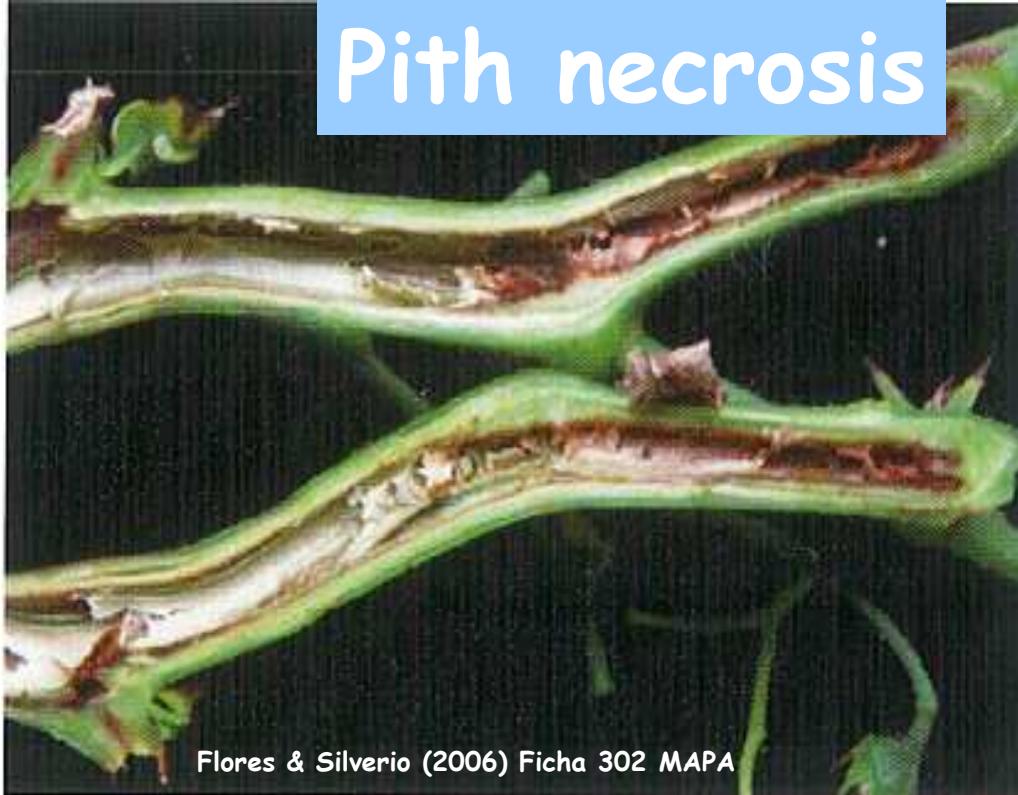






X. axonopodis pv
phaseoli/P. savastanoi pv *phaseolicola*

Pith necrosis



Flores & Silverio (2006) Ficha 302 MAPA



Rodrigues et al., New Disease Reports (2009) 20, 14

*Pseudomonas
mediterranea -
Tomato*



*Pseudomonas
corrugata- Tomato*



Stem Rot

Dickeya sp.



Pectobacterium sp.

Pectobacterium carotovorum



Copyright D. Blancard (INRA)



Vascular Wilts

Clavibacter michiganensis
subsp michiganensis



Bacterial canker



Pale brown
areas



Adventitious
roots





Bacterial wilt



Ralstonia solanacearum



<http://www.forestryimages.org/browse/detail.cfm?imgnum=5362793>



5362793



Curtobacterium flaccumfaciens pv *flaccumfaciens*- Bean

DIAGNOSIS OF BACTERIAL PLANT DISEASE

Assessment
of
symptoms

Suspect Bacterial
disease



DIAGNOSIS OF BACTERIAL PLANT DISEASE

Extraction of target organism from matrix



Isolation- Plating methods

Non selective , semiselective Medium

Colonies morphology

DIAGNOSIS OF BACTERIAL PLANT DISEASE

Identification tests

Biochemical characteristics

Phenotypic properties

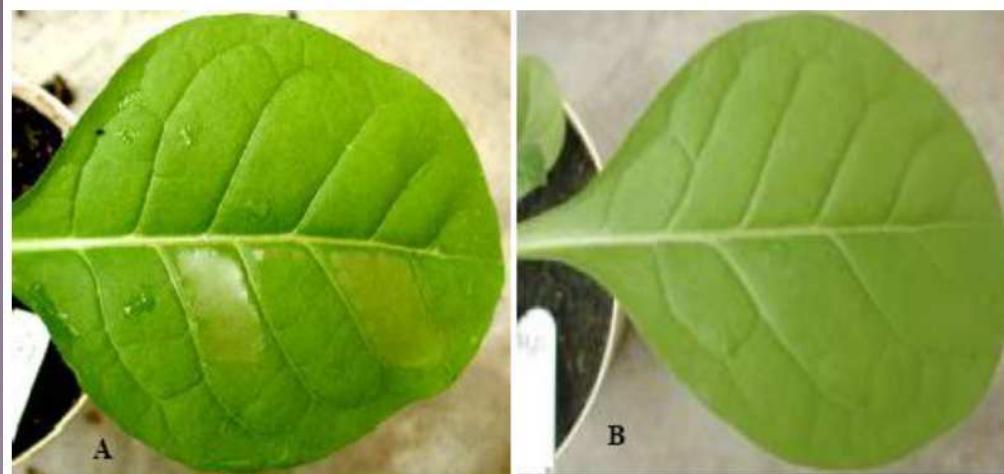
Gram,
Metabolism of glucose, catalasa,
Arginine,
oxidase,
aesculine...

03/10/2006

DIAGNOSIS OF BACTERIAL PLANT DISEASE

Identification tests

Tobacco hypersensitivity reaction



28-9

03/10/2006



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DIAGNOSIS OF BACTERIAL PLANT DISEASE

Molecular Tests

Conventional
PCR, Real Time
PCR

Serological Tests

Immunofluorescence
ELISA Test

Pathogenic Tests



Thanks for your attention