Blight Management in California Walnut Orchards

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Plant Pathologist

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U N I V E R S I T Y O F C A L I F O R N I A

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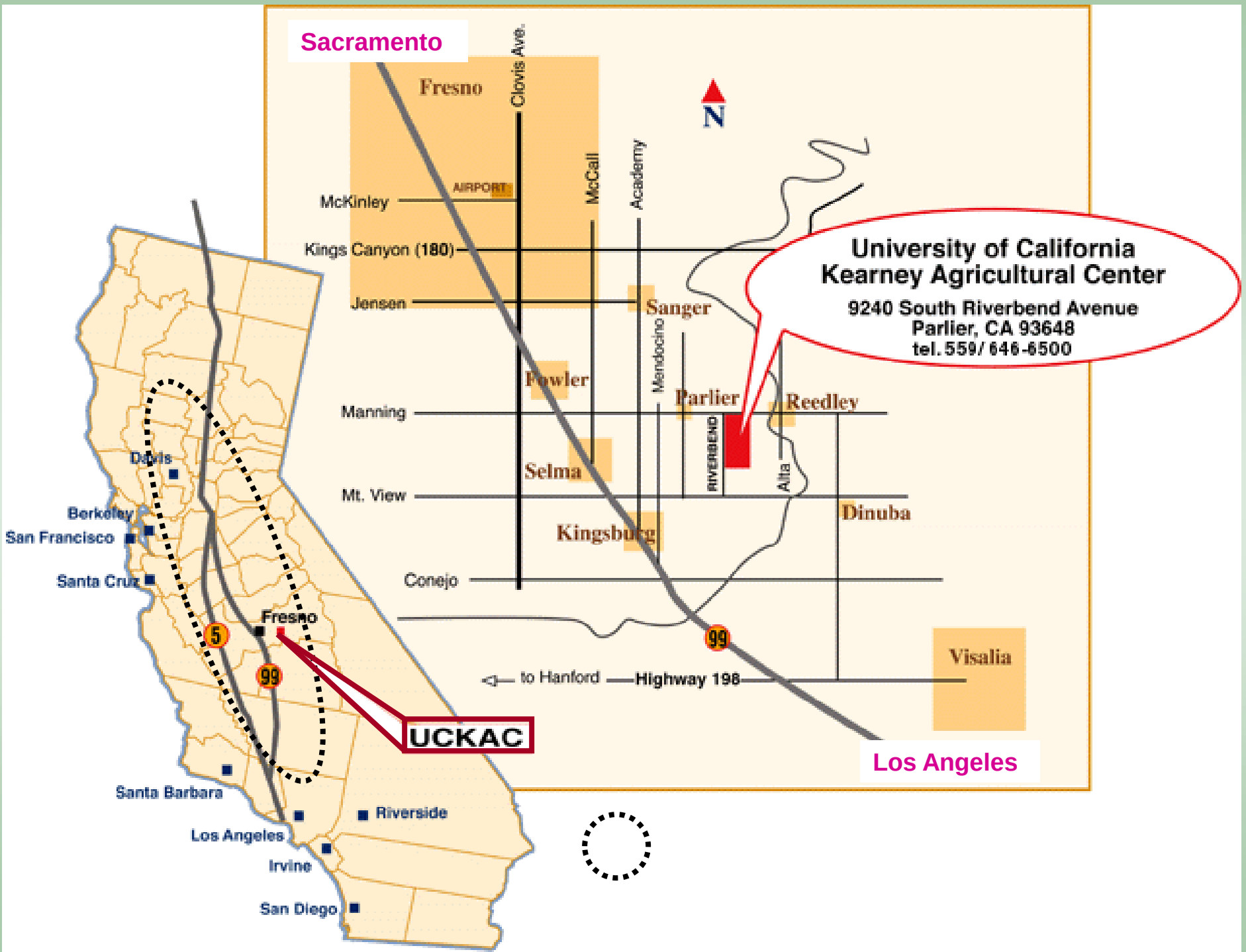
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Effect of other diseases: walnut blight

Is walnut blight an entry for Botryosphaeria infections?

Orchard	Collection	Walnut blight (%)	Botryosph. & Phomopsis (%)	Other fungi (%)
1	**Tree**	+20	10	
2	**Tree**	+10	10	
3	**Tree**	+10	20	
4	**Tree**	+20	30	
5	**Tree**	–	50	
6	**Tree**	–	0	
7	**Tree**	+	0	

Fusarium ***

Alternaria ***

Gloeosporium *

Aspergillus niger

Epicoccum

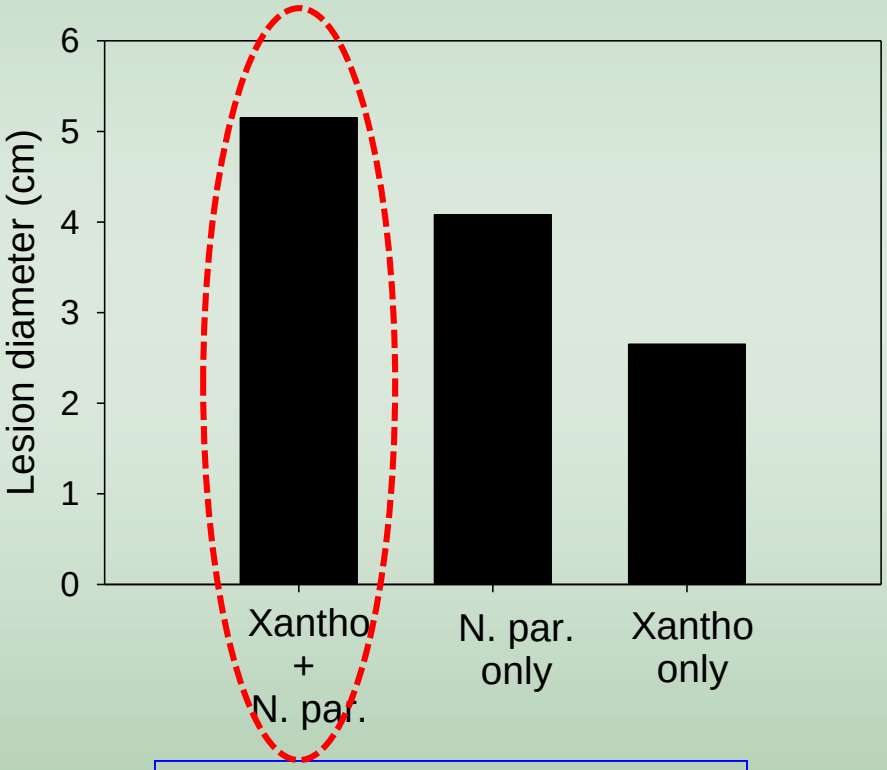
Colletotrichum

Cladosporium

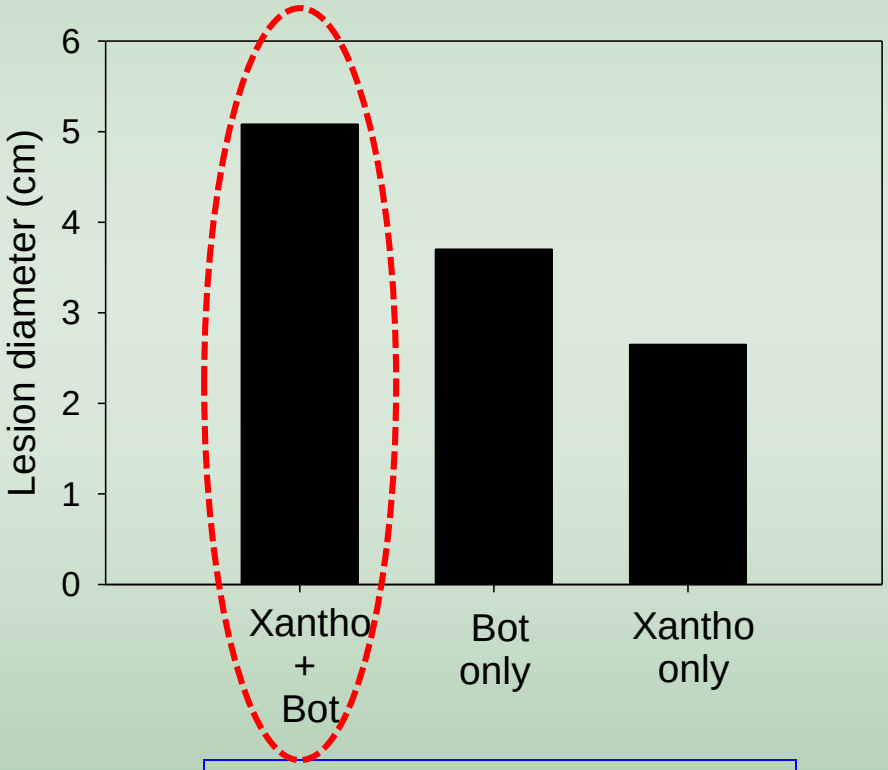
Penicillium

Trichoderma

Effect of walnut blight on development of *Neofusicoccum* & Botryosphaeria



Neofusicoccum parvum



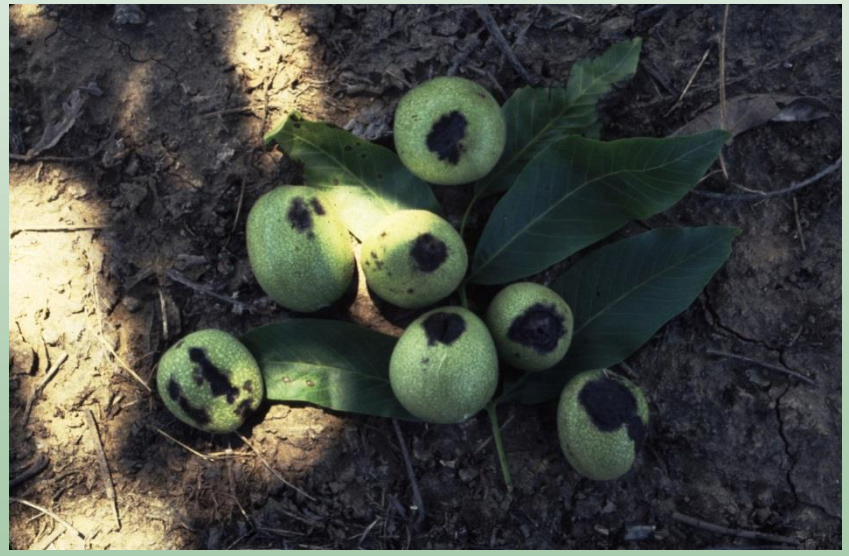
Botryosphaeria dothidea

Walnut Blight Biology and Management

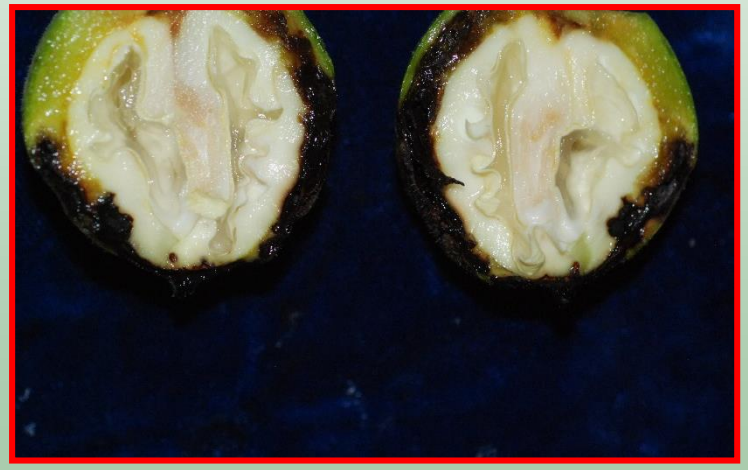
- Richard P. Buchner and Themis J. Michailides
- University of California Cooperative Extension Farm Advisor, Tehama, Glenn and Butte Counties
- University of California, Davis/ Kearney Agric. Research and Extension Center

- Bacterial Disease *Xanthomonas arboricola pv juglandis* (*Xaj*)
- All green tissues are susceptible: flowers, catkins, leaves, nuts, and young shoots.
- Nut infections are the most economically damaging.
  - Early infections invade and kill the developing kernel.
  - Late infections don’t always kill the kernel but may aggravate navel orange worm damage; and lead to Brown Apical Necrosis (BAN).
- Prefers warm wet weather.

Walnut Blight Infections

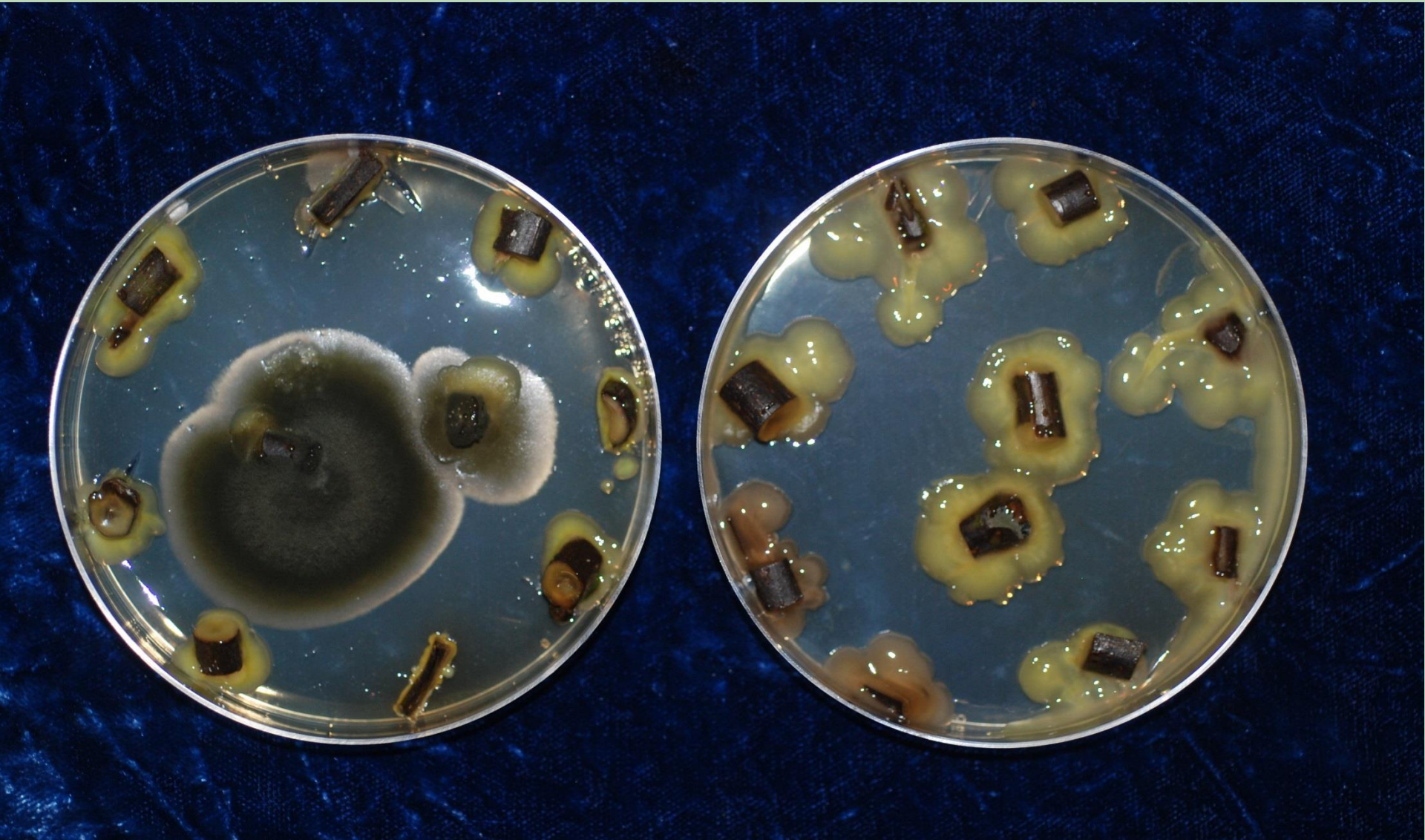


Walnut blight symptoms



Leaf lesions

Xanthomonas arboricola pv. *Juglandis* (petiole plating)



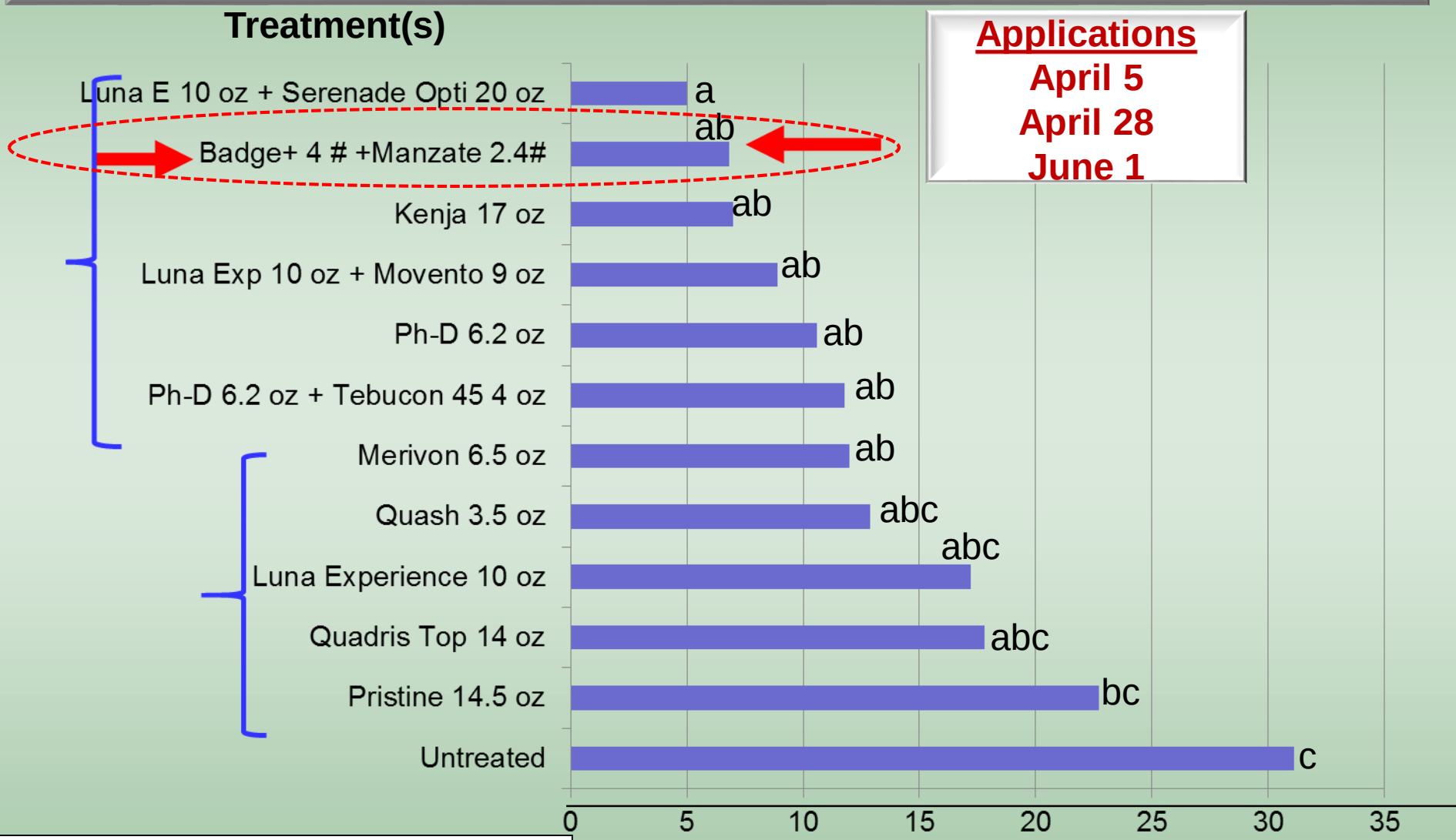
Cultivar susceptibility

Highly susceptible: Ashley, Payne, Vina

Moderately susceptible: Tulare

Low susceptible: Chandler, (<) Howard

Efficacy* of treatments against Walnut Blight of fruit
(San Benito County 2016) cv. Serr



The same fungicides applied 3 times in a row.

% fruit with walnut blight lesions

FUNGICIDES, BACTERICIDES, AND BIOLOGICALS FOR DECIDUOUS TREE FRUIT, NUT, STRAW, AND VINE CROPS 2012

2017

ALMOND
APPLE/PEAR
APRICOT
CHERRY
GRAPE
KIWIFRUIT
PEACH/NECTARINE
PISTACHIO
PLUM
PRUNE
STRAWBERRY
WALNUT

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University of California, Davis/Kearney Agricultural Center
UC Kearney Agricultural Cen
www.uckac.edu/plantpath

http://www.ipm.ucdavis.edu

Blight Control Summary

1) First application at 40% prayer stage
   Second 7-10 days later.

2) Watch weather and treat accordingly.
   Full label rates of copper plus an EBDC.

3) Any good quality copper will work.

4) Full coverage for the first and second.
   Watch weather and treat accordingly.

5) Use judgment based upon location and disease severity.

6) Mixing fungicides with biologicals very promising!

Acknowledgments

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Thank you