



Blossom Protect™

Fire Blight Control



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What is Blossom Protect™?

- Manufactured by  **bio-ferm**
BIOTECHNOLOGICAL PLANT PROTECTION
- EPA registered biopesticide product to prevent fire blight
- Allowed for use in organic pome fruit production



Two Separate Components:

Blossom Protect™: *Aureobasidium pullulans*

A. pullulans is a naturally occurring yeast. It can be killed or inhibited by fungicides.

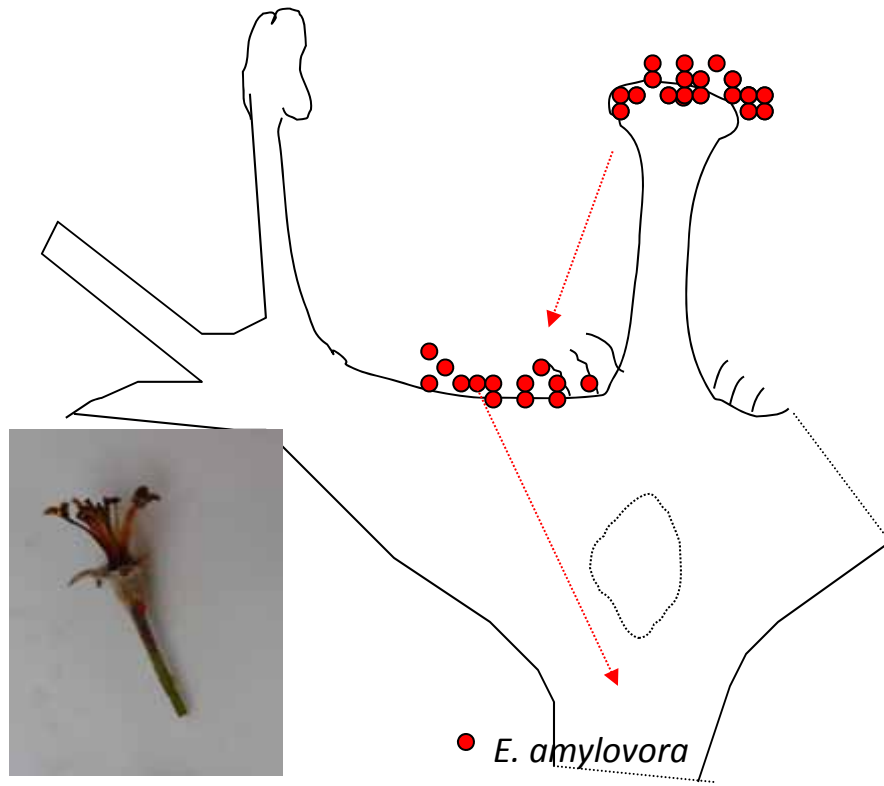
Buffer Protect™

A fermentation media and buffer designed to increase the growth of Blossom Protect™.

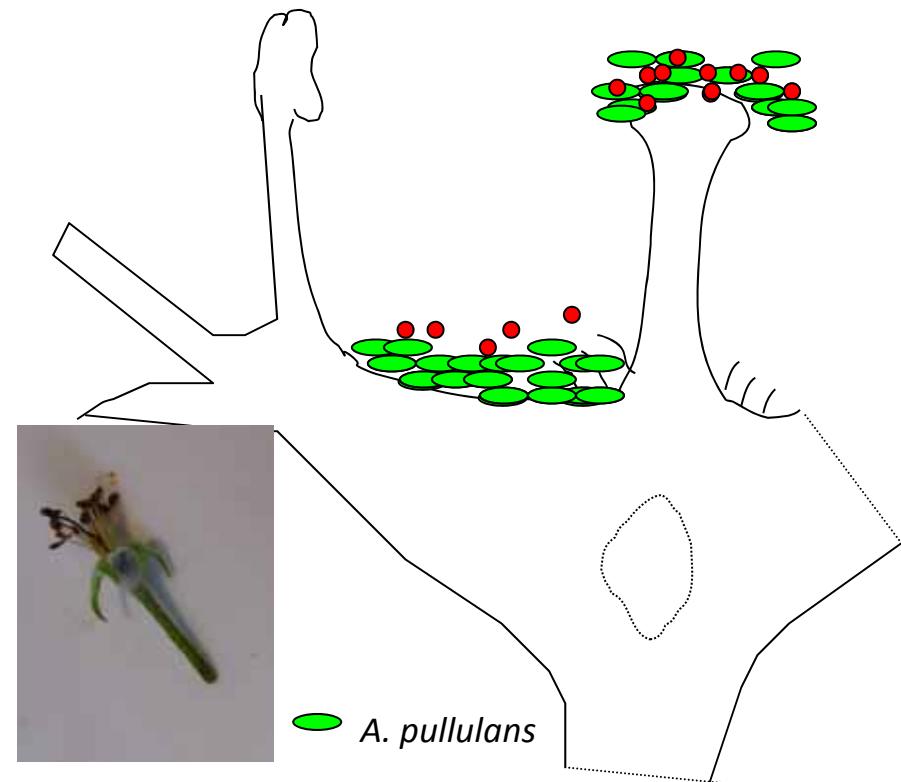


How Blossom Protect™ Works

Untreated

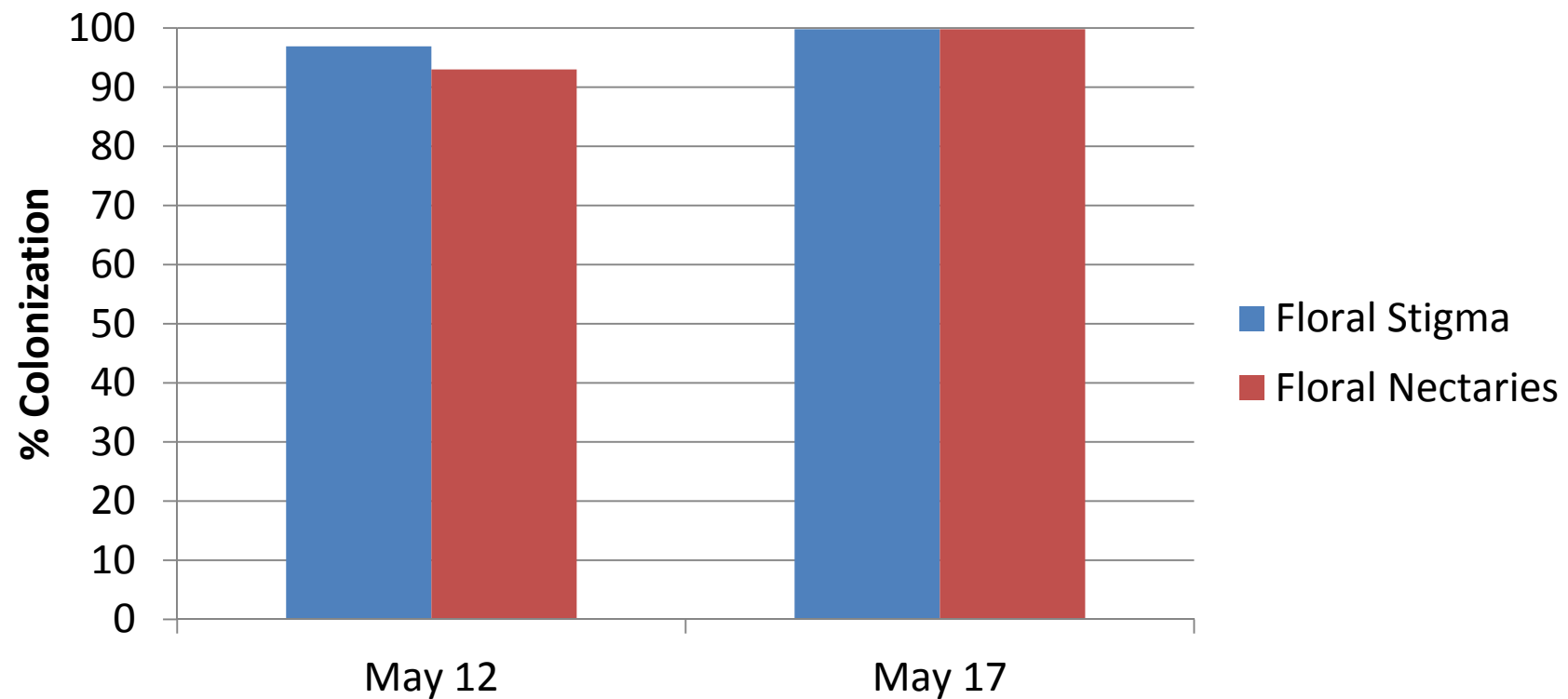


Blossom Protect™



Incidence of Recovery of *Aureobasidium pullulans* (Blossom Protect™) on Floral Stigmas and on Floral Nectaries from Gala Apple Trees

University Trial, Corvallis, OR 2011



Blossom Protect™ was applied on May 11 and on May 13



When to Apply Blossom Protect™

Regular treatment when...



10% Bloom



40% Bloom



70% Bloom



90% Bloom

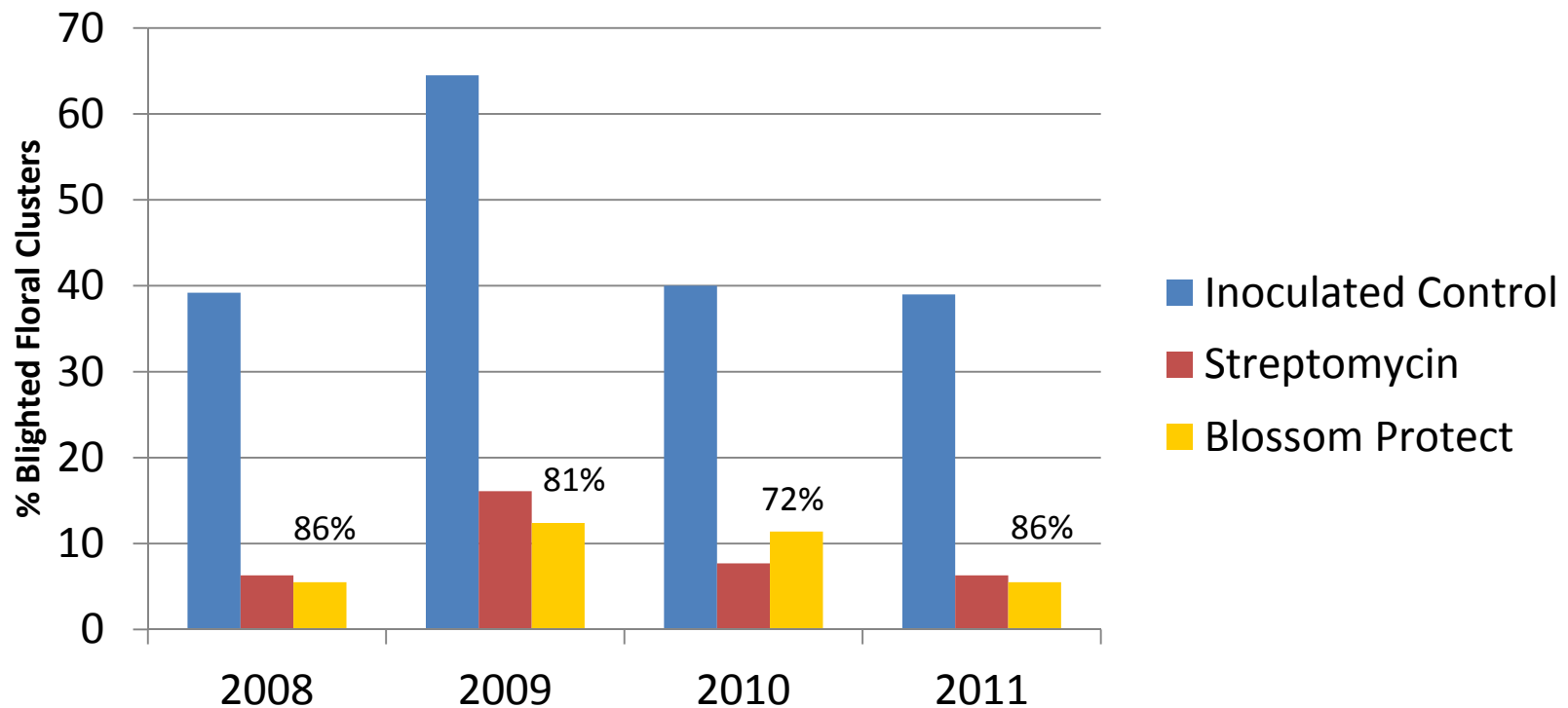
...blossoms are open

Phenological Growth Stages –BBCH scale



Blossom Protect™ Control of Fire Blight on Red Delicious Apples

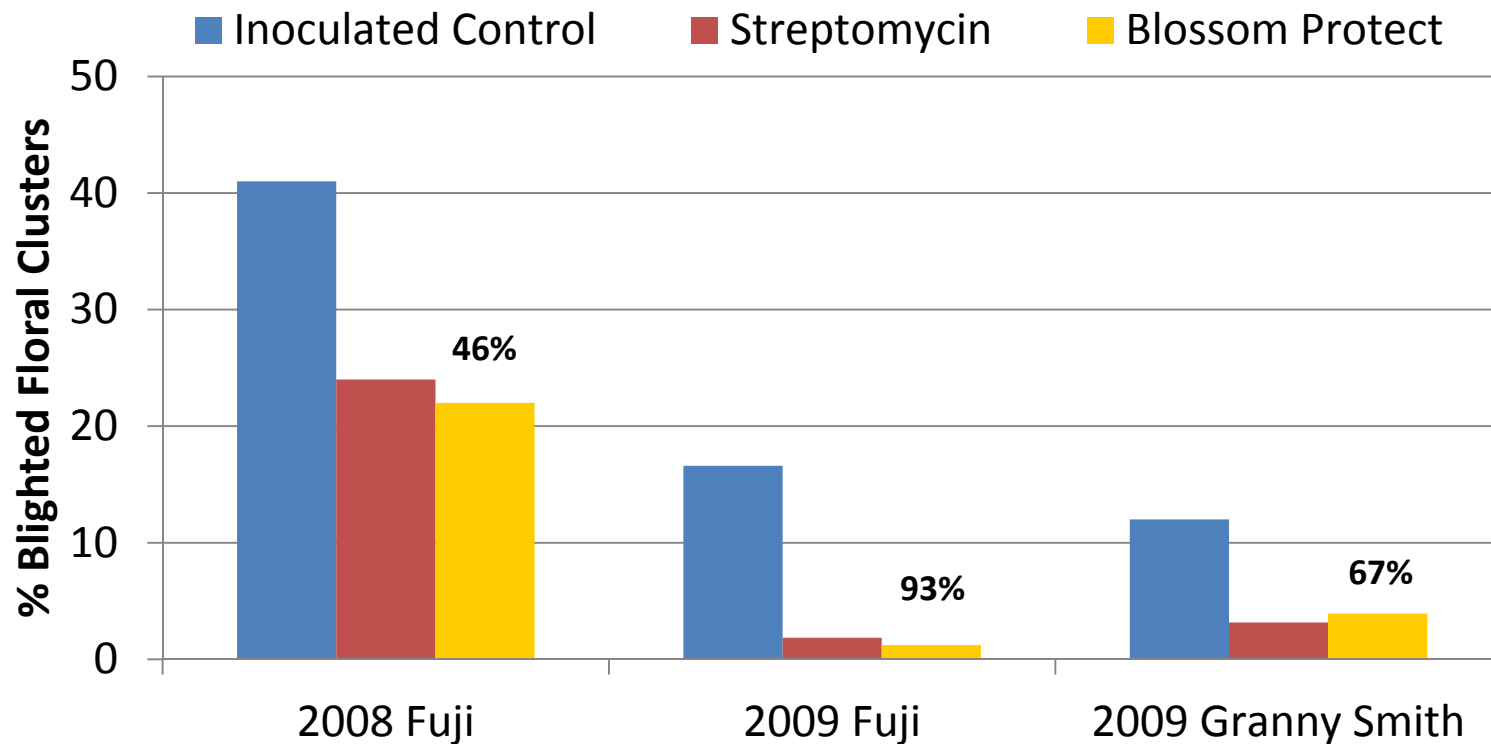
University Trials, Washington, 2008-2011



All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*

Blossom Protect™ Control of Fire Blight on Fuji and Granny Smith Apples

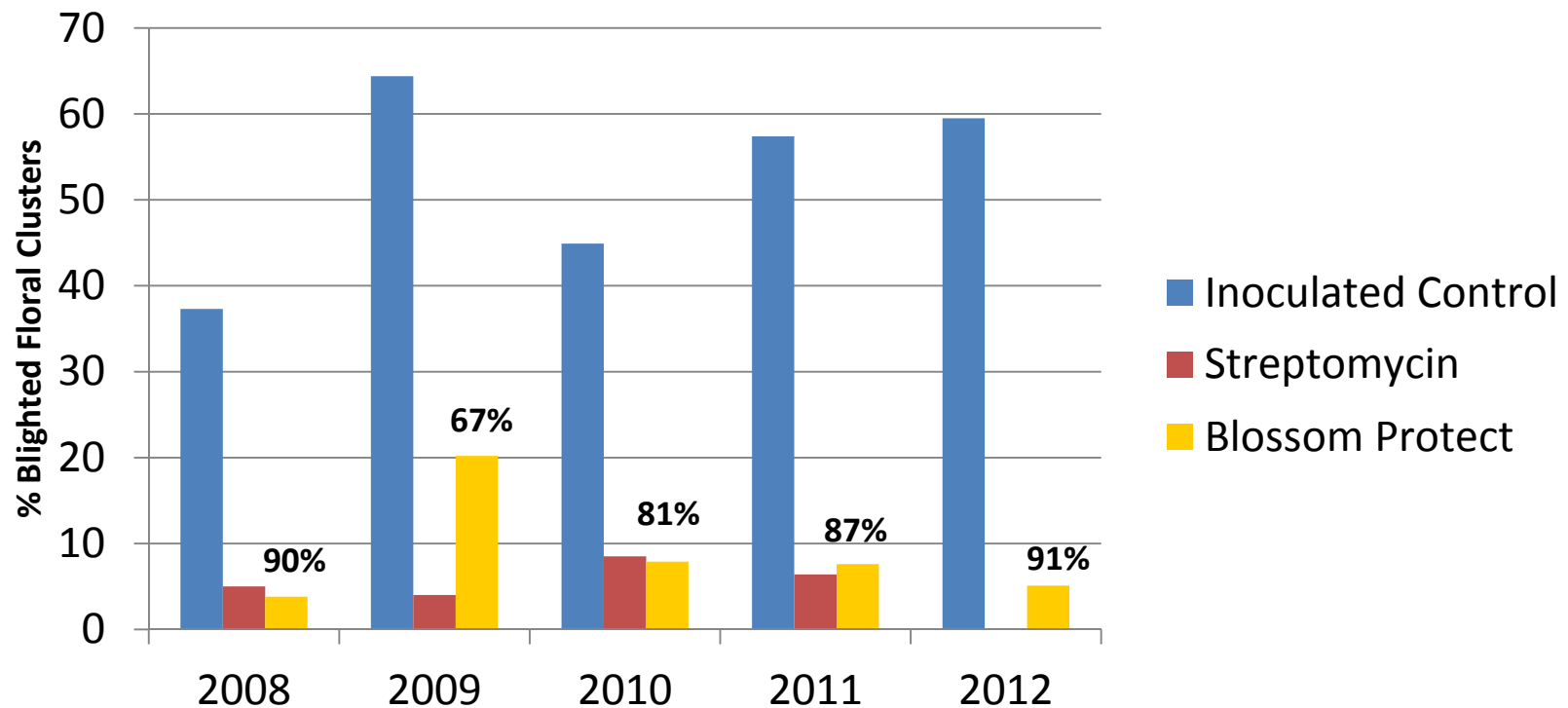
University Trials, California, 2008-2009



All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*

Blossom Protect™ Control of Fire Blight on D'Anjou Pears

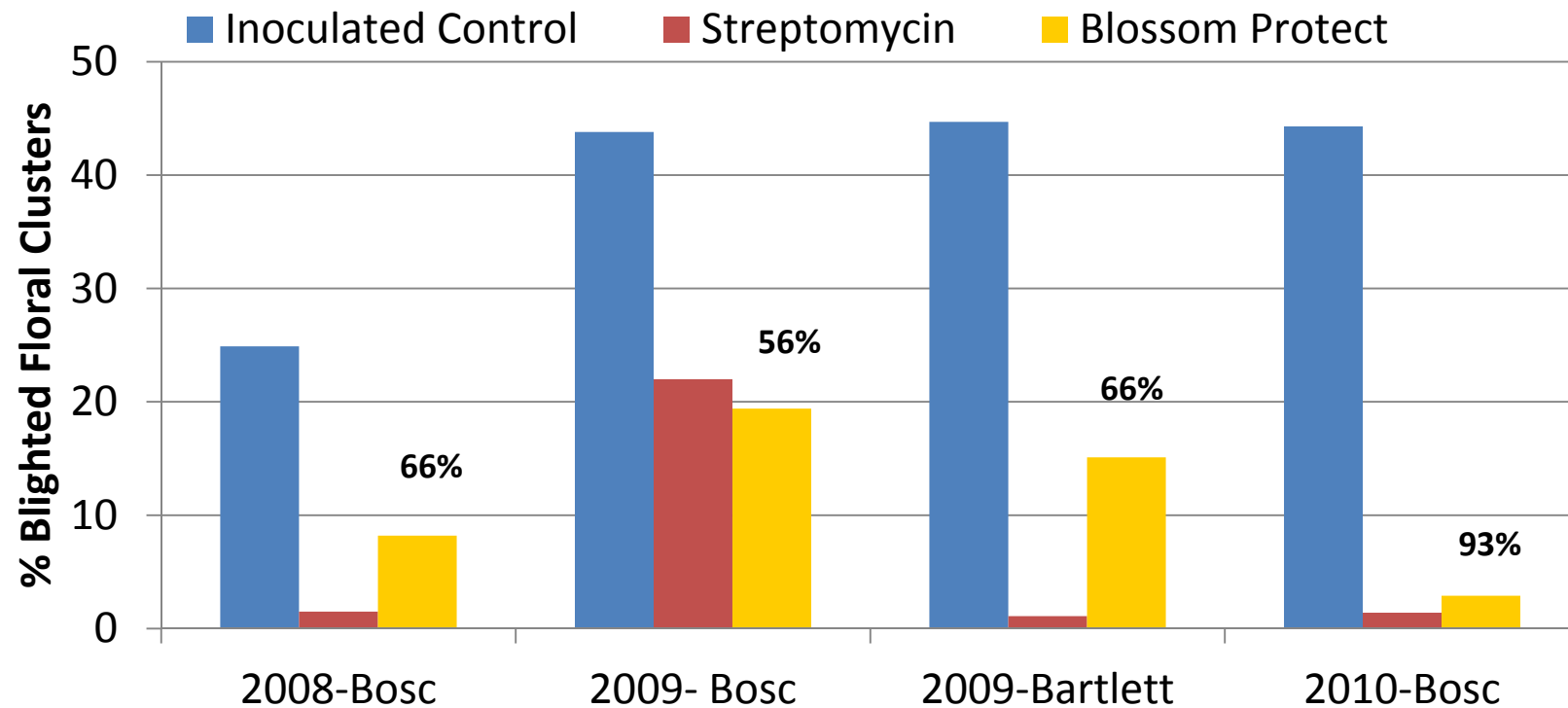
University Trial, Washington, 2008-2011



All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*

Blossom Protect™ Control of Fire Blight on Bosc and Bartlett Pears

University Trial, Oregon, 2008-2011

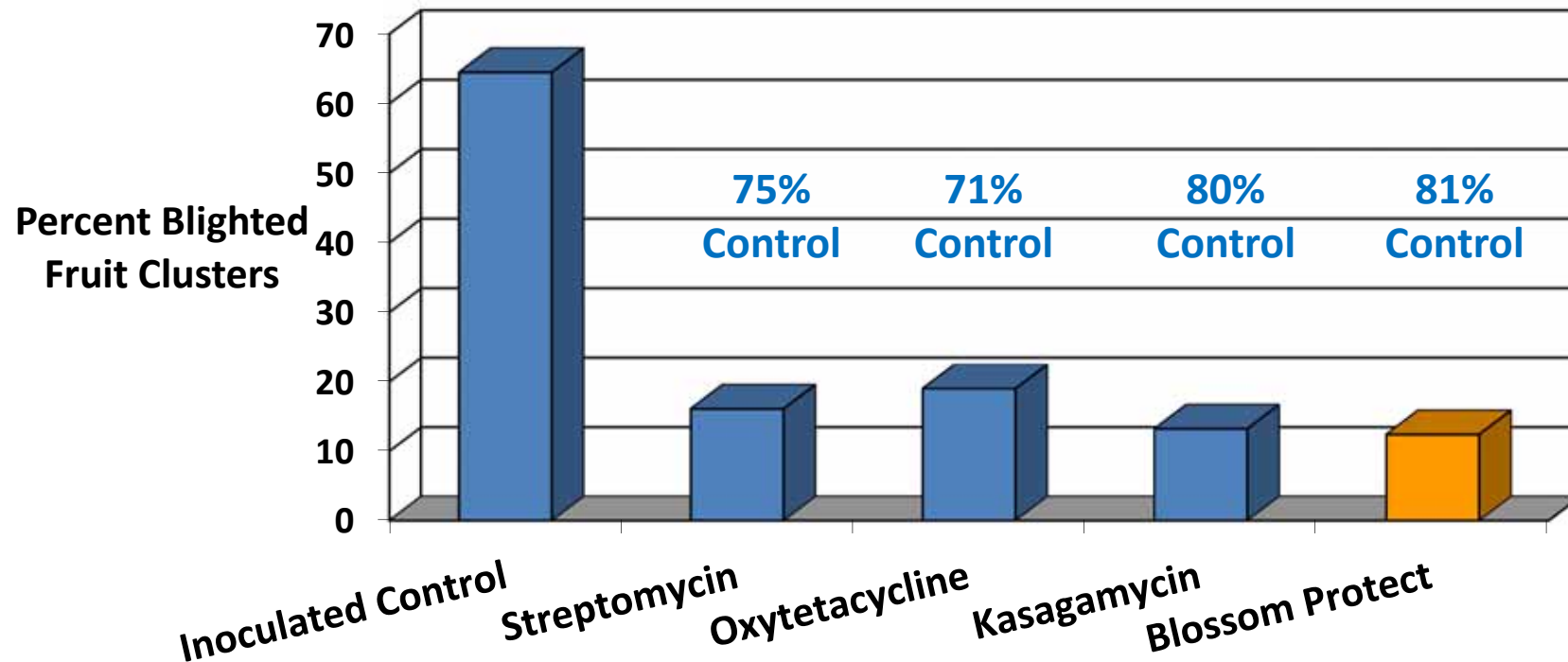


All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*



Blossom Protect™ Control of Fire Blight on Red Delicious Apples

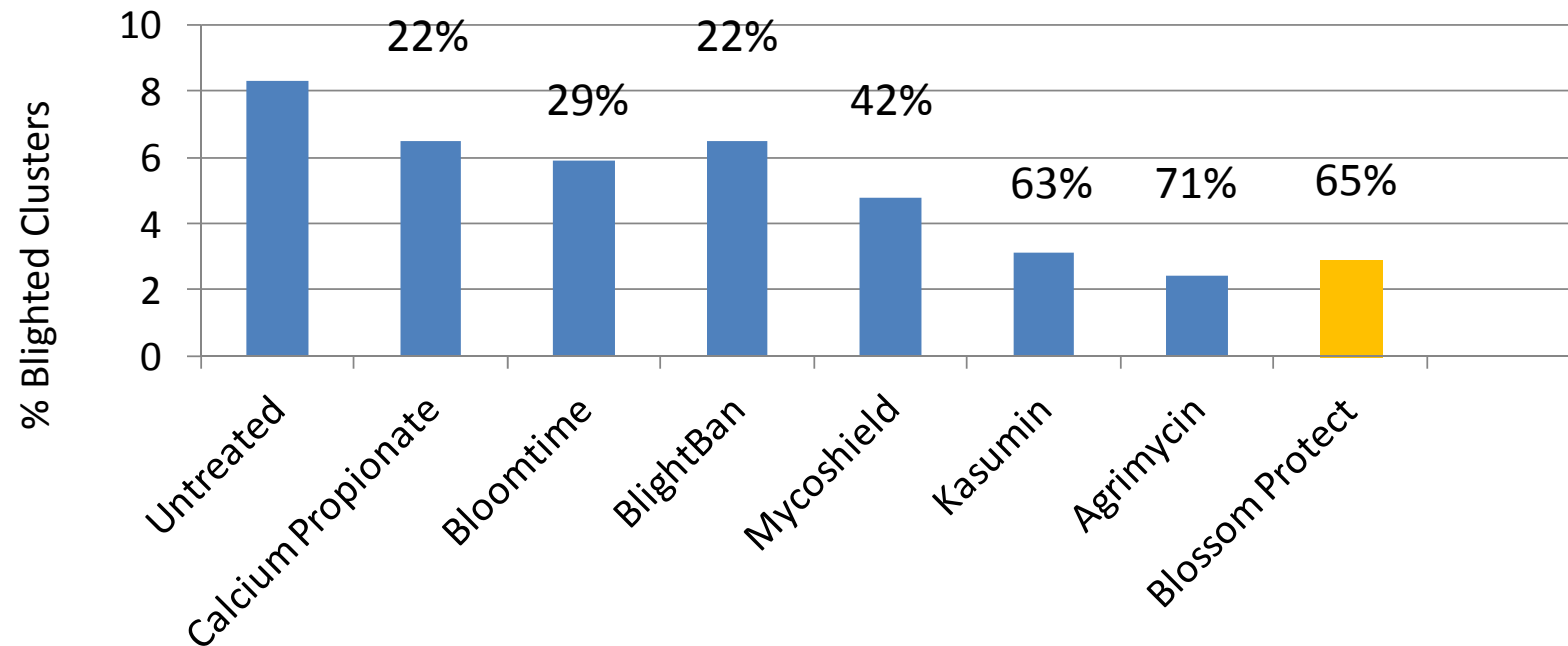
University Trial, Washington, 2009



All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*

Blossom Protect™ Control of Fire Blight on Gala Apples

University Trial, Oregon, 2008



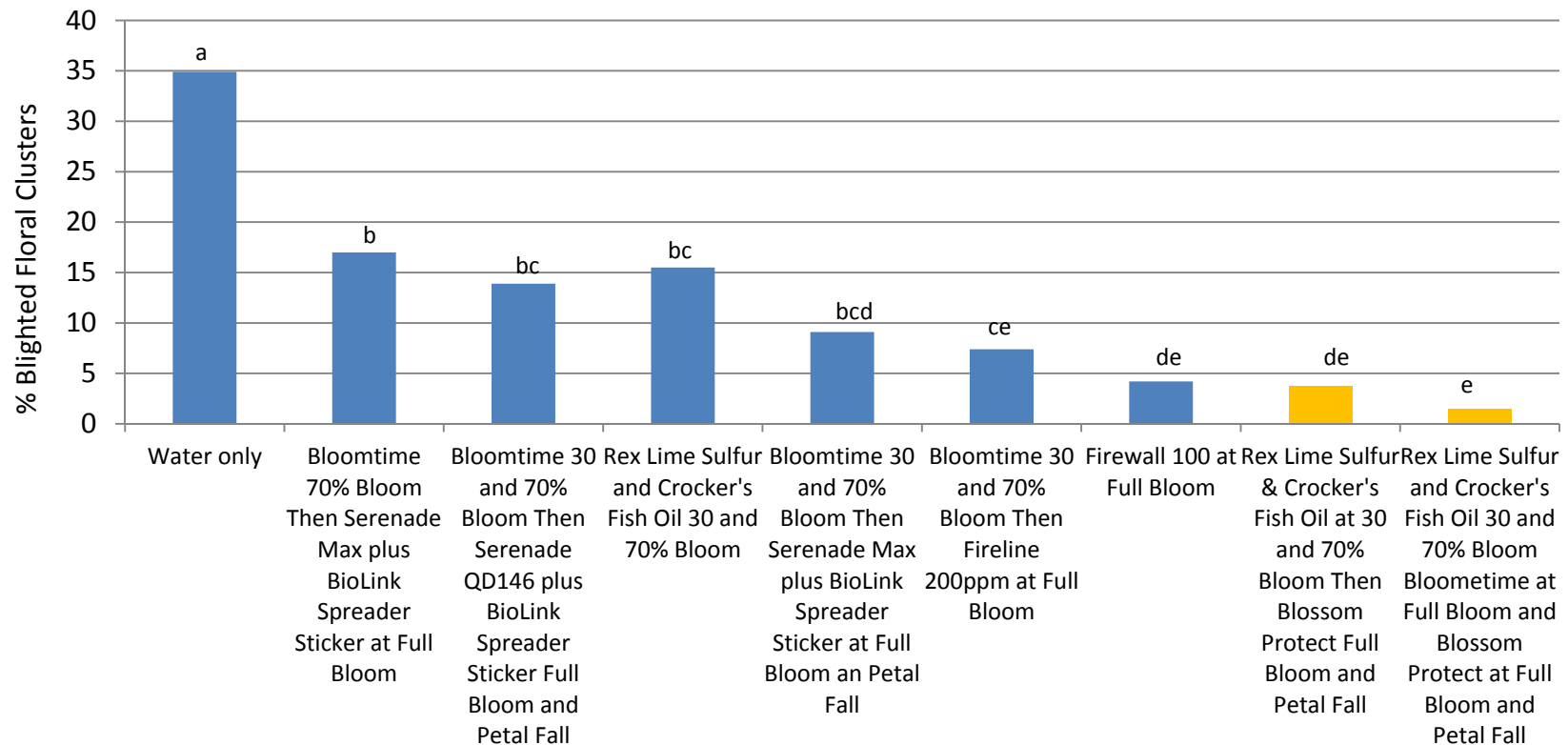
All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*

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Blossom Protect™ Control of Fire Blight on Golden Delicious Apples

University Trial, Oregon, 2011



All treatments were inoculated with a streptomycin sensitive strain of *Erwinia amylovora*



Conclusions

- Blossom Protect™ must be used with Buffer Protect™ to maximize control of fire blight.
- Blossom Protect™ is an effective tool for the control of fire blight in both organic and conventional systems.
- Blossom Protect™ can be tank-mixed with antibiotics under extreme fire blight conditions.
- Blossom Protect™ can be used in integrated pest management systems to reduce the development of antibiotic resistance.
- Blossom Protect™ has proven efficacy in multiple varieties and locations over 5 years of trials

Thank You

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