



Fireblight Options

Posted by [Edgar Evenkeel](#)

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[Edgar Evenkeel](#)

[Fireblight Options](#)

February 04, 2022 11:22PM

Curious on folks take on spraying CCB at bloom vs spraying Copper + Regalia for orchards with severe fireblight infections the previous season.

Any insight welcome.

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[Mike Biltonen](#)

[Re: Fireblight Options](#)

February 05, 2022 12:07AM

First off, I wouldn't apply Regalia at bloom for fireblight since it has been shown to thin apple blossoms at 1+ gal/acre plus esp if there is an adjuvant or oil in the tank mix. Second, copper can cause phytotoxicity and thereby burn flowers/flower parts, reducing the overall fruit set - but mostly on high elemental copper compounds and not necessarily on lower ones like Cueva. None of this is a bad thing if you want thinning, but for fireblight control alone it is risky without considering the secondary effects of thinning that may give you undesirable results.

Now, I do use and prescribe the use of Double Nickel + Cueva (1 qt/acre each) applied around bloom (from tight cluster -> petal fall) a few times (depends on the year) to knock down the epiphytic Erwinia populations and reduce the potential for blossom infections. The CCB is good for when the blossoms are open for creating a competitive surface where there is less likelihood of the bacteria taking hold. I wouldn't apply DN/Cueva on top of/after a CCB because it will kill the living organisms. I also wouldn't apply CCB more than 48 hours after a DN/Cueva spray for the same reasons.

Copper is a "normal" bactericide and is used for a wide range of bacterial pests including fireblight. DN is a fungicide but also classified as a bacterial antagonist and so can help provide a separate unique line of defense.

So, without knowing your situation and assuming you are following the models to know what the actual fireblight risk is..... in a normal fireblight year, I would apply: DN/Cueva at TC and at Pink, CCB with first open blossoms and 1-2 times more through bloom until first petals fall, then DN/Cueva at 50% and 90% PF. If you are using Blossom Protect or another commercial material I might adjust this approach. In a low pressure year, I would reduce this program. In a heavy year, I might run for the hills. But in a normal year, this I believe is a very nominal approach. PLEASE bear in mind this is just an example and needs to be amended for anyone's specific situation and any given year. But that would be my approach.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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[Edgar Evenkeel](#)

[Re: Fireblight Options](#)

February 08, 2022 09:29PM

Thank you Mike, that is the exact info I was looking for. I will adjust the spray program for this particular orchard in Whitefield Maine where FB infected 30/80 apple trees in 2021.

The property owner has elected to REMOVE 25 trees with >50% FB and replant with non-apple fruiting species.

The remaining 55 apple trees will be managed under a holistic spray program.

In my research to find Holistic FB management, avoiding STREPTOMYCIN, the options came down to:

1. CCB + Bacillus subtilis
2. CUEVA Copper
3. REGALIA
4. DOUBLE NICKEL
5. BLOSSOM PROTECT

For this orchard:

GREENTIP: CUEVA+Neem+Karanja

PINK: REGALIA+Neem+Karanja+Fish+EM-1

BLOOM: CEASE+milk/whey+kelp+Karanja+EM-1

PETALFALL: REGALIA+fish+kelp+Neem+Karanja+EM-1

Would you advise switching REGALIA with DOUBLE NICKEL?

Your insight is gratefully appreciated.

Registered: 1 year ago

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Registered: 10 years ago

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[Mike Biltonen](#)

[Re: Fireblight Options](#)

February 09, 2022 01:15AM

Hi Edgar,

You're very welcome.

I would advise switching out Regalia at Pink for Cueva + DN.

Brand Name Active Ingredient Mode

Lifegard LC Bacillus mycoides isolate J SAR

BlightBan A506 Pseudomonas fluorescens A506 CC

Blossom Protect Aurobasidium pullalans DSM 14940, 14941 CC

Bloomtime FD Pantoea agglomerans strain E325 stigma

Agriphage Fireblight Bacteriophage phage

Thymeguard 23% Thyme Oil, 77% citrate antib

AgroPest 13% Thyme, 10% Rosemary, 77% citrate anitb

Cueva Copper Octanoate antib

Double Nickel Bacillus amyloliquifasciens, Bacillus subtilus antib

Actigard Acibenzolar-S-methyl SAR

Regalia Extract of Reynoutria Sachalinensis SAR

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

[Reply](#), [Quote](#)

[Michael Phillips](#)

[Re: Fireblight Options](#)

February 09, 2022 04:20PM

What's telling here is that most all these products are derived from organisms!

It's fair to say that approaches to fire blight all over the map. I will use fixed copper for a *start'me'up* application at green tip throughout all three blocks this year because of burgeoning shoot blight strikes the previous two seasons. Those micronized copper grains in bud scales and bark crevices in turn will limit the number of staging areas for the blight bacterium when conditions come right during bloom. It's worth noting I have not done an orchard-wide copper application in over twenty years. That early-season thrust will be followed by going full holistic in order to reestablish arboreal biology for many, many reasons. Calling on the CCB card depends on conditions and the extent bloom is spread out. The [addition of SeaCrop to a CCB](#) has been suggested by Washington growers... and such a mineral charge to boost metabolism efficiency is all about immune function (SAR pathway and more). Other organisms on my team include *Bacillus subtilus* introduced in spring sprays with a Tainio Biological addition. Use of Quantum Total is another way to enhance microbe diversity, to go along with the lactobacilli action of EM. Following bloom, I'm going to be a lot more aware of potato leafhopper damage on tender shoots as that looks to be the vector that has led to the endemic build-up here.

I can tell you that Eric Shatt of Redbyrd Cider uses a couple rounds of Cueva during bloom on rows of highly susceptible bittersweets. Brittany's use of [bacteriophages](#) is totally appropriate for the warm humid reality of the Southeast. Mike's combos are proving promising for his consultant clients.

The takeaway in all this is you need to think through modes of action all the way down the line. Mineral fungicides are going to impact organisms. Yet some European cider varieties apparently need those 2 or 3 light touches of Cueva to make it through the blossom period at some locations. Organism products are expensive so you need to be tuned in to how you enhance that investment rather than undermining it with the very next spray. Thinking in terms of THIS for THAT is how we lose sight that holistic orcharding is a package deal.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

Edited 5 time(s). Last edit at 02/10/2022 02:27AM by Michael Phillips.

[Reply](#), [Quote](#)

[Brandt Schisler](#)

[Re: Fireblight Options](#)

February 28, 2022 09:04PM

From my understanding, Double Nickel is anti-bacterial and anti-fungal. Therefore, spraying it with EM-1 would be counterproductive, would it not?

I have issues with Sooty Blotch and Flyspeck here in our Missouri climate and considered using DN during bloom to help with that (in a previous conversation with Mike B he mentioned my issue starts at bloom, and not toward the end of the season like I had previously thought). I have talked with Maury out of Wills Orchard in Iowa and he seemed to have had good luck with DN controlling Fireblight, Sooty Blotch & Flyspeck but I am still torn on what direction to go as I currently do Vermicompost tea + Milk/whey + EM-1 + Seacrop + Kelp + Karanja + Molasses at bloom and I think it may help my early varieties but all of my late October varieties, especially Goldrush & Ultra Gold, seem to get hit pretty hard with the Sooty Blotch and Flyspeck.

One idea I had for this year was to dig up some dirt from under an area where ramial woodchips have been continuously piled for the last 20 years and add it to my vermicompost tea mixture. I may go this route first and if no luck then I will try the DN in spring of 2023. But for purpose of this conversation I must bring up that I have not had fireblight for the last 2 years with my bloom spray I explained earlier, and additionally I do a BRANDT Tritex dormant oil and Badge X2 copper at greentip.

Registered: 10 years ago

Posts: 298

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Registered: 11 years ago

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Hickory Ridge Orchard
Zone 6b in Missouri

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