



Fruit rots (and maybe holistic sprays??)

Posted by [David Maxwell](#)

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[David Maxwell](#)

[Fruit rots \(and maybe holistic sprays??\)](#)

January 26, 2016 06:59PM

Registered: 11 years ago

Posts: 197

This past year I experienced a problem I have never had before. Large numbers of my trees had the fruit rot on the tree starting around mid-August. The fruit developed soft dark brown areas on the skin which rapidly spread until the entire apple was soft and brown, indeed frankly mushy. There was considerable varietal variation. Every single apple on the 3 Yarlinton Mill trees was rotten by Aug. 15. Other cultivars had maybe 1/3 of the crop rotten, and some (eg. Pomme Gris, Sweet Coppin) had not a single one affected.

Now, I am not even entirely certain what I am dealing with, let alone why I had it this year, nor what to do about it this coming year. My best guess is that it was "White Rot" - Botryosphaeria dothidea, but descriptions of black rot and bitter rot also sound similar. We had an unusually wet (and warm) August, (we are in Zone 5b, on the Atlantic coast, so humid at the best of times), which may have exacerbated the problem. I am however grasping at straws here, and would be most grateful for the thoughts of the collective.

This year for the first time I followed Michael's holistic spray program consistently and universally. (And this year, for the first time my fruit rotted on the trees!) I brewed my own EMs from a mother culture. But this mother culture is now 3 years old - could the balance of organisms in it have shifted?? (I will get a fresh culture this spring...) Or do I have a problem despite the holistic sprays? And if so. what can I do beyond the holistic sprays to avoid a repetition next year?

I doubt that it is relevant, but throw it out in case: I have long had a fair amount of sooty blotch, which I have simply ignored as purely cosmetic. Most of my cultivars are scab resistant, and in general scab is not a significant problem for me. I have had cankers on some varieties, (notably Williams Pride, which was killed by extensive cankers on the main trunk). And there is very extensive Black Knot infections of Prunus spp. throughout the region.

Wise advice?

[Broomholm Orchard](#)

Zone 5b in Nova Scotia

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[Mike Biltonen](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 26, 2016 08:04PM

Registered: 10 years ago

Posts: 298

Even in the conventional world, summer fruit rots are becoming more and more of an issue. I haven't heard of anyone talk about fungicide resistances, so am not sure if there are new strains of old diseases or what. In the holistic world this could be even more of a problem given the weaker nature of the sprays. I know 2 years ago I saw a lot of bitter rot in Honeycrisp. In doing my research (not mine, just reading the literature) I found that though most rots appear in late summer, the infections can begin as early as bloom time. They then lay dormant until the appropriate time. More than likely what you are seeing is bitter rot, or Glomerella cingulata. I have seen white rot and black rot more in past seasons, but they seem to be more prevalent on wood and leaves than fruit. As well, calcium related disorders seem to be on the rise. This can lead to bitter pit, corking, or just weak cell membranes opening up the possibility of infection through a wound or other easy entry point. Bitter pit in particular can deteriorate creating an entry point for a secondary infection. As well, any type of wound, cracking, etc. can do the same. Depending on your location (generally speaking) a hot wet summer will amp up the infection potential especially in orchards where mid and late season disease control/spray applications (whatever you are using) is reduced. I would say use the holistic approach perhaps more intensively through the bloom period and later in the summer. Augment the holistic sprays with biological spray of some sort, even a well times copper spray could help. But my gut intuition tells me is not the sprays that are failing but the timing. As far as black knot, I managed an orchard with a ton. Infections from last year don't really appear for at least a year. So whatever you saw last year was from an infection at least one year old. Cut it out...all of it. The new infections will occur as soon as there is tender green tissue in the early spring. Begin applications of whatever you are going to use and then keep good coverage until the tissue is done growing and/or hardened off. I say "whatever" because the fact is you will not find any silver bullets out there. Sanitation is your silver bullet. If you have clean orchard and surrounding property then you should be in good shape. But once it gets started, it is tough to get rid of. Remember, even if you cut out all that you see right now, there are likely latent infections that won't develop into knots until this year. Be vigilant.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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[Joanne Patton](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 26, 2016 08:59PM


Registered: 7 years ago

Posts: 62

When cutting out infected/diseased wood, I assume this should not be returned to the orchard floor and pruners should be disinfected (Listerine or generic works great). Thinking about good sanitation practices....

Joanne Patton

Zone 6A in Northern Virginia

(following your format)  smiling smiley

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[Mike Biltonen](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 26, 2016 09:13PM

Registered: 10 years ago

Posts: 298

Yes, good sanitation is priority #1. remove diseased wood and burn it or throw it a long way away from your farm. Pruners however....now that's another question. There is a divided school of thought on this. Some folks think that, yes, it can't hurt. And yes they are probably right. But in reality, and my understanding is, that it takes more than a quick dip in alcohol or listerine to actually kill anything. The same applies to the alcohol swab before a shot. Can't hurt, but doesn't likely do any good in case of a major infection or strong pathogen. I would suggest forego the disinfection unless you plan on soaking them for 10 minutes. The alcohol/disinfectant could reduce the life of the tools and not get you the disinfection level you were after. If you've had bitter rot, it is a good idea to remove all infected fruit. They will stick around until next year and start an infection cycle all over again. Wood rots like black or white rot I think are fairly weak pathogens and while it may seem a good idea to remove them - and I am not saying its not - you may be just as good grinding them into mulch right there in the orchard. Other wood infections like Anthracnose, which I have little experience with, is another story. So when it comes to sanitation, it is always good idea. But in terms of a ROI for your time, you need to pick your battles.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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[Joanne Patton](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 26, 2016 09:38PM

Registered: 7 years ago

Posts: 62

Now that you mention it, about disinfecting pruners, I remember that being a concern - the corrosiveness and time necessary to really disinfect. Thanks for the reminder!

This past summer I had a few Honeycrisp fall off the tree and when I picked them up, they were MUSH and you could smell the fermentation. And because the tree is small (espaliered) and young (planted in 2011), I routinely felt the fruit and they always felt firm. So the time from firmness to complete mush was very very rapid.

Our Extension Agent sent it off to VT lab but they didn't know what it was. I was going to post some pics but I don't see a way to do that.

Joanne Patton

Zone 5a in Northern Virginia

[Reply, Quote](#)

[Michael Phillips](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 26, 2016 11:40PM

Moderator

Registered: 11 years ago

Posts: 621

Man the bulwarks! Swash the buckle! Nova Scotia attacks! [big smiley thing]

The breadth of time where rots establish in the orchard is a big factor. A spring spray program straddling the primary infection window hardly touches this. Rots need to be addressed all the more in the fruit sizing window (those six weeks right after petal fall) and the fruit ripening window (July into mid-August). The holistic approach doesn't suggest fungicides either/ ever/ whatever ... though I am open to a surgical strike given legitimate understanding. The real need is to boost the cuticle defense with silica and calcium, along with keeping competitive colonization in full gear. Let me reintroduce a neglected post on [fermented plant extracts](#) which turned out to be my most important thing to share from this past year. Check it out, chime in, eat more nettles.

It's important to explain what your take on a applying a holistic program "consistently and universally" actually means, David. If you brewed the calcium and silica teas and made applications every 7 days in the fruit sizing window and every 10 days in the fruit ripening window, mon, then I am impressed. The second half of summer was quite humid here as well. I saw rot on maybe two dozen apples total in a 500 bushel crop (and this mostly on Northern Spy fruit in the interior of the tree). I too followed a holistic program "consistently and universally" but far from that tight of application frequency. Leeway is always good ... if things work out. Last season they sure did.

It is hard to be sure which rot exactly. I do recall David checking in about a fire blight outbreak a few years ago, brought by a hurricane. The relevance here is that black rot will establish on healed *Erwinia* canker edges and than sporulate the following season(s). This suggests a likely source of in-house rot inoculum though different from what Mike suggests. I would support early season copper to get at this issue. Sterilizing pruners is not relevant at all.

Anyway, great post, David! It's good to stir the hive!

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

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[Francis Brabant](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 27, 2016 04:51PM

Registered: 10 years ago

Posts: 11

Bonjour!

We have had a similar problem last year and this year again. According to the specialist at [IRDA](#), we are dealing with *Colletotrichum gloeosporioides*, AKA, bull's eye rot.

There is a link between this occurrence and Fireblight. All the trees that were infected with the rot had suffered a fireblight infection. The presence of rot on trees not affected by fireblight is negligible. Is there a link between the two pathogens or was it because these trees were already stressed out? Anyway, that was a double wammy for us last year. And 2015 was the last blow to our Paula Red block. Two acres will be cut down.

Back to Colletotrichum gloeosporioides, some summer spraying of fungicides will be necessary. Since we use sulfur to fight apple scab - successfully - we don't spray in summer. So, basically, your reward for fighting off apple scab is Bull's eye rot!

This year, 2016, I will try sulfur or copper in summer (low dosage). Not sure of the timing yet. Will see.

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[Paul Weir](#)

[Re: Fruit rots \(and maybe holistic sprays??\)](#)

January 30, 2016 03:09AM

Hi David,

Registered: 11 years ago

Posts: 187

Good stir, indeed.

Do you happen to log your sprays and holistic efforts on any kind of spreadsheet? and if so, do you also log the weather throughout the season too?

The points being made, by several others, that this type of rot has followed a bad FB season, is a serious red flag of caution. The fact that black rot, or one of the other major rots, can (and does) infect the margins of previously infected FB cankers resonates loud and clear with me having seen this first hand at a friends small 7-8 year old orchard planting last summer.

For those of you looking/needing to do some surgical striking by utilizing copper, take a look at the newer offering by [CertisUSA called Cueva](#). I appreciate the Metal Copper Equivalent of only 1.8% and the fact that the copper is bound to a fatty acid within solution.

Comb through your orchard, before bud break this coming spring, and look for all overwintering cankers of all pathogen varieties and remove 100% of them (or plan to treat them, somehow, at the least). It is very likely your source(s) of infection have taken up stealth residence right within your own orchard.

However it happened, it did happen and it has been a gut wrench for you David. I feel for you and what you went through last season. Situations like yours can rarely be pinned on one thing and are usually a combination of cultural aspects coupled with weather variations (or curve balls). Keep the topic alive this season and lets see if we can offer any help, as things unfold.

Wishing you a nice orchard rebound in 2016!

[Gopher Hill Apples](#)

Zone 8 in California

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