



Marssonina 2021

Posted by [Michael Phillips](#)

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[Michael Phillips](#)

[Marssonina 2021](#)

July 15, 2021 04:24AM

Moderator

Registered: 11 years ago

Posts: 621

The conversation concerning leaf blotch is about to make a major comeback. I'm starting a new thread to direct immediate attention but please know this builds on an earlier thread entitled [Marssonina 2019](#)

I was in southeastern Vermont yesterday for a consultation, and then dropped by Scott Bolotin's orchard on the way home. His trees are almost all yellowing, starting to drop leaves en masse, and no question it's Marssonina Leaf Blotch. The similarity to Frog-Eye Leaf Spot on those leaves still with green hue gave me pause but there's no escaping that yellow finale. What's significant in this case is that the hundred varieties on Scott's farm are mostly heirlooms on Antonovka rootstock planted some 30 years ago. Scott did no spraying whatsoever this season. His fruit is amazingly clean but it's not going to have photosynthesis support to get to harvest. And next year's fruit buds will certainly suffer as a result of nutrient flow shutting down.

This evening I've been sent pictures of a smattering of Marssonina found in a cider apple orchard in the western foothills of the Hudson Valley. This ten-acre planting is just down the road from "Angry Orchard" (accordingly I like to kid the brothers involved that their operation must be "Passive Aggressive Orchard") and consists of 2nd and 3rd leaf trees, mostly on Geneva and Bud.9 rootstock, trained to trellis, just starting to bear. Management follows the core holistic program with trace minerals provided in tonic form (Mikronite from Agri-Dynamics). Sap analysis done at the end of the cell division phase revealed the typical need for more calcium, manganese, magnesium, and iron... but this supplementation was not underway in earlier sprays as sap levels looked righteous starting out. Cueva was applied on June 15 to the rows showing what looked like Frog-Eye spotting (with a curious red halo) despite that seeming so unlikely in young trees (and a bit late to have relevant impact). Now those leaves are turning yellow and blotchy, ergo, it's Marssonina making inroads in this planting.

Let me end by pointing out two articles in previous issues of *Community Orchardist*. An overview of this up and coming fungal disease was provided in the [Winter 2020 newsletter](#). A plausible means of addressing inoculum loading was then suggested by Lou Lego in the [Winter 2021 newsletter](#). Time to zone in again, folks!

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

Edited 2 time(s). Last edit at 07/15/2021 07:46PM by Michael Phillips.

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[Mike Biltonen](#)

[Re: Marssonina 2021](#)

July 15, 2021 07:29PM

Registered: 10 years ago

Posts: 298

There's lot of black rot going around and some varieties are obviously more susceptible than others to it. I am not surprised. It starts to get ugly when you CAR and yellowing (maybe Marsoninna, maybe not) starts to creep in. When visually IDing "Marsy" I look for the blotchiness and not just general yellowing. I have seen both this year and with all the rain I am not surprised. But general yellowing is not always Marsy. I am intrigued by Lou's approach to spraying as well as his general approach of cleaning up leaves after each season (more for scab than Marsy). This year I have not yet seen much Marsy, though I expect that will change in the next few weeks. I have also seen some trees with apple mosaic virus that in the early stages could be confused as Marsy. Most of the growers I am working with are using a combo of Double Nickle/Cueva/Regalia/micros as well as other nutrition. Doesn't work so well with CAR or scab, but other diseases including fireblight seem to be kept at bay. We'll see over the next few weeks how the Marsy develops and maybe that helps as well too. What I am 100% sure of is that stopping any spray program too early in the season will result in extensive Marsy. And with this rain, like the cicadas in NJ, it could be biblical. Anyway, lets keep it\the convo going.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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[Jay Kenney](#)

[Re: Marssonina 2021](#)

July 28, 2021 02:36AM

Registered: 4 years ago

Posts: 4

I've got what looks like Marssonina and am unfamiliar with it in apple trees. We see it out here in Colorado in Aspen, but not so much in apples. I'm reading this and the previous threads to see what if anything I can or should do but would appreciate any experienced eyes taking a look and seeing if you agree. Two of the pics in the folder look strikingly like marssonina, the third from a second graft, less so. Thoughts? And thanks in advance.

Here's the link: [Marsonnina](#)

Wheat Ridge, CO, Zone 6a (2018)
Golden, CO, Zone 5b (2018)
Crawford, CO, Zone 6a (1905)
Lewis, CO, Zone 6a (2017)

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[Michael Phillips](#)

[Re: Marssonina 2021](#)

August 01, 2021 02:44PM

Moderator

Registered: 11 years ago

Posts: 621

These young trees in pots have yellowing leaves, Jay, but it's not Marssonina. Far more likely nitrogen is running short as the biology in that pot doesn't have reserves to call upon. Irregular watering could be part of this situation. The infection lesions that resemble frog-eye leaf spot early on will coalesce into harder and browner blotches on apple. Perhaps that resembles how Marssonina plays out on aspen, perhaps not. Here I can watch the poplar trees but all appears green in far northern New England to date. We also have not had the deluge conditions growers a couple hundred miles south are experiencing where I first saw signs of blotch in downstate orchards this year.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

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[Don Kretschmann](#)

[Re: Marssonina 2021](#)

January 24, 2022 06:10AM

Registered: 1 year ago


Posts: 11

Just for reference if needed, we have all scab resistant/immune varieties. 3 A total. Two blocks largely on M7--1985 and 1996, somewhat crowded as they're 15-20' tall, on 15'x15' row spacing. 2007 and 2016 block are trellised on G11, G16, G-41 and a few M26 4'x15' spacing. All have been grown with organic protocol since planting. We don't thin to any degree, thus most varieties suffer biennialism to some degree.

Over the years we've not needed to much think about scab, since genetics was our defense. We've learned to live with a little fireblight after a bad fall hailstorm in the late '90's. Then about 4 years ago noticed a premature blotch and leaf drop noticeably in our very dependable Liberties. Since then, we've struggled to figure out what to do about Marssonina. Recommendations have centered around "a good scab program" which we've scrambled to find what other organic fruit growers have done. Defensively, these have revolved around sulfur and lime sulfur along with a sometime of copper. Proactively/offensively this has involved effective microorganisms, abetted by neem and karanja oils. (these proactive treatments we had used anyway previous to Marssonina)

So starting in 2020 in addition to our usual mineral nutrients, EM, oils, seaweed, and fish:

2020 we'd spayed a dormant copper (NuCop) in dormant, wet spring so every 2 wks 10# sulfur green tip thru bloom, then 2 qt. lime sulfur every 2 wks thru August. After bloom it was a pretty dry season overall, and somewhat the "off-year" following an odd freeze just after bloom. Crop yield was low-average.

2021 looked to be the year of all years! All varieties great bloom. Fair pollination (but gave me ideas if we could control the bees, maybe we could thin that way...??  Nucop dormant; 2 qt. lime sulfur at bloom; re-read LS labels and thought increasing to 2 gal/A at petal fall would be good timing. Subsequently did see some burn. Lesson learned. Don't recall what I was thinking, but I missed several June LS sprays before resuming July 5. Trees looked fantastic. Lots of fruit. Maybe I wasn't looking for the first tell-tale signs. Was counting the bushels wondering how we'd pick them all. In August we began to see Marssonina set in. We'd picked lots of Pristines in late July early Aug. Lots of Redfrees. Stuggled to get all the Primas picked in August. Lots of good sized Liberties in early Sept. but they were without many leaves and brix was very low. Jonafrees generally much smaller than the abundant rainfall would have provided, and leaves missing or yellowed. By mid-late Sept the orchard looked like early spring--beautiful green grass, leafless trees. Most devastating for the November ripening Goldrush. Normal brix is 10-15+; this year 5-7. We left them on until early December hoping for a miracle. Some trees actually re-bloomed in late fall. Eerie.

Spoke with Lou Lego after reading his SARE research report. He said he isn't too hopeful for his blocks of trees where it's impossible to vacuum up Marssonina infected leaves. We are nearly surrounded by woods and infection from cherries and poplars is impossible. We've always done a final spray in November with EM, neem, and fish emulsion before leaf drop to promote breakdown. This season, we made a special effort by flail mowing in late November. After speaking with Lou in early Jan. I looked again at leaf litter and decided since I couldn't vacuum and the weather was good, I'd mow with a lawnmower equipped with a mulching blade. That made a big difference in how much they were chopped up. Since it was physically impossible for this old guy to do the entire orchard, I re-flailed the 3/4 that hadn't been mulch mowed.

Then got a bright idea that it would be good to spread a little compost on top to promote the breakdown. But how to do that easily? Struck me that we had granular organic fertilizers which have indeed been composted (though I certainly wouldn't vouch for the quality). So a half hour trip on January frozen ground with the Vicon spreader seemed well worth the effort. With the subsequent 8" snowfall, that should bind the litter and breakdown agents together well. Will report back on how that worked. If one can discern a difference.

All that said, I think there's a lot more to go on a good strategy for Marssonina. Don't know if missing some key June sprays was cause of bad Marssonina in 2021. Suspect it was only part of the story. I truly don't like any of the elementals because it likely means much reduced biological activity. It would seem that outcompeting fungal pests for food supply would be a good strategy, but a question I'd pose is that since EM are primarily bacterial, is that the best competition we can muster? Wouldn't there be other benign fungi interested in that same niche? And all things being equal, wouldn't the allies likely reside locally in those same adjoining woodlots? Likely evolving? How could one nudge them toward our Edenic plantings?

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[Brittany Kordick](#)

[Re: Marssonina 2021](#)

January 24, 2022 05:19PM

Registered: 4 years ago

Posts: 209

Thanks, Don, for the update from your orchard. I'm enjoying some welcome mental stimulation provided by the musing that we might be able to do better than EM-1 as far as competitive colonization against a pathogenic fungi like *Marssonina*. I'm afraid I don't have anything to add to the conversation in this case, though, as our *Marssonina* experience hasn't changed since my last post about it back in 2019 -- happily, to date, *Marssonina* hasn't been grievous enough in our orchard to specifically address, but prevention vs. control can be a razor's edge, and given the increasing incidence of *Marssonina* all along the East coast, perhaps our priorities should change.

Every year the foliage of a few varieties throughout our orchard appear to be afflicted (we haven't done any testing, but the defoliation timing and manner are consistent with *Marssonina*). It's not always the same varieties, nor do affected varieties tend to be near each other, and we definitely seem to be faring far, far better than other local orchards and homeowner trees. It's not unusual to see completely defoliated trees during the summer

in our neck of the woods, and increasingly, customers are asking us what's up with their own trees defoliating. I credit our holistic growing practices for the overall good state in our orchard, but can't point to one aspect of this over any other . . . which is perhaps most encouraging! And yet our primary orchard issue remains pervasive fungal rots decimating any sellable fruit . . . hence my particular interest in more targeted competitive colonization against pathogenic fungi.

Your lime sulfur program made me gulp, as well, if mostly from a logistical standpoint, as I imagine you trying to keep up with re-populating EM-1 versus lime sulfur apps. We have a handful of peach trees that rarely have a speck of edible fruit due to brown rot, and a couple years ago, we decided to go heavy, heavy on a lime sulfur program to try and see if it was even possible to get a decent peach. I think it was something like every 10 days spray lime sulfur, wait a few days, spray holistic mix, kill off the bacteria with lime sulfur, put it back, etc, etc. We managed to stick to this schedule almost perfectly, but was exhausting and demoralizing to try and keep up with spraying our dozen or so trees . . . and we did not see ANY difference in the brown rot incidence in our peach trees. Now that we have a NEWA weather station, we can look more at pinpointing applications for things like this as most appropriate to infection windows . . . but we're also grafting some 'Indian Blood' peaches this season to try and beat the brown rot with genetics.

[Kordick Family Farm](#)

Westfield, NC

Zone 7a

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