



Insect stings on fruitlets

Posted by [Peter Fisher](#)

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[Peter Fisher](#)

[Insect stings on fruitlets](#)

June 28, 2014 09:17PM

Registered: 10 years ago

Posts: 82

I have many more than usual insect stings on apple fruitlets. Few fruits escaped unscathed. I used white sticky traps to monitor for tarnished plant bug at the start of bloom, but did not find any. All I trapped were very small black flies (or something resembling flies) that I was unable to identify in the "Tree Fruit Field Guide to Insect, Mite etc. etc." Other possible culprits according to that field guide are the mullein plant bug and the apple red bug. Some of the bites have turned corky (small, round corky areas) consistent with apple red bug damage. Others are just small, black holes that do not penetrate below the skin to any extent. Looks like some are severe enough to cause some deformities in the fruit as it grows. I have seen a green stink bug in the garden, though not in the orchard, so that is another possibility.

At any rate, it could be just the weather (a rainy spring, hot then cool then hot and humid) causing the nymphs to coincide with the developing fruit in unusual numbers. But what is our defense against such attacks? Neem oil did not seem sufficient this year. I sprayed dormant oil in late March, then neem (double rate) and liquid fish on April 22, then compost tea, then first holistic spray (with Bt) May 3, but missed the second holistic spray because the trees started blooming. Second holistic spray at petal fall was May 22 (should have been the third one). First Surround May 30. Last holistic spray, with Surround, June 5. I've had trouble keeping a good coating of Surround on the trees with all the heavy rain. But the damage appears to have been caused early on with fruit set.

Something more I could have done, or do I have to live with extensive but hopefully largely cosmetic damage when we have weather like this?

Turkey Creek Orchard

Solon, Iowa (zone 5A)

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

[Michael Phillips](#)

[Re: Insect stings on fruitlets](#)

June 29, 2014 09:53PM

Moderator

Registered: 11 years ago

Posts: 621

Neem oil will never be sufficient against adult insects. The azadiractin compounds in neem affect the insect molting cycle thus arresting development in a juvenile stage. Egg thru numerous larval instars to pupae are the right targets. This is why those of us dealing with plum curculio still use the refined kaolin clay. This is why strategies for Japanese beetle and brown-marmorated stink bug involve trap crops to lure the adults from the fruit trees. Neem does deter leaf feeding slightly, maybe, sometimes, which may be of use in drawing attention all the more to the trap crop.

The bloom window can be a lengthy stretch, and all the more so when you miss the holistic spray at pink. You are right to consider tarnished plant bug whose feeding sting often leads to a russeted wart on the fruit surface. TPB is mostly a grower-induced problem for those who mow down the dandelions and other broad leafed plants during fruit bloom. The other bugs you mention seem to come later but might be prospects. Extreme diversity supporting all kinds of beneficials should be a core part of any orchard plan. Figuring out who actually done it should reveal specific tactics based on points of vulnerability in the life cycle.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

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[Todd Parlo](#)

[Re: Insect stings on fruitlets](#)

July 08, 2014 03:37AM

Registered: 10 years ago

Posts: 301

Mullein bug may be another candidate, the stings are wee like tarnished plant bug. Also, my understanding is tpb has time through the season to make many generations, so mowing in general will probably lead to feeding in the canopy. Any of those sucking insects are going to head to better digs when their neighborhood is pummeled to the ground, but darn, sometimes you need to mow just to get in there.

[Walden Heights Nursery & Orchard](#)

Zone 3 in Vermont

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[Peter Fisher](#)

[Re: Insect stings on fruitlets](#)

July 08, 2014 05:52PM

Registered: 10 years ago

Posts: 82

So mowing is probably the culprit. The Tree Fruit Field Guide recommends elimination of alternate host broadleaf weeds as a way to manage tarnished plant bug, and I have an orchard filled with several varieties of clover and many many dandelions, but eliminating them is not an option since I am not going to spray 2-4 D in my orchard. So it seemed like mowing was the next best thing. But you are telling me that since the weeds are there, and are probably hosting some beneficials anyway, I should let them bloom, and avoid mowing especially during apple bloom.

Turkey Creek Orchard

Solon, Iowa (zone 5A)

[Reply Quote](#)

[Michael Phillips](#)

[Re: Insect stings on fruitlets](#)

July 09, 2014 04:03PM

Moderator

Registered: 11 years ago

Posts: 621

We were experiencing as much as 40% cosmetic damage from tarnished plant bug in the leased cider mill orchard back in the early 90s. Of course, those were the days I too often heeded conventional advice ... and so that competing bloom had to go. Or did it? One spring we mowed half the block but let the other half glimmer with yellow. (All the surrounding hayfields offered similar dandelion bounty so it was indeed hard to grasp why our mowing made any difference to pollinators.) Needless to say, the surge in TPB upward was practically nil where we didn't mow.

The perspective we as growers bring to management decisions can be really telling. Yes, certain insects like certain plants. Now do we remove those plants thus forcing a species to find alternative food resources -- including our sizing fruit -- or do we actually encourage plant diversity and thus insect diversity and perhaps find balance? The bloom period answer is pretty clear: Wait to mow until petal fall just as the spring feeder root flush begins, and then by laying down a mulch around the dripline. Never mow everywhere at once thus preserving nearby habitat. This delayed mowing also suppresses scab ascospore release from the ground level.

I did look into more detail about **apple red bug**. This species produces one generation each year, with eggs laid in the bark crevices to overwinter. Hatching occurs before blossoming, with the bugs maturing by late June. Nymphs feed on sizing fruit during that time that fruitlets are the size of a pea to a marble to a ping pong ball. The damage is pretty obvious, Peter, in terms of determining if red bug is your particular culprit: See http://www.ipm.msu.edu/insects/apple_red_bug. So in this case it's not an adult doing damage ... and thus "cumulative neem" will have value. Those trunk sprays made in fall and early spring really change certain pest dynamics, and here you have nymphs eventually being impacted as well by the pink and post-petal fall applications.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

[Reply Quote](#)

[Paul Weir](#)

[Re: Insect stings on fruitlets](#)

July 10, 2014 05:38AM

Registered: 11 years ago

Posts: 187

Hi Peter,

Nice detail in your post and questions.

Unusual and extreme weather can throw a twist into any orchard on any given year. I think it keeps more orchardists (and farmers, in general) on their toes than any other factor.

Weather anomalies may have set the stage, for you, and I also agree with the mowing being the most likely instigation to moving a variety of insects from the understory around your trees, up into them.

General rule, hold off on the mowing until after petal fall. Next, strongly consider leaving sizable strips or areas of biologically diverse habitat for predator and prey species alike, adjacent to your trees -- think: not more than a stones throw away. Many of the beneficial insects we desire to see most in our orchards, to help with controlling the 'most wanted' outlaws, require nectar sources (as adults) over an extended period that our fruit trees alone can rarely supply.

I understand the desire to isolate a particular plant species for eradication when it appears to be a primary food source for a particular undesirable insect. It is human and we have all been there, with that contemplation, at one time or another. I want to put a plug in for not wiping out the clovers and dandelions as they are highly utilized food sources for native bees & pollinators in my orchard and quite possibly yours too. In some periods of the summer, I can walk around my acreage and often find a solitary bee sitting within each dandelion (and many of the dandelion relatives) bloom -- *that just makes me smile*. . . . and clover, is not only food for pollinators above ground, but it is also an important food source below ground as well.

Biological diversity (macro & micro) within the orchard will help mitigate extremes . . . seek and encourage balance and you will find the sustainable orchard you are looking for . . . and hopefully more time for you to enjoy the fruits of your labor.

Good luck!

[Gopher Hill Apples](#)

Zone 8 in California

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[Jim Gallott](#)

[Re: Insect stings on fruitlets](#)

July 19, 2014 04:27AM

Registered: 10 years ago

Posts: 10

What I did was mow every other row, then mow the alternate rows when I saw the first blooms of anything starting to regrow in the first rows. Keep alternating until just before harvest when you actually need to have it clean to work easily. This keeps the orchard trimmed over the long run, but the aim is for there always be something growing out there on one side of the tree or the other besides the apples. A well-mowed orchard is a biological desert.

Jim Gallott

New Haven, VT USDA Zone 5a

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