



The Community Orchardist

January 2011

Michael Phillips, Editor

Coyote tracks lead from trunk to trunk out in the orchard. Numerous "snow explosions" speak to vole hunting going on in full force during the night despite the 16 inches of snow covering the ground here in northern New Hampshire. The deer are busy with what vetch and clover can be found down in the lower pasture. Woodpecker comes by each day and tells me that a few more moth larvae have been found hiding beneath the bark of my fruit trees. Chickadees are in charge of keeping everyone's spirits high. The turning month has arrived. The lengthening days are deliciously obvious on late afternoon ski patrol. Out in California, Tim Bates reports he's gearing up for a first compost tea application. Meanwhile in South Australia, the McColl's are done picking peaches and beginning a bountiful apple harvest. We live on an amazing planet where each gets to walk surrounded by beauty. Sharpen those grafting knives in anticipation of new fruits. Discern the lessons from the past season to become a better biological steward. Make a commitment to invest in the fungal duff beneath each and every tree. May the coming wave of green catch you as enthusiastic as ever for this new season.

Global warming = Weather extremes

The underlying issue between global warming and climate change, meaning warming and changes in weather patterns, is that in the last 50 years, the oceans have absorbed 22 times as much heat as has the atmosphere. Let me repeat that, because it's not often considered as part of the global warming story, but the heat of the last half century has built up in the oceans, and it's the accelerated evaporation off of warm oceans that drives the heavy rains. A warmer atmosphere also holds more water vapor. For each one degree centigrade it heats up, it holds seven percent more water vapor. So there's a push and a pull on the whole water cycle. And the key here is that global warming in the hemisphere, through the ocean engine, is now changing the weather patterns, and it's the hydrological cycle, the earth's water cycle, that's been dramatically changed, with more droughts in some areas and more intense rains in others, and now intense snows.

Dr. Paul Epstein is associate director of the Center for Health and the Global Environment at Harvard Medical School. He's co-author of the forthcoming book *Changing Planet, Changing Health: How the Climate Crisis Threatens Our Health and What We Can Do about It*.

Let's turn this discussion towards ramifications for growing tree fruit in the decade ahead. Politics aside, the climate seems to be offering up considerable curveballs and thereby making orcharding all the more challenging. This interview quip above (from Amy Goodman's Democracy Now! radio program) reminded me of the telling impacts here these immediate past years. I'm sure you each have similar stories to tell.

Spring comes earlier now. Buds are awakened before it's necessarily safe. But it's not just the blossom exposure to frosts at play here. The synchronicity of the insect world is especially jarred. Bumblebees do not respond to rapid accumulation of degree days at the same pace as plants. Those we call pests are subject here as well. European apple sawfly came out nearer the end of bloom last year. Ever-the-vagrant, curculio may skip the plums entirely but still come late for the apple party. Monitoring the course of action is more important than ever in timing spray applications, whatever your approach.

The fungal roar as leaves unfurl ties to the pace of ascospore maturity. This presents us with opportunity more often than not. A long spell of dry weather—on the order of 7 to 14 days—provides a powerful release event when it finally does rain. Catch that with micronized sulfur (applied as a protectant) or boost tree immune function with neem/ fish—either way—and lingering showers in the days immediately after don't matter quite as much as when weather patterns favor incremental ascospore release for days on end. This advantage to growers showed last season in numerous locales in the East... provided you didn't lost most of the crop back on May 11 to that universal freeze!

Many of us are seeing new guests on our farms as well. Japanese beetle probably heads that list as its range extends exponentially with summer heat. Years are required to achieve ecosystem balance with that immigrant. I hear tell as well of more obscure pests making a comeback... though this could just as well be tied to long term ebb and flow as many such pests can be found in the literature of old. Apple leaf(curling) midge came on the scene here and turned back new growth on young trees until I caught onto its tricks. And who can't but be aghast about ticks? Cases of Lyme disease have grown tenfold as winter survival rates of certain insects have gone up with the temperature. Let's go back to Dr. Epstein to better understand this:

Maine has warmed two degrees overall, but the winters have gone up three degrees. In Alaska, the temperature is even more dramatic. We've seen increase in overall temperatures, 3.4 degrees, but winters have warmed a startling 6.4 degrees. So, Alaska is experiencing mosquitoes, stinging insects. And then these forest beetles, that are from Arizona all the way up to Alaska, decimating forests... they are overwintering, moving to higher latitudes, moving to higher altitudes, sneaking in more generations each year. And the droughts dry the trees, dry the rosin that normally drowns the beetles as they try to drive through the bark. So the extremes weaken the trees. The temperatures and warming and lack of chilling frosts embolden the pests. And we're seeing this dramatic increase.

Finally Watson, the case of the much longer harvest season. Twenty years ago apples like Baldwin and Northern Spy were totally a climate change gamble here in northern Zone 4. Lows in the teens had to be reckoned by the first week of October, making late-

ripening varieties a green candidates for a freeze-out. Now, tree-ripening of winter keepers can almost be taken for granted this far North. Growing zones have shifted as much as a full number. This beckons well for growers like me but puts the heat on growers further South. The fruits that worked in our parent's day aren't necessarily the fruits we should be growing still.

Ramial Start for Young Trees

Those of you who've heard my holistic shtick at a conference or an all-day intensive know that I'm a big proponent of ramial wood chips. Long story short, deciduous lignins from small-diameter tree tops are a rock'n'roll fungal food. And healthy fruit trees, being a woody species, find balanced nutrition best through fungal dynamics.

This first bit comes from an overlooked SARE project put together by Ann Currier in Maine. She investigated different types of mulches and fertilization schemes in the nursery to see which resulted in better tree growth. Her thumbs up for ramial wood chips can be read at <http://www.mofga.org/Default.aspx?tabid=850>

Someone else sent along a link recommending a particular planting method. Basically it involves digging an oversized hole and back filling with aged wood chips and leaves mixed with soft rock phosphate. One of the concepts behind this is that roots need as much oxygen as they do water. You can link to a MP3 download about "fruit trees on steroids" here: http://www.highbrixgardens.com/index.php?option=com_content&view=article&id=73:fruit-trees-on-steroids&catid=25:general&Itemid=12

Deer Gadgetry

We all probably agree that a good fence is the one and only proven defense against an orchardist's cloven nemesis. Deer are persistent, intelligent, and sometimes seemingly fearless when it comes to ways we humans devise to keep them from our trees. This quick review of three products may be of use to some of you.

The Eyes of a Predator

Sorry to say, the Nite Guard touted in *Mother Earth News* is more of a deer attractant in my opinion. A small red flashing light, solar-powered no less, is touted as resembling the blinking eye of some fearsome creature out there in the night. I used two of these in the outer field in hopes of deterring deer from moving closer in this winter—and each time the device was moved—the young skippers (one-year-olds) came right up to it that very same night. Tracks don't lie.

A Whooping and a Hollering

Motion detector devices that trigger lights to go on are generally not enough to deter most deer. Adding sound ups the effectiveness considerably. The Critter Gitter is about the size of a cell phone, detects warm movement within 40 feet across a 110 degree arc, thereby setting off flashing lights and high-pitched sirens. I was advised by our NH Fish'N'Game biologist to get one to put at the end of our driveway where our permanent hi-tensile fence comes to an end... this because I like unfettered access to my trees when coming from the barn or our house during the growing season. Back in early December, the deer started coming down the driveway for the first time ever to do an end-around. This includes a charged fence extension I put up temporarily each winter. So I got a Critter Gitter. The next morning I could see tracks in the



snow that didn't hesitate for an instant: Three deer entered hollow ground, mostly drawn by a clover cover crop in the garden below the orchard. What a bloody waste of money, thought I. But here's the thing—The deer never have come back by this route since in the 7,8 weeks this motion detector has been in place. I have reason to believe a seed of fear has been planted.

I'd be remiss not to include this comment about the Critter Gitter from Rolf in New York state:

I have used these for over 15 years to keep black bears out of my orchard but have found that they have no effect on deer. I have seen them many times standing right in front of the Critter Gitters while they go off at high volume and seem not to notice at all. On the other hand, they are very effective on bears. My problem is that I only have 2 acres of land and nearby neighbors were being awakened during the night by the racket. I have since put up a permanent 6 foot electric fence and no longer have problems with deer or bears.

True Depravity

My fence has been energized by solar chargers for years, both the 6-volt and 12-volt models. The shock was modest but seemingly effective, except for one winter when two members of the herd had the brilliant idea of diving between hot but ungrounded wires. (No comment.) The replacement batteries are a bit expensive, and since I'm going to be adding to the pasture perimeter, I invested in the New Zealand made charger offered by Premier Fence in this country. The readings on the test meter quadrupled with this Speedrite 6000 properly hooked up. The reaction of the deer is to stay a full 5, 6 feet away from charged wires... there's no testing such a fence when *the inner animal* detects the jolt that awaits. I also like how the pulse widens during daylight hours, thus saving a wee bit of power. The point here is that quality equipment sometimes goes hand in hand with sound advice about fencing from the get go.

An Endowment in Ron's Honor

Learning to "project your consciousness" into the mind of an insect (or a scab spore or a feeder root tip for that matter) is a powerful way to understand the interconnectedness of Nature. The late Ron Prokopy of the University of Massachusetts did this time and time again in developing numerous strategies to deter orchard pests over the course of his lifetime. His legacy to fruit growers includes insect-resistant strains of plants, a vastly improved understanding of insect behavior, and even an invention—the sticky sphere trap that, when placed in trees around the perimeter of an orchard, protects the apple crop.



I'm pleased to announce that our network has made a small contribution towards establishing a Ron Prokopy Memorial Endowment at the University of Massachusetts. These funds will be used for entomological research and outreach on tree fruit pests, and if all goes as planned, an eventual professorship to do more of this work once again on a full-time basis. Ron's influence will live on for a long time to come in each of us who seeks to understand deeply. Contact me if you'd like information on how to make your own individual contribution.

Discussion Transition

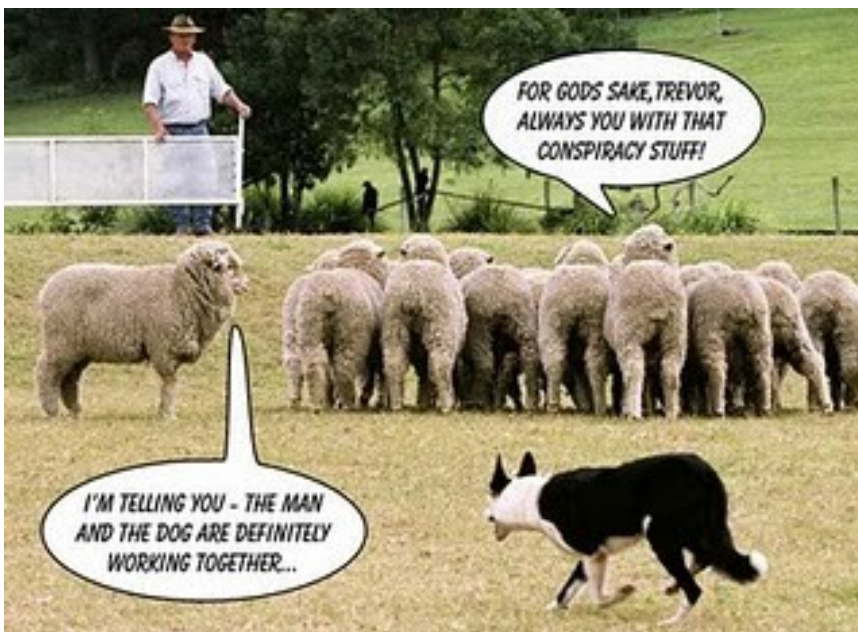
Our discussion forum at <http://grou.ps/groworganicapples> is set up to keep inquisitive commentary ongoing by topic. Here's where experienced growers ask questions and

delve into the nuts and bolts of ecosystem dynamics. You really ought to check it out if you haven't yet.

There are some problems however. The social networking platform where our site has been established is ineptly handled by the groups team. We're in the process of switching the forum to Ning but considering other platforms as well. This will cost a bit more money each month but will provide reliability that is lacking now. Both a home orchardist component and a community orchardist component are envisioned to allow different levels of experience to dialogue. The goal is to get the new forum up and running before bud swell here.

So consider this to be a heads-up: A number of wicked good discussion threads are on the current forum site, ranging from biological control of scab to a full organic expose on apple sawfly. Growers might want to take time to copy over messages that strike a particularly helpful chord—as this will not be done on a site wide basis by the administrators in making the transfer. Now you know.

Livestock in the Orchard



The time has come for an insightful overview of using animals in the orchard. Here I'm talking poultry as well as sheep and even cows. (No self-respecting druid would ever put goats anywhere near trees!) I have the beginnings of an article underway but would love to hear directly from more of you regarding ecosystem observations tied to grazing management, drops, localized fertility, and feeder root implications.

Thanks to Harry Burton from Salt Spring Island in British Columbia for sending along this herding humor!

Systemic Insecticides and Apple Diplomacy

A guy posts a link about how a certain chemical class is affecting the honeybee:

We all need to stand up for the bees by taking on corporate greed and agricultural *ignornace*. What's happening to the honeybee is outrageous. This website article is the most damning evidence yet. Hello? This is our one and only planet home, correct?

[Earthfiles.com Environment | Leaked EPA Document Says Bayer's Clothianidin Kills Honey Bees](#)

"When bees consume guttation (dew) drops collected from plants grown from neonicotinoid-coated seeds, they encounter death within a few minutes."

That draws the attention of a grower friend in the Midwest, twice no less:

I am a grower and not an "agricultural ignorant"! I have used neonicotinoids as a less toxic alternative to organophosphates. I phased out organophosphates years ago because of my concerns and research pointing to toxicity. I NEVER use a

The pesticide trail went cold early on in studies of CCD (Colony Collapse Disorder). Especially problematic for pesticide hypotheses were the patterns of bee disappearance: heavy in some places without much pesticide use, while absent in others that are practically d

So what's an apple diplomat to do? Speak for the bees... and the art of paying attention to detail:

Sorry **that typo** set you off, D. The term "agricultural ignorance" can apply to certified organic farming as well as IPM. And the truth is we all do things in agriculture without necessarily understanding the ramifications of the

Things get back on an even keel after that:

That's what I love about Facebook!! Others are being educated whether they are aware of it or not!! Actually, I started my comment with that in mind. I am so paranoid for my beneficials that I spend months researching a new product and then d

I'm "the guy" who spoke up for the honeybee with regard to Bayer Corporation's destructive chemical when used as a seed coat. What developed after that—once D and I got on the same page with respect to the fact that no grower has all the answers—the conversation became one of mutual respect and attentive listening. Good skills, methinks, in whatever we do.

Network Support

I hope you'll take a minute to check out [The Boring Bit](#) and peruse network accounting for this past year. Fundraising reached the halfway mark for the first time ever with respect to budget goals.

I'm itching to see far more happen with this community orchard movement... so please consider [becoming a member](#) now. We grow our collective branch structure bud by bud, leaf by leaf... and now the time has come for you to unfurl.

Hearty thanks go out to the folks below who made a network donation to launch the new year!

Ashley Howard, MA
 Todd Parlo, VT - **NEW MEMBER**
 Marty Bell, CT - **RENEWAL**
 David Maxwell, NS
 Paul Loftness, MN - **RENEWAL**
 Kevin Frank, NH
 David Doncaster, BC - **RENEWAL**
 Phil Cullen, WI
 Don Engstrom, OR - **RENEWAL**
 Brian Caldwell, NY - **RENEWAL**
 Tom Moore, MD - **RENEWAL**
 Paul Weir, CA - **NEW MEMBER**

Stay in touch, think deeply, and treasure those venerable trees!

Michael Phillips