The Community Orchardist

January 2009

Michael Phillips, Editor

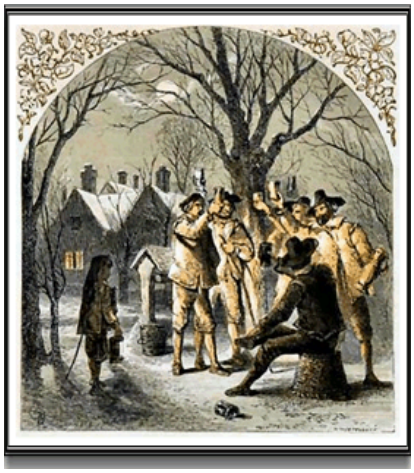
One beautiful aspect of winter is that nothing grows now. Seriously. And therefore I have no imminent tasks on the farm – other than the occasional deer patrol on snowshoes, which makes for a rather pleasant afternoon jaunt. This time of year we can zone in on orchard research and networking. And with that in mind, let me encourage one and all to check out …

Stirrings on the Holistic Orchard Front!

The launching of our new apple networking site stands as our chief collective accomplishment for the year just past. Definitely take some time and check out all the nooks and crannies of **www.GrowOrganicApples.com**. Several exciting ideas come together here, from an indexed discussion forum to involving "apple eaters" in orchard research to cutting-edge biologic curriculum. Appreciative support is what will allow us to expand this site significantly. So please: explore, comment, and get more involved in this grower community!

Power Wassail

We can bring the power of ceremony to the orchard on Old Twelfth Night, not to mention have some rowdy fun with good friends. Wassailing apple trees is all about waking the orchard to the coming year and sharing heartfelt appreciation. The traditions we carry on here at Lost Nation Orchard include the apple wassail song and circle dance, a "toast" to the tree and other allies in the orchard ecosystem, communicating our harvest hopes through rediscovered ritual, and lastly a slam bang finish to ward off those "evil spirits" who browse on apple buds. Much of this is shared in **The Apple Grower** and elsewhere on the web.



The traditional date for this is January 17, which happens to fall on a Saturday this year. That confluence marks what I call a "power wassail" for modern times, as that's the night of the week when more friends are free to come and party. The background story here is a good one. The year 1752 saw a shift in the Britain Isles from the Julian calendar to the Gregorian calendar. The King of England decreed that 11 days were to be removed from September that year. Country folk were outraged, of course. No mortal could move the

solstice and the festive days that followed. And so was born Old Christmas, falling a full twelve days later on the "new calendar" on January 6. Cognizant readers will quickly weave into this story the Twelve Days of Christmas, ending with Epiphany (when the wise men arrive at the manger) as celebrated in church on this same date. Twelfth Night itself falls on the evening before …and thus in the minds of stubborn orchardists … marking January 17 as Old Twelfth Night and the proper time to wassail fruit trees.

Yet it gets even better. The farmers around Glastonbury – home of mystical Avalon – didn't need calendar shenanigans to know the right date. It had long been noted that a certain thorn bush planted by Joseph of Arimathaea would bloom on Christmas Day. That year, in 1752, the flowers burst forth a full twelve days later.

Climate Change Maps

Many fruit growers are experiencing changes in how the seasons play out. Mostly we're aware of curveballs thrown at us: the now "normal" heat spell that comes in early spring to speed bud development long before freeze danger has past, tumultuous thunder storms bringing devastating hail atop a promising crop, erratic shifts in winter highs and lows that mess with our minds and tree hardiness. The subtle aspects of all this are less obvious but relentless. Fire blight is becoming a valid concern further north. Japanese beetles and all sorts of moths are establishing new home turf where once never seen before. And boy, isn't it tempting to plant varieties that now can legitimately tree ripen in an extended fall? This interactive map shows Lost Nation Orchard migrating south through Pennsylvania (my birth climate, so to speak) and potentially ending up in North Carolina in another fifty or so years. Other northeastern growers will have fun mapping out a similar orchard shift at
http://www.usatoday.com/weather/climate/globalwarming/2008-02-17-local-action_N.htm

The Half-Wit

A man owned a small diversified farm, which obviously included a two-acre community orchard. The Employment Bureau in his state claimed he was not paying proper wages to his help and sent an agent out to interview him. "I need a list of your employees and how much you pay them," demanded the agent.

"Well," replied the farmer, "there's my farm hand who's been with me for 3 years. I pay him $200 a week plus free room and board. The cook has been here for 18 months, and I pay her $150 per week plus free room and board. Then there's the half-wit who works about 18 hours every day and does about 90% of all the work around here. He makes about $10 per week, pays his own room and board, and I buy him a six-pack of beer every Saturday night. He also sleeps with my wife occasionally."

"That's the guy I want to talk to – the half-wit," says the agent.

"That would be me," replied the farmer.

Borers and nematodes

Here's some research pertaining to peach tree borers that may potentially be of value in the battle with that dreaded apple nemesis, the round-headed apple tree borer. First comes the synopsis, followed by the thinking process.

http://www.ars.usda.gov/is/pr/2008/080307.htm

The scientists knew from lab studies that another peach pest, the lesser peachtree borer, is also highly susceptible to *S. carpocapsae* nematodes. But the researchers also realized that controlling the lesser peachtree borer would be more difficult because they attack trees above ground—where the nematodes dry out and are less effective. To deal with this problem, the researchers applied *S. carpocapsae* nematodes to tree wounds and then covered the wounds with moisture-holding bandages. In the first trial, 100 percent lesser peachtree borer mortality was attained in five days.

One of the lead researchers in this project is David Shapiro at the SE Fruit and Tree Nut Research Station in Georgia. We exchanged several emails about the nuance of using nematodes and the applicability of this idea to RHAB, which is a long-horned beetle whereas LPTB is a clear-winged moth.

- Evidence of beneficial nematodes killing other cerambycid beetle species exists. The soft-bodied larvae stage being the more susceptible.
- The moisture-holding bandages turned out to be wet baby diapers. The nematodes were first sprayed onto cankered areas on the trunk (where the LPTB larvae are to be found) and then covered with the "bandage".
- Diapers in the orchard don't appeal much, do they? Plus RHAB is more of a soil line situation where the female beetle inserts eggs into oviposition slits in the bark at ground level. My thinking naturally went to mud packs instead, and David replied thusly:

  A mud or soil pack might work well. The idea is just to keep moisture around the wound where the nematodes are needed to get in and infect. So soil should do well as long as it can stay moist. Using a very heavy clay (or clay alone) may limit oxygen transfer, but otherwise soil seems like it would be fine if you can develop it into a bandage. Keep in mind that nematodes move best through sandy soil compared with heavy clay soils (so again may not be good to use pure or mostly clay).

  In the work we did we applied the nematodes first and then the bandage. I think that this approach can allow the nematodes to get direct contact with and into the wound right away. The alternative you proposed, to mix the nematodes with soil and then apply the mixture, might also work and we have thought of trying this as well. The potential drawback is that it could require the nematodes to do a bit of extra work because they have to first migrate through the soil, then into the wound. But I think it is worth testing.

All this leads to certain speculations on my part that growers can add to their arsenal list when dealing with devastating borer pressure. RHAB eggs are laid from late June through late August. That suggests a "September mudpack" to limit the damage; grower reality might require doing this post-harvest if given reasonably warm days in late October. I have the sense that a "spring mudpack" would serve just as well, especially in situations where cleaning up an established presence of RHAB. Growers who are good at spotting signs of borer

intrusion can probably just treat afflicted trees. But it took me years of observation to get to this point! Thus the recommendation probably should be to treat every tree in an orchard in back-to-back seasons (note: spring and fall treatments in the same year tighten this parameter) where borer is a devastating problem. I would love if we could clean up a site to the point where a nematode application isn't necessarily every year. RHAB does not migrate quickly from surrounding environs, so this is mostly an issue of alternate host plants nearby "resupplying" the resident orchard population over a few seasons. Nematodes can be obtained from biological IPM suppliers; do be sure you are ordering the *Steinernema carpocapsae* species mentioned in the research.

Any additional thoughts, folks? I want to hear observations if you try this.

Marketing Innovation

Community orchardists reach different markets in different ways. Growers working with food co-ops and local grocery stores might want to consider this distinctive approach used by Chris and Michelle McColl of Kalangadoo Orchard in southeastern Australia. The point being that premium fruit will not get bruised in this very recyclable container whereas most shoppers do find pummeled apples in peck tote bags. This grower couple ups quality control to yet another level, swapping any of their organic apple boxpacks remaining on the store shelf at least weekly for just picked fruit. Few apples actually go back to the farm (to be juiced) as "FRESH" and "ORGANIC" sells well.

Question of the Month

What are the ingredients to your whitewash?

> The "whitewash" I use in early summer is essentially clay slurry made with pottery-grade kaolin, directed at repelling borer oviposition. Used alone, the whiteness doesn't last much longer than a month but the slippery clay coat does lessen borer activity considerably. I have added a strong slosh of cheap interior latex paint to this slurry in the final August application on young trees where I want the whiteness to last through the winter to protect against bark splitting. (Note: Exterior formulations of latex paint contain ingredients that will hurt underlying bark tissue cells.) I understand some certification groups may frown on interior latex as a whitewash, thus certified organic growers resort to less effective options like quick lime for whiteness. I'm moving more in the direction of biodynamic tree paste in spring and expect to discover that I can forego the latex anyway . . . but I need to prove this to myself over the course of a few years.

A number of additions can be helpful in this borer slurry. Diatomaceous earth might slash the mandible of the female beetle when cutting an oviposition slit (but this always struck me as very 'hit or miss'). Rotenone dust or tobacco flakes might "flavor" the clay blend to the borer's distaste but is unlikely to prove toxic. The biggest challenge with a slurry protection approach is keeping the mix in place in June and in July and in August when borers oviposit into the tree bark. I've trialed adding Durabond 90 (a sheetrock product that comes in powder form) to the mix to gain some staying power. I haven't added enough to make a difference in that regard but I was also concerned about not wanting an outright plaster coat that might restrict growth. I will up the proportion to more like 20% this year and see if that proves helpful. John Bunker of **Fedco Trees** heard this idea and now uses a mix of joint compound (available in premixed buckets) and interior latex paint for season-lasting effect.

In doing my annual pruning, I notice the large amount of pale gray-green lichen on the bark. In fact, on many trees, it covers a large part of the tree surface. This includes trees that have been well pruned and are spaced far from other trees. Also bear in mind that they've had no spray since 1996 or 1997.

I have never been taken aback by lichen on apple trees. Lichens are epiphytic; in other words, they just use the apple trunk or branches for anchoring and do not rob the host in any way nor prevent the host from functioning. You're right that lichen does not appear in most chemical orchards. Fungicides affect lichens as these "plants" are actually fungi that cultivate algae as partners to manufacture food by photosynthesis. Organic growers using copper or lime sulfur on a regular basis will see less lichen on their trees as a result. Lichen does not represent fruit tree disease or a manifestation of fruit tree disease. It has nothing to do with our goals of fruit production. Lichen does not diminish tree health. Lichen simply indicates a moist environment. I judge this plant innocent of all charges.

Network Support

GrowOrganicApples.com is a place for commercial and dedicated backyard fruit growers to share lessons learned in community orchards. Together we are finding the ways to grow healthy fruit. Good causes require support so that the burden isn't all on a few. We need you to click here! An occasional small donation from growers who are benefiting from these efforts is required now to help keep this work strong.

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

Michael Phillips

Hearty thanks go out to the folks below who made a Golden Apples donation in 2008 and made the new web site possible!

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