



biological transition

Posted by [Michael Phillips](#)

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[Michael Phillips](#)

[biological transition](#)

March 05, 2013 04:43PM

Moderator

Registered: 11 years ago

Posts: 621

The subject of shifting gears from conventional organic to holistic brings with it certain nuance. A grower wishing to transition ground to certified organic status acknowledges a three year waiting period is required to get beyond the impact of past chemical usage. (Apply whatever reasoning you wish to that rule.) Similarly, a certain transition time is necessary for the biology to come up to speed, both in the soil and all the more in the arboreal sphere. A history of regular fungicide use -- year after year after habitual year -- breaks mycorrhizal connection, undermines the humification cycle, and does indeed create trees with an addiction for letting "medicines" do the work of resisting disease. Time is required to restore biological health to such systems. Nor does it matter if the previous approach has been all-out chemistry or bull-headed reliance on organically-acceptable mineral fungicides. Numerous sulfur sprays, coupled with early season copper and the eradicant edge of lime sulfur for insurance purpose, deliver a knock-out punch which demands a similar period of respite to reach that place where subtler methods will work fully.

This may be three years. This may be five years. Growers can facilitate the transition, obviously, by investing in greater frequency of biological reinforcement at higher rates. Here I support compost tea theory as well as the recommendations of effective microbe suppliers. Those who assume in a single season that a holistic trial must prove its mettle or be damned are not accounting for past orchard history.

Biological transition occurs as well when planting new trees. Here's ground that may have been tilled and cover cropped, perhaps torn asunder to clear forest cover, certainly shifted from one ecodynamic to a next. Here are root systems just introduced to the wonders of mycorrhizae. Here is a soil food web being nudged from a bacterial grasp towards fungal ascendancy. **Time is needed to get the biology functioning, plain fact.** The suggestion to apply colloidal rock phosphate in these early years isn't about 'enough P in the soil' but rather having more available phosphorous on hand for a developing fungal system. So many soil tenets have to be reconnoitered when thinking biologically.

Here in northern New Hampshire this shift took me the better part of a decade to achieve. Not because I had such an unhealthy system to begin with (though in one leased orchard that was true) as much as I'm one who tends to invest slowly. Cash flow can indeed prove an obstacle! Sourcing and bringing in more ramial wood chips, upping the rate of effective microbes to 2 to as much as 4 gallons per spray, following through on stocking the pantry especially with respect to trace minerals ... all this takes time. Time makes things better. And it ain't over yet!

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

Edited 3 time(s). Last edit at 03/15/2013 05:41AM by Michael Phillips.

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

[Paul Townsend](#)

[Re: biological transition](#)

March 15, 2013 03:28AM

Registered: 10 years ago

Posts: 27

Thank you for the assurance! I'm keeping the faith. Going into this growing season with confidence!

[Bayhead Farms](#)

Zone 7a in Washington

Edited 1 time(s). Last edit at 03/19/2013 04:01AM by Michael Phillips.

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

[Linda Hoffman](#)

[Re: biological transition](#)

March 22, 2013 01:21AM

Registered: 11 years ago

Posts: 9

I recently learned about another holistic apple grower who transitioned from chemical sprays to a holistic approach. [Akinori Kimura](#) comes from a long line of apple growers in Aomori Prefecture in the North of Japan. He was using pesticides and chemical fertilizers like all his neighbors, but his wife had terrible skin reactions to these poisons, so he decided to phase them out of his orchard. However, his trees, accustomed to the traditional spray schedule, could not deal with the new disease and insect pressures and for five years bore no fruit. With no other income, Kimura went deeper and deeper into debt. Neighbors laughed and called him a failure. His family no longer spoke to him; his was a desperate situation, but he would not return to using chemicals. Kimura recounts that he couldn't bear the situation any longer and was contemplating suicide. With rope in hand, he headed to the mountains when he saw great numbers of acorns growing wild. Something in him said, these acorns are growing wild, abundantly, and healthily without any pesticides. If I can reproduce this environment in my orchard, the apples will grow, too.

It took Kimura seven years. During this time he got a job as a janitor in a nightclub, but he was determined. And in the eighth year, the orchard for

the first time was filled with apple blossoms.

Kimura says, "We can only help them along the way. Apples can grow by themselves of course, but we, the farmers, are here to make it more conducive for them to grow disease-free." It took quite a few years, but eventually his trees adapted. They flowered and fruited without pesticides and fertilizers.

Further research on Kimura's apples showed that there are microorganisms in his orchard that would not survive in orchards treated by chemicals. These organisms are similar to ones found in some of the old growth forests.

There it is. With chemicals we destroy the very 'farmers' that the soil and our trees need.

Good luck, Paul – I hope you don't have to wait 8 years – nor become a janitor in a night club!

[Old Frog Pond Farm](#)

Zone 5b in Massachusetts

Edited 1 time(s). Last edit at 03/22/2013 04:04AM by Michael Phillips.

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[Michelle and Chris McColl](#)

[Re: biological transition](#)

May 27, 2013 03:23PM

Registered: 11 years ago

Posts: 49

What Michael and Linda have written above makes perfect sense to us. We are finally starting to see improvements in fruit quality in those sections of our orchard (about 20%) where we have refrained from using copper and sulphur to control apple scab. Have lost count of the years - need to check the diary - but it would be about six years.

We have been trying compost tea, EM, neem, fish/seaweed and the like, but not as consistently as we ideally should have done. Our observations suggest that both minimizing weed competition (i.e. from tussock-forming grasses) and avoiding moisture stress in dry summers are also important for tree health and disease resistance.

It seems that to grow good marketable fruit, one needs to do everything right. Getting nine out of ten things right is almost as bad as getting only one out of ten things right. One has to get ten out of ten - or maybe it's twenty out of twenty, depending on where you are.

Kalangadoo Orchard

On the "other side" in South Australia

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[Tim Bates](#)

[Re: biological transition](#)

July 13, 2013 09:00AM

Registered: 11 years ago

Posts: 58

Wow, good conversation. Michael is right--it takes time--and "doing the program" whatever it is. When I first got into Biodynamics the resistance was huge from talking to other people and with myself (one more F..ing thing to think about--and DO!). It was worth it and set me on a path to the holistic approach--solving as many problems interiorly as possible. Giving up on BD preps after using them once because it 's too much hassle yadda yadda--but 2 yers later finding out how much better the BD treated compost was--well instuctive. So, I hope we don't have to get 10 out of 10 every year--I've had incredible luck my first year of Neem (see my [full neem assessment](#) in the Library). My goal is marketable fruit...but it will never be 100% and some years maybe less than 50% (ouch). Michelle and Chris, have you considered hard cider or vinegar as a secondary or primary source on income? I know most "other side" folks like to imbibe once in awhile, like me.

[Editor's Note: Any in-depth discussion of cider and vinegar belongs in the Good Fruit Marketing category. The conversation here wants to stay focused on biological transition. Thanks!]

[The Apple Farm](#)

Zone 8b in California

Edited 1 time(s). Last edit at 07/13/2013 02:24PM by Michael Phillips.

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