



investing in micronutrients

Posted by [Michael Phillips](#)

[Forum List](#) [Message List](#) [New Topic](#)

[Michael Phillips](#)

[investing in micronutrients](#)

March 21, 2014 03:59PM

Micronutrients are important in the orchard in terms of disease resistance and nutrient density. We can build the soil and fortify compost with Azomite and kelp meal. That's one expense. Seaweed extract and sea minerals (like [Sea90](#)) can be added to the spray tank for foliar uptake. That's more money out. Chelated forms of trace minerals are recommended if a soil test reveals a specific shortcoming. Fermented herbal teas supplement all this yet again. How much is enough? And is there a better time in the tree growth cycle to invest in trace minerals than others?

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

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

[Clair Kauffman](#)

[Re: investing in micronutrients](#)

March 21, 2014 04:29PM

As you might imagine, I am very interested in further discussion on this thread. As far as optimal timing of trace minerals, John Kempf says "Fruit trees are a perennial crop, with four Critical Points of Influence (CPIs) which are somewhat different from annual crops. On perennial crops the four CPIs are (1) post harvest, (2) blossoming and pollination, (3) filling fruit, and (4) finishing fruit. The two most critical from a plant health and yield perspective are post harvest, and blossoming. Ensuring complete nutrition and active soil biology at these critical points of influence will provide a foundation for an effective immune response to diseases and insects." Source:

<http://www.growbetterfood.com/crops/orchards/> Citing these 4 "CPI's" seems pretty broad and basically encompasses the entire season.

However, his "two most critical" may be just that.

[Clair Kauffman](#)

Zone 6b, Lancaster, Pennsylvania

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

[Susan Fancy](#)

[Re: investing in micronutrients](#)

April 09, 2014 08:13PM

Even though the things you are talking about take time and money, we do all of them. Firstly, our trace minerals are terrible, and it takes years to change this when you have heavy clay soil and didn't fix the issue before planting trees (lesson learned). We put down soil trace minerals in the late fall after trees have gone to sleep.

We also fortify the soil with the foliar...seaweed, this year metalosates...fermented and composted teas. My experience of the tree's experience so far is that foliar's are more a "just in time delivery" thing, so in early spring around bloom and petal fall when a huge gamuts of bugs and diseases are on the prowl - this is a good time for trace minerals for the tree to defend itself...later in the season they help grow the fruit and the tree to put on new growth. In my 50 some odd years on the planet, minerals always seem to be critical for health, vitamins too, but the Hunzas and other tribes lived to very old ages because of their minerals. Plants seem to be the same somehow, we are all made of the same stardust.

Michael your fermented teas of nettle, horsetail, comfey, I think are brilliant for minerals for both nutrition and disease and can't be left out, we use ones from what is grown here and they help. I saw a poster by Michigan State at a conference which trailed non-aerated compost tea with NuFilm against some conventional chemical for PM and DM in grapes...the tea was just as effective as the chemical.

Anyway I feel that trace mineral supplementation at least in the soil is a long term plan for tree and fruit health, and for disease I have a hunch that foliar minerals may not go away either on our farm.

[Susan Fancy](#)

Sassafras Oaks Farm Zone 5 in SE Michigan

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

[Jeb Thurow](#)

[Re: investing in micronutrients](#)

April 12, 2014 08:52PM

Moderator

Registered: 11 years ago

Posts: 621

Registered: 11 years ago

Posts: 22

Registered: 10 years ago

Posts: 20

Registered: 11 years ago

Posts: 15

Dr, Jill Clapperton gives a talk on soil life and nutrient cycling and like everything these days it can be found on you-tube. www.youtube.com/watch?v=o6daE2sYegg. It was her talk that has got me to change the way I add nutrients and really increasing the diversity of plant and soil life in my orchard.

We know that soils and soil life along with plants have a finite capacity to hold nutrients, what she brings to light is that we need to increase the diversity of our plantings to allow for a more uniform cycling of nutrients. Roughly 60% of a plant's bio-mass is in the root system so by growing other plants in the orchard you are keeping all of those nutrients in the orchard. Yes they are temporarily tied up in the plants and soil life but as she points out, once the soils are filled to capacity everything is cycling throughout the field. By dropping the weeds right where they are growing you bring all of those nutrients up on top where they can be used again. John Kempf uses a great term (biologically available) It is tied up but available to used again by the microbes.

What I find fascinating is the amount of energy that a plant puts into feeding the microbes that in turn feed the plants. I figure if the plant is putting 40% to 60% of its energy into feeding the microbes the sugars they need then I can at least add the minerals that are not in the soil parent material. Here in the PNW as OM is broken down it forms Fulvic acids so even though we have nutrient poor native soils the nutrients are used very efficiently. Dr. William Jackson's book "Organic Soil Conditioning" has some great insight into Humic and Fulvic acids.

Jeb Thurow
Zone 7
Western WA.

Edited 1 time(s). Last edit at 02/03/2015 01:16AM by Michael Phillips.

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

[Newer Topic](#) [Older Topic](#)

[Print View](#) [RSS](#)

Sorry, only registered users may post in this forum.

[Click here to login](#)

This [forum](#) is powered by [Phorum](#).