



## Managing Over-fertile Soil

Posted by [Pat McBride](#)

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[Pat McBride](#)

[Managing Over-fertile Soil](#)

January 21, 2018 02:25AM

Registered: 6 years ago

Posts: 6

Last November I did a soil test on my 2-acre orchard. The report came back with the recommendation "the problem with these apples is too many nutrients." The one micronutrient which was very low was manganese, which I applied at the rate recommended by the lab. I understand a manganese deficiency can hinder calcium uptake. In conversation with the consultant from the lab, one of the problems is too much potassium, showing at 2115 lbs./acre. They said I should not apply compost or fertilizer, which I haven't done except to gather a hay "ring" around the trees after biennial mowings, and spraying the holistic spring neem-fish-EM with some dried seaweed and molasses included. I also do some spraying of early and late nettle and comfrey teas. I don't know the reason for the high nutrient level, but am guessing it's because the site was a cow & sheep pasture for who knows how long before I got the place — maybe almost a century. There is plenty of calcium in the soil, but I am thinking it's uptake is hindered. Is the comfrey that has naturalized a factor in soil potassium? I've experienced bitter core, especially bad in Prairie Spy and also in Honey-crisp, and have used Calcium-25 a bit. Also experienced lots of fruit drop last season. Does anyone have experience with such soil? I'm guessing it's a lot harder to decrease than to increase macronutrients. Will more regular applications of comfrey tea and late nettle tea be enough to balance things out for the fruit? Does temperature make a difference when applying teas (like I understand it does with Calcium 25)? Or do I need to try a different approach? Any help is appreciated.

Pat McBride

Twin Oaks Orchard

Zone 4b in Minnesota

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[Mike Biltonen](#)

[Re: Managing Over-fertile Soil](#)

January 21, 2018 06:05PM

Registered: 11 years ago

Posts: 298

Hi Pat,

My first response is to question whether the sample was clean. With those levels, often times there is some contaminant that jacks up the analysis to unreasonable levels - maybe some compost or hay got into the sample?. So, first off, I'd re-test to verify that the first test was true. Second, if those results are true, there is little you can do reduce the K or balance with other nutrients when it is that high. The only thing you can do is wait and re-test when it comes down to realistic levels. Fortunately, K isn't the most persistent nutrient and so assuming you avoid any more compost, manure, potash, hay, or other K containing compounds - then in a few years it should reconcile itself and you can begin the process of balancing. In the meantime, your bitter pit problems are confounded by the ultra high K levels. You'll need to foliarly apply Ca to the leaves and fruit through the summer. As well, since your Mn levels are low - and there is evidence that Mn is a critical nutrient regulator of K - you should apply foliar Mn as well earlier in the season. The Mn can help to down regulate K (i.e., restrict K movement) so that more of the calcium that is in the tree can get to where it needs without interference. You didn't mention the other cation or other nutrient leaves in the tree - are they normal, though out of balance with the K? Soil v Foliar analyses? Answers to these and other questions all play a role in helping you overcome the issues you're faced with. But for now - No more K, add foliar Ca, add foliar Mn, adjust soil levels of nutrients that are low, wait for K to come down then work super hard to balance with other cations. Good luck!

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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[Pat McBride](#)

[Re: Managing Over-fertile Soil](#)

February 01, 2018 05:45AM

Registered: 6 years ago

Posts: 6

Mike,

Thanks for the helpful input. I certainly will retest the soil next season (although I thought I had clean samples). Along with the potassium, some other readings were high: 808 lb/acre phosphorus, 5076 calcium, 80.8 iron, 14.4 zinc. Humus, nitrates, ammonia, copper, and boron were closer to acceptable levels. Ph is 7.4. Organic matter is 5.5% and C.E.C. (meq/100g) is 21.2. This was a soil test; I've not done a foliar test.

I broadcast applied 20 lb/acre of manganese in November, as recommended by the lab. Should I do a foliar application this spring as well?

(I realize too much is not a good thing!) What is a good type of manganese for spray application? I do use comfrey and nettle tea as a source of foliar calcium; if I need to apply additional calcium, what type is recommended?

Thanks again for the help.

Pat McBride  
Twin Oaks Orchard  
Zone 4b in Minnesota

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