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Nutrient Dense Management

Posted by [Todd Parlo](#)

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[Todd Parlo](#)

[Nutrient Dense Management](#)

February 01, 2015 08:40PM

Question of the day.

Registered: 10 years ago

Posts: 301

I pulled this from the Bionutrient Food Association :

"What proof shows that higher brix means higher quality?

Centuries of wine making and work with other fruits and vegetables always show direct relations between high Brix and high quality, expressed most simply and directly as superior taste. The process is somewhat altered for the gardener or farmer in that they test the leaf of the growing plant much earlier and are therefore afforded the opportunity to correct soil deficiencies before the crop matures. The gardener or farmer also benefits in that they soon learn that any crop with 12 or better leaf Brix will not be bothered by insect pests."

It is that last sentence that I noticed. I would love to hear what everyone thinks about this one.

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Zone 3 in Vermont

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[Brian Caldwell](#)

[Re: Nutrient Dense Management](#)

February 06, 2015 11:54AM

Registered: 10 years ago

Posts: 69

Great question. In trying to look at this issue, I've had trouble getting reliable readings of apple leaf brix. The problem is that in crushing the leaves, not only the sap but the cell contents are released, giving very high brix readings which do not reflect sap values. Can anyone give me good advice on how to sample leaf brix?

[Hemlock Grove Farm](#)

Zone 5 in New York

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[Todd Parlo](#)

[Re: Nutrient Dense Management](#)

February 06, 2015 06:34PM

Registered: 10 years ago

Posts: 301

I came across a reference to a correlation between insect susceptibility and various chemical levels in cultivars. The following study did show a positive relationship between sugar levels as well as nitrogen levels, (foliar constituents) with insect damage and negatively correlated with tannins. That is the beetles enjoyed the higher brix.

This indeed may be an isolated or erred observation, but since a higher sugar level is shown to have attracted this pest species, in runs in contrast to the idea of higher brix showing better health and deterring pests. This of course does not mean that aiding the plant in attaining maximum health in some way detracts from pest resistances, merely that brix may not be (at least in this case) a good measure of resistance.

"Volatile compounds from crabapple (*Malus* spp.) cultivars differing in susceptibility to the Japanese beetle" in the Journal of Chemical Ecology back in 1996.

It may be interesting to find out how these researchers attained sap readings.

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Edited 1 time(s). Last edit at 02/07/2015 04:19AM by Todd Parlo.

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[Chris Vlitas](#)

[Re: Nutrient Dense Management](#)

April 17, 2015 05:29AM

Edited for brevity

Registered: 10 years ago

Posts: 47

Edited 1 time(s). Last edit at 09/30/2022 05:46PM by Chris Vlitas.

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[Nick Segner](#)

[Re: Nutrient Dense Management](#)

June 01, 2015 11:45PM

Registered: 9 years ago

Posts: 49

Interesting. I'll start taking more Brix readings and begin to document my observations. In response to Brian's question on how to sample leaves for Brix: modified vice grips. Available online. I'd like to get myself a pair.

Wildcat Valley Farm

Zone 8b

Olympic Peninsula Rainshadow

Port Angeles, Washington

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[Todd Parlo](#)

[Re: Nutrient Dense Management](#)

June 02, 2015 02:01PM

Registered: 10 years ago

Posts: 301

There are two concepts floating around as regards the nutrient dense movement. In addition to the idea of plant management, there is the produce quality issue. Perhaps all us googlers could relay some sound studies linking nutritional quality directly related to a reading from a refractometer. Recently some retail locations have been listing brix levels for produce (this idea was put forth by Kittredge I believe).

Although I do support the idea of improving the quality of the plant in the ground, and the fruit on the shelf, we had better get this right in terms of accuracy. My basic assumption is that soluble solid readings will tell little about vitamin and mineral levels in foods, and that better testing apparatus will be needed.

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[Nick Segner](#)

[Re: Nutrient Dense Management](#)

June 06, 2015 03:42AM

Registered: 9 years ago

Posts: 49

Good point.

I had a conversation with a friend last year about this. I hoped if pricing could account for Brix readings that it would be a good way to pitch truly quality produce to consumers that care about nutrient density.

My friend pointed out that it's easy to skew results when it comes to Brix. One easy way is once (say spinach) dehydrates a bit it will naturally show a higher soluble solids ratio..

It would have to combine other data to show a more accurate profile.. We recently took a course on Chinese Medicinal Herb Farming. Peggy Schafer, the North American guru on this, talked a lot about herb quality. In TCM, they use organoleptic evaluation (thought to be objective when administered by a highly trained practitioner) as well as chromatography.

Admittedly, I don't know much about that technology but perhaps that- coupled with Brix and average crop vitamin and mineral analysis - could show a more accurate representation of overall Apple Chi?

Wildcat Valley Farm

Zone 8b

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Port Angeles, Washington

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