



Why Do We Measure Plant BRIX Levels *Part 1*

What does BRIX level mean?

BRIX measures the sugar, vitamins, minerals, amino acid proteins and other solid content found in the sap of a plant. The BRIX level of the plant is expressed on a scale and measured through light refraction of the plant's sap giving a reading on the BRIX scale. Represented as a unit of °Bx degrees the reading most refractometers measure is the scale between 1 - 32. BRIX shows us how densely packed the sap of a plant is which aid the plant in the defence against pests and diseases. A plant with a high BRIX reading will be more resistant to a range of stress factors due to the extra resources available stored in the sap. It indicates the plant nutrition is optimal and the plant will have high turgid pressure. Turgid pressure is the force of the plant sap pressing the cell membrane against the cell wall which gives plants crisp and firm leaves. Whereas plants with a low BRIX reading are susceptible to a great number of pests, diseases and stress factors and turgid pressure is low. Plants will appear wilted and unable to hold their form. So BRIX levels are pretty important!

What are the benefits of testing your BRIX levels?

We test BRIX levels of plants to determine if the available nutrition is being processed adequately. If the BRIX levels are low it is a good indicator that the plant does not have access to the nutrients it requires. It also indicates that pests are beginning to notice your plants as easier targets because the plant's defences are lowered. Their senses detect weaker plants very accurately which allows them to pick out the unhealthiest plants with the lowest BRIX level. Plants with a high BRIX appear as less desirable to pests to the point where at certain levels where the plant is unpalatable to pests.

Another useful reason you may want to test BRIX levels is to determine the efficacy of your nutrient applications. Whether you are using fertilisers, organic inputs or focused on soil health you want to know how effectively the nutrient is being uptaken by your plants. By doing a baseline BRIX test prior to an application of plant nutrients you can determine how well it was processed by the plant through another BRIX test a week later. By keeping track of your crop's BRIX levels you can be sure that plant nutrition is within optimal range and pest pressure will remain low.

Testing BRIX levels of the fruit or vegetable are also useful to indicate overall flavour, storage potential and ripeness. The nutritional content of high BRIX fruit and veg is higher and provides more sustenance for whoever eats it. Plants with high BRIX translate to produce that stores longer on the shelf because of the increased turgid pressure. This means overall happier consumers of the food as it lasts longer and tastes better.

How can I raise the BRIX level in my plants?

Having the correct levels of available nutrients means that plants have all they would need to build the organic compounds. The best place to start is always Soil Health. Applications of biomcomplete compost, worm castings or another high-value microbial product can really help you with this process. Improving the conditions of the soil will give your plant what it needs to raise its BRIX levels. It takes time to improve the soil to the point where it can supply the plant with everything it needs without the need for external fertilisers. Putting soil health first means putting microorganisms first. Plants grown in soil rich with microbial life will have a much high nutrient availability for plants to uptake.

to be continued...

Soil Lovers say: Get A Brix Chart To Measure The Health Of Your Plants

Ref: <https://www.soilscopes.co.za/post/why-do-we-measure-plant-brix-levels>

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