

Hydroponic Solutions and Vitamins... NO real proof

It has always surprised me that vendors of hydroponic solutions have always included vitamins and other nutrients as a “boost” and “bonus” of their nutrients. It is not very rare to see a fertilizer containing vitamins of the B complex, C, E, etc. When I first learned about this practice to include vitamins – as an avid hydroponic gardener and consultant – I decided to look into this and see if there was actually any positive effect or recorded evidence of the effect of adding vitamins into a nutrient solution. On today’s post I want to talk a little bit to you about my findings on the subject and the real truth behind the addition of vitamins and other “mysterious” additives into nutrient solutions.

What is a vitamin ? In order to understand the problem we first need to understand what a vitamin is. These compounds are usually defined as substances which are not synthesized by an organism – usually humans – and needed in milligram or submilligram doses each day for survival. This means that vitamins are vital nutrients which are not synthesized by the human body but – unlike other chemicals – they are only needed in very small amounts. The reason for this is that vitamins are usually used only as means -not as ends – within our body’s biochemistry. So the body uses vitamins as intermediaries for a lot of biochemical processes and only a few vitamin molecules are actually damaged along the way. If a small daily intake is not made to replace the lost molecules your body will eventually run out of these “messengers” and you will die.


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Why in the world do plants need vitamins ? The truth is that plants don’t need vitamins because they are the organisms which produce them. Consuming vitamins is vital to us – humans – because we cannot make them within our bodies. However, the vitamins we eat come naturally from plants or other organisms who have eaten plants as well. So do plants need vitamins ? No, they don’t. The question now would be : do plants benefit from the addition of vitamins to their roots and/or leaves ?

The fact is that there is simply absolutely NO scientific evidence published in a peer reviewed journal that points this out to be the case. I carried out an extensive search for any scientific literature that evaluated the effect of vitamins on plants and I came up with nothing. No one has studied this and no one has ever claimed that there is any benefit whatsoever gained from adding vitamins to nutrient solutions. Why do sellers do this then ? The fact seems to be that people buy solutions that have vitamins more, just because we have been educated to believe that vitamins are good. So if they are good for us, then maybe for our plants too.

The truth is that whatever benefit is gained from adding vitamins is not documented or accurately studied by an unbiased third party so up until now there is no scientific evidence to prove that vitamins do anything more than add to the price tag of whatever hydroponic nutrient you are getting. The fact is that as many other substances, vitamins may just be used – either by microorganisms within the solution that cannot produce them – or they may simply decompose as oxygen reacts with them. So next time you are going to buy your nutrients you should ask yourself... Is there really any benefit to this additive ?