
• Fertilizing Orchids - Is it Necessary

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FACT : Orchids like all other plants NEED water soluble nutrient elements like Nitrogen N, Phosphorus P, Potassium K, Magnesium Mg, Calcium Ca, Sulphur S, Iron Fe, Zinc Zn, Manganese Mn, Copper Cu, Cobalt Co, just to name a few.

Without such nutrient elements all plants will suffer from deficiencies, become susceptible to diseases and finally die out in the long run.

Now, how these nutrients are provided to the plant is another point. You have to consider 3 parameters of culture when addressing this issue,

- 1) What kind of water is being used to water and spray the plants?
- 2) What is the kind of media my orchids are potted in?
- 3) Where are my orchids grown, indoors or outdoors?

Lets start with the most important aspect WATER.

This is the single most crucial aspect when it comes to providing the essential nutrient elements since all they have to be water soluble for the plants to be able to absorb it. So what different kinds of water can you use? Tap water, well water, rain water, reverse osmosis water, rain water collected in ponds are just a few sources that come to my mind.

- 1) RO water can be technically considered as pure H₂O with no dissolved nutrients, and if you decide to water your plants with this water, then most probably you will have to fertilize your orchids (not necessarily though we will come to it later) The same will be true about collected rain water, except that it will have some dissolved elements dependent on the way the water was collected and the environmental conditions during collection etc.
- 2) Tap water and rain water, this is the type of water most people will be using. The parameters permissible for tap water are so broad and so variable that one cannot compare even water in two towns just a few miles apart. But what one can be sure of is that this water will most like have enough of the minor elements needed for plants like Fe, Zn, Mn, Cu etc. and also of bothe major elements like Ca, Mg, but will not have enough of NPK as the permissible levels of these are far below (Nitrate 45 ppm, Potassium ~ 100 ppm, Phosphorus 5 ppm) from what plants need so you may need to provide additional fertilizer or else just expect very slow growth, since the elements necessary are there, but just in insufficient concentrations.
- 3) Well water is also used frequently and is also very variable depending on the locality, bed rock and rainfall. Such water will most probably have too much of elements like Ca, Mg and P but less NPK also the pH of such water and thus the availability of the minor elements will be limited.

The second decisive aspect of culture is MEDIA. What kind of media you use will affect the need to fertilize considerably. Organic media like tree fern fibre, bark, coconut husk, leafmold and moss contain these nutrient elements which are slowly released to the plant as they start breaking down due to the action of microbes in the presence of sufficient moisture. On the other hand inorganic media like charcoal, lava rock, perlite, etc may have some minor elements but they lack the essential elements. So if you decide to grow your orchids in such inorganic inert media you have to provide the essential elements in the right proportions with the water.

And lastly the third element is the ENVIRONMENT your orchids are grown in. If they are grown outdoors, there is more likelihood of the plants getting some nutrients like from falling leaf litter, fine dust in the air settling on the leaves and roots, birds, insects and small animals doing their stuff on the plants etc. But if they are grown indoors there is very less exposure to the environment.

So to fertilize or not is a very open question, depending very much on your scenario. Have your water tested or just check out the water analysis from your local water provider generally they do have it available online, see what media you are using and how much interaction your plants have with the environment and decide for yourself