



“Feeding your Orchid Right...recommendations by J.R. Peters Inc.”

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How to feed your orchids from a plant nutrition perspective. This includes not only how to feed your orchids to keep them growing well but also how to provide an optimal nutritional environment. What I mean by “optimal nutritional environment” can be explained by focusing on the nutrients that the plant needs, where they can get them and the conditions to keep them available.

There are three major components that every plant needs to grow: carbon, hydrogen and energy. Most plants get Carbon from the air as CO_2 , Hydrogen from water H_2O and Energy from sunlight that shines on its leaves. These things work together to provide sugars and starches and useable forms of energy so the plant may grow. But, they are not enough on their own; other nutrients must be available to the plant so that growth can proceed.

Macronutrients (required in larger amounts)= N, P, K, Ca, Mg, S

Micronutrients (required in much smaller amounts) = Fe, Mn, B, Cu, Zn, Mo

The trick here is that you must provide these elements in a form that the plant can use, that is available. For example, 20% of the air is composed of Nitrogen. Even though this is the case, the plants cannot use this form of N. They must absorb N in the form of NH_4^+ or NO_3^- using their roots. These are the forms of N that are soluble in the media solution and therefore available for the plant to take up.

How the nutrients get to the plant is a function of the growing media type and the availability of water. Some media have the tendency to hold more nutrients to the individual particles, while others readily exchange nutrients in the soil solution. Organic materials such as peat or bark have the capacity to hold a much larger amount of nutrients (as + charges) than some other materials like sand or perlite. It is important to compose a media that provides good water retention, lots of aeration, a high capacity to hold nutrients and ability to buffer against changes in pH and high salts. I recommend a peat perlite bark media to provide these properties for good root development and overall plant growth.

The amount and availability of water plays a huge role here because water is the solution that allows for the nutrients to become soluble and carries them to the plant. In times of flooding or excess water, an increased amount of nutrients can become soluble. The plant may take up too much of a specific nutrient leading to toxicity expressed in the leaves or flowers. In times of water loss or drought, nutrients are unable to become soluble and be transported to the plant roots. These conditions can cause nutrient imbalances in your growing media and often lead to deficiency or toxicity symptoms in your orchids and overall reduced growth.

Watering requirements are specific to the type and major components of the growing media that you are using and the container that the orchid is planted in. Bark containing media dry out much quicker than a sphagnum peat moss media; plants in a clay pot will dry out faster than plants in plastic pots (faster rate of evaporation).

Temperature and light also will determine the amount of water that your orchid requires. More light usually means a higher temperature; this translates into a higher water requirement for your orchid due to increased photosynthesis and transpiration rates. When do we usually get more sun and higher temps (spring and summer or course), these are the times you will need to increase your watering frequency. Conversely, less light and lower temps means that the plant will not use as much water and therefore will not need to be watered as often. Again, less sun and lower temps are seen in the fall and winter, therefore your plant will have a lower water requirement during these months.

When you use a “balanced” fertilizer like our Jacks Classic formulas, you will get a combination of the important elements in “soluble” or plant available form, in a form that your plant can take up. Some of you that may mix your own blends can run into problems that are due to excess of one nutrient limiting the availability of another nutrient



(ex. Mg induced Ca deff or Ca induced Mg deff). A balanced formula ensures that all nutrients are present in amounts that ensure maximum availability to the plant.

Three formulas' can be used at different plant stages or according to media type as a "constant liquid feed". This idea is based on the theory of "a little, more often". Each time you water your plants include your plants "food". We recommend ¼ teaspoon per gallon of water each watering. The best method for watering orchids is by using a plain old watering can and top drenching. Try not to water your plants with water run through a water softener. This process changes the soluble calcium (Ca^{++}) in the water to sodium (Na^+). Excess Na (high salt) can be harmful to your plants, while excess Ca often does not appear to affect plant health.

It is important to observe to rules of watering here. Only water when needed. Keeping that in mind, if you only fertilize in small amounts when you water you will ensure that your plant receives the nutrients it needs when it needs it. Consistency is the key. Remember, higher temps = more light, means more water. Your plant is actively growing and will need a more constant supply of nutrients in order to continue photosynthesizing at these high rates. At these times we recommend increasing to ½ teaspoon per gallon of water. This will ensure that your plant receives the nutrients it needs to actively grow. When it is cooler and light is low, the plants rate of photosynthesis and transpiration is decreased. The supplies of nutrients are not being depleted as fast therefore you can afford to feed and water less.

The three Jacks Classic formula's specially designed for improved plant growth are:

Jacks Classic General Purpose: 20-20-20

- Urea and NH_4NO_3 based. Don't be afraid of Urea!
- Enhanced chelated micronutrient package.
- Good for growing leaves, when the plant is in its vegetative state

Jacks Classic Blossom Booster: 10-30-20

- Used to set a spike -- produces superior blooms and nice color
- Not to high P -- "middle number" reduces phosphate loss as runoff.
- Enhanced chelated micronutrient package

Jack Classic Orchid Special: 30-10-10

- Good for media containing fir bark
- Extra Nitrogen to satisfy the "sink" requirement of the fir bark.
- Enhanced chelated micronutrient package.

There are two new liquid concentrate orchid formulas which are:

Orchid Bloom Booster: 3-9-6

sium, sulfur plus micronutrients.

Jack's Professional ORCHID-RO Type Water 12-3-15.

- Designed specifically for very low alkalinity waters such as RO, rain or distilled waters
- Low phosphorus with calcium, magnesium and enhanced chelated micronutrient package.
- Combine with a pH adjuster

Jack's Professional ORCHID-Well Water 16-4-20

- Designed for average water types.
- Low phosphorus with calcium, magnesium and enhanced chelated micronutrient package
- A neutral formula that will not raise or lower media pH