

Orchid Feeding

By Dr Fred

Perhaps no topic in orchid growing, not even potting mixes, causes more controversy than feeding. Every successful grower has a trusted formula which they fondly imagine is the secret of success.

Regular feeding is very important to achieve best results so you need a regular program to follow. Professional growers usually water and feed every second day under artificial conditions.

The brands you use are up to you but the broad principles are as follows:

Do not fertilize during dormant phases (often these are after flowering or in winter).

Orchids from tropical climates without pseudobulbs grow all year round and require year round feeding.

There are two types of fertilizer, organic and inorganic. Organic fertilizers derive from animal or plant material (blood and bone, dynamic lifter, seaweed and fish meal). Like urea they need bacteria to break them down for activation and this process is very variable dependent on the season. I use a little in the bottom when repotting to prime the mix and a little more on the surface before I go away for any length of time. They should not be used with sphagnum moss which rapidly breaks down.

The inorganic fertilizers are the common water soluble garden products based on nitrates which are usually used at half strength. Their composition is predictable but being water soluble they wash out quickly and must be regularly replaced. There are two basic formulas, high nitrogen for growth and high phosphorus and potassium for flowers (bloom boosters). This is reflected in the NPK ratio on the label.

High nitrogen is given once or twice a week during active growth, especially spring and autumn. This is stopped when the orchid should be setting flower spikes and the bloom booster used. As this timing differs between orchid species it is difficult if you have a general collection but easy if you specialize.

Phosphorus, although important for flower production, is needed in relatively small amounts only and excessive feeding does not further increase flower yield.

The combination of dry roots and concentrated fertilizer leads to fertilizer burn, appearing as black root tips and a very sick plant. I always fertilize after watering. Small frequent weaker feeds onto a damp plant are ideal.

Absorption

If the orchid has damaged or diseased roots, nutrients cannot be absorbed. The plant appearance becomes similar to one suffering a nutritional deficiency.

Salt build-up

The by-product of fertilizers is soluble salts, usually of sodium. They can easily reach toxic levels after prolonged use especially as the plant dries out. Build up is hastened by over-feeding, reduced plant uptake (dormancy, sick plant) and causes a cycle of further root damage. A thorough regular watering is important to flush them out.

Trace elements

Boron, copper, iron, manganese, molybdenum and aluminium are useful to plants in very small concentrations and toxic in high concentrations. Tapwater is generally deficient but they are present in most soluble fertilizers. There is some debate as to whether additional supplements are worthwhile. Seaweed solutions are generally a good supplementary source. I use a weak solution of a common commercial preparation every 6 months or so.

Calcium, magnesium and sulphur

These are often referred to as trace elements, but are really major nutrients because they are needed in greater amounts. They are necessary for cell wall (strong stems and leaves) and chlorophyll production. Additional calcium in the form of dolomite lime is necessary if you are using cocofibre based mixes which are deficient. Calcium and magnesium are present in many fertilizers including Magamp which I use whenever watering.