

Fertilizer Trends In Horticulture

Plants require nutrients in the form of fertilizer to grow from seeds or cuttings to maturity. Different species and different stages of growth may need different fertilizers. The traditional PG type fertilizers (e.g. 12+14+24 or 14+16+18) used as a starter in compost is soluble in water. This can mean quite high conductivities right from sowing or transplanting which can restrict root development. Being soluble also means the fertilizer can wash out quickly creating an environmental risk. Today it is possible to use a tiny controlled release granule such as Osmocote Start which lasts up to 6 weeks. This is ideal for salt sensitive plants like Antirrhinums that are shy rooters but do need plenty of nutrients long term. Being controlled release means less fertilizer is washed out.



Continuing on the theme of reducing initial nutrient levels, there are now controlled release fertilizers that can be used with what is termed 'patterned release'. The nutrients can be reduced in the early stages of growth making the plant throw out lots of roots in search of nutrients. Having developed a good rooting system, the nutrients begin releasing at a faster rate thus providing the food necessary for good balanced top growth. The term high end is applicable to this type of fertilizer. Going one step further there is also a controlled fertilizer with a delayed start of up to 3 months which is ideal for Autumn planted crops.

If the preference is for liquid feeding using water soluble fertilizers there are all sorts of materials around to improve availability of nutrients to the plant. Many fertilizers have some acidification to aid solubility and keep phosphate in solution. After all there is no point in putting fertilizer into a tank and then finding a proportion is left as a sludge in the bottom. Acidification is important but purity of raw materials is also essential. Many fertilizers use citric acid but there are some like Peters Excel which contain urea phosphate. This material is very soluble and creates its own phosphoric acid. There is sufficient acid to reduce the bicarbonate levels in the water which is also important in hard water areas. This will reduce the risk of unsightly white blotches on leaves and reduce blockages in drips and nozzles.

Hard water can also create problems for trace element availability. Sulphate forms become insoluble so chelates are used. Different chelates have a fairly narrow tolerance of pH in the water. There is a trend of changing from EDTA forms of chelate towards DTPA forms of chelate. The latter allows trace elements to be available at a higher pH but the downside is that these are more expensive. Some water soluble fertilizers also have enhancing materials like seaweed extract, humic acids, amino acids and some biological agents. These are all things which potentially enhance colour and growth.

Many growers see nutrient deficiencies in crops in August/September in some years despite the addition of 12-14 month controlled release fertilizers in the compost. The reason can be short, very hot spells where considerable irrigation is used to stop the plants wilting. This means that all the available nutrients have been washed out faster than the controlled release granules can release. There is usually still plenty of nutrients in reserve for later. In this case a couple of balanced liquid feeds or a top dressing of a 6 week controlled release fertilizer will bring the nutrition back in line after which the normal controlled release fertilizer could cope.



growing success