

WHY IS IRON (Fe) SO IMPORTANT IN FERTILISER FORMULATION?

When we grow plants in containers everything that the plant needs has to be included in the growing media. The roots are contained and cannot range free looking for nutrients beyond the growing media. That is straight forward enough. However, plant nutrient availability is quite complex chemistry with many factors potentially affecting availability. First and foremost 'plants don't have teeth' and need nutrients in solution. So all nutrients must be soluble. Phenols in bark can immobilize nutrient elements such as Iron and obstruct their availability even if some Iron has been built into the growing media. Bacteria and fungi in bark media can also, temporarily, steal Nitrogen to fuel decomposition. This is sometimes referred to as 'Nitrogen Draw Down'. The loss of 'N' whilst only short lived, just a few weeks, is enough to result in sub optimal plant performance. So, with these effects in mind and when using bark based media, as in New Zealand, we need to cater for extra Iron 'Fe' and or 'N'. The best way to do this is to choose a fertiliser formulation specifically made to meet these challenges. We find these fertiliser types in the APEX Nursery fertiliser range as sold in the Pacific North West (PNW) region of the USA and from McHort in New Zealand. European formulations designed for peat media contain significantly less 'Fe' and 'N'.

The type of Iron used has an effect on growing media chemistry too! Iron sulphate (FeSO_4) is the least expensive form and very effective. However, it can and will alter the pH, acidify, the media. This is easily compensated for by simply adjusting the liming regime. Very much more expensive Iron chelate is hard to justify and unnecessary when growing outdoor woody stock in a bark based growing media. Evergreen plant species, which are predominantly acid loving, respond very favourably to 'Fe' in the sulphate form, perhaps due to this slight acidification. Chelated Iron hardly effects pH and is also used in a tiny amount which, in itself, can give rise to poor distribution in the growing media. Such small amounts being difficult to mix uniformly.

So exactly what does 'Fe' do in our plants?

Well, the simple answer is, it makes foliage green. At least, it's a vital component in chlorophyll and chlorophyll is what makes leaves green. Not only do dark green leaves look attractive, but they also have a profound effect on photosynthesis. That's why variegated plant forms often grow much slower than their green leafed cousins. So, if you want the most vigorous, vibrant green, healthy foliage on your plants, you'd better get the 'Fe' nutrition right!

So how much 'Fe' is enough?

Well, in bark based media more than in peat based media and for evergreen species more than for deciduous species. European controlled release fertilisers contain 0.25-0.4% 'Fe'. APEX Nursery fertilisers contain 0.6- 6% Fe, that's 15 times more! It's a similar story for the 'N' too! A Euro product having 16% 'N', whilst a PNW formulation from APEX has 20 -22%'N'; that's 30% more!

Of course, the higher the analysis of your fertiliser, the less you need, at least 1 kg. per cubic metre less, and still achieve top results. The cost savings can be significant, more than \$7.00 per cubic metre of potting media. That's at least a 20% cost saving!

If you would like to review the Iron regime in the growing media you use, give McHort a call on 021 782250.

APEX Nursery fertilisers from McHort

HIGH ANALYSIS, PNW, PRODUCT OPTIONS

APEX Full Season 22+2.6+8.3+Te with elevated Iron, 6-7 month.

A triple blend formulation of soluble, slow & encapsulated controlled release components.

Ideal for NZ Native revegetation species.

Use at 3-4kg/cu.m. in potting mix.

APEX Evergreen 21+3+6.6+Te 9 month

A fully encapsulated controlled release fertiliser.

Ideal for all evergreen & exotic species.

Use at 4-5kg/cu.m.

APEX Evergreen 20+3.4+6.6+Te 12 month

An extended longevity version of the above.

Use at 5-6kg/cu.m.

APEX McHort Blend 20+3+9+Te 12-14 month

An extended longevity product with fully encapsulated controlled release fertiliser.

Ideal for NZ Native and exotic deciduous species.

Use at 4-6kg/cu.m.

SPECIALTY PRODUCT OPTIONS

APEX Evolution 16+2+7+Te 6-7 month

Ideal for deciduous flowering species and in retail yard or bagged potting mix.

Use at 3-4kg/cu.m.

APEX Endure 16+2+9 14 month

Ideal for advanced grade trees and extended feeding post planting in landscaping.

Use at 5-6kg/cu.m. *Call for landscape planting rates.*

APEX Minis 18+2.6+9.9 3-4 month

Especially for ornamental annual and vegetable seedling production in cells and punnets.

The small prill size offers uniform distribution at appropriate rates even in small cells and cavities.

Use at 1.5-3kg/cu.m.

APEX Super Iron Top dress 21+2.8+4.9+Te with elevated Iron, 4-5 month

Extended Top dress fertiliser in a triple blend of soluble, slow and encapsulated controlled release components.

Fast green up and extended nutrient delivery. Fast, safe and long-lasting from a single application.

Apply at 1-3g/ ltr. of pot volume.

McHort have unrivalled expertise in fertiliser use for ornamental plant production in New Zealand.

We can help you grow better crops more economically through that expertise and our carefully selected fertiliser options.

If you use ready made potting mix, we can work with your potting mix supplier to ensure you get the best value for money fertiliser option delivered in your potting mix.

For a **FREE CONSULTATION** and review of your current fertiliser programme, call McHort 021 782250

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