

## Feed your Plants Correctly

### *A Guide to successfully feeding your aquarium plants*



Just like terrestrial plants (land plants), your aquarium plants need the optimum mixture of light, food and air quality in order to survive.

#### Lighting

Many people take a great deal of care with establishing the right lighting in their aquarium. Aquarium Industries Naturals Range Tissue Culture plants come in specially marked packs which indicate the amount of lighting required for successful growth of each plant. Look for the information on the front of each pack.



#### Carbon Dioxide

The next main factor to take into consideration is the availability of carbon dioxide in your aquarium. Carbon dioxide is essential for all plants, and needed for photosynthesis. (Photosynthesis is the process plants use to extract nutrients from light and carbon dioxide. A by-product of this is oxygen – a fantastic benefit to the fish in your aquarium.) Although carbon dioxide is released by fish, and is also replenished during water changes, this is not usually enough to maintain a planted tank. In large tanks, you may want to install a CO2 System to provide the required boost. There are a range of liquid CO2 additives available which are ideal for smaller tanks, and these are very easy to use.

#### Feeding

The third, and most neglected area of plant care, is correct feeding. Just as you would fertilise your garden regularly, aquatic plants need to be fed in order to ensure that they flourish.

There are two types of nutrients which are required by aquatic plants - Macro nutrients, which plants use in large amounts, and Micro nutrients, which are essential for plant growth but are used in smaller concentrations.

#### Macro Nutrients

- Nitrates (N)
- Phosphates (P)
- Calcium (Ca)
- Sodium (Na)
- Potassium (K)

#### Micro Nutrients

- Iron (Fe)
- Boron (B)
- Copper (Cu)
- Zinc (Zn)
- Magnesium (Mg)
- Sulphate (S)

If you fail to provide your plants with a good balance of these nutrients, it can lead to deficiencies.

Symptoms of these deficiencies included stunted growth, yellowing leaves or distorted leaf growth. In severe cases they prove fatal to the plant.

*(Continued next page)*

## What kind of fertiliser do I need?

There are many factors to consider when calculating what kind of, and how much, nutrient you need in aquariums. Before you start buying fertilisers remember the following:

- Nutrients are present in tap water (Water changes will deliver small amounts of nutrients)
- Nutrients should be present in good quality aquarium substrate (Buy a quality substrate that is designed for planted aquariums)
- Nutrients are present in fish food

Fertilisation must always be in balance with light, carbon dioxide and other naturally occurring nutrients found in your tank. Simply filling your aquarium with a lot of fertilizers will not aid in plant growth, and may cause more harm than good.

*Note: Aquatic and terrestrial plants share many of the same requirements however fertilisers for terrestrial plants contain compounds at incorrect concentrations for the aquatic environment. Using these products will potentially lead to algal blooms, plant death and fish death. Therefore it is very important to purchase fertilisers designed for the aquarium only.*

When aquatic plants grow they consume nutrients at different rates. They also consume nutrients through different means. Some plants will absorb mainly through their roots, others through their leaves and stem. Before selecting your fertiliser, check how your plants prefer to be fed.

### Stem feeders

Stem plants like Bacopa and Green Pennywort will absorb nutrients through the water column from their leaves. Some other plants don't grow roots into the substrate at all, so their only source of nutrients is from the water via their leaves and stem.

### Liquid fertilisers

Liquid fertilisers are an important source of nutrients for stem feeders. Most varieties of liquid fertilisers are easy to use and generally only require weekly dosing. Take care when using liquid fertilisers as it is easy to over-dose, leading to conditions that promote algae.

### Root feeders

Plants with large root systems (eg *Echinodorus* and *Cryptocoryne* species) will take most of their nutrients from the substrate.

## Tablet fertilisers

Tablet fertilisers are buried within the substrate bed. They slowly release nutrients over time, which are absorbed directly by the roots. They are ideal for plants with large root systems, and in tanks where the substrate is not already enriched.

## Feeding your AI Naturals Range Plants

The table below provides your guide to the most effective method of delivering nutrients to your Aquarium Industries Naturals Range Plants.

Take care when feeding to read all instructions carefully, and follow them thoroughly. Your pet or aquarium retailer can also provide useful advice and care information for your plants.

AI Naturals Range Plant	Feeding Method
Baby Tears	Liquid fertilisers
Bacopa	Liquid fertilisers
Blue Bacopa	Liquid fertilisers
Cryptocoryne Wendtii	Substrate fertilisers
Broad Leaf Lobelia	Liquid fertilisers
Small Leaf Lobelia	Liquid fertilisers
Gold Pennywort	Liquid fertilisers
Green Pennywort	Liquid fertilisers
Broad Leaf Chain Sword	Substrate fertilisers
Pygmy Chain Sword	Substrate fertilisers
Cryptocoryne Lucens	Substrate fertilisers
Cryptocoryne Balansae	Substrate fertilisers
Cryptocoryne Undulata Red	Substrate fertilisers
Cryptocoryne Lutea	Substrate fertilisers
Cryptocoryne Parva	Substrate fertilisers
Cryptocoryne Walkeri	Substrate fertilisers
Broad Leaf Amazon Sword	Substrate fertilisers
Riccia	Liquid fertilisers

For more Care Sheets like this, visit our [website: aquariumindustries.com.au](http://www.aquariumindustries.com.au)