

HydroMin series

Care for your aquatic plants

Introduction

- Aquascaping refers to the skill to combine aquatic plants with either soil, wood or rock to create an attractive aquarium environment, either as a decoration or natural ecosystem of ornamental fishes

水族造景是指将水生植物与土壤、木材或岩石相结合以创建一个引人注目的水族馆环境的技能，既可以作为装饰品，也可以是观赏鱼的自然生态系统



- Aquatic plants are an essential component of any aquascape, and adequate care should be given to ensure their well-being
水生植物是任何水族造景的重要组成部分，应给予足够的照顾以确保它们的健康

Aquatic plant needs

- Similar to land plants, aquatic plants need a supply of macronutrients such as nitrogen and potassium to thrive
与陆地植物相似，水生植物需要氮和钾等常量营养素的供应才能茁壮成长
- Moreover aquatic plants need more of micronutrients such as magnesium and iron to aid in immersed plant growth
此外水生植物需要足够的微量营养素，如镁和铁，以帮助浸泡植物生长
- Plants with leaf color other than green may also need supplemental minerals such as manganese, zinc and molybdenum
非绿色水生植物也可能需要一些矿物质的补充，例如锰、锌和钼



Common ornamental aquatic plants



*Hemianthus
callitrichoides*
迷你矮珍珠



*Echinodorus
amazonicus*
皇冠草



*Vesicularia
montagnei*
圣诞莫斯



*Rotala
rotundifolia*
红眼猫

Benefits of having plants in aquarium

- a) Enhance water quality and aquarium setting
- b) Prevent algae growth upon maturation
- c) Provide oxygen during daytime
- d) Shelter for newly-hatched fry and shrimps

Benefits of aquatic plants



As water filter

- Consumes decomposition byproducts in water, such as nitrate, nitrite, and phosphates, as well as other organics.
- Keep water clean and healthy for fish and invertebrate life.



Reduces Surface Evaporation

- Able reduce water loss through surface evaporation through light shading and limiting the area of open water.



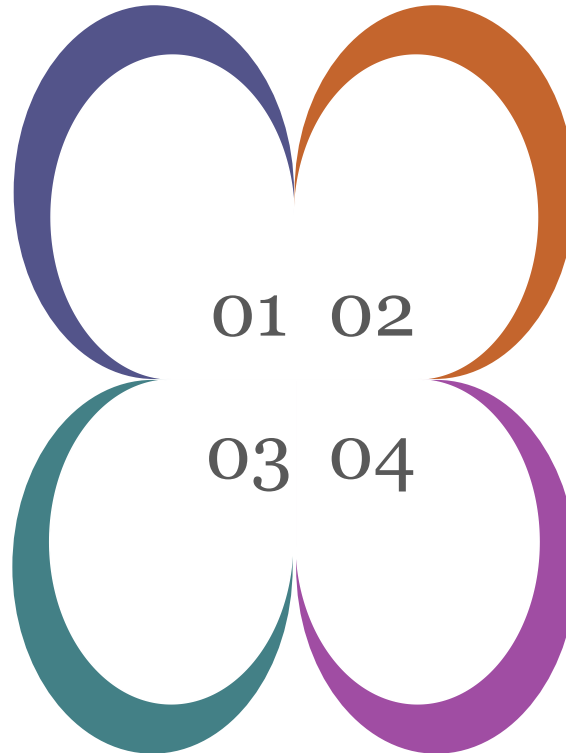
Reduces Algal Blooms

- Restrict light penetration to deeper levels of the aquarium stifling the growth of algae and also sequester the nutrients necessary for algal growth.



Free Fish Food

- Several species of common aquarium fish will readily eat aquaponic plants such as duckweed for its high protein content as well as cichlids, goldfish, and tilapia.



Is fish waste not enough?

- Fish waste and decomposing matter may provide some nitrogen and phosphorus, other nutrients such as potassium and iron are sorely lacking in the absence of external fertilization
鱼类排泄物和分解物可能会提供一些氮和磷，但在没有施肥的情况下，钾和铁等其他营养素严重缺乏
- While one can attempt to use fertilizer designed for land plants instead, it is really not recommended as aquatic plants are extremely sensitive to salinity and nutrient overdose
虽然可以尝试使用专为陆地植物设计的肥料，但真的不建议这样做，因为水生植物对盐分和养分过量极为敏感
- It may lead to algal blooms which require frequent cleaning and water changes, adding more stress to the fragile plants
它也可能造成藻类大量繁殖，导致使用者需要经常清洁和换水，这给脆弱的植物添加更多压力
- A good balance of nutrient types and dosage is key to maintaining a healthy tank of aquatic plants
达到营养类型和剂量的良好平衡是维持健康水生植物缸的关键

One simple solution

- HydroMin - Aquatic Plant fertilizer Series

- Comes in 2 variants

HydroMin G - caters to green plants 迎合绿色植物

HydroMin R – caters to red plants 迎合红色植物

- Formulated with ample amount of nutrients and minerals to stimulate optimal plant growth and promote flourishing

配方含有大量的营养素和矿物质，可刺激植物最佳生长并促进繁茂

- Harmless and nontoxic to other aquatic life forms

对其他水生生物无害且无毒



HydroMin G

Growth promoter



HydroMin G

- Formulated with essential macro and micronutrients for optimal root and shoot growth
 - Nitrogen 氮
 - Potassium 钾
 - Iron 铁
 - Magnesium 镁
 - Sulphur 硫
- Solve nutrients deficiencies of most aquatic plants such as chlorosis, browning, weak stems and pale veins
解决大部分水生植物的萎黄、褐变、茎弱、脉淡等营养缺乏问题
- Also promotes flourishing of aquatic plants by enhancing leaf and stem development
通过激发叶和茎的发育来促进水生植物的繁盛



HydroMin G

- **HydroMin G** is designed with the most important macronutrients:
 - ✓ **Nitrogen**
 - ✓ **Phosphate**
 - ✓ **Potassium**
- **HydroMin G** contains minerals, and nutrients which able stimulate the growth of both roots and shoots in aquatic plants.
- The nutrients of **HydroMin G** able to solve the problems of nutrients deficiency for green and red aquatic plants with the signs of chlorosis, browning, weak stem and roots, dying leaves and pale veins.
- Furthermore, **HydroMin G** enhanced growth in the leaves, stems of the plants and stimulate root growth beneath the surface.

Specialities of HydroMin G

1. Boost the growth of aquatic plants

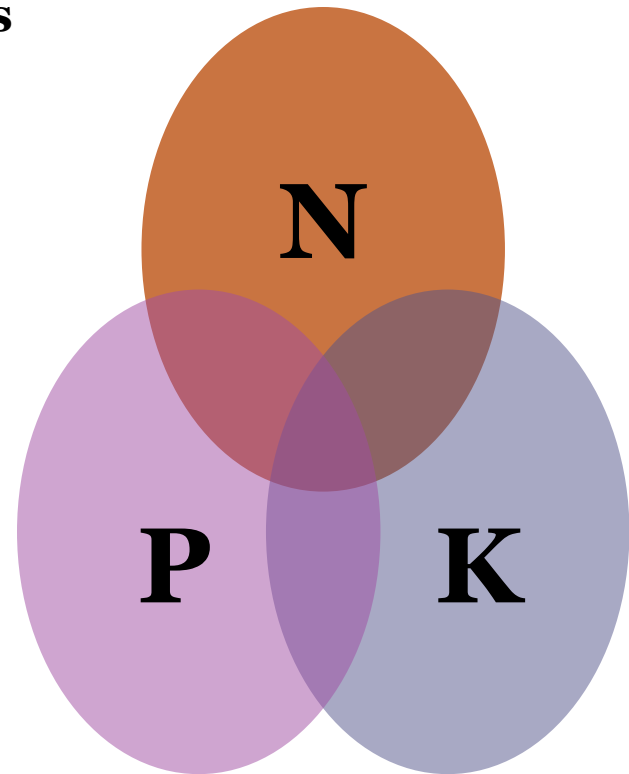
Designed with essential macronutrients to boost and ensures healthy plant growth.

2. Replenish deficiency of nutrients

Effectively cure symptoms such as chlorosis, browning, weak stems and roots, dying leaves and pale veins.

3. Safe for fish

Designed in such a way that no high NPK concentrations will accumulate but able to supply a daily basic consumption rate for aquatic plants.

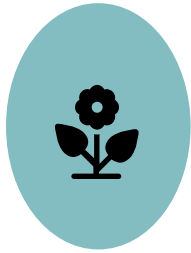


HydroMin R

Red promoter



Why Do Plants Turn Red?



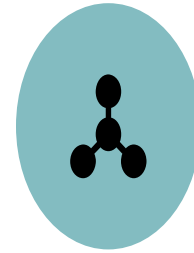
Pollination

- Developed red leaves to attract insects to pollinate their flowers.



Protection from sun

- The red coloring develops as a sort of natural sunscreen.



Nutrients

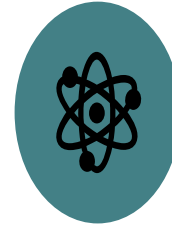
- Depending on the plant and the nutrient, the red color can develop from too much or not enough of a particular nutrient.

Tips for growing red aquatic plants



Strong lighting

Chlorophyll pigmentation change from green color to red color to protect themselves from intense light



Nutrients

Low nitrogen and phosphorus tank so don't have too many fishes



Carbon dioxide

High volume of CO₂



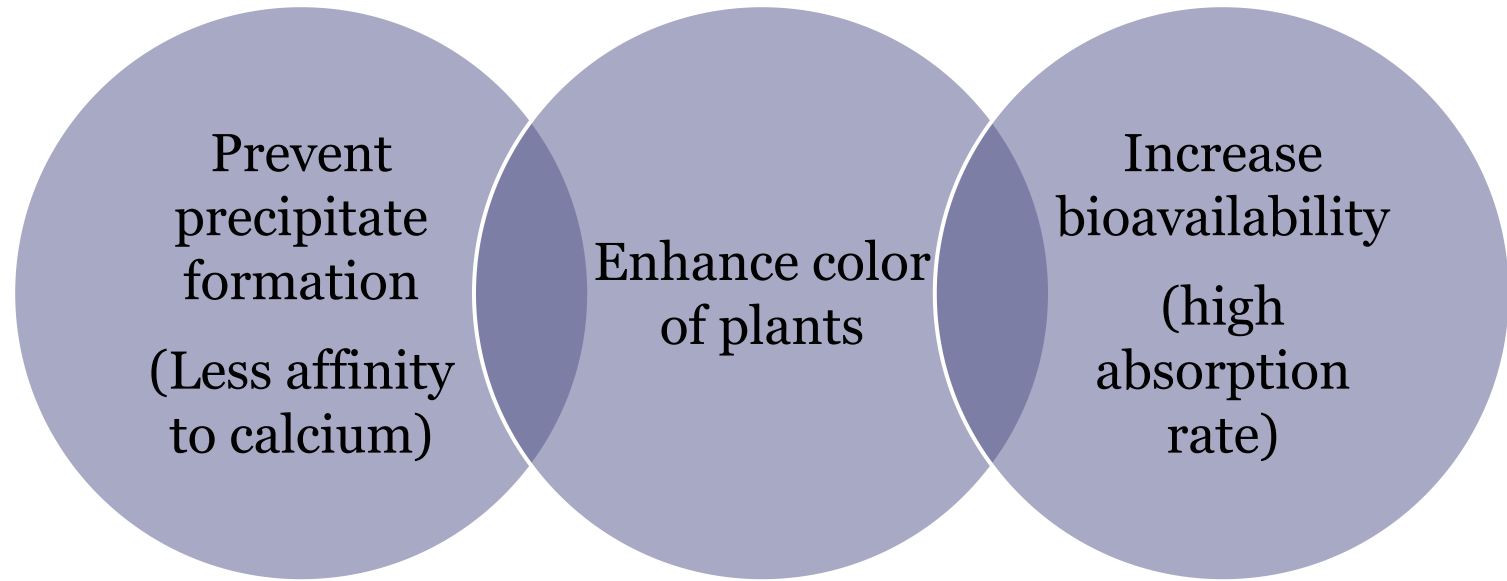
Temperature

Keep the water temperature at 22°C~26°C

HydroMin R

- Red plants, except chlorophyll, involve other pigments such as:
 - ✓ xanthophylls,
 - ✓ carotenes,
 - ✓ anthocyanins
 - ✓ flavonoids
- These pigments determine remarkable red, purple and orange coloration.
- Hence, **HydroMin R** specially designed with chelated iron and trace elements for deepening red coloration of the plants.
- The presence of those nutrients able to increase the number of naturally occurring pigments.
- **HydroMin R** provides iron and trace elements in a form easily absorbed by plants and ensure healthy plant growth with a vibrant and intense plant color.

Specialities of HydroMin R



Schematic diagram of chelated fertilizers facilitating nutrient uptake for foliar.

- Without chelation (aqua), micronutrients stay on the leaf surface.
- With chelation (aqua surrounded by blue), micronutrients first move into the mesophyll and release micronutrients.

HydroMin R

- Formulated with chelated minerals and trace elements to bring out the pigmentation in plants
 - Manganese 锰
 - Copper 铜
 - Zinc 锌
 - Molybdenum 钼
 - Boron 硼
- Provides nutrient in a bio-available form for easy plant absorption to bring out the intense and vibrant colour
以生物易用的形态提供营养素，便于植物吸收并呈现出强烈且生气勃勃的色彩



Specialties of HydroMin

- The contents in HydroMin can be easily and quickly assimilated by aquatic plants to alleviate deficiency symptoms
HydroMin 中的成分可以很容易、快速地被水生植物吸收，从而缓解缺乏症状
- Formulated to not accumulate to toxic levels and sufficient amount for healthy growth of plants
配方的成分不会累积到有毒水平并含有足够的量以促进植物的健康生长
- The comprehensive inclusion of nutrients in each variant (G and R) ensure that plants achieve the best conditions even in absence of other lifeforms
两个版本（G 和 R）中包含着全面性的营养素，确保植物即使在没有其他生命体的情况下也能达到最佳状态

Direction of Use

- Weekly application or after major water change
每周或大换水后应用
- 10000x dilution (use 10mL HydroMin for every 100L water in aquarium)
10000 倍稀释（水族箱中每 100 升水使用 10 毫升 HydroMin）
- Depending on plant density and condition in aquarium, may modify amount and dosing frequency
根据水族箱中的植物密度和条件，可以修改浓度及施用频率
- Shake well before use

Conclusions

- Aquatic plants not only greatly increase the ornamental value of fish, but also promote the growth and reproduction of tropical fish. Therefore, aquatic plant cultivation is very important.
- Nutrients are vital for healthy plants in the aquarium in order to create an environment for ornamental fish.
- Both **HydroMin G & R** able to solve the problems of nutrients deficiency.
- Therefore, both **HydroMin** are specially formulated with highly bioavailability for planted aquatic plants with aquatic organisms.
- **HydroMin G** as a **growth promoter** fertilizer for both green and red aquatic plants.
- **HydroMin R** as a **red promoter** fertilizer specially to strengthens the unique colors of red aquatic plants.

Thanks and hope you find our
product useful!

感谢并希望我们的产品对您有
用！