

For details:  
<http://www.adana.co.jp/en/>

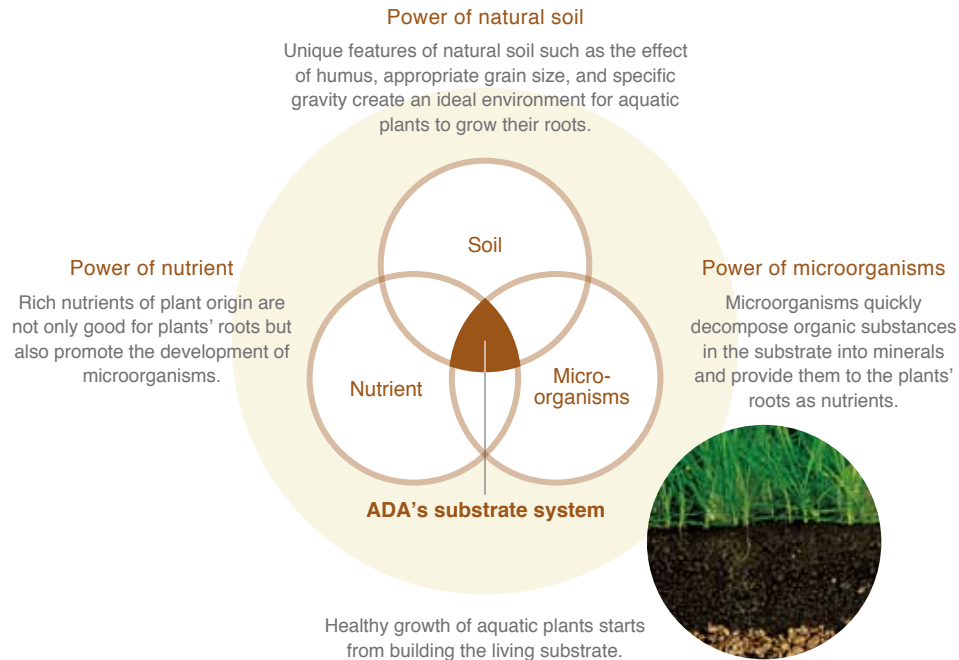
# 底床

SUBSTRATE  
SYSTEM

Introducing the Nature Aquarium Goods  
of Aqua Design Amano.

# What is the ADA's living substrate system?

Building an environment in which plants' roots and microorganisms co-exist in a symbiotic relationship is important for a substrate where aquatic plants grow their roots.



Long-term maintenance of an aquascape is supported by the synergetic effects of an ideal substrate system.



- 1** Aqua Soil utilizes the richness of natural soil.  
Natural soil is given a special heat treatment and processed into specific gravity and grain size that is most ideal for root growth. It creates a water condition that aquatic plants prefer.
- 2** Power Sand contains rich nutrients  
Containing porous volcanic stones that microorganisms can easily establish as a base material, Power Sand works as a slow-release substrate nutrient.
- 3** Various nutrient additives enhance the effect of microorganisms  
Various nutrient additives promote the establishment of microorganisms developed by Bacter 100 and maximize their activities.

# What are the advantages of using Aqua Soil?

Aqua Soil made from natural soil shows excellent properties for plants' growth and water conditioning. It is harmless to living organisms as its ingredients are all natural.

Aqua Soil was developed with an image of a land in tropical forest in mind.

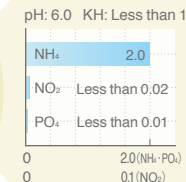


**NEW**



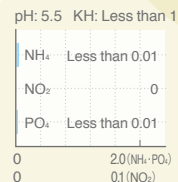
## Aqua Soil New Amazonia

Rich in organic substances and nitrogen, and aquatic plants grow the fastest with this type of Aqua Soil. Crumbling of grains is minimized.



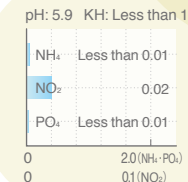
## Aqua Soil Malaya

This type reduces the pH level the most among all of Aqua Soil series. It is suited for growing plants such as Cryptocoryne, a long-term basis.



## Aqua Soil Africana

This soil has a good water conditioning ability that reduces the pH level, and it is suited for Wabi-kusa as it contains an adequate level of nitrogen.



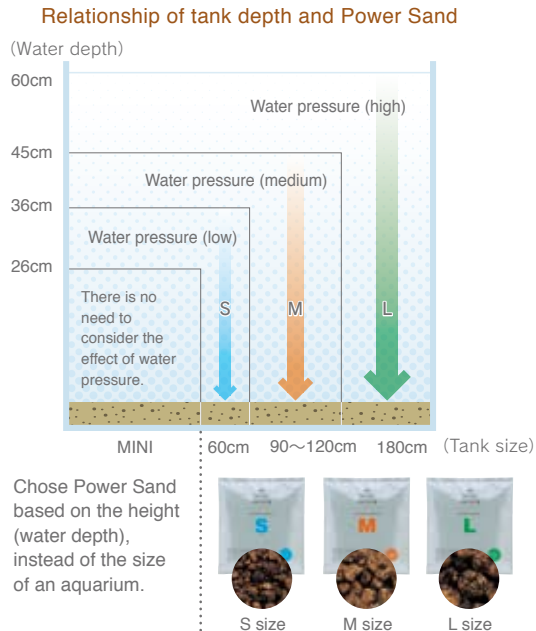
\*The water condition of the tap water was as following: pH:7.2, KH:2  
Above value is only an indication.  
It varies depending on the condition of use and products in use.

# There is a reason for using a particular type of **Power Sand**.

Power Sand not only supplies the nutrients but also its base material pumice, also **prevents the hardening of substrate and sustains water penetration.**

## What are the features of Power Sand?

- 1 Porous volcanic stones and humus promote the development and establishment of microorganisms.
- 2 It supplies nutrients to the plants' roots over a long period of time.
- 3 It prevents the hardening of the substrate and sustains the water penetration.
- 4 Various sizes (S, M, L) are available for different tank depths.



# What are the advantages of using **Power Sand Special**?

Power Sand Special **with rich nutrients** is perfect suited for **aquatic plants that grow thick roots** such as Cryptocoryne and Echinodorus.



For advanced aquarists

For Cryptocoryne etc.

Power Sand Special

## Substrate rich in nutrition

A substrate for advanced aquarists who can maintain the water condition well.

## Substrate preferred by rosette type plants

A substrate for rosette type plants that absorbs nutrition from their roots.

# Nutrient additives that support the environment of the substrate are available.

The function of microorganisms takes an important role in the substrate. So, let's enhance the development of microorganisms and promote their activities!

Sprinkle different types of nutrient additives at the bottom of the substrate.



### Bacter 100

More than 100 kinds of substrate bacteria contained in Bacter 100 build a microbiota according to each aquarium environment and they create a living substrate.



### Clear Super

Activated carbon powder, which has a water purifying effect, is combined with organic acid, which promotes the establishment of substrate bacteria. By supplying Clear Super, it enhances the development of substrate bacteria and stabilizes the substrate environment.

- Tourmaline BC** ..... Combined effects of tourmaline and bamboo charcoal promote the root growth and development of substrate bacteria.
- Bacter Ball** ..... A sphere form substrate additive made from Bacter 100. It can be placed on a substrate or in a filter.
- Penac W** ..... It prevents the substrate from becoming anaerobic and developing water stagnation, and it also improve the substrate environment.
- Penac P** ..... It provides nutrients to the plants' roots and improves the substrate environment.

# Substrate combination for your style.

Let's plan the most suitable substrate system beforehand since it cannot be changed over once the layout is finished.

Substrate system for each purpose:

STYLE \ MATERIAL	Aqua Soil	Aqua Soil Powder	Cosmetic Sand	Power Sand	Power Sand Special	Bacter 100	Clear Super
A mini aquarium or to enjoy aquatic plants casually		○					
A low-cost aquatic plant layout	○			○			
A basic aquatic plant layout	○			○		○	○
A layout in a split substrate style using Aqua Soil and cosmetic sand	○		○	○ Only under Aqua Soil		○	○
Planting Cryptocoryne or Echinodorus primarily	○				○	○	○
An aquatic plant layout with the best substrate system	○	○ Surface only			○	○	○

The substrate can be optimized further by adding Tourmaline BC, Penac W and Penac P.

# Expression of an aquascape expands with **cosmetic sand** made from natural material.

A natural impression of a river bed can be created by taking advantage of the impression of individual cosmetic sand and using the sand with Aqua Soil.



**Nile Sand**

White and fine grains of sand create a brisk impression in a layout.



**Sarawak Sand**

Warm color sand creates a warm impression in a layout.



**Mekong Sand**

Natural color sand recreates a natural river bed.

An aquascape becomes spacious and bright by placing cosmetic sand at the foreground.



**Congo Sand**

Cosmetic sand with relatively large grain size. Dark color provides a natural impression.



Split style with cosmetic sand and Aqua Soil can be easily created by using a cardboard as a boundary. Remove the cardboard at the end.

# A summary of basic knowledge of a substrate system.

There are several key points for building a substrate in which aquatic plants can grow healthy. Some of the important points for the initial stage and long-term maintenance are introduced here.



## How to use Powder type

The growth of aquatic plants with fine roots, such as Glossostigma, can be improved by the powder type placing on normal type Aqua Soil.



## Keep the substrate warm

If the room temperature is low and aquatic plants are not growing well, it can be improved by installing a Growth Plate and heater in the substrate.



## Water change during the initial stage

During the initial stage, change water as frequently as possible because the cloudiness and discoloration of water tend to occur at this period.



## Supplying nutrient additives to the substrate

When nutrients become depleted in a substrate that has been maintained for a long time, nutrients should be replenished with additives such as Multi Bottom. such substrate with Multi Bottom etc.

The health of aquatic plants is determined by the substrate condition.  
Let's maintain the condition of substrate well with the appropriate approach.



A well-balanced  
environment sustainable  
for a long-period  
starts from building  
a living substrate.

Products for keeping living  
organisms need to be  
obtains from a reliable store.

株式会社アヲデザインアマン  
新潟県新潟市西蒲区漆山8554-1  
aqua design amano co.,ltd.  
8554-1 Urushiyama, Nishikan-ku, Niigata 953-0054, Japan

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