

Seachem Matrix Supercharge Nitrogen Cycle

Introduction

Maintaining a healthy and balanced aquarium environment is crucial for the well-being of our aquatic companions. One essential aspect of achieving this balance is establishing a robust nitrogen cycle. The nitrogen cycle is responsible for breaking down harmful ammonia and nitrite into less toxic nitrate, ensuring optimal water quality. In this article, we will explore how Seachem Matrix can revolutionize your aquarium's nitrogen cycle, providing superior biological filtration and creating a thriving aquatic ecosystem.

Understanding the Nitrogen Cycle:

Before diving into the benefits of Seachem Matrix, let's quickly review the nitrogen cycle.

The nitrogen cycle in aquariums is a natural process that helps keep the water safe and healthy for fish and other aquatic creatures. It involves the conversion of harmful substances into less toxic ones through the action of beneficial bacteria. It Start With :

Step 1: Fish Food / Poop Become Ammonia :

It also includes dead fish and dead plant therefore the cycle producing ammonia. Ammonia is toxic to fish and can harm them if it accumulates in the water.

Step 2 : First Group of Bacteria Call Aerobic Bacteria Will Start Breaking Down Into Nitrite

Which specifically Nitrosomonas and it will perform a process call nitrifying process means eat it and produce another less harmful products to the fish in water. And this Group Of Bacteria require Oxygen To Thrive and When The Products In Nitrite(NO₂) Form The Plant Will Not Be Able To Absorb It. (***)Extra Note Be Sure To Look For Bacteria Water That Said Consist of Aerobic Bacteria)

Step 3 : Nitrite into Nitrate (NO₃)

In here another Species Of Bacteria Under Aerobic Group call Nitrobacter now will convert it into A far more less harmful form to fish call Nitrate (NO₃). In this form the plant still will not able to fully absorb it. Eventhough is not harmful but if in a higher amount like 10ppm above if fish like Arowana stay in this water condition they will have gill fluke problems due to high NO₃ speed up their respiration because of super low oxygen in water.

Step 4 : Nitrate To Soluble Nitrogen

This part is where a special group of Bacteria call Anaerobic Bacteria that only exist in bio-media that can allow non oxygen water to pass through it and place like thick sand bed which at least 4inch height.

Able to eat it and produce Soluble Nitrogen where it will easily being absorb by plant and use it as main source of food to grow. In order for aquarium and filter to be able to cultivate Anaerobic Bacteria.

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1st : Poreless and high quality bio filter media

Is a must because only bio-media structures that able to cultivate both Aerobic and Anaerobic Bacteria able to do it like (Seachem Matrix)

2nd : Sand bed at least 4" Thick

This is because the amount of water will be able pass through in a deepest part of the sand to let Anaerobic Bacteria Cultivate in it.

So now you understand the nitrogen cycle.

In order to super charge the nitrogen cycle with Seachem Matrix.

Now we will let Seachem Matrix sit above the 4inch thick sand bed and cover it with our preference of substrate or soil.

By doing this way.

Now we not only able to have nitrifying process in our filter but also in our Aquarium environment.

Because of this Two Reason

1st : Because Of Bigger Grain Size Cover on Top of Matrix

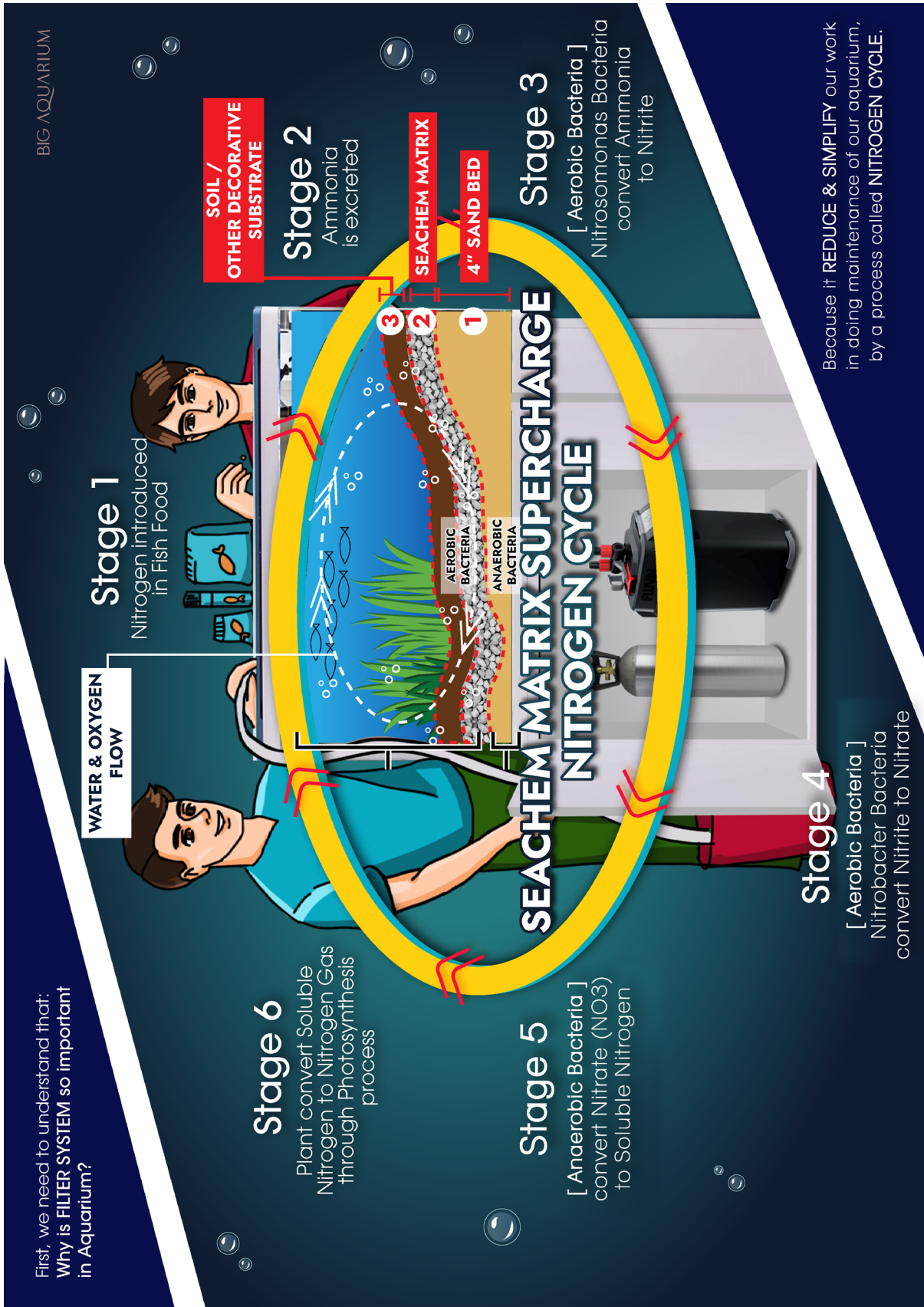
Now we can allow Aerobic Bacteria to able to cultivate in it due To Extra Space In Between Substrate Allow Oxygenated Water Pass Through The Matrix. And Convert Ammonia to Nitrite(NO₂) and lastly into Nitrate(NO₃)

2nd : Because 4inch sand bed left without disturbing from water flow

Plus Seachem Matrix is sit on top of it extracting out Oxygen from Aerobic being build up on Matrix. Now only left water without oxygen being pass through the 4inch thick sand bed making it the perfect condition for Anaerobic the cultivate.

In A Summary Now the Aquarium and Filter is A Working Self Sustain Ecosystem Filter.

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