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# Algae in the freshwater aquarium

Anyone who has kept an aquarium for any length of time has probably battled nuisance algae. It is important to understand that algae in and of itself is not a bad thing. It is a plant, and like most plants, removes toxins from your water and adds oxygen. But when algae get out of control, your once beautiful aquarium can be unsightly. Fortunately, algae problems are usually easily remedied.

## Out of Sunlight!

The single most important thing to bear in mind when setting up a new aquarium is to put it in an area where it will receive no sunlight. Sunlight is the spectrum of light algae grows best in. Various algae types are among the oldest living life forms on the planet, and have had millions of years of “practice.” With light from the sun, they will make use of any nutrient available to grow. Consider that the sun rises and sets in different places and angles throughout the year, and place your aquarium accordingly.

The second form of light is much easier for you to control: your aquarium’s light. Most people run their aquarium lights between 8-12 hours a day. Appliance timers are a great help if you are prone to leave them on too long. Besides the algae growth from using an aquarium as a night light, it is stressful on the fish! They are accustomed to a period of light and darkness. Diurnal fishes (those that stay awake during the day), will always stay somewhat conscious when in a lit environment. To put it in simplistic terms, fish need their sleep too!

## Nutrient Control and Test Kits

What do you think of when you think of fertilizer? Probably manure. Well, every time you feed your fish, the end product is essentially “manure.” Fish defecate, and produce nitrogen and phosphorous when they do. Also, uneaten food is pure fertilizer! Never feed more than the fish can eat in 30 seconds to a minute. Not one bit of food should go uneaten. Over feeding and overstocking are asking for algae problems or worse – dead fish.

Test kits can measure nitrogen and phosphorous in its common forms. Fish waste is mostly in the form of Ammonia (NH<sub>4</sub>). The good bacteria in your tank will quickly convert this to nitrite and nitrate (NO<sub>3</sub>) if there isn’t too much of it. Even though nitrate isn’t as deadly as the first two forms, it is a great resource for algae to grow. Remember that algae is pulling these nutrients out of the water! Many a green tank will show nothing wrong on a test kit. However, if there is algae growing rampant, there is (or was) excess nutrients in your aquarium water.

## Algae Eaters Are Not a Magic Pill

One of the first things a new aquarist is likely to do when they see green growing in their tank is buy an algae eater. Well, they have their place in aquariums, but are not a good idea to add when algae is growing rampant. In the simplest of terms, they turn healthy algae into fish poop! Many an aquarium was doing fine until a hungry algae eater or group of snails was added. If the tank is green or brown with algae, it needs maintenance, not algae eaters, and NEVER algaecide! Algaecide simply turns live algae into dead algae. Dead algae will rot and foul water, which is never ideal. Also, know what kind of algae eater you are getting. Chinese algae eaters are not very good at their job, and can get aggressive with age; I don't even carry them in my store. The common plecostomus you see in most stores is a fish that can grow to over a foot and a half long! It will not grow to the size of your tank, nothing does. I explain this further in my article Aquarium Keeping 101. Bristle nosed "plecos" are much smaller and a better choice for tanks under 150 gallons. No snail or algae eater is a good candidate for bowls.

## Types of Algae

There are many types of algae that grow in fresh and brackish (salty, but not marine) environments. They all are indicative of different lights and nutrient levels. Rex Grigg has devised a simple chart that explains this which I will add below. He has excellent advice on planted aquaria, and makes the best CO2 regulators I have ever laid my hands on if you are thinking about a serious planted tank! His website is

<http://www.rexgrigg.com/>

ALGAE TYPE	CAUSE	SOLUTION
<b>Black Beard Algae (BBA)</b>	Low CO2	Add CO2, trim, spot treat with Excel
<b>Blue Green Algae (BGA)</b>	Low nitrate	Blackout , add nitrate
<b>Cladophora</b>	Low nitrate + Low CO2	Add nitrate, add CO2
<b>Diatoms</b>	Excess silicates, Low light	add catfish, use RO water/sponge
<b>Green Dust Algae (GDA)</b>	Spores	Wait out life cycle, remove + WC
<b>Green Spot Algae (GSA)</b>	Low phosphate + Low CO2	Add phosphate, possibly add more CO2
<b>Green Water (GW)</b>	Ammonia + high light	Reduce light, Wait, Small WC, UV filter
<b>Hair Algae</b>	Excess nutrients, silicates	WC, Excel, feed less, is something limited?
<b>Milky Water</b>	Bacteria bloom	Wait out, protect filter, add fish slowly
<b>Staghorn</b>	Ammonia + low CO2	Remove, WC, protect filter, Excel String Algae Excess nutrients WC + get biofilter working

- Chip Bridges