



## Filamentous (String) Algae

Where does algae come from?

- In all water supplies, even drinking water.
- Transported from birds and animals
- Plants you buy from nurseries

Algae can be without water for years and still come back to life when water is added.

What makes algae grow?

- Sunshine
- Nitrates
- phosphates

Dormant until water temperature reaches about 40° F. Like all plants, it grows the most in the spring, but can grow through the summer and into the fall unless deprived of its food sources.

Nitrifying bacteria become active 45-50°F. It takes about six weeks for bacteria to populate to sufficient levels to be beneficial in controlling algae.

Grows like grass except with a much looser cohesion. When you mechanically remove algae parts of it break off easily and will repopulate your pond and stream.

Algae produces oxygen when the sun shines on it but at night it absorbs oxygen. Too much algae can cause fish to suffocate at night. Takes a large amount though.

Algae is not all bad. While nitrifying bacteria are getting up to speed the algae is absorbing nitrogen and toxins which may save your fish.

Many have asked why algae grows so much more on waterfalls. It has a lot to do with the type of rock used, the depth of the water, fertilizer (nitrates & phosphates) and photosynthesis. Water is simply too shallow.

Rocks and flagstone reflect heat. Think of a fire pit and how hot it gets inside of the ring. The more direct the light the more heat that gets absorbed.

The type of rock you choose can affect the amount of heat a rock absorbs. The flatter and darker the rock the more heat it absorbs and transfers to the water.

Sunlight that strikes water in the winter comes at a much lower angle than sunlight that strikes water in the summer. The sun is closer to overhead in the summer and more perpendicular to the surface of the water allowing sunlight to penetrate deeper.

### What can you do?

Clean pond and stream thoroughly in the fall and early spring. Do not power wash or use chemicals. You will kill any nitrifying bacteria that is present which will lead a larger algae bloom. Rinse stream and waterfall with garden hose only to remove sediment/sludge.

Do three 20% water changes within a week as soon as water no longer freezes in the early spring, usually mid to late March.

Plant a bog where the water enters the stream/waterfall to absorb nutrients.

Early growing water plants will help absorb nitrogen and phosphorous from the water.

You can use a dye (usually blue) to decrease light transmission of water, but it can stain whatever it comes in contact with.

Early leafing trees and bushes that shade stream/waterfall will help slow algae growth.

Increase the size of your mechanical and biological filters. Aim for 4x the recommended filter size. Add a skimmer to catch floating matter before it settles to the bottom.

Do not leave fish food in pond for more than 10 minutes. As it decomposes it becomes algae food.

Reduce fish load in pond. Overstocking leads to increased organics and nitrates which feed algae.