

## **Algae Control and Ultraviolet Lights**

As you may know, an ultraviolet sterilizer is one of the best ways to guarantee clear water when the clarity problem is due to single cell algae making the water green. A UV will not help with filamentous algae. So why would a pond that has a UV still be green. If you are having this problem, it should be easily fixed. Below are the possible reasons for the problem.

### **First Step**

First look and make sure the lamp is glowing. Your UV should have a clear portion that allows you to see if the light is burning. You should never look directly at a glowing UV lamp. If it is not working the lamp is bad, the ballast is bad, or there is an electrical problem.

### **Improperly Sized UV Unit**

Each ultraviolet sterilizer has a rating for the pond size it will handle and the maximum flow rate it can handle. For example Aqua Ultraviolet's 25 UV will handle a pond up to 1200 gallons and a flow rate up to 1200 gallons per hour. The flow rate cannot be exceeded. If your pump pushes more water than the unit will handle, the water flows too quickly not allowing enough time for the UV to kill the algae. The maximum pond size can be exceeded, but will reduce the clarity level. Using this 25-watt unit on a 2000-gallon pond will still have some effect, but you can't expect crystal clear water to the bottom. If you are using a brand other than Aqua Ultraviolet, make sure you understand their sizing. Some manufacturers use what's called a clarity rating instead of complete sterilization. This clarity rating usually means having clear water about one foot deep. The Aqua Ultraviolet units are provided with both a clarity and a sterilization rating.

If going by a clarifier rating, complete clarity cannot always be expected. The term "clarifier" assumes good biological filtration, good plant coverage, and being able to see into the water (not necessarily crystal clear to the bottom).

### **Expired Lamp**

Ultraviolet lamps don't last forever. The life of a lamp depends on the manufacturer. Lamps by Aqua Ultraviolet have an industry high 14-month guaranteed usage life. After 14 months the lamp may still be effective but the amount of ultraviolet light output is significantly less. Depending on your pond size and flow rate you may still get many months of service life. So if your lamp is past its life expectancy and the pond is turning green its time for a new one.

Some brands of lights may only last 9-12 months. However, a lamp can continue to glow and still not be effective.

### **Bad Ballast**

If the lamp is not burning and it is not an old lamp, then your ballast (transformer) may be bad. You should consider replacing it. A ballast can go bad due to being flooded, lightening, or other causes of power surges.

### **Dirty Sleeve**

The sleeve that protects the lamp from the water occasionally will need to be cleaned. It may get a build-up of deposits on it that prevents the UV rays from accessing the water. On most ultraviolet sterilizers this sleeve is made of quartz because it allows more UV light to pass through it than does glass. As such it is one of the more expensive parts of the unit, so be very careful not to break it (Never put a broken sleeve back into the unit as this could also ruin the ballast and lamp.) Simply cleaning this sleeve can make a big difference in pond clarity.

Dirt can simply be wiped off with a paper towel. If the sleeve is getting a white film then this could be a mineral deposit. Using a mild acid like vinegar or diluted muratic acid will clean this.

### **Poor Placement of Pond Equipment**

This last potential problem is one of the most overlooked aspects of pond health and clarity. The intake of your pump should be as far away as possible from where the water returns to the pond. If using a submersible pump then it should be in the water on the opposite end from the water feature, if using an external pump then the water pickup should be on the end away from the water feature. If your pump intake is right by the waterfall then the rest of the water in the pond is not regularly being circulated, filtered, or sent through the ultraviolet sterilizer.

An ultraviolet sterilizer is not a necessity in a pond, but one of the most popular luxuries. While pond clarity can be accomplished with excellent biological filtration and proper plant populations, a UV is the best way to guarantee water clarity. An ultraviolet sterilizer is NOT a replacement for biological filtration. A UV only makes the water clear it does not help the general water quality. A properly balanced pond with good filtration is the only way to help your overall pond health.