

Maintaining Oxygen Levels in Fish and KOI Ponds

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Severe environmental stressors are the most frequent causes of sudden fish death in garden ponds or other fish habitats, and the lack of oxygen in the water is the number 1 stressor of all.

Two major factors contributing to fish-pond oxygen loss concern blooming algae. During daylight hours, algae make oxygen; during the night, however, the plants take oxygen. If algae are profusely blooming, the plants deplete all the pond's oxygen during the night, which in turn, causes fish inhabiting the pond to die.

Another way that algae trigger oxygen loss is by dying suddenly. Algae-bloom death occurs naturally or from chemical treatment of an algaecide. When algae die suddenly ' from either cause ' the oxygen becomes quickly depleted because the algae no longer are alive and making it.

Then, when dead algae begin to decompose, the decaying process even further depletes oxygen. Fish have been observed gulping for oxygen at the water's surface in sixty minutes or less from the onset of sudden algae death.

In ponds stocked liberally with many fish, often the oxygen level is just adequate enough to sustain them. If any further claim on the existing oxygen is made, this delicate environmental balance will be upset. When no or inadequate aeration is provided, along with rising warm-weather water temperatures, the conditions for fish survival become critical.

As water warms, its oxygen-retaining capacity decreases. Consequently, small fountains, waterfalls, or other water-aerating devices are incapable of providing adequate oxygen for fish. Additional oxygen should be introduced through brisk aeration when fighting algae, most importantly when water temperatures surpass eighty degrees Fahrenheit.

Testing devices are the only sure method to accurately read oxygen levels. Because these devices are not usually on hand for the average person maintaining a water garden or fish pond, the easiest way to ensure sufficient oxygen levels is to provide generous and continual aeration. Pumps and diffusers that 'bubble' air into the water or large waterfalls, fountains, and other 'splashing' water devices are common ways to get sufficient oxygen into the pond. When the weather is warm, or if an algae problem exists, it is imperative that supplemental aeration be provided constantly, throughout the day and night.

One other algae-caused loss of fish has gained attention and is being studied in areas around the world. These fish-killing algal varieties contain potent toxins that trigger sudden fish death. If a pond hosts these particularly virulent algae, devastating fish loss can result, seemingly more so when a quick die-off of algal bloom occurs. The blooms discharge their toxins concurrently, and some or all fish in the pond are adversely affected or killed. Fortunately, since pond owners are unable to identify these algae, this danger is rare.

Keep your oxygen levels under control at all times and you will greatly increase your the lifespan of your fish.

To read the full article, click here:

<http://www.macarthurwatergardens.com/Newsletters/July2004/Oxygen-Depletion.shtml>

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