

Control of Algae and Weeds in Ponds

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I get a lot of questions about weed and algae control in ponds. In fact, this topic is perhaps the most common of all the calls I receive during the spring and summer. People are concerned about what they consider to be excessive growth of plants in their ponds. These plants basically fall into two categories: 1) loose, non-rooted, filamentous or floating mats of algae, and 2) larger, emergent plants like cattails and water lilies. Many people also have submerged, rooted plants of various kinds, but these seem to be of less concern. These larger two types of aquatic plants that most people call "weeds" are known together as macrophytes.

The major cause of algae and/or weed problems in ponds is overfertilization. The nutrients causing this overfertilization come from a wide variety of organic and inorganic sources. The most obvious, of course, is any lawn or garden fertilizer that you may have applied anywhere in the area that might be washed down into the pond. It's amazing how far that fertilizer can travel. Other sources of nutrients include manure (Do you have any livestock, or Canada geese near the pond? Are you sure that your septic system isn't leaking?); decomposing leaves, grass or other vegetation; other organic fertilizers (do you feed your fish?) and phosphorus soaps (what do you use to wash your car and where does the soap go?). Also be sure you know what is happening upstream from you and what your neighbors may be adding to the water.

It can be very difficult to identify all the possible sources of nutrients to a pond, and sometimes even more difficult to eliminate them. In many cases, the best you can do is to decide **which type** of vegetation you want to look at. Because both algae and macrophytes are types of plants, they compete with each other for available nutrients. So, if you eliminate as much of the nutrient input as you can, and then plant a few macrophytes early in the spring, before the algae has a chance to get started, you can often prevent any of the non-rooted, filamentous algae from growing. Most people would rather look at cattails and water lilies, even, than slimy algae!

Planting some woody shrubs uphill or upstream from your pond can also help to intercept some of the nutrients that are flowing into your pond. The idea is to get the desirable plants to use up the nutrients before the nutrients get a chance to make it to your pond. There are several native plants that work well for this purpose, and are very attractive to boot! Try any of the Virburnums; high-bush blueberries or cranberries; silky, gray or red auger dogwood; buttonbush, serviceberry, winterberry or shadbush. In addition to helping to protect your pond, the bushes with berries will help provide food for songbirds over the winter. These native shrubs can be purchased through your county Conservation District or through the NH State Nursery.

Algae Control

- Eliminate or reduce nutrients going to the pond.
- Remove all the algae that you can. This can be very difficult. A rake tied to the end of a long rope that you throw out into the pond and drag back sometimes works.
- Early in the spring, as soon as the ice is off the pond, place some barley straw around the edges of the pond. It needs to be barley straw, rather than other types of straw (contact your county Extension Educator for Agricultural Resources to find out who in your area can supply this). Stuff the barley straw loosely into net bags (like the bags Christmas trees sometimes come in) and ring the pond with the bags. The barley straw works better to prevent algae growth than it does to stop algae that is already growing, which is why you need to put it in early in the spring. There is little scientific data on the effectiveness of barley straw, but many people – including several in Massachusetts – swear by it.
- Plant some macrophytes around the edges of the pond. Plants to consider include cattails, water lilies, pickerel rush (which has nice purple flowers), water irises (such as blue flag), cardinal flower, arrowhead (the flowers aren't much to look at, but it has very nice leaves) and joe-pye weed. You do want to be careful with these, especially if your pond has very much shallow area, since they can spread quite well and may ultimately take over all the shallow areas. Planting them in pots and sinking the pots at the water's edge will work, especially with lilies. You can also just plan to dig out a certain portion of them each fall.
- Plant some woody shrubs uphill from your pond.

Macrophyte (Weed) Control

- Eliminate or reduce nutrients going to the pond.
- Plant some woody shrubs uphill from your pond.
- Remove the plants mechanically. Sometimes the rake on a rope mentioned above works, or a similar instrument with knife-like blades instead of tines is available through some catalogs. Of course, shovels and hoes work too, or you can hire a backhoe. For any major removal work, a permit is needed from the Wetlands Bureau of NH Dept. of Environmental Services.
- Lowering the water level in the late fall so that winter freezing can damage the exposed plant roots can be effective.
- To keep a swimming area free of weeds, cover the pond bottom in the selected area with black plastic. Put the plastic down early in the spring, as soon as the ice is off the pond. Weight the plastic down with bricks or large stones so that light cannot get under and encourage the plants to begin growing.
- Dredging the pond is the most expensive option, but works in three ways. First, the dredging process itself removes the plants. Second, it deepens the pond thus reducing the areas available for plants to spread. Third, dredging removes the bottom sediments, which contain the most nutrients, leaving fewer to support plant growth. A somewhat cheaper option may be to dredge only the nearshore shallow areas where the plants are growing.
- Don't forget that a certain number of rooted plants are desirable, since they will help prevent algae from growing in your pond!

As a very last resort, you can spray the algae or weeds with herbicides. I mention this as a last resort for a number of reasons. First, without control of the causes of your weeds and/or algae, you will simply be adding poisons to the environment and disrupting the ecosystem with no lasting success in curing your problem. Second, as the algae and weeds die and decompose after spraying, they use oxygen. Low oxygen situations can kill your fish and other organisms in the pond, disrupting the food chain and causing other problems. Third, pesticides can be dangerous to store and use, not only to you but also your children and pets. If you do decide to spray, a permit is needed from the NH Dept. of Agriculture, Division of Pesticide Control.

Pesticides

- 1) products are very specific. Must identify plant correctly.
- 2) Many of the products are listed as “restricted use”.
Can only be applied by a licensed “Pesticide Applicator”.
Very few are licensed for water applications. And this can be very expensive.
- 3) Not controlling the reason for the problem. Will have to retreat again every year.
- 4) Oxygen depletion. Can only treat small areas at a time (very difficult if someone comes all the way up from MA to treat your pond).