

Sea Grant Extension
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Agricultural lime is used in pond management for a variety of reasons, one of which is to improve algae growth. Algae are the foundation of a pond's food chain, and are the primary oxygen source for fish. By adding lime to a pond system, a greater percentage of the phosphorus found in fertilizer is available to the pond, thus improving the productivity and stability of the algae bloom. Additional benefits of liming a pond include its buffering capacity. Ponds, limed appropriately, are better prepared to withstand pH changes, reducing stress on fish.

To accurately determine if a pond is in need of liming, soil testing should be done. A soil sample should be taken in several places from the pond bottom to get an average of soil conditions within the pond. Samples should be allowed to dry completely, and then be mixed well. This mixture can be sent to a soil-testing lab (e.g. Auburn University) where, for a small fee, analysis will be completed. In the absence of soil testing, a total alkalinity test, flow rate, results of recent fertilization, and time elapsed from previous liming can be used to estimate a pond's liming needs.

In most cases, lime is added at the end of the fertilization season (winter). Introducing lime at this time will increase the effectiveness of spring fertilization. Adding lime simultaneously with fertilizer is not recommended as it takes about six weeks for the total

effect of the lime to be realized. If this year's fertilization did not work as you had hoped, consider having the total alkalinity checked. If it is less than 20 parts per million, you may have found the problem and can remedy it this winter.

There are several types of lime available for purchase, including slaked lime, liquid lime, and agricultural lime. The best source for pond application is agricultural limestone. Other types should not be used as they carry too much risk to the fish population.

A typical liming recommendation is 2-5 tons of agricultural limestone per acre. Factors influencing the current total alkalinity of a pond include the flow and the time elapsed since the last liming application.

When applying ag-lime, it is important to treat the entire pond bottom. Various methods will work, however, simply dumping a pile of ag-lime in the pond will not. For large ponds, a boat may be necessary to allow access to the entire bottom. The goal is an even coverage of the bottom (or cover as much of the pond bottom as can be reached) with the recommended amount of ag-lime. For new ponds, liming should be completed prior to initial filling.

For additional questions or information, contact P.J. Waters, 251.438.5690.