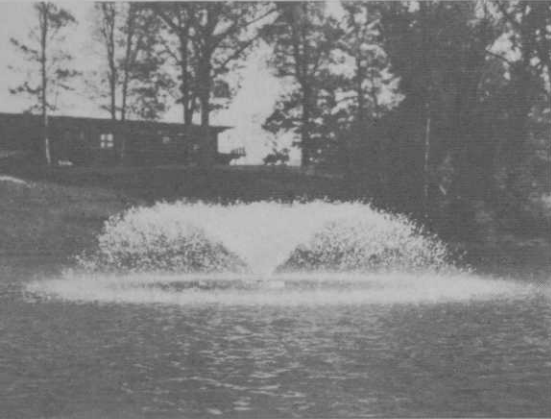


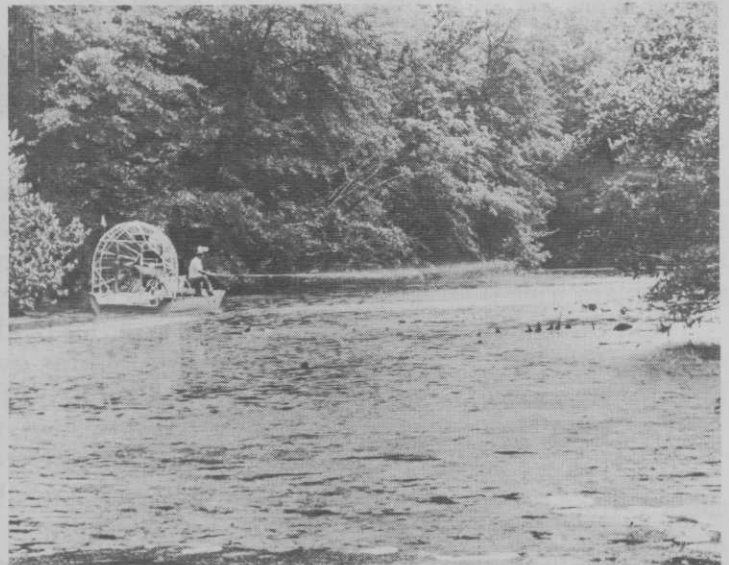
Keeping algae out of irrigation water

There are probably algae growing in every pond and lake in the country. Fertilizer run-off greatly contributes to the bloom of these minute, one-celled creatures. A very real danger is eutrophication, the algae simply crowds out all other life in a body of water. Besides being characterized by excess nutrients and algae bloom, the



Aeration can provide the water with plenty of oxygen for all forms of aquatic life.

When a fairly large body of water becomes covered with algae, or other weeds, it is often necessary to come in with special equipment.



water will have little dissolved oxygen in deeper waters, game fish will give way to the rougher, bottom-feeding fish, and rooted vegetation will encroach upon the shoreline.

Algae are small, primitive creatures which do not have true leaves or flowers and reproduce by means of spores, cell division, or fragmentation. Over 17,000 species have been identified. Algae have no true leaves, stems or root systems. There are three

general categories, including attached-erect, often mistaken as an actual weed, planktonic, and filamentous.

All forms of algae suspended in the first few feet of water make up part of the great numbers of small plants and animals known as plankton. When plankton algae become overabundant, a 'water bloom' occurs. Some amount of this type of algae is desirable as it is an important part of the food chain.

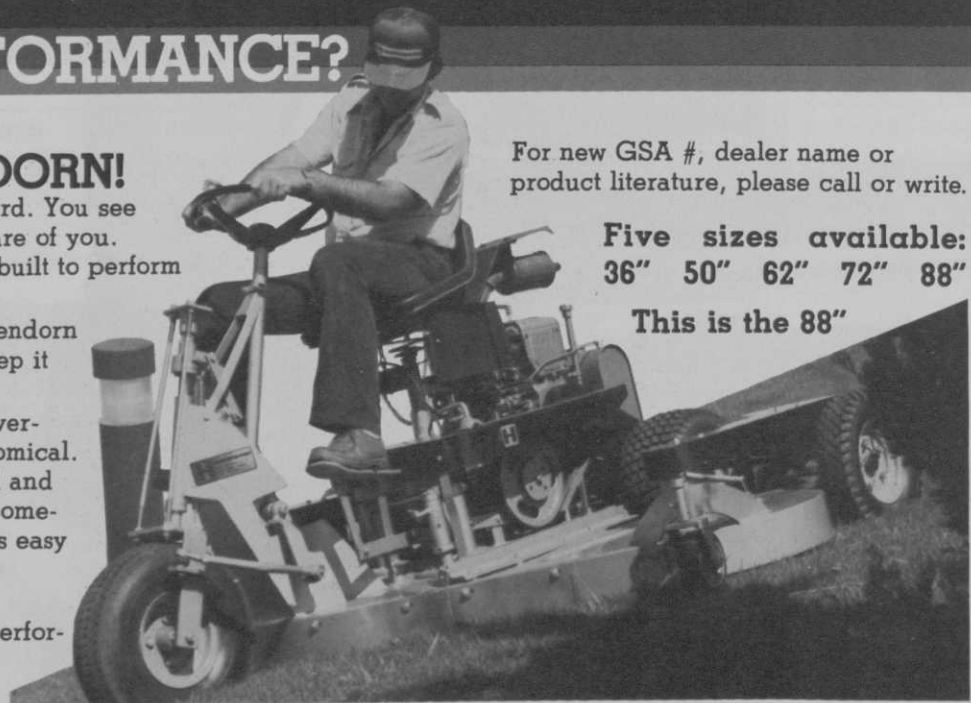
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These microscopic plants utilize carbon dioxide, water and sunlight to manufacture carbohydrates and other energy chemicals, thus serving as the beginning of food chains which support most higher forms of aquatic life.

When a water bloom occurs the water may turn brown, green, yellow or even red.

Some forms of planktonic algae may even release toxins in the water which are dangerous to animals, including man. Others can impart a distinct odor and/or taste to the water.

The 'moss' or 'pond scum' that appears on the surface of a body of water is made up of long strands of filamentous algae. These algae form floating mats of the pond scum, while other types form the green, fur-like coating on stones and other objects in the water.

Filamentous algae usually begin growth along the edges or bottom of the pond and float to the surface buoyed by the oxygen produced. The attached-erect, or weed-like algae, most frequently occurs in quiet waters in areas with limestone soils. This is the most advanced form of algae and is commonly mistaken as weeds. Commonly known as muskgrass or stonewort, these algae are readily identified by a musky odor and often are encrusted with a noticeably rough, gritty calcium deposit. The plants have an erect, central main stem with whorls of branches at various intervals. They may grow two or three feet tall and can completely cover the bottom of a pond.

Nitrates and phosphates encourage the growth of algae. When these nutrients accumulate in the winter when temperature and light are not favorable for growth, a rapid bloom may occur in spring as the water warms up and the algae rapidly multiplies. The algae uses great quantities of oxygen and can shade the bottom and kill off other aquatic plants. This can result in a total oxygen depletion and a fish kill.

Liquid, powder, granular, or pellet formulations of chemicals are available for the treatment of algae. Most all will produce good results, provided application is properly made. Algae are growing vigorously and thus, most susceptible to herbicide application on warm, sunny days. Control is probably most effective if done before the algae become dense enough to become a serious problem. This can only be done through regular inspection, becoming familiar with the peculiarities of a body of water.

Copper compounds provide very ef-

fective control. However, the number of required treatments can vary with the hardness of the water. If results are not visible within a week of application, another may be necessary.

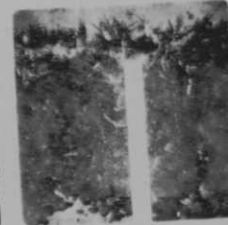
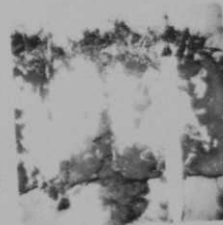
Trout are very sensitive to chemicals in general. Fish in soft water are more vulnerable to algaecides. It is necessary to maintain a balance between chemical application, so as not to directly kill fish, while maintaining a balance of food organisms. Algae is an important part of the food chain.



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