CURING WATER WOES

Many methods exist for control of undesirable water weeds. Your choice depends on your individual situation.

The development of populated areas has imposed ever increasing demands on the world's water systems.

The need for clean and open water for drinking, transportation, livestock watering, irrigation, and power has become more significant. In addition, recreation has furthered the need for water systems that are clean and weed free.

Over the years the clearing and farming of land has changed the rate of nutrient runoff to water systems. Fertilizer, sewage, and industrial wastes have thrown natural water bodies out of balance, accelerating the growth of many undesirable aquatic plants.

In addition, the introduction of exotic plants (plants not native to an area that have no natural checks on their growth such as insects, fish, or disease) often out-compete native plants which do have natural growth restraints.

Some plants are essential to the aquatic environment, producing oxygen and serving as food and habitat for fish and other forms of life.

These plants become problems when they interfere with our water usage. Aquatic weeds can clog intake screens and turbines used in the production of hydroelectric power. Weed infestations provide a breeding site for mosquitos and other vectors of human and animal disease.

In water reservoirs used for drinking purposes, certain vegetation can impart an undesirable color and/or odor to the water. Navigation lanes can be hindered, even closed.

Recreational activities such as boating, fishing, swimming, and water skiing can be restricted. Weed problems can reduce the value of property and businesses near bodies of water.

Aquatic weeds may also reduce or severely restrict water flow (as much as 90 percent) in irrigation canals needed for crop production, and in drainage ditches for flood control.

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The before-and-after of a south Florida canal treated with Elanco's Sonar. The product is EPA-approved for use as an aquatic herbicide with no restrictions on swimming or fishing.

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To combat the potential hazards of aquatic weeds and to manage a water system, man has used a variety of methods.

Among those are mechanical removal (dredging), which can be expensive and often inefficient. In many cases, dredging removes important nutrients from the soil, nutrients needed for the growth of desirable plants.

Another mechanical method is weed harvesting, a good temporary solution but lacking in long-term effectiveness.

Weed removal (actually removing the root systems from the soil) can be effective but is laborious.

Mechanical aerators can help in the weed war (see accompanying story).

A promising method

A promising management alternative is chemically treating weeds with aquatic herbicides. (Before considering use of an aquatic herbicide, make sure it is labelled for use in aquatic systems.)

Through technological advances in recent years, many chemicals—including diquat, copper-containing compounds, acrolein, 2,4-D, endothall, and Rodeo—have been developed for aquatic weed control.

Chemical weed management provides long-lasting results and is economical.

Environmental effects on invertebrates and small sport fish with the use of herbicides is often less than the effects with mechanical removal of aquatic vegetation.

Also, certain chemicals may be selective for target species, helping to control the unwanted plants and allowing desirable vegetation to survive.

No. 1: identify the weed

The aquatic manager has several options available for controlling unwanted aquatic vegetation. How does one decide which herbicides to use? Here are some points to consider:

- Of utmost importance is proper identification of the weed species present. It is imperative that the weed species susceptibility coincide with the herbicide selected to insure desired control.
- Be certain the herbicide you choose is approved in your state and that permits are acquired before treatment, if necessary. (Always read the entire herbicide label for use directions, cautions, and precautions before using.)
- Determine the size of the treatment area.
- Purchase the correct chemical and amount needed for the treatment.
- Select the appropriate application equipment.
- Post water use restrictions if necessary and inform the residents of the area to be treated that these restrictions are in effect.
- Always wear protective clothing when handling and applying chemicals.
- Apply the herbicide through approved equipment, delivering an even application.
- Triple-rinse containers in the water and dispose of properly. Store unused chemicals in a safe place in their original containers.

Aquatic weeds (may) reduce or severely restrict water flow (as much as 90 percent)....

One recent entry into the aquatic weed control market is Elanco's Sonar (fluridone). Sonar is an aquatic herbicide that provides effective management of vascular weeds in ponds, lakes, drainage canals, and rivers. It controls a broad spectrum of floating, emersed, and submersed weeds as well as shoreline grasses at low application rates.

Sonar is a slow-acting herbicide, requiring 30-90 days for the desired management of aquatic weeds. Due to its slow activity, the rate of vegetation decay is slow, there is no sudden depletion of dissolved oxygen in the water, and the potential for a fish kill is minimized.

Sonar is EPA-approved for use as an aquatic herbicide with no restrictions on swimming, fishing, or domestic use.

Monsanto's Rodeo (glyphosate) aquatic herbicide is a non-selective, broad spectrum, post-emergence herbicide that offers control of more than 90 varieties of emerged grasses, broadleaf weeds, and brush growing in and around aquatic sites.

Rodeo is foliar absorbed within a few hours after treatment, creates no residual soil activity, and is biodegradable.

Plant response after application may not be visible on annuals for two to four days while response on perennials usually takes one week.

Rodeo destroys the plant—leaves, stems, and roots.

The timing of treatments and the choice of formulations can allow the user to be somewhat selective in the types of vegetation he controls. Elanco's Sonar is extremely effective on hydrilla, milfoil, pondweeds, duckweed, cattails, and some grasses.

Floating weeds

The most widely-used aquatic herbicides for floating weeds are 2,4-D, diquat, Rodeo, and Sonar A.S.

Treatments should be made during the active growing season of the weed species for best results.

A foliar application is necessary to control floating weeds. All of these treatments are liquid formulations and even coverage is recommended.

Any type of liquid sprayer that can be calibrated to deliver the herbicide accurately can be used. Always follow the product label for rates and water use restrictions

Submersed vegetation

For treating submersed vegetation, the most commonly used herbicides are endothall products, diquat, granular 2,4-D, Sonar A.S. or Sonar pellets, and copper-based compounds.

The liquid products can be surface applied but a sinking agent should be added for improved efficacy.

Generally speaking, the contact herbicides for submersed vegetation are not very selective, although 2,4-D is more selective than diquat or endothall. Read the entire herbicide label for use directions, cautions, and precautions for each product.

Some of them are quite specific: for example, endothall requires a water temperature over 65 degrees F for best results. When treating for algae, you must choose between chelated copper or copper sulfate. Water pH and hardness are factors to consider when making your decision.

Emersed vegetation

For emersed vegetation, the most commonly used herbicides are Rodeo, diquat, and 2,4-D.

To control emersed vegetation, a foliar application is necessary. Treatments should be made when the wind is calm and no rain is expected.

A sensitive environment

The water system is a uniquely balanced and sensitive environment. When that balance is interrupted, problems almost inevitably surface.

The best way to manage aquatic weed problems is through a licensed, qualified aquatic weed control applicator. He has the expertise to prescribe the best treatment and carry it out properly.

In the case of aquatic weed control, it is best to leave it in the hands of a professional. **WT&T**