



Aquatic Plant Identification and Management Workbook, Series 2

The *Aquatic Plant Identification and Management Workbook Series* is designed to acquaint pond owners in Maryland with naturally-growing aquatic plants and the general means for managing their growth. Aquatic plants play an important role in the natural ecology of ponds: they provide food and shelter for many fish, aquatic animals and other wildlife, and they provide oxygen, which can benefit fish production.

Sometimes, however, growth gets out of hand and the plants become so numerous they interfere with the intended use of the

pond, for example, fishing, swimming, boating — they are then called aquatic weeds. When this occurs, control measures often become necessary.

The suggested chemical controls in this workbook are intended as guidelines and must not replace directions on chemical labels. A list of fact sheets describing a variety of aquatic plants and their management is available from the Maryland Sea Grant Extension Program or your local Cooperative Extension Office.

SUBMERSED VEGETATION

Fanwort

Reginal M. Harrell and John N. Hochheimer
Maryland Sea Grant Extension

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INTRODUCTION

Vascular flowering aquatic plants are seed-bearing and are characterized by a system of conductive and supportive tissue. They can be classified into several broad categories of vegetation: floating, submersed, emergent and terrestrial. This workbook series focuses on fanwort, a submersed plant.

Submersed plants are underwater vegetation usually found in deeper waters. Completely submersed, they are usually rooted to the bottom, lack rigid cell structures (making them appear limp), and often grow up to the water surface. Flowers, when present, often extend above the water surface in spikes.

FANWORT (*Cabomba caroliniana*)

Fanwort, native to North America, is a favorite of the aquarium industry, which may be how it extended its natural range.



Submersed Vegetation: Fanwort

Rebecca Haeffner

The plant belongs to the waterlily family, although it is classified as a submersed and not floating plant.

Fanwort usually grows in quiet, slow moving, acidic lakes or ponds. It can be found in waters with pH as low as 4, and is generally rooted in 3 to 10 feet of water. Fanwort can continue to grow if it becomes uprooted. Under the right conditions, it can grow to densities that will clog drainage ditches and ponds, and prevent recreational use of the waters. The seeds of fanwort are sometimes eaten by waterfowl, but are not considered of major significance.

CHEMICAL CONTROL. The following is a table of chemicals labeled to treat fanwort. The table was compiled from information gathered from the aquatic chemical industry. Inclusion in the table does not imply endorsement by the University of Maryland nor by the authors. Omission of chemicals is a result of oversight on the authors part or of new label registration. The table is for comparison purposes only and is not intended to replace the chemical label. Do not use the table for treating aquatic plant problems.

Fanwort				
Chemical Name	Chemical Type	Application	Restriction	Comments
Aquazine	Simazine	8.5 lb/acre ft	spraying, irrigation, livestock watering, drinking -12 months	do not apply more than 10 lb where striped bass fry or fingerling will be cultured immediately
Sonar A.S. (partial control)	Fluridone	Depth < 3 ft 0.5-0.75 qt/acre 3-5 ft 0.75-1.0 qt/acre > 5 ft 1.0-1.5 qt/acre	irrigate established tree crops-7 days/new crops and turf-30 days	do not use in tidewater or brackish water or where crayfish are famed
Sonar 5P (partial control)	Fluridone	Depth < 3 ft 10-15 lb/acre 3-5 ft 15-20 lb/acre > 5 ft 20-30 lb/acre	irrigate established tree crops-7 days/new crops and turf-30 days	do not use in tidewater or brackish water or where crayfish are famed
Sonar SRP (partial control)	Fluridone	Depth < 3 ft 10-15 lb/acre 3-5 ft 15-20 lb/acre > 5 ft 20-30 lb/acre	irrigate established tree crops-7 days/new crops and turf-30 days	do not use in tidewater or brackish water or where crayfish are famed

IDENTIFICATION

This plant is a perennial herb that has well-developed roots and slender stems with two types of leaves. Submersed leaves are threadlike, opposite or whorled, usually green colored, and finely dissected in the general shape of a fan — hence the name fanwort. The floating leaves are alternate, oblong or ovate in shape, few in number, slightly constricted in the middle, and 1/4 to 3/4 inches long. Depending on the species, the stems can be green, bronze, or reddish in color, and may be covered with a thin layer of slime (epiphytic algae).

Reproduction can be by seeds or fragmentation. Flowers are white or cream colored, and consist of three sepals and three petals with a small yellow spot at the base. The flowers appear from May through September. The fruit consists of three carpels each with three small seeds.

CONTROL

When chemicals are used to control aquatic vegetation, certain precautions must be followed. Always read the label and follow the directions. It is best to spot treat areas where the fanwort is first sighted instead of waiting until it takes over a pond completely. Determine the water uses and any use restrictions associated with the chemical control. Obtain all of the necessary permits. Make sure that you have properly identified the aquatic plant and have chosen the correct chemical control. Mix and apply the chemical according to the label directions. Keep the necessary record — it is required by law. Finally, monitor the water for dissolved oxygen and pH shifts after treatment to determine the effectiveness of the treatment and whether any fish kills occur. Heavy plant die-off can cause oxygen depletion while heavy growth can cause pH shifts on a daily cycle.

REFERENCES AND FURTHER READING

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NOTE: Because of the ecological role and sensitivity of aquatic vegetation, as well as Baywide efforts to restore this important resource, the state does not permit the use of chemical control in tidal waters, and greatly restricts their use in nontidal, flowing waters. Acquaint yourself with all regulations governing plant control activities, and obtain all necessary permits. Non-chemical means should be utilized where practicable.

FOR FURTHER INFORMATION

Maryland Sea Grant Extension
University of Maryland
Cooperative Extension Service
Wye Research and Education Center
Queenstown, Maryland 21658
Telephone: (410) 827-8056

Maryland Sea Grant Extension
University of Maryland
Horn Point Environmental Laboratory
P.O. Box 775
Cambridge, Maryland 21613
Telephone: (410) 228-8200

Maryland Sea Grant Extension
University of Maryland
Cooperative Extension Service
Hartford County
2335 Rock Spring Road
Forest Hill, Maryland 21050
Telephone: (410) 638-3255

Maryland Sea Grant Extension
University of Maryland
Cooperative Extension Service
St. Mary's County
P.O. Box 663
Leonardtown, Maryland 20650
Telephone: (301) 475-4485

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