



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.

EMERGENT VEGETATION

Cattail

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 cattail, an emergent plant.

As a group, emergent plants are usually found rooted in shallow waters and all or part of the plant extends above the water line or hydrated soil. Some plants are not truly aquatic, and may be found in dry fields completely removed from a water source. The plants are usually rooted to the bottom of a pond, have a rigid cell structure, and are not dependent on the water column for support.

CATTAIL (*Typha* spp.)

Cattail is probably the best known perennial aquatic plant in the world. There are four different



Emergent Vegetation: Cattail

species of cattail in the North America, and all are commonly found in wet or hydric soils. Throughout the United States, they are commonly found in marshes, swamps and shallow waters. The plant can also be found in brackish water in coastal areas and can form dense colonies that can grow 10 to 12 feet.

CHEMICAL CONTROL. The following is a table of chemicals labeled to treat cattails. 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.

Cattail				
Chemical Name	Chemical Type	Application	Restriction Periods	Comments
Sonar A. S.	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 farmed
Sonar 5P	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 farmed
Sonar SRP	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 farmed
Diquat Herbicide	Diquat dibromide	1 gal/100 gal water plus 1 pt Ortho X-77 Spreader	livestock watering, spraying, irrigation, drinking - 14 days	do not use in muddy water
Ultimate	Diquat dibromide	10 gal/100 gal water plus 1 pt Chemstick Spreader	livestock watering, swimming, spraying, irrigation - 14 days; drinking - 24 days	do not use in muddy water
Aquaquat	Diquat dibromide	16 oz/100 sq ft; dilute 20:1 with water and add 0.5 tablespoon non-ionic surfactant per gal	livestock watering, spraying, irrigation, drinking - 14 days	do not use in muddy water
Weedtrine-D	Diquat dibromide	5 gal/100 gal water; dilute 19:1 with water and add 1.6 oz of non-ionic surfactant per 10 gal of solution	livestock watering, spraying, irrigation, drinking - 14 days	do not use in muddy water

Because cattails can rapidly dominate an area and increase siltation in dense stands, thereby impeding waterflow, they are generally considered a problem in almost any wetland. There is little wildlife food value for this group of plants other than muskrats, beavers and occasional feedings by deer. The plant stands do provide protection and potential roosting areas for some waterfowl and other birds.

During various growth stages the entire plant is edible by humans when properly prepared. Young shoots in springtime can be boiled or salted and eaten raw. Once the flower heads up and, while it is still green, it can be boiled and the outer layer eaten. In the fall the roots can be dug up and boiled like potatoes.

IDENTIFICATION

The four different species of cattail are identified by location, size and flowers. The recognizable reddish-brown spikes commonly seen in the fall of the year are actually the female flowers which have developed into tightly bound hairy seeds. Early in the growing season the upper portion of the spike is soft and covered with yellowish male flowers, while the lower portion is a hard green or brown mass of female flowers. Late in the season the male flowers drop off, leaving a grayish or greenish spike and the female flower goes to seed and turns the characteristic brown. The distance between these two portions of the spike are commonly used for distinguishing the different species. The flowers bloom May through September.

Cattail leaves are waxy, flat to slightly rounded, blue-green in color, and can be as high as 10 feet tall. All cattail species have an extensive network of creeping rhizomes. Reproduction is by both seeds and the rhizomes or fleshy rootstocks.

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 cattail 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 records — They are 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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