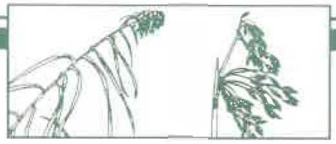


Aquatic Plant Identification and Management Workbook, *Series 3*

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 series are intended as guidelines and must not replace directions on chemical labels. Separate fact sheets display each of the aquatic plants in this series and are available from the Maryland Sea Grant Extension Program or your local Cooperative Extension Office.

EMERGENT VEGETATION

Giant Cutgrass or Water Millet

Reginal M. Harrell and Richard E. Bohn

University of Maryland Cooperative Extension Service, Sea Grant Extension Program

Vascular flowering aquatic plants are seedbearing 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 fact sheet focuses on giant cutgrass or water millet, an emergent plant.

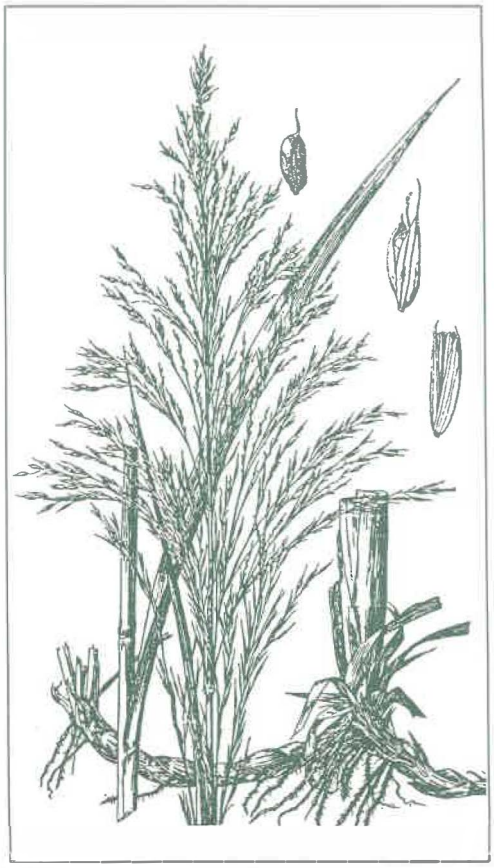
As a group, emergent plants are usually found rooted in shallow waters and all or part of the plant extends above the water line or hydrated soil. Some plants are not truly aquatic, and may be found in dry fields completely removed from a water source. The plants are usually rooted to the bottom of a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

GIANT CUTGRASS OR WATER MILLET

(Zizaniopis miliacea)

Giant cutgrass, also known as water millet or southern wild rice, is often misidentified as wild rice but does not have the value as a food source for wildlife as that of true wild rice. It does, however, provide protectional and nesting cover for many species of birds and other animals. It can be found in shallow water, up to 3 feet deep, along the edges of ponds, streams, and marshes. The plant is usually found in freshwater, but is occasionally found in brackish water marshes.

Under the proper conditions, giant cutgrass may become quite overwhelming where dense stands can create navigation problems, impede waterflow, and interfere with fishing. The plant can grow as tall as 10 feet, and has large, very rough margined leaves (up to 1/2-inch wide and 4 feet long),which can cut your hand if handled improperly (hence the name). The leaf blades are



Credit: IFAS, University of Florida, Gainesville

Emergent Vegetation: Giant Cutgrass or Water Millet

UM-SG-MAP-96-03

smooth on the upper and lower surface. Maryland is the northern-most range for this species.

IDENTIFICATION

Giant cutgrass is a perennial grass which is monoecious (has both male and female flowers on the same plant). The rhizomes (underground stems) are large and scaly, while the stems are coarse, leafy, and unbranched. Rooting can occur at the lower nodes, and the lower portions of the stem can frequently reach 1 inch in diameter. The most prominent feature of this plant is its fine sharply serrated leaf margins which face upward. The leaf blades also have a prominent midrib.

The flowering portion of the plant is commonly known as an inflorescence, and giant cutgrass has a large, 1 to 2 feet high, open inflorescence called a panicle which consists of a compound cluster of stalked flowers or spikelets. The male (staminate) spikelets are found on the lower or inner portion of the branch, while the female (pistillate) spikelets are on the outer portion. The pistillate spikelets have one flower about 1/4-inch long, rounded, and purplish. The flowers can be found from April through July. The fruit is a yellow inverse egg shape grain about 3 mm long. Reproduction can be by seeds or by rhizomes.

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 giant cutgrass is first sighted. Determine the water uses and any use restrictions associated with the chemical control. Obtain all neces-

CHEMICAL CONTROL. The following is a table of chemicals labeled to treat giant cutgrass or water millet. 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. Labels are subject to change; therefore, always check the label for treatment sites, rates, and precautions before purchasing or applying any chemical. **Do not use the table for treating aquatic plant problems.**

Giant Cutgrass *(Zizaniopsis* spp.)

Chemical Name	Chemical Type	Application	Restriction	Comments
Sonar SRP	Fluridone	3.2-25 lb/acre depending on pond depth	no irrigation of established tree crops – 7 days new crops and turf – 30 days	do not use in tidal or brackish water or on farmed crayfish
Sonar 5P	Fluridone	Pond Depth < 3 ft 10-15 lb/acre 3-5 ft 15-20 lb/acre > 5 ft 20-30 lb/acre	no irrigation of established tree crops – 7 days new crops and turf – 30 days	do not use in tidal or brackish water or on farmed crayfish
Sonar AS	Fluridone	Pond 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	no irrigation of established tree crops – 7 days new crops and turf – 30 days	do not use in tidal or brackish water or on farmed crayfish
Rodeo	Glyphosate	6 pints/acre as a 1.0% solution with ionic surfactant in water	do not apply within 1/4 mile of potable water intakes	treat actively growing plants

sary permits. Make sure 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 kill occurs. 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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Radford, Albert E., Harry E. Ahles, and C. Ritchie Bell. 1968. Manual of the vascular flora of the Carolinas. The University of North Carolina Press, Chapel Hill.

Traver, David P., John A. Rodgers, Michael J. Mahler, and Robert L. Lazor. 1978. Aquatic and wetland plants of Florida. Special Publication, Florida Department of Natural Resources, Bureau of Aquatic Plant Research and Control. Tallahassee, Florida.

FOR FURTHER INFORMATION

For general information about the Maryland Sea Grant Extension Program, visit the web:

http://www.mdsg.umd.edu/MDSG/Extension/index.html

For technical questions, contact an extension agent or specialist at one of these locations:

Maryland Sea Grant Extension
University of Maryland
Wye Research and Education Center
P.O. Box 169
Queenstown, MD
Telephone: (410) 827-8056

Maryland Sea Grant Extension
University of Maryland
Chesapeake Biological Laboratory
P.O. Box 38
Solomons, MD 20688
Telephone: (410) 326-7356

Maryland Sea Grant Extension
University of Maryland
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FOR ADDITIONAL COPIES

Copies of Maryland Sea Grant Extension workbooks on aquatic plants, including color photographs for use in identifying species, are available on the web at:

http://www.mdsg.umd.edu/MDSG/Extension/Workbooks

Additional copies of printed workbooks are available from the Maryland Sea Grant College Program, 0112 Skinner Hall, University of Maryland, College Park, MD 20742-7640.

Illustration on page 1 courtesy of Florida Department of Natural Resources.

Printed on recycled paper with soy-based ink.

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.

COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF MARYLAND, COLLEGE PARK

UNIVERSITY OF MARYLAND EASTERN SHORE