

SINCE 1956

WHY CONTROL AQUATIC WEEDS?

Aquatic weed infestations adversely affect fish, wildlife, hunting, fishing, boating, recreation, irrigation and drainage. Weeds provide a breeding ground for mosquitoes and give water an unpleasant taste, odor and color.

Heavy infestations may render an area unsuitable for fish by exhausting dissolved oxygen in the water, by blocking sunlight essential to basic food production, by restricting the movement of fish or by rendering shallow water unsuitable for spawning. Excessive weed growth interferes with the recreational use of lakes and ponds. Access to and use of lakes and ponds for hunting and fishing is reduced. Boating, swimming, skiing and other water oriented activities are hampered, reducing the recreational value of your property and your water resource. Heavy infestations may restrict water flow in irrigation canals or drainage ditches.

Improving water quality by controlling aquatic weeds will restore balance to a body of water, increase your enjoyment and help increase your property value.

What causes weed growth?

The primary factors that influence the growth of aquatic weeds are water depth, bottom type, nutrient level and water clarity. These factors vary from one body of water to the next and are influenced by the surrounding watershed.

As lakes and ponds age they fill with sediment rich in nutrients such as nitrogen, phosphorus and potassium. Waters become shallower and more fertile, favoring weed growth.

Weather influences weed growth. Runoff from heavy rain carries nutrients into the water.

Drought may lower water levels creating shallow areas suitable for heavy weed growth.

Sunlight contributes to heavy weed growth, particularly in shallow, clear waters.

Human activities contribute to weed growth. Clearing of land for development and farming causes soil erosion leading to increased sedimentation. Discharges from sewage treatment plants, livestock feedlots and leaky septic systems provide additional sources of nutrients.

Hard surfaces, such as roads, promote runoff rather than absorption and natural filtration.

For these reasons waters that would not support heavy weed growth under natural conditions may support heavy weed growth as a result of human activities.

Yes, you CAN control aquatic weeds!

There are several methods of aquatic weed control that you can use. Briefly these are:

Mechanical Cutting offers immediate short term control. Extended control can only be achieved by cutting on a continual basis. Cut weeds must be removed to prevent fragments from re-establishing or spreading to other areas. High cost and limited mobility in shallow waters prevent the use of large mechanical harvesters by individuals. Small hand operated equipment is available.

Biological Control uses weed eating fish, animals and insects or the introduction of plant diseases. This method can be slow to produce results and often is not as effective or consistent as other methods. Still experimental.

Water Draw Down especially during winter months is effective on submersed weeds. Drying out or freezing will destroy the exposed weeds. Care must be used to prevent destruction of fish and wildlife habitat. Loss of recreational use may occur. Marginal weeds may infest new areas and become a greater problem than the original aquatic weed infestation.

Chemical Control is currently the most commonly used, most effective and most economical method of controlling aquatic weed infestations. Aquatic herbicides produce faster, longer lasting results than other methods. Aquatic herbicides can be used in localized areas reducing the impact to non-target sites. The choice of aquatic herbicide depends on the weed(s) to be controlled. Best results are obtained by first identifying your weed(s) and then selecting the product(s) to use.

Welcome to the **AQUACIDE COMPANY BULLETIN 2014.**

You will find a variety of products offered here that many regular customers say are indispensable! If this is the first time you've seen our **BULLETIN**, you'll be glad to know that in 59 years of business, we've served many, many tens of thousands of satisfied property owners like yourself.

Aquacide Company is a family owned and operated business formed in 1956 to produce and market Aquacide Pellets. At that time a first class postage stamp cost 4¢ and 10 lbs. of Aquacide Pellets cost \$14.95. Today a first class postage stamp costs 46¢ and 10 lbs. of Aquacide Pellets cost \$85.00. We think you will agree that Aquacide Pellets were and still are a terrific bargain!

Since that time we have grown considerably and so has our product line. The reason we have grown is simple. Our proven products get you results and are easy to use.

The products offered here will help manage your recreational lake or pond to make the most of your property's potential. Proper use of these products will restore and increase the enjoyment you receive from your property.

Improve your water quality, restore water oriented activities and increase the value of your property by controlling aquatic nuisance weeds this year.

Where required each product is registered for its specific use by the U.S. EPA. In addition, our products are certified and approved for use by state agencies. Those are good reasons to buy with confidence.

Control of weeds in state protected waters often requires a permit. Consult your State Fish and Game Agency before beginning any control operations. Customers requiring shipment to the states of AK, ME, MI, NH, NY or TX please call for state specific requirements before ordering.

All of the products offered here are easy to use. Simply follow the instructions on the container. If you have questions, please call us. We can answer your questions and provide guidance in selecting the products you need to achieve best results.

Substantial discounts are available to individuals and organizations requiring 200 lbs. or more of Aquacide Pellets or AquaClear Pellets. Please let us quote a reduced price for your larger order.

A large inventory of material is maintained to insure quick delivery. Your order will likely be shipped the day it is received. Voice mail, FAX and Web site are available 24 hours a day, 7 days a week. If we are unable to take your call directly, please e-mail us at info@KillLakeWeeds.com, visit our Web site at www.KillLakeWeeds.com or use our voice mail system. This will allow you to request information, place an order, or ask for a return call. Don't put off ordering though, summer is fast approaching!

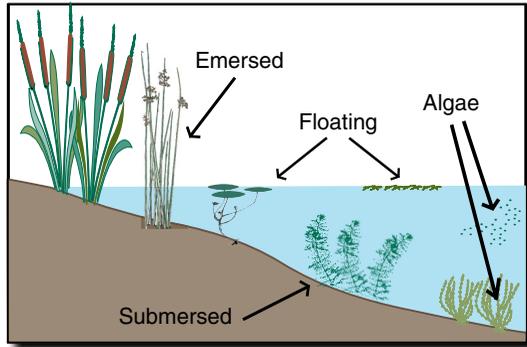
Sincerely,
AQUACIDE COMPANY

HOW TO SELECT A PRODUCT

1) CLASSIFY THE WEED:

See drawing below.

- Emersed: Growing in shallow water with leaves or stems above the water.
- Submersed: Growing in deeper water entirely below the surface.
- Floating: Growing unattached or rooted with floating leaves.
- Algae: Cellular, lower weed form. No distinguishable stem or leaf. Moss or scum.



2) DETERMINE SPECIFIC WEED(S):

The following pages picture common aquatic weeds found throughout the country. Place your weed in a clear glass jar with water and compare it to the pictures. Pay careful attention to the leaves.

3) SELECT YOUR PRODUCT(S):

Page 12 provides a table showing what product controls what weed(s). Look up your weed(s) to determine which product(s) to use. Read the product information to confirm the product will meet your needs.

4) QUANTITY TO ORDER:

Estimate the area or volume to be treated. This can be done by pacing the dock or pier and shoreline, measuring from a land survey or by other means. Once the area is determined, look at the product information for coverage and cost to determine the quantity to order. See page 5 for help determining your pond or lake front size. Call us, a representative will be happy to help you.

5) PLACE YOUR ORDER:

Please note all information requested. Place your order via phone, FAX, Web or US mail. An order form and return envelope are enclosed for your convenience.

If you need assistance identifying your weed(s), consider these options:

- A) Contact your local Fish and Game or County Extension Agent.
- B) Contact a local College or University.
- C) Talk to your neighbors.
- D) Send us a sample.

To do this, pull a sample of each weed. Rinse with clear water and shake out. Be sure to include leaf and stem. Place in a plastic bag. Place the sample, a brief note, your phone number and return address in an envelope and send to us. Please do not send samples packed in water - they rot, smell, and are difficult to identify for you. Do not fully dry the sample - it may turn to dust. Please allow 10 working days for a written response.

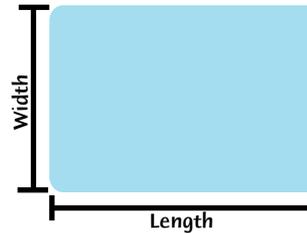
E) E-mail a closeup photograph of your weed to Weeds@KillLakeWeeds.com.

SIZE OF TREATMENT AREA

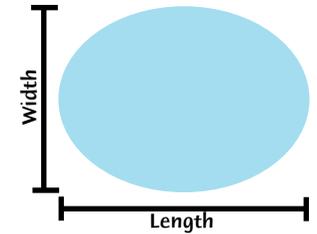
Know what your weed is? Know what product to use? Now, determine how much to apply. Measure the treatment area in feet. Multiply the length (feet) by the width (feet). Divide by 43,560 to convert to acres. To estimate average depth, add deepest and shallowest point in treatment area together, then divide by 2. Multiply acres by average depth in feet to determine volume in acre-feet.

Surface Area (acres):

$$\frac{\text{Length (ft.)} \times \text{Width (ft.)}}{43,560} = \text{Acres}$$

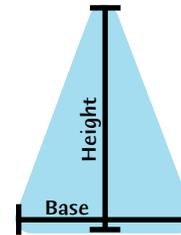


$$\frac{\text{Length (ft.)} \times \text{Width (ft.)}}{43,560} \times 0.8 = \text{Acres}$$



Area of a Triangle:

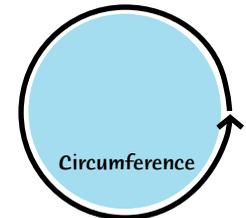
$$\frac{0.5 \times \text{Height (ft.)} \times \text{Base (ft.)}}{43,560} = \text{Acres}$$



Area of a Circle:

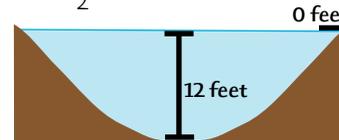
$$\frac{\text{Diameter (ft.)} \times \text{Diameter (ft.)} \times 0.8}{43,560} = \text{Acres}$$

$$\text{Diameter} = \frac{\text{Circumference}}{3.14}$$



Average Depth (feet):

$$\frac{\text{Deep (ft.)} + \text{Shallow (ft.)}}{2} = \text{feet}$$



Volume (acre-feet):

$$\text{Area (acres)} \times \text{Average Depth (feet)} = \text{acre-feet}$$

Example:

0.5 acre pond with a 12 foot depth.
 Area (acre): 0.5 acre
 Average Depth (feet): $\frac{12 \text{ (deep)} + 0 \text{ (shallow)}}{2} = 6$
 Volume (acre-feet): $0.5 \times 6 = 3.0$ acre-feet

USEFUL CONVERSIONS

1 acre = 43,560 sq. ft.	1 qt. = 2 pts.	1 oz. = 2 tablespoons	1 ppm = 2.7 lbs./acre-ft.
1 acre-ft. = 1 acre x 1 ft. deep	1 pt. = 2 cups	1 gal. = 128 ozs.	1:10 dilution = 12 ozs./1 gal.
1 acre-ft. = 325,830 gal.	1 cup = 8 ozs.	grain/gal = 17.1 ppm	1:9 dilution = 13 ozs./1 gal.
volume = surface area x average depth	average depth = 1/2 (deepest point + shallowest point)		

SUBMERSED weeds...

Milfoil (*Myriophyllum*):

Leaves whorled in groups of 4. Each leaf is divided into many thread-like leaflets extending from a central rib (see leaf detail). Forms tangled mats at the surface. Seed heads develop in mid to late season and may extend above the water surface. Treat anytime weeds are actively growing.



Parrot Feather (*Myriophyllum brasiliense*):

A type of Milfoil. Leaves whorled in groups of 4 to 6. Each leaf is divided into 18 pairs of thread-like segments resembling a feather (see leaf detail). This species differs from other types of Milfoil by having its foliage partially out of the water. Emerged foliage is bright green.



Coontail (*Ceratophyllum demersum*):

Leaves whorled around the stem and have a serrated appearance (see leaf detail). Spacing between leaf whorls is variable. Weeds may be long and sparse or bushy. Near end of stem leaves and whorls are crowded. Branches repeatedly forked. May be confused with Bushy Pondweed or Chara. Chara has a strong odor when crushed, Bushy Pondweed and Coontail do not.



Elodea (*Elodea canadensis*):

Similar to Hydrilla. Leaves whorled in groups of 3. Elodea leaves have a smooth edge (see leaf detail). Whorls of leaves are compact near growing tips. Spacing between whorls increases further down the stem.



Hydrilla (*Hydrilla verticillata*):

Similar to Elodea. Hydrilla has leaves whorled in groups of 3 or more. Leaves have a serrated edge with 2 to 3 pointed spines on the midrib of underside (see leaf detail). Whorls of leaves are compact near growing tips. Spacing between whorls increases further down the stem.



Bladderwort (*Utricularia*):

Finely divided leaves scattered along stem with numerous bladder-like structures on leaves. Stems have many branches and are densely leafy at the tips. Flowers are yellow and rise above the water surface when mature.



SUBMERSED weeds...

Horned Pondweed (*Zannichellia palustris*):

Leaves are long and thread-like. Oppositely arranged on stem unlike other pondweeds. Seeds found at leaf base, flattish in shape, and serrated on one side.



Bushy Pondweed (*Najas gracillima*):

Leaves are narrow with tiny spines along the edges. Leaves slightly enlarged at base. Stems slender with frequent branching. Leaves oppositely attached, or in groups of 2 or more at a node. Leaves densely concentrated at tips. May be confused with Chara or Coontail. Chara has a strong odor when crushed, Bushy Pondweed and Coontail do not.



Leafy Pondweed (*Potamogeton foliosus*):

Short grass-like leaves which measure 1" to 3" long and branch freely on a slender stem. Leaves alternately arranged on stem. Clumps of 4 to 8 fruiting bodies attached to a center stem by a short reed stalk that rises above water surface when mature.



Sago Pondweed (*Potamogeton pectinatus*):

Leaves are stiff, narrow and thread-like. Stems branched with leaves alternately arranged on stem. Spreading leaves resemble a fan with an overall bushy appearance. Nutlets appear like beads on a string. Tiny green flower appears on spike with nutlets above water surface when mature.



Large-Leaf Pondweed (*Pot. amplifolius*):

Leaves both floating and submersed. Submersed leaves are large, oblong, wavy and taper to stem. Floating leaves are oval-shaped. Parallel leaf veins are evident. Stems are seldom branched. Leaves alternately arranged on stem. Solid, tightly packed spike of nutlets at tip of weed rises above water surface when mature.



Floating-Leaf Pondweed (*Pot. natans*):

Leaves both floating and submersed. Submersed leaves long and narrow. Floating leaves oblong and slightly heart-shaped at base. Parallel leaf veins evident. Stems occasionally branched. Leaves alternately arranged on stem. Solid, tightly packed spike of nutlets at tip of weed rises above water surface when mature.



SUBMERSED weeds

Curly-Leaf Pondweed (*Pot. crispus*):

Leaves thin with wavy and finely serrated edges. Stems branched. Upper leaves often crispy and appear waxy. Leaves alternately arranged on stem. Flowers born on spikes rise above water surface when mature.



Clasping-Leaf Pondweed (*Pot. richardsonii*):

Leaves wide and wavy with smooth edges. Broad leaf base clasps stem. Upper stem commonly branched and leafy. Leaves alternately arranged on stem. Solid, tightly packed spike of nutlets at tip of weed rises above water surface when mature.



FLOATING weeds

White Water Lily (*Nymphaea odorata*):

Leaves large, round and slit to center. Underside of leaf often purplish. Stem below surface. Roots thick and fleshy, often buried in mud. Flowers white with multiple petals born on a single stalk above water surface. Don't confuse with Spatterdock.



Water Shield (*Brasenia schreberi*):

Leaves oval in shape with smooth edges usually with rust-colored underside. Stem is attached to middle of leaf. A clear jelly-like slime covers underside of leaves and stems on mature weeds. A dull purple flower develops in early summer. Best treated early before jelly-like slime develops.



False Loosestrife (*Ludwigia palustris*):

Leaves both floating and submersed. Oblong and narrow near stem. Leaves oppositely attached to stem, most often in pairs. Stems rooted at joints. Forms tangled mat on water surface when mature.



Duckweed (*Lemna minor*):

Leaves the size of a pencil eraser. May be observed individually or in clusters upon close observation. Small root hairs may be seen hanging down from underside of the leaf. No stem distinguishable. Heavy growth may blanket water surface to depth of several inches. Duckweed is not as interconnected as Filamentous Algae. Do not confuse with Algae.



EMERSED weeds...

PURPLE LOOSESTRIFE (*Lythrum salicaria*):

Leaves slightly heart-shaped at base coming to a point at leaf tip. Leaves small and more numerous near tip. Stems rigid, four-sided and have fine hairs on them. Leaves oppositely arranged on stem usually in pairs. Flowers bright purplish on a spike closely attached to stem.



WATER WILLOW (*Dianthera americana*):

Leaves long, narrow and tapered at each end. Branched veins are evident. Edges are smooth. Stems usually unbranched. Leaves oppositely arranged on stem usually in pairs. Flowers born on spikes, purplish in color.



WATER PRIMROSE (*Jussiaea repens*):

Leaves lance-shaped with smooth edges. Veins evident in leaves. Stems and leaves are hairy. Leaves numerous and alternately arranged on stem. Flowers bright yellow and develop at top of the weed when mature.



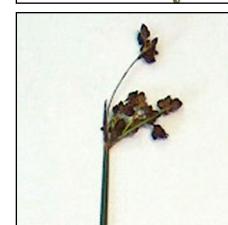
SMARTWEED (*Polygonum hydropiperoides*):

Leaves oblong and smooth on edges. Leaves alternately arranged on stem. Stems distinctly jointed. Lower portion of stem rooted at joints. Flowers small and tightly clustered, white or pink in color. Weed may be emersed in shallow water or completely submersed with only flowers visible above surface in deep water.



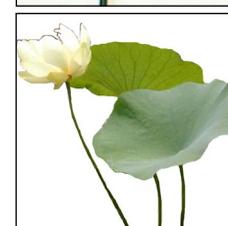
BULRUSH (*Scirpus spp.*):

Leaves may or may not be present. If present, leaves appear as a continuation of the stem. Stems are tall and smooth, either round or triangular in shape. A loose cluster of brownish flowers and seeds located near tip of stem.



AMERICAN LOTUS (*Nelumbo lutea*):

Floating circular leaves with stems attached to center of leaf underside. Emersed leaves also circular and depressed to center of upper surface. Solitary flowers pale yellow and composed of numerous petals. Seed pod in flower center with seeds embedded in surface.



EMERSED weeds...

Spatterdock (*Nuphar advena*):

Leaves heart-shaped at base, shiny and smooth. Some leaves float but most stand above water. Solitary flowers on long stalk slightly above water surface, yellow with green outer petals. Roots become very thick once weed is well established.



Pickerelweed (*Pontederia cordata*):

Leaves heart-shaped at base. Veins very fine and numerous. Flowers blue-purple and crowded on elongated terminal spikes. Each flower has 6 petal-like parts united below into a tube.



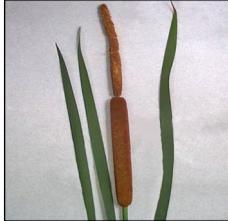
Water Pennywort (*Hydrocotyle*):

Leaves round with low rounded lobes. Attached at center to stem. Leaf about the size of a half dollar. Stems extend from a horizontal root in shallow water. Flowers rise in groups from smooth stems. Each individual flower has 5 small white petals. Often rooted in mud, forming dense mats.



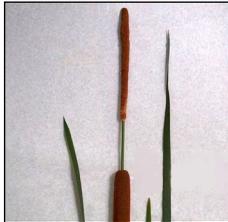
Cattail (*Typha latifolia*):

Leaves tall and flat. Stems tall, round and unbranched. Flower the distinctive cigar-shaped cattail which is green in early summer and turns brown and fuzzy in fall. Weed has an extensive root system. Difficult to control when well established. Stout rootstocks make this weed difficult to pull out.



Common Cattails have leaves more than 1/2" wide with the two parts of the spike nearly continuous.

Narrowleaf Cattails have leaves less than 1/2" wide and a space between the two parts of the cattail spike.



Water Chestnut (*Trapa natans*):

Submersed leaves thread-like and far apart on stem. Floating leaves nearly triangular or diamond-shaped, toothed in upper half on inflated stems. Flowers have 4 white petals.



EMERSED weeds

REED GRASS (*Phragmites maximus*):

Leaves long and flat with parallel veins. Stems tall and round with alternately arranged leaves. Flower of weed is made up of spikelets with a long, silky, thread-like mass of hairs. Stout rootstocks make this weed difficult to pull out.



GRASS FAMILY (*Gramineae*):

Many kinds of grasses grow in damp places and at times are found in water. Leaves long and slender, usually 10 times as long as wide. Veins within leaves run parallel to length of blade. Leaves arranged alternately on stem. Most grasses emersed including but not limited to Giant Cutgrass, Giant Foxtail, Maidencane, Paragrass and Sawgrass.

ALGAE

CHARA (*Chara vulgaris*):

Leaf-like structures whorled around hollow stem. Dense growth attached, but not rooted to bottom. May "carpet" large areas of a lake or pond bottom. Strong musky odor when crushed. May have a gritty texture due to mineral deposits on weed surface. May be confused with Bushy Pondweed or Coontail.



FILAMENTOUS ALGAE:

Individual filaments are a series of cells joined end to end that give a thread-like appearance. Often referred to as pond moss or scum. Forms felt-like surface mats. Growth begins at the bottom and rises to water surface as a bubble-filled mass. May also form fur-like growths on logs and rocks at bottom.



PLANKTONIC ALGAE:

Microscopic growth often visible as a greenish tinge suspended in the upper few feet of water. Severe blooms resemble pea soup and actually thicken the water.



WHAT CONTROLS WHAT



	Aquacide Pellets	Aqua Neat & Shore-Klear Liquid	Aquathol Super K Granular	Cutrine-Plus Granular & Liquid	Hydrothol Granular	Restore Liquid & Sonar Granular	Weedtrine-D Liquid	Combined Weedtrine-D Liquid & Cutrine-Plus Liquid
	Pg. 14-15	Pg. 22	Pg. 18	Pg. 16-17	Pg. 19	Pg. 26 & 27	Pg. 20-21	Pg. 20, 21 & 17
SUBMERSED								
Bladderwort	G					G	G	G
Coontail	E		G		G	G	G	G
Elodea					G	G	G	E
Hydrilla			G		G	G	G	E
Milfoil	E		G		G	G	G	G
Parrot Feather	E		G		G	F	G	G
Pondweed			E		E	G	G	G
FLOATING								
Duckweed	G*					E	E	E
False Loosestrife	G							
Water Lily	G	E	F		F	G		
Water Shield	E	G			F	G	F	F
EMERSED								
American Lotus	E	G	G		F	G		
Bulrush	E	E					F	F
Cattail (Common)	G	E				F	G	G
Cattail (Narrowleaf)		E				F	G	G
Pickerelweed	G	G					G	G
Purple Loosestrife	G	G						
Reed Grass/Grass		E					G	G
Smartweed	G	F	G			F	F	F
Spatterdock	G	E	G		F	G		
Water Chestnut	G							
Water Pennywort	G						E	E
Water Primrose	E	G	F		F	F	F	F
Water Willow	G	G				G	F	F
ALGAE								
Chara				E	G			
Filamentous Algae				E	G		G	E
Planktonic Algae				E	G		F	E

E = Excellent, G = Good, F = Fair
* in water less than 3 feet deep.

WATER USE RESTRICTIONS (days)

Product Name	Active Ingredient	Weight % Active Ingredient	EPA Reg. No.	Human			Animal	Irrigation		
				Drinking	Swimming	Fish Consumption	Drinking	Turf	Forage	Food Crop
Aquacide Pellets	2,4-dichlorophenoxy acetic acid	17.5	5080-2	0+	0	0	0	0	21	21
AquaClear Liquid	5 bacterial strains	N/A	N/A	0	0	0	0	0	0	0
AquaClear Pellets	5 bacterial strains	N/A	N/A	0	0	0	0	0	0	0
Aquashade	Acid blue 9 Acid yellow 23	26.02	33068-1	*	0	0	0	0	0	0
Aquashadow Dry Packets	Acid blue 9 Acid yellow 23	100	N/A	*	0	0	0	0	0	0
Aquashadow Liquid	Red 40, Acid blue 9 and yellow	100	N/A	*	0	0	0	0	0	0
Aqua Neat Liquid	Isopropylamine salt of glyphosate	53.8	228-365	0+	0	0	0	0	0	0
Aquathol Super K Granular	Dipotassium salt of endothall	63.0	70506-191	7	0	0	0	7	7	7
Clear-Pond	Aluminum sulfate Sodium bicarbonate	50/50	N/A	0	0	0	0	0	0	0
Cutrine-Plus Granular	Copper ethanolamine complexes	3.7	8959-12-AA	0	0	0	0	0	0	0
Cutrine-Plus Liquid	Copper ethanolamine complexes	9.0	8959-10	0	0	0	0	0	0	0
Cygnat Plus Liquid	d,l-limonene	100	N/A	0	0	0	0	0	0	0
Hydrothol Granular	Dimethylalkylamine salt of endothall	11.2	70506-174	7-25	0	0	7-25	7-25	7-25	7-25
Restore Liquid	Fluidone aqueous suspension	41.7	8959-57	0+	0	0	0	30++	30++	30++
Shore-Klear Liquid	Isopropylamine salt of glyphosate	53.8	228-365-8959	0+	0	0	0	0	0	0
Sonar Q Granular	Fluidone quick-release pellet	5.0	67690-3	0+	0	0	0	30++	30++	30++
Weedtrine-D Liquid	Diquat dibromide	8.53	8959-9	5	0	0	5	5	5	5

* Not to be used in potable water.
+ See label for distance allowed from potable water intake.
++ Voluntary restrictions suggested by manufacturer.

Top Seller



AQUACIDE pellets...

Aquacide Pellets with 2,4-D are a selective, root killing, systemic herbicide. Controls submersed, emersed and floating weeds. For use in ponds, lakes, reservoirs, bayous, drainage ditches, non-irrigation canals, rivers and streams that are quiescent or slow moving. Great around docks, boat hoists, swimming beaches and shorelines.

Easy to apply.

Marble-size Aquacide Pellets sink directly into the weed bed, visibly expand over a period of several hours to a day and stratify a layer of herbicide where the weeds are. Herbicide is released slowly in controlled amounts. As weeds grow herbicide is absorbed through leaves, stems and roots.

Herbicide absorption is quite rapid, just a few hours under good growing conditions. Once absorbed, the herbicide moves throughout the weed to the growing parts of leaves and roots. Growth at these parts is halted. With growth halted the weed dies.

Kills the entire weed roots and all! Initial effects occur in 7 to 10 days, indicated by brittle stems and curling leaf tips. Under optimum conditions full weed kill occurs in 3 to 5 weeks. Once dead, weeds sink to the bottom and decompose.

Effective on many common weeds.

Aquacide Pellets are effective anytime susceptible weeds are actively growing. When applied in spring and early summer, less material is required, less dead weeds occur and a longer weed free period will result. Successful applications can be made in late summer and fall to actively growing weeds. The full effect of late season applications may not be fully evident until the following season.

“Just wanted to let you know the product (Aquacide Pellets) works great. We have the best looking shorefront and swimming area around! The only ones with sandy bottom, no weeds!...”

L.H., Gilford, NH

Early season applications to well established perennial weeds such as Cattails and Water Lilies, while growing below the surface, may require 3 to 4 lbs. per 1000 sq. ft. at 4 foot depth. A second application may be necessary in 3 to 5 weeks if weeds show signs of recovery. Heavy clay, mud or silt build up may reduce root absorption by effectively sealing the roots. Early season application or more than one application may overcome this problem. Water movement in the form of currents or bottom springs may wash the herbicide from the treatment site and reduce effectiveness.

AQUACIDE pellets

The most comprehensive up to date review of 2,4-D is contained in the EPA re-registration eligibility decision for 2,4-D. This document states, “2,4-D has a reputation as a selective and economical means to remove invasive plants, enhance the growth and recovery of desirable native vegetation, restore water quality and improve fish and wildlife habitat.”

As a rule of thumb Aquacide Pellets will be effective on weeds that exhibit a laced or branched vein structure. Aquacide Pellets will usually not be effective on weeds with parallel veins such as Grasses.

Aquacide Pellets are easy to apply. Nothing to mix or spray. Simply broadcast pellets uniformly over the water surface with a fanning motion of the hand. Similar to sowing grass seed. Effective at any depth.

Tried and true.

Use Aquacide Pellets at a rate of 1.0 to 4.0 ppm active ingredient. This is equivalent to 15 to 60 pounds of Aquacide Pellets per acre-foot of weed volume or 5.6 to 22.4 pounds of Aquacide Pellets over 4,000 sq. ft. at a 4 foot average depth. In spring and early summer use 1.0 to 2.0 ppm. Late summer and fall applications to mature weeds may require a rate of 3.0 to 4.0 ppm.

To determine pounds of Aquacide Pellets to use:

$$(\text{application rate in ppm}) \times (\text{average depth in feet}) \times (0.35)$$

This will give the number of pounds of Aquacide Pellets to use on 1,000 sq. ft.

To use 2.0 ppm at an average depth of 4 feet:

$$2.0 \times 4 \times 0.35 = 2.8 \text{ lbs. per } 1000 \text{ sq. ft.}$$

Avoid churning the water in the treatment site for 72 hours following application. This will help insure maximum herbicide is available for absorption by the weeds.

Water in areas treated with Aquacide Pellets should not be used for irrigation for 21 days (p13).

10 lb. bag (treats 4,000 sq. ft.)	\$85.00
50 lb. bag (treats 0.50 acre)	\$334.00
4 - 50 lb. bags (treats 2.0 acre)	\$1,256.00

(Call for prices on 10 or more 50 lb. bags.)



CUTRINE-PLUS granular



Cutrine-Plus with copper ethanolamine complexes is a highly effective algaecide available in both liquid and granular formulations. Controls a broad range of algae in lakes, ponds, fish hatcheries, irrigation canals and drainage ditches. Also effective on Hydrilla when combined with Weedtrine-D Liquid. Cutrine-Plus is hard water stable and far less corrosive than similar common algaecides.

Begins to work immediately on contact. Once contact is established, Cutrine-Plus begins to break down the algae's cellular structure and interrupts the ability to photosynthesize food. Controls Planktonic Algae in 1 to 2 days, Filamentous Algae in 3 to 4 days.

Highly effective algaecide.

Early treatment when growth first appears or begins to create a nuisance will reduce the amount of Cutrine-Plus you will need for season long control. Early treatment will also reduce the amount of dead growth.

Control will last from several weeks to several months, depending on the type of algae and local conditions. A single application will usually control Chara for the entire season. Several applications will typically be required to maintain season long control on Planktonic and Filamentous Algae. Retreat as new growth begins to appear. Allow 1 to 2 weeks between consecutive treatments.

Heavy, out of control growth may require more than one treatment or physical removal to gain control. Use under conditions of minimal water flow. For best results, apply early on the morning of a calm, sunny day with water temperature of 60°F or warmer. Contact time should be at least 3 hours.

Use Cutrine-Plus **Liquid** to economically treat surface algae or the entire volume of a pond. Use Cutrine-Plus **Granular** to conveniently spot treat sections of a pond or lake front. Cutrine-Plus Granular will deliver a layer or blanket of Cutrine-Plus 2 to 3 feet thick over the area treated. Cat litter-size granules quickly settle through water onto algae. Easily and conveniently controls early season bottom growth of Chara and Filamentous Algae. Granules settling on floating mats of Filamentous Algae will control surface growth to a depth of 2 to 3 feet.

Control bottom algae all season.

Cutrine-Plus Granular is ideal for treating bottom-growing algae such as Chara. Treat Chara in spring and summer when weed is soft and supple. Mature, established Chara may become calcified or lime-encrusted (gritty) in hard water. Calcified Chara is very difficult to control. A single, early season application of Cutrine-Plus Granular will usually control Chara for the entire season.

To apply Cutrine-Plus Granular, determine the area to be treated in acres. Use 30 lbs. of Cutrine-Plus Granular per 0.5 acre. Broadcast granules uniformly over area to be treated.

12 lb. container (treats 8,700 sq. ft.) **\$68.50**
4 x 12 lb. containers (treats 34,800 sq. ft.) **\$229.00**
30 lb. bag (treats 0.50 acre)..... **\$135.50**

CUTRINE PLUS liquid



Cutrine-Plus may be toxic to Trout if carbonate hardness of treated water is less than 50 ppm. Most surface waters exceed this limit and pose no threat. If in doubt, use Water Hardness Test Strips (pg 32). Do not use in water containing Koi or hybrid Goldfish.

Cutrine-Plus Liquid is ideal for treating surface growth of Planktonic Algae and floating mats of Filamentous Algae. In ponds with little or no outflow, long term control of several months can be achieved on Filamentous and Planktonic Algae by treating the entire pond volume.

Pond water clear as a bell!

To apply Cutrine-Plus Liquid, determine the volume of water to be treated in acre-feet. For Filamentous and Planktonic Algae, use 1 gallon of Cutrine-Plus Liquid per 1.5 acre-feet of water to be treated. For Chara, use 2 gallons of Cutrine-Plus Liquid per 1.5 acre-feet of water to be treated.

Dilute with a minimum of 9 parts water. Spray uniformly over the water surface as a rain of coarse droplets. Contact with Filamentous Algae will be improved by breaking apart heavy surface mats before application.

For Hydrilla, use 3.3 gallons of Weedtrine-D Liquid mixed with 1 gallon of Cutrine-Plus Liquid per 0.33 acre to be treated. Dilute mixture with a minimum of 9 parts water and apply as a surface spray or by underwater injection.

Use Cygnet Plus Liquid (p23) with Cutrine-Plus Liquid to increase penetration and contact. Treat heavy infestations in sections of 1/3 to 1/2 of the total algae volume to avoid oxygen depletion. Allow 5 to 7 days before continuing to untreated sections. Water in areas treated with Cutrine-Plus has no use restrictions (p13).

1 gallon (treats 1.5 acre-feet)..... **\$64.50**
4 x 1 gallon (treats 6.0 acre-feet) **\$211.00**
5 gallon (treats 7.5 acre-feet) **\$249.00**

GREENCLEAN granular

GreenClean with sodium carbonate peroxyhydrate is a rapid-acting contact algaecide for control of algae in non-chlorinated swimming areas, water gardens, Goldfish & Koi ponds, ornamental waterfalls and bird baths.

Great for Goldfish & Koi ponds!

Effects are immediate with bubbling, bleaching and discoloration of the algae. Apply by hand-broadcasting the granules or dissolve in water and spray evenly over water surface. Control is best achieved when GreenClean is applied before algae becomes well-established. Allow 48 hours between treatments.

20 lb. container (treats 0.12-0.67 acre-foot) **\$125.00**

AQUATHOL SUPER K granular



Aquathol Super K Granular with potassium endothall is a selective, rapid-acting, contact herbicide. Controls submersed weeds in lakes and ponds. Works rapidly enough to be effective in both still and slow moving water.

Nothing to mix or spray.

Aquathol Super K Granular is a convenient, ready-to-use granular product. Nothing to mix or spray. Begins working on contact with submersed weeds to break down cell structure and inhibit protein synthesis. Without this ability the weed dies. Full kill takes place in 1 to 2 weeks. As weeds die they drop to the bottom and decompose. Effective anytime live weeds can be contacted. Best results occur when applied in spring and summer as water temperature rises to 65°F or warmer. With early treatment less material is required and a longer weed free period will result.

Contact time with weeds should be at least 2 hours. In large bodies of water longer term control will result when treating a minimum of 1 acre or 100 ft. of shoreline. Although selective, Aquathol Super K Granular is effective on many different weeds.

Excellent Pondweed control.

Recommended application rates for Aquathol Super K Granular range from 0.5 to 5.0 ppm. Safe for most fish at 100 ppm or more. For most Pondweeds growing in lakes or ponds 2.0 to 4.0 ppm will give excellent control. This rate is equivalent to 0.8 to 1.6 lbs. of Aquathol Super K Granular per 1,000 sq. ft. at an average depth of 4 feet. When treating an entire pond you can use 25% to 50% less material and still achieve excellent control.

To determine pounds of material to use for lakes or ponds:

$$(\text{application rate in ppm}) \times (\text{average depth in feet}) \times (0.1)$$

This will give the number of pounds of Aquathol Super K Granular to use on 1,000 sq. ft. To use 3.0 ppm at an average depth of 4 feet:

$$3.0 \times 4 \times 0.1 = 1.2 \text{ pounds per } 1,000 \text{ sq. ft.}$$

Treat heavy infestations in sections of 1/3 to 1/2 of the total weed volume to avoid oxygen depletion. Allow 5 to 7 days before continuing to untreated sections.

Water in areas treated with Aquathol Super K Granular should not be used for irrigation or human consumption for 7 days (p13).

10 lb. pail (treats 6,000 to 12,000 sq. ft.) (Ships Hazardous) **\$379.00**
25 lb. pail (treats 15,000 to 30,000 sq. ft.) (Ships Hazardous) **\$769.00**

HYDROTHOL granular



Hydrothol Granular with alkylamine endothall is a selective, rapid-acting, contact herbicide and algaecide. Controls submersed weeds and algae in lakes, ponds, irrigation canals and drainage ditches. Works rapidly enough to be effective in both still and slow moving water. May be harmful to fish at recommended application rates.

Aquathol with a boost.

The physical form, mode of action, and general usage of Hydrothol Granular are similar to Aquathol Super K Granular.

Where fish are present, application of Hydrothol Granular at rates over 1.0 ppm should be used only for spot treatments, narrow margins, or where some fish kill is acceptable. Do not treat more than 10% of a lake or pond at one time at application rates above 1.0 ppm. When treating lakes or ponds with Hydrothol Granular, begin at shoreline and work toward center. Apply parallel

to shoreline. This will herd fish away from the treated area into deeper, untreated portions of the lake or pond.

Treat your entire pond for algae.

Algae can be controlled with as little as 0.2 ppm of Hydrothol Granular when an entire pond is treated. For longer term control or spot treatments, use 0.5 to 1.5 ppm. Repeat treatment when growth reappears. For floating mats, scatter uniformly over the surface of the mat. For weeds the recommended application rate for Hydrothol Granular ranges from 0.5 to 3.0 ppm. For most Pondweeds growing in lakes or ponds, 1.0 to 2.0 ppm will give excellent control. This rate is equivalent to 5 to 10 lbs. of Hydrothol Granular per 1,000 sq. ft. at an average depth of 4 feet. When treating an entire pond you can use 25% to 50% less material and still achieve excellent control.

To determine pounds of material to use for lakes or ponds:

$$(\text{application rate in ppm}) \times (\text{average depth in feet}) \times (1.25)$$

To use 1.5 ppm at an average depth of 4 feet:

$$1.5 \times 4 \times 1.25 = 7.5 \text{ pounds per } 1,000 \text{ sq. ft.}$$

Irrigation canals or drainage ditches will require 3.0 to 5.0 ppm of Hydrothol Granular.

To determine pounds of material to use for irrigation canals or drainage ditches:

$$(\text{application rate in ppm}) \times (1000\text{'s of linear feet}) \times (\text{cross section in sq. ft.}) \times (1.25)$$

To use 3.0 ppm over 2,000 feet with a cross section of 15 sq. ft.:

$$3.0 \times 2.0 \times 15 \times 1.25 = 112.5 \text{ pounds}$$

Treat heavy infestations in sections of 1/3 to 1/2 of the total weed volume to avoid oxygen depletion. Allow 5 to 7 days before continuing to untreated sections.

Water in areas treated with Hydrothol Granular should not be used for irrigation, human or animal consumption for 7 to 25 days depending on the application rate (p13).

10 lb. pail (treats 1,000 to 4,000 sq. ft.) **\$89.00**
40 lb. pail (treats 4,000 to 16,000 sq. ft.) **\$279.00**

WEEDTRINE-D liquid



Weedtrine-D Liquid with diquat is a broad spectrum, rapid-acting contact herbicide. Ideal for use on small bodies of water or small weed patches. Successfully controls a broad range of submersed, floating and emersed weeds in still lakes, ponds and ditches.

Great on land too!

Use around patios, ornamental gardens, along fence lines. Rapidly absorbed by foliage, Weedtrine-D Liquid begins to work immediately on contact. Wilting and loss of foliage occur quite rapidly, within a few days.

Effective on many different weeds.

Weedtrine-D Liquid is effective anytime live foliage is accessible. Best results occur when applied to reasonably developed foliage but before growth becomes too dense or weeds flower.

Under low light conditions Weedtrine-D Liquid may move to other weed parts from the point of contact. When exposed to light the herbicide is activated and kills the weed.

Turbid water or mud covered foliage will reduce absorption and effectiveness. For difficult to control weeds, add Cutrine-Plus Liquid to boost effectiveness. In or out of water, Weedtrine-D Liquid is very strongly bound to foliage and will not rinse off.



WEEDTRINE-D liquid

One gallon of Weedtrine-D Liquid covers 4,000 sq. ft. of submersed weeds or 8,000 to 10,000 sq. ft. of floating, emersed or terrestrial weeds. For submersed weeds dilute with 2 to 5 parts water and add 1.5 to 2.5 ozs. of Cygnet Plus Liquid (pg 23) per gallon of solution. Inject below surface with a tank sprayer or pour into water in strips 20 to 40 feet apart.

For floating, emersed or terrestrial weeds use 2.0 to 6.5 ozs. of Weedtrine-D Liquid and 0.5 to 1.0 oz. of Cygnet Plus Liquid. Add water to make 1 gallon of spray. Thoroughly spray exposed foliage. Thorough contact with foliage is necessary for best results.

“Guess what, your diquat really works! I used to deal with an outbreak of Hydrilla...it got so bad earlier this year you could barely paddle through it with a canoe. Three weeks after (Weedtrine-D) application they were gone.”

D. B., N Miami Beach, FL

Treat heavy infestations in sections of 1/3 to 1/2 of total weed volume to avoid oxygen depletion. Allow 5 to 7 days before continuing to untreated sections.

Water in areas treated with Weedtrine-D Liquid should not be used for irrigation, human or animal consumption for 5 days (p13).

1 gallon (treats 4,000 sq. ft.).....	\$89.50
4 x 1 gallon (treats 16,000 sq. ft.).....	\$289.50
5 gallons (treats 20,000 sq. ft.).....	\$359.50



SHORE-KLEAR & AQUA NEAT liquid



Shore-Klear & Aqua Neat Liquid with glyphosate are broad spectrum, root killing, systemic herbicides. Controls a broad spectrum of floating and emerged weeds in and around surface waters. Great on land too!

Effective on most green vegetation!

Thorough systemic action. Applied directly to foliage **exposed in air**, Shore-Klear & Aqua Neat Liquid are absorbed by the weed and move throughout killing roots and all. Effective on weeds which have most of their foliage above water. Will not work on submersed weeds.

Initial results occur in 2 to 4 days!

Initial results occur in 2 to 4 days. Results begin with wilting and yellowing followed by full browning. Well established heavy growth will require 1 to 3 weeks to show results.

“I have been using the proper mix of Shore-Klear & Cygnet Plus for about 6 weeks and the results have been terrific. Thank you...”

T.G., Evergreen Park, IL

Apply Shore-Klear or Aqua Neat Liquid in mid to late season. Best results are obtained when applied to actively growing, well developed foliage. A 6 hour rain free period following application is required for proper herbicide absorption. Provides effective control of most green vegetation.

Use 1.0 to 2.0 oz. of Shore-Klear or Aqua Neat Liquid and 0.5 to 1.0 oz. of Cygnet Plus Liquid (p23). Add water to make 1 gallon of solution. Apply with a sprayer. Uniformly wet foliage to the point of runoff.

Coverage with Shore-Klear or Aqua Neat Liquid varies depending on the type of weed treated and density of growth. Typically 100 gallons of spray solution will cover 1 acre. Well-established perennial weeds such as Cattails and Water Lilies may require a second treatment in 3 weeks.

NOTE: Shore-Klear and Aqua Neat are functionally equivalent. Same ingredient, same concentration, same uses. Different name, different container size.

Water in areas treated with Shore-Klear or Aqua Neat Liquid has no use restrictions (p13).

Shore-Klear, 1 quart (treats 0.25 to 0.32 acre) **\$74.00**
Aqua Neat, 2.5 gallons (treats 2.5 to 3.2 acres) **\$269.00**

CYGNET PLUS liquid



Cygnet Plus Liquid is a non-ionic, water soluble, biodegradable surfactant made from forestry by-products. Increases effectiveness and reduces treatment costs when used with foliar applied liquid herbicides and algacides.

Stretch your herbicide dollars.

Eliminates beading resulting in a uniform sheeting action of spray solution over foliage surface. Maximum contact between spray solution and foliage is assured. Effectively penetrates waxy coating on leaf surfaces. Helps stick spray solution to foliage. Improved contact, penetration and adhesion results in improved control. A must for use with Aqua Neat, Shore-Klear, AquaClear Liquid, Cutrine-Plus Liquid, Restore Liquid or Weedtrine-D. For foliage in air, use 0.5 to 1.0 oz. of Cygnet Plus Liquid per gallon of spray solution. For submersed weeds, use 1.5 to 2.5 oz. of Cygnet Plus Liquid per gallon of spray solution.

1 quart (mix with up to 64 gallons of spray) **\$29.50**
1 gallon (mix with up to 256 gallons of spray) **\$63.00**

HUDSON sprayers



The Hudson Constructo Tank Sprayer is a high quality, general purpose hand held sprayer. Graduated translucent tank for easy measuring. Easy fill funnel top reduces spills. Strong steel handle, reinforced hose and long brass wand.

Uniform application, uniform control.

The Hudson Bak-Pak Tank Sprayer is a high quality, commercial grade sprayer. Easy to carry and spray larger areas. Graduated translucent tank for easy measuring. Wide 4" opening for easy filling includes a filter to reduce clogging. Shoulder straps with adjustable pads, 42" non-kinking hose. Includes 4 nozzle options.

Insures uniform results when applying liquid products such as Aqua Neat, Shore-Klear, AquaClear Liquid, Cutrine-Plus Liquid, Restore Liquid or Weedtrine-D. Place the wand below the surface and inject the solution to treat submersed weeds.

CONSTRUCTO 2.75 gallon capacity **\$77.00**
BAK-PAK 4.0 gallon capacity **\$95.00**

AQUACLEAR liquid



AquaClear is a blend of environmentally beneficial microorganisms available in both pellet and liquid formulations. AquaClear provides a safe, natural, effective way to clean up your pond or lake front and restore a healthy nutrient balance.

Get the Muck out!

AquaClear contains microorganisms which use nitrogen and phosphorous present in water and bottom sediment to improve water clarity, reduce organic buildup and eliminate odors. AquaClear will consume excess nutrients in water and in bottom sediment. As nutrient levels drop, balance returns to the water and microbe levels also drop. Once balance is restored, continue monthly to maintain a high level of water quality.

The microorganisms in AquaClear are confirmed to be a non-pathogenic, non-genetically manipulated, non-harmful species of environmentally beneficial microbes. These microbes are typically present in all regions of the world and occur naturally in ponds and lakes.

“I would like to thank you for your product of AquaClear. It was AMAZING how fast the water cleared. The fish and plants are all fine. I would recommend your product to anyone...in fact I did already. You have a wonderful product that works.”

D.A., Ironwood, MI

AquaClear will:

- Reduce and eliminate black anaerobic soil.
- Reduce and eliminate decaying organic matter.
- Eliminate odor due to organic buildup.
- Increase water clarity improving aesthetics.
- Increase water quality and ensure good algae balance.
- Promote a healthy aquatic environment.

AquaClear will not:

- Harm fish, animals, birds, plants or humans.
- Control algae blooms.
- Limit water uses including swimming, fishing or irrigation.
- Work below 40°F.
- Harm fiberglass, aluminum or wood.
- Deplete oxygen levels.



1 gallon (treats 0.50 to 1.00 acre-feet) **\$74.00**
5 gallon (treats 2.50 to 5.00 acre-feet) **\$265.00**

AQUACLEAR pellets



AquaClear works in water containing high or low levels of oxygen.

Optimum results occur in waters with a pH of 6.5 to 8.0 and at temperatures above 40°F. Water in most ponds and lakes fall within these ranges.

Use AquaClear Pellets weekly to clean up your lake or pond **bottom**. Simply broadcast pellets uniformly over the water surface. Pellets hit the water surface with a plop, sink quickly through the water and settle into the bottom muck layer. Water activates the pellets, releasing the organisms which quickly begin to consume the nearby organic material.

Improve water quality!

Thoroughly and completely consumes accumulated dead weeds, fish droppings, waterfowl droppings and other organic material present in bottom sediment. Muck actually disappears from the bottom of your pond or lake front!

When treating an entire body of water, use 10 lbs. of AquaClear Pellets per acre. When treating ½ or less of an entire body of water, use 20 lbs. of AquaClear Pellets per acre.

Organisms in AquaClear may consume herbicides. Do not apply in the same physical form at the same time. Allow 3 weeks before or after herbicide application before applying AquaClear. This does not apply to Cutrine-Plus.

Use AquaClear Liquid weekly to clean up your pond **water**. Simply dilute 1 part AquaClear Liquid with 9 parts water and spray or pour into the pond. Wave action, wind and natural currents will distribute microorganisms uniformly in a few hours.

When treating an entire body of water, use 1.0 gallon of AquaClear Liquid per acre-foot of water. When treating ½ or less of an entire body of water, use 2.0 gallons of AquaClear Liquid per acre-foot of water.

Begin applying AquaClear in the spring when the water temperature rises to 40°F or warmer. When using either product under high stress conditions, such as drought, following heavy rains or during algae blooms, double the amounts shown above.

Repeat weekly for 4 weeks or until the desired water or bottom quality is achieved. Continue monthly to maintain a high level of water quality.

Water in areas treated with AquaClear has no use restrictions (p13).

10 lb. bag (treats 0.50 to 1.00 acre - one time) **\$84.00**
50 lb. bag (treats 2.50 to 5.00 acres - one time) **\$324.00**
4 - 50 lb. bags (treats 10.00 to 20.00 acres - one time) **\$1,218.00**

(Call for prices on 10 or more 50 lb. bags)

RESTORE liquid



Restore & Sonar with fluridone are systemic herbicides for controlling weeds in fresh water ponds, lakes, reservoirs, irrigation canals and drainage ditches. Restore is a liquid formulation, Sonar is a granular formulation.

Restore & Sonar provide excellent control of many difficult to control weeds, including Duckweed, while allowing desirable vegetation to remain.

Treat your entire pond.

For ponds 10 acres or less in size, best results occur when treating the entire pond or a minimum of 5 acres.

For lakes more than 10 acres in size, best results occur when treating a minimum of 5 acres.

Treating less than 5 acres or treating narrow strips may not produce satisfactory results due to dilution.

Restore & Sonar are absorbed by leaves and stems directly from the water and by roots from the hydrosol. In susceptible weeds, Restore & Sonar inhibit the weeds ability to produce carotene. Without carotene, chlorophyll is rapidly degraded by sunlight and the weed dies. Initial results show a bleaching at the growing tips of the weed. Within 7 to 10 days weeds begin to turn white or pink. Growth is halted and the weeds begin to die. Results occur slowly. Under optimum conditions, full kill occurs in 30 to 90 days. Restore & Sonar will **not** cause oxygen depletion due to the rapid collapse of weeds.

NOTE: Restore Liquid is equivalent to and a direct substitute for Sonar Liquid. Same ingredient, same concentration, same uses. Different name.

Restore Liquid, 1/2 pint (0.25 to 0.37 acre) **\$239.00**
Restore Liquid, 1 quart (treats 1.00 to 1.50 acres) **\$799.00**
Restore Liquid, 1 gallon (treats 4.00 to 6.00 acres) **\$2,099.00**



SONAR granular



For best results, apply Sonar in spring and summer during the early stages of growth. Weeds are more easily controlled when treated in the early stages of growth. Less material is required and results occur more quickly. Sonar works on susceptible mature plants but will require higher application rates and more time to show the full effect of an application.

A little goes a long way!

Consistent concentrations of Sonar needs to be maintained in water for up to 45 days following application. Rapid dilution due to water flow will reduce the effectiveness of control. Best results typically occur in ponds with little or no outflow.

Visible effects in 7 to 10 days.

To apply Restore, calculate the volume of water to be treated in acre-feet. Use 1/2 pint of Restore Liquid per 1.25 acre-feet of treated water. Dilute with 5 to 100 gallons of water and apply uniformly over the water surface.

“Worked great, I applied it twice as you suggested...it even killed the Alligator Grass...Thanks.”

S. K., Franklin, LA

Use 8 pounds of Sonar Granular per 2.0 acre-feet of treated water. Simply broadcast granules uniformly over the water surface in the area to be treated.

Use Sonar Granular when treating a portion of a large body of water to maintain a consistent concentration at the treatment site and insure maximum results.

For Duckweed, split the calculated amount of Restore or Sonar into 3 equal portions. Apply each portion separately at 10 to 15 day intervals.

Water in areas treated with Restore or Sonar should not be used for irrigation for 30 days (p13).

Sonar Granular, 8 lb. pail (treats 0.40 to 0.60 acre) **\$399.00**
Sonar Granular, 40 lb. pail (treats 2.00 to 3.00 acres) **\$1,575.00**

CLEAR-POND water clarifier



Clear-Pond buffered alum is a 2-part water clarifier and phosphorous deactivator for use in small bodies of water including ornamental, farm, fish, industrial and golf course ponds.

Quickly and effectively clears the water of suspended solids and lowers pond productivity. You will notice an improvement in water clarity in as little as 24 hours.

Clear up your pond water.

In most ponds phosphorous is the weed nutrient in shortest supply. When phosphorous levels increase, productivity also increases. Lowering phosphorous levels lowers pond productivity, including algae blooms and excessive weed growth.

Phosphorous enters water from external sources and by internal recycling from bottom sediment. External sources of phosphorous include rainwater, runoff, septic tank discharge, waterfowl droppings and atmospheric deposition. Internal recycling occurs when phosphorous is released from bottom sediment under low oxygen conditions.

“I ordered the “Clear-Pond” and applied as directed... It cleared a little but I applied from shore and the wind was blowing. I waited for a week, launched my boat and reapplied yesterday. The pond today is it’s natural clear beautiful aqua. Thank you so much.”

S. F., Jackson, SC

Clear-Pond will strip phosphorous from water and bind it in a form which is unavailable to weeds. This binding of phosphorous is strong enough to prevent internal recycling over a broad range of pH and is independent of oxygen levels. Binding of phosphorous will significantly lower the productivity of your pond.

Reduces excess phosphorous.

To apply Clear-Pond, determine the volume of your pond in acre-feet. Use 40 lbs. of Clear-Pond per acre-foot of pond water. Apply as much part A as possible in 20 minutes. Then spread a proportional amount of part B over the same area. Continue until the entire amount has been applied.

When water clarity is less than 24" due to algae bloom, better results will be achieved by treating with an algaecide first. Apply Clear-Pond when algae bloom subsides.

The entire pond should be treated. Partial treatment will be significantly less effective than full pond treatment.

Water in areas treated with Clear-Pond has no use restrictions (p13).

40 lb. pail (treats 1.00 acre-feet) **\$115.00**

AQUASHADE & AQUASHADOW pond dye



Aquashade or Aquashadow Liquid & Dry Packets contain concentrated dyes to filter sunlight and create sparkling blue or midnight black water. Controls submersed weeds and algae in ponds, decorative water features and other impounded bodies of water. Inhibits photosynthesis. Gives water a crisp, clear, color.

Sparkling blue or midnight black pond water.

Use Aquashade or Aquashadow Liquid in spring and early summer before growth begins. Less effective control occurs when growth is within 2 feet of the surface. Shallow weeds, algae mats and floating weeds are not affected. Chemical control or physical removal of these weeds may be required.

“I have been a satisfied user of your product “Aquashade Dye” to control weed growth in my pond for years now and am very pleased with its results.”

J. D., San Bautista, CA

To apply Aquashade or Aquashadow Liquid pour directly into the water.

Use 1.0 gallon of Aquashade Liquid per 4.0 acre-feet of water.

Use 0.25 to 0.50 gallon of Aquashadow Liquid per 4.0 acre-feet of water.

To apply Aquashadow dry packets simply toss entire packet into the water. Use 1 packet of Aquashadow per 1.0 acre-foot of water.



Safe for Goldfish and Koi!

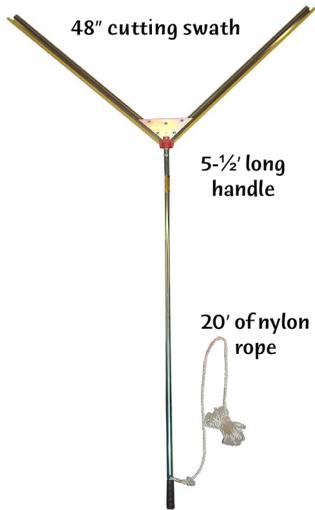
Dyes will disperse within several hours by natural water movement. The entire pond volume should be treated. Use where there is minimal inflow and outflow of water. Additional applications will be needed at 1 to 4 week intervals as dyes are broken down by sunlight.

Aquashadow dry packets should only be used to color man-made water features such as fountains and ponds.

Water in areas treated with Aquashade or Aquashadow Liquid should not be used for human consumption (p13).

1 gallon (blue) (treats 4.00 acre-feet)	\$82.50
4 x 1 gallons (treats 16.00 acre-feet)	\$291.50
New 1 gallon (black) (treats 4.00 acre-feet)	\$87.00
4 x 1 gallons (treats 16.00 acre-feet)	\$308.00
4 packets (blue) (treats 4.00 acre-feet)	\$92.00
4 x 4 packets (treats 16.00 acre-feet)	\$311.00

WEED RAZER and sharpener



The Weed Razer is a lightweight, hand operated, underwater weed cutter. Designed for easy use by a single person. Two 33" angled stainless steel blades cut a 48" swath. Non-blade parts are zinc plated for corrosion resistance. Includes a sharpener, 20' of nylon rope and complete instructions.

Great exercise.

To use the Weed Razer, simply toss into the weed bed. Allow a few seconds for the cutter to sink. Draw back in a jerking motion. Cut weeds pop to the surface for easy harvesting. Regular sharpening after each use makes cutting easier. Apply a light oil after each use to help maintain the cutter.

The Weed Razer Pro is adjustable from 12" to 62". This makes it tremendously versatile and perfect for every type of weed.

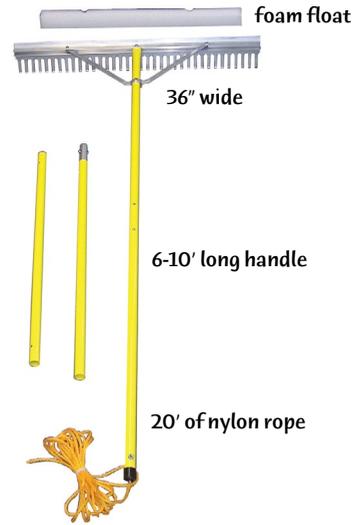
Weed Razer Pro is ideal for Cattails and Water Lilies.

All varieties of Weed Razer are best suited to small localized weed patches. Do not tow behind a power boat. Replace the blade covers when not in use.

Weed Razer with sharpener	\$157.00
Adjustable Weed Razer Pro with sharpener	\$193.00
Sharpener	\$20.00



WATER WEED rake



The Water Weed Rake is a lightweight, extended handle rake with rigid aluminum teeth. Single piece 36" head with 36-3" teeth. Includes a two piece extension handle adjustable from 6' - 10', 20' of nylon rope, foam float for surface use and complete instructions.

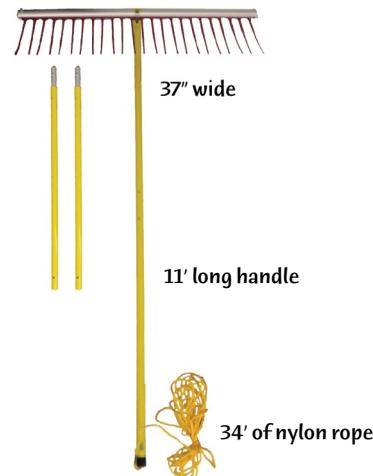
In cases where physical removal of aquatic weeds is undertaken, longer term control will be achieved by herbicide application. For best results herbicides should be applied after the water clears and the bottom settles.

The Water Weed Rake is best suited to sandy bottoms. Digs out buried stones, sticks and other beach debris. Great for beach clean up following storms.

To use the Water Weed Rake, toss from the shoreline or dock while holding the rope and then draw back. Use without the rope while wading.

Water Weed Rake	\$154.00
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WEED RAKER aquatic rake



The Weed Raker is a high strength, lightweight rake with flexible plastic teeth. Hollow, 37" rake bar with 24-8" teeth. Includes a snap-together four-section handle reaching 11' with 34' of nylon rope, and weighs less than 7 lbs.

Keep your beach weed free!

The spring action of the flexible teeth loosens settled, compacted bottom debris for easy removal. Use the Weed Raker regularly and you will be amazed by the improvement. Begin early and continue regularly. It is ideal for removing roots to prevent weed regrowth. Roots will be less developed. The amount of debris to be removed will be less substantial.

Weight head for better grip.

Weight the hollow head with small stones or sand for a better grip on bottom crud. Great for removing cut or dead weeds from the water or land.

Weed Raker	\$139.00
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WATER HARDNESS test strips



Water Hardness Test Strips provide a quick and reliable carbonate hardness determination. Includes strips for 50 tests. No mixing. Simply dip the test strip, wait 10 seconds and compare to the color scale on the bottle.

Test your water softener too!

Water Hardness Test Strips should be used prior to Cutrine-Plus in waters containing trout. Also great for testing tap water for hardness or your water softener for effectiveness.

Water Hardness Test Strips \$29.00

EV-N-SPRED spreader



The Earthway EV-N-SPRED Spreader is a commercial quality, shoulder held, hand crank spreader. Features a 40 lb. capacity, stainless steel spread pattern plates, 3 hole drop system, infinite flow control settings and On/Off control.

Easily treat several acres.

The Earthway EV-N-SPRED Spreader insures uniform results when applying granular products such as Aquathol Super K, Cutrine-Plus Granular, Hydrothol or Sonar Granular. Will not work with Aquacide Pellets or AquaClear Pellets.

Easily managed from a boat.

40 pound capacity \$129.00

EASY HAND-HELD spreader



The Easy Hand-Held Spreader is a well designed, durable and affordable hand held spreader. Features a 10 lb. capacity, rustproof construction and easy flow adjustment.

Easily handled by one person.

Very easy to use. Great for treating tight areas around the dock, boat lift or raft. Easily treat up to an acre with granular products. No assembly required. Will not work with Aquacide Pellets or AquaClear Pellets.

10 pound capacity \$29.00

MOSQUITO briquets

Mosquito Briquets are a floating, long lasting, B.t.i. (*Bacillus thuringiensis israelensis*) mosquito larvicide. Controls mosquito larvae in old tires, rain barrels, still ponds, ditches, gutters and flower pots. Any area where standing water is present.

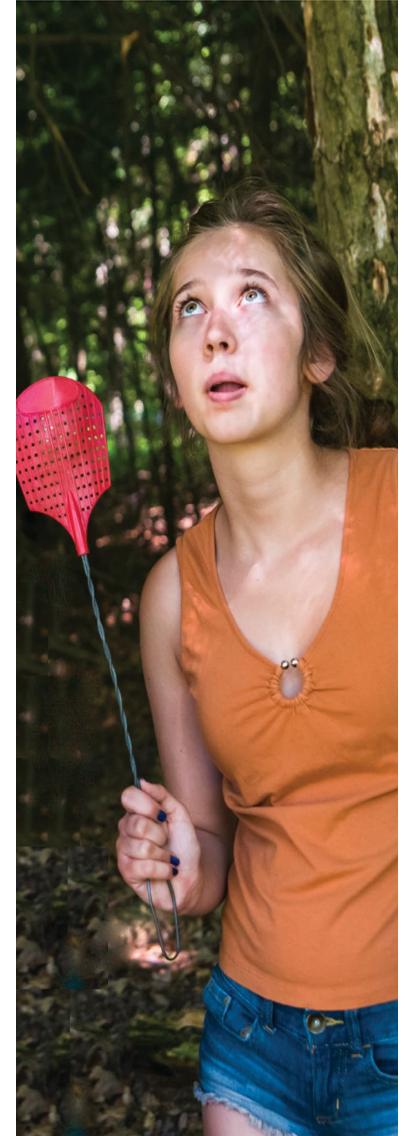


Use Mosquito Briquets anytime during the mosquito season. Apply directly to standing water or areas where standing water will develop. Stake or tie in place with string. Unused portions which dry out will start working again when wet. Unused portions remain active indefinitely.

Use before they develop into biting adults.

To apply Mosquito Briquets, simply toss them into mosquito breeding areas. Because they float, active material is released at the surface where larvae live. Larvae feed on this material and are killed before developing into biting adults.

Lasts for 30 days when in continuous contact with water. One briquet will cover 100 square feet. Partial briquets can be applied to smaller areas.



20 each (treats 2,000 sq. ft.) **\$59.00**
5 x 20 each (treats 10,000 sq. ft.) **\$232.00**

AQUAGEST POWDER septic tank cleaner



Aquagest Powder is a non-corrosive, non-toxic, bacterial waste degrader. The bacteria in Aquagest Powder have been selected and tested for the ability to consume common household organic waste. Breaks down and liquefies fats, grease and paper products.

No more clogged drains!

Bacteria work slowly but surely. Several hours may be required to free slow moving drains. Several days or weeks may be required to improve a slow moving septic system. Use Aquagest Powder anywhere an increase in the rate of natural decay and reduction of odors is desired.

Plumbing and septic systems will benefit from regular use of Aquagest Powder. Increases drain field percolation, liquefies fat and grease, clears pipes, traps and joints of built up waste.

New septic systems will benefit from regular use of Aquagest Powder. Prevent the accumulation of waste by using Aquagest Powder from the start on your new septic system.

Aquagest is ideal for restoring the natural action of a septic system which has lost the ability to degrade wastes. This can result in a significant reduction in the number of pump outs required to maintain your septic system.

Aquagest will:

- Digest organic waste from humans, animals and plants.
- Clear traps, joints and pipes of grease and fat deposits.
- Accelerate the natural decay process.
- Provide optimal enzyme activity by pH adjustment.
- Reduce odor by eliminating the causes.

Outstanding results have been obtained clearing slow-moving drains caused by grease, fat and garbage build-up in traps, joints and pipes. One scoop in each drain every other week will keep them clean, free flowing and odor free.

Other uses include outdoor toilets, motor homes, trailers, boats and compost piles.

To use Aquagest Powder, simply apply directly from the container with the scoop provided. For faster action, presoak with water for 30 minutes and apply. For slow septic tanks, use 0.5 lb. for each 500 gallons of septic tank capacity. Pour into toilet nearest septic tank. Wait 30 minutes and flush. Repeat weekly for a total of 4 weeks. Continue every other month to maintain system.

The effectiveness of Aquagest Powder increases with temperatures up to 120°F. Above 120°F Aquagest Powder is not effective. No appreciable activity can be expected below 40°F. Aquagest Powder is safe for household use and will not harm plumbing or fixtures.



FREQUENTLY ASKED QUESTIONS

Will these products harm fish?

Read Cutrine-Plus (p. 17) and Hydrothol Granular (p. 19) labels carefully regarding fish cautions. Fish are generally at greatest risk from oxygen depletion resulting from rapid decay of dead vegetation.

Can I treat my entire pond?

Best results are achieved by treating an entire pond. This reduces the likelihood that untreated areas will encroach on treated areas. Treatment of an entire pond should be done in sections. Treat 1/3 to 1/2 at a time and allow 5 to 7 days between treatments. This will reduce the possibility of fish suffocation due to oxygen depletion from rapid decomposition of dead weeds. This is of greatest concern in warm waters when using rapid-acting contact herbicides and algacides on well developed weed beds and algae mats.

When should I apply aquatic herbicides?

As a general rule these products should be applied when the weeds are actively growing. Controlling aquatic weeds usually requires more effort as the season progresses and the weeds become well established. As weeds mature, growth slows and systemic herbicides become less efficient. Mature weeds may hinder access to the treatment site and when treatment is done, a greater amount of dead weeds will result.

Which product works the best?

Each product works best in different situations. The best product for a given weed depends on several factors; the type of weed, time of year, intended water uses, depth and area to be treated. Contact our representatives at 800-328-9350 for help in determining the best product for your situation.

How long will a treatment last?

The length of control will depend on the product(s) used, weed(s) treated and local conditions. Systemic herbicides will provide longer term results than contact herbicides. Slow growing weeds will take longer to re-develop than rapidly growing weeds. Treating an entire body of water will provide longer term control than treating a small section of a larger body of water.

What are systemic and contact herbicides?

Systemic herbicides are absorbed by the weeds, move throughout the weed and kill the entire weed including the roots. Successful systemic treatments require consistent presence of the herbicide for absorption and more time to work. Usually only one treatment per season is necessary. Contact herbicides kill only those parts of the weed which they touch. Once contact is established, contact herbicides begin to work quickly and require less time to show results. More than one treatment may be necessary for season long control with contact herbicides.

Why both granular and liquid products?

As a general rule, granular products are used to control bottom growing or rooted weeds and algae. Liquid products are used to control weeds and algae which are at or near the surface or have easily accessible foliage. In many cases either form may be used successfully.

Is mud a problem?

The effectiveness of chemical control is reduced in muddy or turbid waters. Liquid herbicides are not absorbed well by mud covered foliage. Heavy clay, silt or mud will reduce the effectiveness of granular or pelletized herbicides. AquaClear Pellets or Clear-Pond will help solve these problems.

Do I need a permit?

Control of weeds in state protected waters often requires a permit. Consult your State Fish and Game Agency before beginning any control operations.

What water temperature is best?

Generally chemicals will be more highly active and effective at warmer temperatures. Warm temperatures also help insure active weed growth necessary for best results. If a specific temperature is recommended for use, it will be specified on the product label.

Don't fish need weeds to produce oxygen?

Weeds do produce oxygen, but not nearly as much as is stirred into the water from the atmosphere by wind and wave action. Heavy surface mats of weeds and algae may actually reduce the oxygen available to fish and other aquatic organisms by sealing the surface.

lb. box (treats 5,000 gallons)..... **\$75.00**
25 lb. drum (treats 25,000 gallons)..... **\$277.00**