

AQUATIC WEED MANAGEMENT

FLOATING WEED (unattached, leaves/stems above water):		
Formulated Product and Rate Types of Aquatic Weed or Site		Remarks and Precautions
Galleon @ 2 to 5.6 fl oz/A + 0.25% nonionic surfactant foliar or 25 to 75 ppb total water	Water hyacinth, duckweed, common salvinia, giant salvinia*	Can be used to control floating weeds in 2,4-D-restricted areas. Also, can be used as an inwater application at 25 to 75 ppb. Note: With difficult-to-control weeds like giant salvinia, a minimum 60-day contact time is required. Do not use this treatment if rapid dilution is expected.
Clearcast @ 16 to 64 oz/A + surfactant	Water hyacinth, common salvinia, and frog'sbit	Can be used to control water hyacinth in 2,4-D-restricted areas.
2,4-D amine (several products) @ 64 oz/A in 100-gal water	Floating mats of alligatorweed, water hyacinth	Apply on foliage when weeds are actively growing. Spray to uniformly wet foliage. Add .25% approved non-ionic surfactant. Repeat in 4-6 weeks. Avoid use in waters used for irrigation.
Diquat/Reward/Tribune (others) @ up to 1.0 gal/A + 1.0 qt of surfactant/100 gallons of water during growing season and winter	Duckweeds, water hyacinth, and water lettuce	Apply on foliage when weeds are actively growing. Apply as a surface spray. Follow label for water restrictions after application.
Habitat, Polaris, Arsenal, or Imazapyr 4SL @2-3 pts/A + 0.25 % nonionic surfactant	Duckweeds, water hyacinth	Apply when weeds are actively growing. Follow potable and irrigation water restrictions. Must be applied by certified commercial applicator only.
Rodeo, Refuge, Roundup Custom, AquaPro, AquaNeat, Glyphosate 5.4, or others @ 4.0-6.0 pt/A + surfactant	Giant salvinia, common salvinia, and water hyacinth	Add 0.5% approved surfactant.
Diquat/Reward/Tribune (others) @ 1.0 gal/A during the winter	Common or giant salvinia	Apply 1.0 gal./A as a low or high-volume spray plus 0.5% approved surfactant.
Clipper WDG/Clipper SC/FlumiGard/Semera @ 6.0-12.0 oz/A + 0.25% v/v approved surfactant	Common or giant salvinia, water lettuce, watermeal	For use on water bodies with limited or no outflow. Contact herbicide, coverage important. Very fast acting. May be tank-mixed with glyphosate, 2,4-D, or imazapyr to increase weed control spectrum. If tank-mixed, use 1 to 4 oz/A.
Tradewind @ 1-2 oz/A + 0.25% nonionic surfactant	Alligatorweed, duckweed, water hyacinth, and water lettuce	Can be used to control floating weeds in 2,4-D-restricted areas. Apply to actively growing weeds.
Stingray @ 3.4-13.5 oz/A + 0.25% nonionic surfactant	Common or giant salvinia, water lettuce	Fast acting. Contact herbicide, coverage important. May be tank-mixed with glyphosate, imazapyr, penoxsulam, or imazamox to increase weed control spectrum. If tank mixed, use 2 to 4 oz/A.
ProcellaCOR SC @ 1.0 to 2.0 PDU + 1% v/v methylated seed oil (MSO) per 100 gallons of water; 1 PDU = 1.35 fluid oz.	Water hyacinth and mosquito fern	Apply to the foliage of actively growing plants. Follow water use restrictions. DO not apply directly to, or otherwise permit ProcellaCOR SC to come in contact during an application, with soybeans, vegetable crops, flowers, ornamental shrubs, or trees, or other desirable broadleaf plants, as serious injury may occur. Please see the label for additional instructions related to drift management.
Renovate 3, Garlon 3A, Triclopyr 3, Trycera @ 32 to 64 oz/A + 0.25% surfactant	Water hyacinth	Apply to the foliage of actively growing plants.
Sonar AS/Genesis @ 10-20 ppb	Giant/common salvinia, watermeal, and duckweeds	Slow acting, systemic activity will require at least 7 days for noticeable injury. Product half-life is 30 to 90 days; therefore, do not use treated water for irrigation of turf, forage or food crops for 30 days or until herbicide concentration is <5 ppb or FasTEST has been performed.

NOTE: A ft. (acre foot) = volume of water in an area having 1 acre of surface and a depth of 1 foot.

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EMERGENT AND MARGINAL WEEDS (rooted under water, tops above water or growing on wet soil):		
Formulated Product and Rate Types of Aquatic Weed or Site		Remarks and Precautions
Galleon @ 2 to 5.6 fl oz/A + 0.25% nonionic surfactant.	Alligatorweed, parrotfeather, other weeds	Can be used in 2,4-D-restricted areas.
Clearcast @ 16 to 64 oz/A + surfactant	Alligatorweed, parrotfeather, sedges, and primrose species	Can be used in 2,4-D-restricted areas.
2,4-D low volatile ester (LVE) @ 4.0 lbs/A in 100-gal water	Broadleaf species (arrowhead, lotus, smart-weed, spatterdock, spikerush, water primrose, white waterlily, yellow waterlily), Cuban bulrush	Apply on foliage when weeds are actively growing. Spray to uniformly wet foliage. Add 10% fuel oil by volume or 1.0 qt. surfactant to spray mix. More than 1 application may be required for control of some species. Avoid use in waters for crop irrigation.
Habitat, Polaris, Arsenal, or Imazapyr 4SL @ 1-6 pts/A plus 0.25% nonionic surfactant	Many grasses, rushes, sedges, cattail, and broadleaf weeds. Especially useful for controlling trees and brush in water.	Apply when weeds and woody plants are actively growing. Follow potable and irrigation water restrictions. Must be applied by certified commercial applicator only. May be tank-mixed with glyphosate and/or Clipper. Late summer and fall applications may work better than early season applications on emergent weeds.
Rodeo, Roundup Custom, Refuge, AquaNeat, Glyphosate 5.4, or others @ 1.5-7.5 pt/A broadcast or 0.75-1.5% in spray to wet equipment plus 0.5% approved surfactant.	Broadleaf weeds, grasses and weedy species (cattail, maidencane, smartweed, spatterdock, willowand others)	Apply to actively growing weeds. See label for proper stage of growth. No restrictions on the use of the water. Do not apply within 0.5 mile upstream of potable water intakes or in tidewater areas. May be tank-mixed with Habita/Polaris/Arsenal/etc., Clipper or Stingray. Late summer and fall applications may work better than early season applications on immersed weeds.
Sonar (Genesis/AS) subsurface (in-water) @10-40 ppb	Crested floating heart	Slow acting, systemic activity will require at least 7 days for noticeable injury. Product half-life is 30 to 90 days; therefore, do not use treated water for irrigation of turf, forage or food crops for 30 days or until herbicide concentration is <5 ppb or FasTEST has been performed.
Renovate 3, Trycera, Triclopyr 3, Garlon 3A, or others @ 2-8 qt/A in 20-200-gal water	Broadleaf weeds, brush and trees	Apply to alligatorweed, water primrose, broadleaf, and several tree species. Can be applied to impounded water only, not to flowing streams. Apply by air or ground. Add an approved aquatic surfactant at 0.5%.

AQUATIC WEED MANAGEMENT

SUBMERSED WEEDS (majority of plant grows under water, usually rooted or anchored):		
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Copper sulfate @ 2.0 -3.0 lbs/A ft of water	Algae (scums and mosses)	Apply at bloom. Apply crystals or powder at any stage of algae growth by any method to give rapid and uniform distribution. Repeat as necessary to maintain control. Treat only a portion of the pond at once. Apply 3.0 lb./A ft. in ponds with soft water.
Aquathol K (liquid) @ 1.0 - 2.0 gal/A Aquathol Super K (Granular) @ 125 lb–250 lbs/A (water 4-6 ft)	Coontail, fanwort, hydrilla, milfoil species, pondweeds, naiad, water stargrass	Apply at active growth stage. Can be injected into the upper end of the pond or sprayed over surface of pond. If entire waterbody is treated at one time or dissolved oxygen level is low, decaying weeds can remove enough oxygen and may result in fish suffocation. Therefore, limit treatment to half the waterbody. Repeat treatments should be delayed by 7 to 14 days.. Can be used for other uses within 7 days after treatment. Read the label.
Copper Chelates (Cutrine-Plus, Captain, Captain XTR, Argos) @ 0.2 to 1.0 ppm (see individual labels for gallons per acre foot)	Algae (scums and mosses)	Apply at bloom. Apply as a surface spray or injection. Toxicity to fish depends on water hardness. See label for directions.
Hydrothol 191 @ 0.6-3.6 pt/A ft of water	Algae (scums and mosses)	Apply at bloom. Apply as a surface spray. If entire waterbody is treated at one time or dissolved oxygen level is low, decaying weeds can remove enough oxygen and may result in fish suffocation. Therefore, limit treatment to half the waterbody. Repeat treatments should be delayed by 7 to 14 days. Follow label instructions concerning fish toxicity.
Sonar Genesis/AS @ 10-20 ppb	Coontail, fanwort, milfoil, hydrilla, elodea, naiad, pondweeds	Apply at active growth stage. Slow kill. Effective against most rooted plants. If water is deeper than 6 feet, increase rate by 50%.
Diquat, Reward, Tribune, others @ 1.0 - 2.0 gal/surface-acre	Coontail, naiad, and milfoil species	Apply at active growth stage. If entire waterbody is treated at one time or dissolved oxygen level is low, decaying weeds can remove enough oxygen and may result in fish suffocation. Therefore, limit treatment to half the waterbody. Repeat treatments should be delayed by 7 to 14 days. Apply as a direct-pour or subsurface injection. Short residual. Water may be used for irrigation 5 days after treatment. Can be tank-mixed with copper, Aquathol K, or Clipper for hydrilla control.
Aqua-Kleen granules @ 100-200 lbs/A	Coontail, naiads, milfoil	Apply after weeds begin to grow in spring. Granular 2,4-D. Do not apply to water used for agricultural

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		use or potable water supplies. Excellent for treating around docks, landings, etc.
Galleon @ 25-75 ppb as a total water treatment	Hydrilla and naiads	A 60-day contact time required. Do not use in moving water or where rapid dilution is expected.
Tradewind @ 20-45 ppb	Hydrilla	Must maintain desired concentration for minimum of 60 days. Not for use in moving water.
Clipper @ 100-400 ppb as a total water treatment	Hydrilla, naiad, pondweeds, milfoils, coontail	For use in water bodies with limited or no outflow. Fast acting. Follow instructions on timing of application and possible oxygen depletion following application. Herbicide efficacy/activity will decrease as water pH increases to 8 and higher. Can be tank-mixed with other herbicides to increase control.

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USE RESTRICTIONS for TREATED WATER (number of days)									
Herbicide	Human Drinking	Human Swimming	Human Fish consumption		Animal Drinking		Turf Irrigation	Forage Irrigation	Food Crop Irrigation
2,4-D	21 ^e	0	0		21 ^e		21 ^e	21	21 ^{e,f}
Aquathol Granular	7	1	0		7		0	7	7
Aquathol K	7-25	1	0		7-25		0	7-25	7-25
Clearcast	0 ⁱ	0	0		0		K	K	K
Clipper	0	0	0		0		5	5	5
Chelated Copper	0	0	0		0		0	0	0
Copper sulfate	0	0	0		0		0	0	0
Diquat/Reward/Tribune	2	0	0		1		2	5	5
Galleon	0	0	0		0		H	0	1
Habitat/Polaris/Imazapyr 2SL	2	0	0		0		120 ^g	120 ^g	120 ^g
Hydrothol	7-25	1	0		7-25		7-25	7-25	7-25
ProcellaCOR SC	0 ⁱ	0	0		0		0	m	m
Rodeo/Glypro/AquaPro/Glypro/Roundup Custom	0	0	0		0		0	0	0
Sonar	-	0	0		0		30 ^d	30 ^d	30 ^d
Tradewind	0	0	0		0 ^g		0	0	0
Stingray	K	0	0		K		k	k	k

^a Do not use in human, animal or irrigation water.

^b Not recommended for use in commercial fishing areas.

^c See label for distance allowed from potable water intakes.

^d Restriction suggested by manufacturer.

^e Shorter interval may be used depending on amount of 2,4-D acid present.

^f Do not use on irrigation ditches.

^g Or until residues = 1.0 ppb.

^h Concentration < 30 ppb.

ⁱ Concentration = 1 ppb, except rice = 30 ppb.

^j Concentration < 50 ppb within 0.25 miles of water intake.

^k See label.

^m See label for specific label irrigation restrictions.