

Table 1. Treatment Response of Common Aquatic Plants to Registered Herbicides

	bispyribac	carfentrazone	copper & copper complexes - algaecides	copper complexes - herbicides	diquat	endothall	fluridone	flumioxazin	glyphosate	imazamox	imazapyr	penoxsulam	sodium carbonate peroxy-hydrate	triclopyr	2,4-D	
Aquatic Group & vegetation	Aquatic Herbicide ¹														Grass Carp ⁹	
Algae																
<i>Chara/Nitella</i>	P		E		P	G ² -P ³	P	P	P						P	G
filamentous			E		G	G ² -P ³	P	G	P				G ⁶		P	F
planktonic			E		P	G ²	P	F	P				G ⁶		P	
Floating Plants																
azolla		G	P		G		E	E	F						F	
duckweeds		E	P		G	P	E	E	P		P				F	F
salvinia	F	G	P		G		E	E	G	E						P
water hyacinth	E	G	P	G ⁴	E		P	P	G	E	E			E	E	P
watermeal	F	G	P		F		G	E							F	P
water lettuce	E	E	P	G ⁴	E		G	E	G		E			G	F	
Submerged plants																
coontail	P		P	G ⁴	E	E	E	G							G	F-G
elodea			P	G ⁴	E	F	E	E					G			E
fanwort			P	P	G	F	E	G							F	F
hydrilla	E		P	G ⁴	G	G	E	G		G						E
milfoils	G	E	P	G ⁴	E	E	G	G		G				E	E	F
naiads			P	G ⁴	E	E	E	E							F	E
parrotfeather			P	P	E	E	E	G		G	G ⁵			G	E	G
pondweeds	G		P	G ⁴	G	E	E	G		E	G ⁵				P	E

¹E= excellent control; G= good control; F= fair control; P= poor control; blank= unknown or no control

²Hydrothol formulations

³Aquathol formulations

⁴Specific copper complexes only- Nautique, Komeen, etc.

⁵Spray only emergent portion

⁶Best on blue-green algae

⁷E for sedge

⁸F for rushes

⁹Permit required from Texas Parks & Wildlife

	bispyribac	carfentrazone	copper & copper complexes - algecides	copper complexes - herbicides	diquat	endothall	fluridone	flumioxazin	glyphosate	imazamox	imazapyr	penoxsulam	sodium carbonate peroxy-hydrate	triclopyr	2,4-D
Aquatic Group & vegetation							Aquatic Herbicides¹								Grass Carp⁹
							Emergent Plants								
alders			P		F	P	P		E		E			E	E
alligatorweed	E	F			P		F	G	G	G	E			E	F
arrowhead	E		P		G	G	E	G	E	E	E				E
buttonbrush			P		F	P	P		G		G				F
cattails	P		P		G	P	F	P	E	E	E				F
common reed			P		F		F	P	E	G	E				F
frogbit	E			F ⁴	E			G	F	E	E			E	E
pickerelweed	F			F ⁴	G		P	P	F	E	E			G	G
sedges & rushes	F		P		F		P	F	G		E ⁷ F ⁸	G			F
slender spikerush			P		G		G	P	P		F				
smartweed	G		P	F ⁴	F		F	P	E	E	E	G		E	E
southern watergrass			P				G		E		E				P
waterlilies	F		P		P		E	F	G	G	G	G		G	E
water pennywort	G		P		G		P	G	G		E	G		E	G
water primrose		F	P		F	P	F	G	E	E	E			E	E
watershield			P		P		G	G	G	G	E				E
willows	P		P		F	P	P	P	E		E			E	E

<u>Active Ingredients</u>	<u>Commonly Available Trade Names</u>	<u>Active Ingredients</u>	<u>Commonly Available Trade Names</u>
bispyribac	Tradewind	glyphosate	Rodeo, Aquamaster, AquaNeat, Eraser AQ, Refuge®, others
carfentrazone	Stingray	imazamox	Clearcast
copper & copper complexes	Copper Sulfate, Cutrine, Cutrine Plus, K-Tea, Captain, Agritec, EarthTec, Clearigate	imazapyr	Habitat, Arsenal, Poloris
copper - herbicides	Komeen, Nautique	penoxsulam	Galleon
diquat	Reward, Harvester, Tribune, Tsunami DQ, Diquat SPC2L, Weedtrine	sodium carbonate peroxyhydrate	Green Clean, PAK 27, Phycomycin
endothall	Aquathol K, Aquathol Super K, Hydrothol 191	triclopyr	Renovate, Navitrol, Ecotriclopyr
flumioxazin	Clipper	2,4-D	Navigate, Weedar 64
fluridone	Sonar, Avast, WhiteCap, Restore		

***Texas A&M University & Extension does not endorse any trade name herbicide

Table 2. Aquatic Vegetation Herbicide Control Water Use Restriction¹ (number of days after treatment before use in private waters only)

Common Name	Human Use			Livestock Watering	Irrigation	
	Drinking	Swimming	Fish		Turf	Crops
bispyribac	0	0	0	0	30	30
carfentrazone	0 - 1 ²	0	0	0 - 1 ²	0 - 14 ²	0 - 14 ²
copper complexes ³	0	0	0	0	0	0
diquat	1-3 ³	0	0	1	1-3 ⁴	5
endothall ⁵	7-25	1	0	7-25	7-25	7-25
flumioxazin	0	0	0	0	0-3 ⁴	5
fluridone ⁶	0	0	0	0	7-30	7-30
glyphosate ⁷	0	0	0	0	0	0
imazamox	0	0	0	0	1	1 ⁸
imazapyr	* ⁹	0	0	0	120 ¹⁰	120 ¹⁰
penoxsulam	0	0	0	0	0	* ¹¹
SCP ¹²	0	0	0	0	0	0
triclopyr	* ¹³	0	0	0	0 ¹⁴	120 ¹⁵
2,4-D	* ¹⁶	* ¹⁶	* ¹⁶	* ¹⁶	* ¹⁶	* ¹⁶

¹ Aquatic vegetation control can result in period of low dissolved oxygen which can stress and/or kill fish. It is best to treat most aquatic vegetation early in the growing season, when the plant is rapidly growing. Treating small areas (e.g. 1/4) of pond at a time at 10-14 day intervals will allow for decomposition usually without causing oxygen depletion.

² Varies if 20% or more of surface area is treated

³ If water is for drinking, the elemental copper concentration should not exceed 1.0 ppm (i.e. 4.0 ppm copper sulfate).

⁴ Depending on formulation or rate - **Read label.**

⁵ Length of use restriction for endothall varies with concentration used. **Read label.**

⁶ Do not apply within 0.25 mile of a functioning potable water intake.

⁷ Do not apply within 0.5 mile of a functioning potable water intake.

⁸ Do not use treated water to irrigate greenhouses, nurseries, or hydroponics

⁹ Greater than 1/2 mile from potable water intake

¹⁰ Or until <1.0 ppb

¹¹ Do not use water from any treated site for food crop irrigation until residues are determined to be less than or equal to 1 ppb.

¹² Sodium Carbonate Peroxyhydrate

¹³ Minimum setback distances from potable water intakes required and laboratory tests to determine < 0.4 ppm for use. **Read label.**

¹⁴ No restriction on irrigating established grasses but do not harvest hay for 14 days after application. **Read label.**

¹⁵ Or until non-detectable concentration in immunoassay analysis

¹⁶ Water restrictions on 2,4-D vary with formulation, location, rate, and time of year. **Read label.**

ONLY PRODUCTS LABELED FOR AQUATIC USE may be used in, over, or near the water

Additional information is available through the following references and websites – aquaplant.tamu.edu, srac.tamu.edu, & wildlife.tamu.edu

Aquatic Vegetation Identification Card Deck - Pub. #B6095, produced by Dr. Michael P. Masser are for sale for \$12.00 + taxes & shipping, order for 10 or more or \$7.00+ Plus taxes & shipping, order from the Texas AgriLife Bookstore, <agrilifebookstore.org> or fax 979/458-0172

*srac.tamu.edu website publication numbers, SRAC 0360-0369; 3600-3699

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