T-12580

12550
CPD
8 Jul 87

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
Via: Assistant Chief of Staff, Facilities

Subj: PAY DIFFERENTIALS IRREGULAR INTERMITTENT HAZARDOUS DUTY

Ref: (a) Director, NREAD ltr 11015 dtd 28 May 87
(b) FPM Supplement 990-2, Book 550, S9-5

1. The work situation described in reference (a) has been reviewed by the Classification Staff. As a result of this review, it is concluded that the work situation discussed warrants payment for hazardous duty for Toxic Chemical Materials as described in reference (b). General Schedule employees are the only category of employees authorized payment under this approval.

2. The category "Toxic Chemical Materials" is payable for all hours in a pay status at the rate of 25% of base pay. An employee is entitled to payment of the hazardous duty pay for all hours of a shift for exposure to the work situation discussed at any time during an assigned shift.

HOSEA HORNE, JR.
By direction

Copy to:
Civilian Payroll

Writer: D. Brown, CPD, Ext 1532
Typist: K. Sims, 8 Jul 87

UNITED STATES MARINE CORPS
NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

IN REPLY REFER TO:
11015
NREAD
28 May 87

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Civilian Personnel Officer, Marine Corps Base, Camp Lejeune

Subj: ENVIRONMENTAL HAZARDOUS DIFFERENTIAL

Ref: (a) FONECON btwn Mr. D. Brown, CPD and Mr. Charles Peterson, NREAD, on 21 May 87
(b) FONECON btwn Mr. Moran, CPD and Mr. Charles Peterson, NREAD, on 26 May 87

Encl: (1) Aquathol and Aquathol Plus Herbicide Brochure

1. Natural Resources and Environmental Affairs Division, engaged in the management of fresh water ponds for recreational fishing, have recently applied herbicide for the control of aquatic vegetation in fish ponds aboard base. The herbicide, Aquathol Plus was mixed/applied in accordance with directions contained in the enclosure for Water Lily control.

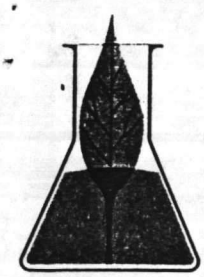
2. The herbicide was applied by Mr. Albert Henry, Wildlife Biologist, and Mr. Willie Bostic, Biological Technician, under the general certification control of Insect Vector, Base Maintenance Division. Their time was carried on time cards for environmental hazardous differential pay which was disapproved by Civilian Payroll.

3. It is requested that existing regulations be reviewed relative to environmental hazardous duty differential for these employees when applying herbicides for aquatic weed control in fresh water ponds as discussed during reference (a).

4. Both employees are being scheduled to attend the Disease Vector Ecology and Control Center, Naval Air Station, Jacksonville, Florida on 14 - 29 September 1987 for certification, as discussed during reference (b).

J. I. Wooten

J. I. WOOTEN



pennsalt
agricultural
chemicals

AQUATHOL® and AQUATHOL PLUS

for aquatic weed control

Two products give broad spectrum control

Two products . . . AQUATHOL and AQUATHOL PLUS have been developed to give effective control of aquatic weed problems without harm to fish or wildlife. Both products comply with the United States Department of Agriculture regulations and food and drug laws. AQUATHOL controls 15 varieties of weeds found in ponds and lakes. AQUATHOL PLUS broadens the spectrum of control to 24 weed varieties. For best results both products should be applied when plants are young and growing vigorously. Water temperatures should be 65° or warmer.

Aquathol and Aquathol plus formulations

Liquid AQUATHOL contains the active ingredient endothall in the form of sodium salt. AQUATHOL Granular is the potassium salt. AQUATHOL PLUS contains endothall as well as silvex — both as potassium salts. This product combines the contact type herbicide with a hormone type herbicide. AQUATHOL and AQUATHOL PLUS are available as water soluble liquid formulations and granular formulations. For both products the liquid comes in 5-gallon containers or 30-gallon drums. Granular products are packaged in 50-lb. bags.

Kill weeds • Keep fish

AQUATHOL herbicides offer pond owners, resort owners, park and golf course superintendents and farmers these advantages:

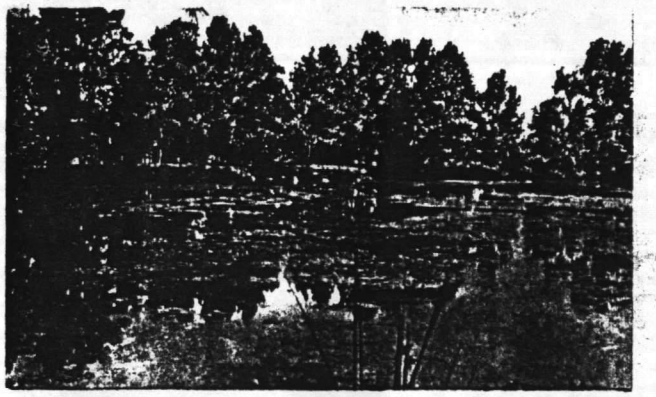
Kills Weeds — AQUATHOL products diffuse readily in water and *go to work* on weeds immediately. When properly applied they are effective on susceptible weeds.

Keeps Fish — There is no harm to fish at the recommended dosage. Tests show that AQUATHOL products would have to be applied at about 20 times the maximum recommended dosage in order to reach a toxic level for most fish. Three days after treatment of water, fish can be used for food. Water containing heavy vegetation should be treated in sections 5 to 7 days apart to prevent suffocation of fish, since decaying weeds remove oxygen from the water.

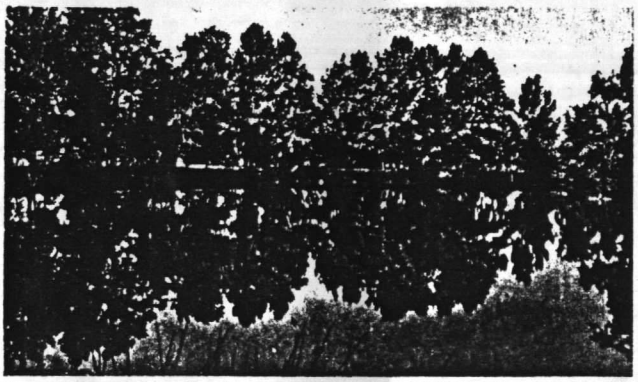
Easy to Apply — Formulations of the liquid can be applied from the container or diluted with water as a surface spray or injected under water. Granular products can be applied with various mechanical spreaders or broadcast by hand scoop for spot treatment in small areas around piers or docks. AQUATHOL products are non-hazardous for the applicator when used according to directions.

Economical — The cost of treating one acre foot of water at 1 ppm with liquid AQUATHOL is $8.70 and with liquid AQUATHOL PLUS is $6.25.

ENCLOSURE (1)



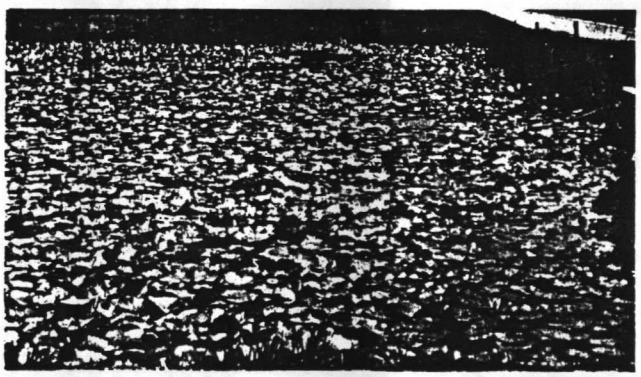
The lake above was so heavily infested with Bushy Pondweed that a boat could not paddle through it.



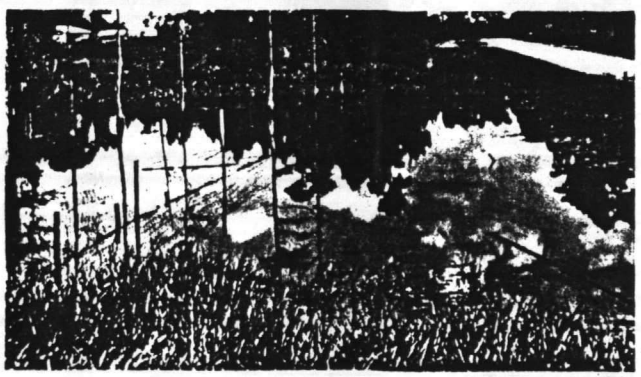
Here's the same lake three weeks after AQUATHOL treatment. It is now a favorite fishing haunt.

AQUATHOL

Here is a proven aquatic weed killer for many submerged weeds. AQUATHOL works as a contact weed killer. Initial weed kill is generally effected in from 3 to 7 days with complete weed disintegration following. This, of course, depends on the weed species involved plus other factors such as water temperature, microflora of the water and pH. Highly saline waters usually take longer for weed disintegration. Treated water may be used for watering turf immediately. Water may be used for swimming and recreational purposes 24 hours after treatment. Seven days after treatment it may be used for irrigation, agricultural sprays, watering of livestock and domestic purposes. See charts at right for weeds controlled and dosage rates.



Before AQUATHOL PLUS was applied this 15-acre pond was totally infested with water lilies.



This picture taken five weeks after treatment with AQUATHOL PLUS shows water completely clear of weeds.

AQUATHOL PLUS

This product is a new addition to the Aquathol line of aquatic weed killers. AQUATHOL PLUS kills a larger number of water weeds, including some emergent weeds in addition to submerged weeds. Some weeds are killed by contact action and some by systemic action. Weeds killed by systemic action die more slowly (2 to 4 weeks); consequently all susceptible weeds will not disappear at the same time. Treated water may be used for swimming and recreational purposes after 24 hours. However, due to presence of a hormone type herbicide it should not be used for irrigation, agricultural sprays, domestic water or watering dairy animals or animals being finished for slaughter. See charts at right for weeds controlled and dosage rates.

These charts will help you easily and accurately determine the amount of Aquathol products to use.

(Refer to back page of bulletin for instructions on using charts)

CHART 1: AQUATHOL CONTROLS THESE WEEDS WITH THESE PPM* CONCENTRATIONS

Common Name	Latin Name	Entire Pond or Large Area Treatment
Bass Weed	Potamogeton amplifolius	2-3 ppm
Bur Reed	Sparganium spp.	3-4 ppm
Coontail	Ceratophyllum spp.	1-2 ppm
Milfoil	Myriophyllum spp.	2-3 ppm
Pondweed		
Bushy	Naias spp.	0.5-1.5 ppm
	Potamogeton nodosus	2-3 ppm
Curly-Leaf	Potamogeton crispus	0.5-1.5 ppm
	Potamogeton diversifolius	1-2 ppm
	Potamogeton filiformis	2-3 ppm
Flat-Stem	Potamogeton zosteriformis	2-3 ppm
Floating-Leaf	Potamogeton natans	1-2 ppm
	Potamogeton pusillus	1-2 ppm
Horned	Zannichellia spp.	1-2 ppm
Sago	Potamogeton pectinatus	1-2 ppm
Water Star Grass	Heteranthera spp.	2-3 ppm

*ppm indicates 1 part Aquathol to 1,000,000 parts of water.
For control of weeds along lake margins, use 3-5 ppm.

CHART 2: GALLONS OF AQUATHOL* TO USE PER ACRE (209' x 209')

AVERAGE DEPTH	PPM CONCENTRATION				
	1 ppm	2 ppm	3 ppm	4 ppm	5 ppm
1 Ft.	1.3 gal.	2.6 gal.	3.9 gal.	5.2 gal.	6.5 gal.
2 Ft.	2.6 gal.	5.2 gal.	7.8 gal.	10.4 gal.	13.0 gal.
4 Ft.	5.2 gal.	10.7 gal.	15.6 gal.	20.8 gal.	26.0 gal.
6 Ft.	7.8 gal.	15.6 gal.	23.4 gal.	31.2 gal.	39.0 gal.

*Contains 19.2% disodium salt of endothall or 15.5% endothall (acid)
or
1.8 lb. disodium salt of endothall or 1.46 lb. endothall (acid)
per U. S. gallon

CHART 3: POUNDS OF AQUATHOL GRANULAR* TO USE PER 1,000 SQ. FT.

AVERAGE DEPTH	PPM CONCENTRATION				
	1 ppm	2 ppm	3 ppm	4 ppm	5 ppm
1 ft.	0.6 lbs.	1.2 lbs.	1.9 lbs.	2.5 lbs.	3.1 lbs.
2 ft.	1.2 lbs.	2.5 lbs.	3.7 lbs.	4.9 lbs.	6.2 lbs.
4 ft.	2.5 lbs.	4.9 lbs.	7.4 lbs.	9.9 lbs.	12.4 lbs.
6 ft.	3.7 lbs.	7.4 lbs.	11.1 lbs.	14.8 lbs.	18.5 lbs.

*Contains 10.1% dipotassium salt of endothall or 7.2% endothall (acid)

CHART 1A: AQUATHOL PLUS CONTROLS THESE WEEDS WITH THESE PPM* CONCENTRATIONS

Common Name	Latin Name	Entire Pond or Large Area Treatment
	SUBMERGED	
Bass Weed	Potamogeton amplifolius	1-2 ppm
Coontail	Ceratophyllum spp.	1-2 ppm
Fanwort	Cabomba spp.	2-3 ppm
Milfoil	Myriophyllum spp.	2-3 ppm
Pondweed		
Bushy	Naias spp.	2-3 ppm
Curly Leaf	Potamogeton crispus	1-1.5 ppm
Flat-Stem	Potamogeton zosteriformis	2-3 ppm
Floating-Leaf	Potamogeton natans	1-2 ppm
Horned	Zannichellia spp.	1-2 ppm
Sago	Potamogeton pectinatus	1-2 ppm
	Potamogeton nodosus	2-3 ppm
	Potamogeton diversifolius	1-2 ppm
	Potamogeton filiformis	2-3 ppm
	Potamogeton pusillus	1-2 ppm
Water Cress	Nasturtium spp.	2-3 ppm
Water Star Grass	Heterenthera spp.	2-3 ppm
Waterweed **	Elodea spp.	1-2 ppm
	EMERGENT AND FREE-FLOATING	
Arrowhead	Sagittaria spp.	2-3 ppm
Bur Reed	Sparganium spp.	3-4 ppm
Lotus	Nelumbo spp.	2-3 ppm
Spike Rush	Eleocharis spp.	2-3 ppm
Water Hyacinth	Eichornia spp.	2-4 ppm
Water Lily ***	Nuphar spp. (Spatterdock, Cow Lily)	2-3 ppm
Water Primrose	Jussiaea spp.	2-3 ppm

For control of weeds along lake margins use 4-6 ppm.
*ppm indicates 1 part Aquathol Plus to 1,000,000 parts of water.
**For some species and under some conditions, 2-3 ppm may be required.
***Two applications required at recommended rates 30 days apart.

CHART 2A: GALLONS OF AQUATHOL PLUS* TO USE PER ACRE (209' x 209')

AVERAGE DEPTH	PPM CONCENTRATION				
	1 ppm	2 ppm	3 ppm	4 ppm	5 ppm
1 Ft.	0.5 gal.	1.0 gal.	1.7 gal.	2.1 gal.	2.7 gal.
2 Ft.	1.0 gal.	2.1 gal.	3.25 gal.	4.25 gal.	5.3 gal.
4 Ft.	2.1 gal.	4.25 gal.	6.3 gal.	8.5 gal.	10.7 gal.
6 Ft.	3.25 gal.	6.3 gal.	9.7 gal.	12.8 gal.	16.0 gal.

*Contains 22.1% dipotassium salt of endothall or 15.7% endothall (acid)
and 25.3% dipotassium salt of silvex or 22.2% silvex (acid)
or
2.4 lb. dipotassium salt of endothall or 1.7 lb. endothall (acid)
and 2.7 lb. dipotassium salt of silvex or 2.4 lb. silvex (acid)
per U. S. gallon

CHART 3A: POUNDS OF AQUATHOL PLUS GRANULAR* TO USE PER 1,000 SQ. FT.

AVERAGE DEPTH	PPM CONCENTRATION					
	1.0 ppm	2.0 ppm	3.0 ppm	4.0 ppm	5.0 ppm	6.0 ppm
1 Ft.	0.6 lbs.	1.2 lbs.	1.8 lbs.	2.4 lbs.	3.0 lbs.	3.5 lbs.
2 Ft.	1.2 lbs.	2.4 lbs.	3.5 lbs.	4.7 lbs.	5.9 lbs.	7.1 lbs.
4 Ft.	2.4 lbs.	4.7 lbs.	7.1 lbs.	9.4 lbs.	11.8 lbs.	14.2 lbs.
6 Ft.	3.5 lbs.	7.1 lbs.	10.6 lbs.	14.2 lbs.	17.7 lbs.	21.2 lbs.

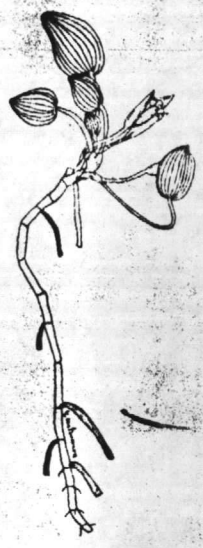
*Contains 5.1% dipotassium salt of endothall or 3.6% endothall (acid)
5.6% dipotassium salt of silvex or 5.0% silvex (acid)

Endothall is 7-Oxabicyclo-(2.2.1) heptane-2, 3-dicarboxylic acid

Silvex is 2-(2,4,5-trichlorophenoxy) propionic acid

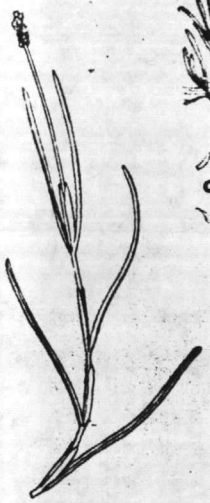
AQUATHOL will effectively control these weeds in ponds

COONTAIL[1]
Ceratophyllum spp.

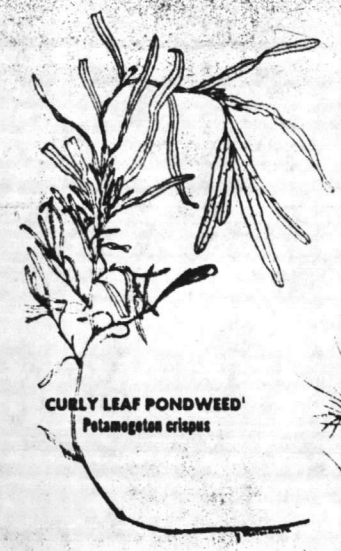


WATER STAR GRASS[1]
Heteranthera spp.

BUR REED[1]
Sparganium spp.

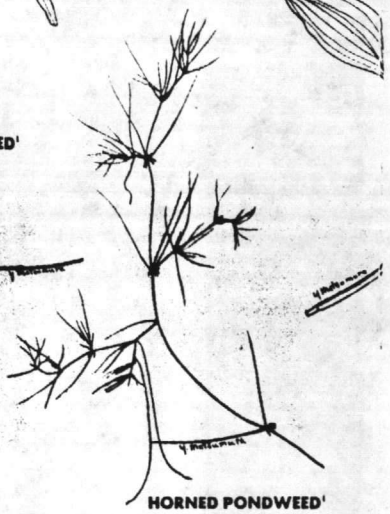


FLAT-STEM PONDWEED[1]
Potamogeton zosteriformis



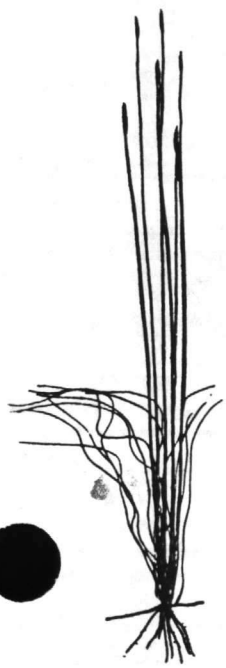
CURLY LEAF PONDWEED[1]
Potamogeton crispus

BASS WEED[1]
Potamogeton amplifolius

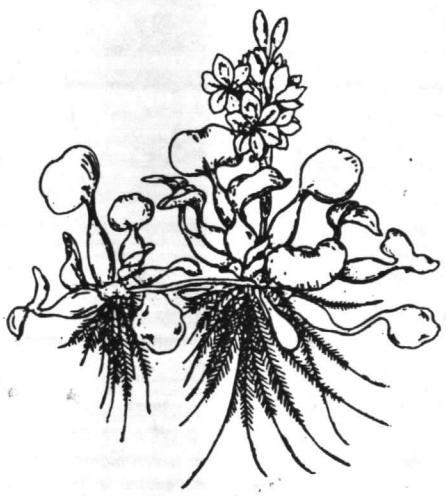


HORNED PONDWEED[1]
Zannichellia spp.

AQUATHOL PLUS controls these additional weeds



SPIKE RUSH
Eleocharis spp.



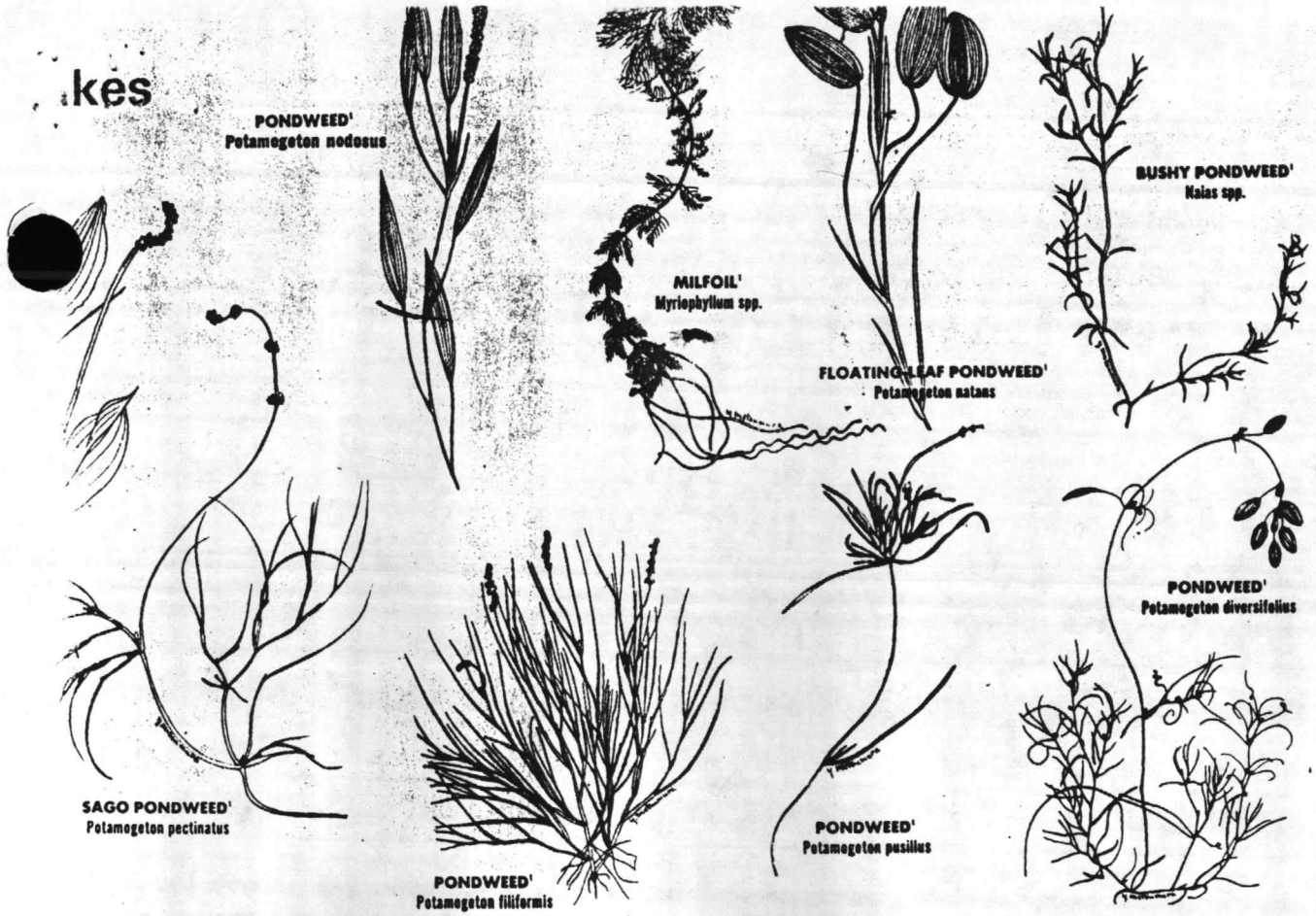
WATER HYACINTH
Eichornia spp.

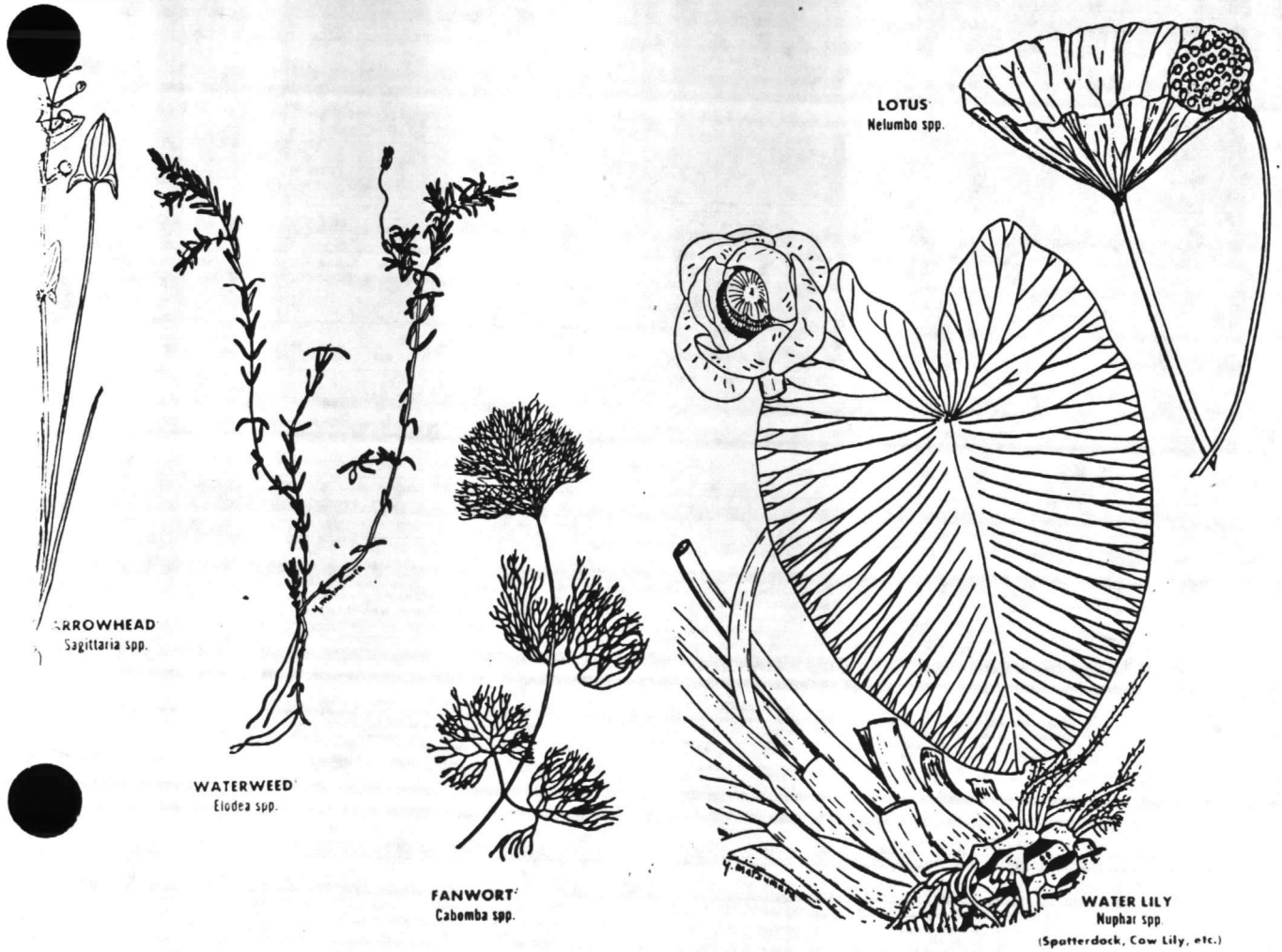
WATER CRESS
Nasturtium spp.

WATER PRIMROSE
Jussiaea spp.

[1]Illustration courtesy of Colorado State University.

[2]Reproduced from "A Manual of Aquatic Plants" by Norman C. Fassett, the University of Wisconsin Press, 1963


PONDWEED'
Potamogeton nodosus
MILFOIL'
Myriophyllum spp.
FLOATING-LEAF PONDWEED'
Potamogeton natans
BUSHY PONDWEED'
Naias spp.
SAGO PONDWEED'
Potamogeton pectinatus
PONDWEED'
Potamogeton filiformis
PONDWEED'
Potamogeton pusillus
PONDWEED'
Potamogeton diversifolius


LOTUS
Nelumbo spp.
ARROWHEAD
Sagittaria spp.
WATERWEED
Elodea spp.
FANWORT
Cabomba spp.
WATER LILY
Nuphar spp.
(Spatterdock, Cow Lily, etc.)

Here's how to determine amount of Aquathol to apply using charts inside this bulletin.

1. **Identify aquatic weeds correctly**
2. **Determine surface area of water**
3. **Compute average depth of water**

For Example: You want to control Coontail with liquid AQUATHOL PLUS in a pond with a surface area of 2 acres and an average depth of 4 feet. In chart 1A you will find that 1-2 ppm concentration is necessary to control Coontail. Then, referring to chart 2A, you read across the 4 ft. average depth line to vertical 2 ppm column. The amount of AQUATHOL PLUS to use is 4.25 gallons for *one* acre or 8.5 gallons for the complete two-acre pond . . . using the higher 2 ppm concentration figure. (If AQUATHOL were to be used in this example, then charts 1 and 2 would be used in a similar manner.)

AVERAGE DEPTH	PPM CONCENTRATION OF AQUATHOL PLUS				
	1 ppm	2 ppm	3 ppm	4 ppm	5 ppm
1 Ft.	.5 gal.	1.0 gal.	1.7 gal.	2.1 gal.	2.7 gal.
2 Ft.	1.0 gal.	2.1 gal.	3.25 gal.	4.25 gal.	5.3 gal.
4 Ft.	2.1 gal.	4.25 gal.	6.3 gal.	8.5 gal.	10.7 gal.
6 Ft.	3.25 gal.	6.3 gal.	9.7 gal.	12.8 gal.	16.0 gal.

READ AND FOLLOW DIRECTIONS — For best results with Aquathol products, read and follow directions and precautions on the container label before using. Apply the proper amount of Aquathol at the correct time for maximum control.

Pennsalt Chemicals Corporation makes no representation or warranty, expressed or implied, concerning this material, except that it conforms to the chemical description on the label. It shall not be held responsible in any manner for any personal injury or property damage or other type of loss resulting from the handling, storage or use of this material.

PENNSALT®

PENNSALT CHEMICALS CORPORATION AGRICULTURAL CHEMICALS DIVISION

Aurora, Illinois (60504), 309 Graham Bldg. • Fresno, California (93703), 3239 Mayfair Blvd.
Tacoma, Washington (98401), P. O. Box 1297 • Bryan, Texas (77801), P. O. Box 153
Montgomery, Alabama (36102), P. O. Box 1470 • Philadelphia, Pennsylvania (19102), 3 Penn Center

49/AIP/smb
17 April 1974

Civilian Personnel Officer

Director, Maintenance & Repair Division, Base Maintenance Department

Additional Pay Request; unshored work

Ref: (a) DirMaint&RprDiv BMaint ltr 15D/JBS/mws 12000 of 1 Apr 1974
(b) FPM Supplement 532-1

1. The request for additional pay for unshored work as described in reference (a) is approved for all employees performing such duties. Reference (b) stipulates that employees working adjacent to the walls of unshored excavationsat depths greater than six feet, (except when the walls have been graded to the angle of repose) when work is performed at a distance from the wall which is less than the height of the wall be paid the differential only for the time actually exposed to work of this type. The purpose of the environmental differential plan is to compensate employees for working under extreme and adverse conditions. Judgment should be exercised in determining whether existing conditions warrant payment of this differential. The amount of differential for this degree of hazard is 25% of the second step of WG-10 ($1.29 per hour).

2. An employee entitled to an environmental differential which is paid on an actual exposure basis shall be paid a minimum of one hour's differential for the exposure. For exposure beyond one hour, the employee should be paid in increments of one-quarter hour for each 15 minutes or portion thereof.

A. I. PAGE

Copy to:
Civil Payroll

MAINTENANCE AND REPAIR DIVISION
Base Maintenance Department
Marine Corps Base
Camp Lejeune, North Carolina 28542

15D/JBS/mws
12000
1 April 1974

From: Director, Maintenance and Repair Division
To: Civilian Personnel Officer, Marine Corps Base, Camp Lejeune, North Carolina 28542
Via: Base Maintenance Officer

Subj: Payment for unshored work; request for approval of

1. It is requested that payment for unshored work for Base Maintenance employees who work on water lines, sewer lines, steam lines in holes or ditches over six feet deep, be approved.

2. Base Maintenance employees from the Carpenter Shop, Plumbing Shop, Pipefitting Shop and the Roads and Grounds Section perform unshored work almost on a daily basis.

J. B. SMITH

15B/BWE/ib
12552
10 April 1974

FIRST ENDORSEMENT on DirM&RDiv ltr 15D/JBS/mws dtd 1 Apr 74

From: Base Maintenance Officer
To: Civilian Personnel Officer

Subj: Payment for unshored work; request for approval of

1. Forwarded for consideration of request in basic letter.

W. F. MILLER
By direction

CIVILIAN PERSONNEL OFF.
MARINE CORPS BASE
CAMP LEJEUNE,
NORTH CAROLINA 28542

APR 11 3 44 PM '74