JACKER CHEMICAL COMPANY

CONTROLLING ALGAE IN IMPOUNDED WATERS:

LAKES PONDS AND RESERVOIRS

Aquatic plants are an integral part of any aquatic environment. It is desirable not to upset the ecological balance in a body of water; consequently any control measures should be directed to combatting a specific plant problem. Algae growth in water causes many undesirable conditions: [illegible] planktonic types may clog nozzles or cause odors and tastes in the water, and filamentous types may clog pumps and nozzles and [illegible] fishing difficult. Small amounts of Copper Sulfate in water can effectively control algae; however, it is important to understand that [illegible] of controlling algae that is permanent. On rare [illegible] may last for an entire season, but ordinarily algae [illegible] two times between early spring and early fall

FACTORS AFFECTING COPPER SULFATE DOSAGE.

Many factors influence the amount of copper sulfate required to control algae, but the main factors are (1) the kind and amount of vegetation to be [illegible], (2) the temperature of the water, (3) the water hardness, and (4) the [illegible] of water flowing through the body of water.

Algae can be controlled much more easily and effectively if the chemical treatment is made soon after plant growth has started. If treatment is delayed until a large amount of algae is present much more copper sulfate will be required, complete control will be harder to obtain, and there is more [illegible] of poisoning or suffocating fish.

In general, vegetation is harder to control with copper sulfate when water temperatures are low. [illegible] Since copper has [illegible] with minerals [illegible] copper sulfate will [illegible] water [illegible] reason, water hardness also [illegible] which is safe for fish.

[illegible] evident that a body of water that has [illegible] will require higher dosages of copper sulfate to kill algae [illegible] a body of water that is stagnant. If possible, [illegible] of copper treatment. About [illegible] day, after the [illegible] have started dying, water flow should be resumed.

[illegible] it is absolutely necessary to use only the recommended

CALCULATING THE AMOUNT OF WATER IMPOUNDED

Concentrates of copper sulfate in water are expressed in parts per million by weight (abbreviated ppm). This means that if a copper sulfate concentration of 1 ppm is needed to destroy a certain type of algae, then 1 pound of copper sulfate must be distributed for every million pounds of water in the pond. If a concentration of 1/2 ppm is desired in a pond containing 3 million pounds of water, then the amount of copper sulfate required is 3 x 1/2 or 1 1/2 pounds.

From these examples, we see that it is necessary to know the amount of water impounded in order to calculate the amount of copper sulfate to use for obtaining a desired concentration. The weight of water impounded can be readily calculated if the volume of water is known (1 gallon of water weighs 8 1/3 pounds), so the problem is simply a matter of calculating the volume of water in the pond.

The amount of copper sulfate needed to give desired treatment in standing water is generally calculated by multiplying the area in square feet by the average depth in feet to get volume in cubic feet, multiplying the volume by the weight of one cubic foot of water to obtain the total weight in pounds, then multiplying the weight by the [illegible] concentration expressed as a decimal fraction.

Calculating water volume involves the following steps:

1. Obtain surface area by measuring regularly shaped ponds, by [illegible] irregular ponds or by referring to [illegible] [illegible].

2. Calculate average depth by sounding in a regular pattern and taking the average of these soundings, or by referring to [illegible].

3. Multiply [illegible] area in feet by average depth [illegible] [illegible].

4. Multiply [illegible] area in acres by average depth in feet to obtain [illegible].

[illegible] weight by:

[illegible] volume in cubic feet by 62.4 to obtain poundage of water [illegible].

[illegible] volume in acre feet by 2,720,000 to obtain poundage of [illegible]

[illegible] AND [illegible]

When a copper sulfate solution is placed in a galvanized container, a chemical reaction takes place which causes the copper to displace the [illegible] in the container [illegible] of [illegible] [illegible] painted [illegible]

COPPER SULFATE DOSAGE

[illegible] single-celled plankton algae ("water bloom"). For example: [illegible], and Green [illegible] algae [illegible]

[illegible]

[illegible]

[illegible] "water [illegible]" [illegible]

[illegible]

[illegible] ALGAE [illegible] COMPOUNDED [illegible]

[illegible] AND [illegible]

[illegible] has been [illegible] by [illegible]


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ANTI-FOULING
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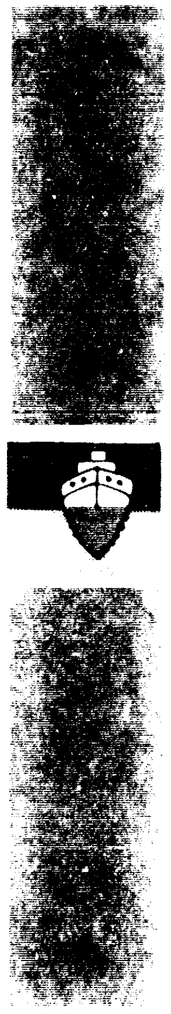

ONE GALLON