AgriLIFE EXTENSION
Texas A&M System

Improving Lives. Improving Texas.

Evaluation of Cutrine-*Plus*® Aquatic Algaecide/Herbicide on Filamentous Algae In Local Farm Ponds

Cooperator - David Thomas - Marshall, Texas
Authors - Randy Reeves*
Year - 2012
Harrison County

Summary:
Recreation plays a huge part in the total agricultural income for Harrison County with recreation contributing 3.6 million dollars toward this figure every year. Farm ponds are an integral part of the recreational picture that many county residents depend on for their recreational needs. Aquatic pond weed infestations are the number one pond problem identified by Texas pondowners because they can interfere with livestock watering and/or recreational fishing. Furthermore, severe infestations of certain species can degrade water quality for aquatic life in local farm ponds by limiting fish production and contributing to reduced oxygen levels.


Filamentous Algae Before Treatment

Filamentous algae are single algae cells that form long visible chains, threads, or filaments. These filaments intertwine forming a mat that resembles wet wool. Filamentous algae starts growing along the bottom in shallow water or attached to structures in the water (like rocks or other aquatic plants). Often filamentous algae floats to the surface forming large mats, which are commonly referred to as “Pond scums.” There are many species of filamentous algae and often more than one species will be present at the same time in the pond.

Submerged portions of all aquatic plants provide habitats for many micro and macro invertebrates (i.e. bugs, worms, etc.). These invertebrates in turn are used as food by fish and other wildlife species (e.g. amphibians, reptiles, ducks, etc.). After aquatic plants die, their decomposition by bacteria and fungi provides food (called “detritus”) for many aquatic invertebrates. Filamentous algae has no known direct food value to wildlife.

Objective:

To evaluate the performance of Cutrine-Plus® Aquatic Algaecide/Herbicide to control

Filamentous Algae, *Spirogyra, Anabaena, Oscillatoria, Lyngbya, Pithophora spp., etc.,* in local recreational ponds and small lakes. Cutrine-Plus® is a copper containing product and is available locally in gallon containers for small ponds.

Materials & Methods:

The date of the application was April 5, 2012, the weather was a bright, sunny day, low to mid 80 degree air temperature and a light breeze was blowing The water was clear and estimated filamentous Algae coverage was 10% or less of the water surface. The algae was growing in marginal areas along the banks of the pond.

The pond was treated at approximately 1:00 PM and was applied with a four gallon backpack sprayer, the application rate was 1.2 gallons per surface acre (1 quart per 3 gallons of water). The banks were walked and sprayed, leaving one side of the pond un-treated and served as a control plot for comparison. After 5 days following the first application, a second application was made on April 10th due to the thick mats of filamentous algae and the fact that Cutrine-Plus® is a contact herbicide and needs to make 100% contact with the aquatic weed.

Results & Discussion:

Evaluations were made on ***April 10th*** and **April 16th,** 5 days and 11 days after treatment respectfully. The following photos from the demonstration site will show the results of the treatments;

Before Treatment 4-5-12

After Treatment 4-10-12 (5 Days Later)

After Second Treatment on April 16th

Pond After 2nd Treatment on April 16th

On April 10, 2012, 5 days after application, evaluations were made with the pond owner, and control was estimated at 50%. A second application was made on April 10th and re-evaluated on April 16th and 100% of all of the filamentous algae that was floating was controlled. It might also be noted that the algae in the control plot area was also gone, we do not know whether this is s weather related event, or if the copper solution drifted into the control plot areas or not. Filamentous algae was also in the lower pond, just feet away from the treated area and is still present in this pond.

Again, it needs to be noted that Cutrine-Plus® is a contact herbicide and must come into contact with the aquatic weed, thus a second application was needed and was applied for the algae that was growing in thick mats on the surface of the pond. It might also be noted that filamentous algae was also still growing on submerged plants under the water surface along the shoreline in some parts of the pond.

Pondowners experiencing aquatic weed problems in their farm ponds are advised to obtain positive identification of the species before adopting chemical, biological or mechanical control options. Assistance can be obtained by contacting the Harrison County Extension office and/or by consulting Texas AgriLife Extension's aquatic plant website (Aquaplant) at http://aquaplant.tamu.edu.

Conclusions:

Texas AgriLife Extension Service demonstrations have shown that small farm ponds are capable of producing 1000 pounds of edible size fish per surface acre per year at a retail value of $1.60 per pound live-weight or $1600.00 per acre. Complete aquatic weed coverage decreases pond unuseable for fish production. However, control could result in fish production of catfish valued at $400.00 annually (based on the size of this pond).

The cost for this demonstration was as follows; chemical cost was $36.00 per gallon and 2 quarts were used in this demonstration for a total herbicide cost of $18.00.

Acknowledgments:

We would like to thank Dr. Billy Higginbotham, Extension Wildlife & Fisheries Specialist from Overton, Texas for his valuable input and guidance in conduction this demonstration. Also, thank you to David Thomas for suppling the materials and pond used in the demonstration and for his help in the evaluation of this project.

Disclaimer Clause:

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

**County Extension Agent-Agriculture, Harrison County, Marshall, Texas, East District 5*