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Evaluation of WeedPlex Pro® (Diquat) Aquatic Herbicide on Parrotfeather In Local Farm Ponds

Cooperator - Matt Garrett
Authors - Randy Reeves*

Year - 2011

Harrison County

GPS Coordinates
Latitude - 32◦30'26"
Longitude - 94◦18'45"

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.

Parrotfeather is non-native in the United States, but is a native of South America and was probably brought to the U.S. for the aquarium industry. It is a rooted, submerged perennial plant that usually grows in shallow water. Parrotfeather gets it name from the gray-green thickly bunched leaves that rise above the water. These exposed leaves are whorled and have frilly divisions that give it a feather-like appearance. Underwater leaves are similar but less dense. The stems are relatively stiff.

Parrottfeather Aquatic Weed

Submerged portions of all aquatic plants provide habitats for many micro and macro invertebrates. 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. Parrotfeather has little or no known direct food value to wildlife and is a non-native that should not be spread.

Objective:

To evaluate the performance of WeedPlex Pro® (Diquat) Aquatic Herbicide to control Parrottfeather, *Myriophyllum aquaticum,* in local recreational ponds and small lakes. WeedPlex Pro® (Diquat) is a generic form of Diquat and is available in quart containers for small ponds.

Materials & Methods:

The date of the application was July 19, 2011, the weather was fairly cloudy, low to mid 80 degree air temperature. The water was clear and estimated Parrottfeather coverage was 10% or more of the water surface. The weed was growing in marginal areas along the banks of the pond.

The pond was treated at approximately 8:30 AM and was applied with a four gallon backpack sprayer, the application rate was .5 percent (2 quarts per 100 gallons of water). A non-ionic surfactant was also mixed at a 1 percent rate, (1 gallon per 100 gallons of water). The banks were walked and sprayed, leaving one end of the pond un-treated and served as a control plot for comparison.

Results & Discussion:

Evaluations were made on ***September 14th*** and ***September 22nd***, 5 days and 13 days after treatment respectfully. The following photos from the demonstration site will show the results of the treatments;

Before Treatment 7-19-11

After Treatment 7-23-11

On ***July 23, 2011,*** 5 days after application, evaluations were made with the pond owner, Matt Garrett and control of parrottfeather was estimated to be 100% on weeds that were growing up out of the water, with 50 to 75% control on weeds that were submerged.

Parrottfeather After Treatment 7-23-11

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 watermeal coverage decreases pond unuseable for fish production. However, control could result in fish production of catfish valued at $1072.00 annually (based on the size of this pond).

The cost for this demonstration was as follows; chemical cost was $1.87 per ounce and four ounces was used in this demonstration for a total chemical cost of $7.50. The surfactant was .32 cents per ounce for a total cost of $2.62. Total cost for this demonstration was $10.12. It might also be noted that Diquat is also available as a generic and was purchased in a quart container as such.

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 Matt Garrett 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*