Marginal Emergent Aquatics Controlled With 2,4-D And Molasses

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In the summer of 1965, assistance in the control of aquatic weeds in Hodges Lake was initiated. Hodges Lake is a 350-acre body of water located in Sabine Parish in northwest Louisiana. The lake is man-made, and normal rainfall which collects in a small area surrounding the lake is the primary water source.

The major aquatic weed infesting the lake margin was *Brasenia schreberi* Gmel. (watershield), *Eleocharis quadrangulata* R. and S. (squarestem spikerush), *Juncus canadensis* J. Gay (Canadian rush or rush) and *Potamogeton capillaceus* Poir. (Pondweed or Fishweed). *Typha angustifolia* L. (narrowleaf cattail) and *Typha latifolia* L. (common cattail) were also included because they were in the immediate area of direct herbicidal application.

The depth of water in marginal areas of infestation varied from only a few inches to about five feet.

One commonly employed treatment for the control of watershield is 2,4-D amine (an amine of 2,4-dichlorophenoxy acetic acid) at 6 lb/A applied in 100 to 150 gpa of water. The suggested application frequency varies from 6 to 8 weeks.

Various aquatic weeds previously non-affected by 2,4-D have been partially to completely controlled when herbicides involved were combined with blackstrap molasses. Research conducted during 1964 and 1965 also demonstrated that satisfactory control could be obtained with susceptible species, using lower than normal rates of 2,4-D when combined with blackstrap molasses.

For application, one gallon of blackstrap molasses was dissolved in water and then four pounds of 2,4-D amine and one pint of Surfactant W-K was added. Sufficient water was added in order to attain an overall volume of 100 gpa of herbicidal solution. The mixture was thoroughly agitated before use. A thorough wetting of the foliage of watershield was achieved by using 75 psi and a coarse particle size setting.

Control evaluations were made in May, 1966. A value of 100 was used for complete elimination of aquatics included in this study. The effectiveness of control measures was 95 for *Brasenia* and *Potamogeton,* while *Eleocharis* and *Juncus* had 90. *Typha* had an evaluation of only 70.

Evaluation revealed that only those aquatics directly sprayed on the margins of infestation were eliminated. Herbicide applications were made by boat and consisted of spraying from the fringe toward shoreline. Varying widths of non-treated weed fringes remained. Coverage to the shoreline in all areas was made in July of 1966 involving the same procedures as employed earlier.

Control of aquatic weeds involved in Hodges Lake, with the exception of *Typha,* has been completely successful. Measures for possible control of *Typha* will be forthcoming during the 1967 growing season. Dowpon (2,2-dichloropropionate), at 5 to 7 lb/A, will be evaluated for control of *Typha.*

Complete elimination of troublesome aquatic weeds has not been realized in Hodges Lake, but a once major problem has been reduced to simply one of maintenance.