Control Of Several Marginal Emergent Aquatics With 2,4-D And Molasses

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During the summer of 1965, we were requested to assist in the application of herbicides in Hodges Lake in Sabine Parish, Louisiana. This lake is man-made and its primary source of water is from rainfall collected in a small area surrounding the lake. The primary weed infesting the margins of this 350-acre lake was *Brasenia schreberi.* Other species present in the area covered by the spraying operation were *Eleocharis quadranqulata, Juncus canadensis, Potamogeton capillaceus,* and *Typh*a sp.

The recommended treatment(1) for the control of *Brasenia schreberi* is 2,4-D Amine at 6 lbs. of surface acre in 100 to 150 gallons of water, repeated in 6 to 8 weeks.

Previous experience during 1964 and 1965 with other aquatic species in Louisiana had shown that the use of blackstrap molasses with 2,4-D Amine has widened the spectrum of plants susceptible to this herbicide. We also noted that control might be obtained with reduced dosages of 2,4-D, when molasses was added, on susceptible species.

Measurements of water conditions showed that water temperature was 78°F. and that the pH was 7.6. Water depth in the areas treated on August 18 and 19, 1965 ranged from 6 inches to 5 feet.

We dissolved one gallon of blackstrap molasses in water, added the 4 pounds of 2,4-D Amine and one pint of Surfactant W-K, and finally added water to attain a volume of 100 gallons. The mixture was agitated thoroughly and applied in sufficient quantity (100 gpa) to thoroughly wet the foliage of the *Brasenia.* This mixture was applied from a boat from outside the area of infestation in a coarse spray with 75 lbs. pressure.

The following ratings indicate the degree of control obtained as noted in May, 1966: *Brasenia schreberi* 9.5, *Eleocharis quadranqualata* 9.0, *Juncus canadensis* 9.0, *Potamogeton capillaceus* 9.5, and *Typha sp.* 7.0.

Photographs used to illustrate conditions immediately after spraying in August, 1965 (Figure 1.. and in May, 1966 (Figure 2) show a narrow marginal fringe of vegetation remaining. At the time of treatment only those weeds covered by traveling at the margin of infestation were sprayed, which left a fringe of nontreated vegetation. Coverage to the shoreline in all areas will be forthcoming in 1966.

Figure 1. A close-up of the vegetation immediately after spraying in August 1965.

Figure 2. A narrow fringe of vegetation along the shoreline as found in May, 1966.

LITERATURE CITED

1. Lawrence, J. M. 1958. Method of Controlling Aquatic Weeds in Fish Ponds with Emphasis on Use of Cmemicals. Agricultural Experiment Station Progress Report Series 69. Alabama Polytechnic Institute, Auburn, Alabama.