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 quadrangularis*, *Juncus canadensis*, *Potamogeton capillaceus*, and *Typha* 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 area 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 quadrangularis* 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