

The Commercial Application of Acrolein

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During the past year, we have applied acrolein (Aqualin) to many waterways in South Florida. In my opinion, it is one of the finest herbicides and algaecides on the market. We have been able to control all submerged aquatic weeds and algae in flowing and non-flowing water.

Acrolein has the drawback that it will kill fish. This is a very serious handicap with the whole nation so involved in air and water pollution. Most of you, I am sure, have heard about the fish kill at Lauderdale Lakes, and if you are applying aquatic herbicides, you will be interested in the *TRUE* story.

In February, 1969, we were awarded a contract to treat hydrilla (*Hydrilla verticillata*) in the canals of Lauderdale Lakes. They specified that we use acrolein or the amine salt of endothall. It also specified that we pick up all dead fish.

On April 1, 1969, we treated about one-half of the area specified in the contract. We only treated one side of one-half of the canals, with the exception of one area, expecting the fish to move out and not get trapped.

The next morning, April 2nd, we found a large number of dead fish. We did not apply any herbicide after April 1st, 1969.

The residents living in the area were retired, and they were quite alarmed to see dead fish. Mr. Bill Dubbs, an officer of the Fish and Game Commission, reported they had over one hundred phone calls on the fish kill. Radio, television and newspaper reporters were called in by the residents. The reporters took testimony from anyone who would stop and talk. One newspaper reported 50,000 fish were killed, then in another edition they reported 100,000 to 200,000 fish killed. Roger Martz, regional biologist for the Fish and Game Commission, reported 77,000 fish were killed. These figures were questionable, because all of the dead fish were placed in plastic bags. The bags weighed about 75 lbs. The Lauderdale Lakes Public Works Department buried the dead fish with a front end loader. They estimated they buried 15 to 20 bags. I have no reason to question them, but if they buried 40 bags, which would amount to 3,000 lbs, and if you figure ten fish to the pound, it would amount to only 30,000 fish.

The Florida Game and Fresh Water Fish Commission charged us with treating Canal C-13 which we did not do. Two men from the Lauderdale Lakes Public Works Department traveled one mile down stream in a boat and they said they found about a dozen dead fish.

April 2nd, we received by telegram a cease and desist order from the Florida Air and Water Pollution Commission. Therefore, we have made no further acrolein treatments. The Air and Water Pollution Commission notified Lauderdale Lakes and our company that we were to appear before the Commission for a hearing on May 28, 1969.

The attorney for the City of Lauderdale Lakes advised us to ask for a postponement, which was granted. On May 24th, we received the following statement from the Florida Attorney General's office:

Fish and Game Commission	\$ 266.81
Air & Water Pollution Comm.	590.00
Adjusted value of fish loss	13,031.75
Total	<u>\$13,888.56</u>

Actions such as this will certainly hurt our industry. We need more good aquatic applicators in this state, but they will not go into business under these conditions.

I am indeed grateful to the many of you in this room who have offered to help. I do not think any applicator in Florida will be able to use any herbicide that will kill fish. Our lakes are going to become heavily infested with hydrilla (*Hydrilla verticillata*) and other weeds. The home-owners cannot enjoy their waterfront property for recreational purposes. Property value is deflated and the danger of children becoming entangled and drowning in the mass of aquatic growth is a serious threat.

It behooves our chemical companies to develop herbicides that will kill all aquatic growth but will not harm children, pets, trees, shrubbery or farm crops. It must be economical to use, and above all else, it must not kill fish nor harm fish food.

This is a very critical situation, for there are some areas where no other herbicide will do the job as well as acrolein. Acrolein is fast acting. Seventy-two hours after it has been properly applied, all of the weeds and algae have sunk to the bottom and the water can be used safely for swimming and irrigation.

We apply acrolein with an air boat ("Creeping Charlie"). A cylinder of carbon dioxide is used to force the acrolein out of a pressurized cylinder through plastic hose to a flow meter mounted on the front of the boat. This flow meter indicates the gallons per minute of acrolein being dispensed. From the flow meter, the material goes through a one-half inch copper line on the floor of the boat, through the transom to a 6-foot boom across the rear of the boat. The boom has four downspouts of 1/8 inch plastic tubing which are encircled in steel springs to keep the acrolein under the water at a depth of 6-8 inches.

We have made a sizeable investment in equipment designed for the use of acrolein which we can no longer use. This has been a very sad and expensive experience for me. If you are applying herbicides, or even doing research, the same thing could happen to you.

Almost every lake, pond, canal or waterway in Florida has a weed or algae problem. There are only four or five commercial applicators in the state. We need to work together, to learn from each other, and to profit from our mistakes. The few of us who are commercial applicators today are the pioneers in this field, and we need and welcome competition.

Our Hyacinth Society is ready to help us with all their combined knowledge and experience, and with these outstanding men behind us, we could have an exciting future.