

# Safe - Fast Ditch Herbicide Application

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One of the long-neglected phases of aquatic weed control is the drainage ditch. Our experience has been primarily with ditches that drain agriculture lands and tie into drainage district canals. They vary from perimeter ditches that are never dry to wet-dry laterals that drain pastures, vegetable fields and citrus groves.

Control of vegetation in the ditch and on the banks cover the entire range of aquatic weed control including submersed, floating and emersed weeds as well as brush and grass on the banks. It is very important that the ditch stay free of all types of weeds so water can be moved on or off of the land quickly and so volume gun type irrigation equipment will not clog. The banks must be free of tall brush and grass so the irrigation equipment has free access to the entire ditch.

We are fortunate we have a wide selection of herbicides that will control almost all of the types of weeds that cause problems in ditches. These chemicals, in most cases, are more effectively used in ditches than canals because of better water control. The wide variety of conditions involved in chemical weed control in ditches makes a general recommendation impossible and on-the-spot appraisal imperative. Therefore, we will not discuss the herbicides we used in detail, but will concentrate on how to do ditch spraying fast, economically, and with a high degree of safety. For assistance in selecting the proper chemical to use check University of Florida Agricultural Extension Service Circular 219B, "Aquatic Weed Control."

There are several reasons why ground equipment is not fast, economical or safe. Spraying ditches with ground equipment involves two or three men on a relatively slow operation which is costly during the shortage of good labor. In order to spray a ditch with ground equipment the man

with the gun should be suspended out over the ditch so he can spray both banks evenly and cut down drift. This causes the operation to be clumsy and slow. Drift is hard to control with high pressure guns.

In contrast a highly efficient helicopter operation uses two men; one to fly the ship, the other to operate the mobile landing platform which contains the nurse tank. These two men can spray 20 miles of ditch in an hour. Herbicides are applied at approximately 20 mph at the rate of 10 gallons per acre. The high degree of safety which is obtained by the use of a thickening agent and proper placement of the spray boom on the ship makes this method of application much safer than ground equipment.

By properly using a thickening agent such as "Vistik,"<sup>®</sup> we have been able to apply "2,4-D Amine 4" (2,4-D); "Kuron"<sup>®</sup> (2,4,5-TP), "Dowpon"<sup>®</sup> (dalapon), "Diquat"<sup>®</sup> (diquat), "Hyvar X"<sup>®</sup> (bromocil), and combinations of these materials in ditches between rows of citrus trees as close as 24 feet apart. We do not advise spraying ditches with trees this close because it does not leave much margin for error, but it does show that the spray can be controlled.

"Vistik"<sup>®</sup> does not seem to effect the activity of any of the herbicides unless it improves their activity by making them stick better. We were using recommended rates which are optimum rates, so we do not know if "Vistik"<sup>®</sup> improved the activity but we are sure it does not reduce the activity of any of the herbicides. "Vistik"<sup>®</sup> is compatible with all the herbicides we used in both liquid and wettable powder formulations and with "Sun Oil 11E"<sup>®</sup> which we use as a penetrant with all the herbicides.