



# Colorado Flower Growers Association

IN COOPERATION WITH COLORADO STATE UNIVERSITY

Doris Fleischer, Executive Secretary  
655 Broadway, Denver 3, Colorado

Bulletin 156

March 1963

## Algae Control in Evaporative Pads

by W.D. Holley

The stoppage of evaporative pads by algae and debris causes one of the most serious problems in greenhouse cooling efficiency. Durrell and Baker (1) identified the algae most responsible for clogging evaporative pads as green or blue-green species that normally grow in long chains. At least one alga found in pads was a common blue-green that is coated with a sticky gelatinous layer. Most of these algae blow in with dust.

Durrell and Baker were able to control these algae with 10 ppm of "36-20" a proprietary disinfectant containing a quaternary ammonium compound. Several other quaternary ammoniums have also been used for the same purpose.

For a number of years a product of the Naugatuck Chemical Division of the U. S. Rubber Company has been known to effectively control algae. The product is sold under the trade name of Phygon XL. Since the cost of this pad treatment is less than for previous controls, its ability to keep the pads and circulating systems free from algae was tested during the summer of 1962.

Dosage rates for Phygon XL in recirculating systems recommended by the manufacturer vary from 0.05 to 0.15 ppm, depending upon the type of algae. At the Naugatuck Chemical plant in Baton Rouge, La., they were able to control algae in their recirculating system with 8 lbs. of Phygon XL per million gal. water per week, or 3.6 grams/1000 gal./week. This rate should maintain a minimum concentration of 0.15 ppm unless there is excess spillage.

Since this is such a small amount (1/3 gram per 100 gal/wk), this dosage was increased to 1 tablespoon/200/gal/wk in the Colorado State University tests. Effective algae control was accomplished with no harmful effects to plants or metal troughs. The cost of this treatment is considerably less than for other pad water treatments.

For installations where the water is not recirculated, spraying the pads thoroughly in late afternoon with Phygon XL at 1 pound/400 gallons should kill the algae. This spray treatment should be repeated on

2-week intervals during the cooling season.

- 
1. Durrell, L. W. and Ralph Baker. 1959.  
Algae causing clogging of cooling  
systems. Colo. Flw. Gro. Assoc. Bull.  
111.