

4 grade, appears to be preferable from the point of view of economy, cost per acre and absorptive capacity of the carrier.

Considerable saving could be effected if one treatment every two years would prevent breeding. To test this idea, 1000 acres of marsh are being treated with 1½ pounds DDT per acre this winter.

The growth of pre-season control may be judged by comparing the figures on acreage treated in the winters 1955-56 and 1956-57 (table 1).

RESULT OF PRE-SEASON CONTROL. In 1957, for the first time on record, fogging was not necessary in May or June to kill adult mosquitoes. This was probably due

TABLE 1.—Acreage treated in pre-season control work

Method	Winter of 1955-56	Winter of 1956-57
From the air	564 acres	6117 acres
From the ground	1357 acres	1811 acres
Total	1921 acres	7928 acres

to the pre-season application of DDT by granule and spray, which prevented breeding on 7928 acres of wet land. Men and machinery were thus released to control other areas which were breeding in the usual way from April 17.

MOSQUITO CONTROL HIGHLIGHTS FROM THE STATES

MARYLAND

Maryland has just completed its second season of operation under the 1956 appropriation which established a state-wide program of support for mosquito control activities.

A highlight of the year was the completion of our Eastern Shore Headquarters Building. This building of cinder block construction, built at a cost of \$40,000.00 provides office space for our Eastern Shore Headquarters personnel, a shop for the maintenance of equipment, storage space for insecticides and a number of garages for spray equipment. It is located on State property and serves as a center for supervising mosquito control activities for the Eastern Shore region. We believe maintenance costs on equipment will be reduced considerably by having our own maintenance shop.

We continue to divide our control program into a temporary control and a permanent control program for administrative purposes. The temporary control continues to be largely an attack on the

adult mosquito to give our people a chance to enjoy their porches and gardens in the early evening hours. This year 197 communities participated in our spray program, as compared with 82 last year. This increased load required the adding of three additional spray machines to our State-owned equipment. This equipment was operated in two ways; by rental to the community for local operation, or by crews furnished by the State. Securing good temporary help continues to be a problem.

June and July were rather dry and control was satisfactory in most places. About the middle of August the rains began and extensive breeding resulted. In our tide-water areas *Aedes sollicitans* poured out of the marshes in such numbers that with equipment operating night and day we were able to give only limited relief. This situation continued until cooler weather resulted in an abatement of breeding.

We do not have a large enough program to do much larviciding. In two areas of the State we carried on a little larvicide work using insecticides in the granular form. We reduced the larval population

but the areas treated were too small to result in control.

Financing a mosquito control program is always a problem. I will not leave the subject of temporary control without bringing to your attention the way in which one community met this problem. Even with the State paying fifty percent of the cost many of the smaller communities find it difficult to raise their share of a very limited budget. St. George's Island is such a community. It is a low, marshy island about three quarters of a mile wide at its widest and about two and a half miles long. It has a population of about 200 people who make their living mainly by fishing, crabbing, and dredging oysters.

When the people of St. George's Island learned that aid was available they organized a group known as the St. George's Island Improvement Association. A few of the more affluent citizens loaned the group enough money to buy a fog machine and the members rotated the detail of fogging the island among themselves. They paid the debt on their equipment by giving crab feasts and oyster dinners. St. George's Island is a splendid example of what a community can do with little money but a lot of determination to do something about mosquito control.

One of the highlights of the year was the increase in permanent work projects. To take care of this increase in permanent work we added another tractor to our equipment specially equipped with scavel and backhoe for marsh work. Late in the year we acquired a special ditcher. Mr. Elwood Lynch, our engineer, will report on this in more detail. The permanent work consisted mainly of ditching marshlands near populated areas to establish circulation of water so that top minnows can enter and devour the mosquito larvae. In one county, main ditches were established by blasting because of poor footing for machinery. In the City of Oxford a number of tide gates were constructed to prevent tidal water from entering the city storm sewers. Most spectacular of the projects was the Coty Cox Branch clean up

in the City of Salisbury. Here a meandering creek that supplied ample breeding near the heart of the city was brushed, ditched, filled and graded to eliminate the breeding of *Culex* mosquitoes.

This season we continued to depend on BHC as our principal insecticide. In some communities the odor of BHC was very objectionable to the residents. In these communities DDT was substituted. Later in the summer when the heavy populations of mosquitoes emerged following the rains, the insecticide malathion was substituted in a few communities. We have no evidence of resistance to any of our insecticides to date, and all complaints have been traced to improper application. —JAMES R. FOSTER, Asst. Entomologist, Maryland State Board of Agriculture.

VIRGINIA

Waterfront property in Virginia is at a premium. Our population is growing and will continue to do so, but, our land area will remain substantially the same. This means that in the future we will have more people interested in property and because of the limited amount of waterfront property, it will become more and more valuable. Also, more and more families want and own small boats.

Along the coast there are many acres of salt marsh. These marshes are located between the highland and open water and, therefore, cut off access to the water from the adjoining property. They are unsightly and undesirable from many angles, principally because they produce enormous broods of salt marsh mosquitoes.

Now—before a voice is raised concerning wildlife, we are not speaking of the isolated marshland. This perhaps should be left for wildlife use. We are talking about the marshland in the cities and in areas of dense population. For example, there remain 1,000 acres of marsh within the boundaries of Norfolk City.

Potentially, this marshland is the most valuable land because of its proximity to