

MOSQUITO CONTROL DIVISION

Future Rulers?—It has been said, mostly in jest, that the long-range future of the world belongs to the insect. Indeed, the Delaware mosquito this past year acted very much like its future was here already.

The past year was marked once more by the recurrent problem of masses of low-flying, stinging mosquitoes who had developed a remarkable resistance to insecticides. And, for the first time, since the inauguration of the airspray program in 1947, there was available no effective toxicant for larval work.

Consequently, the entire program reverted to an attack against adult mosquitoes. This meant not only considerable discomfort to urban areas, but also greater expenditures of money and effort in combatting the demons as they moved from breeding marshes to inland points throughout the State.

The crisis in this evolution occurred during the middle of July, 1959, when in the midst of heavy breeding conditions it was discovered that only about 50 per cent of the treated larvae were being killed by DDT. Henceforth, DDT was continued as an insecticide against adults over the marsh areas, but because of the question of residual effect, it was necessary and expedient to employ malathion over farmlands and population centers. The total effort of the airspray program was 407,000 acres, the highest in the history of the Division, and was broken down among the counties as follows: Kent County, 163,000; Sussex County, 165,000; New Castle County, 59,000. The cost of this program was \$131,198.39. Furthermore, the Division operated its Tifa fogging machine a record number of 59 nights, with a total expenditure of 3,300 gallons of material. The insecticide used in all instances was malathion.

Because of the absence of an effective material for larval work, testing was conducted with possible alternative products. The first of these was Paris Green, which had a background of usage by hand application in the 1930's. An attempt was first made to apply it in a liquid form, but this proved not feasible because of the lack of an effective dispersant to keep the Paris Green in suspension before it contacted the marsh surfaces.

Subsequent research with a second pesticide, Dibrom, has revealed an apparently potent and safe adulticide, but again the results on larvae have been very spotty. Consequently, for the foreseeable future, it appears that no larval control insecticide will be used in the State.

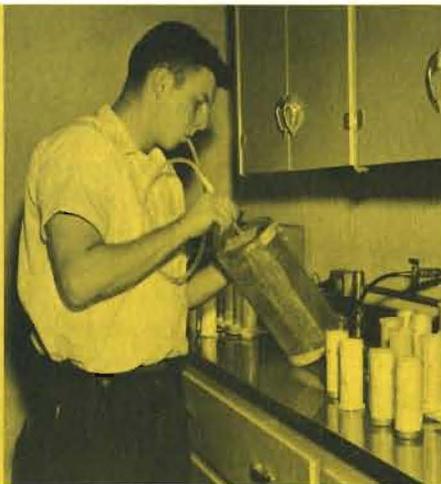
During the year, the impoundment project near Little Creek progressed almost to completion. The diking was finished in November, 1959, with a total of 11,162 lineal feet of these structures having been built during the year at a cost of \$13,890.17. In addition, a contract has subsequently been let for the installation for the necessary water controls.

Ditching during the period was continued, though on a decreased scale. Most of this was accomplished through the use of machinery and was divided almost equally between the marsh areas of the two lower counties. An experimental project involving 6, 10, and 15-foot wide ditches was initiated in April, 1960, on lands leased from the U. S. Air Force, west of Bombay Hook Wild Life Refuge. These cuts differ drastically from the traditional 20-inch ditches maintained on the local marshes, and the hope is that maintenance costs will be negligible. However, an accompanying three-year study will be made to determine the effect of this program on erosion, wild life propagation, and similar manifestations.

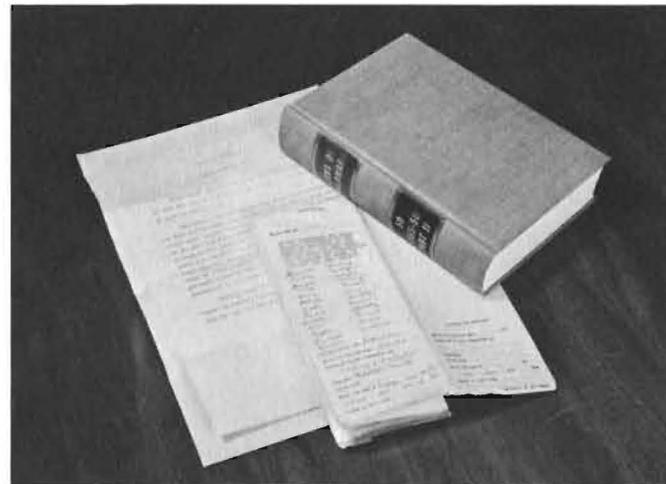




New Mosquito Control headquarters.



Preparing death for mosquitos.



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LEGAL WORK

During this period the Department's General Counsel represented the Department in a suit brought in the Delaware Court of Chancery by opponents of the Freeway route through Wilmington to enjoin the Department from constructing the Freeway. The Supreme Court affirmed the Court of Chancery's decision in favor of the Department.

The General Counsel rendered numerous legal opinions to all Divisions of the Department, drafted legislation in which the Department was interested and was consulted frequently by Commissioners and Staff of the Department in connection with the Department's operations.