

district.) Dr. Robert C. Pendleton, a member of the American Mosquito Control Association and formerly of the Salt Lake City District, was elected President of the Board. The first meeting of a county-wide Mosquito Control District Board of Trustees occurred in Lind, Adams County on December 9. Mr. Maynard Jensen was elected President of the Adams County Mosquito Control District Board of Trustees.—HARRY H. STAGE, Entomologist, Washington State Department of Health.

### NEBRASKA

The year 1957 was important in the history of mosquito control in Nebraska. The 1957 session of the Nebraska Legislature passed Legislative Bill 378, an act relating to mosquito abatement districts and their formation. On May 4, 1957, Governor Victor E. Anderson signed the bill and it became a law under the Emergency Clause.

Unfortunately, the Nebraska mosquito abatement law has the undesirable feature of requiring a vote of "55 percent of the electors of the district, as determined by the number of votes for Governor at the last general election in the proposed district." At the present time we do not know whether or not this will be an insurmountable problem. On February 5, 1958, there was organized at Bayard, Nebraska, the North Platte Valley Mosquito Abatement Association, whose objective is to organize a mosquito abatement district in Gorden, Morrill, and Scottsbluff counties. It is the hope of this organization that they can have an election for a mosquito abatement district held in conjunction with the general election this coming November. If the people vote in favor, they will then be able to have a mosquito abatement district by late 1959 or early 1960.

In many respects 1957 was one of the worst mosquito years in a long time. For the past several years, Nebraska has been

suffering from a drought, which finally broke in the spring of 1957. Heavy rains in May and June resulted in flooding in all areas of the state. This resulted in an almost state-wide *Aedes vexans* problem. This problem continued well into the summer and as the season went along, large populations of *Culex tarsalis* and *Aedes dorsalis* and other species developed. In the North Platte Valley the mosquito populations reached such proportions that it was difficult to obtain labor for the sugar beet fields. Since sugar beets are the best cash crop in the valley, it is the general opinion that some type of control program must be started.

During the past year over one hundred municipalities in the state had some type of mosquito control program. Unfortunately, the majority of these programs are run on a hit or miss basis. It would appear that in many cases the psychological results outweigh the entomological results. Twenty-seven municipalities submitted data to us on their 1957 program and these 27 municipalities spent \$10,013 for insecticides alone. The reasons why good results are not achieved are many. Lack of proper know-how is probably the number one problem. Many municipalities do not realize the importance of using trained personnel to head up their program. Usually they wait until the last minute and select some city employee and add the spraying work on to the rest of his work. Poor selection of insecticides is often to blame. High pressure salesmanship, desire to do business with the local business man is often responsible for the selection of the wrong insecticides. Another reason for lack of success is the improper choice of equipment. In some municipalities they attempt to use existing equipment such as fire trucks equipped with fog nozzles, weed sprayers, etc. In some cases we can again blame over-ambitious salesmen. Unfortunately, at the present time the majority of municipalities are devoting all of their efforts to adult control and none to source reduction.

The State Department of Health, for the

past five years has been carrying on an educational program. Each year a list of recommended insecticides is published and distributed to all municipalities which are carrying on insect control programs or which are interested. Also a series of meetings have been held in the spring of each year. Unfortunately, the majority of these meetings have been poorly attended.

At the present time encephalitis is the only mosquito-borne disease in Nebraska.

Although we have for years considered St. Louis encephalitis as endemic in eastern Nebraska, recently we have been able to demonstrate serologically that St. Louis encephalitis occurs throughout the state. Since *Culex pipiens* is of minor importance it is thought that *Culex tarsalis* is the principal vector in Nebraska.—WILLIAM F. RAPP, JR., Entomologist, State Department of Health, Lincoln, Nebraska.

## THE MOSQUITOES OF THE INTERNATIONAL AIRPORT, ISLA VERDE, PUERTO RICO, AS SHOWN BY LIGHT TRAPS

IRVING FOX<sup>1</sup>

School of Medicine—School of Tropical Medicine, University of Puerto Rico, San Juan, P. R.

The Puerto Rico International Airport is among the most important in the world, accommodating almost a million passengers a year (Gotay Montalvo, 1957). It is located about seven miles to the east of the Old City of San Juan on the north coast, in an area of great natural beauty and of high recreational value, where new housing developments and luxurious hotels are being constructed at a rapid rate. But this is a region of largely undeveloped land including many acres of saltmarsh which breed mosquitoes and sand flies in enormous numbers. The airport cost \$16,000,000 to construct and property values in the environs and equipment, including that of an important Air National Guard base, would give a figure several times this amount as the total value of the area; nevertheless no significant part

of the huge sums spent for construction go for insect control, despite the magnitude of the mosquito problem there. Since inauguration on May 22, 1955, popular clamor has been great that something be done about the mosquitoes and sand flies, but repeated attempts to secure an adequate appropriation by legislative action have so far been unsuccessful.

Despite the handicaps of an inadequate budget, it was possible to accomplish certain aspects of the survey work which is essential to control by limited use of personnel and equipment of the various interested agencies; in particular the gathering of data by light traps was feasible. Several of these were in operation by the U. S. Public Health Service before this project began. Others were added and the collections carefully studied with the following objectives: (1) To find out what species occur in the area and their relative abundance; (2) to ascertain any consistent seasonal variation of the pest species; (3) to obtain population data which may be used to gauge the effectiveness of control measures should they ever be instituted in the future; and (4) to obtain information on disease hazards.

<sup>1</sup>In cooperation with Félix C. García and Manuel Pérez Torres, Puerto Rico Department of Health; Dr. Marvin S. Cashion, U. S. Public Health Service; and O. L. Sands, Puerto Rico Ports Authority. Portions of this study were supported by the Puerto Rico Department of Health. Other portions were supported by Research Grant E-1225, from the National Institute of Allergy and Infectious Diseases, Public Health Service.