

cases of western equine encephalitis in two counties in the endemic area. No reported human cases occurred, which is a mystery to us. As the population increases in these areas, susceptibles coming into the area will be exposed to the disease and a rise in encephalitis should be considered imminent. Until proper irrigation methods are practiced as well as the control of log pond mosquitoes, encephalitis will be a potential hazard in the endemic areas.

Another problem that exists within Oregon as more land comes under irrigation and as the population increases, is *Culicoides*. We have a problem at present in some of our coastal recreation areas, as well as in the irrigated areas of eastern Oregon. The development of sewage lagooning in the more arid part of the state will tend to increase the *Culicoides* problem if proper maintenance is not carried out in sewage lagoons. A reported outbreak of blue tongue among sheep in one of our counties has shown that the potential vector is present in the eastern Oregon area.

To date, resistance to DDT among the mosquitoes has been reported from only one locality—this being in a heavily polluted log pond. An interesting sidelight to this occurs in the Portland area during July and August when the water temperatures are up in the smaller ponds. DDT applied during midday has been failing to provide control of mosquito larvae, whereas re-treatment or treatment during the early morning hours when the water temperature is lower, has resulted in excellent control of larvae. Reported occurrences of insecticide resistance have been investigated and in most cases improper application of the insecticides has been responsible for the decrease in mortality of the larvae rather than resistance to the insecticide.—L. S. MILLER.

WASHINGTON

We hope the year 1957 will pass as an important transition period in the history

of mosquito control activities in the State of Washington. At least three outstanding developments occurred during the year which should give renewed interest in fighting mosquitoes within the state.

The control of mosquitoes in various counties of the State is not new. In fact, there have been mosquito control programs to a greater or lesser extent in several of the counties for the past 30 years. There have been several attempts also to obtain enabling legislation during the past 20 years but not until March, 1957 was the Act passed by the Washington State Legislature. The Enabling Act now authorizes the organization of mosquito control districts, when favorably voted by the counties, in seven counties of the Columbia Basin, in eastern Washington. These are Adams, Benton, Franklin, Grant, Kittitas, Yakima, and Walla Walla counties. Undoubtedly the periodic epidemics of encephalitis are responsible for accelerating this interest in fighting the mosquito pest and also promoted the concerted effort of the State Department of Health and interested citizens in going to the State Legislature for the needed law.

The State Department of Health employed a full-time entomologist for the first time on July 25, 1957, to assist the counties in implementing the enabling legislation. The usual pros and cons for mosquito control were heard in the seven counties, and in at least one county bitter opposition was observed. Meanwhile one of our most important courses of action is to acquaint the public with mosquito biology and economics.

Three of the seven counties, Adams, Benton, and Franklin, voted on the organization of districts and on the levying of taxes to finance their work. Unfortunately, in each instance too few votes were cast to provide the necessary funds. The Benton County Mosquito Control District Board of Trustees met in Pasco, December 3. This was the first meeting of a Mosquito Control District Board of Trustees to be held in the state. (Only about one third of the county was included in the

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