

## ROLE OF THE TEXAS STATE DEPARTMENT OF HEALTH IN MOSQUITO CONTROL

F. J. VON ZUBEN, JR.

Chief, General Sanitation Services, Division of Sanitary Engineering, Texas State Department of Health

Two major divisions of the State Department of Health are concerned with mosquito control, the Division of Sanitary Engineering and the Division of Laboratories. The Division of Sanitary Engineering is concerned with promotion, operations and research and has a Vector Control Section included under General Sanitation Services. The Division of Laboratories includes an Entomology Section and provides general laboratory services. Both divisions collaborate on matters of mutual concern, including research.

In times past the State Department of Health has been primarily concerned with such common mosquito transmitted diseases as malaria, yellow fever, dengue and, more recently, infectious encephalitis. Organized efforts toward the control of malaria in Texas commenced with education, screening of homes, drainage, conditioning of residual water and larviciding during and immediately following World War I. These activities continued progressively through the years with State and Federal funds until the period immediately following World War II, when a joint State and Federal approach to the problem actually brought about the near eradication of this once dreaded scourge. A few questionable cases of local origin are still reported annually by a few isolated physicians; however, almost invariably, laboratory confirmation is unobtainable. The vectors of malaria are still prevalent in a wide area of the State, however, necessitating a surveillance program. A further complicating factor is presented by the large numbers of Mexican Nationals from malarious regions of Mexico that are imported to harvest crops.

Yellow fever, although still accounting for numerous fatalities in the very early 1900's, had virtually disappeared from the

State by the time the State Department of Health was sufficiently well organized to formulate a specific program. Sporadic outbreaks of dengue have occurred; however, these outbreaks have been promptly attacked through a combination of education, environmental sanitation and chemical control. Although a few isolated foci of *Aedes aegypti* mosquitoes still are present in the State, epidemics have been unknown during the past 15 years. The known vectors of infectious encephalitis occur in virtually all sections of the State, and occasional clinical as well as near epidemics are recognized.

In keeping with modern concepts the thinking has gradually come around to recognizing a comfortable environment as a major part of the public health program. This includes the control of so-called pest mosquitoes insofar as appreciable numbers affecting significant portions of the human population are concerned.

Since the State is currently limited insofar as actual financial participation in operating programs is concerned, efforts are largely confined to promotional work and technical services within budgetary limitations.

A few of the functions performed by the State Department of Health include the following:

1. Preparation and distribution of technical information, bulletins and other training aids.
2. Conducting training seminars and refresher courses for technical representatives of local political subdivisions.
3. Provision of technical consultationship to operating programs.
4. Identification of mosquitoes and general laboratory services.
5. Mosquito surveys with technical reports and recommendations.

6. Provision of emergency technical aid to communities affected by disasters and epidemics.

7. Review of plans and technical recommendations for the prevention of mosquito propagation in the construction of drainage, flood control and major water impoundment projects.

8. The review of operational and mosquito collection reports.

9. Public relations activities in encouraging the activation of mosquito control programs.

Among the many mosquito problems confronting the State of Texas are the many miles of coastline with the inevitable salt marsh acreage that is subject to periodic inundation from the coastal tides. This normally creates a bad salt marsh mosquito problem; moreover, occasional high tides bring about the flooding of abnormal acreage and the consequent emergence of astronomical numbers of salt marsh mosquitoes. Usually the control programs in adjacent municipalities are poorly equipped to function adequately under these exceptional conditions, and there is considerable distress and suffering among the affected population.

Commencing with Jefferson County in 1949, six counties have voted in county-wide mosquito abatement districts under the existing enabling legislation. This

legislation is restrictive to the coastal counties touching the Gulf of Mexico and is otherwise in need of revision. This current legislation is inadequate to permit a realistic approach commensurate with the problem. More adequate state legislation in the form of a constitutional amendment will be necessary before the Texas Gulf Coast, as well as the interior counties, can hope to provide the population with the type of comfortable environment that is currently in demand.

Since health agencies have largely been the ones concerned with mosquito control during past years, and budgetary restrictions on research have of necessity been confined to mosquito vectors rather than pest mosquitoes, considerable technical knowledge is lacking concerning the most suitable techniques for salt marsh mosquito control. Operating mosquito abatement districts have a public obligation to use available funds to provide the maximum relief for the affected public and seldom can afford to devote extensive time and energy for extensive research. Fortunately, badly needed federal legislation has now been introduced in both the House and Senate and makes provision for both field research and demonstration type programs concerning all significant mosquitoes in the various coastal and other environments.