

MOSQUITO CONTROL TRAINING ACTIVITIES OF THE COMMUNICABLE DISEASE CENTER

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The mosquito control training activities of the Communicable Disease Center may be divided into three main categories: (1) scheduled courses in Atlanta or its field stations, (2) decentralized courses held in the states at the request of State Health Departments or the mosquito control or abatement associations, and (3) the production and distribution of training aids.

SCHEDULED COURSES. The Communicable Disease Center offers scheduled, one- and two-week courses in mosquito and insect control in Atlanta several times a year, and at the field stations or at various locations throughout the country through Field Training Stations located at Amherst, Massachusetts; Mt. Vernon, New York; Pittsburgh, Pennsylvania; Oklahoma City, Oklahoma; Denver, Colorado; and Seattle, Washington. The scheduled courses to be given at Atlanta for the fiscal year July 1, 1956 to June 30, 1957 are listed below:

Insect and Rodent Control, July 16-27,
1956

Insect Control, September 17-28, 1956

Mosquito Control, November 5-9, 1956
Biology and Identification of Arthropods of Public Health Importance,
December 10-21, 1956

Insect Control, April 1-12, 1957

Insect and Rodent Control, May 13-24,
1957

The curriculum for each of these courses varies to meet the individual needs of students but always contains at least the following elements:

- Mosquito-borne diseases
- Biology of mosquitoes
- Identification of mosquitoes
- Insecticides
- Equipment
- Temporary control measures
- Permanent control measures

In considering these elements in our courses, it is worth calling attention to the unusual opportunities available at the Communicable Disease Center for keeping informed on recent developments in each of these fields. For example, in the field of mosquito-borne diseases, any major development is usually called to our attention when a State Health Officer makes a request for assistance to the Communicable Disease Center—as in the outbreak of encephalitis in California in 1952, in Texas in 1954, or in Indiana or Kentucky in 1955, or the small outbreak of malaria due to a Korean veteran in California in 1952. We, therefore, have early notice of interesting developments in the field of epidemiology and frequently learn the results of investigations sometimes months or even a year or more before such reports are published.

In the portion of our courses dealing

with identification of mosquitoes, we are able to make full use of filmstrips and pictorial keys developed at the Center and to utilize the extensive insect collection containing almost all of the North American species of mosquitoes. Therefore, we are able to "tailor" the laboratories to the individual needs of each student. Thus, men from western United States receive special attention on such important species as *Culex tarsalis*, *Aedes dorsalis*, or *Aedes nigromaculis*, while people from East Coast areas study such salt-marsh mosquitoes as *Aedes sollicitans*, *Aedes taeniorhynchus*, or *Aedes cantator*.

In the portion of our courses dealing with the biology of mosquitoes, insecticides, and applied control measures, we are able to draw extensively on current studies conducted by the Center at Savannah, Georgia, or at field stations throughout the United States. Also, we give our students opportunities to "learn by doing." They participate in field trips to collect specimens, work with late model pieces of control equipment such as the fog and mist machines, or conduct actual practice in mist larviciding or residual spraying.

In addition to these courses, pertaining to vector control, a more advanced course, the "Biology and Identification of Arthropods of Public Health Importance," is scheduled once a year. During this course, three days are devoted to lectures or laboratory sessions on mosquito biology and identification and on the present status of mosquito-borne diseases in this country. A number of students from mosquito control projects have attended this course, listening to the lectures on many varied aspects of medical entomology but devoting all laboratory periods to the study of mosquitoes. Other students in this course have studied flies, fleas, lice, ticks, cockroaches and other arthropods of public health importance, according to their own need and interest.

Frequently, after students have taken these scheduled courses in Atlanta or at one of the Field Training Stations, ar-

rangements have been made for students wishing additional field experience or specialized instruction in biology, toxicology, chemistry, or equipment to study these subjects at the Technical Development Laboratories in Savannah, Georgia, or at field stations at Newton, Georgia; Logan, Utah; Milk River, Montana; Angostura, South Dakota, or Bakersfield, California. Two other installations of the Communicable Disease Center which mosquito control people frequently visit are the Virus and Rickettsia Laboratory at Montgomery, Alabama, or the Greeley, Colorado field station. Studies on many phases of encephalitis have been conducted at these two stations for a number of years.

During calendar years 1954 and 1955, some 330 students from 38 states have come to Atlanta to study vector control. Another 300 additional students received similar training in decentralized courses in their home states.

DECENTRALIZED COURSES. In conjunction with the various State Health Departments and the Field Training Stations of the Center, the following four decentralized courses in mosquito control were offered during February and March 1956: a five-day course in Utah from February 21-25; a three-day course in Oregon from February 28-March 1; a two-day course at the University of Rhode Island on March 22 and 23, and another two-day course at the University of Massachusetts on March 26 and 27. These courses are adaptations of the basic courses offered in Atlanta, with specific reference to the species involved in each area, local conditions and organizations. In Oregon, for example, the special problems created by irrigated pastures and log ponds provide the central theme. In Rhode Island and Massachusetts salt-marsh mosquito ditching and pre-hatch treatment for inland single-brooded, early *Aedes* species are emphasized. The Communicable Disease Center is ready to assist in training courses of these types, by providing lecturers, literature, or training aids, insofar as personnel, travel funds, and schedules permit.

TRAINING AIDS. The third major way in which the Communicable Disease Center assists in training in connection with mosquito control is in the production and distribution of training aids. Ever since the beginning of our organization as the Malaria Control in War Areas program, our Center has been involved in the production of pictorial keys, specialized literature, series of black and white or colored slides, filmstrips, and motion pictures. At the present time there are available six pictorial keys dealing with mosquitoes:

- Pictorial Key to Adult Female Anophelines of U. S.
- Pictorial Key to Anopheline Larvae of the U. S.
- Pictorial Key to U. S. Genera of Female Mosquitoes
- Pictorial Key to Some Common Female Mosquitoes of the United States
- Pictorial Key to U. S. Genera of Mosquito Larvae
- Anophelines—Culicines

Reasonable numbers of these pictorial keys have been distributed free of charge to many colleges and universities, mosquito abatement districts, and health departments.

The Center has produced a series of filmstrips and motion pictures which are available on short-term loan, or which may be purchased from United World Films. A list of some of these films and filmstrips has been distributed to you. With these training aids: pictorial keys, slides, filmstrips, or motion pictures, it is possible for any mosquito control agency to organize its own training program,

utilizing only personnel from within its own organization.

In these days of "do it yourself" handymen, such training aids in the hands of local personnel often contribute to a successful training conference. We know that there is no substitute for a person with actual experience in mosquito control. We also are firmly convinced that audio-visual aids have their place in most training sessions. They serve as an introduction or summary of a particular subject, provide specific information, or allow a change of pace.

The March issue of the magazine "Pest Control" contains an annual report by our Technical Development Laboratory on public health pesticides. A helpful summary gives the latest methods of controlling mosquitoes and other insects and rodents of public health importance. The Technical Development Laboratory also issues each year its "Operational Memoranda" and "Clinical Memoranda" on economic poisons. These may be obtained by writing to the Chief, Technical Development Laboratory, P. O. Box 769, Savannah, Ga.

In closing, I wish to state that the Communicable Disease Center wishes to work in close cooperation with mosquito control agencies. We shall be glad to have people from your organizations attend classes in Atlanta or at our field stations. Also we will assist in conducting decentralized courses in the states or with individual courses held by your own organizations. These services and training aids are available to you by writing to the Chief, Communicable Disease Center, 50 Seventh Street, N. E., Atlanta 23, Georgia.