

WORLD WIDE MOSQUITO CONTROL

THE SECOND DEADLY ENEMY

The Army, Navy and the Marines have two enemies to fight—one is the "axis" and the other is "malaria." Those charged with guiding the destinies of the armed forces are gradually bringing about the destruction of the armies of the first enemy while the Army and Navy Medical Corp backed by the United States Public Health Service are progressing toward conquering the dreaded malaria. Control of malaria is so important because much of the present war activity is taking place in malaria infected localities in foreign countries. This disease is also prevalent in many parts of our own country, particularly the south. There is no known preventative for malaria. Vaccines are available for defeating small pox and many other diseases but experiments to discover a vaccine for malaria have been stubbornly unsuccessful. All the authorities can do is to alleviate the disease once it is contracted. The most successful factor in the treatment of malaria is the use of quinine. When the Japs took over the East Indies the supply of this drug was almost totally cut off. However, just before the fall of Bataan, a United States plane was able to take off from that place with a large supply of seeds on board. These seeds have been planted in hot beds in this country and the shoots distributed to South American Countries where they are growing nicely so that we will soon have a limited supply of quinine.

Malaria is spread by the Anopheline mosquito. This mosquito transmits the disease by biting an infected person and carrying the germ to any others it may bite. When a victim succumbs to malaria he gets chills and fever and becomes too shaky to be of any fighting value. The best way to control malaria is to destroy the carrier mosquitoes, which have a limited flight range so the control problem is somewhat simplified around camps and settlements. However, the areas like the South Pacific, where most of the fighting is taking place in the jungle it is impossible to protect all the troops by this method. Reliance must be placed on nets and repellants. Anopheline mosquitoes breed in fresh water such as is found in large inland swamps and slow moving streams. In cities and villages it breeds in ornamental pools, and other containers that are left around uncovered or unscreened. The big carrier in North America is *Anopheles quadrimaculatus*. In 1940 there were, annually, 6,000,000 cases of malaria in the United States but this figure has probably been greatly reduced due to the extensive measures adopted in recent years.

Another carrier which has not yet entered the United States due to the vigilance of the Public Health Service is the *Anopheles gambiae*. This mosquito originated in Africa and was accidentally introduced into Brazil by plane in 1930 resulting in a serious epidemic in that country which was only checked by the expenditure of \$2,500,000 on the part of the Rockefeller Foundation and the Brazilian Government. In order to guard against this species of mosquito from entering this country all planes entering the United States are examined and sprayed. Passengers with malaria are permitted to land but must go to a hospital and stay there until they are cured.

When an invasion takes place in a malaria infected country especially trained malaria control units move in with the troops. These units direct spraying and drainage and the use of screens, nets, repellants and life saving medicines. Luckily there are spots in the Pacific entirely free from malaria where recuperation zones and hospitals have been established. Strict measures are taken to make sure that malaria carrying mosquitoes do not invade these zones. It is a well remembered fact that during the Spanish War more soldiers succumbed to malaria than Spanish bullets. The same condition exists in some localities in this war. Eighty-five percent of the men on Bataan were brought down by malaria and a large percentage of the men who have gone into the Pacific area have contracted the disease. Cases have also been invalidated home from North Africa.

One of the latest inventions in the fight against malaria is what is known as a "mosquito bomb." This bomb contains a gas which will, when released,

kill every mosquito within 150,000 cubic feet in the course of twelve minutes inside a building or outside in still air. It is expected that this invention will be a great boon to civilians after the war. The malaria mosquito is essentially a night biter. In the day time the soldier in the swamps does not have much to fear but it is at night he becomes exposed. He who ignores the medicine, repellants and netting furnished is inviting serious sickness.

PROTRACT VS. PROTECTION

By **O. W. Lafferty, Executive-Secretary**
Cape May County Mosquito Extermination Commission

The editor of one of our leading newspapers during the early spring of 1943 stated that if county mosquito abaters could show him any proof that the methods of control actually retarded the mosquito menace within areas where work was executed and by submitting authentic proof of a creditable relief over one of annoyance, he would gladly endorse the projecting of sufficient funds (even though his area had to wait a couple of years for the work to reach his city) to start at a practical point of attack and continue the work until the entire areas were under control. I called his attention to successful reports dating up to about 1933, when our former abatement work was suffering for maintenance. He said he had lived through this period but did not think the records of that decade were up to date enough for him to get enthused. "Give us some outstanding feats within a couple of years and I will gladly re-support the cause."

We beg leave to submit the following testimonial of the medical department of the Naval Base at Cape May to substantiate our claim that control is possible. When this work was done, it was not with any thought of proving to this newspaper man that we desired to enter a contest. It was purely within our realm of control endeavors and a section in which for years we desired to try total elimination. So within the said testimonial, we feel the editor and you can find a mirror of success.

"U. S. NAVAL BASE
 NAVAL ANNEX, ADMIRAL HOTEL
 CAPE MAY, N. J.

USNB Dispensary

23 November, 1943

"Mr. O. W. Lafferty, Executive-Secretary
 Cape May Co. Mosquito Exter. Commission
 Cape May Court House, New Jersey
 Dear Mr. Lafferty:

May I take this opportunity to thank your Commission for the wonderful mosquito abatement work you executed the summer of 1943. I can recall the horrible days and nights we encountered within our section in 1942 due to the pests, but your employees' diligence last season certainly not only won you the praise of the naval personnel and their families, but also that of the entire summer population.

The splendid work carried on by your entomological engineer, Albert Lafferty, in both 1942 and 1943 certainly credits your Commission with success. The joint scientific check and tabulation of your Engineer and the Staff of the Medical Department over a two year period, was not guess work; the number of adult mosquitos taken in our prevalence trap located within the court of our hospital showed an average nightly catch for 1942 of 1295 adult mosquitoes and for 1943 of 9.9 adult mosquitoes. This marked decrease was accomplished by hard effort and capable work.

The project you so well performed, just east of our Base (on Two Mile Beach) and the many thousand feet of mosquito ditches and spraying that were taken care of on this Naval Base by our men under supervision of your Engineer, not only gave the Naval Base area comparative freedom from pests, but Wildwood and