

### CAIRO MOSQUITO ABATEMENT DISTRICT

By Donald A. Miller, President of the Board of Trustees

THE CAIRO MOSQUITO ABATEMENT DISTRICT is now completing its third season of its existence. It covers an area of approximately eight square miles, including the city of Cairo and surrounding communities. The city of Cairo is situated on an isthmus formed by the junction of the Mississippi and Ohio Rivers and is almost surrounded by the rivers. The rivers at this point are each a little less than one mile wide. Across the rivers are low swampy lands which make ideal breeding places for mosquitoes. In spite of this fact, however, the Cairo District has succeeded in almost annihilating the mosquitoes, except for an early Spring crop which hatches and develops in the swamp areas across the rivers and migrates to Cairo. This crop is purely a pest mosquito, but very annoying, and gives rise to considerable unfavorable comments at the time. If anyone reading this article knows of a method of prevention of this, your suggestions will be greatly appreciated.

The annual budget calling for the maximum amount of taxes which can be levied by the District totals \$4,000, from which levy the District receives approximately \$3,000. With this revenue we have purchased a  $\frac{3}{4}$ -ton panel-body truck for hauling equipment and men about the District, and a motorcycle with sidecar attached, which has been fitted with a 60-gallon pressure tank into which has been fitted a metal innertube valve and a sprayer, hose, and nozzle. The tank is filled about half full of the spraying solution and air pressure applied at a filling station, and the motorcycle is then driven about the streets, used for the purpose of spraying sewer catch basins and such places as are readily accessible from the motorcycle. Other more inaccessible places are covered by means of knapsack sprayers.

Waste crankcase oil is obtained at no cost from the filling stations and diluted with kerosene in the ratio of one part of kerosene to four parts of oil. This makes a very inexpensive, yet efficient, larvicide. For places where oil might be injurious to fish or plants a pyrethrum larvicide is used. We employ three men full time during the mosquito season, with extra help as needed during the wet periods.

Statements from the local doctors indicate a marked decline in the number of cases of malaria since this Abatement District has been organized, so we feel that the effort is worthwhile.

DONALD A. MILLER,  
President, Board of Trustees.

### MOSQUITO ABATEMENT OPERATIONS GREAT LAKES NAVAL TRAINING STATION Great Lakes, Ill.

S. D. ANDERSON,  
Lieut. Comdr., U.S.N.R., Station Security Officer

During the period from Dec. 7th, 1941 to the fall of 1942 the Great Lakes Naval Training Station boundaries were extended some two miles nearer to a swampy area lying south and west of the station. Other low spots lay within the Station boundaries and along the railroads and highways in the surrounding country.

A survey of the area was made by Station Officers and a program outlined early in the spring of 1943. Permission to drain low spots was obtained from all property owners involved and ditching and grading operations were started within the station area and in the immediate vicinity as soon as the ground became workable.

A considerable amount of tilling was done within the Station boundaries but open ditches only were constructed outside. Ditching machinery being only intermittently available the bulk of the work was done by hand digging. Crews of approximately fifty recruits in training were assigned to the duty; each crew working a day or two only, as a part of their physical hardening program.

Some hundred odd acres of swamp land in three or four sections were

completely drained and were thoroughly dried up early in the summer. Other ponds were cleaned around the margins and stocked with minnows.

Ravines were cleaned, dumps where tin cans had been accumulating over a period of years covered, and a great many spots where casual water collected eliminated.

A small truck was fitted with an oil drum pump and spray equipment. A few pack-back sprayers were acquired and the stand-by sections of the Station Fire Department organized as abatement crews. Used crank case oil of which there was a considerable quantity available was mixed with thinner oil and spraying operations started when larvae began to appear in such pools as remained.

No attempt was made to trap and identify the various species of mosquitoes present in the area. Results obtained from the drainage and spraying operations, however, have been highly satisfactory as the number of mosquitoes has been tremendously reduced in comparison with previous years.

Property owners, the railroads, and the Illinois State Highway Departments were most cooperative. Invaluable advice was furnished by the personnel of the Lake Forest Abatement District whose territory lies just south of the Great Lakes area.

## DEVELOPMENTS IN MOSQUITO CONTROL

### NON-DRUG ASPECTS OF MALARIA CONTROL

By J. Lyell Clarke, Sanitary Engineer

The Des Plaines Valley Mosquito Abatement Dist.

Lyons, Illinois

In this article three recently developed phases of malaria control are emphasized as applicable to the war effort: mechanized equipment, outdoor spraying of repellants, and aniline dye dusts. An attempt has been made to show where these new methods fit into the picture of malaria control.

Reports from the Philippines, from China, Burma, India, the Southwest Pacific and Africa describe malaria as an even more disabling disease than we know it to be in North America.

Forty years ago medical men pictured malaria as a chain of three links, and reasoned that if any one of the links could be broken the disease would be conquered.

The first link consisted of the parasite in man. They reasoned that if a drug could be found to kill the parasite in man the first link of the chain would be broken.

The second link consisted of eradication of the malaria carrying mosquito. They reasoned that if mosquitoes could be exterminated in a city or county no new cases would develop; and so the second link of the chain would be broken.

The third link consisted of separating man and mosquito. They reasoned that actually, it would not be necessary to kill the parasite in man, nor would it be necessary to kill the mosquito; but simply devise a means of keeping the mosquito from biting man.

Inasmuch as the severing of any one link would suffice, the medical man embarked enthusiastically upon breaking the first link with quinine. It cured many cases but not quite all. Always beneath the apparently healed surface there remained a telltale, tantalizing irreducible minimum reservoir of parasites that made the first link to appear like rubber to stretch but not to break. Other drugs were tried but all were found wanting because of the hidden reservoir of parasites and the involved human equation. Drugs are a godsend to individual sufferers but as a chain breaker it is a disappointment.

The breaking of the second link was assigned to the engineer and the entomologist because they working together could ferret out and destroy the breeding of the mosquito by drainage and the spraying of chemicals and oils. In large cities mosquito control is most satisfactory from the viewpoint of cost