

PARTMENT, CIVIL OR MILITARY, TO GRANT APPROPRIATIONS FOR THE PURCHASE OF MECHANICAL EQUIPMENT.

IN A CIVILIAN POPULATION OF 100,000 MOSQUITOES CAN BE CONTROLLED FOR 25c PER CAPITA PER YEAR; IN A MILITARY AREA THE COST SHOULD BE LESS. HUMAN LIFE CAN NOT BE MEASURED IN DOLLARS AND CENTS ESPECIALLY WHERE IT INVOLVES THE NATION'S MOST PRECIOUS POSSESSION, THE YOUTH OF OUR COUNTRY.

**ANILINE DYE DUSTS**

In far flung projects in the tropics where new species of mosquitoes are encountered, or species of which the habits are little known, aniline dye dusts may be used to study flight range, longevity and other habits.

At present the Des Plaines Valley Mosquito Abatement District is carrying on a series of staining experiments to determine the day-to-day movements of mosquitoes in a limited area, following the initial long flight immediately after emergence of a brood at a marsh, takes place.

This method of staining is described in the Proceedings of the New Jersey Mosquito Extermination Association, 1937, under "New and Significant Experiences in Mosquito Control in the Des Plaines Valley Mosquito Abatement District," also in the 1943 Proceedings of the New Jersey Mosquito Extermination Association entitled "Flight Range and Longevity of Mosquitoes Dusted with Aniline Dye."

**CRUDE OIL USED FOR MOSQUITO CONTROL**

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Crude oil is being used successfully for the control of mosquitoes at the U. S. Naval Air Training Center, near Corpus Christi, Texas.

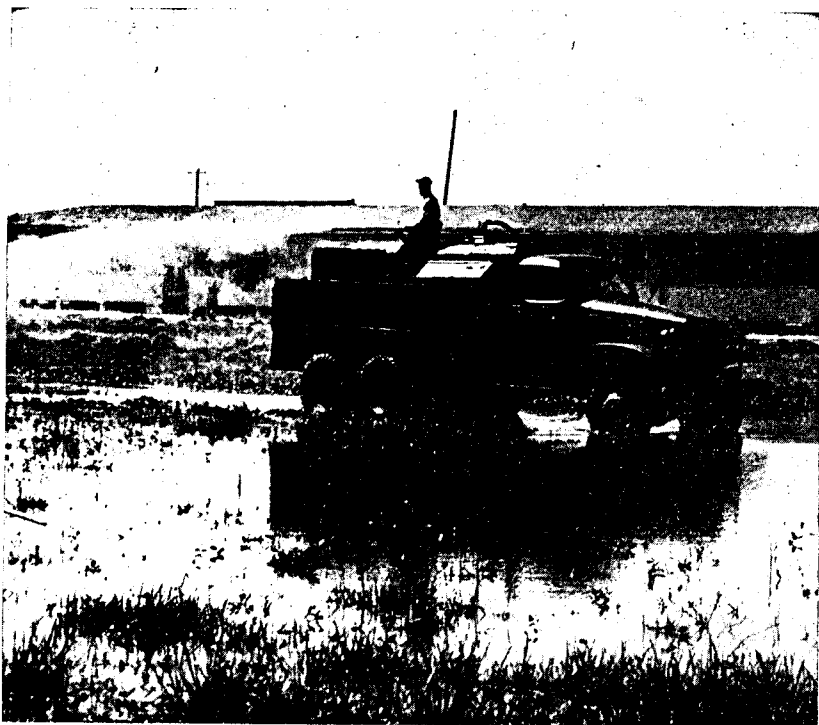
According to Ginsburg and Rudolfs (1941)\*, the ideal mosquito oil should contain enough of a low boiling petroleum fraction to insure quick penetration into the tracheal system and rapid kill of larvae and pupae; and a sufficient quantity of a high-boiling fraction to leave a lasting film.

Tests were made on this oil and the results as compared with the "ideal oil" as recommended by Ginsburg and Rudolfs are as follows:

	Ideal Oil	Crude oil used by U. S. N. A. T. C.
Type .....	Distillate fuel .....	Crude - distillate
Gravity (A.P.I.) 60° F. ....	27 - 33.....	42.5
Flash .....	130° F. or higher .....	100° F.
Viscosity at 100° F. ....	35 - 40.....	34
Odor .....	none offensive.....	same
Distillation .....	90% at 630° .....	590° F.
	10% at 430° - 450° F. ..	444° F.
	50% at 510° - 550° F. ..	497° F.

This crude oil is obtained from an oil company adjacent to the Naval air Station and offers the solution to our mosquito oil problem. The oil is highly toxic to the larvae and pupae, spreads rapidly and has a lasting film on either the fresh or saline water that is present.

For the distribution of this oil, a decontamination unit, that was not being used by the Chemical Warfare Department, was adapted for mosquito control. The unit consists of a solution tank, pump, and motor. The tank is constructed of wood with steel rims. It has a five hundred gallon capacity. The three cylinder pump operates under a recommended pressure of 400 pounds



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and will deliver 35 gallons of liquid per minute with a normal speed of 150 strokes per minute. Thus, one-half hour to one hour is all that is required to discharge a complete tank of oil when the unit is in operation. The motor has four cylinders and will deliver 16-22 horsepower. The unit also contains a continuous pressure reel which holds the 200 feet of  $\frac{1}{2}$  inch rubber hose, along with an assortment of nozzles. When the unit is operating at a 400 pound pressure, a stream of oil can be sprayed for over 150 feet. The entire unit is mounted on sled runners and transported by means of 6-wheel drive Tandem truck.

### DITCHING WITH DYNAMITE FOR MOSQUITO CONTROL

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Individuals and organizations whose duties involve the control of pestiferous and disease-inflicting mosquitoes are confronted with many problems in making new ditches and/or deepening, widening, and cleaning existing ditches. The Government has had to commandeer practically all new and used excavating equipment for use in military construction projects. The manpower situation is such that hand labor is almost unobtainable. It is highly probable that these two conditions will exist for some time after the war is over.

It has been proved time and again that dynamite, which is available in wartime, will do cheaper and faster work in digging open ditches in wet or marshy ground than can be done with labor, and picks, and shovels. Not only have landowners learned the economy and speed of dynamite for dig-