

Georgia

• MALARIA CONTROL OPERATIONS

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The Malaria Eradication Program in Georgia was conducted in 51 counties during 1947. Comparison of Maps 1 and 2 indicates that operations were confined to areas with a history of significant malaria endemicity. The Eradication Program in Georgia is organized and financed to obtain maximum effectiveness.

ORGANIZATION. The State CDC Director maintains liaison with CDC Headquarters and determines general plans and policies. Negotiations with county boards of health and county commissioners are conducted by the director or by subordinate personnel working under his direction. CDC personnel serve as representatives of the state health department and of existing local health departments. Technical supervision is furnished by the Engineering Division of the state health department. The Assistant State CDC Director is responsible for execution of the program established by the Director and is in immediate charge of all state office, state warehouse, and field operations.

The 51 counties in which 1947 operations were performed were grouped into 16 areas and four districts (Map 3). One supervisor employee was in charge of each county area and district. In multi-crew counties, one assistant, or contact man, was employed for each two crews.

FINANCIAL PARTICIPATION. In 1945, when only 11 counties were involved, (except for warehouse and office space and state employed personnel) funds for the entire program were provided by USPHS. The 11 counties selected were among those having the highest malaria morbidity and mortality

during the past 25 years. In the immediate vicinity of these counties, public demand for the spray program permitted expansion to three other counties where malaria control was justified, the additional counties providing substantial financial participation in the form of personnel and vehicles. In 1946, all counties furnished crew personnel, provided and maintained one vehicle for each crew, and supplied warehouse and office facilities. For that calendar year, the total county financial participation amounted to \$121,774. This was an average of \$0.77 per house spray application.

Again, in 1947 crew personnel, crew transportation, and warehouse and office facilities, plus contact personnel in all multi-crew counties, were provided by local government. Total financial participation amounted to \$171,046, which was \$0.78 per house spray application. The Georgia Department of Public Health continued to furnish services of the State Director, cartographic and drafting personnel, and many miscellaneous items. The USPHS provided chemicals and supervisory services, other than those of the State Director, transportation for supervisory personnel and most of the spray equipment, state warehouse facilities, and other items not supplied locally. County funds were usually obtained by tax. A few counties, however, used public or private subscriptions, the funds raised being turned over to county officials and used in the same manner as tax funds. Under this financial plan, no householder was refused residual spraying service

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because he did not contribute directly to program costs.

It is planned that in 1948, the same participation will be continued locally and that additional funds for minor equipment purchases will be available. In one-crew counties local officials will provide part-time personnel for contact work or provide money to hire such personnel.

EQUIPMENT. In 1945 operations were begun with the equipment and procedures developed or specified by USPHS except that emulsion was mixed in 30 to 50 gallon batches, instead of one or two gallon batches. Hand sprayers and power sprayers were utilized at this time.

Because of difficulties encountered in maintaining and operating the hand sprayers, attempts were made to develop more efficient methods.

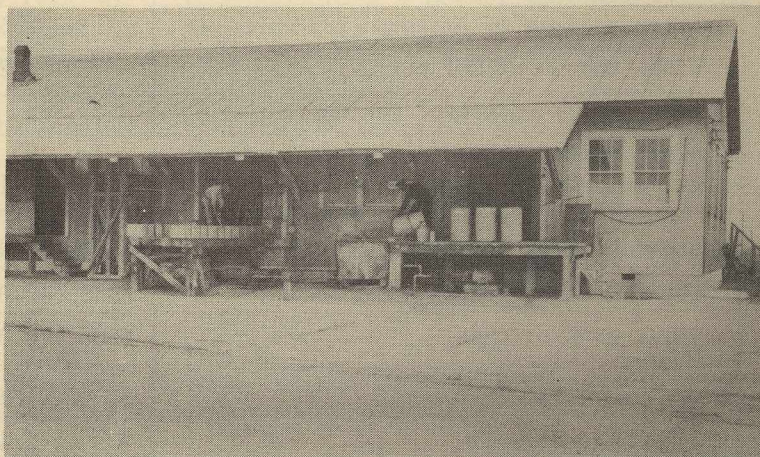
In June 1945, a 40 gallon hot water tank was obtained and converted into a compressed air tank by the addition of plugs, air filling valve, air gage, shut off valve, hose, and automatic chuck. Pumps were removed from several hand sprayers and air filling valves were installed. The compressed air tank was loaded to a pressure of 135-150 psi from which a hand sprayer could be loaded to a pressure of 50 psi. Field tests soon indicated that a production gain of approximately 25% was effected by this method. Although additional air tanks were difficult to acquire, by September

1945 all spray crews were equipped with them and hand sprayers were modified. Since, with the modified hand equipment, spraying operations could be performed faster than with the power sprayers, the power sprayers were withdrawn from use.

While the modified hand sprayers were superior to those used originally, they still had several objectionable features. A "Regulated Pressure Sprayer" was developed which overcame many of these difficulties (See "Idea Exchange", p. 42).

WAREHOUSE EQUIPMENT AND PROCEDURES. Warehouse facilities were established at Macon in 1945. Material and supplies were shipped to the field from the central warehouse. Concentrate was mixed in 43 gallon batches with a drum type mixer. Three 5,000 gallon storage tanks were placed underground and interconnected for storing DDT solvents. A 250-300 gallon paddle-wheel type concentrate mixer was constructed. In 1947 a 350 gallon elevated concentrate storage tank was provided so that concentrate containers could be filled by gravity flow. This eliminated pump back-pressures and fire hazards and increased the usefulness of the mixer. In 1945 and 1946, concentrate was delivered to field stations in 55 gallon containers. In 1947, one gallon containers were used and proved to be more satisfactory. Vehicle repair facilities were established at the warehouse in May 1946. One mechanic, one welder, and from one to four helpers were employed. In September 1946, these operations were transferred to Cochran Field (about 11 miles south of Macon) to obtain larger repair shop facilities.

APPLICATION RATES. During 1947, with one exception, an application rate of 100-104 mg./sq. ft. of DDT concentrates was used in all counties. Operations were conducted on a basis of two spraying rounds per season, with 10 to 14 weeks between rounds. No applications were made until a contact man had visited



The warehouse in Macon, Georgia.

the homes to instruct the householder in preparing his home for spraying.

OPERATIONS DATA. Weekly summaries of operational reports were prepared at operation headquarters in Macon and promptly distributed to all personnel. These summaries were accompanied by a general memorandum in which the Assistant State Director or the Operations Assistant constructively criticized the week's activities. Operational averages considered significant are summarized in the accompanying table.

RESULTS. In 1946 a poll of health officers, physicians, county officials, and other persons in areas covered by DDT programs, was taken. Results of the poll indicated a decrease in malaria morbidity; diarrhea and enteric diseases (particularly among children); household insects; and family medical care costs. Conversely, general living comfort increased considerably. Informal inquiries

revealed similar results in 1947. Distributors of insect spray and malaria medications stated sales were practically eliminated in the program counties. The number of reported malaria cases in Georgia shows a continued trend downward: in 1945, 461; in 1946, 109; and in 1947, only 67.

1948 PLANS. The State Health Department plans to encourage more complete reporting and treatment of malaria cases in 1948. Tentative plans call for a \$10.00 payment by the state to every person whose illness is diagnosed as malaria, provided the following conditions are met:

1. The diagnosis is confirmed by a State Health Department blood smear examination.

2. The patient is treated by a licensed physician.

3. The patient is a Georgia resident and the infection is of continental U.S. origin.

4. Full and prompt information is given concerning residence, location, probable infection site, and date.

ITEM	CALENDAR YEAR 1946	FISCAL YEAR 1947	CALENDAR YEAR 1947
Refused percentage (percentage of inhabited homes which were contacted but unsprayed)			23
Spray time percentage (percentage of crew time actually spent at spraying site)			71
Number of county programs	37	52	51
Number of units sprayed	158,639	189,486	218,245
Average gallons of emulsion per unit	2.59	2.62	2.61
Average pounds of DDT per unit	1.23	.85	.78
Av. No. sq. ft. sprayed per unit	3,365	3,405	3,390
Average units sprayed per gross spray crew man-hour	1.19	1.50	1.68
State and local expenditures	\$138,774.00	\$170,784.00	\$194,546.00
USPHS-CDC expenditures	\$388,146.00	\$338,642.00	\$334,207.00
TOTAL EXPENDITURES	\$526,920.00	\$509,426.00	\$528,753.00
State and local cost/unit	\$.87	\$.90	\$.89
USPHS-CDC cost/unit	\$ 2.45	\$ 1.79	\$ 1.53
TOTAL COST/UNIT	\$ 3.32	\$ 2.69	\$ 2.42