

semanas después de aplicado y su eficacia en evitar la oviposición perduraba unas 6 semanas. Se controló el *Melophagus ovinus* por medio de inmersiones de las ovejas o con rociarlas con emulsiones o suspensiones de DDT al 0.2 hasta 0.25 por ciento. Las pulgas en zorras se controlaron durante 3 meses con una sola aplicación de polvo al 10 por ciento. Las rociadas residuales aplicadas a edificios infestados dieron un control satisfactorio, como también aplicaciones de 8 onzas de polvo al 10 por ciento para cada 1000 pies cuadrados. Tanto los rociados residuales como las aplicaciones de polvo controlarán las chinches en los gallineros. Los piojos, tanto chupadores como mordedores, en animales domésticos, se controlan con pulverizaciones secas de DDT o por inmersión. Se describe el procedimiento a usarse en cada tipo de animal y se hace referencia a la ineficacia relativa contra los ácaros.—Translation of a review in English by B. V. Travis.

28662 Ca

OBSERVATIONS ON THE NIGHT-TIME RESTING AND BITING HABITS OF ANOPHELES MOSQUITOES IN DDT TREATED AND UNTREATED BUILDINGS. Clarence M. Tarzwell and Frank W. Fisk. (U.S.P.H.S., Communicable Disease Center, Technical Development Division, Savannah, Ga.) Pub. Health Rep. 62(3):84-94. 2 fig. 1947. (Abstract.)

Studies of the night-time behavior and resting habits of anopheline mosquitoes were conducted in rooms to which wild mosquitoes had free access and the walls and ceilings of which were marked off into numbered squares to facilitate counting and recording. At regular intervals the positions of all mosquitoes were plotted on scale drawings of the walls and ceiling, the species, sex and resting time being shown for each mosquito. An analysis of the data showed that *Anopheles quadrimaculatus* which entered the building to feed on the bait animal rested on the walls and ceiling for considerable periods before as well as after feeding. The resting period of the females varied from a few minutes to over 11 hours and there was no significant difference between the means for unengorged and engorged mosquitoes, being 167 ± 3 minutes for the former and $170 \pm$ minutes for the latter. After treatment, their resting period varied from a few to 90 minutes averaging 40 ± 3 minutes for the unengorged and 33 ± 4 minutes for the engorged. After treatment, 31 per cent of the *A. quadrimaculatus* resting on the walls were engorged females whereas before treatment only 14 per cent were engorged females. It is probable many of the unengorged mosquitoes were irritated by the DDT and left before attempting to bite. Before treatment the number of *A. quadrimaculatus* females increased throughout the night, reaching a maximum about an hour before daylight while after treatment the largest number was present just after the influx at dusk and only a small number were present at any

time during the remainder of the night.—C. M. TARZWELL.

9551 Ca

CONTROL OF ANOPHELINE MOSQUITO LARVAE BY USE OF DDT-OIL MISTS. Frederick F. Ferguson, Earl H. Arnold, and William M. Upholt. (Communicable Disease Center, Technical Development Division, U.S.P.H.S.) Public Health Reports, Vol. 62(9):296-302. 1947. (Abstract.)

Initial tests with DDT as a larvicide were with aqueous emulsions at total rates similar to those used for oil sprays. It was soon found, however, that when uniformly distributed, a gallon per acre of a No. 2 fuel-oil-DDT solution containing 0.5 per cent of a good spreader gave adequate control. This larvicidal material may be prepared by adding $2\frac{1}{2}$ pounds of DDT and 1 quart of spreader to a 50 gallon drum of No. 2 fuel oil. For the application of this solution at 1 gallon per acre, small air-pressure hand sprayers fitted with mist or atomizing nozzles [Spraying Systems Co., 1/4LN 2.55; Marley Co., Inc., 1H41; Monarch Mfg. Co., No. 5, or equal] were satisfactory. When operated at pressures between 50 and 30 psi, these nozzles gave a discharge of 3 gph and droplet sizes of 70 to 220 microns. In operation, the sprayer was charged with 1 gallon of solution; and the vaporous oil mist was drifted with the wind, an effective swath width of 30 feet being obtained under normal conditions. Comparative field tests at equal dosages of DDT per acre indicated that oil mists at a gallon per acre were about as effective for mosquito control as emulsions applied at rates of 15 gallons per acre. Further, due to great reductions in material used and labor required, oil-mist larvicides are much cheaper than oil sprays and significantly less costly than DDT or paris-green dusts. All larval instars were susceptible to the mist spray.—C. M. TARZWELL.

19086 Ca

COMPARATIVE STUDIES OF DDT DUSTS, DDT-OIL SPRAYS AND PARIS-GREEN DUSTS USED ROUTINELY IN ANOPHELINE LARVA CONTROL. Willis V. Mathis, Frederick F. Ferguson, and S. W. Simmons. (U.S.P.H.S., Communicable Disease Center, Technical Development Division, Savannah, Ga.) Pub. Health Rep. 62(3):95-102. 1947. (Abstract.)

Evaluations have been made of anopheline larvicides when used in a general malaria-control program. DDT was used in fuel oil emulsion, in undiluted fuel oil and in dusts at the rate of approximately 0.1 pound per acre. Paris green was used in a dust at the rate of approximately 1 pound per acre. Comparative cost of the different materials and man-hours required to apply each to a given area was determined. DDT-fuel oil used as an emulsion or undiluted spray (1 gallon of solution per acre) gave a higher degree of control than did paris-green or DDT dusts. Data from the control-operations records showed that the undiluted DDT-fuel oil