

EFFECTIVENESS OF FOUR INSECTICIDES ON PAINTED SURFACES AGAINST
ANOPHELES QUADRIMACULATUS SAY¹

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Since 1943 we have reported periodically the results of screening candidate insecticides as residues against adults of *Anopheles quadrimaculatus* Say (Gahan et al. 1945, LaBrecque et al. 1958, Gahan et al. 1961, and Wilson et al. 1973). The test consists of exposing adult females from the Gainesville regular colony for 1 hour to 1 g/m² insecticide residues on plywood panels. After exposure, the mosquitoes are held for 24 hours to determine mortality. Effectiveness is based on the number of weeks (not exceeding 24) that the residue will kill 70% or more of the females.

Previous studies have indicated that many of the compounds which were effective in the labo-

ratory failed in the field when applied to a diversity of surfaces. To determine whether the insecticides phoxim, chlorphoxim, fenitrothion, pirimiphos-methyl, DDT, malathion, and propoxur (all effective for 24 weeks in the laboratory) were equally effective in the field, we applied the materials to the interior walls of unoccupied houses. Surfaces treated were plasterboard covered with a water-base latex paint and wood surfaces covered with an oil-base enamel paint.

Treatments were applied in duplicate as water emulsions at the rate of 1 g/m² to the walls. Procedures followed in determining residual effectiveness were the same as those described for the screening studies. Results are presented in Table 1.

Only with propoxur on latex-painted plasterboard was the mortality equal to that observed in the laboratory screening test. However, on plasterboard, phoxim, pirimiphos-methyl, and feni-

¹ This paper reflects the results of research only. Mention of a pesticide in this paper does not constitute a recommendation by the U. S. Department of Agriculture.

Table 1. Results of exposing *A. quadrimaculatus* from the Gainesville regular colony for 1 hour to residues of insecticides applied to 2 types of interior wall surfaces of houses and aged for various periods of time. Treatments applied as water emulsion formulations at a rate of 1 g/m²; average of 2 replications of 20 females each per house.

Insecticide	Avg. no. weeks chemical produced >69% mortality after exposure to	
	Plasterboard	Wood wall
Propoxur	>24	16
Phoxim	22	2
Fenitrothion	15	11
Pirimiphos-methyl	15	11
Chlorphoxim	1	14
DDT	5	5
Malathion	1	5

trothion were effective for 15 to 22 weeks. Only chlorphoxim and propoxur were effective more than 13 weeks on the enamel painted wood walls. DDT and malathion were relatively ineffective.

Literature Cited

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NOTICE

The 1972 Annual Mosquito Review entitled "World Trends in Mosquitoes and Mosquito-Borne Diseases in 1972" by Helen Sollers-Riedel is now in print. This Supplement to the N. J. Mosquito Extermination Association Proceedings 60 contains 56 pages and was issued in January 1975. The booklet is a literature review of important and high interest articles for 1972. Among the subjects covered are taxonomy and distribution; techniques; genetics; anatomy, morphology and physiology; biology; arboviruses; filariasis; malaria; yellow fever; chemical and biological control; resistance; and repellents. The booklet may be obtained from the N. J. Mosquito Control Assoc. Fund No. 25, P. O. Box 19009, Washington, D. C. 20036, USA. The price is US \$3.00.