

Histopathologic examination of tissues of animals which have received DDT shows tissue damage, but it is neither striking nor characteristic for all species.
Author's Abstract.

A STUDY OF DINITRO-PHENOL COMPOUNDS AS MOSQUITO LARVICIDES. By H. I. Magy and W. M. Hoskins. Abstract of a paper read at the Entomology Society meetings in New York City, December 13-15, 1944.

Solutions of 3, 5 dinitro-*o*-cresol, 2, 4 dinitro-6-cyclohexyl phenol or dicyclohexylamine salt of 2, 4 dinitro-6-cyclohexyl phenol are toxic to larvae of the mosquito *Culiseta incidens* only at relatively high concentrations, but if only small amounts of suspended particles of the two latter compounds are present high mortality results within 24 to 48 hours or less. Hence they function as stomach rather than as contact poisons. Field trials with dusts applied in the weeds and reeds along an irrigating ditch gave high kill of *Anopheles maculipennis* larvae with dusts containing 10 per cent 2, 4 dinitro-6-cyclohexyl phenol or 40 per cent of the dicyclohexyl amine salt, each applied at rate of 50 pounds to the acre. Author's Abstract.

ECONOMIC ENTOMOLOGY AND APPLIED ECOLOGY. By Z. P. Metcalf. The interrelations between economic entomology and ecology are numerous and very close. In fact there is a science of economic entomology today because the early settlers on this continent disturbed the ecological climaxes that had developed here. A great deal of time, energy and money are devoted to the control of insect pests of farm, field, orchard, and garden. Much of this effort is wasted because the methods of control must be our chief reliance in dealing with the pests of orchards and gardens where a slight amount of damage detracts greatly from the use-

ability of the products. This is especially true in orchards where rotation and other similar practices cannot be followed. But for most of the field crops, where return per acre is so low that the application of insecticides is impractical, indirect methods of control based upon ecological principles must be used.
Author's Abstract.

THE RELATION BETWEEN THE TOXICITY OF DDT AND THE POSSESSION OF A CHITINOUS EXOSKELETON IN ANIMALS. By A. Glenn Richards, Jr., and Laurence K. Cutkomp.

Analyses of DDT toxicity through the series of animal phyla showed high toxicity only for those groups which possess a chitinous exoskeleton. The most critical data come from studies on closely related forms of Coelenterates with respectively complete, partial and no chitinous cuticle (perisarc). A negative temperature coefficient for DDT action under certain conditions favors the idea that the reaction involves adsorption phenomena, though clearly other phenomena are also involved. Direct tests with isolated chitinous cuticles and purified chitin show that DDT can be adsorbed by such exoskeletons. Tests with several standard cell systems show less, usually negative, results.

These data are consistent with the hypothesis that the arthropod cuticle is a system which selectively concentrates DDT by adsorption phenomena and somehow transmits it to its effective locus within the animal. This concentration phenomenon may be, in a sense, independent of the physiological action of DDT within the animal.

Authors' Abstract.

Editor's Note: There remains the question why, of equally chitinized and rather closely related insect species, some may be easily killed by DDT, while other are highly resistant.