

16 APR. 1953

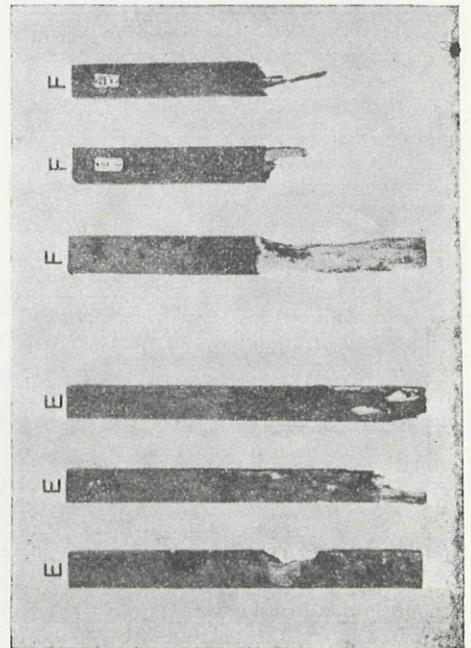
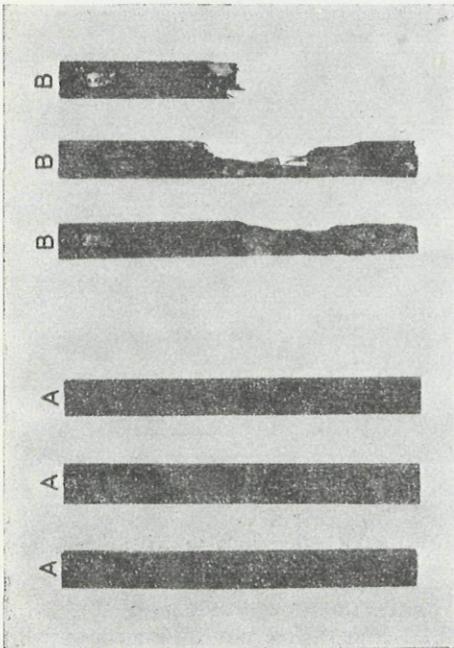
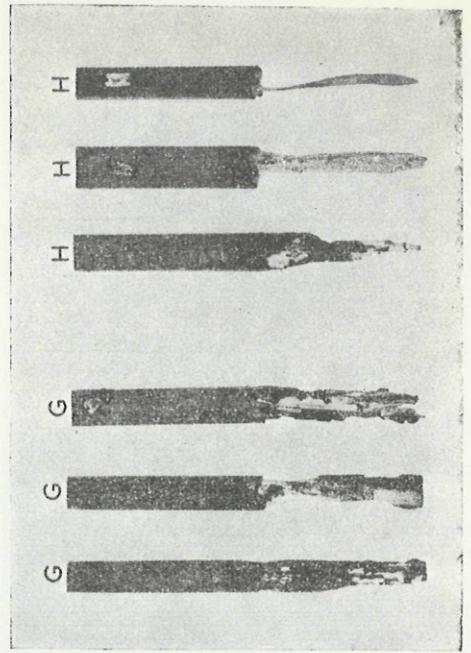
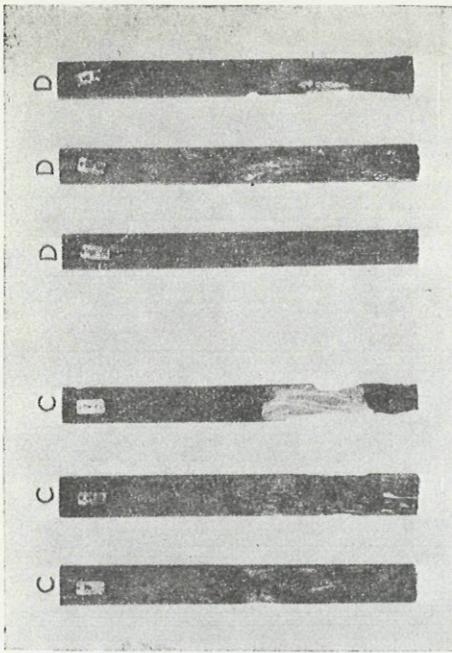
THE EFFECT OF DDT ON DAMAGE CAUSED BY TERMITES IN THE  
SOIL.

by

P. A. VAN DER LAAN

Formerly Bogor, Java.

In the tropics the wood-work of buildings, etc., when being in close contact with the soil for some time, as a rule will be quickly damaged by some species of termites. Some sorts of woods show resistance against this infestation but often very serious losses occur. Also young plants, for instance those of cacao, cuttings, etc. will be damaged by attacks of termites. As a rule the infestations occur with plants that are in poor condition, but apparently sound plants are attacked regularly too.



A : DDT in benzene solution. B : untreated. C : soil watered with 2% DDT suspension. D : soil watered with 2% HCH suspension. E : 2% DDT suspension. F : 2% HCH suspension. G : 2% lead arsenate. H : soil watered with 2% lead arsenate suspension.

An article by WOLCOTT (1945) inspired us to enter upon a preliminary investigation of a termite control by using DDT. It appeared to WOLCOTT that a solution of 2 per cent. of DDT in benzene gave complete protection to the wood of *Bursera Simaruba* against termites (*Cryptotermes brevis* WLK.). Dipping the wood during only ten minutes in this solution appeared to be sufficient for a one year lasting control. Solutions of one per cent. or less gave protection for a duration of only one month.

We have set up the following experiment :

One hundred small boards of common box-timber measuring 50 to 5 to 1.5 cm were divided into seven lots of twelve, and one of sixteen samples, each of these lots was given a special treatment (see figures) :

Lot A was immersed during one hour in a long zinc basin filled with a solution of 2 per cent of DDT in benzene.

Lot B. (sixteen boards) was left untreated.

Lot C., D., and H. were treated after the timber had been stuck into the soil.

Lot E. was put during one hour into a basin containing a 4 per cent suspension of DDT wettable powder (50%), so the suspension actually contained 2% of DDT.

Lot F. was treated in the same way as the foregoing lot, but with a 2 per cent. hexachlorocyclohexane (HCH) suspension.

Lot G. was treated as the foregoing lots but with a 2 per cent. arsenate of lead suspension.

Thereupon the boards were partly buried in a place where many termites were present. All the timber was stuck vertically into the ground up to one half of its length, being 25 cm, and at interspaces of 30 cm. The boards of all lots were indiscriminately dispersed.

After their being planted the lots C., D., and H. were treated as follows :

The soil round about the boards belonging to lot C. was watered with a 2 per cent suspension of DDT (from wettable powder) Each board received 100 cc. of the suspension. To those of the lots D. and H. the same amount was given but with a 2 per cent. suspension of HCH and lead arsenate, respectively.

After six months the boards were examined as some of the untreated ones had fallen down. The parts underground appeared to have been totally destroyed by termites, particularly by the species *Macrotermes gilvus* HAGEN and *Microtermes imperatus* KEMUS, while some specimens of *Odontotermes* spec. were found.

Then all boards were removed, the termites counted, and the damage measured. The results are visible from the figures.

It may be concluded that the DDT in benzene solution gave the best results. All twelve boards so treated were found wholly undamaged and no termites were detected in the timber.

The other treatments were less successful. Especially arsenate of lead appeared to have scarcely any influence on the infestation.

Some beneficial effect was obtained by the treatment with wettable powders of DDT and HCH.

Literature :

G.N. WOLCOTT, 1945. DDT as a Termite Repellent. J. Econ. Ent. 38, 493.