

LINDANE AS A PRESERVATIVE FOR WOOLLEN AND SILKEN MATERIALS AGAINST INSECTS

P. S. CHEEMA

HQ Western Command, Simla

Benzene hexachloride (BHC) is known to possess a certain amount of vapour toxicity to a number of different species of insects^{1,2}. With a view to finding out the efficacy of vapours of γ -BHC in air tight containers against woolly bear, *Anthrenus flavipes* Lec. and case-bearing clothes moth, *Tinea pellionella* Linn. which destroy woollen materials and also house cricket *Gryllulus* Sp. which causes serious damage to silken materials, preliminary experiments were carried out in glass desiccators at 35°C and 80% RH.

Larvæ in different stages of their growth and adults of *A. flavipes* and *T. pellionella* and adults of *Gryllulus* Sp. (10 in each case) were exposed in desiccators in which Lindane (99.5 % γ -BHC) had been kept in Petri dishes, covered with muslin cloth, at the rate of 10 and 20 gms/cubic metre. Similar number of insects of each species were liberated in desiccators without Lindane, to serve as control. Observations on the effect of Lindane vapours on the insects was recorded and the following observations were made :—

- (a) All the adults of *T. pellionella* died within 24 hours at both the dosages whereas adults of *A. flavipes* took about 7 days to die.
- (b) Freshly hatched larvae of both *T. pellionella* and *A. flavipes* were active for 2-3 days, after which they became inactive, stopped feeding and died after about 15 days. Such type of larvae of *T. pellionella*, however, remained active for a longer period. This may be largely due to the presence of a case which is built by the larva round its body.
- (c) Adults of *Gryllulus* Sp. died within a week at both the dosages.
- (d) There was no mortality in controls.

These preliminary observations on the vapour toxicity of Lindane hold promise for its usefulness as a preservative against those species of insects which destroy woollen and silken materials stored in boxes/containers which can be made air-tight. It warrants further critical examination of Lindane by practical trials as compared to naphthalene which is at present used as a preservative for woollen and silken materials.

REFERENCES

- 1 McINTOSH, A. H., *Bull. ent. Res.* 137, (1954).
- 2 Brown, A.W.A., *Insect Control by Chemicals*, John Wiley & Sons, Inc. USA, (1951).