water and the cost Rs 2·50, 0·90 and 2·84, respectively, for DDT, BHC and carbaryl.

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Note on the immediate toxicity of six insecticides used for the control of the adults of *Stephanitis typicus* Distant (Heteroptera: Tingidae), a pest of coconut foliage

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The control of *Stephanitis typicus* Distant, a pest of coconut foliage, assumed importance in arresting the spread of root (wilt) disease of coconut in the field ever since Shanta *et al.* (1964) brought out its additional role as aerial vector of the disease. The immediate toxicity of 6 insecticides tried against the adults of this tingid bug is reported here.

Adults of *Stephanitis typicus* Distant, freshly collected from coconut palms from the farm attached to the institute, formed the material for bioassay tests. The test insects were first established on coconut leaflets in the laboratory. After 24 hr they were sprayed with 1-ml suspension or emulsion of the insecticides in water at different concentrations, ranging from 0·0000125 to 0·1 per cent at a pressure of 843·68 g per cm^2. The range of concentrations required to produce 20–100 per cent mortality of the test insects was, however, different with the insecticides used, viz. 0·0000125–0·00005 for isobenzan (1, 3, 4, 5, 6, 7, 8, 8-octachloro-3a, 4, 7, 7a-tetra hydro-4, 7-methanophthalan) as 15 per cent emulsion concentrate, 0·000025–0·001 for carbaryl (1-napthyl-N-methyl carbamate) as 50 per cent water-dispersible powder, 0·0025–0·05 for methyl-0-demeton (dimethyl-ethyl-mercapto-ethyl-thiophosphate) as 100 per cent emulsion concentrate, 0·0003125–0·0025 for DDVP as 100 per cent emulsion concentrate, 0·00025–0·05 for BHC as 50 per cent water-dispersible powder, and 0·0125–0·1 for DDT as 50 per cent water-dispersible powder. There were 5 replications with 25 insects per replication. The control was sprayed with water alone. Observations on mortality of the test insects were recorded at 24-hr interval till all insects in each treatment were dead. The correction for natural mortality was made according to the Abbott's formula. The data of mortality after 24 hr were subjected to probit analysis.

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LD-50 and LD-90 of the insecticides were, respectively, 0·000046 and 0·0003 for isobenzan, 0·00014 and 0·00066 for carbaryl, 0·00036 and 0·00278 for DDVP, 0·00235 and 0·0038 for BHC, 0·0035 and 0·0101 for methyl-o-demeton and 0·035 and 0·085 for DDT. Each of the insecticides killed the insects within 24 hr at concentrations below 0·1 per cent. Isobenzan, carbaryl, DDVP, BHC, methyl-o-demeton and DDT in that order of efficacy proved toxic to the insect. Isobenzan has a high mammalian toxicity. Carbaryl has reportedly low toxicity against beneficial insects in general. DDVP has the least residual toxicity. Carbaryl and DDVP therefore appear to be the best of the 6 insecticides tried, especially in view of the record by Mathen *et al.* (1967) of a mirid bug, *Apollodotus praefectus* Distant, predacious on *Stephanitis typicus* Distant. The observation made by Jotwani *et al.* (1961) on the control of the lace-wing bug, *Urentius echinus* Distant, on brinjal (*Solanum melongena* L.) with 20 insecticides whose LD-50 was within the range of 0·1942–0·0002638 was similar to our findings.

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Note on the toxicity of fluorine in well-waters of Nagaur and Jaipur districts in Rajasthan

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Though the role of fluorine in plant nutrition is not yet well established, fluorine may prove toxic to plant growth when present beyond a certain critical limit (Kanwar and Mehta, 1968). On the basis of observations under field conditions, Paliwal *et al.* (1969) proposed that fluorine should be considered one of the quality-determining factors. In view of this, attempts were made to find out the fluorine content of well waters of Jaipur and Nagaur districts and its relationships with the quality-determining factors of irrigation waters.

In April 1968, 74 representative well waters from all the Panchayat Samities of

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