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## ON THE TOXICITY OF SOME NEWER INSECTICIDES TO CERTAIN COMMON CROP PESTS

The usefulness of a few newer insecticides (in comparison with standards) in controlling some common crop pests was ascertained in laboratory studies in terms of the mortality caused by the insecticides to the insects when used at their field doses. Details of the insecticides and insects used are given in Table 1. Third instar larvae of each insect were used for these studies. They were collected from the field or reared in the laboratory. Ten each insect (replicated thrice) taken in petridishes was sprayed under the Potter's tower using 1 ml. of the emulsion or suspension as the case may be. The sprayed

**Table 1**

**Per cent mortality of larvae of different insects in 48 hours  
when sprayed with different insecticides**

Insecticide and concentration (% a.i.)	Per cent mortality of		
	<i>E. 28 punctata</i> (1)	<i>M. hyrtaca</i> (2)	<i>P. ricini</i> (3)
Toxaphene (Anatox) 0.6 E	39.15	68.85	21.93
Quinalphos (Ekalux) 0.05 E	76.92	81.15	63.85
Chlorodimeform hydrochloride (Gelecron) 0.05 E	42.00	Nil	Nil
Fenthion (Lebaycid) 0.05 E	61.36	8.85	Nil
Monocrotophos (Nuvacon) 0.04 E	90.00	55.78	Nil
Parathion (Ekatox) 0.04 E	61.92	90.00	54.99
Leptophos (Phosvel) 0.05 E	35.22	Nil	Nil
MIPC (Mipcin) 0.02 E	29.30	Nil	Nil
Carbaryl (Sevin) 0.2 S	90.00	81.15	Nil
Fenitrothion (Sumithion) 0.05 E	31.92	43.08	68.85
Phosalone (Zolone) 0.09 E	37.56	72.29	Nil
Pirimiphos-methyl (Actellic) 0.05 E	46.92	51.15	43.08
Pirimiphos-ethyl (Pirimid) 0.05 E	83.85	90.00	Nil
Control	Nil	Nil	Nil
C. D.:-	19.86	34.34	23.21

Note: 'E' — Emulsion. 'S' — Suspension.

1. *Epilachna vigintioctopunctata* (Coccinellidae) on bittergourd.
2. *Metanastria hyrtaca* (Lasiocampidae) on cashew
3. *Pericallia ricini* (Arctiidae) on castor.

insects were transferred to glass chimneys half an hour after spraying and supplied with fresh food materials. Mortality was observed 48 hours after the treatments.

Results are given in Table 1. It may be seen that to epilachna grubs. monocrotophos and carbaryl are the most highly toxic (90%) closely followed by primiphos ethyl (83.85%), Quinalphos (76.92%) and prarthion (61.92%) come next with substantial toxicity. To caterpillars of *Metanastria hyrtaca* parathion and primiphos ethyl are the most highly toxic giving 90% mortalities followed closely by carbaryl and quinalphos (81.15% each). The others are ineffective excepting phosalone which also gives fairly high mortality of 72.29%. To caterpillars of *Pericallia ricini*, the only two insecticides giving any significant toxicity are quinalphos (63.85%) and fenitrothion (68.85%). The rest of the insecticides are of low toxicity.

These observations will indicate the necessity of undertaking objective assessment of the toxicity of the newly introduced insecticides to the specific pests before being recommended for their control.

സംഗ്രഹം

എപ്പിലാക്നാ, മൊറാനാസ്ട്രിയാ, പെരിക്കാലിയാ എന്നീ ശത്രുകീടങ്ങളുടെ മൂന്നാംഘട്ടം ലാർവകൾക്കെതിരെ പതിമൂന്നു കീടനാശിനികൾ നേരിട്ടു പ്രയോഗിച്ചു. അവയിൽ മോണോക്രോട്ടോഫോസ് (0.04%), കാർബറിൽ (0.2%) എന്നിവ എപ്പിലാക്നായെ നിയന്ത്രിക്കുവാൻ ഫലപ്രദമായി കണ്ടു. എന്നാൽ മൊറാനസ്ട്രിയാ പുഴുക്കളെ കൂടുതലായി നശിപ്പിച്ചത് പാറത്തിയോൺ (0.04%), പിരിമിഫോസ് ഈതെൽ (0.05) എന്നീ കീടനാശിനികളായിരുന്നു. പെരിക്കാലിയ പുഴുക്കളെ നശിപ്പിക്കുവാൻ ക്വിനാൽഫോസ് (0.05%) എന്ന കീടനാശിനി മാത്രമേ ഫലപ്രദമായി കണ്ടുള്ളൂ.

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