Acute Toxicity : Novel Mode of Pesticides on Earthworm

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Key words : Acute- toxicity, Novel pesticides, Earthworm, Eisenia foetida

SUMMARY
Lab-experiments were carried out to asses the relative acute toxicity of eight novel modes of pesticides viz., abamectin, diafenthiuron, fipronil, imidacloprid, spinosad, indoxacarb, novaluron and profenofos on earthworm (Eisenia foetida) comparing contact filter paper test and soil test wherein, the area of contact-exposure was kept uniform and the exposure-period was kept 48 h and 28 days, respectively. All the pesticides found to be toxic in former test were depicted comparatively less toxic in latter test, indicating that the estimation of toxicity differs significantly with the test method, type of chemical molecule and also physicochemical properties of the soil.

Materials and Methods
Contact filter paper test and soil test in accordance with some modifications and on the similar lines advocated by EPA were adopted to assess relative acute toxicity of eight novel modes of pesticides on earthworm, Eisenia foetida. Laboratory experiments were carried out in CRD with three replicates for each of the pesticides to compare the acute toxicity. In both the tests, area of contact-exposure was kept uniform (56 cm²/worm) while exposure-period was kept 48 h and 28 days, respectively. The toxicity was assessed on the basis of worm's mortality at recommended field concentration by following the former test on similar lines advocated by Goats and Edwards (1988) and Edwards and Bohlen (1996) and for the latter test by keeping views of EPA guidelines and also the studies carried out by Van-Gestel and Ma (1990). In soil test, clayey loam soil was provided as substrate medium.

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