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RESEARCH ARTICLE

Biological activity of *Datura metel* L. on diamond back moth, *Plutella xylostella* L. infesting Brassicaceous vegetables

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ABSTRACT

Datura metel seed extracts in water and methanol were assayed for their activity against diamond back moth, *Plutella xylostella*. Aqueous extract was found more ovicidal with 74 per cent at 10 per cent concentration methanol compared to the aqueous extract (81 % mortality at 40% concentration). Repellent effect of methanol extract to fourth instar larvae was more evident up to 18 hours, while aqueous extract was repellent up to 12 hours only. Antifeedant activity was weak on fourth instar larvae as the maximum feeding inhibition by these extracts was only 14 - 21 per cent. Cumulative mortality (mortality of treated II or IV instar larvae + mortality in the succeeding stages) was similar (28-29%) when larvae were fed on the leaves treated with datura seed extracts in methanol or water. Aqueous and methanol extracts adversely affected oviposition of female moths as maximum oviposition deterrence observed was 55 per cent and 35 per cent, respectively. Thus, it is inferred that active principle (s) present in aqueous and methanol extracts of *Datura metel* seeds are insecticidal possessing diverse activities like repellence, feeding and oviposition deterrence, killing effect etc. against diamond back moth.

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