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Efficacy of Different Plant Extracts against Brevicoryne brassicae and Their Effects on Pollinators

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Abstract : Brevicoryne brassicae (Aphid) is not only the major biotic constraint of rapeseed crop but also transmits 20 different viral pathogens that cause diseases in crucifers. Aphids cause major losses to rapeseed by stunting growth and yield, with real damage being contamination of harvested heads. The misuse of pesticides has led to tremendous economic losses and hazards to human health and environmental pollution. Thus, newer approaches for pest control are continuously being sought. The naturally occurring, biologically active plant-based products seem to have a prominent role in the development of future commercial pesticides not only for increased productivity but their eco-friendly nature. The present experiment was carried out in Research Area of Ayub Agriculture Research Institute, Faisalabad to check the efficacy of different botanicals against rapeseed aphid. The tested botanicals were, neem seed extract, neem leaf extract, dathora seed extract, kaner leaf extract and aak leaf extract. Insecticide, advantage 20 EC served as the positive control in the experiment. Data was recorded before and after 1, 3 and 7 days of treatment application. The results of the experiment revealed that neem seed extract exhibited maximum mortality (48.42%) followed by dathora (45.54%) and kaner leaf extract (40.29%) after 7 days of treatment application. However minimum mortality i.e. 26.64% was observed in case of aak leaf extract. Advantage encountered maximum mortality i.e. 86.14%. All treatments caused maximum mortality after 7 days of treatment application. In case of pollinators maximum population reduction was observed in case of insecticide (74.29%) while minimum reduction was observed in neem leaf extract (11.57%). Hence it was concluded that unlike insecticides, plant based products can be a better option for regulating pests and conserving beneficial insect fauna.

Keywords : Aphid, mortality, plant based, pollinators
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