

An Insight into Insecticidal Activity of Pesticide Nanoformulation

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Abstract—Incessant use of hazardous pesticide prompted scientists to develop novel formulations of pesticides. Nanoformulations are expected to have a number of advantages as compared to their conventional counterparts. Acetamiprid, a neonicotinoid insecticide, besides being used as an insecticide on a variety of crops has some related issues of toxicity to non target organisms and environmental pollution. The consumption of hazardous pesticides can be reduced by developing smart nanoformulations that has potential to reduce dose of active pesticide and hence related side effects. The present work deals with synthesis and evaluation of acetamiprid loaded nanoformulation. The characterization of different process steps was done by PCS, TEM, FTIR and UHPLC. The nanoformulation was found to show slow release of acetamiprid at different pH ranges and in soil. The insecticidal activity of the developed nanoformulation was also explored.