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Standardization of method for quantification of neonicotinoids in food sample using HPLC

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Chemicals have been used to manage insect pests for many decades. Insecticide resistance is a major driving force behind the need for development of new insecticides. The perfect insecticide should have the characteristics such as efficacy, economic viability and safety. Nicotinoids represent a unique model for new generation of synthetic nicotinoids, which would act as poison for a neurotransmitter receptor. Neonicotinoids represents a class of compounds with a unique mode of action due to its interactions with acetylcholine (Ach) receptors. The first neonicotinoid insecticide introduced to the market was imidacloprid in 1991. The present investigation was done to standardize a method for the simultaneous quantification of some of neonicotinoids namely acetamiprid, thiocloprid and imidacloprid and to use the method developed to examine neonicotinoids namely acetamiprid, thiocloprid and imidacloprid in the food sample. The investigation was successful as these pesticides got separated at HPLC conditions with detection at 254nm and flow rate of 1.0ml/min and in cabbage sample imidacloprid and acetamiprid were detected.

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