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ETHEPHON RESIDUE ANALYSIS IN COMMONLY USED VEGETABLE FOODS BY A HPLC-PDA METHOD

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Abstract

Ethephon is known as a plant growth regulator, commonly used in fruit and vegetable crops. In this study, we aimed to extract ethephon from food products of plant origin, adapting a High-Performance Liquid Chromatography (HPLC) method for the determination of ethephon present vegetable and fruit samples (tomatoes and strawberries). Ethephon residue remanence was evaluated in enriched ethephon samples after 6 months of preservation in freezing conditions. Recovery percentage of ethephon enriched tomatoes ranged between 87.44% to 100.65% and 70.13% - 101.77% for strawberry samples respectively. The mean value for ethephon residue concentrations in tomato samples was at 29.48 µg/kg of product and 13.03 µg/kg for strawberry samples. Experimental determination for ethephon stability in freezing preserved samples was compared with initial results and it revealed a reduction of residue level by 63.47% for strawberry samples and 24.16% for tomato samples.

Key words: ethephon, ethylene, plant growth regulator, tomatoes, toxicity, strawberries

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