Title Lc/Esi/Ms/Ms determination of postharvest fungicide residues in citrus juices

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Abstract

An LC-ESI-MS/MS method was developed for the quantitative detection of postharvest fungicide residues in citrus juices and reported in this paper. The analyses of thiabendazole (TBZ), carbendazim (MBC), thiophanate methyl (TPM), imazalil (IMZ) and prochloraz (PCZ) residues were performed by using a gradient elution in conjunction with positive ionization mode electrospray ionization tandem mass spectrometry. Fungicides were extracted from citrus juices with recoveries ranging from 79.8 to 101.2% and relative standard deviation better than 15%. The quantification limits ranged from 0.01 μg/kg IMZ to 0.06 μg/kg for MBC. The LC-MS-MS method was applied to commercial citrus juices, detecting MBC, TBZ and IMZ residues in the 90% of the samples. Prochloraz residues were detected only in one of the multifruit juice (orange, lemon and carrot) samples.