

LIQUID CHROMATOGRAPHIC DETERMINATION OF PESTICIDE RESIDUES IN EXOTIC FRUITS BY MATRIX SOLID PHASE DISPERSION

Sandro Navickiene, Márcia Beatriz Reis Froés, Haroldo Silveira Dórea

Departamento de Química, Universidade Federal de Sergipe, Av. Marechal Rondon, s/n. 49100-000, São Cristóvão, SE, Brazil. E-mail: sandnavi@ufs.br

The State of Sergipe plays an important role in the implementation of innovative projects, such as the irrigated fruit plantation located in the plateau of Neópolis aiming at the obtention of high quality fruits for exportation. However, fruits are susceptibles to insect and diseases attacks, so pesticides are widely used. Therefore, residues of pesticides could affect the ultimate consumers especially when freshly consumed. No methods for the determination of pesticides in exotic fruits like cupuassu and assai have been described in the literature. The present work describes a multiresidue extraction method based on matrix solid-phase dispersion (MSPD) for the liquid chromatographic analysis with UV-Vis detection of benomyl, bromuconazole, chlordimeform, kresoxim-methyl, deltamethrin, dichlofluanide, fenbuconazole, fenvalerate, flutriafol and teflubenzuron from assai and cupuassu matrices. After optimization of different parameters, such as type of solid phase (silica gel, C18, neutral alumina, Florisil), amount of solid phase and eluent (ethyl acetate, *n*-hexane, dichloromethane), recoveries of assai and cupuassu samples fortified at different levels (0.1 to 1.0 mg/kg) ranged from 70% to 120% with relative standard deviations (RSD) values varying from 1.6% to 12.5%. Calibration graphs for these pesticides were prepared by plotting peak area vs. concentrations. Good linearity was achieved in the 0.1 to 4.0 µg/mL range with correlation coefficients ranged from 0.9945 to 0.9999. The detection limits ranged from 0.03 to 0.05 mg/kg and the quantification limits ranged from 0.05 to 0.1 mg/kg. The analytical methodology is being applied using fruit samples from markets located around Aracaju city in the State of Sergipe, Brazil.

CNPq