Determination of Pesticide Residues in Fruits and Vegetables Using Upper Pressure Liquid Chromatography and Mass Spectrometric Detection

Gözde Türköz¹, Yaşar Hışıl²

¹AYBAK NATURA Food Analysis Laboratory-İzmir, gozde.turkoz@naturalab.com.tr
²Ege University, Faculty of Engineering, Department of Food Engineering - Bornova, İzmir, Turkey, yasar.hisil@ege.edu.tr

Tomatoes and grapes spiked at 10-100 ng/g pesticides were used in validations. QUECHERS method known as fast, easy, effective, accurate and confident was carried out to determine pesticides. After extraction of 10 g of sample with 10 ml acetonitrile, 150 mg anhydrous MgSO₄ and 25 mg PSA (Primary Secondary Amine) were added to solution. Most of the polar components like sugars, organic acids, some polar pigments present in acetonitril extract were effectively removed from the solution by dispersive solid phase extraction with PSA. Then cleared extract was analysed in UPLC-MS-MS system. After that results are evaluated by calculating limit of detection (LOD), limit of quantitation (LOQ) and recovery factors.

References