

Study on the analytical HPLC method for separation of some pesticides

Vera TRAJKOVSKA* and Simka PETROVSKA - JOVANOVIC

*Institute of Chemistry, Faculty of Natural Sciences and Mathematics,
The "Sv. Kiril & Metodij" University, P.O. Box 162, 1000 Skopje,
Republic of Macedonia*

Abstract Terbutylazine, phosmet, napropamide and folpet are the active compounds in some pesticide formulations, which are used on farming land - vineyards, apple and pear trees in Macedonia. In this work, we describe optimization of an HPLC method for separation of above-mentioned pesticides. HPLC analyses were performed by HPLC system (Varian) equipped with ternary gradient pump (9012), loop (Rheodine) and polychrome diode array detector (Varian 9065). The sample volume injected into HPLC system was 20 μ l. For separation was used an analytical column Lichrosorb RP18, 200 x 4.6 mm, 5 μ m (Hewlett-Packard). Detection was carried out at a wavelength of 220 nm, which is the best for simultaneous determination of all mentioned pesticides. Separation was performed using isocratic elution at a flow rate of 1.2 mL/min with a mobile phase acetonitrile / water, 60:40 V/V. For each compound a calibration curve was constructed and limit of detection and quantification (LOD and LOQ) was determined.

Keywords: reversed-phase HPLC, pesticides, terbutylazine, phosmet, napropamide and folpet .
