

**SAMPLE HANDLING STRATEGIES FOR THE TRACE-LEVEL
DETERMINATION OF PESTICIDES AND THEIR DEGRADATION PRODUCTS
IN ENVIRONMENTAL MATRICES: A REVIEW**

M.C. VAGI, A.S. PETSAS, M.N. KOSTOPOULOU and T.D. LEKKAS

Laboratory of Water and Air Quality, Department of Environmental Science,
University of the Aegean
Theofrastou & Alkaiou Str., Mytilini, 81-100 Greece.

ABSTRACT

An overview of the use of off-line and on-line methods and techniques that are well adapted to the multiresidue analysis of pesticides in several environmental matrices is presented. Different sample handling strategies for the determination of pesticides are discussed and applications to various samples are given. Several techniques concerning sample pretreatment (extraction and pre-concentration) (LLE, LSE, SFE, SPE and SPME) and analysis (GC-NPD, GC-ECD, GC-FPD, GC-FID, GC-MS, LC-UV, LC-MS) are summarized. Emphasis is given to the benefits and the drawbacks of each method mentioned and to the factors that should be taken into consideration for selecting the appropriate analytical method.