Arch. Environ. Contam. Toxicol. 38, 7–10 (2000)

ARCHIVES OF
Environmental
Contamination
and Toxicology

Analysis of Multiple Pesticides in Urban Storm Water Using Solid-Phase Extraction

J. B. Belden, C. S. Hofelt, M. J. Lydy

Department of Biological Sciences, 1845 N. Fairmount, Wichita State University, Wichita, Kansas 67260-0026, USA

Received: 17 February 1999/Accepted: 7 April 1999

Abstract. An analytical method was developed using C_{18} solid-phase extraction and gas chromatography—nitrogen phosphorus detection (GC-NPD) to determine the presence and quantity of 12 contemporary pesticides in storm water runoff from an urban environment. The method was validated, using deionized water and water collected from a local pond, for two concentration levels and four holding time regimes. The method was then utilized in a study examining nonpoint source (NPS) pollution in Wichita, KS. Accuracy and precision were demonstrated in each test for each analyte except diazinon, which degraded rapidly during holding times in aqueous solution. For all matrices, concentration levels, and holding times, mean recoveries for the remaining 11 pesticides ranged from 50% to 105% with percent relative standard deviations less than 25%.