Aprillya, S., 2013, Analisis Diazinon dengan *High Performance Liquid Chromatography* (HPLC) melalui Ekstraksi secara *Headspace-Single Drop Microextraction* (HS-SDME). Skripsi dibawah bimbingan Dr. Miratul Khasanah, M.Si dan Yanuardi Raharjo, S.Si., M.Sc. Departemen Kimia Fakultas Sains dan Teknologi Universitas Airlangga, Surabaya.

ABSTRAK

Pada penelitian ini, teknik *headspace-single drop microextraction* (HS-SDME) digunakan untuk mengekstraksi residu diazinon dalam tanah yang selanjutnya dianalisis menggunakan metode kromatografi cair (HPLC) dengan detektor *diode array* (DAD). Hasil optimasi parameter analitik dengan HS-SDME meliputi jenis pelarut organik yaitu n-heksana sebagai pengekstrak, temperatur 40^{o}C dan waktu ekstraksi selama 20 menit. Hasil ekstraksi dengan menggunakan parameter analitik tersebut diperoleh kurva kalibrasi linier untuk larutan standar diazinon konsentrasi 1 – 10 ppm dengan nilai koefisien korelasi (r) sebesar 0,9985, limit deteksi 0,59 ppm, akurasi sebesar 99,90%, presisi 1,45 – 17,53%, faktor pemekatan 9989,6 kali dan *recovery* sebesar 88,18%. Metode ini dapat diaplikasikan untuk penentuan residu diazinon pada tanah pertanian dan ditemukan kadar diazinon sebesar 23,02 ppm.

Kata kunci : *Headspace-single drop microextraction* (HS-SDME), *high performance liquid chromatography* (HPLC), diazinon

Aprillya, S., 2013, Analysis of diazinon using High Performance Liquid Chromatography (HPLC) with Headspace-Single Drop Microextraction (HS-SDME). Final project under guidance Dr. Miratul Khasanah, M.Si and Yanuardi Raharjo, S.Si., M.Sc. Departement of Chemistry, Faculty Science and Technology, Airlangga University.

ABSTRACT

In this research, headspace-single drop microextraction (HS-SDME) technique was used to determine the levels of diazinon pesticide residues in soil, which continue by analysis using liquid chromatography (HPLC) with diode array detector (DAD). Based on the analytical parameters observed, it shown that the optimum condition for HS-SDME technique was conducted using n-hexane as extractor, temperature at 40^{o}C for 20 minutes. The linearity of calibration curve for diazinon's concentration of 1 – 10 ppm was 0.9985, limit of detection was 0.59 ppm, accuracy was 99.90%, precision between 1.45 until 17.53%, enrichment factor 9989.6 and recovery was 88.18%. This method was successfully applied to determine residue of diazinon at agricultural soil and the concentration diazinon found as 23.02 ppm.

Keyword : Headspace-single drop microextraction (HS-SDME), high performance liquid chromatography (HPLC), diazinon