

ABSTRAK

Jika pestisida digunakan dalam pertanian, mereka dapat meninggalkan residu pestisida pada produk pertanian. Pestisida mengandung logam berat Pb yang memiliki sifat karsinogenik. Profil darah adalah bagian penting dari penilaian kesehatan untuk mengidentifikasi penyakit seperti anemia dan gangguan komponen darah, dan paparan logam berat timbal dapat menyebabkan abnormalitas profil darah. Tujuan dari penelitian ini adalah untuk mengidentifikasi hubungan antara kadar timbal dalam darah petani di Desa Kalisampurno Kabupaten Sidoarjo dan profil darah lengkap mereka. Spektrofotometri serapan atom dan analisis hematologi digunakan untuk penelitian deskriptif ini. Studi ini dilakukan dari November 2023 hingga Mei 2024 di Laboratorium Hematologi dan Laboratorium Baristand Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya. Dalam penelitian ini, petani padi yang menggunakan pestisida yang mengandung timbal dilibatkan. Sampling purposive digunakan. Hasilnya menunjukkan kadar timbal dalam darah berkisar antara 0,064 g/dL dan 5,805 g/dL, dengan 8 peserta menunjukkan nilai eritrosit di bawah normal, 13 menunjukkan nilai (*Mean Corpuscular Volume*) MCV, 3 menunjukkan nilai (*Mean Corpuscular Haemoglobin*) MCH, dan 3 menunjukkan nilai (*Mean Corpuscular Haemoglobin*) MCHC.

Kata Kunci : Pestisida, Timbal (Pb), Profil Darah Lengkap, Spektrofotometri Serapan Atom, *Hematology Analyzer*

ABSTRACT

Pesticide residues may be found in agricultural goods as a result of pesticide use in agriculture. Pesticides contain the heavy metal Pb, which poses a risk for cancer. Abnormalities in blood profiles are one of the health issues that can arise from exposure to heavy metal lead. A blood profile is one of the most important components of a health assessment when it comes to diagnosing illnesses like anemia and blood component problems. The aim of this study is to demonstrate a correlation between the whole blood profile and blood lead levels in farmers in Kalisampurno Village, Sidoarjo Regency. Hematology analyzer and atomic absorption spectroscopy were the examination methods employed in this investigation. The Surabaya Ministry of Health Polytechnic's Department of Medical Laboratory Technology conducted descriptive study from November 2023 to May 2024 in the Baristand Laboratory, Analytical Chemistry Laboratory, and Hematology Laboratory. The study's population consisted of rice farmers who used pesticides containing lead. Purposive sampling was utilized to collect the specimen, which was blood. According to the findings, there was one respondent whose blood lead level was between 0,064 and 5,805 ug/dL and whose erythrocyte value was below normal, Haemoglobin value below normal value there were 8 respondents, (Mean Corpuscular Volume) MCV value below normal value there were 13 respondents, (Mean Corpuscular Haemoglobin) MCH value below normal value there were 3 respondents, (Mean Corpuscular Haemoglobin Concentration) MCHC value all respondents were within normal limits, Hematocrit value below normal value there were 13 respondents, Leukocytes value below normal there were 6 respondents, and Platelets value below normal there were 8 respondents. The stastical test clearly shows that there is no significant relationship between blood lead levels and the full blood profile.

Keywords : Pesticides, Lead (Pb), Whole Blood Profile, Atomic Absorption Spectrophotometry, Hematology Analyzer