VALIDASI DAN EVALUASI METODA ANALISA PENCEMAR RESIDU PESTISIDA DALAM AIR DAN TANAH DI LINGKUNGAN PERTANIAN ORGANIK MENGGUNAKAN ALAT GC-MS/MS

(Validation and Evaluation Determination of Pesticides Residue in Water and Soil at Organic Farm by GC-MS/MS)

YANWAR PRATAMA PUTRA
Program Studi Teknik Lingkungan Universitas Sahid Jakarta
Jl. Prof. DR. Soepomo No.84, Tebet, Kota Jakarta Selatan
Daerah Khusus Ibukota Jakarta 12870

ABSTRACT

Pesticides are compounds that really important in agriculture activity, its used for eradicate pests and insects to achieve a great quality and quantity of agriculture products. Determinations of residual pesticides in environment is so important because of its risks for human health, besides its presence in environment that undegradable and also high chance for bioacummulation. This research aims to get the LOD (Limit Of Detection) and LOQ (Limit Of Quantitation) values and validate the determination method of residual pesticides in water and soil by GC-MS/MS also to know the pesticides concentration in water and soil from several organic farm in Kabupaten Bogor. This Research is based on quantitative method. After done sampling the water and soil from organik farm, it followed by preparation and extraction, then proceed to analysis by GC-MS/MS in PT Ditek Jaya Laboratory Jakarta. After research process, the result of LOD and LOQ pesticides compound that analyzed by GC-MS/MS is qualify to the MRL (Maximum Residue Limits) criteria of EU (European Union) that below 0.01 mg/Kg, also almost all pesticides in matrix waters and soil qualify all the validation parameters except the dichlorvos in water matrix. For the water and soil sample from Organik Farm A is contaminated by pesticides, while the water and soil sample from Organik Farm B and Organik Farm C no single compound of pesticides are detected.
Keywords : Pesticides, Water, Soil, Validation, Organik Farm