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**Document Title** : Solid - phase extraction and chromatographic analysis of some pesticides in agriculture crops  
الاستخلاص في الطور الصلب والتحليل الكروماتوجرافي لبعض المبيدات في المحاصيل الزراعية

**Document Language** : Arabic

**Abstract** : Pesticides are widely used in agriculture to protect crop~ from insects and diseases, which affect crops and cause an annual loss estimated at million of Saudi Riyals. Otherwise pesticides have negative effect on health and environment because many pesticides are carcinogenic. Organophosphorus are one of the main classes of pesticide, they are less stable and they almost replace organochlorine pesticides in agriculture uses. In this thesis the dissipation of four organophosphorous insecticide (chlorpyrifos, diazinon, fenitrothion and malathion) from six crops (rocket, parsley, lettuce, fig, grape and guava) have been studied. The spraying has been done in day zero with very dilute pesticides; the dilution has been done with water each to a suitable dilution, then sprayed, collected every day, and brought to the laboratory from the Agriculture Research Station belongs to King Abdulaziz University at Hada Alsham. The time of collection is started one day after spraying and end after 10 to 13 days. After extraction with acetonitrile and partitioning in normal hexane, hexane layers, which contain pesticide compounds.. are passed through a Sep- Pack solid-Phase Florisil cartridge. The cartridge first conditioned with hexane then sample is passed the sorbent, rinsing, and finally eluting the analyte with a mixture of hexane and acetone (80:20). Determination was carried out by reversed-phase high-performance liquid chromatography (HPLC) with methanol-water (90:10) using ultrasphere C-18 column and ultraviolet detector (UV) at 254 nm. Detection limits are 0.01,0.1,10 and 10 mg/kg for fenitrothion, diazinon, chlorpyrifos and malathion respectively. Good recoveries were obtained for fenitrothion and diazinon and satisfactory recoveries for chlorpyrifos and malathion.

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