

PERSISTENT ORGANIC PESTICIDES STUDY IN TWO HORTIFRUTICULTURE REGIONS OF URUGUAY

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Abstract: In Uruguay, pesticides organochloride like DDT, Aldrin, Dieldrin, Endrin, have been withdrawn their registers of import and forbidden their use since 1977. All of them are considered persistent organic pollutants (POPs), and take part of the list of POPs in the Stockholm Convention, which was ratified by Uruguay in the year 2004. The residues of pesticides organochloride and their metabolites of degradation, have been controlled, in soils and sediments of two hortifruticulture regions in the west area of Montevideo. The extraction was carried out by Soxhlet extraction (EPA method 3540), follow by a clean up with extraction in solid phase (SPE) C18, detection and quantifications in a GC-MSD (Agilent Technologies). A total of 54 samples of soils and sediments were studied, detecting in 16,7% of them DDE, one of the main metabolites of degradation of the DDT, in some of its forms: o,p-DDE and p,p-DDE; being 0,45 mg/Kg (ppm) the maximum concentration found. In minor percentages were detected DDT (5,6%) and DDD (3,7%); being 0,19 ppm the maximum concentration of DDT quantified. Residues of Aldrin, Dieldrin and Endrin were not detected in the soils and sediments analyzed in both hortifruticulture regions. The presence of residues of pesticides organochloride and their products of degradation, even after 25 years of having ceased its application in mentioned area, implies to go ahead with a follow-up of those crops which are in close contact with the soil, in order to verify that no migration of those pesticides towards the vegetable is taking place.
