

Evolution of organochlorine and organophosphorus pesticides's residues (in « Akkar » region in Lebanon) linked to an evaluation of their toxicity using E.coli K12, Pseudomonas aeruginosa H103 and Salmonella enterica

Roukaya al haj ishak al ali

Poitiers Institute of Media and Materials Chemistry, UMR CNRS 7285, Poitiers university, France



Abstract

Lebanon's agriculture represents 2.92% of its economy [1] and it is mainly used to feed the country even if part (potato, cereals, citrus fruits, etc.) is also exported to other countries (Kuwait, Qatar, Saudi Arabia, etc.) [2]. However, intensive and unregulated use of pesticides in the agricultural regions of the Northwest of Lebanon, specifically in Akkar (second agricultural region in terms of surface area) has generated contamination of the water resources adjacent to the cultivation areas [3] [4] [5]. The inhabitants of this region use groundwater as the main source of drinking water but also for irrigation [6]. Thus, the risks associated with this deterioration in the sanitary quality of water induced researchers to try to set up programs to monitor the evolution of the levels of organic pollutants from 2014. The aim of this study was to assess the evolution of groundwater contamination by two classes of pesticides (organochlorines - OCPs, organophosphates - OPPs) in wells in Akkar plain, based on two studies carried out in 2014 and 2016 [4] [7] and on a work currently being carried out, also this study try to evaluate the toxicity of existed pesticides in this wells using three different types of bacteria : E.coli K12, Pseudomonas aeruginosa H103 and salmonella enterica, diffrents tests has done (created) to conclude the effect of those pesticide upon these bacteria.

quantification in a rural region and study the virulence effects of this pesticides organic pollutants on three bacteria's model.

Speaker Publications:

1. "The Effect of Body weight, Percentage Body fat and Body Mass Index on Adolescent Academic Performance"; Nature and Science. / 2010;8(6)
2. "Multinomial model-based formulations of TCP and NTCP for radiotherapy treatment planning"; Journal of Theoretical Biology/ Volume 279, Issue 1, 2011, Pages 55-62
3. "The effect of prolonged mechanical activation duration on the reactivity of Portland cement: Effect of particle size and crystallinity changes"; Construction and Building Materials, Volume 152, 15, 2017, Pages 1041-1050
4. "Hydrogen Bond Directed Photocatalytic Hydrodefluorination: Overcoming Electronic Control", ACS, 2017, 139, 37, 13092–13101

[8th Global Summit and Expo on Pollution Control](#); Webinar- August 24-25, 2020, 2020.

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Biography:

Roukaya AL HAJ ISHAK AL ALI is a PhD candidate in analytical chemistry (second year) in Poitiers university in France. She is 26 years old, working on pesticides's