

19th Global Chemistry, Chromatography & Spectrometry Conference

March 20-21, 2019 | New York, USA

ACCEPTED ABSTRACTS

CHEMICAL SCIENCES JOURNAL 2019, VOLUME 10 | DOI:10.4172/2150-3494-CI-033

Pesticides in a rural and urban atmosphere: Concentrations and risk assessment

Aleinnys M Barredo Yera

University of Sao Paulo, Brazil

Since the 50s, pesticides use has become essential for the development of agriculture. These pesticides remain in the atmosphere for a certain time and depending on the compound, negative impact on the environment and in the human health can be observed. In Brazil, 24% of the gross domestic product (GDP)

correspond to the agriculture and the state of São Paulo, particularly, is the second major consumer of pesticide of the country. In this work, the concentration of pesticides in the atmosphere of São Paulo and Piracicaba (sugarcane plantation site) cities was determined and the assessment of the risk caused by inhalation of these compounds was calculated. Samples (n=23) were extracted and 34 pesticides were determined by gas chromatography coupled to a mass spectrometer. The compounds with the highest detection frequency were

permethrin I and II (96%). The concentrations ranged from 17 pg m⁻³ for tebuconazole in Piracicaba, to 166 pg m⁻³ for endrin aldehyde in São Paulo. The highest values of daily inhalation exposure were for heptachlor in infants, 8.29x10⁻⁵ mg kg⁻¹day⁻¹ in Piracicaba and 5.00x10⁻⁵ mg kg⁻¹day⁻¹ in São Paulo. All values of the hazard quotients are lower than 1.0 indicating that there is no danger to human health by inhalation. Cancer risk was found for heptachlor in adults, infants, and children in both sites.

aleinnysb@gmail.com