Tentative Outline

Special Issue for Current Analytical Chemistry

Analysis, Occurrence and Impact of Currently Used Pesticides in the Atmosphere

Guest Editor: Vicent Yusà

Aims & Scope:
Pesticides such as herbicides, insecticides and fungicides, are the most widely used chemical compounds. A fraction of the applied pesticides are emitted to the atmosphere. Post-application emissions that involve volatilization from soil and plants, and wind erosion, represent further significant pesticide input to the atmosphere. Once released in the environment, the pesticide is susceptible to biological and chemical degradation, which may result in the formation of a range of different compounds, commonly termed “metabolites” (include metabolites, transformation and degradation products, reaction products). Some of these metabolites are formed in the atmosphere, while those formed in soils and water can move to the atmosphere.
The analytical methods and strategies for determination of pesticides in food, water and soils have been widely described, with many interesting reviews in the recent literature. However, less attention has been paid to the sampling, analysis, fate and impact of currently used pesticides in the atmosphere.
The aim of this Mini-Thematic Issue is to present an update review of the main topics related with occurrence and impact of the atmospheric pesticides from an analytical point of view.
The scope of this Issue focuses on the strategies for determination of atmospheric pesticides including target and non-target analysis of active substances and their metabolites; a review of the sampling methods including passive and active sampling and the analytical methods related with each sampling approach; the degradation of pesticides in the atmosphere and a description of the analytical methods for the main transformation products; and an analytical perspective to biomonitoring of pesticides in the general population: one of the more promising approach for exposure assessment to pollutants.

Subtopics:
The subtopics to be covered within this issue are listed below:

- Strategies for the analysis of polar pesticides and their metabolites in the atmosphere
- Active sampling and occurrence of atmospheric pesticides
- Passive air sampling and analysis of atmospheric pesticides
- Degradation of pesticides in the atmosphere
- Methods for the determination of biomarkers of exposure to pesticides

Schedule:

- Manuscript Submission: April 1, 2015
- Peer Review Due: May 1, 2015
- Revision Due: June 01, 2015
- Notification of Acceptance by the Guest Editor: June 20, 2015
- Final Manuscript Due: July 1, 2015

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