عنوان مقاله:

Toxicity, Biodegradability and Detection Methods of Glyphosate; the Most Used Herbicide: A Systematic Review

محل انتشار:

فصلنامه بهداشت محیط و توسعه پایدار, دوره 4, شماره 2 (سال: 1398)

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خلاصه مقاله:

Introduction: Glyphosate is known as the most used world s herbicides and contradictions exist over its classification as a probably carcinogenic for the human. This study aimed to review the newest evidences in toxicity, biodegradability and detection methods of glyphosate.Materials and Methods: To conduct this systematic review, databases such as Scopus, Web of Science, PubMed, and Google Scholar were searched to extract studies on the non-target toxicity, biodegradability and detection methods of glyphosate from 2000 to 2018. The applied key words included glyphosate, herbicide, biodegradation, and bio decomposition. The number of articles retrieved and reviewed was 84 and 23, respectively. Results: Glyphosate could cause endocrine disrupting effects, dermal irritation, embryo toxicity, electrolyte abnormalities, apoptosis, cardiovascular collapse, teratogenicity, and mutagenic effects. High-performance liquid chromatography, UV-visible spectroscopy, gas chromatography/ mass spectrometry, and ion-exchange liquid chromatography were techniques used for detecting glyphosate in soil and water. The biodegradation of glyphosate was performed by various bacteria and fungi microorganisms. Conclusions: Given the high consumption and low rates of biodegradation of glyphosate, more attention should be paid to its toxicity potential in the human s environment and health.

کلمات کلیدی:

Herbicide, Toxicity, Environmental Pollution, Biodegradation, Glyphosate