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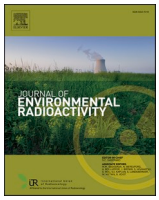

Sampling, analysis and modelling technologies for large-scale nuclear emergencies affecting food and agriculture

Foreword

Most available radioactivity measurement methods and protocols focus on the implementation of high-precision and high-accuracy sampling and analysis without emphasing on how to deal with large-scale emergencies characterized by high volumes of samples and analyses. There is therefore a need for guidelines in case of a nuclear emergency affecting food and agriculture, as resources for implementing radioactivity monitoring, such as sample collectors and laboratory facilities, may be limited and immediacy is needed in decision-making.

This special issue in the Journal of Environmental Radioactivity includes 11 papers and it provides background information, as well as generic non-country specific guidance about approaches for sampling and analysing soils, plants and food to scientists, policy-makers and decision makers at different stages of the response phase during and after the nuclear emergency. This special issue is intended to promote standardized and efficient techniques in supporting large scale emergency response in food and agriculture. Specifically, it will provide past studies and best practise examples on collecting samples, as well as promote future outlook and guidance on innovative methods such as converting airdose rate to radioactivity values.

The work was conducted under the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, funded under an IAEA Coordinated Research Project (CRP) on “Response to Nuclear Emergency affecting Food and Agriculture” (CRP D1.50.15), from 2013 to 2019. The development of these guidelines fulfils the Joint FAO/IAEA Division mandate in preparedness and response to nuclear and radiological emergencies affecting food and agriculture, that is to promote the management of intra- and interagency emergency preparedness and response to nuclear accidents and radiological events affecting food and agriculture, including in the application of agricultural countermeasures.

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