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Nanotoxicology and Nanoecotoxicology Vol. 2

Editors: Vineet Kumar, Praveen Guleria, Shivendu Ranjan, Nandita Dasgupta, Eric Lichtfouse

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Namita Ashish Singh, Nitish Rai ✉ & Avinash Marwal

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Abstract

Food adulteration is a major problem all across the globe and needs to be handled with the highest priority. Growing awareness about food safety and quality leads to the development of tools and techniques for the detection of food adulterants. With the advent of nanotechnology, it is now possible to detect the food adulterants using nanomaterials with enhanced sensitivity and low detection limits. In this chapter, several chemical food adulterants with their worldwide adulteration incidences and hazardous effect on human life have been discussed. Further, for each adulterant, novel nanosensors are described for their detection in various food samples along with the detection limit and mode of action. It was found that several major food adulterants exist like preservatives, melamine, urea, antibiotics,