

Contributions of Nanotechnology in Agriculture and Food Processing

Himakshi Bhati Kushwaha and C.P. Malik

School of Life Sciences, Jaipur National University, Jaipur, Rajasthan, India

ABSTRACT

Nanotechnology aims to produce the materials at a nano scale. These materials or devices are used for the beneficial purposes while retaining their properties and functionality and the engineered nanomaterials have even enhanced properties as compared to the natural nanomaterials. Nanotechnology left no field untouched and brings a great revolution in the field of science. Nanotechnology in agriculture is a wide and interesting area of research now-a-days. There are many products available in the market which shows their impressive applicability in the field of agriculture. Some of the nanodevices are CNT's, nanobiosensors, nanoparticles etc. These nanodevices have contributed in crop improvement, disease detection, disease treatment, pathogen detection, food and packaging etc. All these nanodevices have helped to increase the crop yield with high quality and also for food safety and biosecurity. Though these nanodevices have given the agriculture a new stature yet they have some side effects on human health and environment and these have to be minimized. This highlights the future strategy for investigations and researches that how and when to use the safer nanodevices.

Key words: CNT's, biochips, biosensors, nanocatalyst, nano-filters, nano-membrane, nanoparticles, nano pores, nano-zeolites

Author for correspondence: C.P. Malik, e-mail: cpm_malik@yahoo.com