

A REVIEW

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Role of nanotechnology in post harvest management of horticultural crops

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SUMMARY :

Nanotechnology is an emerging field which involves the understanding, manufacture and manipulation of materials at the molecular or atomic level. It deals with particles and structures larger than 1 nm but smaller than 100 nm. Structures on this scale have been shown to have unique and novel functional properties. Consequently, interest and activities in this research area have greatly increased over the past few years. The potential benefits of nanotechnology have been recognized by many industries, and commercial products are already being manufactured, such as in the microelectronics, cosmetics, paints pharmaceutical industries etc. In contrast, applications of nanotechnology within the food industry are rather limited. However, achievements and discoveries in nanotechnology are beginning to impact the food and associated industries; all this development is influencing important aspect of food processing and nutraceutical delivery, food packaging, food safety and sensing. This technology enables the designers to alter the structure of the packaging materials on the molecular scale with improved mechanical, barrier and antimicrobial properties. Three basic categories of nanotechnology applications and functionalities appear to be in development for food packaging are enhancement barrier of plastic materials, incorporation of active components that can deliver functional attributes beyond those of conventional active packaging and sensing of relevant information. Thus nanotechnology is going to change the fabrication concept of the whole packaging industry.

KEY WORDS : Food processing, Horticultural crops, Nanotechnology, Packaging

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