



ISSN:

Insights in Aquaculture and Biotechnology: Open Access



Nanotechnological intervention in sustainable agriculture

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ABSTRACT

Nanotechnology is a potential field of interdisciplinary research which scrutinizes a foremost agricultural controlling process, remarkably by its diminutive dimension. Today when traditional farming practices have come to saturation, the existing tools are neither increasing productivity nor restoring ecosystems impaired by present technologies. Nanotechnology opens up a wide range of opportunities in a variety of fields like agriculture, pharmaceuticals, medicine and electronics. In field of agriculture it offers several potential advantages like improvement of food quality and safety, diminution of agricultural inputs, enrichment of absorbing nutrients from soil, etc. Trio of natural resources, food and agriculture are fractions to confront concerns like human health, sustainability and susceptibility. The main objective of nanotechnology in agriculture and food industry is to trim down the chemical exposure, curtail loss of nutrients and to improve yield with the help of nutrient and pest management by employing novel nanotools. The substantial concern of using nanotechnology in agriculture includes specific applications like employment of nano-fertilizers for improving the nutrient uptake efficiency without contaminating soil and water, use of nano-pesticides for restraining plant pathogen and stored pests, use of nano-sensors to monitor agro-climatic conditions so as to to elevate productivity of quality food crops and proper management of fertilizers, pesticides and herbicides required. Agro-nanotechnology is a lucrative and eco-friendly green technology which embraces the existing challenges of food security, sustainability and climate change that are being explored by the researchers in the realm of sustainable agriculture.



Biography – Yamini Tiwari has completed her PhD in Biotechnology from Jayotividyaapeeth Women's University. She is Assistant Professor, in Department of Agriculture, at Vivekananda Global University, India. She has published 5 papers in reputed journals and has been serving as an editorial board member of repute.

Publication of speakers –

1. A review on nanotechnological interventions for plant growth and production
2. Major fungal diseases of oilseed brassica and their preventive measures: A brief review
3. Understanding the impact of *Bacillus thuringiensis* proteins on non-target organisms

[International Conference on Agriculture sciences and farming technology, August 26-27, 2020, Osaka, Japan.](#)

Abstract Citation : [Yamini Tiwari , Nanotechnological intervention in sustainable agriculture, Agri farm 2020, August 26-27, 2020, Osaka, Japan](#)