DE GRUYTER

ADVANCES IN NANOTECHNOLOGY FOR AGRICULTURE

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DESCRIPTION

In recent times, fulfilling nutritional and nourishment needs of an individual in the fast-moving world is being a great challenge for farmers. Practicing traditional farming methods indulges issues like microorganism's attack, pest infection which in further leads to a decrease in nutritional availability. Thus, these practices do not fulfill the nutritional requirements of an individual in this increasing population. Hence, the urge of technologies is much required to get control of these issues and implementation of nanotechnology has its wide range of applications in agriculture over traditional farming practices. Moreover, the enhancement of the agricultural sector is very essential for reducing the state of poverty and starvation.

The nanotechnology implication in the agricultural field is recognized to serve as a better solution in lesser duration of time. The scope of using nanotechnology in agricultural practices incorporates the implication of nanoproducts to a greater extent for attaining a higher yield along with a good nutritional source. Emerging opportunities of nanotechnology like nanosensors, nanodevices, nanocrystals etc., have found to have its application in the agriculture sector to a greater extent and also aids in attaining sustainable agriculture in a short period of time. The above said emerging opportunities of nanotechnology in the agricultural field are expected to aid in improving the nutrient content of the soil, stimulate plant growth and also help in managing the food supply chain. Soilless farming is a most appropriate innovative method of agricultural practice which is done with the help of emerging opportunities in nanotechnology; this technique aids in reducing waste contaminants, and also requires less water usage. The upcoming trends of nanotechnology are found to have a breakthrough in raising the productivity with nutritional quality and also aids in recovery of soil contamination which remains as a global issue for agricultural practices.

The opportunities for application of nanoscience in the agricultural sector are massive. Attaining sustainable agriculture with the help of emerging opportunities in nanotechnology requires both the knowledge of nanoscience and the agricultural system. Future perspectives of nanotechnology in agriculture include the implementation of modern policies to enhance the production value of agricultural practices.

Possible topics include, but are not limited to the following:

- Role of nanosensors in tracking the moisture content of the soil for cultivation
- Applications of nanobiosensors and nanocrystals in the field of agriculture
- Nanotechnology in enhancing security-based policies in agricultural lands
- Nanofertilizers and nanopesticides in agricultural lands for enhancing the production
- Role of nanorods and quantum dots in the development of soil nutrient
- Application of nanoparticle in plant protection
- Fundamentals of nanoscience in plant growth and seed germination
- Nanodevices in the management of agricultural practices
- Nanoherbicides and nanofungicides for development of crop rotation process
- Applications of nanotechnology in agriculture over conventional farming

PUBLICATION SCHEDULE / HOW TO SUBMIT

Open for submissions: 1st October 2023
Paper submission deadline: 10th January, 2024

When entering your submission please choose the option type of an article: "**Special Issue on Advances in Nanotechnology for Agriculture**". Submissions for the special issue are now open. In case of any technical problems, please contact the Managing Editor of Nanotechnology Reviews: **Juliusz Skoryna, Ph.D.**, Juliusz.Skoryna@degruyter.com