

BOOK OF ABSTRACTS



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MINISTRY OF EARTH SCIENCES



सत्यमेव जयते



सीएसआईआर
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The Innovation Engine of India

30th Swadeshi Science Congress

25-27 May 2023

National Conference on Holistic Approach for a Sustainable Lifestyle
Perspectives from Indian Knowledge System at NIT - Calicut



Organized by:
Swadeshi Science Movement-Kerala
in association with
National Institute of Technology (NIT), Calicut

Supported by:
Council of Scientific and Industrial Research (CSIR),
Govt. of India
Ministry of Earth Sciences (MoES), Govt. of India

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Focal Theme

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Perspectives from Indian Knowledge System

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(Kerala Chapter of Vijnana Bharati, New Delhi)
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Generation of Nano Fertilizer from *Allium cepa* and Its Application on Seed Germination

Safeeda, K. and Nayana, P.

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Green nanotechnology is increasing quickly in sustainable precision agriculture, which has the potential to completely transform the food industry. The ability to customize fertilizer manufacturing with appropriate chemical composition, increase the efficiency of nutrient use in an eco-friendly manner and increase plant yield are made possible by nanotechnology. In the current study nano fertilizer is synthesized from food waste such as onion peel. In the present study, nanoparticles were biosynthesized using onion peel extract. The synthesized nanoparticles were characterized by means of UV-Vis spectrophotometry and Scanning Electron Microscope. The bio fertilizer activity of nanoparticles was assessed by seed germination study. The soil used for seed germination was characterized and the parameters considered were moisture, pH, texture, and organic matter. Characterization of nano fertilizer confirmed the presence of nanoparticle. Application of the synthesized nano fertilizer in seed germination resulted in increased germination rate at varying concentration, compared to the control. Increase in number of leaves, shoot and root length were observed. An increase in fresh and dry weight was also observed in the nano fertilizer applied seedlings. Nano-bio stimulant fertilizer was successfully prepared from onion peel. It can be suggested as an excellent biological promoter for seed germination and seedling growth performance.

AAB/10

Phytochemical Profiling of Primary and Secondary Metabolites in Pest Infested *Murraya koenigii* (L.) Spreng.

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