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An investigation of phytotoxicity using *Eichhornia* mediated zinc oxide nanoparticles on *Helianthus annuus*

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Abstract

In this investigation, zinc oxide nanoparticles were synthesized using *Eichhornia crassipes* and it was characterized by XRD and TEM. The particles were found to be spherical in shape with an average size of 25-30 nm. Different concentrations of synthesized zinc oxide nanoparticles solution were prepared and applied to *Helianthus annuus* by foliar spraying method. The plant growth attributes such as shoot and root length, dry and fresh weight of plant, chlorophyll content and yield components were assessed. The results showed that the highest growth attributes and seed yield were recorded in 300 ppm of zinc oxide nanoparticles treatment.

Keywords:

Helianthus annuus, phytotoxicity, Seed yield, Zinc oxide nanoparticles.

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