

# Effect of ZnO Nanoparticles on Plant †

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**Abstract:** Nanotechnology is one of the most forward-thinking fields in the twenty-first century. Nanoparticles (NPs) are organic or inorganic compounds with sizes ranging from 1 to 100 nm that have become widely used in recent years. The widespread usage of NPs in various applications has considerably raised the chances of them being released into the environment. For organisms, zinc oxide nanoparticles (ZnO-NPs) are regarded as a "biosafe substance." ZnO-NPs have previously been shown to have the ability to stimulate seed germination and plant development, as well as disease suppression and plant protection, due to their antibacterial action. ZnO NPs have been shown to have beneficial and negative impacts on plant growth and metabolism at various developmental stages. The characteristics of ZnO-NPs and the physiology of the host plant influence their uptake, transport, and accumulation by plants.

**Keywords:** antimicrobial activity; biosafe; seed germination; translocation.

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## Conflicts of Interest

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