

SILVER NANOPARTICLES: MYCOGENESIS, CHARACTERIZATION AND ITS ANTI PLANT PATHOGENIC APPLICATIONS

B. BHASKAR¹, S. KHAYUM AHAMMED², B.H. CHAITANYA³,
V. ABDUL RASHEED⁴ & T.N.V.K.V.PRASAD⁴

^{1,3,4} Research Scholar, S.V. Agricultural College, ANGRAU, Tirupati, Andhra Pradesh, India

²Scientist, Regional Agricultural Research Station, ANGRAU, Nandyal, Andhra Pradesh, India

⁵Senior Scientist, IFT, Regional Agricultural Research Station, ANGRAU, Tirupati, Andhra Pradesh, India

ABSTRACT

Nanotechnology is an emerging field in the area of plant disease management. Silver nanoparticles (AgNPs) have been heavily studied as antimicrobial materials. Silver nanoparticles synthesized by the means of physical, chemical and biological ways but bio synthesis is the most eco-friendly approach. In bio synthesis of silver nanoparticles, the use of fungi gives good mono dispersity and dimensions. The synthesized silver nanoparticles are characterized by different techniques such as UV-Vis spectroscopy for confirmation of AgNPs synthesis, Particle size Analyzer for Hydrodynamic diameter of AgNPs, Fourier Transmission Infrared Spectroscopy (FTIR) for identifying the molecules over AgNPs and Transmission Electron Microscopy (TEM) studies to know the surface morphology and size of AgNPs. Application of nano-sized silver particles as antimicrobial agents has become more common as technological advances make their production more economical. Since silver displays multiple modes of inhibitory action to microorganisms, it is used for controlling various plant pathogens in a relatively safer way compared to synthetic fungicides.

KEYWORDS: Review, Silver Nanoparticles, Mycogenesis, Plat Pathogen Control