

ABSTRACT

The study was conducted to evaluate the bio-pesticidal potential of Sericin coated silver nanoparticles (Se-AgNps) against agricultural pests (Cotton Thrips, Army worm, Pink bollworm, Cotton mealy bug). Sericin based silver nanoparticles were synthesized by using the sonication method while Calotropis and Marigold coated silver nanoparticles were synthesized by using the heat method. The nanoparticles were characterized using a particle size analyzer, UV spectrometry and FTIR. Sonication assisted Se-AgNPs and Marigold conjugated AgNPs showed the highest bio-pesticidal activity against Thrips, Army worms and Pink bollworms. Maximum mortality was recorded against the Marigold coated silver nanoparticles against Thrips, Army worms and Pink bollworms. LC_{50} , LC_{95} , LT_{50} and LT_{95} values were calculated using SPSS. LT_{50} and LT_{95} values lowest against 0.3% Marigold, Calotropis and sericin coated silver nanoparticles. It is concluded that Marigold and sericin coated silver nanoparticles possess more bio-pesticidal activity as compared to the Calotropis coated silver nanoparticles.