

# **Nanomaterials in food industry for the protection from mycotoxins: an update**

## **Abstract**

The storage of food grains against the fungal infection has been a great challenge to the farmers, but nanotechnology provides a solution to address this problem. The application of nanotechnology for the storage of food grains replaces synthetic fungicides in agriculture. Inorganic nanoparticles such as silver and zinc oxide are well-known for their antifungal activity. Green synthesized nanoparticles show enhanced antimicrobial activity than the chemically synthesized nanoparticles. Extracts and essential oils derived from plants exhibit very good antifungal properties. The synthesized nanoparticles can be impregnated in packaging materials, which are used to store food grains. Natural materials are having advantages like non-toxicity and easier to degrade and are suitable for food safety. This overview discusses the nanomaterials-mediated protection of food materials from mycotoxin and its releases into the open environment.

## **Keywords**

Aflatoxin; Anti-fungus; Food safety; Hermetic storage; Nanomaterials; Natural adsorbents