

New Methods to Prevent Fungal Growth and Mycotoxin Biosynthesis in Foods

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A quarter of the world-wide crop is spoiled by filamentous fungi and their mycotoxins and weather extremes associated with the climate change lead to further deterioration of the situation. The ingestion of mycotoxins causes several health issues leading in the worst case to cancer in humans and animals. Common intervention strategies against mycotoxin producing fungi, such as the application of fungicides, may result in undesirable residues and in some cases to a stress induction of mycotoxin biosynthesis.

Moreover, development of fungicide resistances has greatly impacted pre- and postharvest fungal diseases. Hence there is the need to develop alternative strategies to reduce fungal infestation and thus mycotoxin contamination in the food chain. As alternatives, the use of light of specific wavelength, nanoparticles, supplements such as coumarin or mycoparasites such as *Trichoderma harzianum* have been proved for being effective and sustainable applications to substitute or complement classical antifungal strategies.