

**Title** Effect of gamma radiation on reduction of mycotoxins in black pepper  
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### **Abstract**

Gamma ray was applied to reduce mycotoxins, i.e. ochratoxin A (OTA) and aflatoxins B<sub>1</sub>, B<sub>2</sub>, G<sub>1</sub> and G<sub>2</sub> (AFB<sub>1</sub>, AFB<sub>2</sub>, AFG<sub>1</sub> and AFG<sub>2</sub>) in black pepper. Response surface methodology (RSM) was applied to evaluate the effect of dose of gamma ray ranging from 0 to 60 kGy and mycotoxin concentration ranging from 10 to 100 ng g<sup>-1</sup> on the mycotoxin reduction. The maximum reduction was found at 60 kGy which was 52%, 43%, 24%, 40% and 36% for OTA, AFB<sub>1</sub>, AFB<sub>2</sub>, AFG<sub>1</sub> and AFG<sub>2</sub>, respectively. Results showed the gamma rays even at 60 kGy were not effective in completely destroying of ochratoxin and aflatoxins.