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Recent Development of Aflatoxin Contamination Biocontrol in Agricultural Products

Silivano E. Mwakinyali, Xiaoxia Ding, Zhang Ming, Wang Tong, Qi Zhang, Peiwu Li

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3 Silivano E. Mwakinyali^{1,2,4}, Xiaoxia Ding^{1,2,3,*}, Zhang Ming^{1,2,4}, Wang Tong^{1,2,4}, Qi Zhang^{1,2,4}, Peiwu Li^{1,2,3,4,5,*}

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5 ¹*Oil Crops Research Institute, Chinese Academy of Agricultural Sciences, Wuhan 430062, PR China*6 ²*Key Laboratory of Biology and Genetic Improvement of Oil Crops, Ministry of Agriculture, Wuhan, 430062, P. R. China*7 ³*Laboratory of Quality & Safety Risk Assessment for Oilseeds Products, Wuhan, Ministry of Agriculture, Wuhan, 430062, P. R. China*8 ⁴*Key Laboratory of Detection for Mycotoxins, Ministry of Agriculture, Wuhan 430062, PR China*9 ⁵*Quality Inspection and Test Center for Oilseeds Products, Ministry of Agriculture, Wuhan 430062, PR China*

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11 Corresponding Author

12 *Tel.: +86 27 86812943; Fax: +86 27 86812862; E-mail address: peiwuli@oilcrops.cn (P. Li); Dingxiaoxia@oilcrops.cn (X. Ding)

13 Abstract

14 Aflatoxins are toxic, carcinogenic, mutagenic, teratogenic and immunotoxic by products of
15 *Aspergillus spp.* that contaminate a broad range of grains such as maize, groundnut, and cotton.
16 Aflatoxin not only impact negatively crop production but renders the produce unsuitable for
17 consumption and harmful to human and livestock health, with tight threshold limits of
18 acceptability. To prevent and control aflatoxin contamination in crops, several control strategies
19 like biological control, development of resistant cultivar and fungicides have extensively studied
20 for the past many years recommended to prevent aflatoxin contamination. Out of these control
21 strategies, biological control of aflatoxin has in recent years showed more promising in both pre
22 and post-harvest crops, since it is efficient in eliminating toxins, safe-guarding the quality of
23 food and feed, environmental friendly, specific and leaves less hazardous residues. It is
24 suggested in this review that, control from farm to folk which includes on-site monitoring of
25 toxigenic fungi, aflatoxin contamination levels, preventing contamination by inhibiting fungal
26 growth and aflatoxin producing fungi, removing and degradation of aflatoxin should be followed
27 to minimize agricultural products contamination with aflatoxin, with all actors informed and
28 engaged. This review also highlights the modes of biocontrol action, point out some organisms
29 used for biological control, types and formulations of biocontrol, mechanism involved in
30 biocontrol and the effects of biocontrol agents and main applications.

31

32 **Keywords:** Aflatoxin, biocontrol, contamination, degradation, inhibition biosynthesis.

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