

INTEGRATED STRATEGY FOR MINIMIZING RISK OF AFLATOXIN CONTAMINATION IN FOOD CROPS

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ABSTRACT

Aflatoxins produced by *Aspergillus flavus* and *A. parasiticus* are common contaminants of many crops such as groundnut, maize, pistachio, chilies, and coconut throughout the



world. These have many undesirable effects on crop and food quality, human, and animal health. As such, stringent food safety regulations were made on maximum allowable limits of aflatoxins in about 100 countries imposing severe constraints for marketing of agriculture commodities.

Pre-harvest infection by *A. flavus/A. parasiticus* is the major cause for aflatoxin contamination in groundnut. Prevention of this contamination is a complicated task requiring a series of strategies that can fit into the traditional farming practices.

ICRISAT applies integrated genetic and natural resources management strategy for reducing the risk of aflatoxin contamination in groundnut that can also be applied to several other crops. This involves combining host-plant resistance, agronomic practices, timely harvesting and proper post-harvest drying methods, use of biocontrol agents, and dissemination of the technology to the end-users through training courses and awareness campaigns. These technologies have been tested by farmers and were found to have reduced *A. flavus* infection and aflatoxin contamination by up to 90% in groundnut. This integrated approach has been found to be effective, economical and suitable for implementation under subsistence farming conditions to mitigate the contamination risk in groundnut.



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