

Title Effects of rewashing pistachio using a floating tank process on reducing spore density of aflatoxin producing fungus

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Abstract

Aflatoxins are produced by certain strains of *Aspergillus flavus* and *A. parasiticus*. These fungi are ubiquitous and the potential for contamination of foodstuffs and animal feeds is widespread. The occurrence and magnitude of aflatoxin contamination varies with geographical and seasonal factors, and also with the conditions under which a crop is grown, harvested, and stored. Within processing lines in Iran there is a floating tank in which spores are transformed from contaminated to non-contaminated nuts. Installation of a machine nut washing system with 8 nozzles into the line after the floating tank was evaluated to optimise distance of nozzles from the nuts, water pressure and angle of water trajectory for removing spores on contaminated pistachio nuts. Spore density from 100 nuts from different treatments were evaluated by culturing on an AFAP media. Results indicated in all treatments Spore density was decreased in all treatments compare with unwashed control pistachio nuts. It was recommended that all processors should install a spray washing system in line after the floating tank to obtain improved performance and hygiene.