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**Aflatoxins degradation by aqueous ozone in different matrices**

SOUZA, M.L.M.[1], FREITAS-SILVA, O.[1], TEIXEIRA, A.S.[1], CASTRO, I.M.[1], TORREZAN, R.[1]

SOUZA, B.M.[2], DEZOTTI, M.[2]

1) Embrapa Food Technology, Rio de Janeiro, Brazil. marialourdes.m.souza@embrapa.br

**2)** Chemical Engineering Program-COPPE, Federal University of Rio de Janeiro, Brazil

Ozone is a potential oxidant agent and it can be used on food processing, as a sanitizing product, in reduction of microbial counts. Ozone also improves water quality and degrades mycotoxins and pesticides as well. In this work it was verified the potential of aqueous ozone on Aflatoxins $B_1$, $B_2$, $G_1$, $G_2$ and $M_1$ ($AFB_1$, $AFB_2$, $AFG_1$, $AFG_2$ and $AFM_1$) Degradation. These aflatoxins are secondary metabolites produced by fungi and can contaminated many food matrices causing several health damages. Since current ozone treatment technologies need to be optimized for each product, experiments were performed to determine the required doses to reduce the AFs in different matrices: (A) model with an 10% acetonitrile solution with mix of 5 AF ($AFB_1$, $AFB_2$, $AFG_1$, $AFG_2$ and $AFM_1$); (B) brazil nuts juice contaminated ($AFB_1$, $AFB_2$, $AFG_1$, and $AFG_2$) and (C) cow milk with only $AFM_1$. Evaluation of AF degradation by ozonation process was performed using an HPLC /Kobra-Cell® system coupled with Fluorescence detector and automatic sampler. Results showed that $AFB_1$ and $AFM_1$ were completely degraded in experiment A, with the first ozone doses level (1 mg/min.). The results in experiment B showed major level of $AFB_1$ degradation (70%) in an ozonation process at 20 mg/min. Concerning the reduction of $AFM_1$ in experiment C it was demonstrated that 30% of $AFM_1$ was degraded with 7.6mg$O_3$/min. The results showed the applicability of ozone solution to provide aflatoxins degradation in different food matrices, being an alternative food safety process.

**Keywords:** aflatoxins, degradation, ozonation

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