

Preliminary Studies on the Destruction of Ochratoxin A in Coffee During Roasting

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SUMMARY

The presence of ochratoxin A (OTA) in coffee has been reported. The effect of roasting to reduce OTA levels in coffee was studied at different temperatures and periods of time. Around 7.5 kg of green coffee (*Coffea arabica*) was inoculated with 10^8 spores/ml of toxigenic *Aspergillus ochraceus* and incubated at 25°C for 50 days. After this period the OTA content in coffee was determined according to the methodology of Pittet et al. (1996), and the concentration was 160.46 µg/kg. The coffee was submitted to irradiation with 10 kGy (Cobalt 60) to destroy the fungi. Three different treatments were used to obtain the following roasting point: middle, middle dark and dark, at temperatures around 200, 210 and 220°C, respectively after 10 and 15 minutes. The average reduction was 22 and 48% of OTA at medium roasting point; 39 and 65% at dark medium roasting point and an average of 88 and 94% at dark roasting point after 10 and 15 minutes, respectively. The moisture values were 0.44 (200°C), 0.30 (210°C) and 0.30 (220°C). These results showed that roasting can be effective to reduce OTA levels in coffee, depending on the temperature, time and equipment. However, to keep good quality coffee, it would be advisable to avoid that with a high OTA content; even roasting to reduce this toxin, the quality can be affected. Further studies are being carried out in order to evaluate the effect of filtering in these samples and the residual content of OTA in the beverage.