

AFLATOXIN CONTAMINATION AND FREE FATTY ACID CONTENT OF COCONUT OIL FROM SMALL-SCALE MILLS

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The copra used for oil extraction in the small scale power driven mills is either dried intermittently in the sun and in the shelves above the hearth in domestic kitchens or are rejects from large scale processing mills, both categories showing heavy fungal contamination. This could result in consumption of high amounts of aflatoxins by certain groups of people continuously, in contrast to the use of coconut oil from large mills where contaminated oil gets diluted and distributed in larger areas of the country. The aim of this study was to find the extent of aflatoxin contamination in oil processed in the small mills and any possible correlation of toxin levels with the free fatty acid (FFA) content.

The mean aflatoxin B₁ level observed for 115 samples of coconut oil was 0.15 mg/kg as against 0.05 mg/kg observed in large-scale processing mills. Among them there were 10 samples showing levels between 0.5-3.0 mg/kg. The FFA content in oil gave a modal value of 0.5-1% in a range from 0.33-19.25%. The mean FFA content was 3.56% indicating the oil to be of very poor quality. No correlation was observed between the free fatty acid content and the aflatoxin B₁ levels ($r = +0.0648$).

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