Title Microwave assisted drying of macadamia nuts

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Abstract

The macadamia tree (*Macadamia integrifolia* Maiden & Betche) belongs to the botanical family Proteaceae and is native to the Australian tropical forests. The most critical stage of macadamia nut processing is the drying of the kernels, as a minimum quality standard can only be achieved under specific controlled conditions. Otherwise there is deterioration of the nut and devaluation of kernel quality. This work aimed at verifying the feasibility of producing dried macadamia nuts by applying microwaves to assist the hot air drying process, thus reducing the drying time and increasing the industrial yield and quality of the kernels as compared to those from conventional processes. Another specific objective of this study was to analyse and model the drying kinetics of macadamia nut processing using microwaves. The quality of the kernels was controlled for a period of six months after processing by determining the peroxide values, free fatty acid percentages and sensory acceptance evaluations. The data obtained from these analyses were well below the limit stipulated by the Brazilian legislation and the product was very well accepted in the sensory evaluation.