

**TITLE:** Impact of cooking time on the physicochemical and nutritional properties of *Macrotermes subhyalinus* and *Imbrasia obscura***Name:** Clement SAIDOU**Affiliation:** Senior Lecturer at the Ngaoundere University**Country:** Cameroon**Email ID:** saidouclement2015@gmail.com**ABSTRACT (upto 300 words)**

Insects are considered as an important source of essential nutrients because of their nutritional value which in turn is related to proteins, lipids, and mineral elements. In order to optimise the nutritional quality of insects, several research works have been done on the types of treatments before consumption. The effect of cooking time on physico-chemical and nutritional parameters of *Macrotermes subhyalinus* Rambur and *Imbrasia obscura* Butler was evaluated in this study. *M. subhyalinus* was fried and then toasted for 12min. Samples of fried and toasted *M. subhyalinus* were collected at 3, 6, 9 and 12min. *I. obscura* was first scalded at 93.4°C for 15min and samples were taken after 6, 9, 12, and 15min respectively for analysis. Then, the scalded *I. obscura* for 6min was fried for 12min at 150 °C and samples were taken after 3, 6, 9, and 12min for analysis. Results obtained show that these two insects contain mainly proteins (36.83 and 59.04g/100g DM), lipids (54.24 and 18.67g/100g DM) and ashes (5.87 and 7.82g/100g DM) respectively for *M.*

subhyalinus and *I. obscura*. Physicochemical and nutritional parameters reduced significantly ($p < 0,05$) with the cooking time. Only lipids increased significantly ($p < 0,05$) after frying the insects, meanwhile ashes increased when the insects are fried and toasted. Treatments of *M. subhyalinus* which better preserve nutrients are frying for 3 to 6min and toasting for 3 to 6min. Scalding of *I. obscura* for 6min and the combined process of scalding (6min)/frying (3min) are highly recommended to maintain the nutritional properties of these insects.

BIOGRAPHY (upto 200 words)

Research areas: Physico-chemistry and Food technology, Analysis of agricultural value chains according to the Value Link approach.2).

Clément SAÏDOU holds a Doctorate / PhD in Food Sciences and Nutrition , option Physico-chemistry and Food Technology / Mechanics of Fluids-Processes, obtained under joint supervision between the University of Ngaoundéré and the University of Grenoble-France in 2012. His doctoral research focused on the study of the physico-chemical and functional properties of two local gums and their applications in bread-making and gluten-free pastification based on local starches. Dr. SAÏDOU is currently Lecturer and Head of Department of Food Engineering and Quality Control at UIT of the

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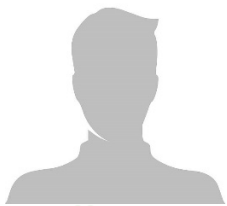
Ngaoundéré where he teaches courses in Fruit and Vegetable, Cereal and Legume Processing Technology. At ENSAI and EGCIM, he teaches Rheology, Texture and Texturing of Food Products and Food Analysis Techniques. Through the supervision of students, he capitalizes on scientific experience in the field of Rheology of Biopolymers and food formulations based

on local resources, the technological enhancement of products from cash crops (especially cocoa and cashew fruits) and local starches in pastification, post-harvest conservation of cereals, legumes and even local insects. Dr. SAIDOU has published one book, 2 articles in peer-reviewed scientific journals and 12 papers in national and international conferences.

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