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Development, sensorial analysis and proximal composition af a chocolate cake enriched with *Spirulina* Sp. Leb 18 for children's school meal in Brazil

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Microalga contains bioactive compounds that can supplement population nutrition and energy needs. Among these microorganisms, some are certified as GRAS (Generally Recognized as Safe) as *Spirulina* genre. Microalgae of this genre are known by their protein-rich biomass (40% to 75%). *Spirulina* LEB 18 generally presented larger amounts of essential amino acids than the theoretical quantities recommended in dietary protein for children. In this study we evaluated a chocolate cake mixture enriched with *Spirulina* sp. LEB 18 proximal composition and the sensory acceptance by children. The product obtained was evaluated for proteins (Kjeldahl), lipids (Soxhlet), ash and moisture (Association of Official Analytical Chemists – AOAC) and carbohydrate (by difference) content. Sensory analysis was performed by 70 children aged 7 to 12 years on a facial hedonistic scale of 5 points. The best cake mix formulation obtained contain 3% *Spirulina*. The cake mixture had a 40% increase in protein content (21.48% w w-1). The average score attributed in the sensory analysis performed by the children was 4.86 and the acceptability index was 88.6%. To be accepted a product must reach index equal to or greater than 70%, indicating a good acceptability of the formulated cake. *Spirulina* enrichment in the diet contributes to more nutritive feeding in school-age children and may reduce malnutrition rates in Brazil.

Biography

Michele Greque de Morais is Adjunct Professor III at the Federal University of Rio Grande. She completed her PhD in Food Science and Engineering from the Federal University of Rio Grande in 2008 and developed part of her thesis in Food Engineering at Philipps-Universität Marburg, Germany. She is head of the Laboratory of Microbiology and Biochemical at the Federal University of Rio Grande. Currently, she working on topics, such as nanofibers, biopolymers, microalgae, nanoencapsulation.

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