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EVALUATION OF COMMERCIALIZED MANDIOCA FLOUR IN THE CENTRAL REGION OF THE MUNICIPALITY OF TOCANTINS

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Summary

The research had as objective the physical-chemical evaluation of five brands of cassava flour commercialized in the City of Paraíso do Tocantins. The procedures for pH, titratable acidity, moisture and ash analysis followed the analytical standards of the Adolfo Lutz Institute. All parameters evaluated in this study met the criteria established by normative instruction 52/2011 of the Ministry of Agriculture, Livestock and Supply.

Key words: flour; physicochemical; consumption.

Introduction

The cassava (Manihot esculenta) is considered one of the basic products of the Brazilian population's diet and plays a very important economic and social role for many Brazilian states (CARDOSO et al, 2001). In the northern region, cassava production is destined to flour production, generating jobs and income for thousands of farmers' families (SILVA & LIMA, 2012). The definition of flour, according to the Brazilian Legislation, is the product obtained by grinding the edible part of vegetables, and may undergo appropriate technological processes, cassava flour is the main product derived from manioc for human consumption in Brazil, being consumed and produced throughout the country, largely in the North and Northeast regions (COSTA, L. de O; BARROS, L; SILVA ,M. M. de O, 2014). In the present study, cassava flour is characterized as a high caloric food containing fiber, iron, potassium, calcium, phosphorus, sodium, high amounts of starch, low protein content and high carbohydrate content (FERREIRA NETO et al. 2006). Very hot or cold furnaces, grating or very small loads, more or less intensive pressing are some of the factors that can influence the flour quality standard (CEREDA, 2005). In addition, hygienic-sanitary conditions in flour houses, mass fermentation and the use of dyes are also among the factors that influence the quality of cassava flour and, consequently, its commercialization in the market (SILVA & LIMA, 2012). The objective of this study was to analyze two brands of cassava flour from different states of Brazil commercialized in the paradise city of Tocantins, based on their physical and chemical characteristics, aiming to verify the suitability of the product to the current legislation.

Methodology

The months of January to June 2018, were collected monthly by five brands A, B, C, D e E from the liquor store purchased locally in the City of Paraíso do Tocantins. Keywords: Packaged in Polyethylenes and Remotes for the Food Laboratory of the Federal Institute of Tocantins - IFTO Campus Paraíso do Tocantins. To fix the pH with 10 g of flour, add 100 ml of distilled water for 30 minutes, and then resting for 10 minutes.The pH date was made through the digital potentiometer. Titratable acidity by titration with sodium hydroxide. The samples are weighed on a precision scale, diluted in distilled water, added with 1% phenolphthalein acid indicator and titrated with sodium hydroxide until a pink coloration. The characterization of the moisture content of the flour was based on the oxidation of the weight of the product, submitted to the heating. From the ash percentage of the base samples, the weight loss of the material subjected to firing at temperatures of 550 ° C. Weight loss gives us the organic matter content of the food. A trend analysis allows to check the addition of inorganic ingredients to the food. The Adepho Lutz (IAL, 2008).

Results and discussion

The data of physical-chemical determination of the 24 samples of cassava flour are shown in table 1. All analyzes are according to the production standard of the standard 52/2011 (BRASIL, 2011).

Table 01. Analysis of health with the samples of flours analyzed

Parameters	Mark A	Mark B	Mark C	Mark D	Mark E	Normative Instruction Nº 52/2011
Hydrogen ionic potential - pH	5,25 ±0,12	5,34±0,18	5,45±0,11	5.20±0,16	5,34 ±0,20	----------
Acidity (mL NaOH N / 100 g)	0,85±0,18	1,45±0,14	1,65±0,13	1,15±0,17	0,75±0,10	< 3,0
Moisture(%)	5,41±0,11	5,65±0,12	5,89±0,18	5,75±0,10	5,87±0,11	< 13,0
Ashes (%)	0,81±0,10	0,78±0,15	0,91±0,10	0,87±0,15	0,71±0,12	< 1,4

Souza et al (2010) analyzing samples of cassava flour in the municipality of Cruzeiro do Sul-Acre found at 3% in mean NaOH concentration.100 g -1. The acidity of the flour allows to obtain information on the process of fermentation by the product. The higher the acidity, the higher the fermentation intensity or the time of the root publication process (VILPOUX, 2003). The pH is a factor of great importance, to limit a possibility of development of microorganisms in the food. In English, the indicators can be classified as: low acid (pH> 4.5), acid (4.5 to 4.0) and very acid (<4.0).Most bacteria, filamentous fungi and yeasts grow at pH above 4.5. In this sense, hygiene care throughout the process is essential for a final product of quality, since the pH can favor the development of those microorganisms. The last three access restriction episodes were classified as inappropriate (DIAS; LEONEL, 2006) and / or presence of foreign material at some stages of processing (PAIVA, 1991). The evaluation of the moisture content is important to verify the residence time of the product,as it is 13% moisture, may contain microbial growth and deterioration in less time than anticipated. The content of 1% of the ash content of cassava flour is annexed to comments of a higher nature.

Conclusions

The variables analyzed in the research result in a set of data that can be used to determine the consumption of food, food and beverages. quality.

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