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# ABSTRACT BOOK

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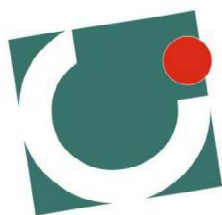
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## **DEVELOPMENT OF SHIITAKE MUSHROOM STUFFED PIES, RISSOLES AND SAMOSAS**

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### **Abstract**

The Shiitake mushroom is native to East Asia, and is currently the third most cultivated species in the world, and has been the subject of numerous researches due to the presence of biologically active compounds capable of helping in diseases that weaken the human immune system, also having antiviral and anti-tumour properties (Furlani, 2005). Its production is carried out mainly in logs of wood and when sold fresh depreciates easily. One of the most used conservation methods for this type of mushroom is dehydration. However, there is a need to develop new products where Shiitake mushrooms with lower commercial aptitude could be used originating added-value marketing goods (Ramos et al., 2015).

The objective of the present work was to develop food products incorporating this species of mushroom, more specifically rissoles, pies and samosas, and was done in cooperation with a shiitake producer.

Different formulations were tested for rissoles, samosas and pies, including for the fillings, until obtaining products with desirable organoleptic characteristics (Figure 1). Furthermore, the products were characterized in terms of physicochemical analyses (moisture content, water activity, protein, ash, fibre, fat and chlorine), colour (L, a and b coordinates), texture (hardness, chewiness, cohesiveness, resilience and springiness) and finally sensory properties (for the dough: colour, uniformity, pleasantness of aroma, salt, pleasantness of taste, hardness, crunchiness and thickness; for the filling: colour, uniformity, pleasantness of aroma, salt, taste to curry, taste to mushroom, pleasantness of taste, moistness, creaminess and uniformity of texture).



Figure 1. Rissoles, pies and samosas made with shiitake mushroom stuffing.

This work showed that the product with higher moisture content was the rissole, being this also the product with higher fat content (Table 1). The samosa had the highest fibre and protein content (Table 1).

Table 1. Chemical composition of the products developed.

Property	Rissole	Pie	Samosa
<b>Water activity</b>	0.93 ± 0.01	0.96 ± 0.00	0.94 ± 0.01
<b>Moisture (g/100g)</b>	52.46 ± 0.36	34.53 ± 0.22	37.23 ± 0.30
<b>Fibre (g/100 g)</b>	0.95 ± 0.22	1.63 ± 0.24	2.01 ± 0.21
<b>Protein (g/100 g)</b>	4.87 ± 0.19	4.43 ± 0.13	5.63 ± 0.22
<b>Ash (g/100 g)</b>	2.15 ± 0.19	1.78 ± 0.03	2.55 ± 0.19
<b>Fat (g/100 g)</b>	10.72 ± 0.12	16.78 ± 0.93	12.79 ± 1.60
<b>Chlorine (g/100 g)</b>	1.23 ± 0.03	0.89 ± 0.04	1.45 ± 0.04

Regarding the colour analysis, it was verified that the pies were the products with greater luminosity, and the rissoles were the products with greater intensity of red, and also whose intensity of the yellow colour was greater. As for the texture, the hardest and most chewy product

was the pie. The samosa was the more resilient and more elastic product, and the more cohesive product was the rissole.

Regarding the sensory analysis, the product preferred by the tasters was the pie.

### **References**

Furlani RPZ, Godoy HT. (2005) Nutritional value of edible mushrooms: a revision. *Revista do Instituto Adolfo Lutz*, 64 (2), 149-154.

Ramos ACM, Machado MHN, sapata MMRL, Quintanilha MJB. (2015) *Cogumelos - Produção, Transformação e Comercialização*. Porto: Publindústria.