MITES AND FUNGI RECOGNITION IN CANASTRA CHEESE SURFACE.

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Abstract

The artisanal cheese produced at Minas Gerais State is recognised as Brazilian cultural patrimony by the National Institute of Historical Patrimony IPHAN (Instituto do Patrimônio Histórico e Artístico Nacional). Among these cheeses, highlighted those produced from raw milk in the Canastra microregion, which presentes unique and distinctive taste. However the production conditions of cheese making is favourable to the development of fungi and mites on the cheese surface. The objective of this work was to isolate and make the identification of fungi and mites from the surface of Canastra cheese. The mites *Tyrophagus putrescentiae* and *Sancassania aff. Feytaudi* (*Calogliphos feytaudi*) were identified, and *Geotrichum candidum,* a nontoxic mold were often present in the samples collected.

Key words:
Artisanal minas cheese, Fungi, Mites.

Introduction

The Canastra cheese producer region is located in the southwestern state of Minas Gerais. The artisanal cheese production has been a great cultural factor of socioeconomic development of family agriculture in this region. The semi-humid tropical climate of the region[1] created maturing conditions for proliferation of molds and mites on the cheeses surface.

In the light of these considerations, the aim of this work is the identification of molds and mites in Canastra cheese surface.

Results and Discussion

The cheese samples used in this work came from two different producer members of the Canastra Cheese Producers Association (APROCAN- Associação dos Produtores de Queijo Canastra) located in the municipalities of São Roque de Minas. In total twelve samples were collected. These samples presents molds and occasionally mites.

For mites identification, the samples were collected from the cheeses surface and from the maturation environment of the cheeses, the methodology used for the assembly of slides for identification is described in Krantz[2].

Samples for mold identification were collect where the cheeses were produced. All the samples were transported in insulated boxes to a food microbiology laboratory, where the isolation and further identification of filamentous fungi of the cheese surface was concluded. The identification was made using the taxonomic key established by Pitt and Hocking[3].

Figure 1. Identification of mites obtained from Canastra cheese samples: (a) *Sancassania aff. Feytaudi,* bar=600μm, (b) *Tyrophagus putrescentiae* bar=100μm.
Using specific keys of classification it was possible identify two different species of mites, the *Tyrophagus* putrescentiae and the *Sancassania aff. feytaudi*

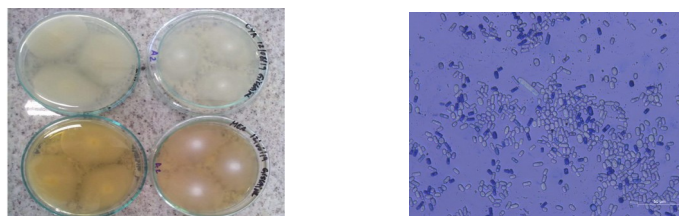(*Caloglyphos feytaudi)* respectively, according to Figure 1.

Figure 2. *Geotrichum candidum (a)* colonies on MEA and CYA, 7d., 25°C, (b) Arthroconidia, bar=50μm.

Geotrichum candidum (Figure 2) was identified by taxonomic key of Pitt and Hocking3, were present in the samples with apparent and not apparent molds at the visual inspection. According to Pittt e Hocking, *G. candidum* is not known as a toxic compounds producer.

Conclusions

Geotrichum candidum and the mites, *Tyrophagus putrescentiae* and *Sancassania aff. feytaudi (Caloglyphos feytaudi)* were isolated from Canastra cheese Even though the *G. candidum* is non-toxigenic and the mites isolated are not listed as allergenic food in the compulsory Brazil labelling (RDC26/2015), it is recommended to include the message: "*Allergics: may contain mites*".

Acknowledgement

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