

Instituto Politécnico de Castelo Branco

Escola Superior Agrária

# **Identification of regional products microbiota and its growth dynamics determination using the conventional culture-dependent methods**

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## **Abstract**

In this study samples of regional fermented polish foods like milk, Pumpernickel bread and fried cheese from the Wielkopolska region of Poznan were tested to find which type of microorganisms we can find in these types of fermented foods and their differences.

The samples were collected in specialized factories and each was collected several times but these correspond to different stages of production. The objective is to verify how the evolution and presence of microorganisms takes place and in which stages of production its needed to have more attention for health security and which type of organisms we can find in the different production stages.

Also the purification, isolation and storing of strains of the different microorganisms found were performed in order to proceed to further studies of these products and organisms.

In order to perform this study several media were tested to decide and obtain the best results in the growth of the different organisms.

Once the strain is isolated in the proper media it was tested by biochemical analysis and computer program confirmation to find the microorganism discovered in the different foods.

**Keywords:** fried cheese; Pumpernickel; purification; isolation; storing; biochemical analysis; lactic acid bacteria; yeast

## **Resumo**

Neste estudo foram testadas amostras de alimentos polacos típicos fermentados tais como leite, pão Pumpernickel e queijo frito da região Wielkopolska da Polónia, com o intuito de descobrir que tipo de microrganismos podemos encontrar nestes alimentos e as diferenças que existem entre eles.

As amostras foram recolhidas em fábricas e foram recolhidas várias vezes mas correspondentes a diferentes estados de produção. O objetivo foi observar a presença e evolução de microrganismos nas diversas etapas de produção, de modo a ter mais atenção em que etapas deve existir mais controlo do ponto de vista de saúde e o tipo de organismos encontrados.

Também foi efetuada a purificação, isolamento e armazenamento das estirpes dos microrganismos encontrados para estudos ou análises futuras necessárias.

Para este estudo ser possível é necessário escolher o meio de cultura apropriado para o crescimento dos microrganismos.

Uma vez isolada uma estirpe no meio de cultura apropriado é efectuada a sua análise bioquímica e confirmação computadorizada para descobrir o organismo descoberto.

**Palavras-Chave:** queijo frito; Pumpernickel; purificação; isolamento; armazenamento; análise bioquímica; bactérias lácticas; leveduras.

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