

# **Application of batch system ultraviolet light on the surface of kashar cheese, a kind of pasta-filata cheese: Effects on mould inactivation, lipid oxidation, colour, hardness and sensory properties**

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## **SUPPLEMENTARY FILE**

### **Materials and Methods**

#### *Natural contamination method*

The preliminary tests applied for the preparation of the natural mouldy environment was explained below.

Three different options were tried to obtain the constant mould count: 1) the cheese was left in an open-air for a while (one night at room temperature), 2) the cheese surfaces were subjected to the mouldy cheese pieces from a certain distance in an open-air for one night, 3) the cheese surfaces were subjected to the mouldy cheese pieces from a certain distance in a closed box for one night. From these preliminary trials, the second was chosen as the most appropriate way to reach the constant mould level of  $10^4$  cfu/g in each trial.

#### *Thiobarbituric acid reactive substances (TBARS)*

Method of Kristensen & Skibsted (1999) was modified to determine the secondary lipid oxidation products. For this assay, 6 g of sample were added to 18 ml of 0.67% w/v thiobarbituric acid in 50% v/v aqueous acetic acid, and homogenized with a Ultra Turrax homogenizer for 2 min. 6 ml of the prepared suspension was transferred to test tube and mixed with 3.5 ml of chloroform for 5 min at the medium speed setting by vortex (Fisher Scientific Co., Pittsburgh, PA). After that, the mixture was centrifuged for 15 min and the aqueous phase was transferred to another test tube. Then, the test tube was placed in a water bath at 100 °C for 10 min, and cooled to room temperature. The absorbance of the solution was measured with

a spectrophotometer (T-60; PG Instruments, Lutterworth, UK) at 450 nm and the result was expressed as absorbance unit per gram of cheese ( $A_{450}/\text{g cheese}$ ).