ANTIFUNGAL EFFECTS OF ROSEMARY ESSENTIAL OIL IN PHYLLO PASTRY PROTECTION

Dragana Plavšić[1*], Dragan Psodorov[2], Ljubiša Šarić[1], Ana Varga[1], Ivana Čabarkapa[1], Olja Todorić[1], Zorica Tomičić[1]

[1]Institute of Food Technology, University of Novi Sad, Bulevar cara Lazara 1, 21 000 Novi Sad, Serbia, dragana.plavsic@fins.uns.ac.rs
[2]College of Professional Studies – ICEPS - International Centre of Professional Studies, Cvećarska 2, 21 000 Novi Sad, Serbia

ABSTRACT

The aim of this study was to investigate the effects of application rosemary essential oil in the antifungal protection of phyllo pastry made from type 500 wheat flour and phyllo pastry with the addition of 10% whole wheat flour.

The phyllo pastry were stored and examined at intervals of 0, 5, 7, 14 and 21 days at a temperature of 8°C. The examinations included mycological analyses to determine the total mold count and the identification of isolated species.

The mycopopulation of the samples of phyllo pastry made from type 500 wheat flour and those with the addition of 10% whole wheat flour, without the addition of essential oil, was classified into 3 genera and 4 species: *P. aurantiogriseum*, *P. expansum*, *A. candidus* and *C. cladosporioides*,

When rosemary essential oil was applied at concentrations of 2.13%, it exhibited the best antifungal effects on the examined phyllo pastry made from type 500 wheat flour during 7 days of storage. The greatest differences in the total mold count of the phyllo pastry compared to the control samples were observed, being 1.5 log cfu/g. When rosemary essential oil was applied at concentrations of 2.13%, it exhibited the best antifungal effects on the examined phyllo pastry with the addition of 10% whole wheat flour during 14 days of storage. The greatest differences in the total mold count of the phyllo pastry compared to the control samples were observed, being 1.1 log cfu/g.

These studies represent the base for further research on the effects of essential oils on other bakery products using different concentrations, combinations of essential oils, as well as combinations of essential oils with various packaging conditions.

Keywords: molds, rosemary essential oil, antifungal protection, phyllo pastry.

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