

Microbiological Evaluation of a New Functional Snack Based on Black Currants from Zakynthos Island (Greece)

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Abstract

Fruit or dried fruit and nuts are among the most popular healthy snacks. A locally produced “super-food” is the black currant produced in Zakynthos Island (Greece) with health benefits well documented. Our aim was to formulate a microbiologically safe functional snack of high nutritional value and determine its shelf life. An almond crust was prepared by mixing wheat flour, chopped almonds, butter, sugar and eggs and oven cooked. Cooled crusts were overlaid with 10 g of rehydrated black currants and 10 ml of black currant grape jelly (pH = 3.3) containing Bifidobacterium species BB-12 at cell concentration of 6.0×10^9 cfu/g. Tartlets were individually wrapped in plastic wrap and stored at two different temperatures (4 °C and -2 °C). Microbial population in tartlets was examined every second day for: Bifidobacterium, total aerobic count, micrococci, Gram negative bacteria, yeasts and molds, *S. aureus*, *E. coli*, *L. monocytogenes* and *Salmonella* spp. using appropriate conditions. Results are the mean of two runs (n=3). Furthermore, a taste test was performed at 2-day intervals. The mean value of Bifidobacterium counts was reduced by 1 log cycle at day 10 and 16 when kept at 4°C and -2°C, respectively. Neither microbiological contamination nor taste defect was detected for the pre-mentioned time period. Conclusions: A microbiologically safe new functional snack has been formulated with shelf life of 10 and 16 days when stored at 4 °C and -2 °C respectively. The authors acknowledge support from the Operational Programme “Ionian Islands 2014-2020” (Project: MIS 5006880)



Biography:

Dr. Adamantia Kampioti graduated from the Chemistry Department of the University of Crete, Greece and earned her Ph.D degrees in Environmental Analytical Chemistry at the University of Crete. She has conducted postdoctoral research at

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Speaker Publications:

1. Tsouko, Erminda & Papadaki, Aikaterini & Papapostolou, Harris & Ladakis, Dimitris & Natsia, Aikaterini & Koutinas, Apostolis & Kampioti, Adamantia & Eriotou, Effimia & Kopsahelis, Nikolaos. (2019). Valorization of Zante currants' side-streams for the production of phenolic rich extract and bacterial cellulose: A novel biorefinery concept. *Journal of Chemical Technology & Biotechnology*. 10.1002/jctb.6035.
2. Kampioti, Adamantia & Kolokotsa, Anastasia & Konidari, Asimina & Toki, Christina & Koulougliotis, Dionysios. (2018). QUALITY OF WATER IN SENSITIVE ISLAND ECOSYSTEMS: THE CASE OF ZAKYNTHOS ISLAND.

8th World Congress and Expo on Applied Microbiology; Webinar- September 28-29, 2020.

Abstract Citation:

Adamantia Kampioti, Microbiological Evaluation of a New Functional Snack Based on Black Currants from Zakynthos Island (Greece), *Applied Microbiology 2020*, 8th World Congress and Expo on Applied Microbiology; Webinar- September 28-29, 2020.

(<https://microbiology.conferenceseries.com/speaker/2020/adamantia-kampioti-ionian-university-department-of-environment-greece>)