

Evaluation the possibility to formulate ready to use product of fresh onion cuts

Samer Mudalal

An-Najah National University, Palestine



Abstract

Onion (*Allium cepa* L.) is very rich in functional ingredients and it is widely used for several purposes in foods as well as in medicinal purposes. Onion as products are commercially available in the market in three forms (fresh whole bulb, dehydrated, and as essential oils). The aim of this study was to evaluate the possibility to formulate ready to use fresh onion product that fit Mediterranean cousins. Four treatments (total 72 samples, n= 18 samples/group) were carried out on fresh onion. Control group (C) had only fresh onion cuts 80% and corn oil 20%; group (P1) had steam blanched onion cuts 78%, corn oil 20%, salt 2%; group (P2) had steam blanched onion cuts 76.5%, corn oil 20%, salt 2%, lactic acid 1.5%; and group (P3) had fried- blanched onion cuts 78%, corn oil 20%, salt 2%, respectively. Several quality traits were evaluated for each group during storage period (three weeks) including color index ($L^*a^*b^*$), microbiological (bacterial and fungi enumeration), and sensory traits. Our finding showed that at the beginning of storage there were no significant difference in L^* - values and b^* -values between groups while group (P1) had a^* -value lower than other groups. There was significant drop down in L^* and b^* value and increase in a^* -value in all groups at week 3 if compared to week1. There were no significant changes in total aerobic counts which were in the range 3-4 log (cfu) and total fungi count which was in the range 2.5-4 log (cfu) for all group during storage. Consumer test showed that group C had the highest scores for taste (8.53 vs. 4.53, $P<0.05$), flavor (8.1 vs. 4.9, $P<0.05$), overall acceptance (8.65 vs. 4.62, $P<0.05$) if compared to group (P3), respectively. In conclusion, lactic acid was very effective as antimicrobial agent but impair some sensory traits while corn oil exhibited good preservation power.

Biography

Samer Mudalal got his PhD. in Food science and Biotechnology from Bologna University, Italy. Currently, he is assistant professor at Department of Nutrition and Food Technology. He has more than 25 publications in food science and biotechnology field. He was awarded several research grants. He worked as quality control, production, and R and D Manager in different sectors in food industries..



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