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Characterisation of edible-coated minimal processed peach

Gabor Zsivanovits¹, Kristina Ivanova¹, Petya Sabeva¹, Todorka Petrova¹, Diyana Aleksandrova²

¹Institute of Food Preservation and Quality; Faculty of Physics and Technology, Plovdiv University

²Fruit Growing Institute, Plovdiv,

Chitosan is a preferred polysaccharide for the production of edible films and coatings, because its biocompatibility, nontoxicity and antibacterial activity. Minimal processed (peeled, pitted and sliced) peach fruits were treated by chitosan-Ca-lactate and chitosan-alginat solutions and refrigerated (at 4°C) for eight days. Three replicates 30 probes were inspected (based on healthy appearance) and characterized on the first, fourth and eighth days. Physical (weight-loss and texture of the slices, colour CIELab of the mashed flesh), physico-chemical (refractometrical dry content, antioxidant activity, pH, water-activity of the juice), and microbiological properties (total number of microorganisms, E. coli, fungi and yeasts) were investigated. At the beginning of the experiments, after the fourth day, the control series had better appearance than the treated series. It can be explained with the less manipulation. Based on the received data the safety shelf-life time of coated peach-flesh slices is eight days. The results shows that, the chitosan-alginat treatment able to preserve better the probes than the chitosan-Ca treatment. Based on this study the edible coating is a promising application in preparation of ready-to-eat fruit salads or in fruit decoration of confectionery products.

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White and black sweet cherry cultivars with chitosan treatment

Gabor Zsivanovits¹, Maria Momchilova¹, Petya Sabeva¹, Zarya Rankova²

¹Institute of Food Preservation and Quality; Faculty of Physics and Technology, Plovdiv University

²Department of Plant protection, Fruit Growing Institute, Plovdiv

White (Rosaline) and black (Bing and Regina) sweet cherry cultivars were treated with Chitosan-Ca-lactate and Chitosan-alginat solutions. The chitosan coating is biocompatible, nontoxic and it has antimicrobial activity. The sample series (five replicate thirty pieces from each varieties and each treatment and a control) were refrigerated (at 4°C) for 21 and 28 days, up to the end of their shelf-life time. Physical (visual sorting, weight loss and texture of intact fruits), physico-chemical (refractometrical dry content, antioxidant activity, pH of the juice), and microbiological properties (total number of microorganisms, E. coli, fungi and yeasts) were investigated weekly. For the last week just the Regina cultivar had acceptable appearance, the other cultivars were discarded after 21 days. The chitosan-Ca-lactate treatment preserved better the texture, but chitosan-alginat treated series showed smaller weight loss, higher antioxidant preservation and smaller microbial contamination on each cultivars. Based the study the edible coating can help to preserve the nutrition value of fresh fruit and this technology can be useful in preparing the ready-to-eat fruit salads or in decoration of confectionery products.