Abstract

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Chemical composition, sensory and rheological properties of some red pepper and tomato sauce blends

In this study, due to the nutritional and nutritional value of red pepper and tomatoes and the spread of their use locally and internationally, this study was use of red pepper as raw material for the production of red pepper sauce because of its health and medical benefits. Fresh red peppers and tomatoes were used in the preparation of puree and each were used in the production of red pepper sauce blends of red pepper and tomatoes as follows, (100% tomatoes, 90% tomatoes + 10% red peppers, 80% tomatoes + 20% red peppers, 70% tomatoes + 30% red peppers, 60% tomatoes + 40% red peppers, 50% tomatoes + 50% red peppers, 40% tomatoes + 60% red pepper, 30% tomatoes + 70% red pepper, 20% tomatoes + 80% red peppers, 10% tomatoes + 90% red pepper and 100% red pepper). The results showed that all the samples that were made in the mix obtained high scores in the sensory evaluation in color, taste, odor, texture and general accessibility. The results obtained showed that the pepper sauce manufactured from (50% tomatoes + 50% red pepper) have the best results (highest scores) in sensory evaluation. Moreover, stored at room temperature for 9 months. The blends were chemically analyzed every three months during storage. Microbiological quality was also tested and evaluated. The results showed that total soluble solids were slightly reduced during storage. As for the pH and total sugars, they also decreased with storage. Chemical analysis showed increased beta-carotene, lycopene and ascorbic acid, with the addition of red pepper in the sauce composition, and the microbial content of all samples was constant for six months. However, the increase was still below the allowable level of dietary laws. Since the first quality factor to determine the acceptability of the sauce products is the strength. The rheological properties of all the manufactured blends were estimated. The viscosity was measured by the Brookfield apparatus, The results obtained by using some of the mathematical equations used to describe the rational behavior, namely the equations of the Power law, Herschel-Bulkley and Bingham rheological models, and all the samples behaved the non-Newtonian (pseudoplastic)behavior, behave as a pseudoplastic fluid. In addition, the Arrhenius model gave a satisfactory description of the temperature dependence of apparent viscosity. The activation energy for apparent viscosity of all formulas were estimated. Finally, the study recommends the manufacture of these products trade and the speed of issuing the standard specifications of red pepper and tomato sauce.