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Evaluation of Antioxidant and Antimicrobial Potential of Rutin in Cheddar Cheese

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Abstract : The aim of the current study was to evaluate the antioxidant and antimicrobial potential of Rutin in cheddar cheese. The study was conducted by adding the Rutin in the cheddar cheese in different concentrations according to experimental design, i.e., T1 (20 ppm Rutin), T2 (40 ppm Rutin), T3 (60 ppm Rutin), T4 (80 ppm Rutin). BHT was taken as a positive control at a concentration of 200 ppm, and negative control had neither Rutin nor BHT. The ripening time for cheeses was 90 days at a temperature of 8°C. The results of the various antioxidants assays (Total phenolic contents (TPC) and Antioxidant activity (AA), with storage stability tests (Anisidine value (AV) and Thiobarbituric acid value (TBARS)) performed during different storage intervals 0, 30, 60 and 90 days exhibited that AA in linoleic acid and TPC were significantly ($p < 0.05$) increased by the addition of rutin to cheese at all concentrations. Moreover, significant reduction in the TBARS values was also observed during the storage period. Rutin also showed a good potential to inhibit the microbial proliferation in the treated samples of cheese. There was a significant decreasing trend seen in total plate count and yeasts and molds count. The sensorial attributes i.e., color, flavor, odor and overall acceptability were increased after adding Rutin to cheddar cheese.

Keywords : cheddar cheese, Rutin, antioxidant, antimicrobial
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