



The combined effect of dried Rosemary, Thyme or Basil with fresh Garlic on quality characteristics of Ricotta cheese during storage

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Abstract: This study was aimed to investigate the combined effect of rosemary, thyme, or basil individually as powder herbs at the rate of 0.5% with 1% fresh garlic on the quality of Ricotta cheese stored for 21 days at $5\pm 2^{\circ}\text{C}$. The chemical composition, total phenolic compounds, antioxidant activity, microbiological and sensory characteristics of Ricotta cheeses were evaluated during storage. No significant effect ($P < 0.05$) of adding herbs on the cheese moisture, fat and protein contents. A significant effect ($P < 0.05$) was observed on pH value and ash content between control and treated samples. Thyme garlic-added cheeses exhibited significantly higher ($P < 0.05$) total phenolic compounds and antioxidant properties compared with the other samples. During storage, the antioxidant activity was slightly decreased in the following order: thyme with garlic < rosemary with garlic < basil with garlic-added Ricotta cheeses. All tested herbs with fresh garlic had a significant effect ($P < 0.05$) on the microbial load, but the effect of dried thyme with fresh garlic was significantly higher ($P < 0.05$) than dried rosemary or basil with fresh garlic. Thyme garlic-added Ricotta cheese gained the highest scores for flavor and texture, which was superior to that of the other treatments. Ricotta cheese containing 0.5% dried thyme and 1% fresh garlic could be produced to obtain highly acceptable cheese with more antioxidant properties.

Keywords: Ricotta, antioxidant activity, rosemary, thyme, basil, garlic.