Summary of the Msc.thesis No., **12455 . Food Hygiene and Quality Control**
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Author: SHohre Jahangiri

Title: The effect of nano-phytosome of Zataria multiflora essential oil on the shelf life of Iranian white cheese.

Abstract:

Cheese and dairy products are one of the important sources of human food poisoning, which are easily spoiled and contaminated if stored improperly. Today, the use of plant extracts and essences has been noticed to improve the sensory properties and increase the shelf life of food products. Natural preservatives oxidize quickly and as a result, brown color and unwanted odors appear, reducing their nutritional value. Many of these compounds are insoluble in water and have an unpleasant taste that must be coated before being used in food or pharmaceutical products. Nanoencapsulation is a powerful way to preserve these compounds, because putting them in a protective coating allows them to be preserved. In this study, the microbiological and sensory quality of Iranian white cheese was investigated along with nanophytosome containing Shirazi thyme essential oil. The nanophytosome was prepared using the thin layer hydration method. According to the results, the particle size of Shirazi thyme essential nanophytosome is smaller than that of Shirazi thyme essential oil. Microbiological evaluation showed that the nanophytosome of Shirazi thyme essence in Iranian white cheese had a significant effect in reducing the growth of bacteria during 45 days of storage. In the sensory evaluation, a significant difference was observed between the taste and smell of the sample containing a high concentration of nanophytosome and other treatments. According to the microbiological and sensory results, the nanophytosome of Shirazi thyme essence can maintain the quality characteristics of cheese during storage and increase its shelf life.

Key words: nanophytosom, essential oil, coating, *Zataria multiflora*