

ABSTRACT

Packaging preserves the quality of the finished product for consumption, storage, and transportation, making it one of the most crucial steps in producing food goods. In cheese products, molds can contribute to odor, distinctive flavor, consistency, and appearance and increase shelf life. However, some species might cause product spoilage. Thus, high-quality packaging is required to prevent mold from ruining the cheese product. Aluminum foil is an excellent material for protecting cheese from light, gases, moisture, and heat. However, it is prone to corrosion and pinholes that could be affected by the high storage temperature. Moreover, pinholes allow the passage of gas and water through metal, hence promoting the growth of mold in food products and leading to their degradation. As a result, this study aims to comprehend any potential effects of temperature on aluminum foil quality and any possible leakage of aluminum foil packaging of cheese products stored at varying temperatures 30°C and 40°C, respectively in the warehouse and incubator using visual test, vacuum leak test, and methylene blue test. The only result that was significant was the primary packaging methylene blue test. However, the conditional value score decreased each week from 42.25 and 45.75 to 20 and 20 for the warehouse and incubator respectively. High temperature can affect the quality and characteristics of aluminum foil and cheddar cheese, however, it often does not directly affect the aluminum foil packaging. Elevated temperatures can induce pitting corrosion, which leads to the degradation of the protective layer of aluminum foil, resulting in the creation of pinholes that decrease its ability to act as a barrier.

Keywords : Aluminum foil, Pinholes, Corrosion, Methylene blue, Temperature