CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Discussion and Recommendation

The growth of bacteria in Nasi Lemak was notably influenced by the type and concentration of the acidity regulators during the 24-day chilled storage period. The study revealed a distinct impact of 0.5% and 1% concentrations on the shelf-life extension, with the higher concentration demonstrating a slower bacterial growth, consequently prolonging the shelf life of Nasi Lemak.

The concentration of the acidity regulator emerged as a crucial factor in inhibiting the growth of *E. coli*, evident in its absence in samples containing the blend. The microbial total plate count across all samples throughout the 24-day study was significantly affected by the concentration and type of the acidity regulator. Samples C1 and C2 exhibited more stable and consistently lower bacterial growth compared to samples B1 and B2. Notably, C2 demonstrated nearly successful bacterial inhibition throughout the 24 days of chilled storage.

Despite the promising microbial results, it's crucial to address the low sensory acceptance observed in all samples, including C2, where attributes were consistently rated as 'dislike moderately' by the panelists. By the end of the 24 days, the organoleptic attributes experienced a significant decline, reflected in the consistently low ratings.

Therefore, it is recommended to further investigate and enhance the sensory attributes to improve the appearance, aroma, taste, and texture of the rice. This improvement is crucial for overcoming the prevalent challenge in the industry, specifically the common issue of broken rice in frozen ready-to-eat rice meals.