

عنوان مقاله:

Development of the pH Sensitive Indicator Label for Real-time Monitoring of Chicken Freshness

محل انتشار:

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خلاصه مقاله:

Intelligent packaging is a type of packaging which could control the environment around the food and inform consumers about food condition. The objective of present research was to design a simple pH-sensitive label in chicken package which show the spoilage by changing its color. The Bromocresol green, a pH-sensitive color indicator, has been used to detect chicken spoilage and attached to the inner side of the package. The analysis including chemical (pH and TVBN), microbial and sensory analysis were done at the intervals of 0, 3, 5, 7, 8 and 10 days storage at 4 °C. The TVB-N was 19 mg/100g in the first day and measured 29 mg/100 g on the 8th day and 46 mg/100g of on the last day, respectively. According to achieved results, the changes of BCG color due to chicken spoilage were detectable by naked eye. The bacterial count was about 6.62 Log10CFU/g. On the last day, the indicator's color became blue and the total count reached about 7.20 Log10CFU/g. There was a significant relationship between Total Volatile Nitrogen Base (TVBN), pH, microbial and sensory analysis in all studied samples with the changes in indicator's color during storage. Due to increase in TVBN during storage, the Bromocresol Green (BCG) indicator's color changed from yellow to blue. Thus, the BCG indicator can be employed as an inexpensive and simple label to show the freshness of chicken meat.

کلمات کلیدی:

pH-sensitive Indicator, Chicken Meat, Chemical Analysis, Microbial Analysis

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