

## Effect of Sodium Acetate and Reuterin on the Shelf-life of Chilled Chicken Breasts

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**ABSTRACT:** The aim of this work was to determine the effect of a number of treatments on the shelf life of refrigerated ( $3.5 \pm 0.5^\circ\text{C}$ ) chicken breasts. The treatments applied were sodium acetate (5% and 10%) alone or with reuterin (32 unit/ml) produced by *Lactobacillus reuteri*. Some microbial, chemical, and sensory characteristics were evaluated throughout the study period (18 days).

The results showed that chicken breasts treated with sodium acetate (SA) 5% plus reuterin was the best as the microbial shelf life was extended 12 extra days compared with the control treatment that was deteriorated after six days of storage. Reuterin treatment, however, extended the shelf life for less than three days only. Similar changes were noticed on coliform bacteria.

All treated samples had significantly lower pH values compared to the control. Reuterin treated samples showed the closest pH to the control. Reuterin treatment did not affect the produced amount of total basic volatile nitrogen (TVB-N) compared to the control samples, where treatment with 5%SA plus reuterin was the best in keeping the amount of TVB-N low, followed by treatment with 5%SA.

Data showed that odor of most treated samples remained unchanged until day 15, except for reuterin treated samples that were rejected at day 9. Control samples were rejected at day 6 based on odor characteristic as well as psychrotrophic count.