

EFFECT OF SPICES ON THE SHELF LIFE OF CHICKEN MEATS

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Abstract

Contamination of poultry occurs through contact with air, water and contaminated surfaces. Besides, contamination also occurs during handling or processing of raw poultry. The most common contamination of poultry are by *Acinebacter*, *Bacillus*, *E-Coli*, *Pseudomonas* and *Salmonella* species. Garlic and turmeric could act as an antimicrobial agent that inhibit the growth of microorganisms.

In this research project, the effect of garlic powder and turmeric powder on the shelf life of chicken meats was being studied. Historically, garlic has been used as an antimicrobial and antioxidant agents. It exhibited antimicrobial properties against growth of gram-positive and gram-negative bacteria, yeasts, fungi, viruses and protozoa. Other than garlic, turmeric is also an antimicrobial and antioxidant agent. It can inhibit the growth of a wide range of microorganisms including bacteria, parasites, and pathogenic fungi.

Firstly, chicken samples were blended with lactose broth. Lactose broths were enriched for 24 hours. Total plate counts were carried out before and after enrichment of lactose Broth. For the detection of *Salmonella* species, further selective enrichment was carried out with Tetrathionate broths. Identification of *Salmonella* on xylose lysine deoxycholate (XLD) agar, bismuth sulfite agar, brilliant green agar and triple sugar iron (TSI) slant were carried out after incubation of tetrathionate broths.

Garlic powder and turmeric powder displayed positive antimicrobial effect by total plate count, hence the use of garlic and turmeric powder might help to extend the shelf life of chicken meats.

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