

**USE OF OVOTRANSFERRIN FROM CHICKEN
EGG WHITE AS AN ANTIMICROBIAL AND
ANTIOXIDANT SUPPLEMENT IN COMMINUTED
MEAT PRODUCT PROCESSING**

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Abstract

In response to recent claims that curing salts have the potential to cause carcinogenic effect, natural substitute is seeking for replacing in comminuted meat products.

Ovotransferrin is a major egg white protein belongs to transferrin family which considered as a best antioxidant and antimicrobial component. Antimicrobial and antioxidant activities of ovotransferrin during freezing storage were compared to curing salt 125 ppm under this study. Chicken sausages were prepared as 4 treatments including control and various ratios of protein and curing salt combinations. Antimicrobial activity of ovotransferrin was evaluated against *Escherichia coli* and *Salmonella* over storage time of day 0, 3 and 5. 100% (w/w) ovotransferrin incorporated treatment was most effective against *E.coli* and *Salmonella* ($p < 0.05$). Antioxidant activity was determined by TBARS value of malanaldehyde (mg/Kg) over storage time period of 0-21 day was at acceptable ranges in 100% ovotransferrin incorporated treatment. Remarkable minimum oxidation was shown by ovotransferrin and it is possible to use as a natural antioxidant. Sensory evaluation and instrumental color analysis were conducted immediately after production. Redness (a^*) and lightness (L^*) color parameters were significantly different from control ($p < 0.05$). Both control and ovotransferrin incorporated sample cost approximately equal cost. Hence ovotransferrin protein can be used as a nitrite replacer in comminuted meat products to keep up antimicrobial and anti-oxidant characteristics.

Key words: comminuted meat products, curing salt, ovotransferrin, antimicrobial, anti-oxidant