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**EFFECTO DE LA MADURACIÓN, ESTIMULACIÓN
ELÉCTRICA, MARINADO Y CONGELACIÓN SOBRE LA
CALIDAD DE CARNE DE PECHUGA DE AVE**

Tesis doctoral

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ABSTRACT

The poultry industry has significantly grown in Argentina during these last years. Increased consumption of skinless and deboned breast meat has fostered the implementation of methods and technologies to increase production by reducing time and ensure the final product quality. Different procedures such as electrical stimulation and aging with varying results have been reported. The objective of this research was to assess the effects of post-mortem aging time, electrical stimulation at low voltages and marination on broiler breast fillet quality. In addition, the effect of different storage conditions on quality parameters of the fillets for marketing in both the domestic and foreign market was studied. Broilers (48-day-old males, 2,8 kg) were slaughtered in an industrial poultry processing plant with and without electrical stimulation (45 V). After chilling, broiler breasts were aged for 0, 2, 4, 6 and 8h before obtaining the fillets. Left fillets were first marinated by injection (sodium chloride and sodium tripolyphosphate) and then quickly frozen while right fillets were immediately frozen. In the second stage of the study, the effect of storage (4d at 4 ° C, 90 and 180d at -25°C) on quality was evaluated in fillets aged for 2h, electrically stimulated, with and without marination. In all cases pH, color (L *, a *, b *), dripping, thawing and cooking loss, shear force (WB) and chemical composition. were determined. The results indicate that at least 2h of aging and the application of electrical stimulation to improve tenderness are required, this may be further enhanced by marination. Furthermore, these industrial methods do not cause a negative effect on pH, color, shrinkage or chemical composition. During storage, the fillets showed no significant changes as a result of freezing when compared to chilling (not considering marination), except for an increase in pH and a* in frozen meat after 180 d. In addition, significant cooking loss and hardness were observed in the non-marinated fillets when compared to the other storage conditions.

Key words: chicken breast meat, aging time, electrical stimulation, marination, quality.