

# IMPACT OF DIETARY INULIN SUPPLEMENTATION ON LIPID PROFILE AND MEAT QUALITY OF BROILERS REARED UNDER HEAT STRESS CONDITIONS

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## **Abstract**

*Heat stress conditions affects nutrient utilization, induces oxidative stress, causing detrimental effects on meat quality of broilers. This study was conducted to evaluate the effect of dietary inulin supplementation (1 %) to broilers reared under heat stress, on breast meat lipid profile and lipid degradation products after 7 days of storage. A total of 60 Ross 308 broiler chickens, 14 days old, were randomly divided into 2 treatments (C and E) with 6 replicates per treatment and 5 chicks per pen. The concentrations of PUFA significantly ( $p < 0.05$ ) increased in E group, compared to C. The ratios PUFA/SFA, recommended by FAO to assess the nutritional value of fat, were significantly higher in E compared to C group (1.26 vs 1.15). A higher content of  $\alpha$ -linolenic acid was observed in E group, being associated with the reduced markers of lipid oxidation in E compared to C group, after 7 days of storage. TBARS values, secondary oxidation products, decreased ( $p < 0.05$ ) with almost 22 % in E compared to C group. The results showed a significantly positive effect of inulin supplementation on broiler meat quality, with benefits in delaying oxidation and enhancing the nutritional value of meat.*

**Key words:** *prebiotic, PUFA, lipid peroxidation, broilers meat*