

## **EFFECT OF PAPAIN AND BROMELIN ON MUSCLE AND COLLAGEN PROTEINS IN BEEF MEAT**

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### **Abstract**

The effects of papain and bromelin on muscles and collagen proteins in beef meat were evaluated by injecting brine supplied with enzymes in different concentrations. The effects produced by papain and bromelin, together with the endogenous enzymes of meat, were established by the determination of nitrogenous compounds resulted through the degradation of meat proteins and of hydroxyproline produced from collagen during enzymatic tenderization and thermal treatment of the meat. Papain and bromelin led to a limited hydrolysis of beef meat proteins, to a loss of physical integrity of muscle and connective tissue, accompanied by a high solubility of structural proteins, and to an improvement of the beef meat tenderness. The tenderization effects of papain and bromelin were monitorized, both on the raw meat during ageing at 4°C for 24 and 48 hours and on the cooked meat.

**Keywords:** papain, bromelin, myofibrillar proteins, collagen, rigidity index, tenderness