

TITLE: EFFECT OF GREEN, BLACK AND WHITE TEA EXTRACTS ON MICROBIOLOGICAL AND SENSORY CHARACTERISTICS OF BEEF BURGERS

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ABSTRACT:

The use of natural extracts with antioxidant and antimicrobial properties in meat products appears as an alternative to the use of synthetic additives, in order to increase shelf life and provide a healthier product to consumers. The aim of this study was to analyze the use of green tea (GT), black tea (BT) and white tea (WT) extracts on microbiological and sensory characteristics of beef burgers. A traditional formulation of burger was used containing beef meat (80%) and pork meat (20%) and the addition of water (5%), salt (1.6%), garlic powder (0.5%) and white pepper (0.2%) and used as Control (CT). Others three formulation were done with 2.0% of GT, BT, and WT extracts. Total viable counts, psychrophiles microorganisms, coliforms, molds and yeasts, coagulase-positive *staphylococci*, sulphite-reducing *Clostridium* and *Salmonella* were analyzed. Sensory analysis was done by 94 panelists using a hedonic scale rating test, evaluating color, flavor, aroma, texture, appearance and purchase intention. The extracts have no influence on total viable counts, molds and yeasts and psychrophiles microorganisms of beef burgers. However, a significant reduction was observed on coliforms counts in beef burgers with GT and BT extracts addition. *Salmonella* was absent in all treatments. In relation to sensory analysis, the highest scores for color, flavor and aroma attributes were observed in BT treatment. The texture and appearance attribute had no differences between treatments. All treatments obtained scores higher than 7 which mean answers between “I Like Moderately” and “I Like Very Much”. In relation to purchase intention all treatments received scores higher than 5 which means “I Would Buy Often”. In this context, BT extract seems to be the most interesting for use in beef burgers due to the better microbiological and sensory characteristics.

Keywords: antimicrobials, antioxidants, bioactive compounds, meat products.

Development Agency: Universidade Federal da Bahia (UBFA)